

SWVRTS

Southwest Volusia Regional Transportation Study



Volusia County



DeBary



DeLand



Deltona



Lake Helen



Orange City

Southwest Volusia Regional Transportation Study

Final Report
June 23, 2010

Prepared for



A collaborative effort of our Study Partners:

Funding Agencies:

- Volusia County
- Volusia County Metropolitan Planning Organization
- Orange City
- City of Deltona
- City of DeLand

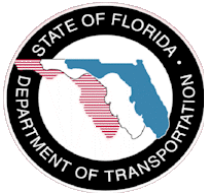
Prepared by



Ghyabi & Associates, Inc.
 1459 North US Hwy. 1,
 Suite 3
 Ormond Beach, FL 32174

Other Participating Agencies:

- Votran
- Volusia Growth Management Commission
- Florida Department of Transportation – District Five
- City of Lake Helen
- City of DeBary



Volusia County MPO



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Executive Summary

In 2006 several comprehensive plan amendments from the cities of Deltona, DeLand, and Orange City were reviewed by the Volusia County Growth Management Commission (VGMC). The VGMC role is to promote intergovernmental cooperation and coordination in Volusia County through the review of comprehensive plans and plan amendments. A certificate of consistency must be received from the VGMC before the comprehensive plan or plan amendment may be transmitted to the Department of Community Affairs (DCA). The VGMC issued Conditional Certificates of Consistency (Resolutions 2006-04 through 2006-06) for the plan amendments due to the potentially negative impacts to Volusia County and State roadways. The transportation related conditions included entering into an interlocal agreement with Volusia County (County) to develop a common transportation review methodology and a financially feasible funding strategy for roadway improvements.

Subsequent to the VGMC determinations, the County and the Cities adopted the Volusia County Metropolitan Planning Organization's (VCMPO) Transportation Impact Analysis (TIA) Guidelines. The TIA Guidelines provide a uniform methodology for assessing the transportation impacts of proposed developments. The jurisdictions have also adopted Proportion Fair Share (PFS) ordinances, as required by Chapter 163.3180, Florida Statutes (F.S.). PFS requires that all proposed mitigation of impacts to the transportation system must be financially feasible and adopted into the capital improvements element of the local jurisdiction's comprehensive plan. As a result, the local jurisdictions have not adopted needed improvements into their respective capital improvements elements (CIE) because of the risk of having to fund the portion of the project for which PFS funds were not collected. As a result, the County, Orange City, DeLand, Deltona, and the VCMPO jointly funded the Southwest Volusia Regional Transportation Study (SWVRTS).

The SWVRTS identifies specific transportation strategies and improvements to address congestion in the southwest area. This study consists of five principal components:

- Evaluation of existing conditions
- Evaluation of future conditions
- Formulation of a multimodal improvement plan
- Formulation of a financing plan
- Development of recommendation and implementation strategies

The SWVRTS begins in Chapter 1 with an overview of the study's purpose to identify specific transportation strategies and improvements to address congestion in the southwest area. Chapter 2 evaluates the existing conditions of the transportation system. Chapter 3 discusses the future conditions analysis which includes alternative improvement scenarios. Chapter 4 explains the regional transportation system and Chapter 5 details the formulation of the Multimodal Improvement Plan. Chapter 6 discusses the financial strategy for funding the Multimodal Improvement Plan.

The SWVRTS concludes with Chapters 7 and 8 summarizing the recommended strategies to address the mobility needs of the region and the implementation activities. The study recommendations do not address all of the needs within the region. However, the study does provide a multimodal approach to address the increase in congestion through the identification of regionally significant improvements that would benefit to the region's mobility. The transportation improvements identified include roads, transit, bicycle and pedestrian facilities and have been prioritized. A transportation fee for the region would provide an alternative revenue source to fund the transportation improvements. By applying the transportation fee on a regional basis, the burden of addressing impacts to the regional transportation system would be shared amongst the local jurisdictions and allow the leveraging of funds and combining of funds with other available funding sources to fully fund projects. The transportation fee would also provide predictability to developers about the timing and amount required.

In order to have this alternative approach become a reality, each participating jurisdiction and governmental agency must do its part to implement the recommended strategies and multimodal improvements. An interlocal agreement will need to be developed defining the roles and responsibilities of each party and establishing the guidelines for amendments to the respective comprehensive plans and land development regulations. This study serves as a framework to begin this process.

Since the study began in October 2008, the Florida Legislature passed Senate Bill 360 which removes state-mandated transportation concurrency requirements in areas designated as TCEAs. Within the boundary of the Southwest Volusia Regional Transportation Study the cities of DeBary, DeLand, Deltona and Orange City qualify as TCEAs. Although these cities are no longer required to comply with state-mandated transportation requirements in TCEAs, they may continue to apply their existing transportation concurrency requirements, if they so chose. Senate Bill 360 contains no language prohibiting local governments from adopting regulations that are stricter than state requirements. On the contrary, Senate Bill 360 expressly provides:

"The designation of a transportation concurrency exception area does not limit a local government's **home rule power** to adopt **ordinances** or impose fees."

Some have suggested that a local government must readopt its existing transportation concurrency provisions in TCEAs if it wishes to retain them. Senate Bill 360 contains no requirement that local governments readopt existing valid local laws. Additionally, prohibiting local governments from applying validly adopted local ordinances would be a limitation on their home rule power, contrary to the express language of Senate Bill 360.

If a local government wishes to eliminate state-mandated transportation concurrency requirements in TCEAs, the local government must amend its existing local comprehensive plan and land development regulations to delete such requirements or to adopt alternative requirements. Until the local government amends its comprehensive plan, existing transportation concurrency requirements continue to apply in TCEAs.

This interpretation is supported by the fact that Senate Bill 360 does not alter the legal status of local comprehensive plans under Chapter 163, Part II, Florida Statutes. Chapter 163 requires local

governments to adopt a local plan, requires that local land development regulations and development orders be consistent with the adopted local plan, and provides the exclusive method of amending adopted local plans. Senate Bill 360 does not change any of these requirements and does not state that the bill is intended to amend, override, repeal, or supersede in any way existing local comprehensive plans.

Senate Bill 360 imposes new local planning requirements for TCEAs designated pursuant to the bill. Within two years after a TCEA becomes effective, the local government must amend its local comprehensive plan to include "land use and transportation strategies to support and fund mobility within the exception area, including alternative modes of transportation."

Failure to comply with this mandate may result in the imposition of sanctions against the defaulting local government. Senate Bill 360 directs the Department of Community Affairs to report a defaulting local government to the Administration Commission (Governor and Cabinet) if the Department finds "insufficient cause" for the failure to timely adopt the new mobility strategies. The Administration Commission may impose sanctions.

Under Senate Bill 360, local governments in Dense Urban Land Areas have the following options regarding transportation concurrency in TCEAs:

1. Retain and continue to apply the transportation concurrency provisions in existing local comprehensive plans and land development regulations.
2. Amend the existing local comprehensive plan and local land development regulations to delete or modify transportation concurrency requirements for a TCEA or adopt alternatives to transportation concurrency.

In addition, these local governments must amend their local comprehensive plans to include new mobility planning requirements for the TCEA within two years.

Study Purpose

This purpose of this study is to address regional transportation needs and develop transportation solutions specific to the southwest region of Volusia County. The transportation system includes the following modes: roads, public transit including bus and commuter rail, bicycle, and pedestrian.

The goals and benefits of the study include:

- Improved intergovernmental coordination
- Methodology to address cross-jurisdictional traffic impacts
- System to promote alternative modes of transportation
- Improvement plan sufficient to meet the regional transportation needs
- Funding mechanism to support the improvement plan

Study Area

The study area is approximately 98 square miles (62.5 thousand acres) in the southwestern region of Volusia County. The area includes the cities of DeBary, DeLand, Deltona, Lake Helen, and Orange City and unincorporated areas of Volusia County. The study area boundaries are shown in **Figure 1**.

| | |
|---------------------|--------------------|
| City of DeBary | 21.56 square miles |
| City of DeLand | 17.11 square miles |
| City of Deltona | 47.83 square miles |
| City of Lake Helen | 4.36 square miles |
| City of Orange City | 6.98 square miles |

Study Partners

The study partners form a technical committee comprised of staff members representing Volusia County, the cities of DeBary, DeLand, Deltona, Lake Helen, and Orange City, Volusia County Metropolitan Planning Organization (VCMPO), Florida Department of Transportation (FDOT), Votran, and the Volusia Growth Management Commission (VGMC). Interested parties and the general public were also welcomed to participate.

Over the course of this study, the study partners met collectively for ten meetings. The meetings served as a forum to discuss land use data and each jurisdiction’s transportation needs and issues. The study partners provided essential feedback that enhanced the study and were included in the recommendations for the final plan.

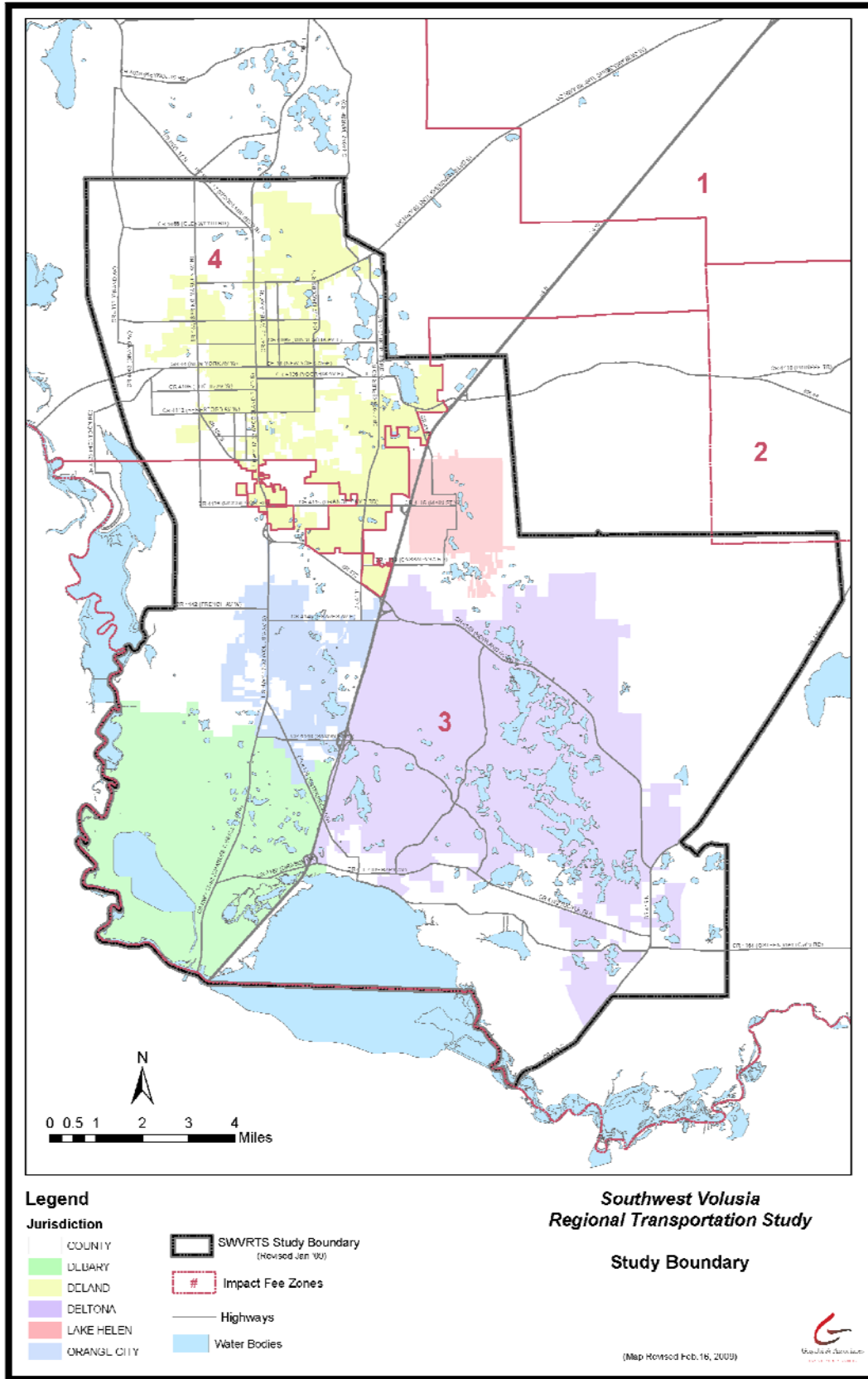


Figure 1: Southwest Study Area

Existing Conditions

This section summarizes the region’s key demographics and the existing conditions for each travel mode. The existing conditions analysis provides a starting point to establish how the transportation system is operating in 2009 and is used to compare with future conditions.

Lands

Table 1 summarizes the existing land uses based on the Volusia County Property Appraiser’s 2009 parcel data. Approximately 20% of the southwest region is currently undeveloped and has some future development potential. **Figure 2** depicts the inventory of land based on the property class code grouped into 11 categories.

Table 1: Existing Land Analysis

| Land Use | Acres |
|-------------------------------|--------|
| Agricultural | 11,196 |
| Commercial | 1,192 |
| Industrial | 920 |
| Institutional | 12,094 |
| Multi-family | 687 |
| Recreational/Open Space | 205 |
| Rights-of-way/Utilities/Other | 8,415 |
| Service | 1,424 |
| Single Family | 13,910 |
| Undefined | 199 |
| Vacant | 12,453 |

Population

The southwest cities of Volusia County account for approximately 30% of the overall county population. **Table 2** below summarizes the population statistics.

Table 2: Population Statistics

| City | 2000 Population | 2009 Population |
|------------------|--|--------------------|
| DeBary | 15,559 | 18,741 |
| DeLand | 20,904 | 27,123 |
| Deltona | 69,543 | 84,264 |
| Lake Helen | 2,743 | 2,878 |
| Orange City | 6,604 | 10,203 |
| Volusia (Uninc.) | 106,880 | 116,448 |
| Sources: | U.S. Census Bureau, 2000 Census Bureau of Economic and Business Research, University of Florida | |

Roadway Network

The Existing Roadway Network includes all roadways on the Volusia County Thoroughfare Plan, the cities’ Concurrency Management Systems, and additional local roads submitted by the Study Partners. Projects scheduled for construction in the VCMPO Transportation Improvement Program (TIP) for FY 2008/09 to 2012/13 are considered committed projects and were included in the existing roadway inventory for the purpose of this study. A complete inventory of the Existing Roadway Network is provided in **Appendix A**. The functional classification and number of lanes of the Existing Roadway Network are depicted in **Figures 3 and 4**, respectively.

The southwest region has a network of arterials, collectors, and local streets serving the needs of the residents and businesses. I-4, US 17, West Volusia Beltway and Providence Boulevard are major north-south routes. SR 44, US 92, Saxon Boulevard, Howland Boulevard, and Dirksen/DeBary/Doyle Avenue are major east- west routes. I-4 and SR 15A are a part of the Strategic Intermodal System (SIS), a statewide network of high-priority transportation facilities that serve high-volume and high-speed traffic to move people and freight in and through Florida.

There are some roadways which are not proposed for additional widening due to environmental, physical, political, or severe economic constraints. Table 3 lists the constrained roadways in the study area.

Table 3: Constrained Roadways

| Roadway | Limits (From - To) |
|------------------------|-------------------------------------|
| US 17/92 | Plymouth Avenue to Beresford Avenue |
| Amelia Avenue | Plymouth Avenue to Ohio Avenue |
| Dirksen/DeBary/Doyle | Deltona Blvd. to Providence Blvd. |
| Enterprise-Osteen Road | Green Springs Road to SR 415 |
| Grand Avenue | Spencer Street to Plymouth Avenue |
| Kicklighter Road | CR 4139 to Prevatt Avenue |
| Lakeshore Drive | Main Street to Green Springs Road |
| Main Street | DeBary Avenue to Lakeshore Drive |

The volume-to-capacity ratio (V/C ratio) was used to measure the performance of the existing roadway network. The V/C ratio is a measure of service based on a roadway segment’s maximum capacity relative to existing traffic volumes. The capacity level is based on the adopted level of service standard, functional classification, and roadway characteristics using the Generalized Tables in the *2002 Quality/Level of Service (Q/LOS) Handbook* published by the Florida Department of Transportation (FDOT). The traffic volumes are based on the most recent traffic counts collected by Volusia County and FDOT.

When a V/C ratio is equal to or greater than a value of 1.0 (100%), a roadway segment is considered to be at or over capacity and therefore deficient (or failing). A V/C ratio between 0.90 and 0.99 indicates the roadway segment is near critical and approaching failure. The V/C ratios by color are illustrated in Figure 5. **Table 4** below lists the roadway segments currently operating at or above 1.0.

Table 4: Existing Conditions – Deficient Roadway Segments

| Road Name | Limits (From - To) | Pk Hr V/C |
|----------------------|---|-----------|
| US 17 | Mercers Fernery Rd. to US 92 | 1.05 |
| US 17/92 | Euclid Ave. to Beresford Ave. | 1.02 |
| US 17/92 | Blue Springs Ave. to Enterprise Rd. | 1.05 |
| US 17/92 | Plymouth Ave. to SR 44 (New York Ave.) | 1.11 |
| Catalina Blvd. | Howland Blvd. to Sixma Rd. | 1.23 |
| Catalina Blvd. | Sixma Rd. to Lake Helen-Osteen Rd. | 1.09 |
| Deltona Blvd. | Enterprise Rd. to Hummingbird St. | 1.41 |
| Deltona Blvd. | Hummingbird St. to DeBary Ave. | 1.11 |
| Dirksen/DeBary/Doyle | Palm Rd. to WB I-4 Ramps | 1.01 |
| Elkcam Blvd. | Howland Blvd. to Lake Helen-Osteen Rd | 1.12 |
| Fort Smith Blvd. | Providence Blvd. to Newmark Dr. | 1.13 |
| Fort Smith Blvd. | Normandy Blvd. to Potomac Ave. | 1.13 |
| Fort Smith Blvd. | Potomac Ave. to India Blvd. | 1.13 |
| Grand Ave. | Gaudrey St. to Glenwood Rd. | 1.11 |
| Graves Ave. | Veteran's Memorial Pkwy. to Kentucky Ave. | 1.14 |
| Highbanks Rd. | Westside Connector to US 17/92 | 1.25 |
| Saxon Blvd. | I-4 to Finland Dr. | 1.38 |
| Saxon Blvd. | Finland Dr. to Normandy Blvd. | 1.14 |
| Saxon Blvd. | Veterans Memorial Pkwy. to midpoint | 1.04 |
| Tivoli Dr. | Saxon Blvd. to Baton Dr. | 1.40 |
| Tivoli Dr. | Baton Dr. to April Ave. | 1.40 |
| Tivoli Dr. | April Ave. to Providence Blvd. | 1.40 |

Public Transit

Votran is the public transportation provider in Volusia County. A review of the existing transit plan helped to identify the existing services and facilities within the region. A map of the public transit facilities in the study area are shown in **Figure 6**.

The Westside fixed bus routes include: #20 Deltona/DeLand, #21 Orange City, #22 Deltona, #24 Pierson/Seville, and #60 East/West Connector. The *2005 Transit Development Plan* (TDP) shows a ridership of 353,849 passengers for the Westside routes. The service frequency is 60 minutes for routes #20 and #60 and is 120 minutes for routes #21, #22 and #24. Currently, eight peak buses are used to operate the Westside service. Standard daily service runs from 6 a.m. - 7 p.m., Monday - Saturday, with limited fixed route service on Sunday.

Votran's I-4 Express Service provides service from the Saxon Boulevard Park and Ride lot in Orange City to Downtown Orlando. The I-4 Express operates Monday through Friday with departures from Orange City at 6:00, 6:30 and 7:00 a.m. and three return trips departing Downtown Orlando at 4:00, 4:45 and 5:30 p.m.

In addition, the following existing transit facilities are located within the study area:

- Intermodal center located at US 17/92 and Euclid Avenue in DeLand;
- Transfer station at US 17 and US 92, the Market Place at US 17/92 and Saxon Boulevard, Deltona Public Library on Eustace Avenue, and at Fort Smith Boulevard and Providence Boulevard;

- Park and ride facilities on Saxon Boulevard and on Dirksen Avenue at the I-4 interchanges.

Bicycle and Pedestrian Facilities

Bicycle and pedestrian facilities are important elements of the transportation system to provide access to public transit and as a non-vehicular alternative. **Figure 7** shows a current inventory of County maintained sidewalks within the study area. **Figure 8** depicts the bicycling routes identified by the Bicycle and Pedestrian Advisory Committee (BPAC) of the VCMPO.

