



Lake County *Minneola Ridge Area-Wide Traffic Study*

FINAL REPORT

May 2005



**LAKE COUNTY
MINNEOLA RIDGE AREA-WIDE TRAFFIC STUDY**

FINAL REPORT

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**LAKE COUNTY
MINNEOLA RIDGE AREA-WIDE TRAFFIC STUDY**

DRAFT REPORT

Table of Contents

Chapter 1: Introduction.....	1-1
Chapter 2: Methodology	2-1
Introduction	2-1
Previous Studies.....	2-1
Socioeconomic Data.....	2-3
<i>Minneola Approved/Proposed Developments.....</i>	<i>2-3</i>
<i>Modifications to the Socioeconomic Data</i>	<i>2-3</i>
Network Modifications.....	2-7
Chapter 3: Analysis and Findings.....	3-1
Introduction	3-1
Number of Lanes and Improvements	3-1
Level of Congestion.....	3-5
Forecast Volumes.....	3-8
Potential Future Un-addressed Capacity Demands and other Deficiencies...	3-11
Anticipated Costs.....	3-13
<i>Cost Assumptions.....</i>	<i>3-13</i>
<i>Comparison of Alternatives.....</i>	<i>3-14</i>
<i>Funding.....</i>	<i>3-16</i>
Chapter 4: Summary of Public Involvement	4-1
Public Meeting	4-1
Public Comment	4-3
Chapter 5: Summary Findings	5-1

List of Figures

Figure 1-1: Study Area	1-3
Figure 2-1: Methodology Flowchart.....	2-2
Figure 2-2: Approved and Proposed Developments	2-4
Figure 2-3: Refined Minneola TAZ Structure.....	2-6
Figure 3-1: Alternative 1 with Turnpike Interchange Number of Lanes	3-2
Figure 3-2: Alternative 2 without Turnpike Interchange Number of Lanes	3-3
Figure 3-3: Alternative 1 with Turnpike Interchange VC Ratio	3-6
Figure 3-4: Alternative 2 without Turnpike Interchange VC Ratio	3-7
Figure 3-5: Alternative 1 with Turnpike Interchange Volumes.....	3-9
Figure 3-6: Alternative 2 without Turnpike Interchange Volumes.....	3-10
Figure 3-7: Deficient Roadways	3-12
Figure 4-1: Public Meeting Signs.	4-1

Figure 4-2:	Public Review of Information Prior to the Formal Presentation	4-2
Figure 4-3:	Public Review of Information Prior to the Formal Presentation	4-2
Figure 4-4:	Formal Public Presentation of the Study Results.....	4-2

List of Tables & Figures

Table 2-1:	Approved and Proposed Development Totals	2-3
Table 3-1:	Generalized Maximum Service Volumes	3-5
Table 3-2:	Alternative without Turnpike Interchange Costs	3-15
Table 3-3:	Alternative with Turnpike Interchange Costs	3-15

List of Appendices

- Appendix 2-A – FSUTMS Network Plots
- Appendix 3-A – Project Level Costs
- Appendix 4-A – Public Meeting Flyer
- Appendix 4-B – Sample Comment Card
- Appendix 4-C – Written Public Comments
- Appendix 4-D – Comments from Speakers

CHAPTER 1: INTRODUCTION

This report documents the study conducted by Tindale-Oliver and Associates, Inc. (TOA), to forecast traffic volumes and identify needed improvements for the Minneola area. The objective of study was to identify a recommended build-out transportation network that accommodates the significant growth projected for the study area. The study area is illustrated in Figure 1-1 and includes the area generally bounded by:

- US 27 and South Buckhill Road on the west
- The Lake/Orange County line on the east
- CR 455 on the north over to Lake Apopka, and
- Hook Street and SR 50 on the south.

The Minneola study area rests in the rolling hills of southeastern Lake County about 20 miles from downtown Orlando. The residents of Minneola, Clermont, and Montverde enjoy the area's rural charm and environmental amenities. The southern parts of this area have experienced rapid population growth since the 1990's and this trend is anticipated to continue over the next twenty years resulting in development to the north in currently undeveloped areas. The ultimate population growth will require significant infrastructure improvements, in particular to the transportation network. The existing transportation network in the Minneola area consists of three major arterial roadways; US 27, SR 50, and the Florida Turnpike (SR 91). Access is not currently provided to the Florida Turnpike within the study area. The majority of the road network in the study area consists of rural two lane collector roadways that can be best described as farm to market roadways built as paved roads over clay sub-surfaces.



Florida Turnpike (SR 91)



Rural two-lane collector roadway

The future road network in the Minneola area will need to have the capacity to handle the forecasted vehicle trips produced by the population growth. Roadways, such as SR 50, will experience increasing congestion as the population grows without improvements to SR 50 and other area roadways. A unified road network, consisting of additional east-west and north-south arterials, collectors, and frontage roads will assist in mitigating

congestion and increased traffic demand. This study examines the growth forecasted for the Minneola area and provides recommendations on the necessary road improvements required to meet the future travel demand.

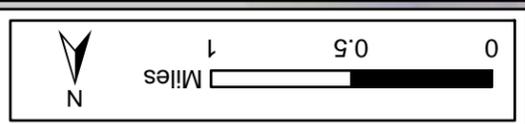
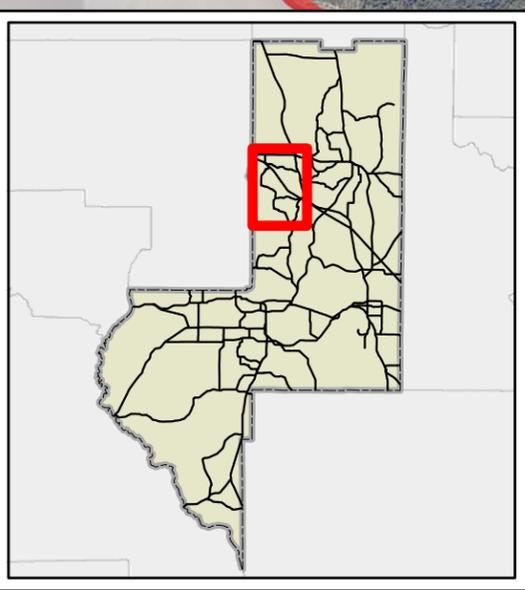
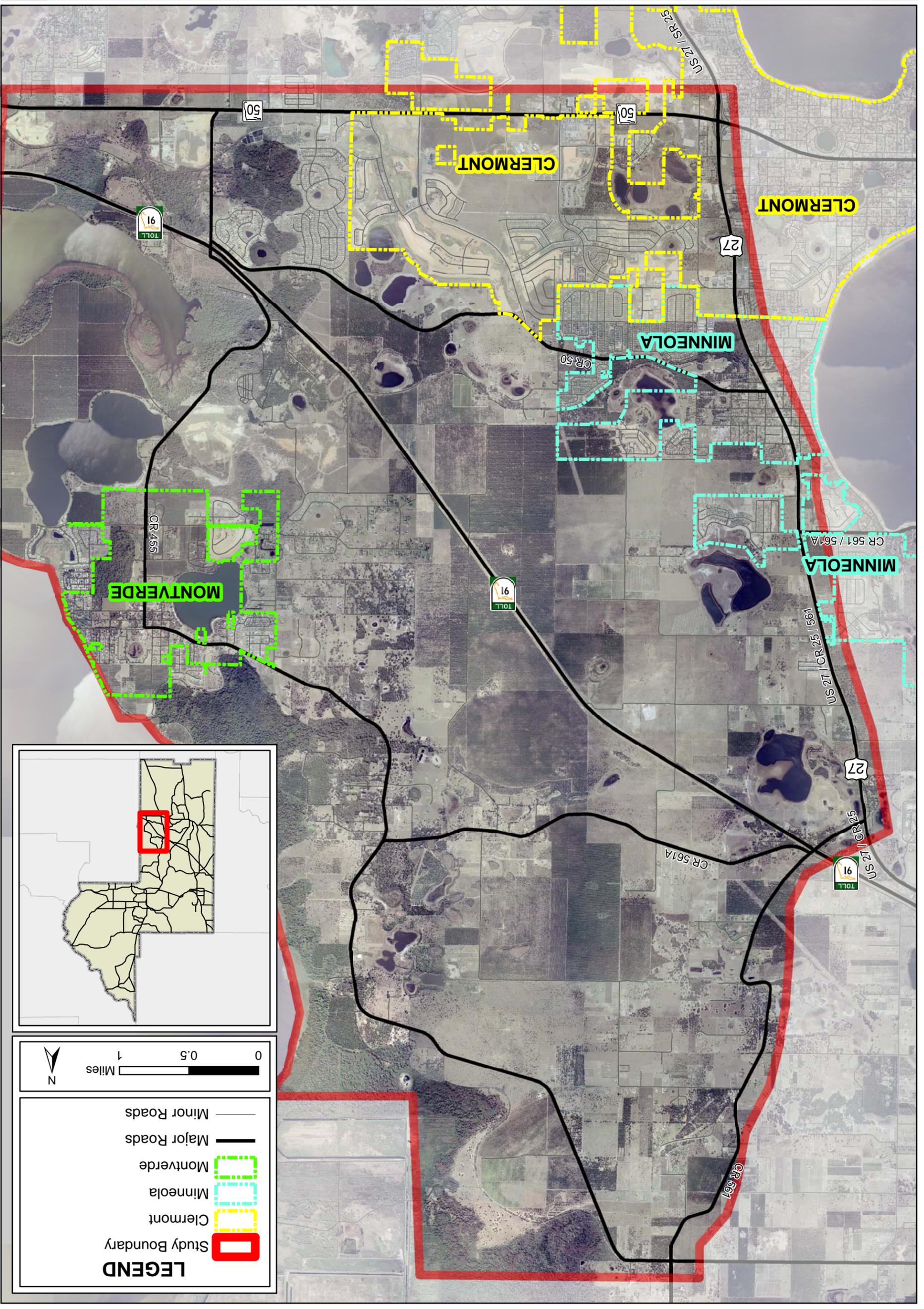
This study has built upon the refined traffic analysis zone structure and modeling work efforts undertaken in previous studies that include the Southeast Corridor Study Update and the Lakeshore Area-wide Study. These studies were built upon the work developed in the Cost Affordable Plan developed as part of the Lake County 2020 Long Range Transportation Plan. The work effort for the this study of the Minneola Ridge area included refining the traffic analysis zone structure, reviewing and updating demographic data for approved and potential development projects, development of a transportation network that supports the projected development. This study resulted in the identification of two 2025 alternatives that are described in greater detail below. This study also included a presentation and solicitation of public comments from a public workshop.

Two network alternatives were tested in this study. Alternative 1 included a new interchange on the Florida Turnpike (SR 91) approximately six miles north of the existing interchange at SR 50. Alternative 2 assumed that no new interchange would be provided to the Florida Turnpike within the study area. Additional details relative to the methodology and findings of the study are provided in greater detail in the remaining chapters of this report.



MINNEOLA RIDGE AREA-WIDE TRAFFIC STUDY

Figure 1-1



LEGEND

	Study Boundary
	Clermont
	Minneola
	Montverde
	Major Roads
	Minor Roads

CHAPTER 2: METHODOLOGY

Introduction

This chapter describes the methodology used to analyze the forecast traffic volumes and performance of the future transportation network. The technical methodology applied to this project primarily included the application of the Florida Standard Urban Transportation Model Structure (FSUTMS) travel demand forecasting model. The major steps include a review of the previous studies, development of revised socioeconomic data for the study area, and FSUTMS model network modifications. These steps are described in greater detail below and illustrated in Figure 2-1.

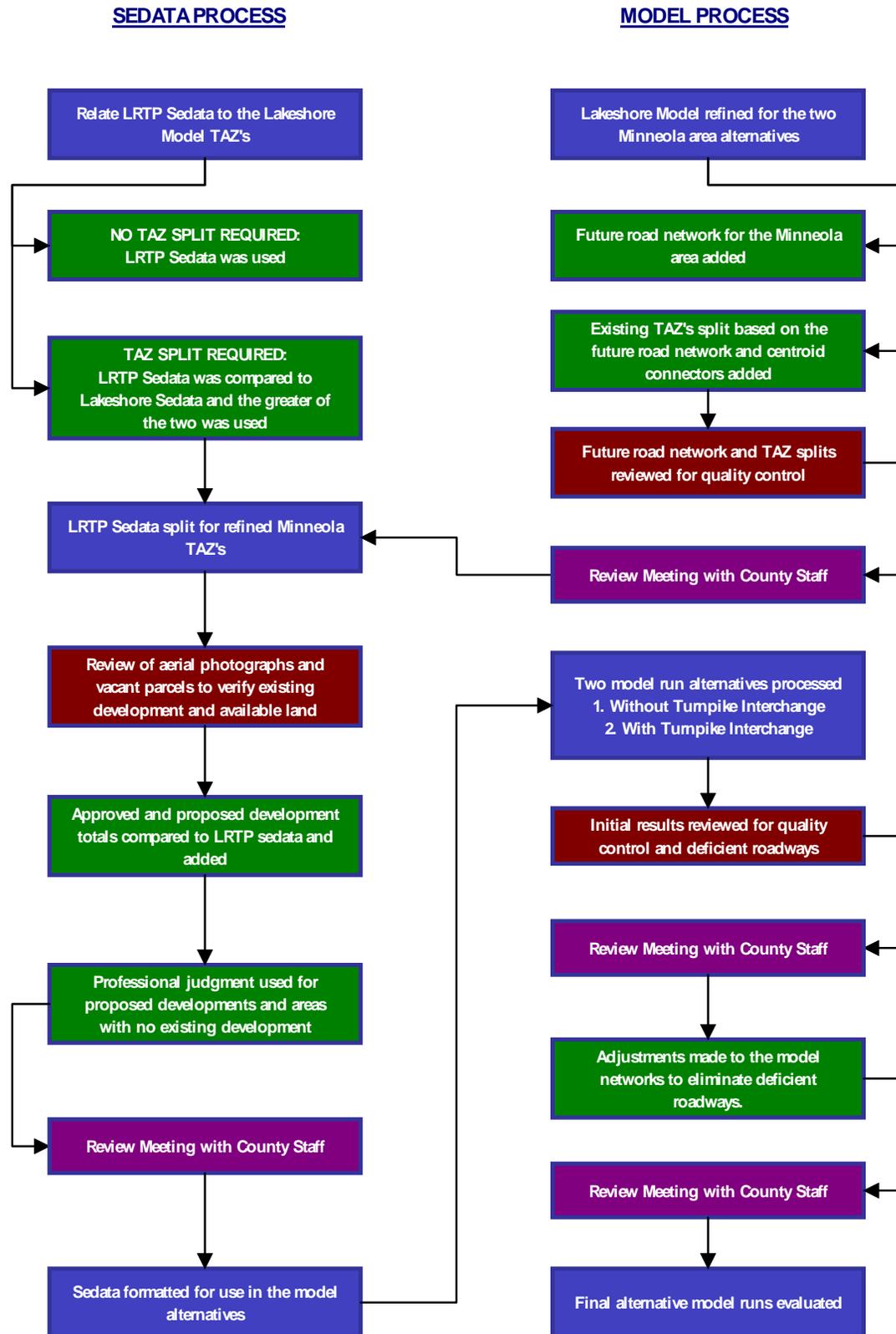
Previous Studies

The traffic volumes forecasted for this study were based on the FSUTMS travel demand model from previous studies and modified for this project as documented in the following sections. The FSUTMS model used for this study was developed in the following progression;

- Initially began with the 2020 Cost Feasible Transportation Plan Model (20G) developed for the Lake County 2020 Long-Range Transportation Plan (TOA, July 1999).
- The 20G model was first refined for use in the *Lake County Southeast Corridor Study Update* (TOA, March 2001) and the *Lake County Southeast Corridor Study Update* (TOA, July 2002).
- Subsequently, this FSUTMS model was further refined for the *Lakeshore Drive Area-Wide Traffic Study* (TOA, November 2003).

The Lake County LRTP 20G model was regional in nature, and accordingly, was an appropriate tool for forecasting travel demand at the regional level. However, in order to produce more reliable corridor level traffic volume forecast with a regional travel demand model, specific study area refinements were made to the model in previous studies. Consequently, several study area refinements were also made to the Minneola model. These refinements included additional collector roadways, modifications of roadway facility types, modification of the traffic analysis zone (TAZ) structure, and modification of the associated socioeconomic data. Therefore, the Minneola model retains the model refinements that were undertaken for all of the previously mentioned studies. In addition to the model refinements from the studies mentioned above, recent modifications made in the Lake County Long Range Transportation Plan (LRTP) Update were also included in the Minneola model. At the core of these changes were TAZ splits. TAZ's were split for the LRTP Update in areas that have experienced increased development or growth since the previous adopted LRTP (TOA, July 1999).

**Figure 2-1
Methodology Process**



Socioeconomic Data

Socioeconomic data (SE data) is the information pertaining to population, dwelling units, and employment that is an input into the FSUTMS model. Each TAZ contains a forecast of each of the above variables. Using these variables, the FSUTMS model generates the number of vehicle trips traveling from and to each TAZ. The socioeconomic data for the Minneola model was based on the socioeconomic data prepared for the LRTP Update (TOA, January 2005). In order to refine the socioeconomic data for the Minneola Study, approved and proposed developments within the study area were reviewed and the socioeconomic data prepared for the LRTP Update was split into the refined TAZ structure. Figure 2-1, on the previous page, illustrates the processes used to refine the socioeconomic data and model.

Minneola Approved and Proposed Developments

As previously indicated, the purpose of this study was to identify build-out transportation networks that would accommodate the significant growth projected for the study area. Major contributors to this growth will be the approved and proposed developments within the study area. Table 2-1 summarizes the total units by category (residential and non-residential) for each of the currently known approved and proposed developments. This information was used in the modification of the socioeconomic data described in the next section. These anticipated development levels were provided by County staff and added to the appropriate TAZ's in the refined socioeconomic data developed for this study. The location and quantity for each approved and proposed development is illustrated in Figure 2-2.

Table 2-1: Approved and Proposed Development Totals

Category	Approved Units
Single Family Dwelling Units	10,370
Multi Family Dwelling Units	2,276
Commercial/Retail (in sq.ft)	1,930,000
Office (in sq.ft)	872,000
Industrial (in sq.ft)	1,400,000
Hotels (number of rooms)	300

Source: Lake County Public Works

Modification to Socioeconomic Data

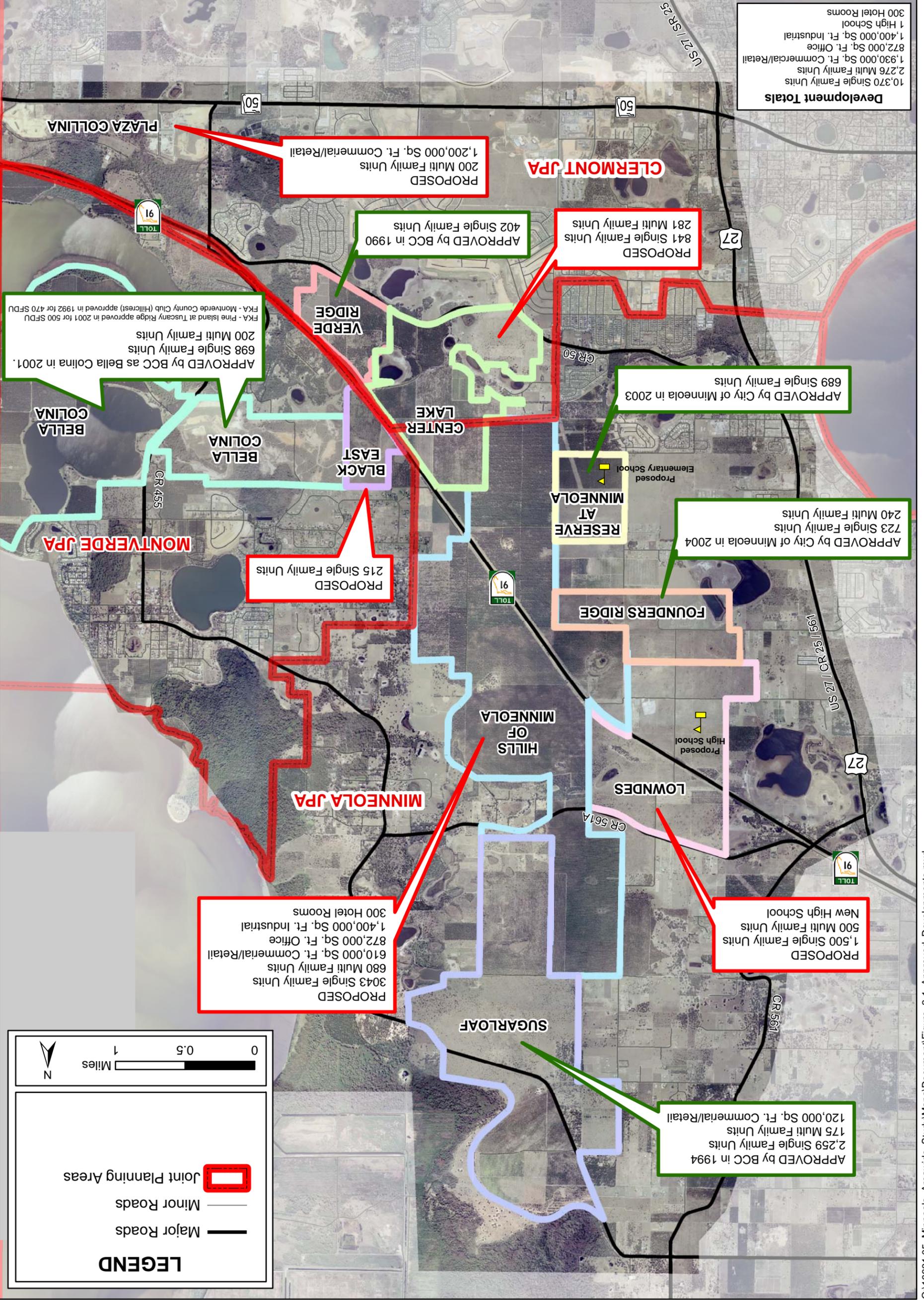
In order to forecast future travel demand more accurately, the number of TAZ's within the study area were increased by subdividing existing TAZ's to develop a more refined zonal structure. The socioeconomic data for the LRTP Update is the most recent future horizon forecast for Lake County and thus was considered the most reliable source of forecast data. In order to benefit from the model improvements developed in the



MINNEOLA RIDGE AREA-WIDE TRAFFIC STUDY

Approved and Proposed Developments

Figure 2-2



Lakeshore Drive Area-Wide Traffic Study and other previous studies, refinements to the new forecast socioeconomic data were required to compensate for differences in the zonal structures.