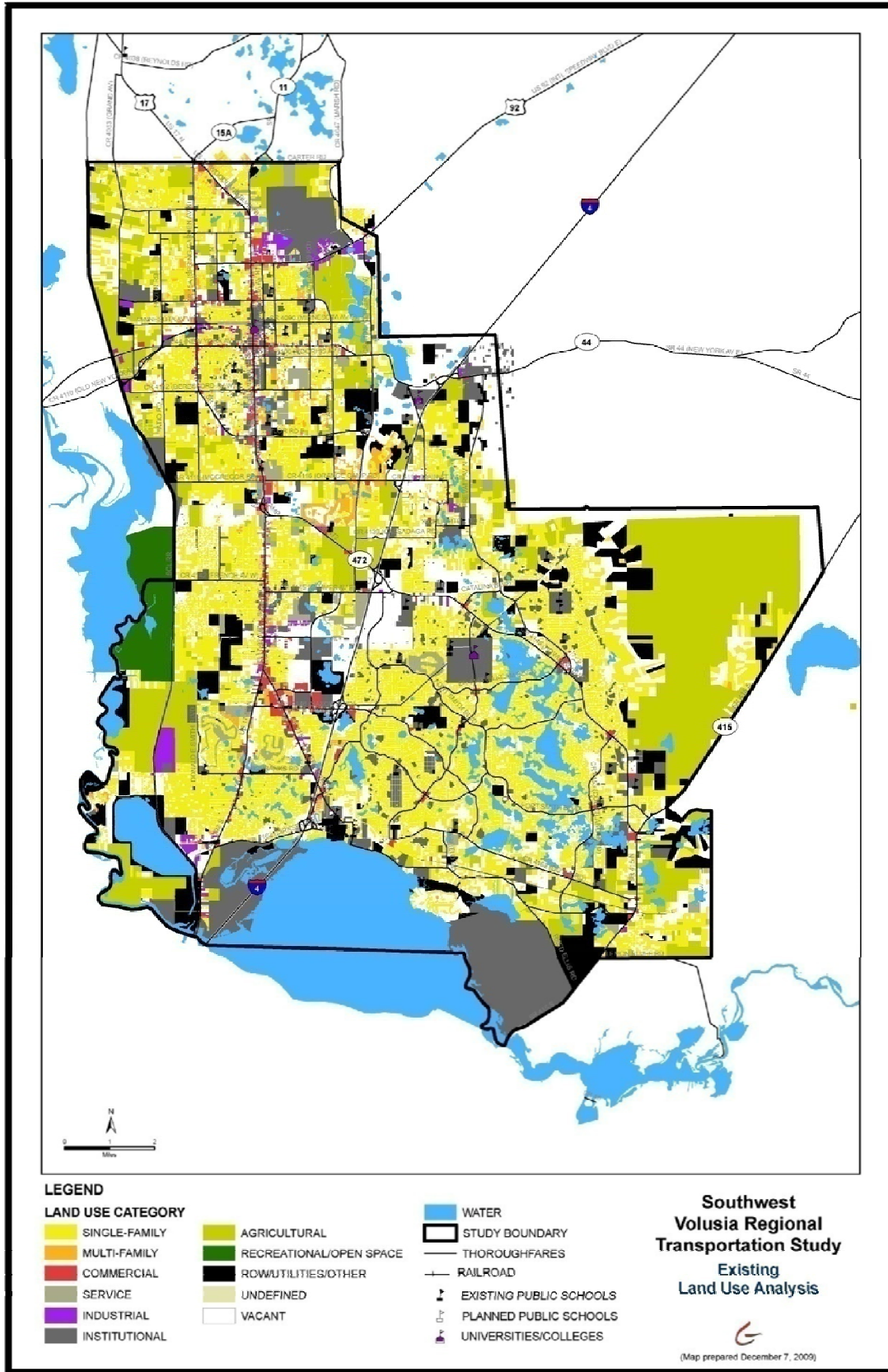


Figure 2: Existing Land Use Analysis

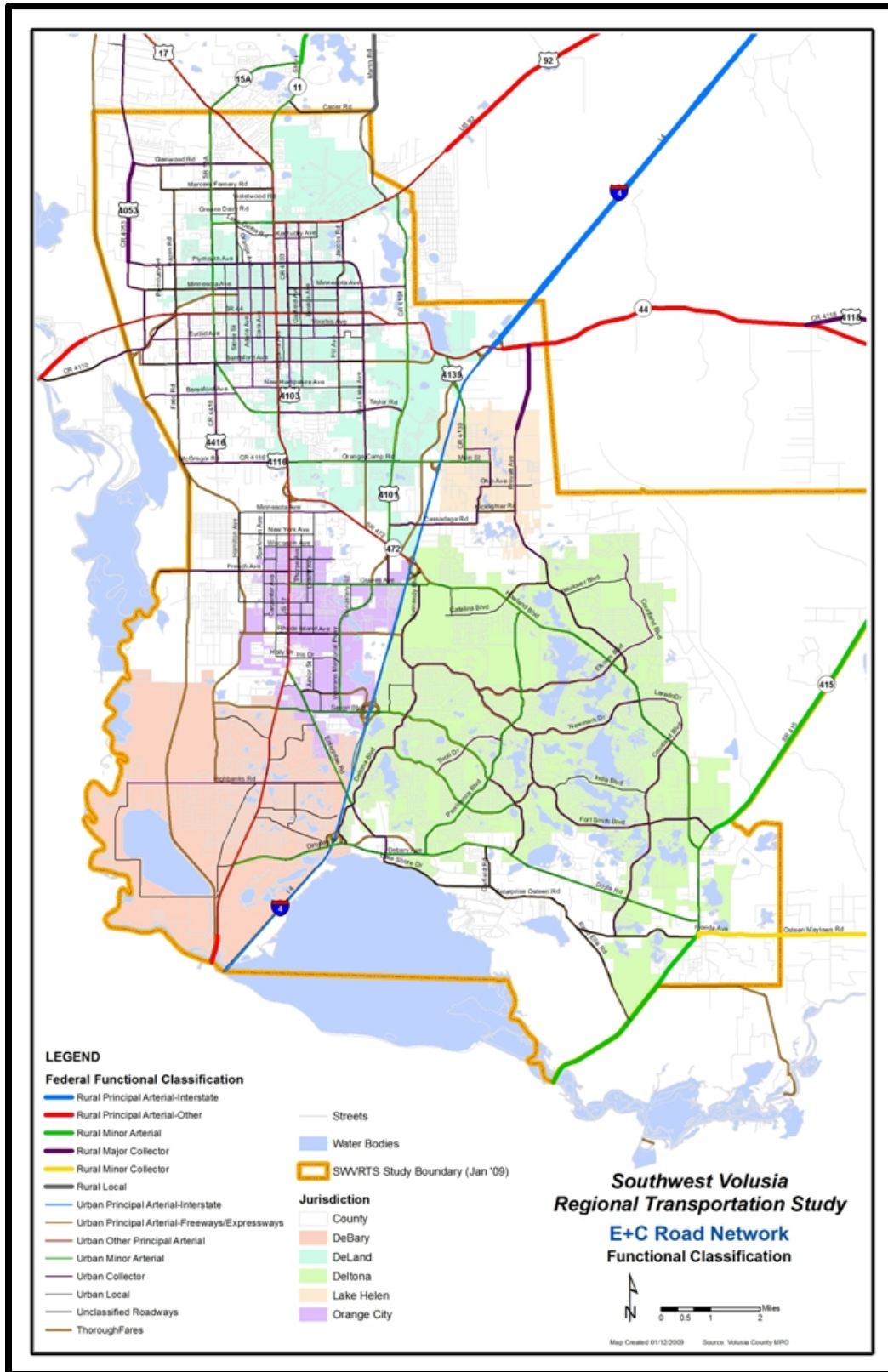


Figure 3: Existing Roadway Network – Functional Classifications

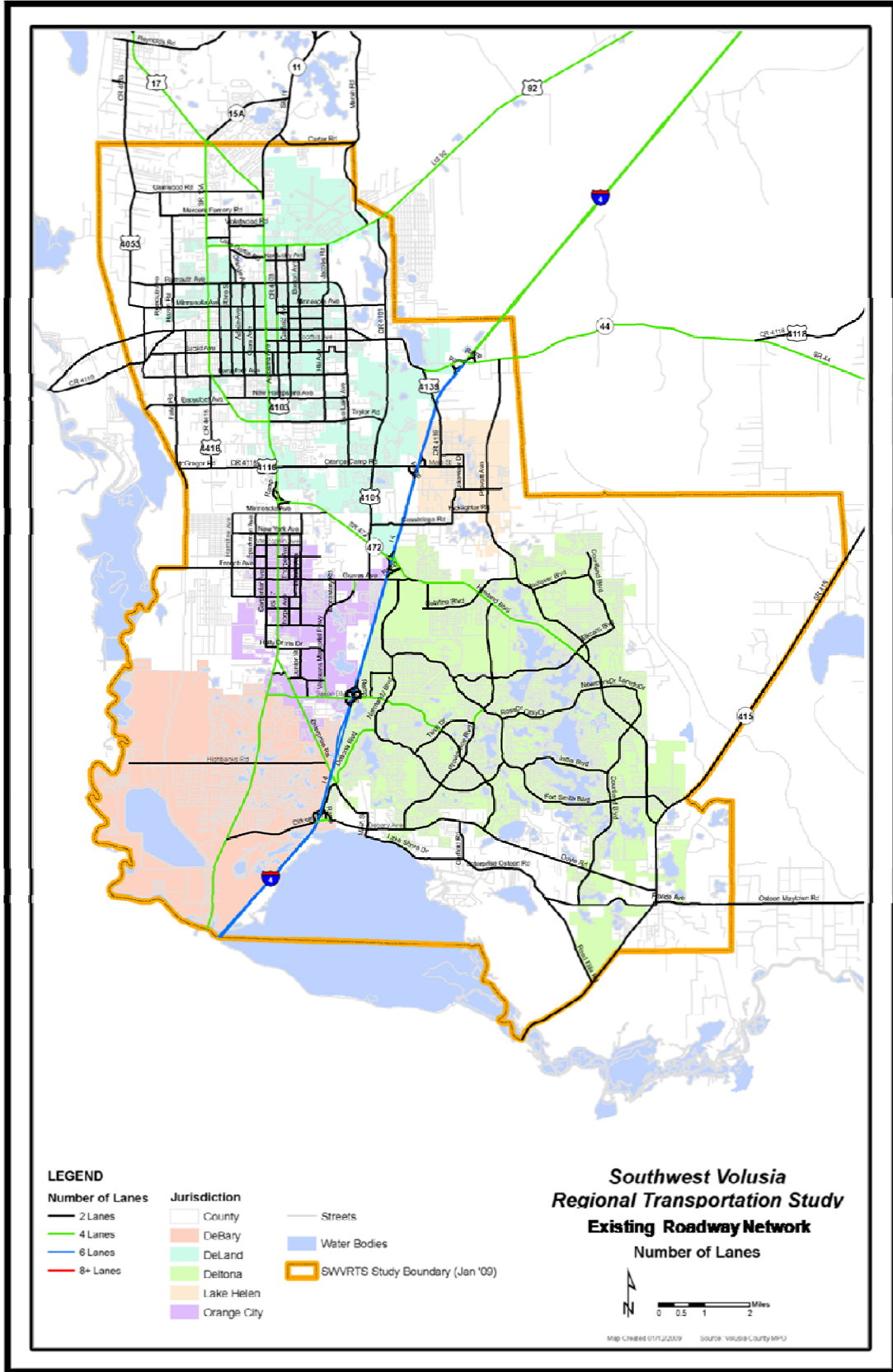


Figure 4: Existing Roadway Network – Number of Lanes

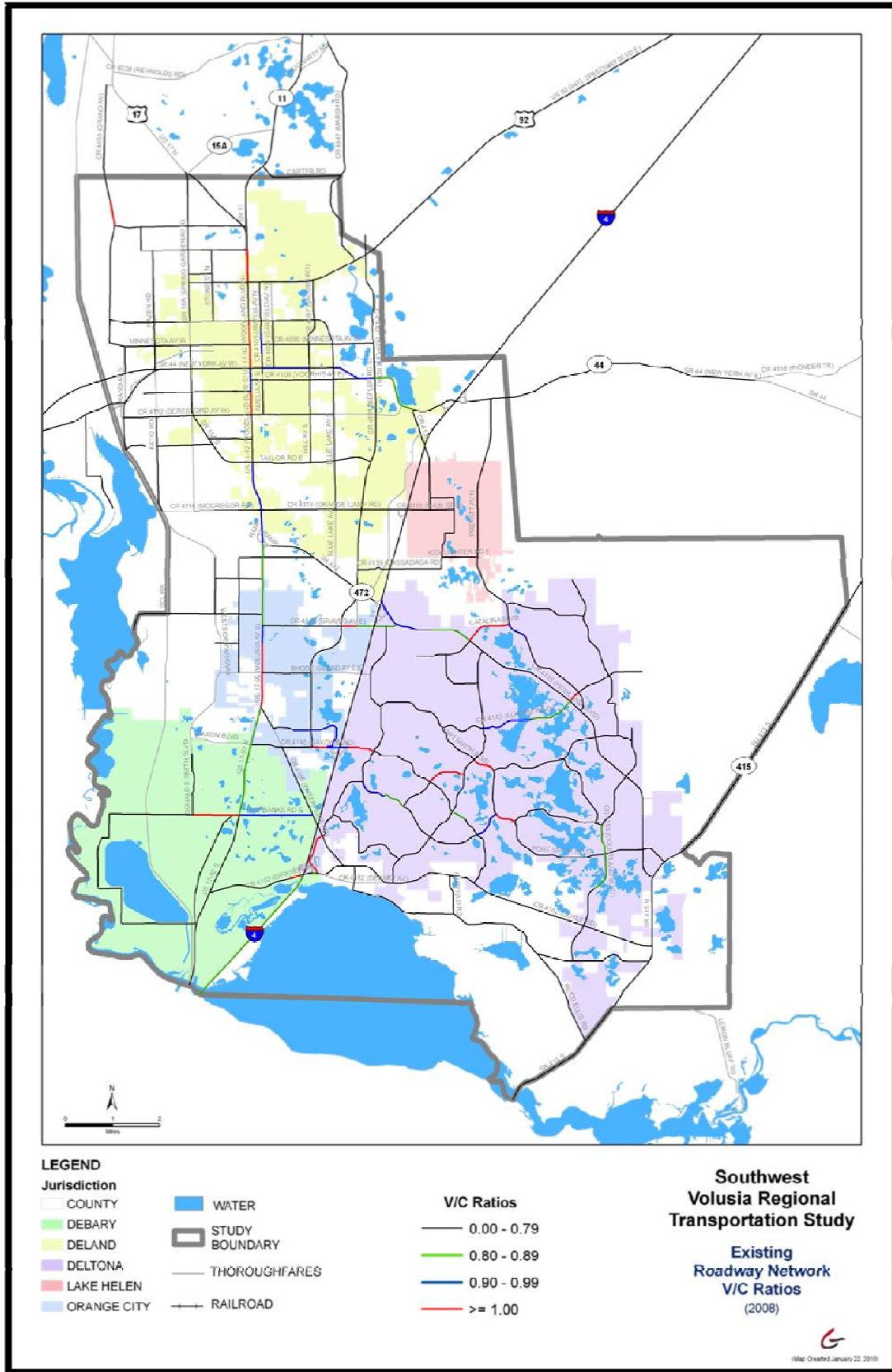
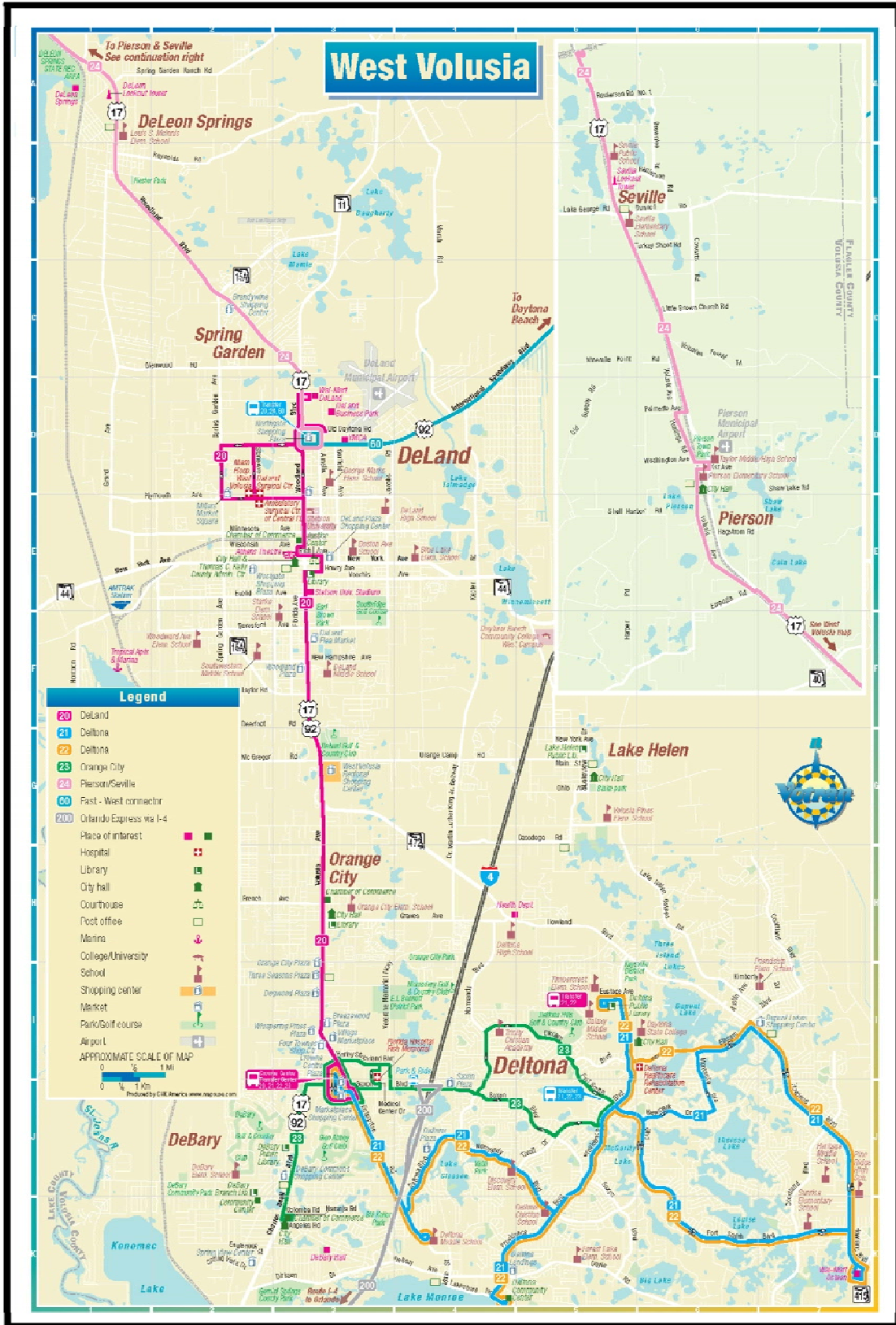


Figure 5: Existing Roadway Network – V/C Ratios



Source: Votran

Figure 6: West Volusia Transit Service

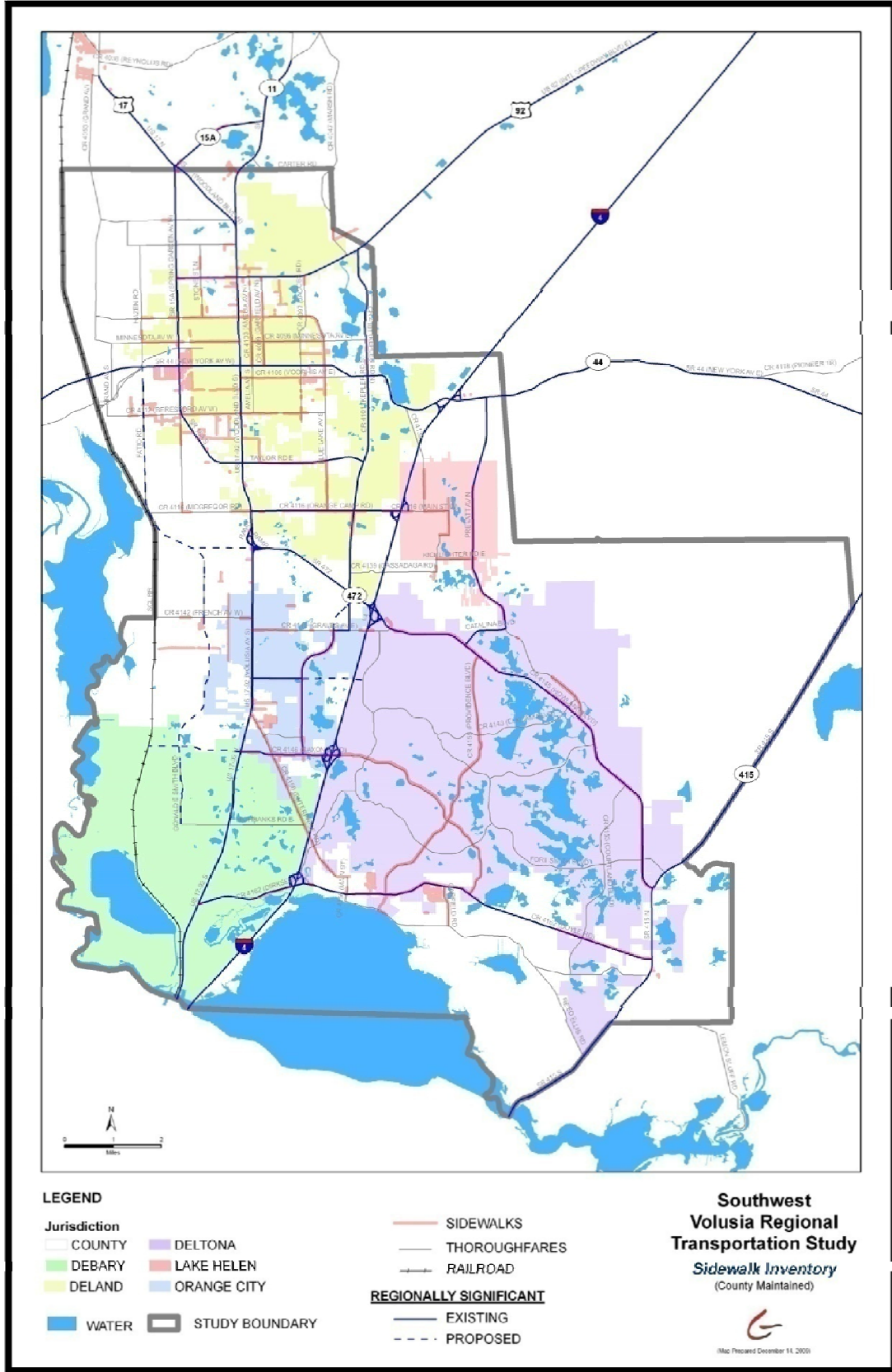
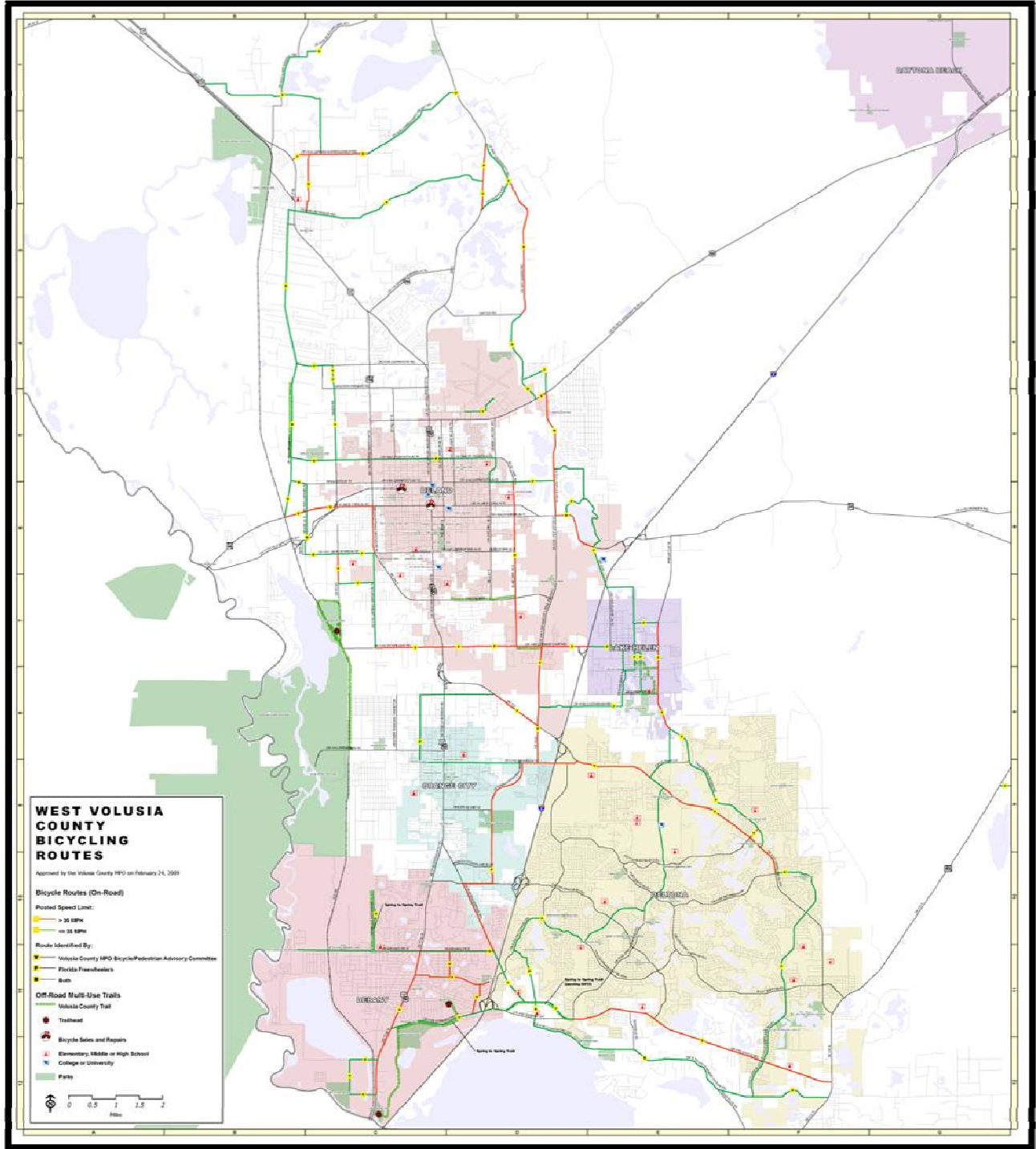


Figure 7: Sidewalk Inventory



Source: Volusia County Metropolitan Planning Organization

Figure 8: West Volusia County Bicycle Routes

Future Conditions

The next step after identifying the existing conditions and deficiencies is to evaluate the future conditions of the transportation system in the years 2015 and 2025. The Central Florida Regional Planning Model (CFRPM), a travel demand model, was used to assess how the transportation system will operate in the future based on the projected socioeconomic data. To accomplish this task, the Study Partners refined the socioeconomic data by reallocating population, housing units, employment data, and schools among the traffic analysis zones. The methodologies used for the travel demand model, socioeconomic data, and traffic projections are contained in **Appendix B and C**.

A description of each scenario alternative analyzed is contained below. Each scenario was analyzed for the year 2015 and 2025 (identified as A and B, respectively). **Appendix D** contains a compilation of transportation improvements identified in previous plans and studies that were considered in the development of scenario alternatives for the future transportation system. A complete set of tables and maps for each scenario is provided in **Technical Memorandum 1**.

No-Build Alternative

The initial future conditions analysis is used to identify the projected deficiencies for the existing roadway network if no further transportation improvements are made through the horizon year 2025. This is the No-Build Alternative and it provides the baseline against which the additional three scenario alternatives were compared. As shown in **Figures 9 and 10**, the existing roadway network is not sufficient to meet the mobility needs of the region in 2015 and 2025. Therefore, additional transportation improvements and strategies are needed in order to accommodate future growth. **Table 5** below lists the roadway segments that are projected to exceed a V/C ratio of 1.0 in 2025.

Table 5: No-Build Alternative – 2025 Roadway Deficiencies

| Road Name | Limits (From - To) | 2025 V/C |
|-----------|--|----------|
| I-4 | SR 46 to Volusia Co. | 2.10 |
| I-4 | Seminole Co. to Dirksen Dr. | 1.42 |
| I-4 | Dirksen Dr. to Saxon Blvd. | 1.28 |
| I-4 | Saxon Blvd. to SR 472 | 1.24 |
| I-4 | SR 472 to Orange Camp Rd. | 1.12 |
| I-4 | SR 44 to US 92 Connector | 1.01 |
| US 17 | Mercers Fernery Rd. to US 92 | 1.50 |
| US 17/92 | Plymouth Ave. to SR 44 (New York Ave.) | 1.49 |
| US 17/92 | SR 44 (New York Ave.) to Euclid Ave. | 1.36 |
| US 17/92 | Euclid Ave. to Beresford Ave. | 1.48 |
| US 17/92 | Beresford Ave. to SR 15A (Taylor Rd.) | 1.26 |
| US 17/92 | SR 15A (Taylor Rd.) to SR 472 | 1.08 |
| US 17/92 | SR 472 to French Ave. | 1.18 |
| US 17/92 | French Ave. to Graves Ave. | 1.08 |
| US 17/92 | Graves Ave. to Blue Springs Ave. | 1.07 |
| US 17/92 | Blue Springs Ave. to Enterprise Rd. | 1.35 |
| US 17/92 | Enterprise Rd. to Highbanks Rd. | 1.29 |
| SR 11 | SR 40 to CR 15A | 2.08 |
| SR 44 | Lake Co. to Shell Rd. | 1.16 |

| | | |
|-------------------------|--|------|
| SR 44 | SR 15A (Spring Garden Ave.) to Stone St. | 1.04 |
| SR 44 | Stone St. to Clara Ave. | 1.02 |
| SR 44 | Amelia Ave. to Hill Ave. | 1.09 |
| SR 44 | Hill Ave. to Blue Lake Ave. | 1.37 |
| SR 44 | Blue Lake Ave. to Kepler Rd. | 1.07 |
| SR 44 | Prevatt Ave. to Pioneer Tr. | 1.13 |
| SR 415 | SR 44 to Ft. Smith Blvd. | 1.30 |
| SR 415 | Howland Blvd. to Doyle Rd. | 2.39 |
| SR 415 | Doyle Rd. to Enterprise-Osteen Rd. | 2.06 |
| SR 415 | Enterprise-Osteen Rd. to Seminole Co. | 1.07 |
| SR 472 | CR 4101 to I-4 | 1.10 |
| Amelia Ave. | Plymouth Ave. to Pennsylvania Ave. | 1.18 |
| Amelia Ave. | Pennsylvania Ave. to Minnesota Ave. | 1.39 |
| Amelia Ave. | Minnesota Ave. to Ohio Ave. | 1.35 |
| Beresford Ave. | US 17/92 to Alabama Ave. | 1.31 |
| Beresford Ave. | Alabama Ave. to Amelia Ave. | 1.23 |
| Captain Dr. | Lake Helen-Osteen Rd. to Urmey Ave. | 1.17 |
| Catalina Blvd. | Howland Blvd. to Sixma Rd. | 2.13 |
| Catalina Blvd. | Sixma Rd. to Lake Helen-Osteen Rd. | 1.04 |
| Courtland Blvd. | Flynn St. to Captain Dr. | 1.08 |
| Courtland Blvd. | Gimlet Dr. to Elkcam Blvd. | 1.35 |
| Courtland Blvd. | Howland Blvd. to Post Court | 1.38 |
| Courtland Blvd. | Post Court to India Blvd. | 1.63 |
| Courtland Blvd. | Maltby Dr. to Ft Smith Blvd. | 1.72 |
| Courtland Blvd. | Ft Smith Blvd. to Larchmont Dr. | 1.53 |
| Deltona Blvd. | Enterprise Rd. to Hummingbird St. | 2.06 |
| Deltona Blvd. | Hummingbird St. to DeBary Ave. | 1.64 |
| Dirksen/DeBary/Doyle | Palm Rd. to WB I-4 Ramps | 1.78 |
| Dirksen/DeBary/Doyle | Enterprise St. to Main St. | 1.02 |
| Dirksen/DeBary/Doyle | Providence Blvd. to Garfield Rd. | 1.44 |
| Dirksen/DeBary/Doyle | Garfield Rd. to Saxon Blvd. | 1.03 |
| Dirksen/DeBary/Doyle | Saxon Blvd. to Sheryl Dr. | 1.24 |
| Dirksen/DeBary/Doyle | Sheryl Dr. to Courtland Blvd. | 1.29 |
| Dirksen/DeBary/Doyle | Courtland Blvd. to Bull Run Ave. | 1.28 |
| Dirksen/DeBary/Doyle | Bull Run Ave. to SR 415 | 1.37 |
| Elkcam Blvd. | Providence Blvd. to Acadian Dr. | 1.27 |
| Elkcam Blvd. | Acadian Dr. to Montecito Ave. | 1.25 |
| Fort Smith Blvd. | Providence Blvd. to Newmark Dr. | 1.28 |
| Fort Smith Blvd. | Normandy Blvd. to Potomac Ave. | 1.94 |
| Fort Smith Blvd. | Potomac Ave. to India Blvd. | 2.14 |
| French Ave. | Lawton Ave. to Sparkman Ave. | 1.07 |
| French Ave. | Sparkman Ave. to Carpenter Ave. | 1.34 |
| French Ave. | Carpenter Ave. to US 17/92 | 1.04 |
| Graves Ave. | Thorpe Ave. to Leavitt Ave. | 3.79 |
| Graves Ave. | Veteran's Memorial Pkwy. to Kentucky Ave. | 1.81 |
| Graves Ave. | Kentucky Ave. to Howland Blvd. | 2.57 |
| Harley Strickland Blvd. | Enterprise Rd. to Threadgill Pl. | 1.60 |
| Harley Strickland Blvd. | Threadgill Pl. to Veteran's Memorial Pkwy. | 2.36 |
| Highbanks Rd. | Westside Connector to US 17/92 | 1.05 |
| Highbanks Rd. | US 17/92 to Eldorado Dr. | 1.03 |
| Highbanks Rd. | Eldorado Dr. to Enterprise Rd. | 1.08 |
| Howland Blvd. | I-4/SR 472 to Wolf Pack Run | 1.72 |
| Howland Blvd. | Wolf Pack Run to Red Fox Run | 1.22 |
| Howland Blvd. | Red Fox Run to Catalina Blvd. | 1.21 |

| | | |
|-----------------------|---|------|
| Howland Blvd. | Catalina Blvd. to Bluffview Circle | 1.05 |
| Howland Blvd. | Bluffview Circle to Providence Blvd. | 1.06 |
| Howland Blvd. | Providence Blvd. to Adelia Blvd. | 1.34 |
| Howland Blvd. | Adelia Blvd. to Elkcaml Blvd. | 1.13 |
| Howland Blvd. | Fish Hawk Rd. to Ft Smith Blvd. | 1.01 |
| Howland Blvd. | Ft Smith Blvd. to Tabb Dr. | 1.12 |
| Howland Blvd. | Tabb Dr. to SR 415 | 1.13 |
| Kicklighter Rd. | Macy Ave. to Pleasant St. | 1.18 |
| Kicklighter Rd. | Pleasant St. to Lake Helen-Osteen/Prevatt | 1.09 |
| Lake Helen-Osteen Rd. | Kicklighter Rd. to Sixma Rd. | 3.31 |
| Lake Helen-Osteen Rd. | Sixma Rd. to Captain Dr. | 1.26 |
| Lake Helen-Osteen Rd. | Captain Dr. to Yorkshire Dr. | 1.22 |
| Lake Helen-Osteen Rd. | Yorkshire Dr. to Catalina Blvd. | 1.22 |
| Lake Helen-Osteen Rd. | Catalina Blvd. to Haulover Blvd. | 1.25 |
| Lake Helen-Osteen Rd. | Haulover Blvd. to Elkcaml Blvd. | 1.10 |
| Lakeview Dr. | Main St. to Ohio Ave. | 2.15 |
| Main St. (Lake Helen) | I-4 to Lakeview Dr. | 1.45 |
| Marsh Rd. | Daugharty Rd. to Carter Rd. | 2.66 |
| Newmark Dr. | Ft Smith Blvd. to Montecito Ave. | 1.09 |
| Normandy Blvd. | Graves (old Howland) to Rhode Island Ave. | 4.37 |
| Normandy Blvd. | Rhode Island Ave. to Firwood Ave. | 1.32 |
| Normandy Blvd. | Firwood Ave. to Elkcaml Blvd. | 2.55 |
| Normandy Blvd. | Elkcaml Blvd. to Sullivan St. | 1.06 |
| Normandy Blvd. | Merrimac St. to Deltona Blvd. | 1.20 |
| Normandy Blvd. | Deltona Blvd. to Lombardy Dr. | 1.39 |
| Normandy Blvd. | Lombardy Dr. to Tivoli Dr. | 1.56 |
| Normandy Blvd. | Tivoli Dr. to Norwood | 1.30 |
| Normandy Blvd. | Goldcoast Dr. to Saxon Blvd. | 1.24 |
| Normandy Blvd. | Paco Court to Echo Court | 1.41 |
| Old New York Ave. | SR 44 to Shell Rd. | 3.22 |
| Old New York Ave. | Shell Rd. to Hontoon Rd. | 1.39 |
| Old New York Ave. | Hontoon Rd. to Lakeview Dr. | 2.21 |
| Orange Camp Rd. | W Volusia Bltwy. (Dr MLK Jr) to midpoint | 1.11 |
| Orange Camp Rd. | midpoint to I-4 | 1.21 |
| Plymouth Ave. | US 17/92 to Pine St. | 1.05 |
| Plymouth Ave. | Pine St. to Amelia Ave. | 1.04 |
| Prevatt Ave. | SR 44 to Lake Pearl Dr. | 1.33 |
| Providence Blvd. | Howland Blvd. to Eustace Av | 1.25 |
| Providence Blvd. | Eustace Av to Elkcaml Blvd. | 1.32 |
| Providence Blvd. | Elkcaml Blvd. to Monticello St. | 1.46 |
| Providence Blvd. | Monticello St. to Ft Smith Blvd. | 1.48 |
| Providence Blvd. | Tivoli Dr. to Page Dr. | 1.16 |
| Providence Blvd. | Page Dr. to Saxon Blvd. | 1.15 |
| Providence Blvd. | Saxon Blvd. to Lambert St. | 1.27 |
| Providence Blvd. | Lambert St. to Normandy Blvd. | 1.05 |
| Providence Blvd. | Normandy Blvd. to Sacramento St. | 1.26 |
| Providence Blvd. | Sacramento St. to Tyler Ave. | 1.26 |
| Providence Blvd. | Tyler Ave. to Anderson Dr. | 1.26 |
| Providence Blvd. | Anderson Dr. to Fisher Dr. | 1.30 |
| Providence Blvd. | Fisher Dr. to Doyle Rd. | 1.30 |
| Rhode Island Ave. | Leavitt Ave. to Veteran's Memorial Pkwy. | 1.33 |
| Saxon Blvd. | Enterprise Rd. to Threadgill Place | 1.38 |
| Saxon Blvd. | Threadgill Place to Veterans Memorial Pkwy. | 1.04 |
| Saxon Blvd. | Veterans Memorial Pkwy. to midpoint | 1.51 |

| | | |
|---------------------------------------|--|------|
| Saxon Blvd. | midpoint to I-4 | 1.51 |
| Saxon Blvd. | I-4 to Finland Dr. | 1.78 |
| Saxon Blvd. | Finland Dr. to Normandy Blvd. | 1.33 |
| Saxon Blvd. | Normandy Blvd. to Urbana Ave. | 1.11 |
| Saxon Blvd. | Tivoli Dr. to Page Dr. | 1.00 |
| Saxon Blvd. | Providence Blvd. to Waycross Cir. | 1.11 |
| Saxon Blvd. | Waycross Cir. to Normandy Blvd. | 1.11 |
| Tivoli Dr. | Saxon Blvd. to Baton Dr. | 1.42 |
| Tivoli Dr. | Baton Dr. to April Ave. | 1.77 |
| Tivoli Dr. | April Ave. to Providence Blvd. | 1.65 |
| W. Volusia Bltwy (Kepler Rd) | US 92 to Azalea Dr. | 1.16 |
| W. Volusia Bltwy (Kepler Rd) | Azalea Dr. to Minnesota Ave. | 1.31 |
| W. Volusia Bltwy (Kepler Rd) | Minnesota Ave. to Lake Charles Rd. | 1.24 |
| W. Volusia Bltwy (Kepler Rd) | Lake Charles Rd. to SR 44 | 1.67 |
| W. Volusia Bltwy (Kepler Rd) | SR 44 to Beresford Ave. Ext. | 1.40 |
| W. Volusia Bltwy (Dr MLK Jr) | Beresford Ave. Ext. to Taylor Rd. | 1.22 |
| W. Volusia Bltwy (Dr MLK Jr) | Taylor Rd. to midpoint | 1.56 |
| W. Volusia Bltwy (Dr MLK Jr) | midpoint to Orange Camp Rd. | 1.60 |
| W. Volusia Bltwy (Dr MLK Jr) | Orange Camp Rd. to midpoint | 1.38 |
| W. Volusia Bltwy (Dr MLK Jr) | Cassadaga Rd. to SR 472 | 1.67 |
| W. Volusia Bltwy (Kentucky Ave) | SR 472 to midpoint | 1.39 |
| W. Volusia Bltwy (Kentucky Ave) | midpoint to Graves Ave. | 1.24 |
| W. Volusia Bltwy (Veteran's Memorial) | Monastery Rd. to Rhode Island Ave. | 1.35 |
| W. Volusia Bltwy (Veteran's Memorial) | Rhode Island Ave. to Harley Strickland Blvd. | 1.34 |

Scenario 1

Scenario 1 improvements were primarily roadway capacity improvements which included local roads. The scenario included 14 road widening projects and 9 new roads with 1 new interchange. The transit-related component included commuter rail service from DeBary to Orlando. Other strategies incorporated included swapping the SIS designation from a portion of US 17/92 to SR 15A and the creation of a Multimodal Transportation District (MMTD) within DeLand. The Scenario 1 improvements are shown in **Table 6 and Figure 11**. The resulting V/C ratio analysis for 2015 and 2025 are illustrated in Figures 12 and 13, respectively.

Table 6: Scenario 1 Alternative Improvements

| Road Improvements Facility/Road Name | Limits (From - To) | Improvement Description | Implemented By | |
|---|-------------------------------------|--|----------------|---------|
| | | | 2015(A) | 2025(B) |
| Beresford Rd Extension | Blue Lake to SR 44 | New 2 Ln Road | ✓ | |
| Blue Lake Extension | Orange Camp Rd. to SR 472 | New 2 Ln Road | | ✓ |
| Dirksen/DeBary/Doyle | Providence Blvd to SR 415 | Widen to 4 Ln | ✓ | |
| Elkcam Blvd Extension | Terminus to SR 415 | New 2 Ln Road | ✓ | |
| Howland Blvd | Providence Blvd to Elkcam Blvd | Widen to 4 Ln | ✓ | |
| I-4 | SR 44 to US 92 | Widen to 6 Ln | ✓ | |
| I-4 | SR 472 to Seminole Co. | Widen to 8 Ln | ✓ | |
| Kicklighter Extension | Western terminus to I-4 | New 2 Ln Road with Interchange at I-4 | ✓ | |
| McKenzie Extension | Terminus @ North Ave to Prevatt Ave | New 2 Ln Road | ✓ | |
| Orange Camp Rd. | W. Volusia Bltwy (MLK) to I-4 | Widen to 4 Ln | ✓ | |
| Prevatt Ave | SR 44 to Catalina Blvd | Widen to 4 Ln | ✓ | |
| Providence Blvd | Howland Blvd to Diksen/DeBary/Doyle | Widen to 4 Ln | ✓ | |

| | | | | |
|-------------------------------|-----------------------------------|---------------|---|---|
| Rhode Island Extension | Eastern terminus to Normandy Blvd | New 2 Ln Road | ✓ | |
| Saxon Blvd | US 17/92 to Rail Line | New 2 Ln | ✓ | |
| Saxon Blvd | US 17/92 to Rail Line | Widen to 4 Ln | | ✓ |
| Saxon Blvd | Enterprise to US 17/92 | Widen to 4 Ln | | ✓ |
| Saxon Blvd | Enterprise Rd to I-4 | Widen to 6 Ln | ✓ | |
| Saxon Blvd | Tivoli Dr. to Diksen/DeBary/Doyle | Widen to 4 Ln | ✓ | |
| SR 415 | Reed-Ellis Rd to Seminole Co. | Widen to 4 Ln | | ✓ |
| SR 472 Extension | Extend west to Westside Pkwy | New 4 Ln Road | ✓ | |
| W. Volusia Bltwy (Kepler/MLK) | US 92 to SR 472 | Widen to 4 Ln | | ✓ |
| W. Volusia Bltwy (VMP) | Graves to Harley Strickland | Widen to 4 Ln | ✓ | |
| Westside Pkwy | SR 44 to DeBary Plantation | New 2 Ln Road | ✓ | |

| Transit Improvements Facility/Service | Limits (From - To) | Improvement Description | Implemented By | |
|--|---------------------------------|-------------------------------------|----------------|---------|
| | | | 2015(A) | 2025(B) |
| Commuter Rail Service | DeBary @ Ft. Florida to Orlando | 10% traffic volume reduction on I-4 | ✓ | |

| Other Improvements Facility/Service | Limits (From - To) | Improvement Description | Implemented By | |
|--|--|----------------------------|----------------|---------|
| | | | 2015(A) | 2025(B) |
| Multimodal Transportation District | Plymouth/Hill/Beresford/SR 15A boundary limits | Subarea LOS Average E | ✓ | |
| SR 15A | US 92 to US 17 | Change LOS from D to C | ✓ | |
| US 17/92 | US 92 to SR 15A | Change LOS from C to E | ✓ | |

Scenario 2

Scenario 2 included more multimodal type strategies as compared to Scenario 1. The transit-related improvements included 2 commuter rail stops, 7 park-and-ride lots, and 4 super stops. There were 10 new roads and 13 widening projects. As compared to Scenario 1, the limits of widening segments of Saxon Blvd. and Dirksen/DeBary/Doyle were reduced. The Scenario 2 improvements are shown in **Table 7** and **Figures 14 and 15**. The resulting V/C ratio analysis for 2015 and 2025 are illustrated in **Figures 16 and 17**, respectively.

Table 7: Scenario 2 Alternative Improvements

| Road Improvements Facility/Road Name | Limits (From - To) | Improvement Description | Implemented By | |
|---|--------------------------------------|-------------------------|----------------|---------|
| | | | 2015(A) | 2025(B) |
| Beresford Rd Extension | Blue Lake to SR 44 | New 2 Ln Road | ✓ | |
| Blue Lake Extension | Orange Camp Rd. to SR 472 | New 2 Ln Road | | ✓ |
| Courtland Extension | Terminus to Reed Ellis Rd | New 2 Ln Road | ✓ | |
| Dirksen/DeBary/Doyle | Providence Blvd to Saxon Blvd | Widen to 4 Ln | ✓ | |
| Elkcam Blvd Extension | Terminus to SR 415 | New 2 Ln Road | ✓ | |
| Howland Blvd | Providence Blvd to Elkcam Blvd | Widen to 4 Ln | ✓ | |
| Howland Blvd Extension | Terminus to Doyle Rd. | New 2 Ln Road | ✓ | |
| I-4 | SR 44 to US 92 | Widen to 6 Ln | | ✓ |
| I-4 | SR 472 to Seminole Co. | Widen to 8 Ln | | ✓ |
| McKenzie Extension | Terminus @ North Ave to Prevatt Ave | New 2 Ln Road | ✓ | |
| Orange Camp Rd. | W. Volusia Bltwy (MLK) to I-4 | Widen to 4 Ln | ✓ | |
| Prevatt Ave | SR 44 to Catalina Blvd | Widen to 4 Ln | ✓ | |
| Providence Blvd | Howland Blvd to Dirksen/DeBary/Doyle | Widen to 4 Ln | ✓ | |
| Rhode Island Extension | Eastern terminus to Normandy Blvd | New 2 Ln Road | ✓ | |
| Saxon Blvd | US 17/92 to Rail Line | New 2 Ln | ✓ | |
| Saxon Blvd | Enterprise Rd to I-4 | Widen to 6 Ln | ✓ | |
| Saxon Blvd | Tivoli Dr. to Providence Blvd | Widen to 4 Ln | ✓ | |

| | | | | |
|-------------------------------|-------------------------------|---------------|---|---|
| SR 415 | SR 44 to Ft. Smith Blvd | Widen to 4 Ln | ✓ | |
| SR 415 | Reed-Ellis Rd to Seminole Co. | Widen to 4 Ln | | ✓ |
| SR 472 Extension | Extend west to Westside Pkwy | New 4 Ln Road | | ✓ |
| W. Volusia Bltwy (Kepler/MLK) | US 92 to SR 472 | Widen to 4 Ln | | ✓ |
| W. Volusia Bltwy (VMP) | Graves to Harley Strickland | Widen to 4 Ln | ✓ | |
| Westside Pkwy | SR 44 to DeBary Plantation | New 2 Ln Road | | ✓ |

| Transit Improvements Facility/Service | Limits (From - To) | Improvement Description | Implemented By | |
|---------------------------------------|--|---|----------------|---------|
| | | | 2015(A) | 2025(B) |
| Commuter Rail Service | DeLand @ Old New York Ave. to Orlando | traffic volume reduction on I-4 | 5% | 10% |
| Commuter Rail Stop | DeLand @ Old New York Ave. | traffic volume reduction on all road segments within ¼ mile | 3% | 5% |
| Commuter Rail Stop | DeBary @ Saxon Blvd | | | |
| Commuter Rail Stop | DeBary @ Ft. Florida | | | |
| Park-and-Ride Lot | Deltona Library | | | |
| Park-and-Ride Lot | Howland Blvd | | | |
| Park-and-Ride Lot | Dirksen @ I-4 | | | |
| Park-and-Ride Lot | Southwest Activity Center @ I-4 | | | |
| Park-and-Ride Lot | SR 44 @ I-4 | | | |
| Park-and-Ride Lot | Saxon @ I-4 | | | |
| Intermodal Transfer Facility | Euclid @ US 17/92 | | | |
| Super Stop | Saxon @Enterprise Rd | | | |
| Super Stop | US 17/92 @ SR 472 | | | |
| Super Stop | US 17 @ US 92 | | | |
| New Transit Service | Along Howland including SR472 | | | |
| New Commuter Rail | Along power line easement connecting Section 16 Deltona with Sunrail station in DeBary | | | |
| New Commuter Rail | Connecting Daytona Beach to Sanford Amtrak Station running parallel to SR 415 | | | |

| Other Improvements Facility/Service | Limits (From - To) | Improvement Description | Implemented By | |
|-------------------------------------|--|-------------------------|----------------|---------|
| | | | 2015(A) | 2025(B) |
| Multimodal Transportation District | Plymouth/Hill/Beresford/SR 15A boundary limits | Subarea Average LOS E | ✓ | |
| SR 15A | US 92 to US 17 | Change LOS from D to C | ✓ | |
| US 17/92 | US 92 to SR 15A | Change LOS from C to E | ✓ | |

Scenario 3

The Scenario 3 improvements were focused on more regionally significant projects. The regional significance of an improvement was determined based on the Regionally Significant Transportation System developed for this study and described in the subsequent section. The Scenario 3 improvements are shown in **Table 8** and **Figures 18 and 19**. The resulting V/C ratio analysis for 2015 and 2025 are illustrated in **Figures 20 and 21** respectively.

Table 8: Scenario 3 Alternative Improvements

| Road Improvements Facility/Road Name | Limits (From - To) | Improvement Description | Implemented By | |
|---|--------------------------------------|-------------------------|----------------|---------|
| | | | 2015(A) | 2025(B) |
| Dirksen/DeBary/Doyle | Providence Blvd to Saxon Blvd | Widen to 4 Ln | | ✓ |
| Dirksen/DeBary/Doyle | Saxon Blvd to SR 415 | Widen to 4 Ln | | ✓ |
| Howland Blvd | Providence Blvd to Elkcaml Blvd | Widen to 4 Ln | | ✓ |
| I-4 | SR 44 to US 92 | Widen to 6 Ln | | ✓ |
| I-4 | SR 472 to Seminole Co. | Widen to 8 Ln | | ✓ |
| Kentucky Ave | Graves Ave to SR 472 | Widen to 4 Ln | | ✓ |
| Orange Camp Rd. | W. Volusia Bltwy (MLK) to I-4 | Widen to 4 Ln | ✓ | |
| Prevatt Ave | SR 44 to Catalina Blvd | Widen to 4 Ln | | ✓ |
| Providence Blvd | Howland Blvd to Dirksen/DeBary/Doyle | Widen to 4 Ln | | ✓ |
| Rhode Island Extension | Eastern terminus to Normandy Blvd | New 2 Ln Road | ✓ | |
| Saxon Blvd | US 17/92 to Rail Line | New 2 Ln | | ✓ |
| Saxon Blvd | Enterprise Rd to I-4 | Widen to 6 Ln | ✓ | |
| Saxon Blvd | Tivoli Dr. to Providence Blvd | Widen to 4 Ln | | ✓ |
| SR 415 | Reed-Ellis Rd to Seminole Co. | Widen to 4 Ln | | ✓ |
| W. Volusia Bltwy (Kepler/MLK) | US 92 to SR 472 | Widen to 4 Ln | | ✓ |
| W. Volusia Bltwy (VMP) | Graves to Harley Strickland | Widen to 4 Ln | | ✓ |
| Westside Pkwy | SR 44 to DeBary Plantation | New 2 Ln Road | | ✓ |

| Transit Improvements Facility/Service | Limits (From - To) | Improvement Description | Implemented By | |
|--|--|---|----------------|---------|
| | | | 2015(A) | 2025(B) |
| Commuter Rail Service | DeLand @ Old New York Ave. to Orlando | traffic volume reduction on I-4 | 5% | 10% |
| Commuter Rail Stop | DeLand @ Old New York Ave. | traffic volume reduction on all road segments within ¼ mile | | 5% |
| Commuter Rail Stop | DeBary @ Saxon Blvd | | | 5% |
| Commuter Rail Stop | DeBary @ Ft. Florida | | 3% | 5% |
| Park-and-Ride Lot | Deltona Library | | 3% | 5% |
| Park-and-Ride Lot | Howland Blvd | | 3% | 5% |
| Park-and-Ride Lot | Southwest Activity Center @ I-4 | | 3% | 5% |
| Park-and-Ride Lot | SR 44 @ I-4 | | | 5% |
| Park-and-Ride Lot | Saxon @ Normandy Blvd | | | 5% |
| Intermodal Transfer Facility | Euclid @ US 17/92 | | 3% | 5% |
| Super Stop | Saxon @Enterprise Rd | | 3% | 5% |
| Super Stop | US 17/92 @ SR 472 | | 3% | 5% |
| Super Stop | US 17 @ US 92 | | 3% | 5% |
| New Transit Service | Along Howland from Elkcaml to US 17/92 | | 3% | 5% |

| Other Improvements Facility/Service | Limits (From - To) | Improvement Description | Implemented By | |
|--|--------------------|-------------------------|----------------|---------|
| | | | 2015(A) | 2025(B) |
| SR 15A | US 92 to US 17 | Change LOS from D to C | ✓ | |
| US 17/92 | US 92 to SR 15A | Change LOS from C to E | ✓ | |