The TAZ's and corresponding socioeconomic data were refined in the process that is outlined below. Figure 2-3 illustrates the resulting TAZ structure for this study.

1. The socioeconomic data developed for the LRTP Update was compared to the socioeconomic data developed for the *Lakeshore Drive Area-Wide Traffic Study*.
 - o The socioeconomic data for the LRTP Update was used for TAZ's that were an exact match between the two respective socioeconomic data sets.
 - o TAZ's that were refined/split in the *Lakeshore Drive Area-Wide Traffic Study* were compared to the TAZ's from the LRTP Update. The socioeconomic data that resulted in the highest forecast of the two was used for this study.

*NOTE: The end result of this step is a refined socioeconomic data set that consists of the LRTP Update socioeconomic data which matches the FSUTMS model refined in the *Lakeshore Drive Area-Wide Traffic Study*.

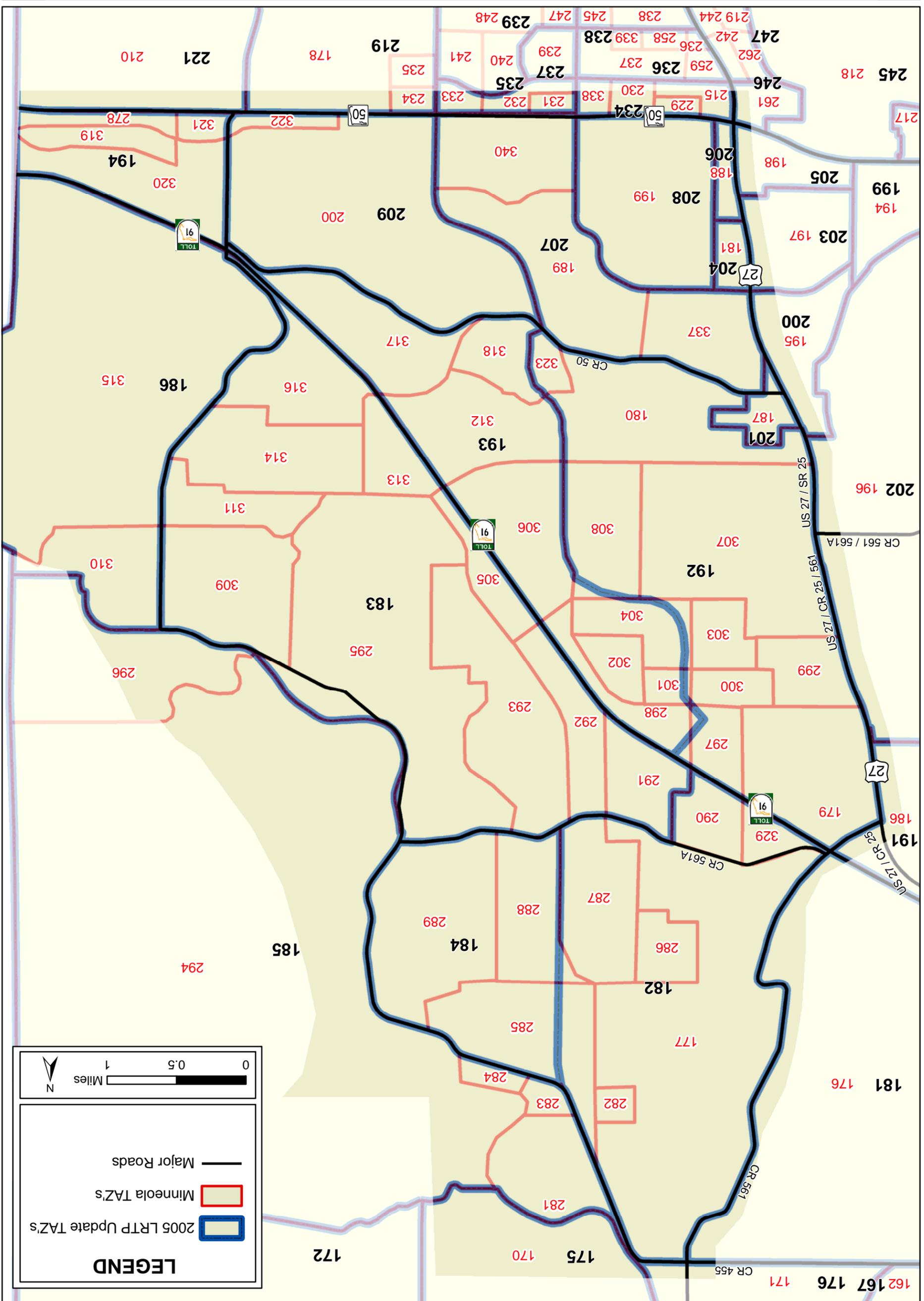
2. TAZ's in the Minneola study area were split to reflect the proposed road network similar to the previous studies mentioned in Chapter 1 (refer to Figure 2-2).
 - o These TAZ splits were then reviewed in a meeting with County Staff for quality control purposes.
3. The socioeconomic data developed in step 1 was then split based on the refined TAZ structure in step 2.
 - o The revised TAZ boundaries were superimposed on digital aerial photographs flown in 2002 to allow for further examination of the specific location of dwelling units and employment.
 - o Review of vacant parcels using GIS further aided in the allocation of the socioeconomic data to the refined TAZ structure.
 - o Approved and proposed development totals for the Minneola study area were reviewed against the LRTP totals and adjusted as necessary.
 - o Professional judgment was used in proposed developments and areas having no existing development.



MINNEOLA RIDGE AREA-WIDE TRAFFIC STUDY

Refined Traffic Analysis Zones

Figure 2-3



The end result of this process was a refined socioeconomic data set that incorporated the most recent socioeconomic data restructured to best represent the future demographic makeup of the Minneola study area. The Minneola socioeconomic data was formatted for use with the refined Minneola FSUTMS model. The refinements to the Minneola FSUTMS model network are described in detail in the next section.

Network Modifications

Two model network alternatives were produced for the Minneola Ridge Area-Wide Traffic Study. Alternative one included the future road network with and interchange on the Florida Turnpike (SR 91) approximately six miles north of the SR 50 interchange. Alternative two included the future road network without this interchange. As previously mentioned, the Minneola model network was refined using a FSUTMS model developed from previous studies. Both alternatives were developed from the same model. The model process was illustrated previously in Figure 2-1 (Page 2-2). Appendix 2-A contains model network plots of the original model network and the two Minneola alternatives.

The first refinement made to the model involved adding segments that represented the future road network in the Minneola area. The future road network was provided by County Staff and represents funded and unfunded projects from the Lake County 2005-2009 Transportation Work Program. The only difference between the alternatives in the initial model networks was the interchange on the Florida Turnpike and the configuration of access across the Turnpike. The new road segments that were added were assumed to have a FSUTMS area type of 33. An area type of 33 is defined as transitioning areas/urban areas over 5,000 population. The collector roads added were assumed to have a FSUTMS facility type of 42 or 43. Facility types of 42 and 43 are defined as major local undivided roadways. Appendix 2-A contains model network plots of the area types and facility types for the Alternatives.

The second refinement entailed the creation of centroid connectors. Centroid connectors represent the TAZ's within the travel demand model. Again, each TAZ contains socioeconomic data variables. The FSUTMS model uses these variables to forecast travel demand on the future network. TAZ's are usually bounded by roads or geographic features, such as water bodies. Therefore, adding the future road network to the model required the modification of the existing TAZ boundaries. New centroid connectors were added to the model to represent these new TAZ's and they correspond with the socioeconomic data set that was discussed in the previous section.

CHAPTER 3: ANALYSIS

Introduction

This chapter documents the results of the two FSUTMS network alternatives based on the methodology provided in Chapter 2. Alternative 1 included the future road network with an interchange on the Florida Turnpike (SR 91) approximately six miles north of the SR 50 interchange. Alternative 2 included the future road network without this interchange. This analysis is discussed below and includes the forecast number of lanes, level of congestion, volumes, and the anticipated cost of each alternative.

Number of Lanes and Improvements

The future number of lanes and improvements for each alternative was forecasted based on the use of FSUTMS travel demand model forecasts and professional judgment. Figure 3-1 illustrates the number of lanes and improvements for Alternative 1 with the interchange on the Florida Turnpike while Figure 3-2 illustrates the number of lanes and improvements for Alternative 2 without the interchange. These Figures illustrate the needed improvements using the original future number of lanes network. These improvements reflect the anticipated capacity improvements required to meet the forecast travel demand for each alternative. The improvements illustrated in the Figures are categorized by the following;

- No Change – indicates no improvement required to an existing roadway in the network.
- New - indicates the required construction of a new road.
- Improved - indicates a capacity enhancement that results in an increase of the number of lanes from the existing conditions.
- Reconstructed - indicates the reconstruction an existing rural roadway to meet current standards for urban roadways.