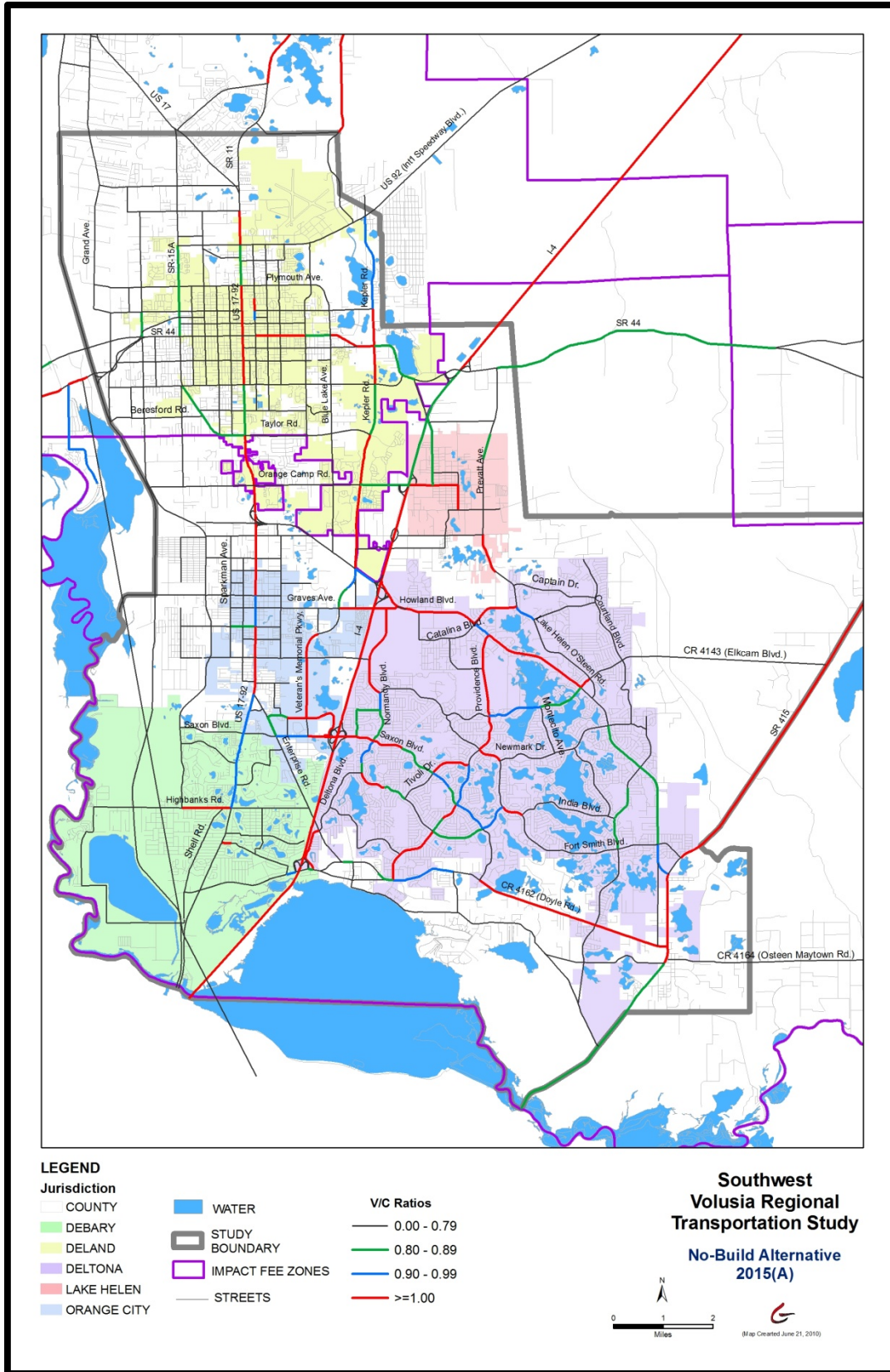


Figure 9: No-Build Alternative 2015 (A)

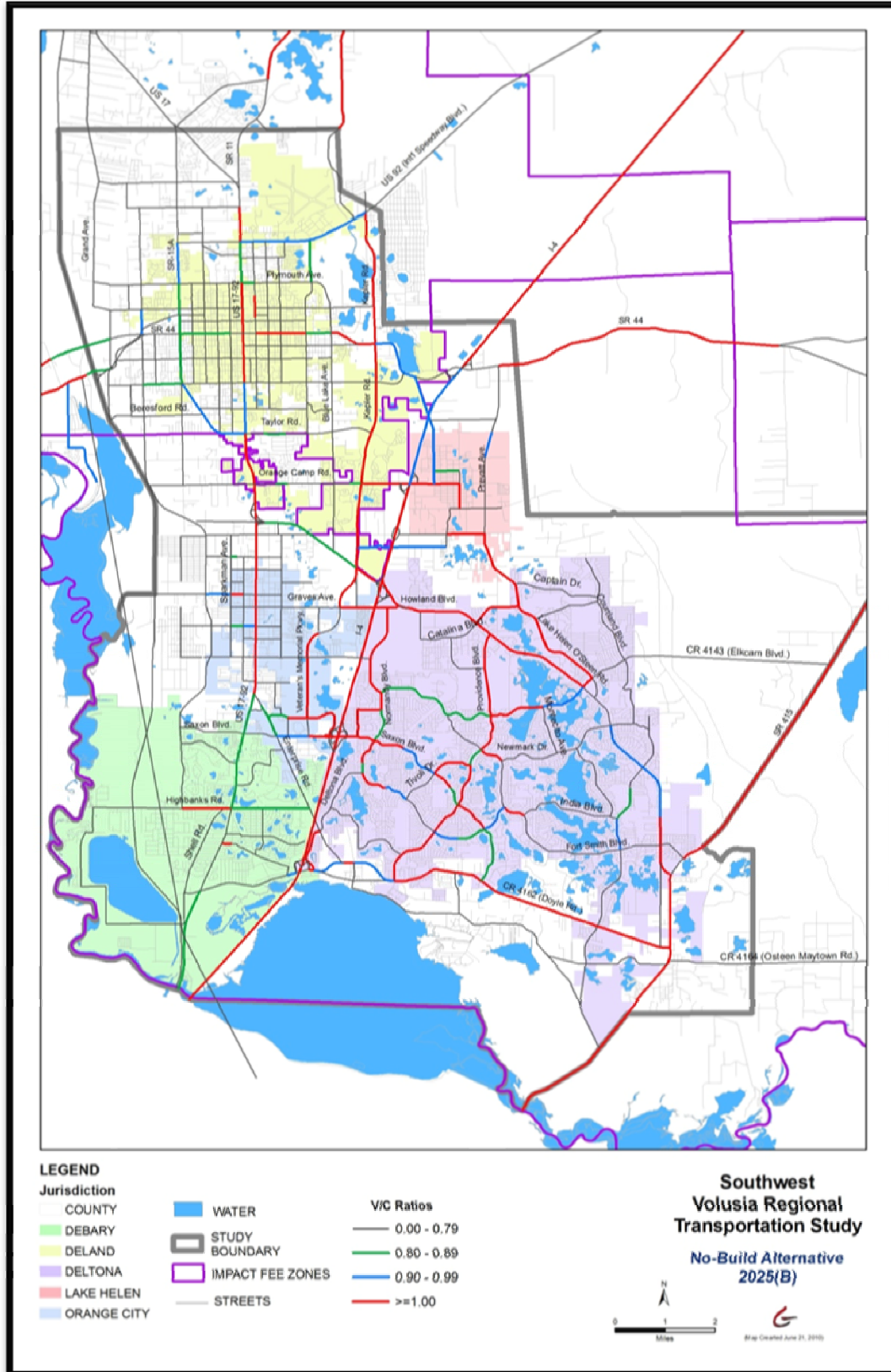


Figure 10: No-Build Alternative 2025 (B)

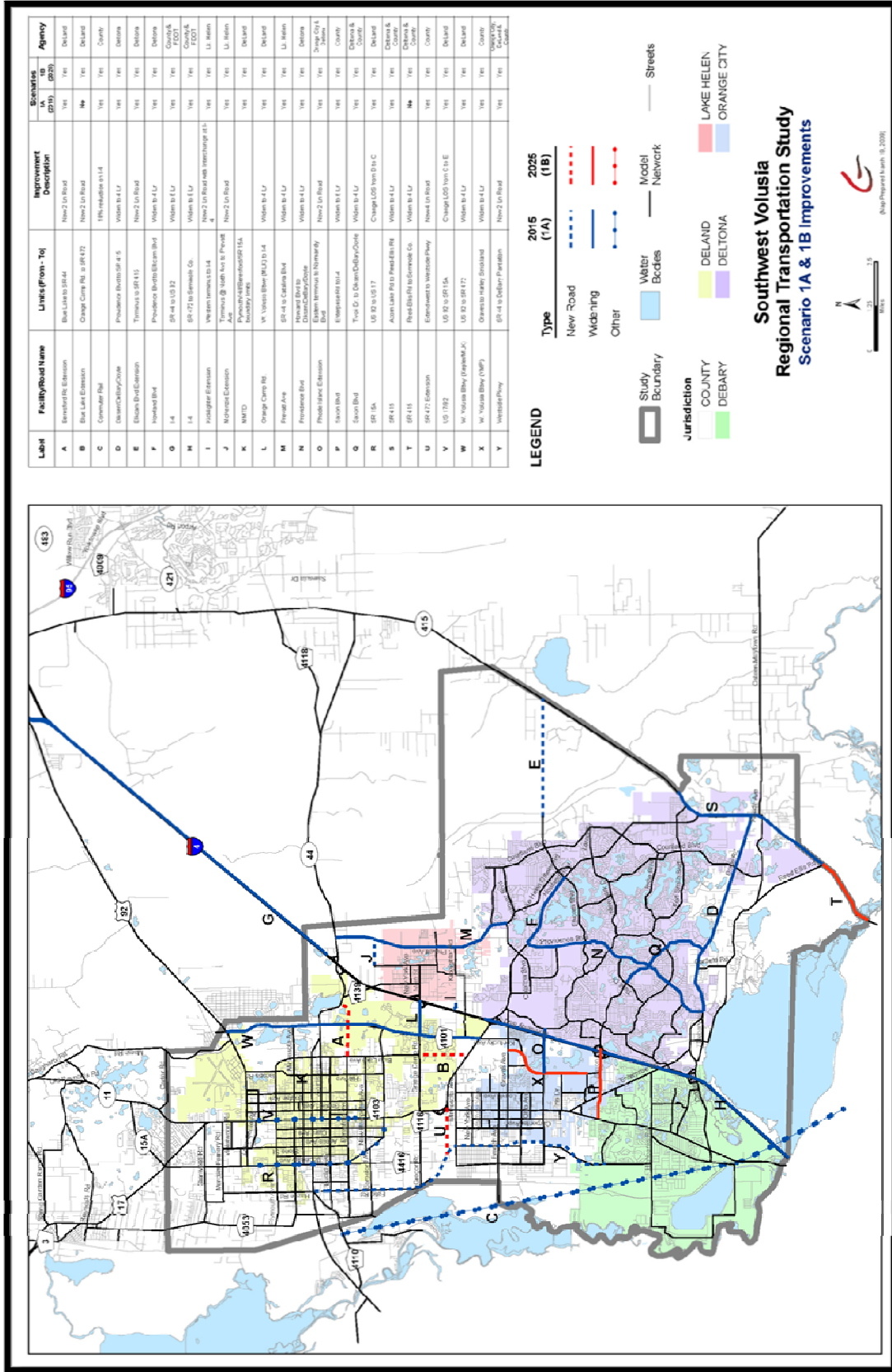


Figure 11: Scenario 1 Alternative Improvements

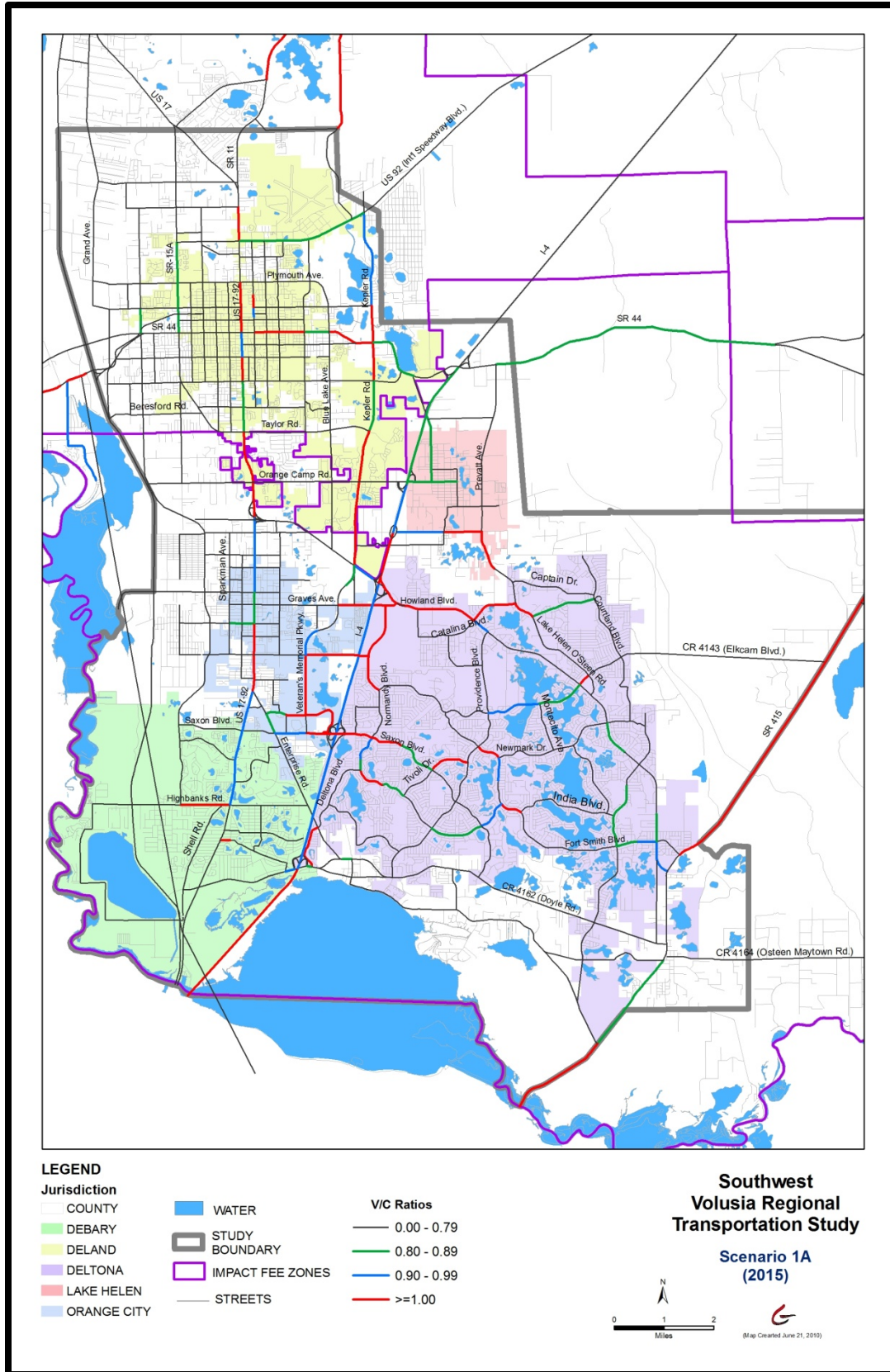


Figure 12: Scenario 1 Alternative 2015 (A)

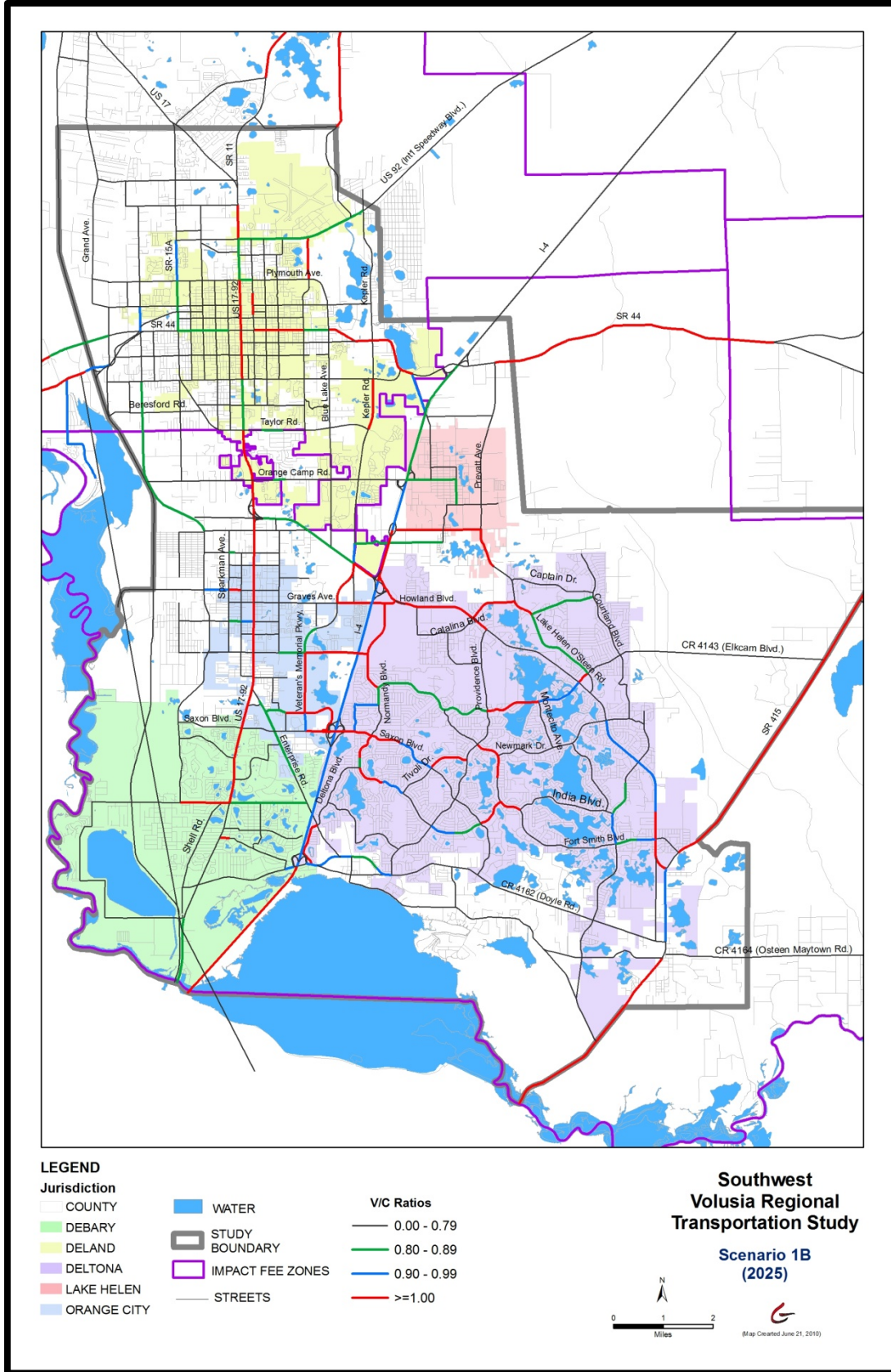


Figure 13: Scenario 1 Alternative 2025 (B)

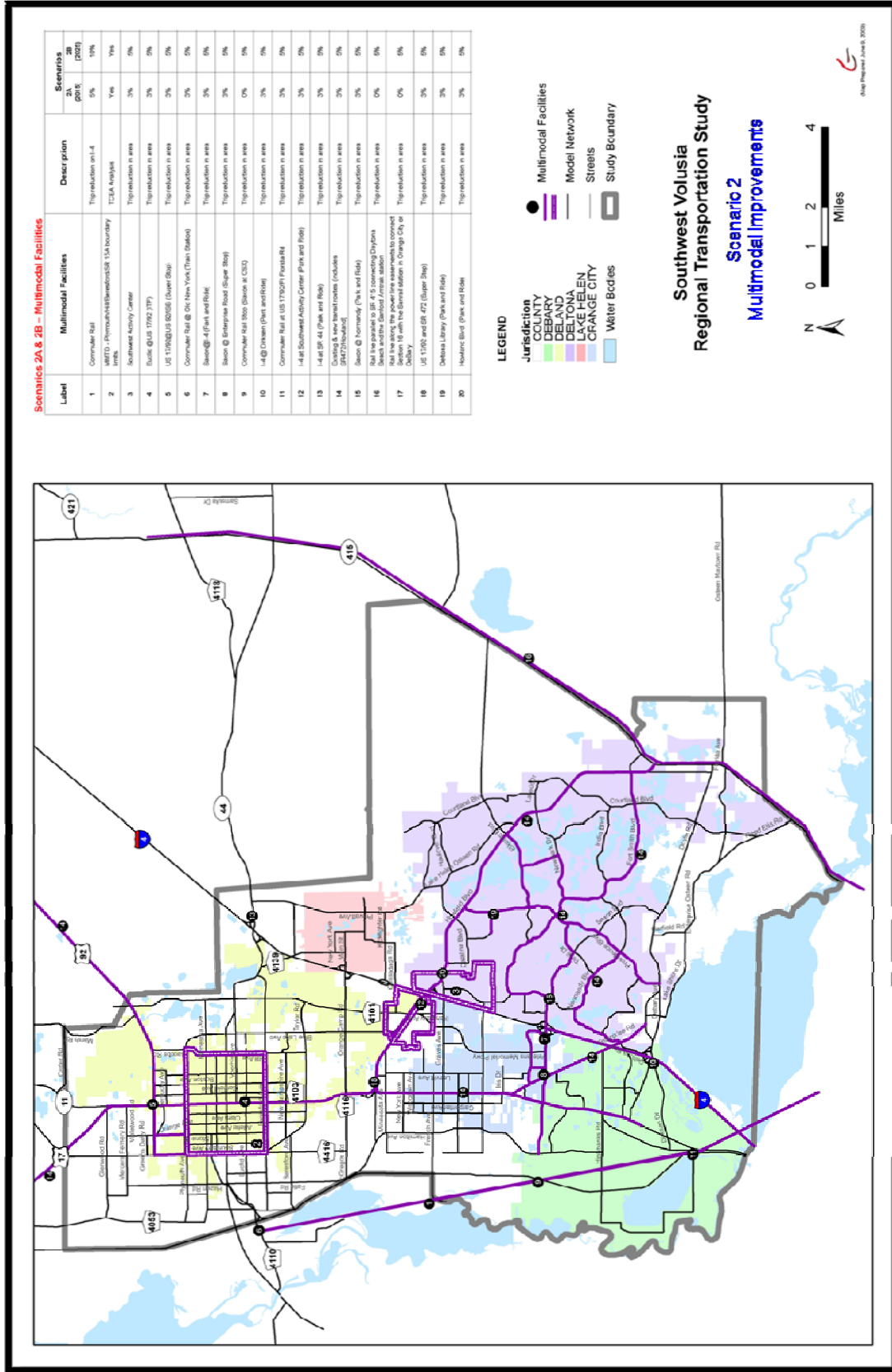


Figure 15: Scenario 2 Alternative Multimodal Improvements

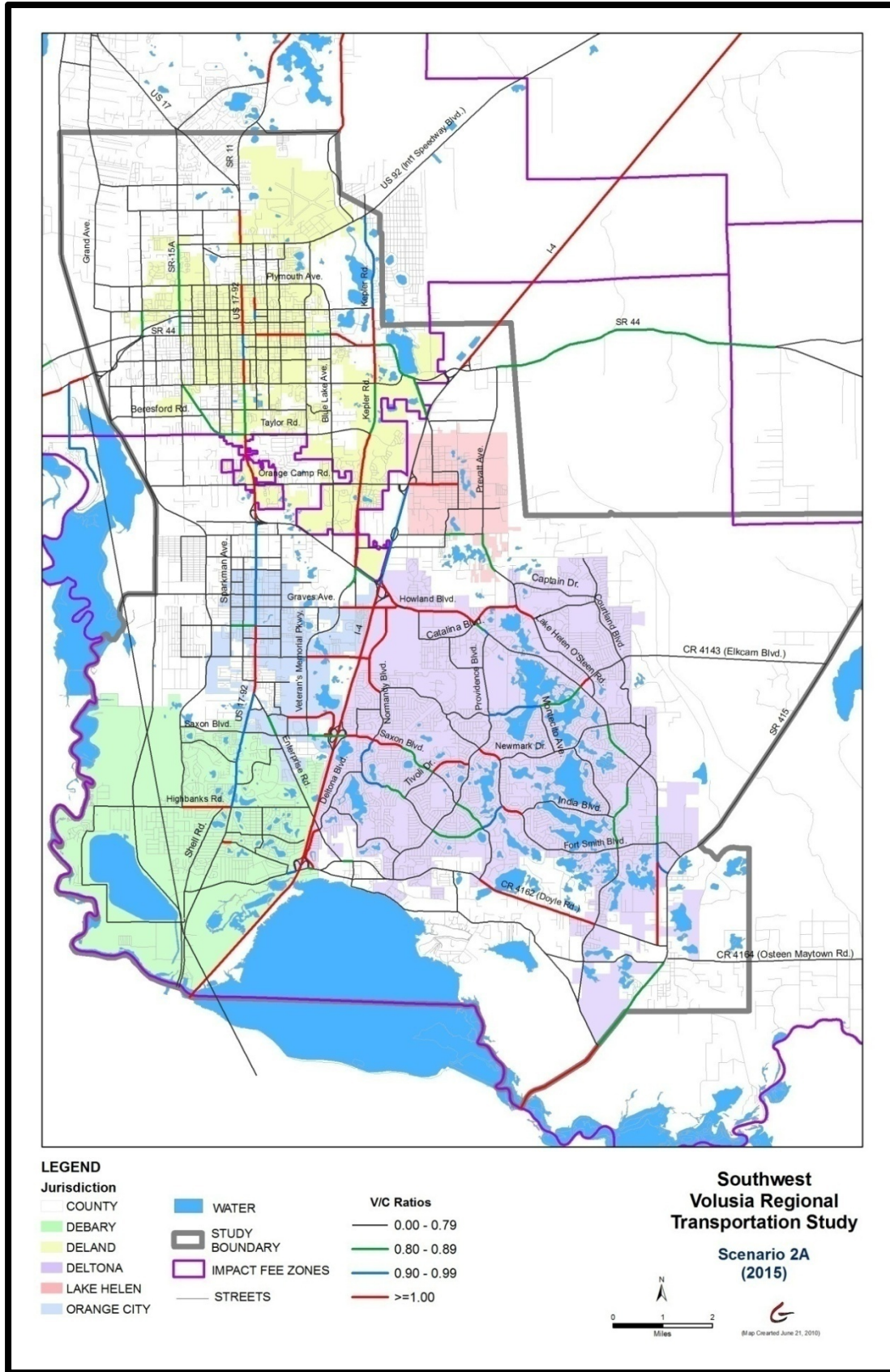


Figure 16: Scenario 2 Alternative 2015 (A)

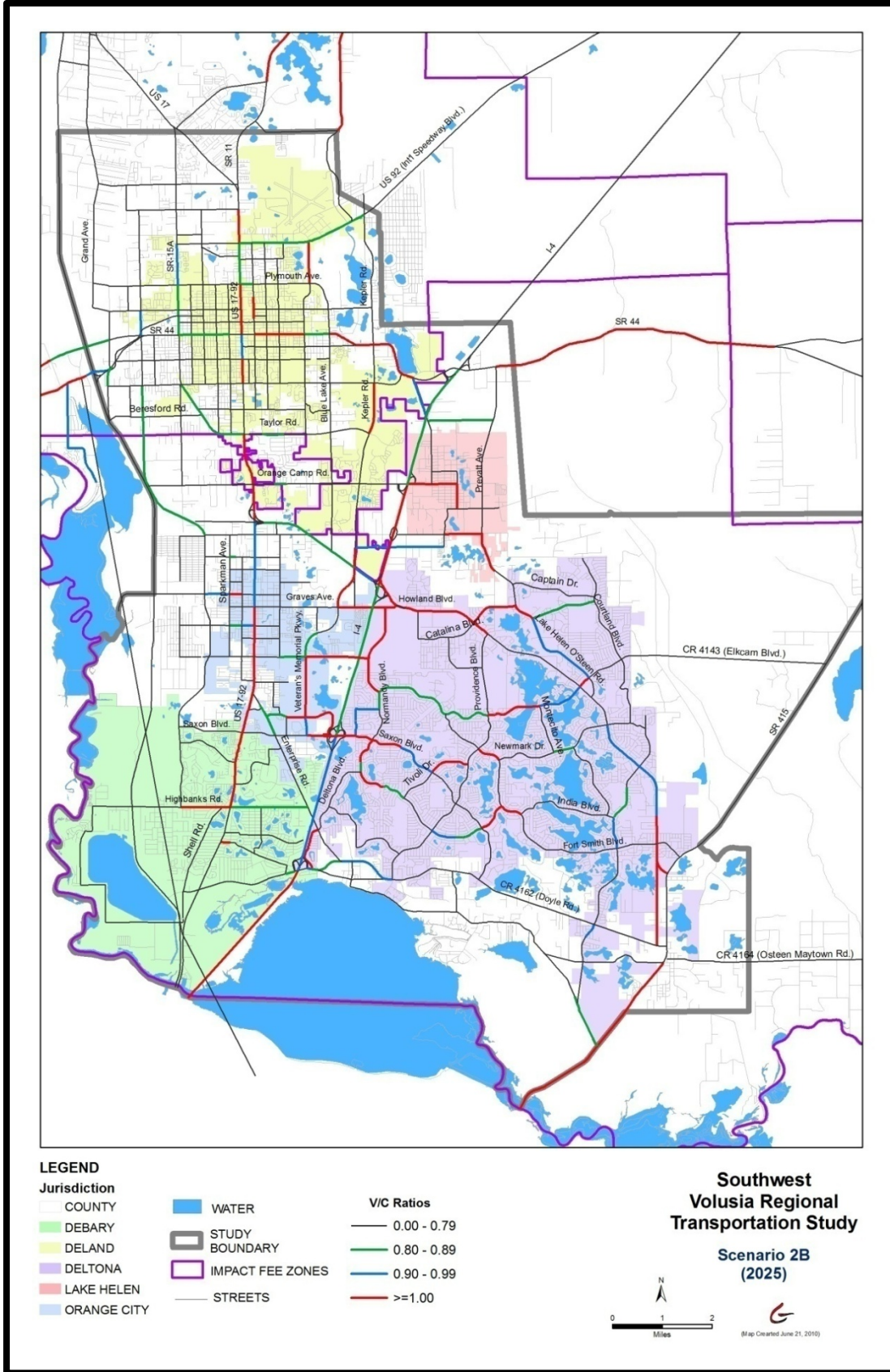


Figure 17: Scenario 2 Alternative 2025 (B)

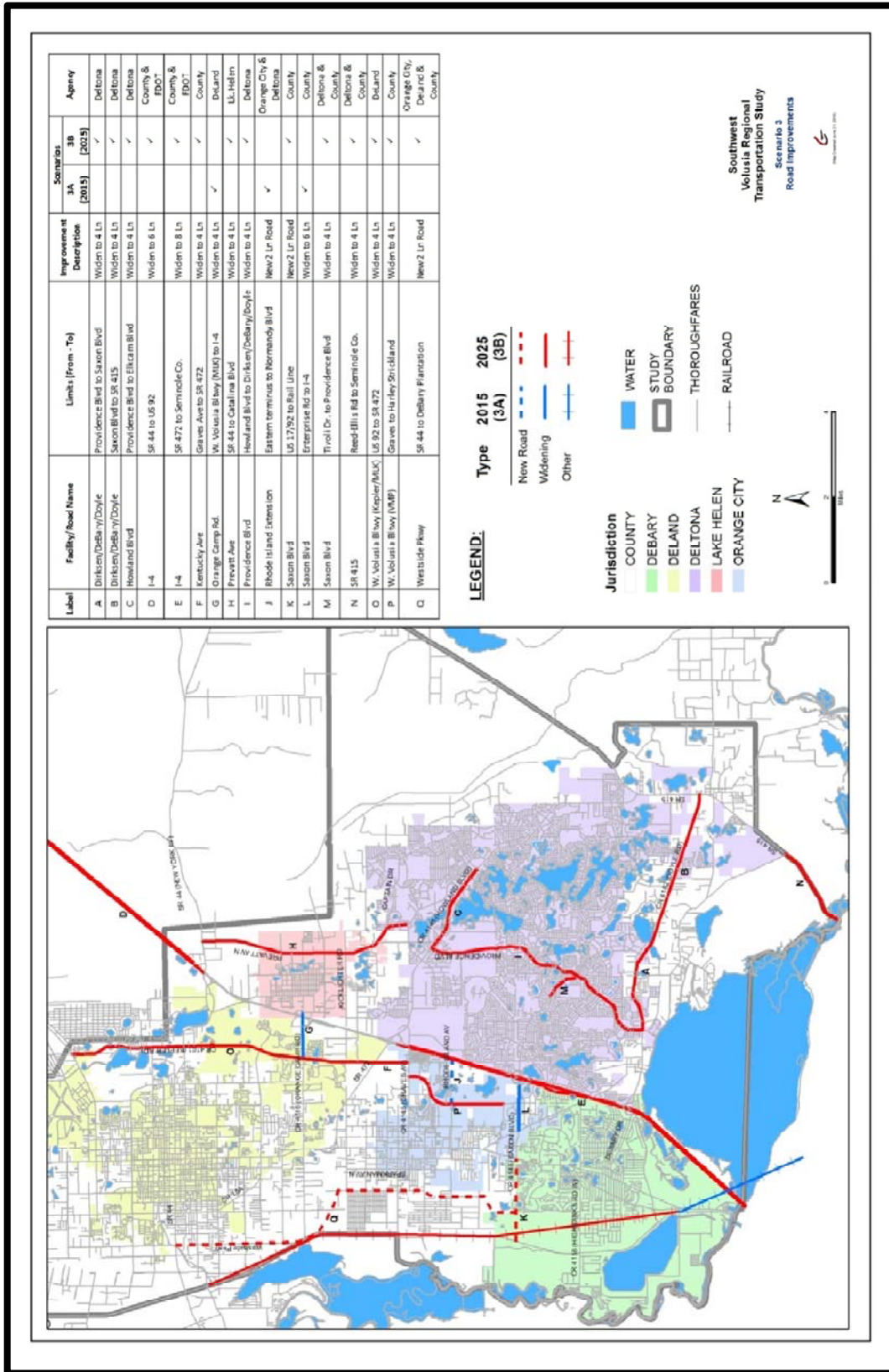


Figure 18: Scenario 3 Alternative Road Improvements

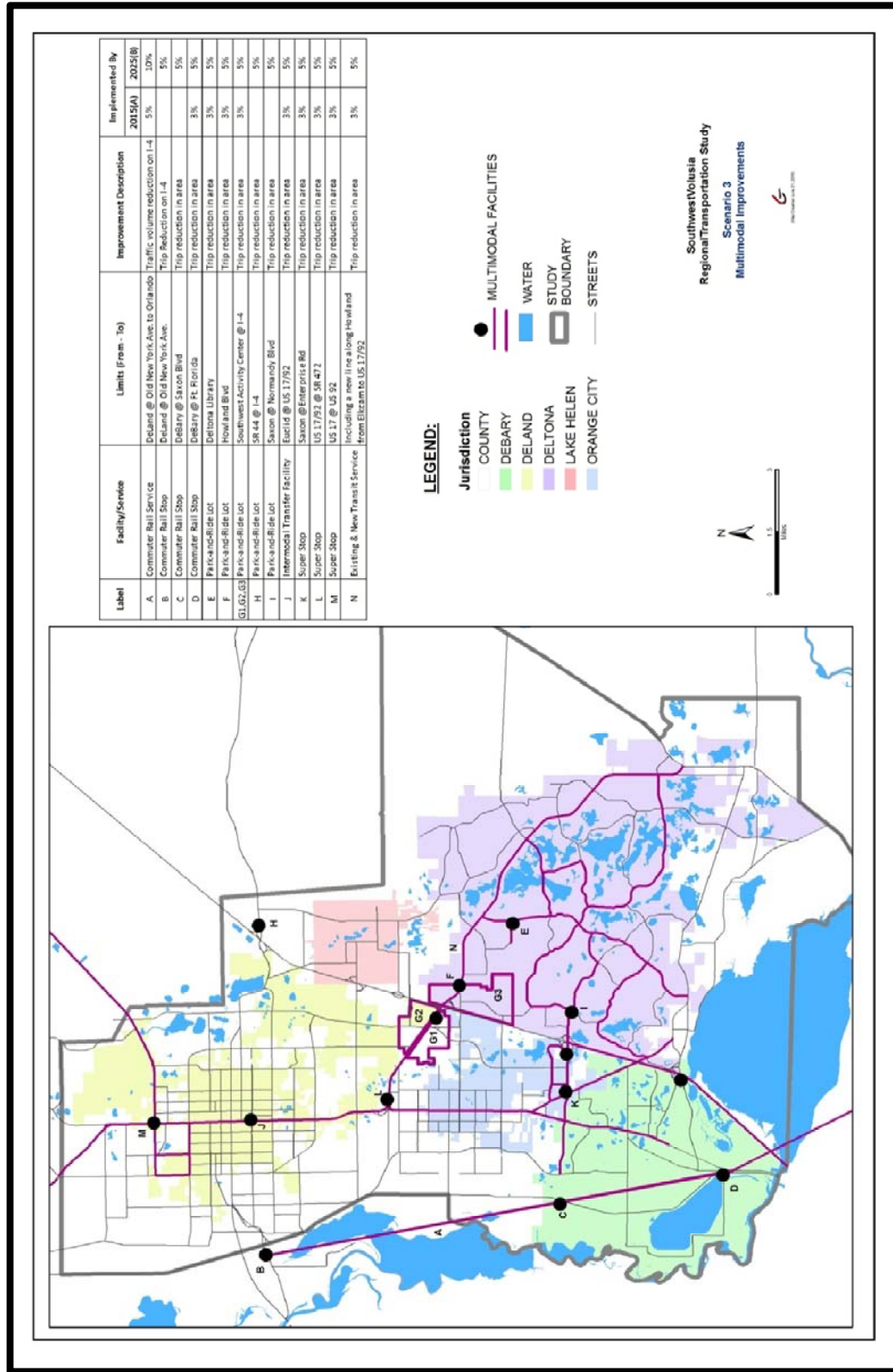


Figure 19: Scenario 3 Alternative Multimodal Improvements

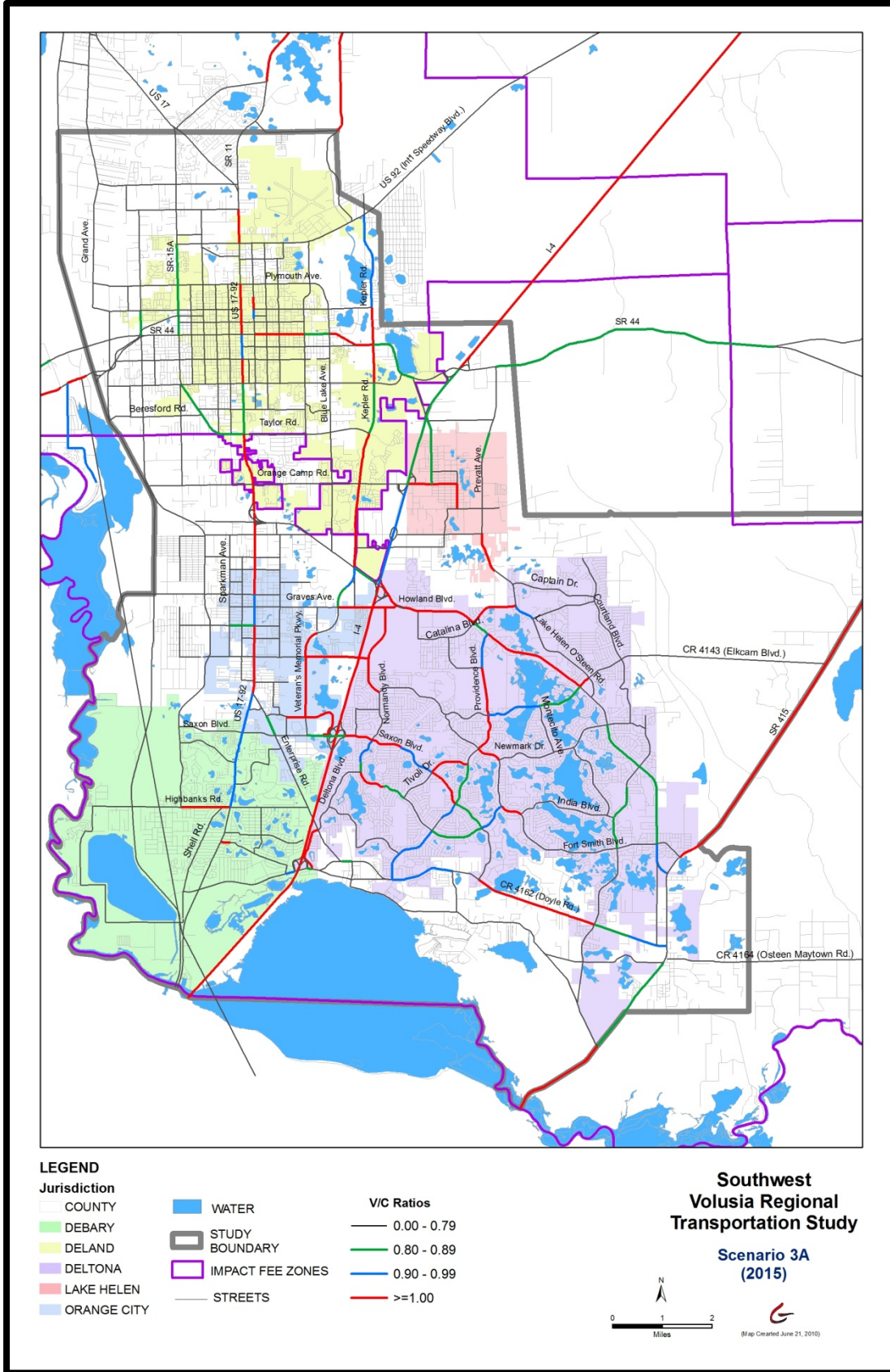


Figure 20: Scenario 3 Alternative 2015 (A)

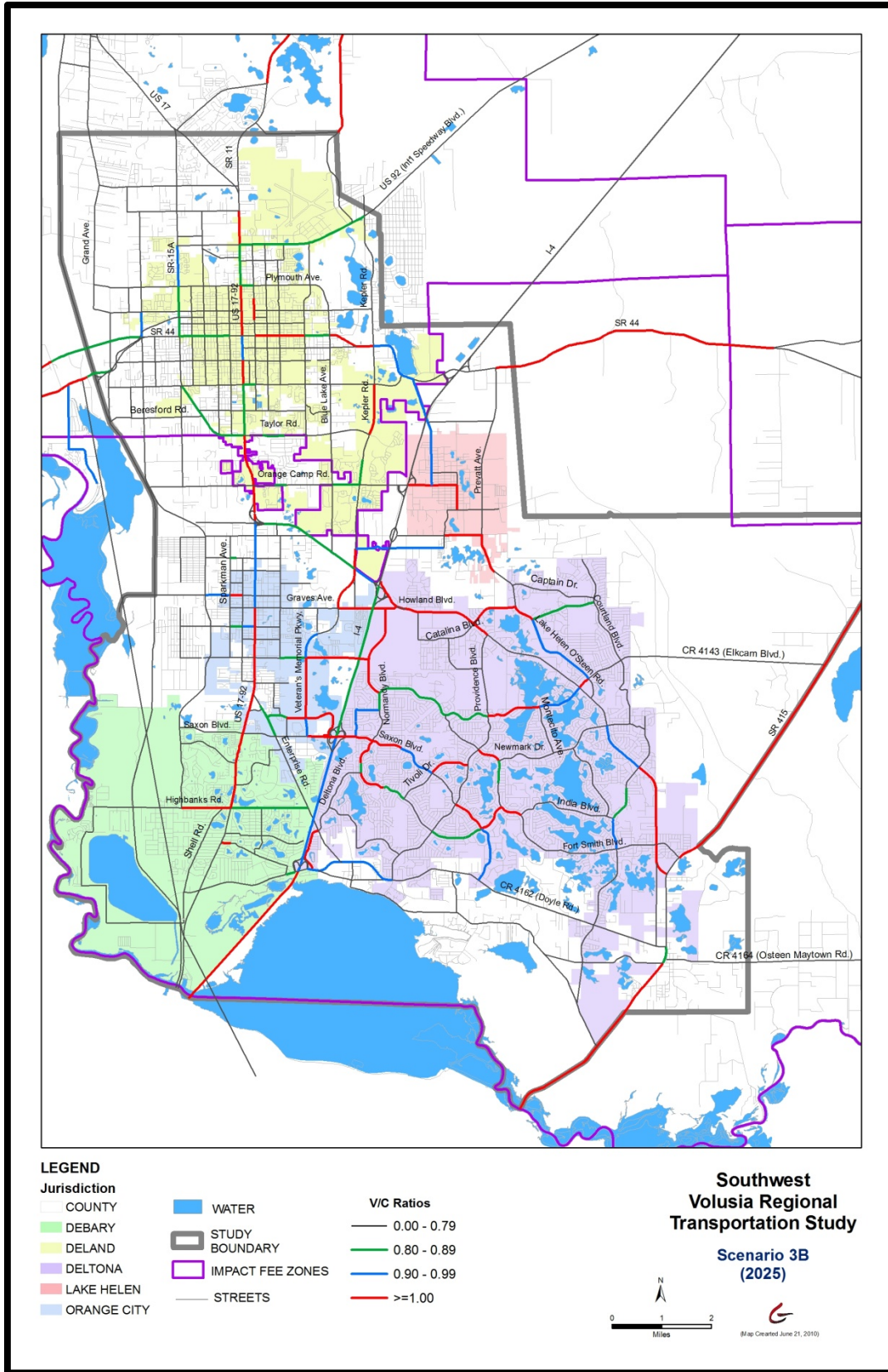


Figure 21: Scenario 3 Alternative 2025 (B)

Regionally Significant Transportation System

A comprehensive assessment of the mobility needs of the southwest region was conducted to identify the transportation facilities essential for the movement of people and goods within and through the region. The first step in defining the regionally significant transportation system was to identify the existing and proposed major traffic generators/attractors within the region. Major traffic generators/attractors are uses that produce or attract high traffic volumes and included the following: hospitals, universities/colleges, regional malls, activity centers, central business districts, downtowns, government centers, and major transit hubs/stations.

The next step was to identify all roads on the State Highway System (SHS), hurricane evacuation routes, and designated truck routes. These types of facilities are by definition important for the movement of high traffic volumes and freight. Finally, the existing or proposed collector or higher classified roads providing access to the major traffic generators/attractors were identified. As a result, the Regionally Significant Transportation System was developed as defined below and shown in **Figure 22**. The major traffic generators/attractors are also shown on the figure.

Roads

A road is regionally significant if it is on the SHS, a designated hurricane evacuation route, or a designated truck route. In addition, a collector or higher classified road that satisfies at least two of the following criteria may be considered regionally significant:

1. provides direct access to an interstate;
2. provides access to major traffic generators/attractors; or,
3. traverses local jurisdictional boundaries (county or cities).

Public Transit

A public transit facility may be considered regionally significant if it is one of the following:

1. is a major transfer station or hub;
2. is a commuter rail station; or,
3. is within 1/2 mile of a major traffic generator/attractor located along a regionally significant road, as defined above; or,
4. provides transit service along a regionally significant road, as defined above.

Bicycle and Pedestrian

A bicycle or pedestrian facility is considered regionally significant if it provides direct access to a regionally significant public transit facility.

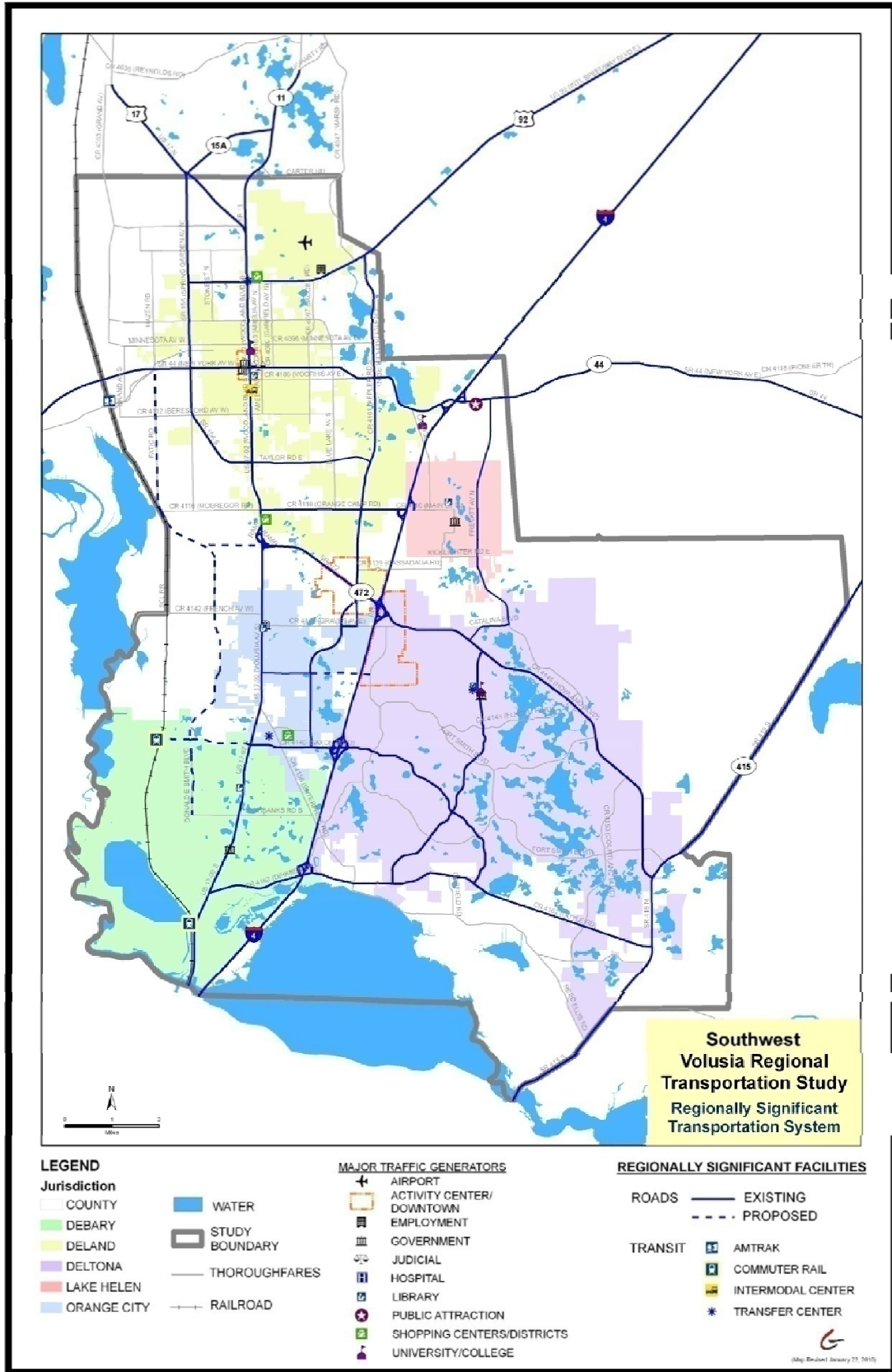


Figure 22: Regionally Significant Transportation System

Multimodal Improvement Plan

This section describes the procedures used to develop the Multimodal Improvement Plan (MIP) and provides a summary of the plan. The Scenario 3 Alternative described in the previous section was initially used to develop the MIP since the selected improvements were based on the regionally significant criteria. After the regionally significant criteria was further refined, all of the previously identified needs were compared to the Regionally Significant Transportation System. As a result, the list of capital improvements was generated to encompass roads, public transit, and bicycle/pedestrian projects.

The capital improvement projects were then categorized by mode and prioritized to create the MIP. The prioritization process used was developed for this study and is discussed in **Appendix E**. The MIP projects illustrated in **Figure 23** will reasonably accommodate the projected growth and provide significant benefit to the southwest region’s mobility through 2025.

The total estimated cost of the MIP is approximately \$489 million. The cost estimates are for capital needs only. All cost estimating assumptions are detailed in **Appendix F**. **Tables 9 through 12** provide the MIP costs per mode. The funding mechanism and implementation strategy for the MIP are described in the Financial Plan and the Recommendations and Implementation sections.

Table 9: Multimodal Improvement Plan – Cost Summary

| Improvement Types | | Estimated Cost | | Fee Assessment Eligible |
|------------------------|-----------|--------------------|-----------|-------------------------|
| Roadway | \$ | 469,629,114 | \$ | 247,287,897 |
| Public Transit | | 16,362,225 | | 2,890,000 |
| Bicycle and Pedestrian | | 3,453,000 | | 3,453,000 |
| Total | \$ | 489,444,339 | \$ | 253,630,897 |

The total estimated cost of the roadway improvements approximately \$489 million. The highest ranked project is the widening of SR 415 from Reed Ellis Road to Seminole County from 2 lanes to 4 lanes. The highest ranked non-State road is Howland Boulevard from Providence Boulevard to Elkcam Boulevard. The Roadway improvement costs are shown in **Table 10**.