Both alternatives identify the need for new major roadways. These new roadways include roadways that are included in the County 2005-2009 Transportation Program that includes programmed and funded, programmed and unfunded, or unprogrammed roadways. These roadways are summarized below;

- Plaza Collina Reverse Frontage Road from South Greater Hills Blvd to the Orange County Line. (Unprogrammed)
- Hancock Road North Extension C-1354 from C-50, north on Turkey Farm Road to Grassy Lake Road and west to US-27, Phase I of II. (Programmed and Unfunded)

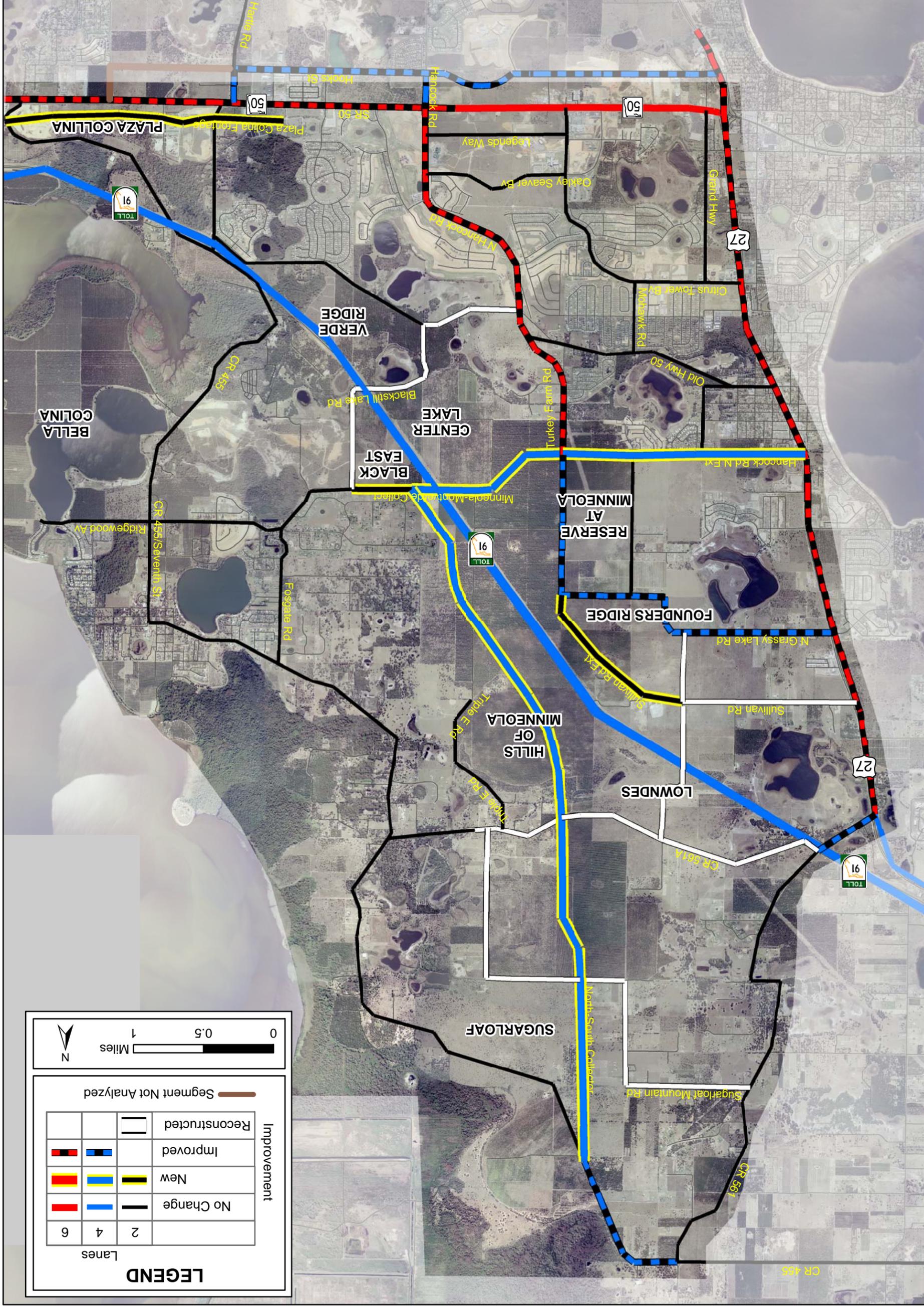


MINNEOLA RIDGE AREA-WIDE TRAFFIC STUDY

Alternative 2: Without Turnpike Interchange

Future Number of Lanes and Improvements

Figure 3-2



- Minneola-Montverde Collector from North Hancock Road Extension to Blackstill Lake Road C-1850 (Programmed and Unfunded)
- Fosgate Road C-1860/Blackstill Lake Road C-1757 from intersection to new Florida Turnpike Interchange (Programmed and Unfunded)
- North-South Collector from proposed Florida Turnpike interchange to CR 455 (Unprogrammed).
- Sullivan Road Extension from Grassy Lake Road to Turkey Farm Road (Programmed and Unfunded)

The most obvious difference between the two alternatives is the new Turnpike interchange approximately six miles north of the existing SR 50 interchange. This new interchange creates an alternative north-south corridor when combined with N. Hancock Road and the new North-South Collector. Without the interchange more travel demand will be likely on N. Hancock Road, N. Hancock Road Extension, Minneola-Montverde Collector, and the North-South Collector. This increased travel demand results in the need for additional capacity improvements to the non-Turnpike alternative on the following roadways:

- N. Hancock Road is forecasted to require 6 lanes in Alternative 2, compared to 4 lanes in Alternative 1.
- N. Hancock Road Extension and the Minneola-Montverde Connector forecasted to require 4 lanes in Alternative 2, compared to 2 lanes in Alternative 1.
- North-South Collector from Fosgate Road to the new turnpike interchange is forecasted to require 4 lanes in Alternative 2, compared to 2 lanes in Alternative 1.

In summary, both network alternatives illustrate the demand for an additional north-south and east-west corridor. Alternative 1, based on the location of the new turnpike interchange, distributes trips more evenly across the network and thus requires less extensive capacity improvements. The Turnpike interchange creates a new distribution point for using the Turnpike for regional vehicle trips that would otherwise be forced to use US 27 or SR 50. This interchange combined with N. Hancock Road and the North-South Collector creates alternative north-south corridor and subsequently provides viable east-west alternatives to SR 50. Alternative 2 places additional travel demand from SR 50 onto N. Hancock Road, N. Hancock Road Extension, and the Minneola-Montverde Collector. This additional travel demand results in the need for additional lane capacity improvements.

Level of Congestion

The future level of congestion compares the volume of a specific roadway to its maximum service volume. The forecasted volumes were derived from the FSUTMS travel demand models developed for each alternative. The maximum service volume for each roadway is derived from the 2002 FDOT Quality Level of Service Handbook's Generalized Daily Level of Service Volume Tables. These tables summarized the maximum service volumes for a given level of service based on the roadway characteristics. For this study, a level of service standard of C was used for the Florida Turnpike. All other roads were assumed to have a level of service standard of D. Table 3-1 summarized the generalized service volumes used in calculating the level of congestion.

Table 3-1: Generalized Maximum Service Volumes

Facility Type	Area Type	Facility Type Description	Area Type Description	Maximum Service Volume (@ Los D) ¹			
				2 Lanes	4 Lanes	6 Lanes	8 Lanes
21	33	Divided Arterial Unsignalized (55mph)	Transitioning	13,600	29,300	44,100	67,800
22	21	Divided Arterial Unsignalized (45mph)	CBD Fringe	14,600	31,100	46,800	
22	51	Divided Arterial Unsignalized (45mph)	Rural	17,300	54,100	81,200	
22	52	Divided Arterial Unsignalized (45mph)	Rural	17,300	54,100	81,200	
23	21	Divided Arterial Class 1	CBD Fringe	16,400	35,700	53,500	
23	33	Divided Arterial Class 1	Transitioning	15,500	34,200	51,400	
23	52	Divided Arterial Class 1	Rural	13,900	29,400	44,200	
41	33	Major Local Divided Roadway	Transitioning	13,600	29,300	44,100	
42	33	Major Local Undivided Roadway with Turn Bays	Transitioning	13,600	29,300	44,100	
43	31	Major Local Undivided Roadway without Turn Bays	Transitioning	13,600	29,300	44,100	
43	33	Major Local Undivided Roadway without Turn Bays	Transitioning	13,600	29,300	44,100	
43	51	Major Local Undivided Roadway without Turn Bays	Rural	17,300	54,100	81,200	
43	52	Major Local Undivided Roadway without Turn Bays	Rural	17,300	54,100	81,200	
45	21	Other Local Undivided Roadway with Turn Bays	CBD Fringe	14,600	31,100	46,800	
45	31	Other Local Undivided Roadway with Turn Bays	Transitioning	13,600	29,300	44,100	
45	33	Other Local Undivided Roadway with Turn Bays	Transitioning	13,600	29,300	44,100	
45	52	Other Local Undivided Roadway with Turn Bays	Rural	17,300	54,100	81,200	
46	33	Other Local Undivided Roadway without Turn Bays	Transitioning	13,600	29,300	44,100	
46	52	Other Local Undivided Roadway without Turn Bays	Rural	17,300	54,100	81,200	
92	51	Other Freeway Toll Facility	Rural		47,900 ⁽²⁾	73,900 ⁽²⁾	
92	52	Other Freeway Toll Facility	Rural		47,900 ⁽²⁾	73,900 ⁽²⁾	

1) Source: 2002 FDOT Quality Level of Service Handbook.

2) Maximum Service Volume at Level of Service C

Figure 3-3 illustrates the forecasted level of congestion for Alternative 1 with the interchange on the Florida Turnpike. Figure 3-4 illustrates the same for Alternative 2 without the interchange. The level of congestion illustrated on the Figures is categorized into four categories; not congested, nearing congestion, congested, and severely congested. For the purposes of this analysis, a volume to maximum service volume ratio of 100 to 125% was considered congested and greater than 125% was considered severely congested.