Table 10: Multimodal Improvement Plan – Roadway Improvements

| Road Name | Limits (From - To) | Length (Miles) | Existing # Lanes | Improvement Description | Estimated Cost (2009 Dollars) | Eligible | % | Cost | Priority |
|-----------------------|--|-------------------|---------------------|----------------------------|-------------------------------------|----------|------|------------|----------|
| I-4 | Seminole Co. to Dirksen Dr. | 3.3 | 6 | Widen to 8 Ln | 34,325,679 | N | 0% | - | 43 |
| I-4 | Dirksen Dr. to Saxon Blvd. | 2.85 | 6 | Widen to 8 Ln | 29,644,905 | N | 0% | - | 43 |
| I-4 | Saxon Blvd. to SR 472 | 3.15 | 6 | Widen to 8 Ln | 32,765,421 | N | 0% | - | 43 |
| I-4 | SR 44 to US 92 Connector | 10.5 | 4 | Widen to 6 Ln | 101,860,239 | N | 0% | - | 57 |
| SR 415 | Reed Ellis Rd. to Seminole Co. | 1.5 | 2 | Widen to 4 Ln | 10,165,370 | N | 0% | - | 63 |
| Dirksen/DeBary/Doyle | Providence Blvd. to Garfield Rd. | 1.2 | 2 | Widen to 4 Ln | 7,046,460 | Y | 96% | 6,764,602 | 36 |
| Dirksen/DeBary/Doyle | Garfield Rd. to Saxon Blvd. | 1.5 | 2 | Widen to 4 Ln | 8,808,075 | Y | 100% | 8,808,075 | 36 |
| Dirksen/DeBary/Doyle | Saxon Blvd. to Sheryl Dr. | 2 | 2 | Widen to 4 Ln | 11,744,101 | Y | 100% | 11,744,101 | 36 |
| Dirksen/DeBary/Doyle | Sheryl Dr. to Courtland Blvd. | 0.55 | 2 | Widen to 4 Ln | 3,229,628 | Y | 100% | 3,229,628 | 36 |
| Dirksen/DeBary/Doyle | Courtland Blvd. to Bull Run Ave. | 0.7 | 2 | Widen to 4 Ln | 4,110,435 | Y | 100% | 4,110,435 | 36 |
| Dirksen/DeBary/Doyle | Bull Run Ave. to SR 415 | 0.8 | 2 | Widen to 4 Ln | 4,697,640 | Y | 100% | 4,697,640 | 36 |
| Howland Blvd. | Providence Blvd. to Adelia Blvd. | 0.5 | 2 | Widen to 4 Ln | 2,936,025 | Y | 94% | 2,759,864 | 47 |
| Howland Blvd. | Adelia Blvd. to Elkcam Blvd. | 1.6 | 2 | Widen to 4 Ln | 9,395,280 | Y | 100% | 9,395,280 | 47 |
| Lake Helen-Osteen Rd. | Kicklighter Rd. to Sixma Rd. | 0.8 | 2 | Widen to 4 Ln | 4,697,640 | Y | 100% | 4,697,640 | 27 |
| Lake Helen-Osteen Rd. | Sixma Rd. to Captain Dr. | 0.6 | 2 | Widen to 4 Ln | 3,523,230 | Y | 100% | 3,523,230 | 27 |
| Lake Helen-Osteen Rd. | Captain Dr. to Yorkshire Dr. | 0.2 | 2 | Widen to 4 Ln | 1,174,410 | Y | 100% | 1,174,410 | 27 |
| Lake Helen-Osteen Rd. | Yorkshire Dr. to Catalina Blvd. | 0.2 | 2 | Widen to 4 Ln | 1,174,410 | Y | 100% | 1,174,410 | 27 |
| Orange Camp Rd. | W Volusia Bltwy. (Dr MLK Jr) to midpoint | 0.5 | 2 | Widen to 4 Ln | 2,936,025 | N | 0% | - | 23 |
| Orange Camp Rd. | midpoint to I-4 | 0.5 | 2 | Widen to 4 Ln | 2,936,025 | N | 0% | - | 23 |
| Prevatt Ave. | SR 44 to Lake Helen City Limits | 1.8 | 2 | Widen to 4 Ln | 10,569,691 | Y | 100% | 10,569,691 | 27 |
| Prevatt Ave. | Lake Helen City Limits to Lake Pearl Dr. | 1.8 | 2 | Widen to 4 Ln | 10,569,691 | Y | 100% | 10,569,691 | 27 |
| Prevatt Ave. | Lake Pearl Dr. to Tangerine St. | 0.25 | 2 | Widen to 4 Ln | 1,468,013 | Y | 100% | 1,468,013 | 27 |
| Prevatt Ave. | Tangerine St. to Ohio Ave. | 0.75 | 2 | Widen to 4 Ln | 4,404,038 | Y | 100% | 4,404,038 | 27 |
| Prevatt Ave. | Ohio Ave. to Kicklighter Rd. | 0.5 | 2 | Widen to 4 Ln | 2,936,025 | Y | 100% | 2,936,025 | 27 |
| Providence Blvd. | Howland Blvd. to Eustace Av | 0.2 | 2 | Widen to 4 Ln | 1,174,410 | Y | 100% | 1,174,410 | 38 |

| | | | | | | | | | |
|--------------------------------|---|------|---|---------------|------------|---|------|------------|----|
| Providence Blvd. | Eustace Av to Elkcaml Blvd. | 1.5 | 2 | Widen to 4 Ln | 8,808,075 | Y | 100% | 8,808,075 | 38 |
| Providence Blvd. | Elkcaml Blvd. to Monticello St. | 0.4 | 2 | Widen to 4 Ln | 2,348,820 | Y | 87% | 2,043,473 | 38 |
| Providence Blvd. | Monticello St. to Ft Smith Blvd. | 0.4 | 2 | Widen to 4 Ln | 2,348,820 | Y | 92% | 2,160,914 | 38 |
| Providence Blvd. | Ft Smith Blvd. to Tivoli Dr. | 0.05 | 4 | Widen to 4 Ln | 344,524 | Y | 100% | 344,524 | 38 |
| Providence Blvd. | Tivoli Dr. to Page Dr. | 0.4 | 2 | Widen to 4 Ln | 2,348,820 | Y | 100% | 2,348,820 | 38 |
| Providence Blvd. | Page Dr. to Saxon Blvd. | 0.4 | 2 | Widen to 4 Ln | 2,348,820 | Y | 100% | 2,348,820 | 38 |
| Providence Blvd. | Saxon Blvd. to Lambert St. | 0.4 | 2 | Widen to 4 Ln | 2,348,820 | Y | 100% | 2,348,820 | 38 |
| Providence Blvd. | Lambert St. to Normandy Blvd. | 0.3 | 2 | Widen to 4 Ln | 1,761,615 | Y | 100% | 1,761,615 | 38 |
| Providence Blvd. | Normandy Blvd. to Sacramento St. | 0.25 | 2 | Widen to 4 Ln | 1,468,013 | Y | 90% | 1,321,212 | 38 |
| Providence Blvd. | Sacramento St. to Tyler Ave. | 0.15 | 2 | Widen to 4 Ln | 880,808 | Y | 100% | 880,808 | 38 |
| Providence Blvd. | Tyler Ave. to Anderson Dr. | 0.4 | 2 | Widen to 4 Ln | 2,348,820 | Y | 100% | 2,348,820 | 38 |
| Providence Blvd. | Anderson Dr. to Fisher Dr. | 0.25 | 2 | Widen to 4 Ln | 1,468,013 | Y | 100% | 1,468,013 | 38 |
| Providence Blvd. | Fisher Dr. to Doyle Rd. | 0.3 | 2 | Widen to 4 Ln | 1,761,615 | Y | 100% | 1,761,615 | 38 |
| Rhode Island Ave. | Veteran's Memorial Pkwy. to Normandy Blvd | 1.8 | 0 | New 2 Ln Road | 9,443,592 | Y | 100% | 9,443,592 | 25 |
| Saxon Blvd. | Rail Station to Westside Connector | 0.62 | 0 | New 2 Ln Road | 3,252,793 | Y | 100% | 3,252,793 | 16 |
| Saxon Blvd. | Westside Connector to US 17/92 | 1.3 | 0 | New 2 Ln Road | 6,820,372 | Y | 100% | 6,820,372 | 16 |
| Saxon Blvd. | Enterprise Rd. to Threadgill Place | 0.2 | 5 | Widen to 6 Ln | 1,378,095 | Y | 97% | 1,336,752 | 27 |
| Saxon Blvd. | Threadgill Place to Veterans Memorial Pkwy. | 0.4 | 5 | Widen to 6 Ln | 2,756,190 | Y | 95% | 2,618,381 | 27 |
| Saxon Blvd. | Veterans Memorial Pkwy. to midpoint | 0.6 | 5 | Widen to 6 Ln | 4,134,284 | Y | 27% | 1,116,257 | 27 |
| Saxon Blvd. | midpoint to I-4 | 0.6 | 5 | Widen to 6 Ln | 4,134,284 | Y | 53% | 2,191,171 | 27 |
| Saxon Blvd. | Tivoli Dr. to Page Dr. | 0.5 | 2 | Widen to 4 Ln | 2,936,025 | Y | 100% | 2,936,025 | 22 |
| Saxon Blvd. | Page Dr. to Providence Blvd. | 0.4 | 2 | Widen to 4 Ln | 2,348,820 | Y | 100% | 2,348,820 | 22 |
| Westside Parkway (new/Fatio) | SR 44 to Beresford Ave. | 1 | 0 | New 2 Ln Road | 5,246,440 | Y | 100% | 5,246,440 | 19 |
| Westside Parkway (new) | McGregor Rd. to existing Hamilton/Fatio | 2 | 0 | New 2 Ln Road | 10,492,880 | Y | 100% | 10,492,880 | 19 |
| Westside Parkway (Lawton Ave.) | French Ave. to Rhode Island Ave. | 1.25 | 0 | New 2 Ln Road | 6,558,050 | Y | 100% | 6,558,050 | 19 |
| Westside Parkway (new) | Rhode Island Ave. to Debarry Plantation Blvd. | 1.75 | 0 | New 2 Ln Road | 9,181,270 | Y | 100% | 9,181,270 | 19 |
| W. Volusia Bltwy (Kepler Rd) | US 92 to Azalea Dr. | 1.1 | 2 | Widen to 4 Ln | 6,459,255 | Y | 100% | 6,459,255 | 45 |

| | | | | | | | | | |
|---------------------------------------|--|------|---|---------------|---------------|---|------|----------------|----|
| W. Volusia Bltwy (Kepler Rd) | Azalea Dr. to Minnesota Ave. | 0.75 | 2 | Widen to 4 Ln | 4,404,038 | Y | 100% | 4,404,038 | 45 |
| W. Volusia Bltwy (Kepler Rd) | Minnesota Ave. to Lake Charles Rd. | 0.25 | 2 | Widen to 4 Ln | 1,468,013 | Y | 100% | 1,468,013 | 45 |
| W. Volusia Bltwy (Kepler Rd) | Lake Charles Rd. to SR 44 | 0.5 | 2 | Widen to 4 Ln | 2,936,025 | Y | 89% | 2,613,062 | 45 |
| W. Volusia Bltwy (Kepler Rd) | SR 44 to Beresford Ave. Ext. | 0.75 | 2 | Widen to 4 Ln | 4,404,038 | Y | 100% | 4,404,038 | 45 |
| W. Volusia Bltwy (Dr MLK Jr) | Beresford Ave. Ext. to Taylor Rd. | 1.1 | 2 | Widen to 4 Ln | 6,459,255 | Y | 100% | 6,459,255 | 45 |
| W. Volusia Bltwy (Dr MLK Jr) | Taylor Rd. to midpoint | 0.5 | 2 | Widen to 4 Ln | 2,936,025 | Y | 100% | 2,936,025 | 45 |
| W. Volusia Bltwy (Dr MLK Jr) | midpoint to Orange Camp Rd. | 0.5 | 2 | Widen to 4 Ln | 2,936,025 | Y | 100% | 2,936,025 | 45 |
| W. Volusia Bltwy (Dr MLK Jr) | Orange Camp Rd. to midpoint | 0.7 | 2 | Widen to 4 Ln | 4,110,435 | Y | 100% | 4,110,435 | 45 |
| W. Volusia Bltwy (Dr MLK Jr) | midpoint to Cassadaga Rd. | 0.7 | 2 | Widen to 4 Ln | 4,110,435 | Y | 100% | 4,110,435 | 45 |
| W. Volusia Bltwy (Dr MLK Jr) | Cassadaga Rd. to SR 472 | 0.2 | 2 | Widen to 4 Ln | 1,174,410 | Y | 100% | 1,174,410 | 45 |
| W. Volusia Bltwy (Kentucky Ave) | SR 472 to midpoint | 0.4 | 2 | Widen to 4 Ln | 2,348,820 | Y | 100% | 2,348,820 | 20 |
| W. Volusia Bltwy (Kentucky Ave) | midpoint to Graves Ave. | 0.4 | 2 | Widen to 4 Ln | 2,348,820 | Y | 100% | 2,348,820 | 20 |
| W. Volusia Bltwy (Veteran's Memorial) | Graves Ave. to Monastery Rd. | 1 | 2 | Widen to 4 Ln | 5,872,050 | Y | 100% | 5,872,050 | 38 |
| W. Volusia Bltwy (Veteran's Memorial) | Monastery Rd. to Rhode Island Ave. | 0.5 | 2 | Widen to 4 Ln | 2,936,025 | Y | 100% | 2,936,025 | 38 |
| W. Volusia Bltwy (Veteran's Memorial) | Rhode Island Ave. to Harley Strickland Blvd. | 1.22 | 2 | Widen to 4 Ln | 7,163,901 | Y | 84% | 6,017,677 | 38 |
| TOTAL | | | | | \$469,629,114 | | | \$ 247,287,897 | |

Addressing the mobility needs of the region must also include transit strategies. This is further emphasized in recent and proposed legislation, 2009 SB 360 and House Bill (HB) 697. Transit is an alternative solution to roadway deficiencies. The total estimated cost of the public transit improvements is approximately \$16 million as shown in **Table 11**.

A major transit project is the planned commuter rail service to Seminole and Orange Counties (Sun Rail). The initial operating segment of the Central Florida Sun Rail route would extend from DeBary to Orlando and is programmed in the 2025 Cost Feasible Plan of the VCMPO. Other key transit improvements include additional super stops and new bus service along Howland Boulevard between Elkcam Boulevard and SR 472.

Table 11: Multimodal Improvement Plan – Public Transit Improvements

| (A) Facility Name | (B) Limits (From - To) | (E) Improvement Description | (F) Estimated Cost (2009 Dollars) | (G) Eligible | (H) % | (I) Cost | (J) Priority |
|--|---------------------------------|--------------------------------|--------------------------------------|-----------------|----------|--------------|-----------------|
| SR 44 Park and Ride | SR 44 @ I-4 | Park and Ride Lot | \$ 150,000 | Y | 100% | \$ 150,000 | 18 |
| Saxon Blvd @ Normandy Blvd Park and Ride | Saxon Blvd @ Normandy Blvd | Park and Ride Lot | 150,000 | Y | 100% | 150,000 | 18 |
| Deltona Library Park and Ride | @ Deltona Library | Park and Ride Lot | 150,000 | Y | 100% | 150,000 | 18 |
| Howland Blvd. Park and Ride | | Park and Ride Lot | 150,000 | Y | 100% | 150,000 | 18 |
| New Transit Service - Howland Blvd. | Elkcam Rd to US 17/92 | New Bus Service | 250,000 | Y | 100% | 250,000 | 17 |
| DeLand Super Stop | US 17 @ US 92/ISB | Super Stop | 180,000 | Y | 100% | 180,000 | 15 |
| Saxon Blvd @ Enterprise Road Super Stop | Saxon Blvd @ Enterprise Rd | Super Stop | 180,000 | Y | 100% | 180,000 | 15 |
| Saxon Blvd @ Enterprise Road Super Stop | Saxon Blvd @ Enterprise Rd | Super Stop | 180,000 | Y | 100% | 180,000 | 15 |
| US 17/92 & SR 472 Super Stop | US 17/92 @ SR 472 | Super Stop | 180,000 | Y | 100% | 180,000 | 14 |
| Commuter Rail Stop | DeBary @ Saxon Blvd | Commuter Rail Stop | 1,500,000 | Y | 100% | 1,500,000 | 11 |
| Southwest Activity Center Park and Ride | Southwest Activity Center @ I-4 | Park and Ride Lot | 150,000 | N | 0% | | 10 |
| Commuter Rail Service | DeBary to Orlando | Commuter Rail Line | 11,822,225 | N | 0% | | 10 |
| Commuter Rail Stop | DeBary @ Ft. Florida Rd | Commuter Rail Stop | 1,500,000 | N | 0% | | 10 |
| TOTAL | | | \$ 16,542,225 | | | \$ 3,070,000 | |



Adequate bicycle and pedestrian facilities must be integrated throughout the transportation system to create a viable alternative to automobiles. Although the MIP currently does not identify specific bicycle and pedestrian projects, it allocates \$230,200 annually. The emphasis is to provide bicycle and pedestrian facilities to connect to regionally significant public transit facilities. A total amount of \$3.4 million through the year 2025 would be allocated to bicycle and pedestrian facility improvements. See **Table 12** below.

Table 12: Multimodal Improvement Plan – Bicycle and Pedestrian Improvements

| (A) Road Name | | (E) Improvement Description | (F) Estimated Cost (2009 Dollars) | (G) Eligible | (H) % | (I) Cost | (J) Priority |
|------------------|----------------------|-----------------------------------|---|-----------------|----------|--------------------|-----------------|
| Southwest Area | @ \$230,200 per year | Bike/Ped Projects | \$3,453,000 | Y | 100% | \$3,453,000 | -- |
| TOTAL | | | \$3,453,000 | | | \$3,453,000 | |

Since the passage of SB 360, four of the cities in the study area, DeBary, DeLand, Deltona and Orange City, qualify as Transportation Concurrence Exception Areas. These local governments are no longer required to comply with state-mandated transportation requirements, namely transportation concurrency. In light of this change in state law and to assist the partners in addressing their concerns regarding city-wide TCEAs, a TCEA analysis was performed on a city-wide basis for each of the four municipalities comparing several measures of effectiveness for the existing (2008) condition, the future No-Build condition (existing plus committed projects: E+C), and the three alternative scenarios with and without multimodal trip reductions.

The measures of effectiveness include: total centerline miles of all the study area roadways within each city, total lane miles of these roadways, the sum of the capacity for all roadways based on the daily maximum service volumes and the peak hour maximum service volumes. Also included in this analysis was a summation of the total volume on the roadways (based on daily trips and peak hour trips), a city-wide volume-to-capacity (V/C) ratio, total vehicle-miles-traveled (VMT), total vehicle trips and total person trips.

VMT was calculated by multiplying the number of trips on a specific roadway segment by the length in miles of the segment. The total vehicle trips was calculated by dividing the VMT by the average trip length (8.98 miles) which was derived from the travel demand model. Lastly, the total number of person trips was calculated by dividing the total vehicle trips by the national average vehicle occupancy rate which is 1.25 persons per vehicle. Tables 13 through 16 summarize the TCEA analysis for the cities of DeBary, DeLand, Deltona and Orange City, respectively. The full TCEA analysis worksheets are in Appendix G.

Under existing 2008 conditions, all the TCEAs have daily V/C ratios between 0.74 (Deltona) to 0.53 (DeLand). By 2015, under the No-Build (E+C) condition, the daily V/C ratios will range from 0.89 (Deltona) to 0.61 (DeLand). By 2025, with no additional improvements beyond the (E+C) network, the



No-Build condition, the daily V/C ratios will range from 1.03 (Deltona) to 0.71 (DeLand). Peak hour V/C ratios were slightly lower than the daily V/C ratios.

The improvement scenarios generally reduce the V/C ratios as compared to the No-Build condition, however there are some instances where the V/C ratio with an improvement scenario is higher than the No-Build V/C ratio. One such example of this is the City of DeBary. Scenario 3A (2015) and Scenario 3B (2025) have higher V/C ratios than the No-Build condition for the respective years. The increase in the city-wide V/C ratio for DeBary is, in part, because in Scenario 3, a new 2-lane segment of Saxon Boulevard, between US 17/92 and the Commuter Rail station, is not implemented until 2025. In Scenario 1, this segment of Saxon Boulevard is implemented as a 2-lane roadway by 2015 and widened to 4 lanes by 2025. In Scenario 2, this segment of Saxon Boulevard is implemented as a 2-lane roadway by 2015 however it is not widened to 4 lanes by 2025.

Each city's V/C ratio is further improved by the implementation of transit service improvements. Implementation of commuter rail service from DeLand to Orlando, with stations in DeLand and DeBary, additional park-and-ride lots in the SWVRTS area, an intermodal transfer facility in DeLand, transit super stops (facilitating transfers between routes), new transit service along Howland Boulevard in Deltona and commuter rail on new alignment between Section 16 Deltona and DeBary and between Daytona Beach and Sanford parallel to SR 415 further reduce vehicle trips on roadways within the SWVRTS area and offer improvements to V/C ratios in the TCEA analysis.

Table 13: DeBary Transportation Concurrency Exception Area (TCEA) Comparative Analysis

| | Existing - 2008 | | No-Build (E+C) - 2015 | | Scenario 1A - 2015 | | Scenario 1A - with Multimodal Reductions - 2015 | | Scenario 2A - 2015 | | Scenario 2A - with Multimodal Reductions - 2015 | | Scenario 3A - 2015 | | Scenario 3A - with Multimodal Reductions - 2015 | |
|---|-----------------|--------|-----------------------|--------|--------------------|--------|---|--------|--------------------|--------|---|--------|--------------------|--------|---|--------|
| Total Centerline Miles | 37.19 | | 37.19 | | 40.24 | | 40.24 | | 38.49 | | 38.49 | | 37.19 | | 37.19 | |
| Total Lane Miles | 117.28 | | 117.28 | | 117.28 | | 117.28 | | 117.28 | | 117.28 | | 117.28 | | 117.28 | |
| Total Capacity: Daily, Peak Hour | 812,700 | 77,608 | 829,200 | 79,168 | 904,800 | 86,468 | 904,800 | 86,468 | 844,800 | 80,648 | 844,800 | 80,648 | 844,800 | 80,648 | 844,800 | 80,648 |
| Total Volume: Daily, Peak Hour | 549,033 | 44,910 | 605,891 | 55,700 | 641,969 | 58,690 | 629,325 | 57,656 | 617,702 | 56,780 | 598,337 | 55,066 | 615,858 | 56,590 | 599,810 | 55,201 |
| Areawide Volume-to-Capacity (V/C): Daily, Peak | 0.68 | 0.58 | 0.73 | 0.70 | 0.71 | 0.68 | 0.70 | 0.67 | 0.73 | 0.70 | 0.71 | 0.68 | 0.73 | 0.70 | 0.71 | 0.68 |
| Total Vehicle-Miles-Traveled (VMT): Daily, Peak | 920,637 | 75,312 | 1,005,280 | 87,378 | 1,107,361 | 95,761 | 1,068,343 | 92,570 | 1,026,407 | 89,239 | 984,093 | 85,654 | 1,024,566 | 89,046 | 986,593 | 85,888 |
| Total Vehicle Trips: Daily, Peak | 102,521 | 8,387 | 111,947 | 9,730 | 123,314 | 10,664 | 118,969 | 10,308 | 114,299 | 9,938 | 109,587 | 9,538 | 114,094 | 9,916 | 109,866 | 9,564 |
| Total Person Trips: Daily, Peak | 128,151 | 10,483 | 139,933 | 12,163 | 154,143 | 13,330 | 148,711 | 12,886 | 142,874 | 12,422 | 136,984 | 11,923 | 142,618 | 12,395 | 137,332 | 11,955 |

| | Existing - 2008 | | No-Build (E+C) - 2025 | | Scenario 1B - 2025 | | Scenario 1B - with Multimodal Reductions - 2025 | | Scenario 2B - 2025 | | Scenario 2B - with Multimodal Reductions - 2025 | | Scenario 3B - 2025 | | Scenario 3B - with Multimodal Reductions - 2025 | |
|---|-----------------|--------|-----------------------|--------|--------------------|---------|---|--------|--------------------|---------|---|--------|--------------------|---------|---|--------|
| Total Centerline Miles | 37.19 | | 37.19 | | 40.24 | | 40.24 | | 40.24 | | 40.24 | | 40.24 | | 40.24 | |
| Total Lane Miles | 117.28 | | 117.28 | | 117.28 | | 117.28 | | 117.28 | | 117.28 | | 117.28 | | 117.28 | |
| Total Capacity: Daily, Peak Hour | 812,700 | 77,608 | 829,200 | 79,168 | 904,800 | 86,468 | 904,800 | 86,468 | 844,800 | 80,648 | 844,800 | 80,648 | 844,800 | 80,648 | 844,800 | 80,648 |
| Total Volume: Daily, Peak Hour | 549,033 | 44,910 | 647,774 | 59,630 | 696,674 | 63,880 | 670,304 | 61,723 | 691,628 | 63,500 | 650,899 | 61,803 | 693,834 | 63,670 | 652,991 | 60,093 |
| Areawide Volume-to-Capacity (V/C): Daily, Peak | 0.68 | 0.58 | 0.78 | 0.75 | 0.77 | 0.74 | 0.74 | 0.71 | 0.82 | 0.79 | 0.77 | 0.77 | 0.82 | 0.79 | 0.77 | 0.75 |
| Total Vehicle-Miles-Traveled (VMT): Daily, Peak | 920,637 | 75,312 | 1,045,729 | 90,874 | 1,187,182 | 103,068 | 1,105,853 | 96,415 | 1,172,268 | 101,884 | 1,078,299 | 93,967 | 1,177,985 | 102,339 | 1,083,476 | 94,380 |
| Total Vehicle Trips: Daily, Peak | 102,521 | 8,387 | 116,451 | 10,120 | 132,203 | 11,478 | 123,146 | 10,737 | 130,542 | 11,346 | 120,078 | 10,464 | 131,179 | 11,396 | 120,654 | 10,510 |
| Total Person Trips: Daily, Peak | 128,151 | 10,483 | 145,564 | 12,649 | 165,254 | 14,347 | 153,933 | 13,421 | 163,178 | 14,182 | 150,097 | 13,080 | 163,973 | 14,245 | 150,818 | 13,138 |