Upon review, the SR 50 corridor from the Orange County Line to N. Hancock Road is forecasted to be the most congested. Even with the 4-laning of Hooks Street immediately to the South (programmed and funded in the County Transportation

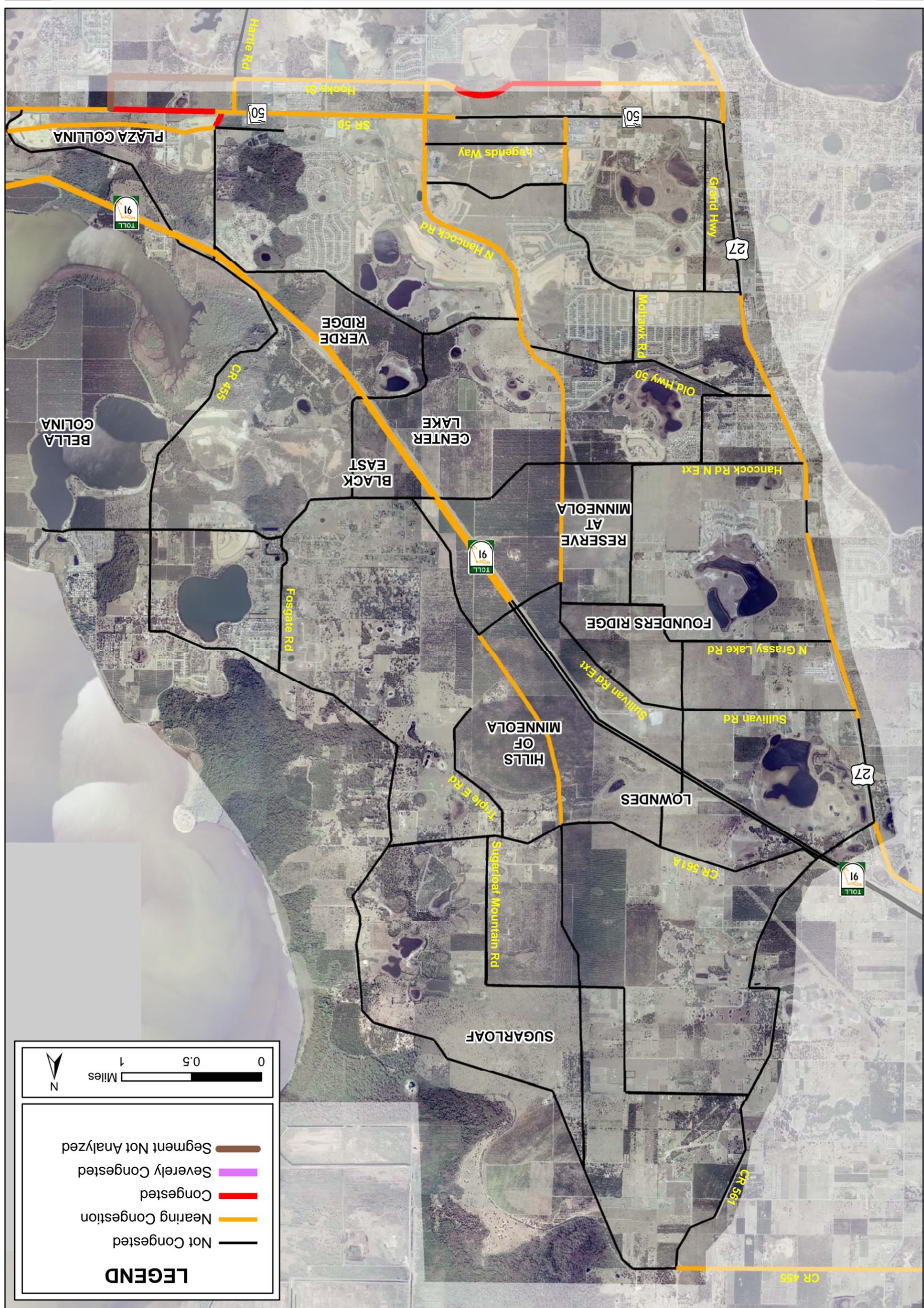


MINNEOLA RIDGE AREA-WIDE TRAFFIC STUDY

Alternative 1: With Turnpike Interchange Future Level of Congestion

Figure 3-3

Figure 3-3



LEGEND

- Not Congested
- Nearing Congestion
- Congested
- Severely Congested
- Segment Not Analyzed

0 0.5 1 Miles



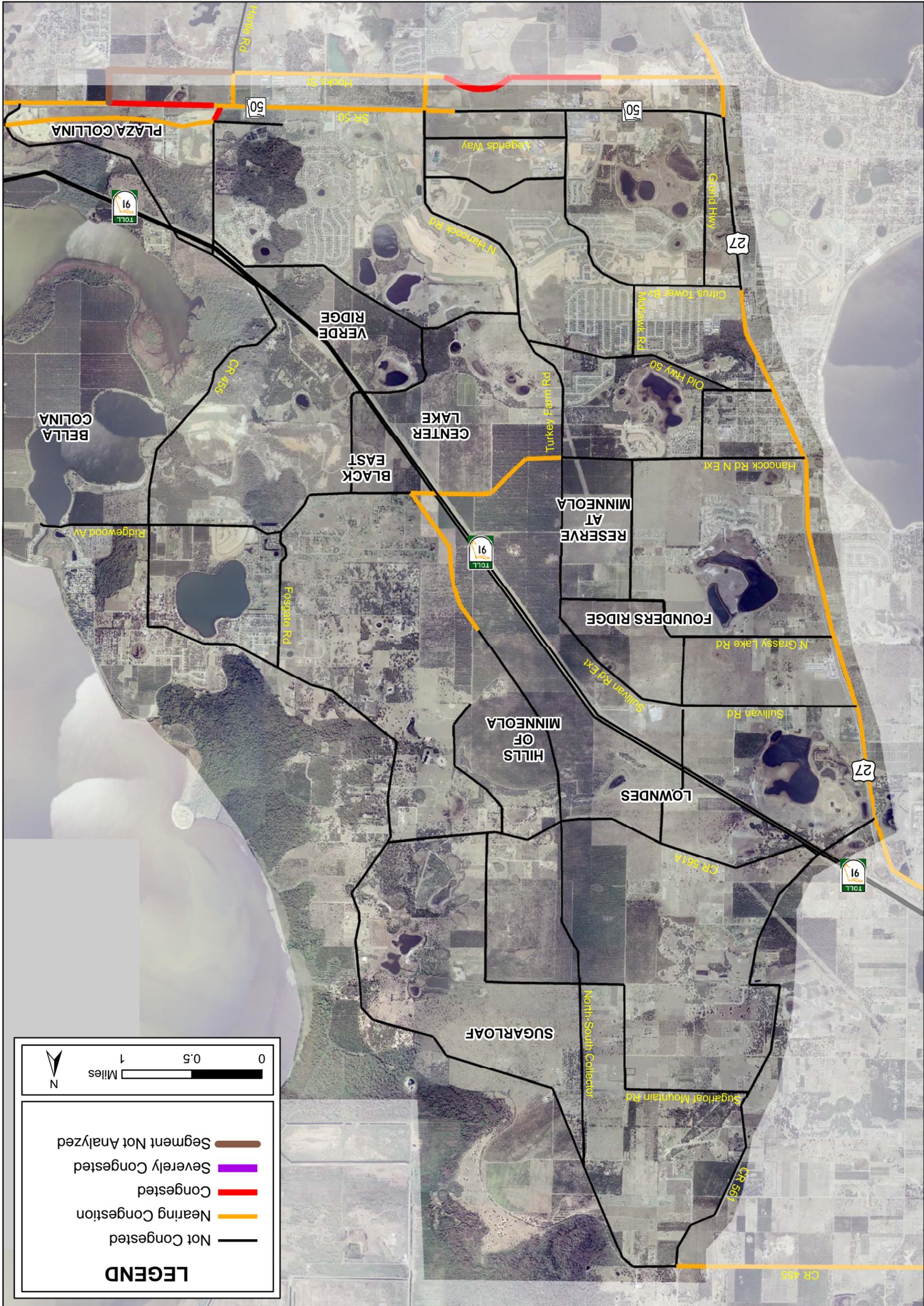
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Alternative 2: Without Turnpike Interchange

Future Level of Congestion

Figure 3-4

Figure 3-4



Program), SR 50 operates near, or in some areas, over capacity. This is the case in both alternatives. As previously mentioned, Alternative 1 creates alternative regional travel routes using the new Turnpike interchange. Even though the new interchange isn't directly diverting trips from SR 50, it does allow for fewer capacity improvements on N. Hancock Road and N. Hancock Road Extension by decreasing the parallel roadway demand. This was evidenced earlier in this Chapter in the number of lanes and improvement Figures (refer to Figures 3-1 and 3-2).

In alternative 1, the Florida Turnpike (SR 91) from the SR 50 interchange to the new proposed interchange displays volume levels nearing congestion. This is to be expected due to the amount of new growth from approved and proposed developments surrounding the Florida Turnpike. It is anticipated that consistent with other areas in the state, that the Turnpike Enterprise would make appropriate capacity improvements to the Turnpike to accommodate travel demand. These improvements would be financed using tolls collected by the users of the Turnpike facilities.

Forecast Volumes

Annual Average Daily Traffic (AADT) was forecasted using the Minneola FSUTMS model developed with the previously discussed refinements. Output model volumes were adjusted from Peak Season Weekday Average Daily Traffic (PSWADT) to AADT using a Model Output Conversion Factor (MOCF) of 0.94, provided by the Florida Department of Transportation. Figure 3-5 illustrates the forecast volumes for Alternative 1 with the interchange on the Florida Turnpike. Figure 3-6 illustrates the same for Alternative 2 without the interchange. These 2025 forecast volumes illustrated in these Figures are grouped in the following volume ranges;

- 0 to 6,000 AADT
- 6,001 to 13,000 AADT
- 13,001 to 28,000 AADT
- 28,001 to 40,000 AADT
- 40,001 to 60,000 AADT
- 60,000 and greater AADT

Volumes ranging from 0 to 13,000 are generally acceptable for 2 lane roads. Most of the interior collector roads in both alternatives fall between this range and are illustrated in the number of lanes Figure as 2 lane roads. As with the number of lanes and improvements discussed in a previous section, the east-west corridor of Hancock Road North Extension and the Minneola-Montverde Collector displays differences between the two alternatives. In Alternative 1, this corridor maintains a volume forecast between 6,000 and 13,000 daily trips. This is due to trips traveling north on N. Hancock Road

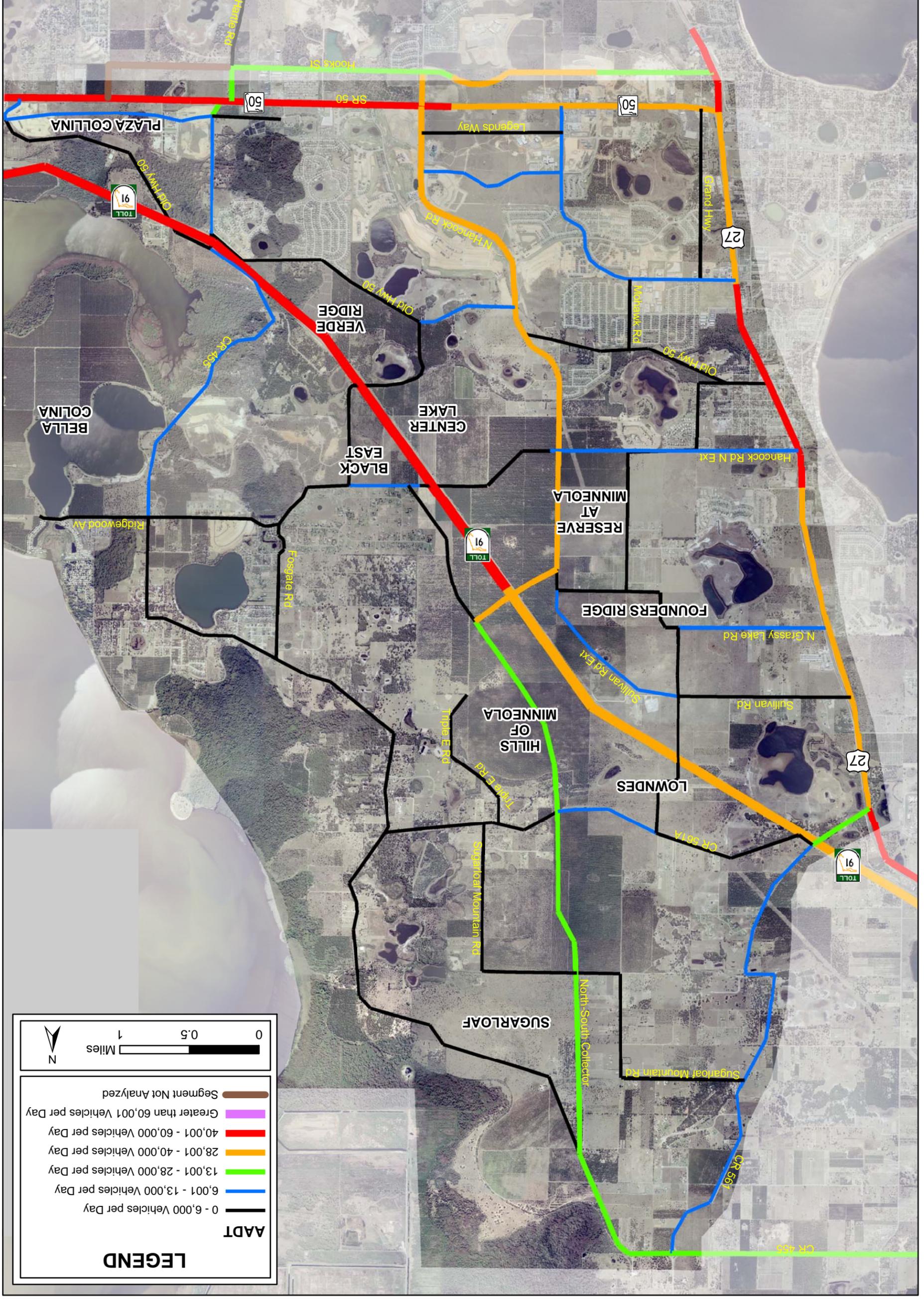


MINNEOLA RIDGE AREA-WIDE TRAFFIC STUDY

Alternative 1: With Turnpike Interchange

2025 Volume Forecast

Figure 3-5





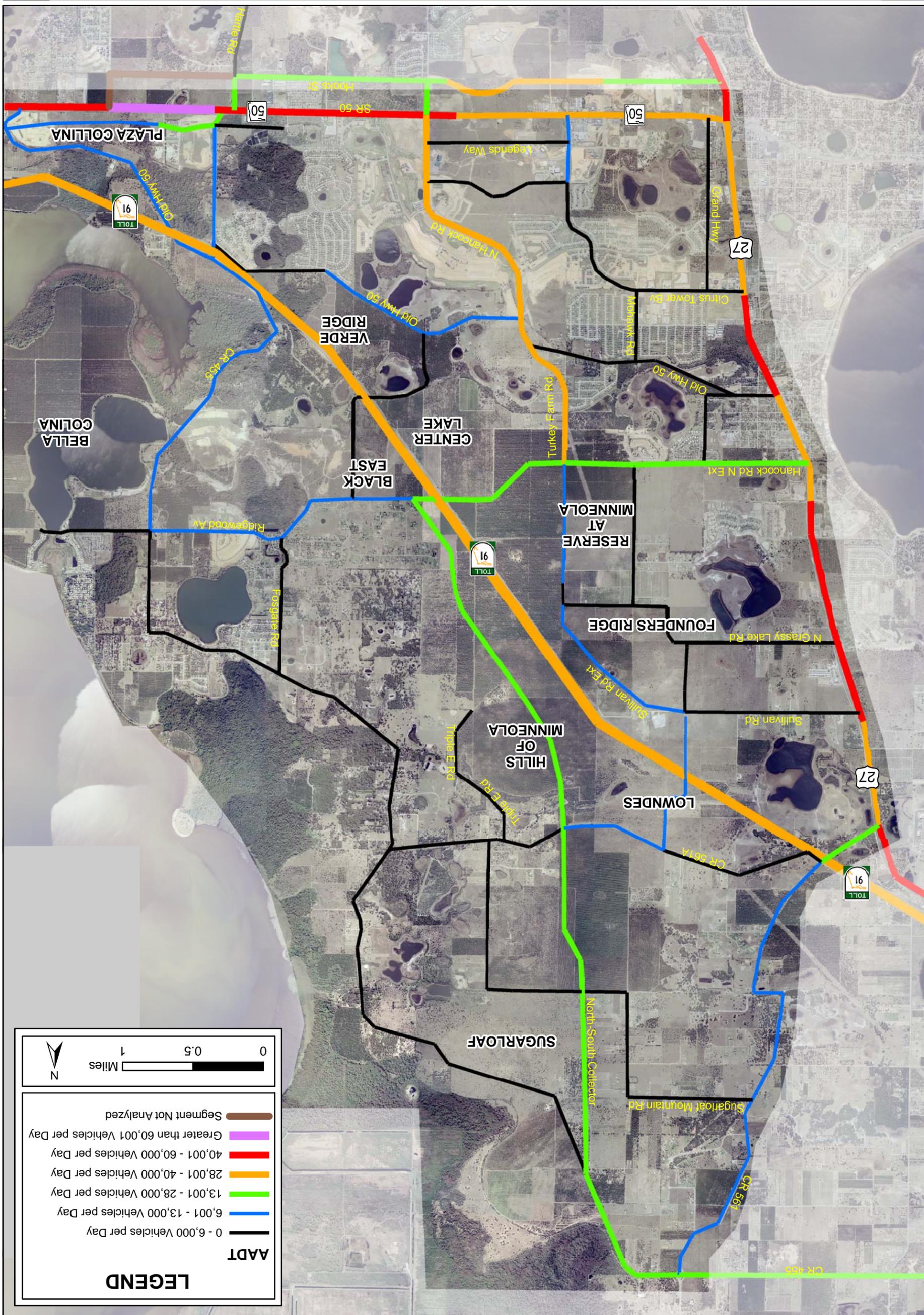
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Alternative 2: Without Turnpike Interchange

2025 Volume Forecast

Figure 3-6

Figure 3-6



being funneled past this east-west corridor in favor of traveling northeast on the Turnpike. On the other hand, Alternative 2 trips on N. Hancock Road are loaded onto this east-west corridor to get to US 27 and the North-South Collector. This results in a volume forecast in the 13,000 to 28,000 daily trip range, which is the generally acceptable range for a 4 lane road.

The impact of the new Turnpike interchange is illustrated in the 2025 volume forecast Figures and is similar to the previous discussion of the level of congestion. The volume forecast in Alternative 1 is in the 40,000 to 60,000 range compared to the 28,000 to 40,000 range in Alternative 2. However, Alternative 2 also shows a volume forecast of greater than 60,000 on SR 50, which would likely result in a deficient level of service for a 6-lane road. The diversion of trips from SR 50 onto the turnpike is apparent in Alternative 1, where SR 50 volume forecasts are less than 60,000 vehicles per day.

The flow of future volume can be viewed in these Figures. A majority of the forecasted volume in both alternatives is accommodated by SR 50, US 27, and the Florida Turnpike. The key differences when comparing alternatives is the Hancock Road N. Extension, in which Alternative 1 vehicle trips use the new Turnpike interchange to travel north and Alternative 2 vehicle trips use the Hancock Road N. Extension to go to/from north on US 27. It is also important to note the forecast volume decrease on Ridgewood Avenue in Montverde in Alternative 1 compared to Alternative 2. An increased in volume is evidence on this corridor in Alternative 2 without the Turnpike interchange.

Potentially Future Un-addressed Capacity Demands and other Deficiencies

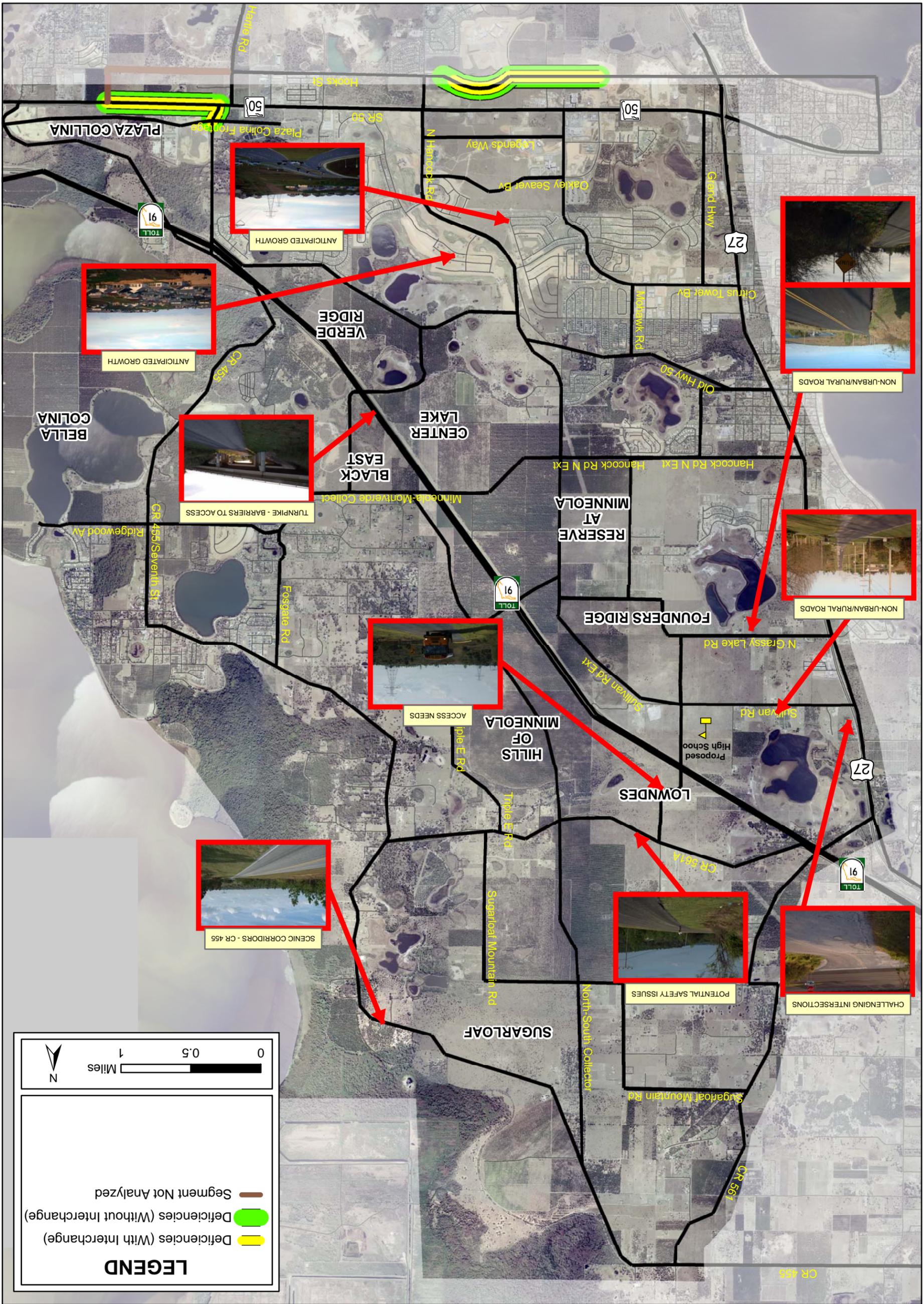
Even with the improvements outlined in the previous sections there are some sections of roadways that will be deficient in terms of capacity. Potential safety issues, barriers to access, and existing rural roadways that would result in sub-standard conditions under urban travel demands will also need to be addressed to better accommodate future growth. Figure 3-7 illustrates the potentially location of several future capacity deficiencies and potentially future sub-standard roadways identified in this study.