Table 14: DeLand Transportation Concurrency Exception Area (TCEA) Comparative Analysis

| | Existing - 2008 | | No-Build (E+C) -2015 | | Scenario 1A - 2015 | | Scenario 1A - with Multimodal Reductions - 2015 | | Scenario 2A - 2015 | | Scenario 2A - with Multimodal Reductions - 2015 | | Scenario 3A -2015 | | Scenario 3A - with Multimodal Reductions -2015 | |
|---|-----------------|---------|----------------------|---------|--------------------|---------|---|---------|--------------------|---------|---|---------|-------------------|---------|--|---------|
| Total Centerline Miles | 118.63 | | 118.63 | | 118.63 | | 118.63 | | 119.13 | | 119.13 | | 117.63 | | 117.63 | |
| Total Lane Miles | 288.46 | | 307.46 | | 309.46 | | 309.46 | | 310.46 | | 310.46 | | 307.46 | | 307.46 | |
| Total Capacity: Daily, Peak Hour | 2,741,770 | 261,288 | 2,956,610 | 281,818 | 2,993,220 | 285,326 | 2,993,220 | 285,326 | 3,003,300 | 286,286 | 3,003,300 | 286,286 | 2,993,220 | 285,326 | 2,993,220 | 285,326 |
| Total Volume: Daily, Peak Hour | 1,451,653 | 118,810 | 1,806,310 | 173,890 | 1,804,181 | 173,360 | 1,795,111 | 172,619 | 1,803,544 | 173,760 | 1,777,850 | 171,372 | 1,799,658 | 173,300 | 1,784,963 | 171,991 |
| Areawide Volume-to-Capacity (V/C): Daily, Peak | 0.53 | 0.45 | 0.61 | 0.62 | 0.60 | 0.61 | 0.60 | 0.60 | 0.60 | 0.61 | 0.59 | 0.60 | 0.60 | 0.61 | 0.60 | 0.60 |
| Total Vehicle-Miles-Traveled (VMT): Daily, Peak | 1,296,477 | 106,089 | 1,698,744 | 159,957 | 1,731,443 | 162,388 | 1,710,152 | 160,647 | 1,690,574 | 159,405 | 1,655,013 | 156,215 | 1,691,738 | 159,344 | 1,665,522 | 157,080 |
| Total Vehicle Trips: Daily, Peak | 144,374 | 11,814 | 189,170 | 17,813 | 192,811 | 18,083 | 190,440 | 17,889 | 188,260 | 17,751 | 184,300 | 17,396 | 188,390 | 17,744 | 185,470 | 17,492 |
| Total Person Trips: Daily, Peak | 180,467 | 14,767 | 236,462 | 22,266 | 241,014 | 22,604 | 238,050 | 22,362 | 235,325 | 22,189 | 230,375 | 21,745 | 235,487 | 22,180 | 231,838 | 21,865 |

| | Existing - 2008 | | No-Build (E+C) -2025 | | Scenario 1B -2025 | | Scenario 1B - with Multimodal Reductions -2025 | | Scenario 2B -2025 | | Scenario 2B - with Multimodal Reductions -2025 | | Scenario 3B -2025 | | Scenario 3B - with Multimodal Reductions -2025 | |
|---|-----------------|---------|----------------------|---------|-------------------|---------|--|---------|-------------------|---------|--|---------|-------------------|---------|--|---------|
| Total Centerline Miles | 118.63 | | 118.63 | | 121.53 | | 121.53 | | 121.53 | | 121.53 | | 118.63 | | 118.63 | |
| Total Lane Miles | 288.46 | | 307.46 | | 329.36 | | 329.36 | | 329.36 | | 329.36 | | 333.06 | | 333.06 | |
| Total Capacity: Daily, Peak Hour | 2,741,770 | 261,288 | 2,956,610 | 281,818 | 2,993,220 | 285,326 | 2,993,220 | 285,326 | 3,003,300 | 286,286 | 3,003,300 | 286,286 | 2,993,220 | 285,326 | 2,993,220 | 285,326 |
| Total Volume: Daily, Peak Hour | 1,451,653 | 118,810 | 2,079,989 | 200,490 | 2,030,235 | 195,450 | 2,011,677 | 194,359 | 2,016,589 | 194,270 | 1,965,713 | 189,576 | 2,060,866 | 198,480 | 2,008,880 | 193,688 |
| Areawide Volume-to-Capacity (V/C): Daily, Peak | 0.53 | 0.45 | 0.70 | 0.71 | 0.68 | 0.69 | 0.67 | 0.68 | 0.67 | 0.68 | 0.65 | 0.66 | 0.69 | 0.70 | 0.67 | 0.68 |
| Total Vehicle-Miles-Traveled (VMT): Daily, Peak | 1,296,477 | 106,089 | 1,949,965 | 184,063 | 1,930,888 | 181,733 | 1,887,327 | 178,170 | 1,901,732 | 179,307 | 1,828,413 | 172,796 | 1,934,754 | 182,282 | 1,859,389 | 175,591 |
| Total Vehicle Trips: Daily, Peak | 144,374 | 11,814 | 217,145 | 20,497 | 215,021 | 20,238 | 210,170 | 19,841 | 211,774 | 19,967 | 203,609 | 19,242 | 215,451 | 20,299 | 207,059 | 19,554 |
| Total Person Trips: Daily, Peak | 180,467 | 14,767 | 271,432 | 25,621 | 268,776 | 25,297 | 262,713 | 24,801 | 264,718 | 24,959 | 254,512 | 24,053 | 269,314 | 25,373 | 258,824 | 24,442 |

Table 15: Deltona Transportation Concurrency Exception Area (TCEA) Comparative Analysis

| | Existing - 2008 | | No-Build (E+C) -2015 | | Scenario 1A - 2015 | | Scenario 1A - with Multimodal Reductions - 2015 | | Scenario 2A - 2015 | | Scenario 2A - with Multimodal Reductions - 2015 | | Scenario 3A -2015 | | Scenario 3A - with Multimodal Reductions -2015 | |
|---|-----------------|---------|----------------------|---------|--------------------|---------|---|---------|--------------------|---------|---|---------|-------------------|---------|--|---------|
| Total Centerline Miles | 125.26 | | 125.26 | | 131.06 | | 131.06 | | 133.56 | | 133.56 | | 127.06 | | 127.06 | |
| Total Lane Miles | 310.12 | | 343.12 | | 412.12 | | 412.12 | | 408.22 | | 408.22 | | 355.97 | | 355.97 | |
| Total Capacity: Daily, Peak Hour | 2,808,400 | 267,898 | 3,171,375 | 302,496 | 3,772,460 | 359,592 | 3,772,460 | 359,592 | 3,684,450 | 351,132 | 3,684,450 | 351,132 | 3,277,565 | 312,476 | 3,277,565 | 312,476 |
| Total Volume: Daily, Peak Hour | 2,064,072 | 168,830 | 2,809,391 | 266,190 | 2,817,659 | 265,790 | 2,787,705 | 263,341 | 2,787,036 | 263,960 | 2,721,098 | 257,936 | 2,771,655 | 262,340 | 2,718,190 | 257,538 |
| Areawide Volume-to-Capacity (V/C): Daily, Peak | 0.73 | 0.63 | 0.89 | 0.88 | 0.75 | 0.74 | 0.74 | 0.73 | 0.76 | 0.75 | 0.74 | 0.73 | 0.85 | 0.84 | 0.83 | 0.82 |
| Total Vehicle-Miles-Traveled (VMT): Daily, Peak | 2,206,477 | 180,422 | 2,897,095 | 260,733 | 3,092,260 | 276,661 | 3,012,094 | 270,104 | 2,966,055 | 267,517 | 2,876,373 | 259,867 | 2,896,927 | 260,428 | 2,812,941 | 253,347 |
| Total Vehicle Trips: Daily, Peak | 245,710 | 20,092 | 322,616 | 29,035 | 344,350 | 30,809 | 335,422 | 30,078 | 330,296 | 29,790 | 320,309 | 28,938 | 322,598 | 29,001 | 313,245 | 28,212 |
| Total Person Trips: Daily, Peak | 307,138 | 25,114 | 403,270 | 36,294 | 430,437 | 38,511 | 419,278 | 37,598 | 412,870 | 37,238 | 400,386 | 36,173 | 403,247 | 36,251 | 391,556 | 35,265 |

| | Existing - 2008 | | No-Build (E+C) -2025 | | Scenario 1B -2025 | | Scenario 1B - with Multimodal Reductions -2025 | | Scenario 2B -2025 | | Scenario 2B - with Multimodal Reductions -2025 | | Scenario 3B -2025 | | Scenario 3B - with Multimodal Reductions -2025 | |
|---|-----------------|---------|----------------------|---------|-------------------|---------|--|---------|-------------------|---------|--|---------|-------------------|---------|--|---------|
| Total Centerline Miles | 125.26 | | 125.26 | | 131.06 | | 131.06 | | 133.56 | | 133.56 | | 127.06 | | 127.06 | |
| Total Lane Miles | 310.12 | | 343.12 | | 416.32 | | 416.32 | | 441.32 | | 441.32 | | 418.97 | | 418.97 | |
| Total Capacity: Daily, Peak Hour | 2,808,400 | 267,898 | 3,171,375 | 302,496 | 3,772,460 | 359,592 | 3,872,200 | 369,097 | 3,943,940 | 375,981 | 3,943,940 | 375,981 | 3,907,000 | 372,517 | 3,907,000 | 372,517 |
| Total Volume: Daily, Peak Hour | 2,064,072 | 168,830 | 3,238,337 | 307,600 | 3,292,109 | 311,710 | 3,229,906 | 306,622 | 3,300,161 | 312,840 | 3,151,576 | 299,282 | 3,282,584 | 311,080 | 3,158,796 | 299,949 |
| Areawide Volume-to-Capacity (V/C): Daily, Peak | 0.73 | 0.63 | 1.02 | 1.02 | 0.87 | 0.87 | 0.83 | 0.83 | 0.84 | 0.83 | 0.80 | 0.80 | 0.84 | 0.84 | 0.81 | 0.81 |
| Total Vehicle-Miles-Traveled (VMT): Daily, Peak | 2,494,804 | 239,502 | 3,264,976 | 295,463 | 3,507,397 | 316,134 | 3,340,764 | 302,504 | 3,504,564 | 316,747 | 3,279,973 | 297,366 | 3,420,322 | 308,407 | 3,227,968 | 292,189 |
| Total Vehicle Trips: Daily, Peak | 277,818 | 26,671 | 363,583 | 32,902 | 390,579 | 35,204 | 372,023 | 33,686 | 390,263 | 35,272 | 365,253 | 33,114 | 380,882 | 34,344 | 359,462 | 32,538 |
| Total Person Trips: Daily, Peak | 347,272 | 33,338 | 454,479 | 41,128 | 488,223 | 44,005 | 465,028 | 42,108 | 487,829 | 44,091 | 456,566 | 41,393 | 476,103 | 42,930 | 449,327 | 40,672 |

Table 16: Orange City Transportation Concurrency Exception Area (TCEA) Comparative Analysis

| | Existing - 2008 | | No-Build (E+C) -2015 | | Scenario 1A - 2015 | | Scenario 1A - with Multimodal Reductions - 2015 | | Scenario 2A - 2015 | | Scenario 2A - with Multimodal Reductions - 2015 | | Scenario 3A -2015 | | Scenario 3A - with Multimodal Reductions -2015 | |
|---|-----------------|---------|----------------------|---------|--------------------|---------|---|---------|--------------------|---------|---|---------|-------------------|---------|--|---------|
| Total Centerline Miles | 45.78 | | 46.78 | | 50.33 | | 50.33 | | 47.33 | | 47.33 | | 47.33 | | 47.33 | |
| Total Lane Miles | 136.58 | | 148.48 | | 167.58 | | 167.58 | | 156.62 | | 156.62 | | 153.18 | | 153.18 | |
| Total Capacity: Daily, Peak Hour | 1,341,190 | 127,718 | 1,422,225 | 135,482 | 1,497,945 | 142,798 | 1,497,945 | 142,798 | 1,534,855 | 146,226 | 1,534,855 | 146,226 | 1,503,545 | 143,258 | 1,503,545 | 143,258 |
| Total Volume: Daily, Peak Hour | 917,618 | 75,040 | 1,132,185 | 107,410 | 1,166,298 | 110,310 | 1,154,693 | 109,361 | 1,142,231 | 108,410 | 1,113,373 | 105,752 | 1,150,990 | 109,240 | 1,127,006 | 107,060 |
| Areawide Volume-to-Capacity (V/C): Daily, Peak | 0.68 | 0.59 | 0.80 | 0.79 | 0.78 | 0.77 | 0.77 | 0.77 | 0.74 | 0.74 | 0.73 | 0.72 | 0.77 | 0.76 | 0.75 | 0.75 |
| Total Vehicle-Miles-Traveled (VMT): Daily, Peak | 1,046,852 | 85,606 | 1,296,495 | 116,994 | 1,404,889 | 126,245 | 1,370,139 | 123,403 | 1,317,198 | 119,083 | 1,271,284 | 115,078 | 1,328,840 | 120,096 | 1,288,537 | 116,646 |
| Total Vehicle Trips: Daily, Peak | 116,576 | 9,533 | 144,376 | 13,028 | 156,446 | 14,058 | 152,577 | 13,742 | 146,681 | 13,261 | 141,568 | 12,815 | 147,978 | 13,374 | 143,490 | 12,990 |
| Total Person Trips: Daily, Peak | 145,720 | 11,916 | 180,470 | 16,285 | 195,558 | 17,573 | 190,721 | 17,177 | 183,352 | 16,576 | 176,960 | 16,019 | 184,972 | 16,717 | 179,362 | 16,237 |

| | Existing - 2008 | | No-Build (E+C) -2025 | | Scenario 1B -2025 | | Scenario 1B - with Multimodal Reductions -2025 | | Scenario 2B -2025 | | Scenario 2B - with Multimodal Reductions -2025 | | Scenario 3B -2025 | | Scenario 3B - with Multimodal Reductions -2025 | |
|---|-----------------|---------|----------------------|---------|-------------------|---------|--|---------|-------------------|---------|--|---------|-------------------|---------|--|---------|
| Total Centerline Miles | 45.78 | | 46.78 | | 50.33 | | 50.33 | | 50.33 | | 50.33 | | 50.33 | | 50.33 | |
| Total Lane Miles | 136.58 | | 148.48 | | 174.62 | | 174.62 | | 174.62 | | 174.62 | | 174.62 | | 174.62 | |
| Total Capacity: Daily, Peak Hour | 1,341,190 | 127,718 | 1,422,225 | 135,482 | 1,497,945 | 142,798 | 1,497,945 | 142,798 | 1,594,855 | 152,046 | 1,594,855 | 152,046 | 1,594,855 | 152,046 | 1,594,855 | 152,046 |
| Total Volume: Daily, Peak Hour | 917,618 | 75,040 | 1,289,427 | 122,580 | 1,370,883 | 130,060 | 1,346,540 | 128,069 | 1,367,366 | 129,860 | 1,307,334 | 124,369 | 1,391,473 | 132,200 | 1,331,350 | 126,700 |
| Areawide Volume-to-Capacity (V/C): Daily, Peak | 0.68 | 0.59 | 0.91 | 0.90 | 0.92 | 0.91 | 0.90 | 0.90 | 0.86 | 0.85 | 0.82 | 0.82 | 0.87 | 0.87 | 0.83 | 0.83 |
| Total Vehicle-Miles-Traveled (VMT): Daily, Peak | 1,282,683 | 122,703 | 1,422,262 | 128,752 | 1,594,155 | 144,144 | 1,521,268 | 138,183 | 1,570,097 | 142,218 | 1,469,225 | 133,480 | 1,577,569 | 142,928 | 1,476,891 | 134,210 |
| Total Vehicle Trips: Daily, Peak | 142,838 | 13,664 | 158,381 | 14,338 | 177,523 | 16,052 | 169,406 | 15,388 | 174,844 | 15,837 | 163,611 | 14,864 | 175,676 | 15,916 | 164,464 | 14,945 |
| Total Person Trips: Daily, Peak | 178,547 | 17,080 | 197,976 | 17,922 | 221,904 | 20,065 | 211,758 | 19,235 | 218,555 | 19,796 | 204,514 | 18,580 | 219,595 | 19,895 | 205,581 | 18,682 |

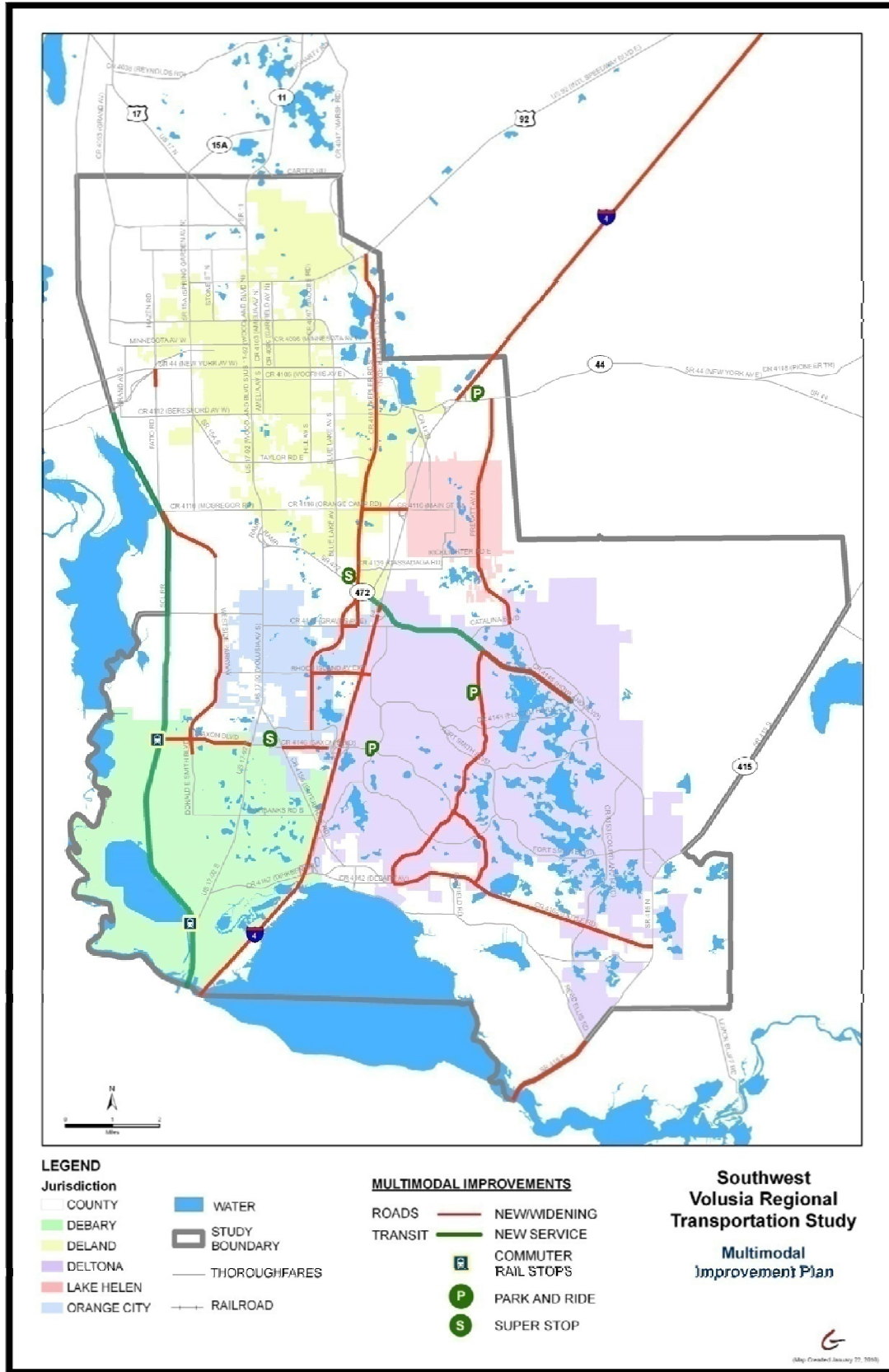


Figure 23: Multimodal Improvement Plan

Financial Plan

The financial plan identifies anticipated revenue sources that will be used to provide a financially feasible solution to fund the Multimodal Improvement Plan. As noted in **Table 9**, the total estimated cost for the MIP is \$489 million. The primary source of funding is anticipated to be the transportation fee described below. However, before the transportation fee can be calculated, revenues from existing revenue sources must be deducted from the total cost of the MIP.

Existing Revenue Sources

There are various existing revenue sources that may be utilized for transportation related purposes. At this time, neither the County nor Cities have identified or committed any existing revenue sources toward funding the MIP. This financial analysis does not include the revenue sources of the cities since their contribution will be through participation in the transportation fee program. Furthermore, the projects included in the MIP provide mitigation for County and State roads on the County Thoroughfare Plan and represent the regionally significant improvements. This study only focuses on the revenue sources currently used by Volusia County for transportation-related capital improvements to forecast available revenues through the 2025 planning horizon. Additionally, funding commitments made for specific projects identified in the MIP are recognized.

The County Transportation Trust fund is used to fund transportation-related capital improvements. The following gas tax revenues are utilized based on specified allocations for use of funds:

| Gas Tax | Use |
|--|---|
| 5 th and 6 th Cent (Constitutional Fuel Tax) | Maintenance |
| 7 th Cent (County Fuel Tax) | Operations and Maintenance |
| 9 th Cent County Voted (9 th Cent Fuel Tax) | 50% Resurfacing and 50% Construction |
| 6-Cent Local Option Gas Tax (LOGT 6) | Operations and Maintenance; Construction of County major arterial and collector road within the cities. |
| 5-Cent Local Option Gas Tax (LOGT 5) | Transportation expenditures to meet the CIE of the Comprehensive Plan. |

The sole use of LOGT 5 revenues is to meet the concurrency standards of the CIE. Therefore, the revenue forecasts are based on this revenue source. The LOGT 5 revenue is distributed among the County and participating cities according to formulas agreed to by interlocal agreement. The County

receives 57.239% of revenue distributions and the cities receive 42.761%. The distributions to the southwest cities, shown below, comprise 34.9% of the aggregated city share.

| City | Distribution Percentage | Percent of Aggregated Share |
|--------------|-------------------------|-----------------------------|
| DeBary | 2.038 | 4.8 |
| DeLand | 2.350 | 5.5 |
| Deltona | 9.428 | 22.0 |
| Lake Helen | 0.253 | 0.6 |
| Orange City | 0.840 | 2.0 |
| Total | 14.909 | 34.9 |

Table 17: Volusia County 5-Cent Local Option Gas Tax Revenue

| Fiscal Year | 5-Cent LOGT | SWV Allocation |
|--------------------------|----------------------|---------------------|
| 2001 | \$ 5,311,874 | |
| 2002 | 5,397,307 | |
| 2003 | 5,577,783 | |
| 2004 | 5,680,676 | |
| 2005 | 5,625,506 | |
| 2006 | 5,613,546 | |
| 2007 | 5,402,654 | |
| 2008 | 5,515,408 | |
| 2009 | 5,300,000 | |
| Total (2001-2009) | \$ 49,424,754 | |
| 2010 | 5,300,000 | \$ |
| 2011 | 5,300,000 | |
| 2012 | 5,300,000 | |
| 2013 | 5,300,000 | |
| 2014 | 5,300,000 | 400,000 |
| 2015 | 5,300,000 | 400,000 |
| 2016 | 5,300,000 | 400,000 |
| 2017 | 5,300,000 | 400,000 |
| 2018 | 5,300,000 | 400,000 |
| 2019 | 5,300,000 | 400,000 |
| 2020 | 5,300,000 | 400,000 |
| 2021 | 5,300,000 | 400,000 |
| 2022 | 5,300,000 | 400,000 |
| 2023 | 5,300,000 | 400,000 |
| 2024 | 5,300,000 | 400,000 |
| 2025 | 5,300,000 | 1,800,000 |
| Total (2010-2025) | \$ 84,800,000 | \$ 6,200,000 |

Table 17 presents actual County LOGT 5 revenue collected in fiscal years 2001 to 2008. Historically, an annual average of \$5.5 Million has been available to the County for countywide capital improvements. The adopted 2009-10 Volusia County Budget has projected \$5.3 Million, a 4% reduction. For the purposes of this study, it is assumed that 34.9% of the annual County LOGT 5 revenue or \$1.8 Million would likely be available for use in Southwest Volusia from 2010 through 2025. The LOGT 5 revenue generated between 2010 and 2014 are assumed to fund projects programmed in the current Five-Year Road Program. Road impact fees are currently used to pay debt service in Zones 3 and 4 of \$1,052,000 and \$391,652, respectively, which matures in 2024. The proposed transportation fee would result in the suspension of road impact fees in the region; therefore, the LOGT 5 revenue would be used for debt service payments. The amount forecasted to be available to fund the existing backlogs and new growth is \$400,000 annually from 2014-2024 and \$1.8 Million in 2025.