Sections of SR 50 and Hooks Street were identified as potentially being capacity deficient in the future. These roadways will likely need additional increases in the number of lanes or require an alternative method of capacity enhancement. Intersection approaches to major arterials roads, bike lanes, and school locations are safety issues that should be accommodated for in the future road network as it is developed. Barriers to access which constrain roads and capacity should be reviewed to allow for maximum traffic flow. With the population growth expected for the Minneola area, all of these areas of concern will need to be addressed.

MINNEOLA RIDGE AREA-WIDE TRAFFIC STUDY

Potential Future Un-addressed Capacity Demands and Other Deficiencies

Figure 3-7



LEGEND

- Deficiencies (With Interchange)
- Deficiencies (Without Interchange)
- Segment Not Analyzed

0 0.5 1 Miles

N

Anticipated Costs

The improvement costs for Alternative 1 and Alternative 2 were calculated to provide an estimate of their financial impact. This Chapter summarizes the cost assumptions used to develop the anticipated costs, provides a comparison of the two alternatives, and briefly describes which entity is likely to be financially responsible for specific improvements. It is important to note that the anticipated costs provided in this Chapter do not include costs for the purchase of Right-of-Way. These costs are planning level estimates of construction and design costs. The actual costs for these improvements will not be available until detailed engineering study of each specific roadway is performed.

Cost Assumptions

The improvement costs for each alternative were based on the following assumptions that were reviewed and accepted by County staff which reflect generally accepted costing methodology. As previously illustrated in Figures 3-1 and 3-2, Improvements to the alternatives are grouped into three categories; new roads, improved roads, and reconstructed roads. Once again, it is important to note, these costs do not include the purchase of additional right-of-Way.

- Assumption #1: County road improvement costs were calculated manually using the following unit costs per centerline mile. These costs were applied uniformly without consideration of the improvement category (new, improved, or reconstructed) since it was assumed that these roadways would need to be totally reconstructed. These unit costs per centerline mile were provided by County staff.
 - 2 Lane improvement = \$1,056,000 per centerline mile
 - 4 Lane improvement = \$3,168,000 per centerline mile
 - 6 Lane improvement = \$5,280,000 per centerline mile

- Assumption #2: State road improvement costs are derived Florida Department of Transportation (FDOT) Work Plan. These costs were calculated for construction cost only and do not include Right-of-Way. The individual segment centerline miles for the Minneola improvements were divided by the total centerline miles for these FDOT projects to calculate a length ratio per project. These ratios were then multiplied by the total FDOT cost in order to approximate the individual segment cost. The total FDOT costs for the State roads and an example segment cost calculation are provided below.

- SR 50 from West of Hancock to Orange County Line (3.25 centerline miles) – 4 lane to 6 lane improvement = \$30,139,000
- US 27 from SR 50 to CR 561A (3.06 centerline miles) – 4 lane to 6 lane improvement = \$20,570,000

Example State Road Cost Calculation:

X/Y*Z – where;

X = segment length

Y = total FDOT project length

Z = total FDOT project cost

Link ID 350 – US 27 from CR 561A to S. Grassy Lake Rd. =
 $.24/3.06 * \$20,570,000 = \$1,613,000.$

Link ID 360 – US 27 from S. Grassy Lake Rd. to Washington St. =
 $.80/3.06 * \$20,570,000 = \$5,378,000.$

Link ID 370 – US 27 from Washington St. to Citrus Tower Blvd. =
 $.77/3.06 * \$20,570,000 = \$5,176,000.$

Link ID 380 – US 27 from Citrus Tower Blvd. to SR 50 =
 $1.25 / 3.06 * \$20,570,000 = \$8,403,000.$

- Assumption #3: The calculation of design cost was based on a ratio of the construction cost for each improvement. This ratio was 18 percent of construction costs. The ratio of 18 percent was provided by County staff and applied uniformly for both County and State improvements.
- Assumption #4: Improvement costs were estimated for the Turnpike interchange and underpass improvements at Fosgate Road and CR 561. An estimate for the Turnpike interchange was provided by the Florida Turnpike Authority ranging from \$10,000,000 to in excess of \$40,000,000. The cost difference for the Fosgate Rd. underpass in the alternative 2 is due to potential future capacity enhancement. For this study the following cost estimates were used;
 - New Florida Turnpike Interchange = \$20,000,000
 - Fosgate Rd. Underpass = \$2,000,000 in Alternative 1 and \$4,000,000 in Alternative 2.
 - CR 561 Underpass = \$1,200,000

Comparison of the Alternatives

At first glance, the total cost of Alternative 1 and Alternative 2 are fairly similar. The most significant difference is the cost of the new Florida Turnpike interchange. Table 3-2 summarizes the improvement costs for Alternative 1 with new Florida Turnpike

interchange while Table 3-3 summarizes these costs for Alternative 2 without the interchange. Both of these tables categorize the improvements by jurisdiction (County, State, and Turnpike). The tables summarize the number of lanes miles (the length of the project limits multiplied by the number of additional lanes) and the total cost. Again, the cost for the improvements does not include the right-of-Way and only reflects an estimate of the construction and design costs based on the planning level cost assumptions previously documented. Appendix 3-A contains a complete listing of project level costs in greater detail.

Table 3-2: Alternative 1 Anticipated Cost Estimate

IMPROVEMENT	LANE MILES	COST
COUNTY		
New	37.8	\$30,281,000
Improved	45.5	\$14,183,000
Reconstructed	23.6	\$9,895,000
STATE		
Improved	54.5	\$69,396,000
TURNPIKE		
Turnpike Interchange	N/A	\$20,000,000
Fosgate Underpass	N/A	\$2,000,000
CR 561 Underpass	N/A	\$1,200,000
TOTAL	161.44	\$146,955,000

Table 3-3: Alternative 2 Anticipated Cost Estimate

IMPROVEMENT	LANE MILES	COST
COUNTY		
New	41.5	\$35,476,000
Improved	51.5	\$21,684,000
Reconstructed	23.6	\$9,895,000
STATE		
Improved	54.5	\$69,396,000
TURNPIKE		
Turnpike Interchange	N/A	\$0
Fosgate Underpass	N/A	\$4,000,000
CR 561 Underpass	N/A	\$1,200,000
TOTAL	171.12	\$141,651,000

A review of the County road costs indicates that alternative 1 requires fewer new and improved roads, while the same amount of reconstructed roads are needed in both alternatives. This is primarily the result of the proposed Turnpike interchange. More trips, in Alternative 1, travel the Turnpike to the new interchange and are dispersed more evenly over the transportation network. In comparison, Alternative 2 trips are higher on alternative arterial roadways, such as N. Hancock Road and the east-west corridor of Hancock Road N Extension, thus requiring the construction of additional lanes of

capacity. The decreased need for additional capacity in Alternative 1 can be directly contributed to the proposed Florida Turnpike interchange.

The State Road improvement costs are consistent between the two alternatives. State Road costs in this study are derived from the FDOT Work Plan for SR 50 and US 27. As previously identified, the improvements for both of these corridors would require the construction of six lanes.

The most obvious difference between the two alternatives is the new Florida Turnpike Interchange. Based on estimates received from the Florida Turnpike Authority, the planning level cost estimate for the interchange is \$20 million. The underpass improvement costs at Fosgate Road and CR 561 are reconstruction improvements. The Fosgate Road underpass in Alternative 1 is for a reconstructed 2-lane road, where the underpass in Alternative 2 is for a reconstructed for a potential future capacity improvement.

Funding

Similar to the cost of improvements, the funding of these improvements can be categorized by County, State, and Turnpike Enterprise. The two State road projects, SR 50 and US 27, are already programmed in the FDOT Work Plan and therefore funded by the State. Improvements to the County road system would need to be identified and prioritized in the Lake County 2025 LRTP Update. These projects would therefore be funded by the County using Federal and State dollars provided for the Long Range Transportation Plan that is currently in development. Based on information provided by the Turnpike Enterprise, most if not all of the funding required for the proposed Florida Turnpike interchange would be provided by developers and would not use Turnpike funding. Attention is directed to the fact that many of the roadways identified may also be funded directly as developer improvements that are internal to their sites or which are required to directly mitigate their impacts in addition to impact fee funded projects. It is estimated that approximately 50 percent of the design and construction costs identified for County road improvements could be accomplished using impact fees collected within the study area. Thus, in addition to right-of-way dedications by the development community, additional developer roadway improvements will be required to fund the forecasted transportation improvements required for the study area.

CHAPTER 4: SUMMARY OF PUBLIC INVOLVEMENT

Public Meeting

Informing the public of the future transportation needs was important in light of the significant changes that will result to the transportation network in the Minneola Ridge area. A public meeting was conducted to inform the public of the findings and recommendations of the Lake Minneola Ridge Area Traffic Study. This public meeting was advertised to take place on Tuesday, March 16, 2005 from 6:00 pm to 8:00 pm at the Minneola City Hall. Due to overwhelming public attendance, this meeting continued to 10:30 pm to allow for the ability to obtain public comments from each member of the public that identified a desire to speak. Appendix 4-A provides a sample of the Public Meeting flyer that was widely distributed. The Public Meeting was also advertised in local newspapers and the County's Website. The Lake County Public Works department also posted signs similar to one depicted in Figure 4-1 throughout the study area announcing the Public Meeting.