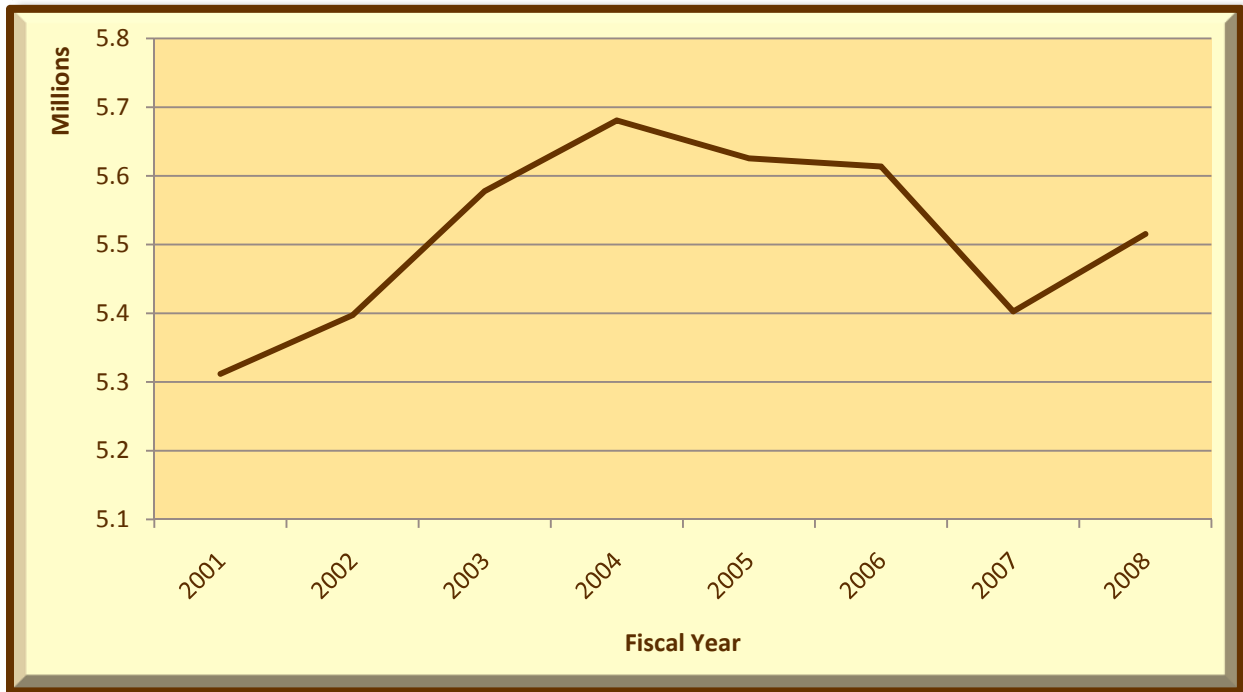


Figure 24: Volusia County 5-Cent LOGT (FY 2001-2008)

Potential Revenue Source

Transportation Fee

The following section summarizes the procedures used to calculate the proposed transportation fee. The transportation fee would be a one-time fee assessed on all new development and redevelopment within the study area as a means of mitigating its impacts to the regional transportation system.

The methodology used was based on the adopted *Tallahassee-Leon Multimodal Transportation District* and the improvements-based approach contained in the *Evaluation of the Mobility Fee Concept*. The estimates and calculations included below will be finalized and updated during the comprehensive plan amendment process for inclusion in the CIE.

Fee Assessment Basis

The MIP shown in **Figure 23** and **Tables 10 through 12** includes capital improvements for each mode that would significantly benefit the region’s mobility. The total estimated cost of the MIP is \$489 million. However, the MIP includes improvement projects that will not be funded by the transportation fee and must not be included in the cost used for the fee assessment basis. These projects are reflected in the tables by assigning a “N” value in the column titled “Eligible”. The anticipated funding sources for these projects are shown below.

Table 18: MIP – Federal/State/Other Funded Projects

| Road Improvements | | | | |
|-------------------|--|-------------------------|-------------------------------|----------------|
| Road Name | Limits (From - To) | Improvement Description | Estimated Cost (2009 Dollars) | Funding Source |
| I-4 | Seminole Co. to Dirksen Dr. | Widen to 8 Ln | 34,325,679 | Federal/State |
| I-4 | Dirksen Dr. to Saxon Blvd. | Widen to 8 Ln | 29,644,905 | Federal/State |
| I-4 | Saxon Blvd. to SR 472 | Widen to 8 Ln | 32,765,421 | Federal/State |
| I-4 | SR 44 to US 92 Connector | Widen to 6 Ln | 101,860,239 | Federal/State |
| SR 415 | Reed Ellis Rd. to Seminole Co. | Widen to 4 Ln | 10,165,370 | Federal/State |
| Orange Camp Rd. | W Volusia Bltwy. (Dr MLK Jr) to midpoint | Widen to 4 Ln | 2,936,025 | Developer |
| Orange Camp Rd. | midpoint to I-4 | Widen to 4 Ln | 2,936,025 | Developer |
| TOTAL | | | \$ 214,633,664 | |

| Transit Improvements | | | | |
|--|---------------------------------|--------------------|-------------------------------|----------------|
| Facility Name | Limits (From - To) | Improvement | Estimated Cost (2009 Dollars) | Funding Source |
| Commuter Rail Service | DeBary to Orlando | Commuter Rail Line | 11,822,225 | Federal |
| Commuter Rail Stop | DeBary @ Ft. Florida Rd | Commuter Rail Stop | 1,500,000 | Federal |
| Southwest Activity Center Park and Ride | Southwest Activity Center @ I-4 | Park and Ride Lot | 150,000 | Developer |
| TOTAL | | | \$ 13,472,225 | |
| TOTAL FEDERAL/STATE/OTHER FUNDED PROJECTS (NON-ELIGIBLE IMPROVEMENTS) | | | \$ 228,105,889 | |

Similar to impact fees, the transportation fee cannot be utilized to pay for existing deficiencies. Therefore, the portion of cost attributable to existing deficiencies is deducted from the total estimated cost and must be funded through other available revenue sources. The percent needed to eliminate existing deficiencies was determined for each project. The remainder of each project was available to serve new growth and was used to determine the growth portion of the project costs. The following general equations were used:

$$\text{Existing Deficiency} = \frac{(\text{Existing Volume}) - (\text{Existing Capacity})}{(\text{Future Capacity}) - (\text{Existing Capacity})}$$

$$\text{Percentage for New Growth} = 100 - \text{Existing Deficiency}$$

$$\text{New Growth Cost} = \frac{\text{Percentage for New Growth}}{\text{Percentage for New Growth}} \times \text{Estimated Cost}$$

Additionally, the projected revenues available from other sources to be used to fund improvements are deducted to determine the transportation fee assessment basis. As previously stated, LOGT 5 revenue is projected to be available to fund existing deficiencies and the remainder toward new growth related projects.

Table 19: MIP – Fee Assessment Basis

| | |
|---|-----------------------|
| Total Estimated Cost of the Multimodal Improvement Plan | \$ 489,444,339 |
| Deduct Anticipated Revenues (LOGT 5 Funding) | |
| Portion for Existing Deficiencies | (7,707,553) |
| Portion for New Growth Projects | (0) |
| Deduct Federal/State/Other Funded Projects | (228,105,889) |
| Unfunded Balance - Fee Assessment Basis | \$ 253,630,897 |

Regional Person Trips

The growth of vehicular trips is determined by the travel demand model based on the projected growth expected to occur through 2025. The vehicular trips within the study area for the base year (2008) and horizon year (2025) were calculated to determine the amount of trips attributed to new growth. Below is a summary of the calculation.

| | | | | |
|------------------------|---|---------------------|---|---------|
| Horizon Year (2025) | - | Base Year (2008) | = | Growth |
| 800,527 | | 525,988 | | 274,539 |

The vehicular trips are converted to person trips by multiplying by the national average vehicle occupancy which is currently 1.25. The conversion to person trips was chosen to reflect a common unit of measure among modes. The projected growth in person trips for the region is shown below.

| | | | | |
|---------|---|------------------------------|---|----------------------------------|
| Growth | x | Average Vehicle Occupancy | = | Regional Person Trips |
| 274,539 | | 1.25 | | 343,174 |

Cost per Trip

The fee assessment basis of the Multimodal Improvement Plan cost is divided by the Regional Person Trips to derive a cost per trip. The cost per trip is shown per mode. This cost per trip is used to calculate a development project’s regional transportation fee.

Table 20: MIP – Cost Per Trip

| Mode | MIP Cost Fee Assessment Basis Only | | Regional Person Trips | | Cost per Trip |
|---------------------|---------------------------------------|---|--------------------------|---|------------------|
| Road | \$ 247,287,897 | ÷ | 343,174 | = | \$ 720.59 |
| Transit | 2,890,000 | ÷ | 343,174 | = | 8.42 |
| Bicycle/ Pedestrian | 3,453,000 | ÷ | 343,174 | = | 10.06 |
| Total | \$ 253,630,897 | | | | \$ 739.07 |

Transportation Fee Calculation for a Project

The transportation fee to be paid by a new development or redevelopment project is based on the specific impact a development is expected to have on the transportation system. A project’s trip generation is calculated based on the trip generation data for the specific land use utilizing the latest edition of *Trip Generation* published by the Institute of Transportation Engineers (ITE).

Sample Project - 100 single family dwelling units (ITE land use code 210)

Step 1: Calculate trip generation –daily trips

| | | | | | | |
|---------------------|----------|------------------------|----------|--------------------|----------|------------------------|
| # Units (DU) | X | Daily Trip Rate | X | % New Trips | = | New Daily Trips |
| 100 | | 9.57 | | 100% | | 957 |

Step 2: Convert to Person Trips

| | | | | |
|------------------------|----------|----------------------------------|----------|---------------------|
| New Daily Trips | X | Average Vehicle Occupancy | = | Person Trips |
| 957 | | 1.25 | | 1,196 |

Step 3: Calculate Transportation Fee

| Mode | Cost per Trip | | Person Trips | = | Transportation Fee |
|------------------------|------------------|---|--------------|---|---------------------|
| Road | \$ 720.59 | X | 1,196 | = | \$ 861,825.64 |
| Transit | 8.42 | X | 1,196 | = | 10,070.32 |
| Bicycle/ Pedestrian | 10.06 | X | 1,196 | = | 12,031.76 |
| Total | \$ 739.07 | | | | \$883,927.72 |

(\$8,839.28 per single family dwelling unit)

Sample Project - 25,000 gross square feet general office building (ITE land use code 710)

Step 1: Calculate trip generation –daily trips

| | | | | | | |
|----------------------|----------|------------------------|----------|--------------------|----------|------------------------|
| # Units (TSF) | X | Daily Trip Rate | X | % New Trips | = | New Daily Trips |
| 25 | X | 11.01 | X | 92.7% | = | 255 |

Step 2: Convert to Person Trips

| | | | | |
|------------------------|----------|----------------------------------|----------|---------------------|
| New Daily Trips | X | Average Vehicle Occupancy | = | Person Trips |
| 255 | | 1.25 | | 319 |

Step 3: Calculate Transportation Fee

| Mode | Cost per Trip | | Person Trips | = | Transportation Fee |
|------------------------|------------------|---|--------------|---|---------------------|
| Road | \$ 720.59 | X | 319 | = | \$ 229,868.21 |
| Transit | 8.42 | X | 319 | = | 2,685.98 |
| Bicycle/ Pedestrian | 10.06 | X | 319 | = | 3,209.14 |
| Total | \$ 739.07 | | | | \$235,763.33 |

(\$ 9,430.53 per 1,000 gross square feet)

Recommendations

As the southwest region continues to experience growth, traffic congestion will also increase in the next 15 years. It is therefore critical that the transportation system is developed to keep the region moving and to sustain the economy and quality of life. Due to on-going transportation funding shortfalls, providing the needed transportation improvements will be an expensive endeavor. However, not providing the transportation improvements will result in the degradation of mobility throughout the region.

This study does not provide solutions to address all of the transportation needs within the region; however, it does provide a multimodal approach that focuses on regionally significant transportation improvements to enhance mobility. The multimodal approach incorporates alternative modes of travel, which includes transit, bicycle and pedestrian, instead of primarily addressing roads. Addressing the mobility needs on an areawide basis recognizes that traffic is not confined to jurisdictional boundaries. Furthermore, the burden of addressing impacts to the regional transportation system would be shared amongst the local jurisdictions through a proposed transportation fee. The transportation fee would allow the leveraging of funds with other available funding sources to fully fund projects.

The recommendations below were identified to guide the development of the multimodal approach tailored to fit the needs of southwest region. These recommendations were developed to be consistent with the overall intent and objectives of the VGMC criteria and conditional certifications of consistency, the *Joint Report on the Mobility Fee Methodology Study*, and feedback from Study Partners.

- Revise the transportation concurrency management system to adopt an alternative concurrency approach that is applied areawide and is multimodal.
- Adopt the Multimodal Improvement Plan.
- Implement a transportation fee to finance the Multimodal Improvement Plan.

The Florida Legislature describes the existing transportation concurrency regulations as “complex, inequitable, lacking uniformity among jurisdictions, is too focused on roadways to the detriment of desired land use patterns and transportation alternatives, and frequently prevents the attainment of important growth management goals.”¹ Revising the transportation concurrency management system to adopt an alternative approach that is applied on a regional basis and supports alternative modes of transportation would address those issues.

Below is a comparison of the proposed alternative multimodal approach and the traditional transportation concurrency system.

¹ Chapter 2009-96, Laws of Florida, Community Renewal Act, Section 13. (1)(a).

| Alternative Multimodal Approach | Traditional Concurrency |
|--|--|
| Administered on an areawide basis | Segment by segment |
| Multimodal includes roads, transit, bicycle and pedestrian | Road focused |
| Simple to administer | Complex to administer |
| Predictable fee for mitigation cost | Mitigation cost is unpredictable |
| All new development/redevelopment pay the regional transportation fee (equitable) | Only those projects that impact a deficient roadway segment pay mitigation costs (inequitable) |
| Funds from fee are leveraged | Mitigation costs are typically not leveraged |
| Satisfies cross-jurisdictional traffic impacts regionally | Cross-jurisdictional impacts are addressed on a project-by-project basis |
| Abbreviated traffic impact analysis (TIA) – trip generation, safety, site access, and internal circulation | Full-scale TIA requirements |

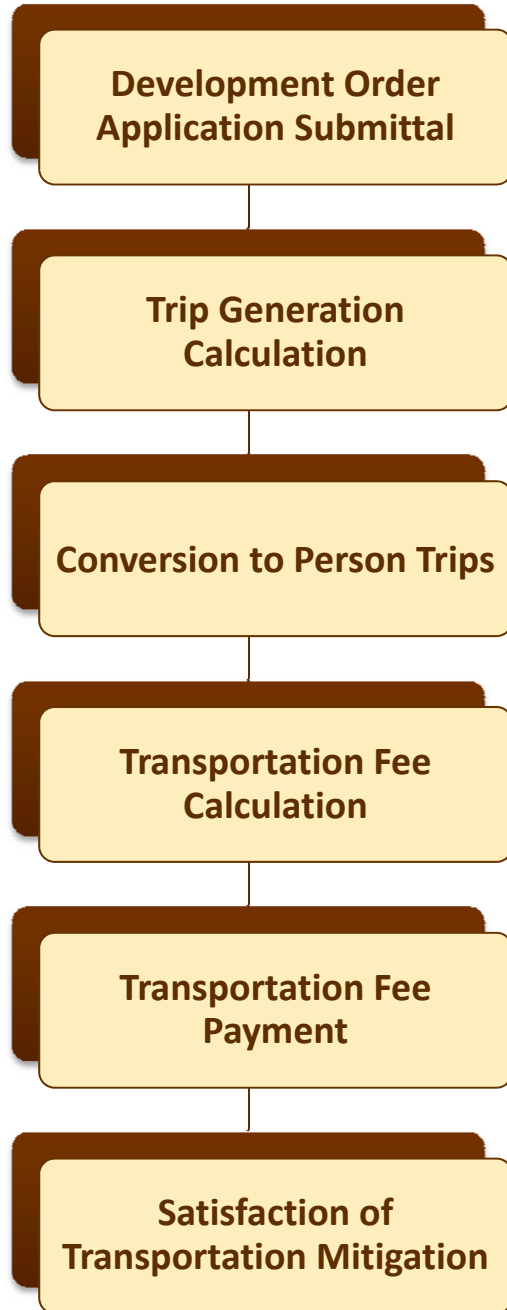
The multimodal approach would evaluate the performance of the overall transportation system instead of being primarily road focused. The key components of the multimodal approach include the following:

- The *Regionally Significant Transportation System (Figure 22)* identifies the existing and proposed roads, transit, bicycle and pedestrian facilities that provide significant benefit to the mobility needs of the region.
- The *Multimodal Improvement Plan (Figure 23)* identifies the capital improvement projects needed to address the new growth and increase demand through 2025. The improvement projects are prioritized for each category – roads, transit, and bicycle and pedestrian. The funding is directed to the highest ranked improvement project per mode. As projects are fully funded, funds are automatically directed to the next highest ranked improvement project. The MIP should be reviewed periodically, at least biennially, to determine if the priorities of the region have changed due to growth patterns or regional goals. The unfunded cost of the MIP is used to derive the transportation fee.
- The payment of a *transportation fee* would constitute mitigation of impacts to the regional transportation system. The funds generated through payment of the transportation fee would provide a new revenue source to fund projects in order of highest priority. All new development and redevelopment projects would be assessed the transportation fee during the permitting process prior to the issuance of a final development permit including building permit and final plat.

The multimodal approach would move away from the segment-by segment road analysis for each new development based on its TIA. The multimodal approach would eliminate the need for a full-scale TIA as currently required in the transportation concurrency management system. An abbreviated version of a TIA should be required to provide trip generation calculations and to address site access and internal circulation requirements. The development’s trip generation would be used to determine its

transportation fee. Upon receipt of the development’s payment of the transportation fee, the local government would issue a final development order provided all other applicable land development regulations have been satisfied. A diagram of the simplified review process is shown below in **Figure 25**.

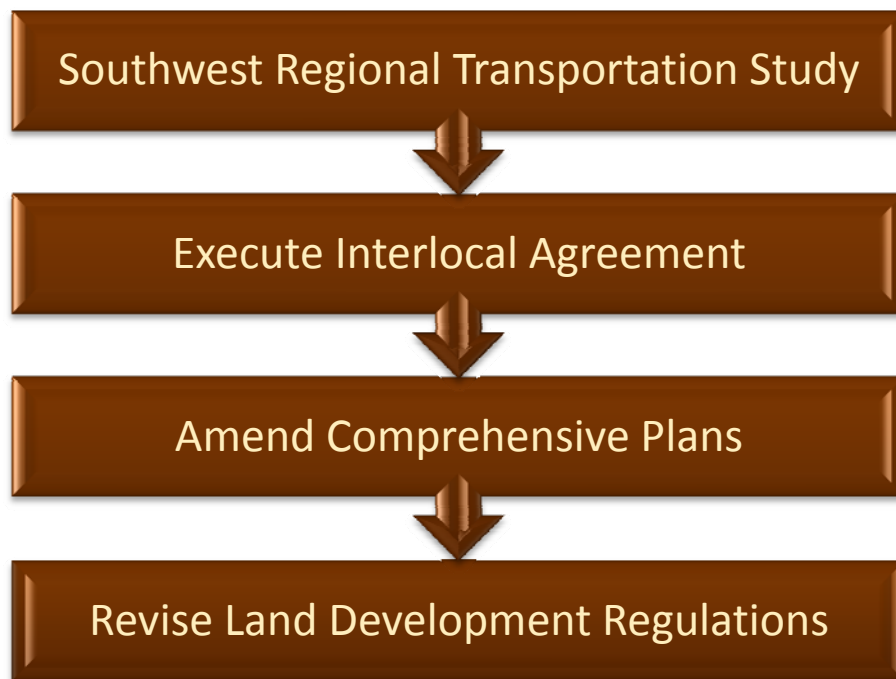
Figure 25: Multimodal Approach – Simplified Review Process



Implementation

In order to have this alternative multimodal approach become a reality, each participating jurisdiction and governmental agency must do its part to implement the recommended strategies and multimodal improvements. The following activities would need to be undertaken to implement the recommendations: execute an interlocal agreement, amend the comprehensive plans, and revise land development regulations. This study serves as a framework to begin this process.

Figure 26: Implementation Process

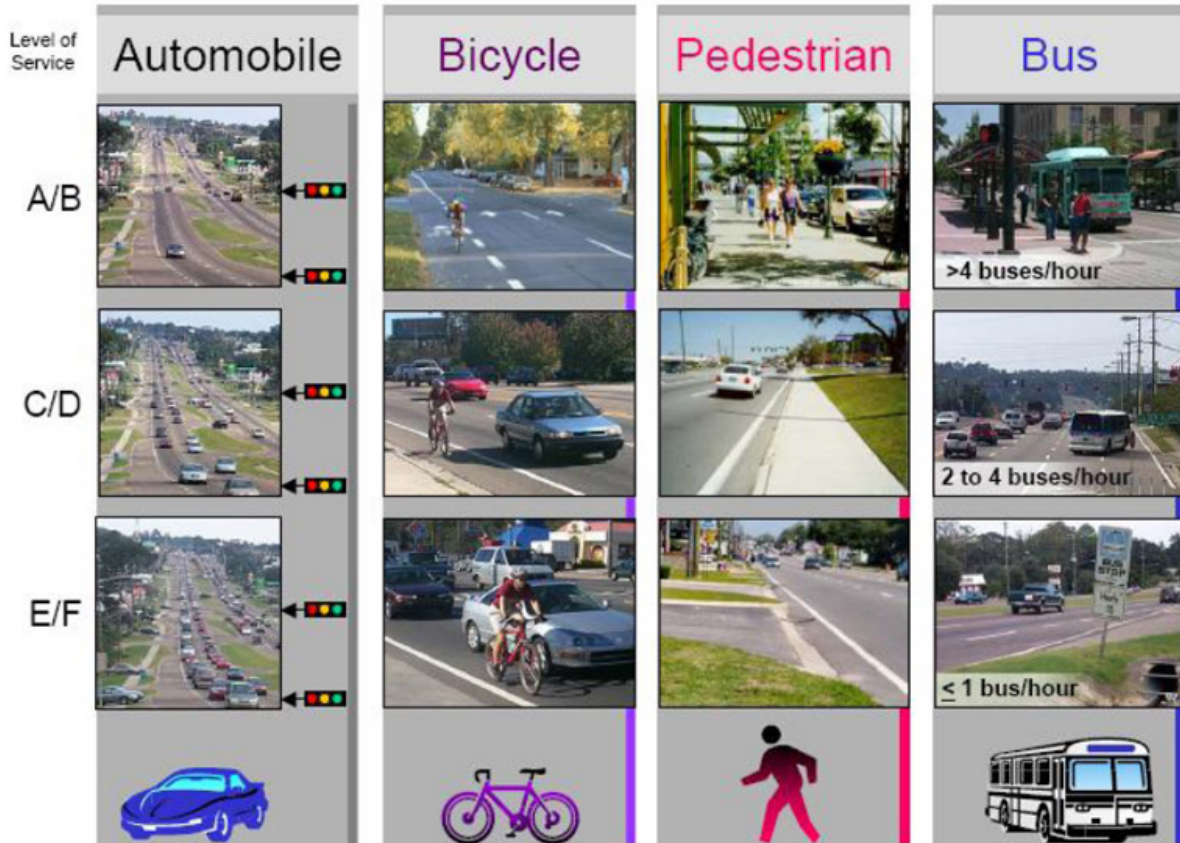


The first step to implement the recommendations of this study is to execute an interlocal agreement (ILA) between the County, the Cities, and other participating agencies. The ILA would provide the framework for establishing the implementation responsibilities and guidelines for the alternative multimodal approach. Key components of the ILA are described below.

- **Roles and Responsibilities:** Volusia County, the Cities of DeBary, DeLand, Deltona, Lake Helen, and Orange City would be parties to the ILA. Other participating agencies would include FDOT and Voltran to provide the agencies' concurrence to the provisions of the ILA. VCMPO, VGMC and the Department of Community Affairs (DCA) would be parties to the ILA if responsibilities and roles are defined.
- **Regionally Significant Transportation System:** The agencies agree to the defined system to identify the regional needs and for the select of projects eligible for inclusion in the MIP. Also provide the agencies the opportunity to review the regional system and recommend modifications.

- Level of Service (LOS) Standards:** The agencies agree on the level of service standard for each mode as an indicator of how the overall transportation system is operating. This is not used to determine whether or not a development application is approved but to aid in determining would multimodal improvements are needed to enhance mobility in the region. In addition, this performance measure would apply area wide instead of on a facility or segment-by segment basis. **Figure 28** illustrates the LOS standards for each mode.

Figure 27: Level of Service Standards Illustration



Source: FDOT Quality/Level of Service Handbook

- Project Selection and Prioritization:** The regionally significant definitions and the prioritization criteria established in the SWVRTS would provide consistent guidelines for the inclusion of projects in the MIP. Furthermore, any updates to the MIP would be consistently applied with the agreed process.
- Transportation Fee:** The methodology used to develop the fee is agreed upon and the applicability of the fee within the region is defined. The study provides that the transportation fee would be applicable to all new development and redevelopment projects. Any exemptions would need to be agreed to and defined in the ILA to maintain consistent application amongst each jurisdiction. How the transportation fee will be collected and distributed must also be defined. An administrative fee of 3% consistent with the current rate in the impact fee

ordinance may also be added to the transportation fee. Also, annual inflation rates should be defined.

- **Trip Reduction or Incentives:** If any trip reductions or incentives will be permitted, they must be defined in the ILA to be consistently applied throughout the region. For example, incentives could include a percentage reduction to the new daily trips generated by high density residential projects within ¼ mile of a regional transit facility. Incentives could be an effective tool in promoting transit oriented developments and reducing vehicle miles traveled.
- **Monitoring and Reporting Requirements:** The responsibility of each agency to provide an annual report of activity and collection of funds should be clearly defined. Also, the frequency with which each jurisdiction reviews its population and employment forecast to determine if growth trends have changed should be defined.

After an interlocal agreement has been approved, amendments to the local jurisdictions comprehensive plans will be required to implement the alternative multimodal approach. Amendments to the future land use, transportation, capital improvements, and intergovernmental coordination elements of the comprehensive plans for each local jurisdiction will also be needed. Thereafter, the land development regulations (LDRs) would be revised to implement the comprehensive plan amendments.

Appendices

APPENDIX A: EXISTING ROADWAY NETWORK

APPENDIX B: TRAVEL DEMAND MODEL AND SOCIOECONOMIC DATA

APPENDIX C: TRANSPORTATION NEEDS LIST

APPENDIX D: PROJECT PRIORITIZATION

APPENDIX E: COST ESTIMATING METHODOLOGY

APPENDIX F: FIGURES 1 THROUGH 23 TABLOID (11 x 17) SIZE

APPENDIX G: TCEA COMPARATIVE ANALYSIS.....

APPENDIX H: RESPONSE TO DRAFT REPORT COMMENTS.....