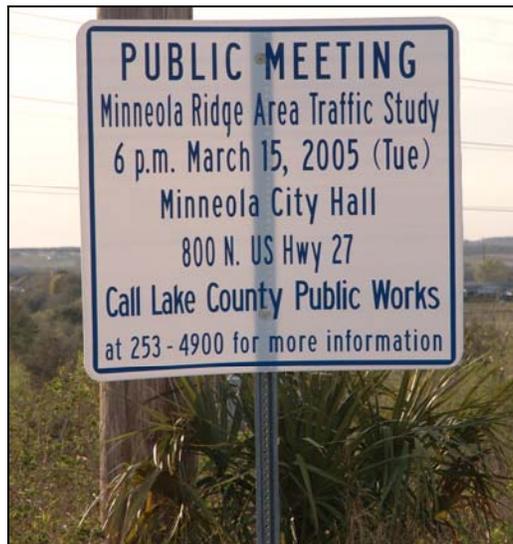


Figure 4-1: Signs were placed throughout the study area informing residents of the area of the Public Meeting.

The Public Meeting included a lobby of museum style graphics of the project similar to the figures provided in this report. Members of the public were encouraged to review these materials prior to the formal presentation to the public. Examples of the public's review of the board materials is provided in Figures 4-2 and 4-3. Members of the County staff and consultant team were available to answer questions from the public.



Figures 4-2 and 4-3: Members of the public reviewed boards of information prior to the formal presentation.

A formal presentation to the public began near the scheduled start of the Public Meeting. This presentation a brief review of the study methodology, but primarily focused on the anticipated development that is forecasted to occur and the transportation network that will be needed to address the future demands. Both alternatives were presented to the public and the network differences and forecasted travel demand were compared. Figure 4-4 highlights part of the presentation to the public.



Figure 4-4: A formal presentation of the study results were provided to the public.

At the conclusion of the formal presentation, attendees who wished to comment on the study were allowed to speak. Due to the volume of speakers, the meeting was extended approximately 2 hours to allow for speakers to conclude there remarks.

Public Comment

When entering the Public Meeting, participants were provided a comment card to allow for them to provide written comments regarding their concerns relative to the information that was being presented at the meeting. Appendix 4-B contains a sample comment card. Extensive written comments were provided and these comments are summarized in detail in Appendix 4-C. The extensive public comments from the speakers following the formal presentation are summarized in detail in Appendix 4-D.

In general, the public comments covered a wide range of topics. Many of these topics did not directly relate to the transportation issues or demands that were presented in the workshop. A large majority of the comments related directly to concerns about growth in the area and the potential to destroy the existing character and quality of life in the area that is rural. Many participants were surprised to learn about the number of proposed developments and the quality of development that was already approved. Concerns were also addressed relative to adequate classroom space and the proposed location of future school sites, specifically the proposed high school site to be located at the northwest quadrant of Sullivan Road and North Grassy Lake Road. Significant concerns were identified relative to the appropriateness of increasing traffic demands on Sullivan Road due to impacts on residents and the unique topography that the roadway traverses.

In general both the written and spoken public comments can be summarized as follows:

- Land Use Issues
 - Desire to Preserve Rural Character
 - Encourage Smart Growth
 - Desire for Low Densities
 - Concerns over Rate/Quantity of Growth
 - Concerns over reduced Property Values
- Transportation Issues
 - Concerns over Alignments and Location of Roadways (Especially Sullivan Road)
 - Safety (Increased travel on rural roadways)
 - Bike Lanes and Sidewalks (Desire to have facilities constructed when roads are improved)
 - Funding (Costs to construct the required roadway network)
- Other Issues
 - Deficient School Capacity
 - School Site Locations (Especially the High School Site)
 - Water Supply
 - Wildlife Impacts

It was beyond the scope of this study to address the land use and community character concerns that were raised from the public meeting. Specific roadway alignment issues should be addressed during the preliminary alignment studies conducted for specific corridors.

CHAPTER 5: SUMMARY FINDINGS

The development of this study highlighted the relative need for significant transportation network improvements in the study area based on a twenty year projection. In some cases these improvements can be made incrementally over time, while other improvements such as bringing underutilized rural roadways up to a higher design standard for safety purposes need to be implemented more quickly.

Base on the technical analysis and feedback received from the public, the following recommendations are provided:

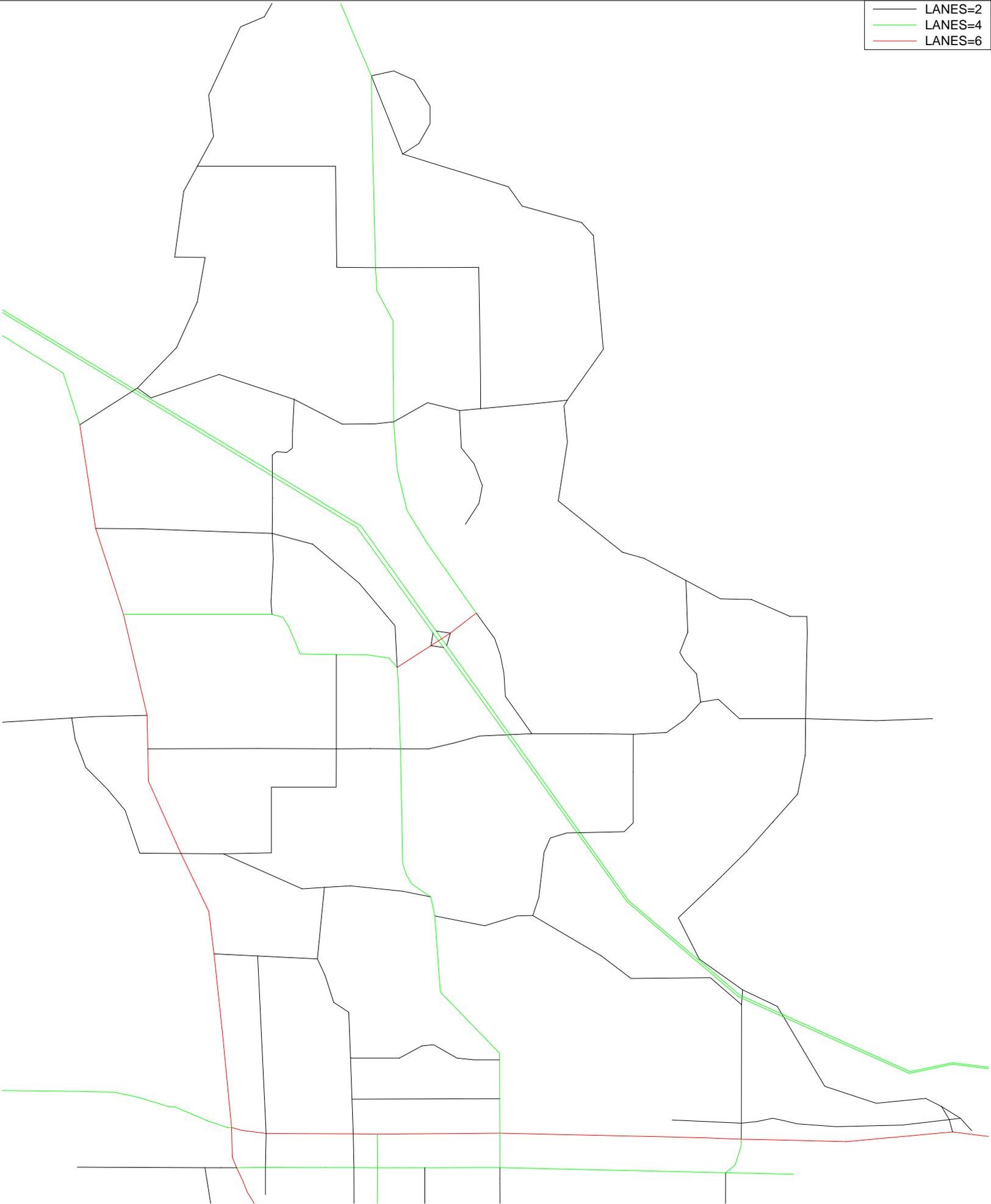
- 1) Preference should be given to the development of the network alternative that includes the potential Turnpike interchange.
- 2) Attention is directed to the fact that this study was conducted based on several assumptions regarding the land uses that will result from the implementation of either approved developments or developments that are expected to occur within the study area in the future. This study also assumes that specific programmed transportation improvements will be constructed. If future conditions change and there are significant changes in potential development or portions of the transportation network, consideration should be given to revising the technical analysis contained within this report.
- 3) The County should take steps to work with the Turnpike Enterprise and potential property owners to facilitate the planning and construction of a new Turnpike interchange within the study area. The County needs to encourage this by use of proactive communication among the parties involved or through the development approval process. The County needs to ensure that planning takes place to allow for this new interchange to connect with the overall transportation network to ensure that the interchange address overall regional travel demand.
- 4) Provisions should be made to protect the constructability of the new corridors identified in this report and to prevent new development from blocking the construction of these corridors in the future. These provisions may include, but are not limited to: developer dedications of right-of-ways, land acquisition by the county, and adoption of arterial and collector spacing standards in the County's Comprehensive Plan and Land Development Regulations.

- 5) The County should identify specific and critically deficient existing roadway design issues that are inconsistent with higher volumes of traffic created by developments that are expected to occur. These locations should be improved/mitigated prior to significant construction of new development takes place.
- 6) Where feasible, the County should consider moving forward with preliminary engineering studies on existing and future roadway corridors to identify the exact alignment and intersection geometrics required. These studies should also address right-of-way needs and provide refined total cost estimates. These studies should identify alignments and design treatments to balance costs and potentially adverse impacts to the public. Additional planning may be required for adding or removing corridors in this area.
- 7) The County should routinely review their Transportation Impact Fee schedule to ensure that the fee adequately address the anticipated transportation costs of new roadways. It is possible that the preliminary engineering studies may indicate that the cost to build new roadways (due to topography or other constructability issues) may be greater than what it has cost to fund previous road construction projects.
- 8) The County should consider accommodating future east-west travel demand on roadways other than the existing alignment of Sullivan Road due to the proximity of residences to the roadway and the horizontal alignment of the roadway corridor. This may include diverting traffic further to the north or south or the construction of a new alignment.
- 9) Lake County School Board should carefully coordinate with the County on the access to and from future school sites to ensure that adequate access is provided to these locations and to mitigate adverse impacts to the surrounding community.
- 10) The County, surrounding cities, and School Board should continue to inform and outreach to the public to keep them informed of future land use, transportation, and school site location decisions.

This study identified recommended transportation network needs for the study area. This information should be carefully considered as a part of future planning decisions or activities within the area. This includes the Long Range Transportation Plan that is currently under development.

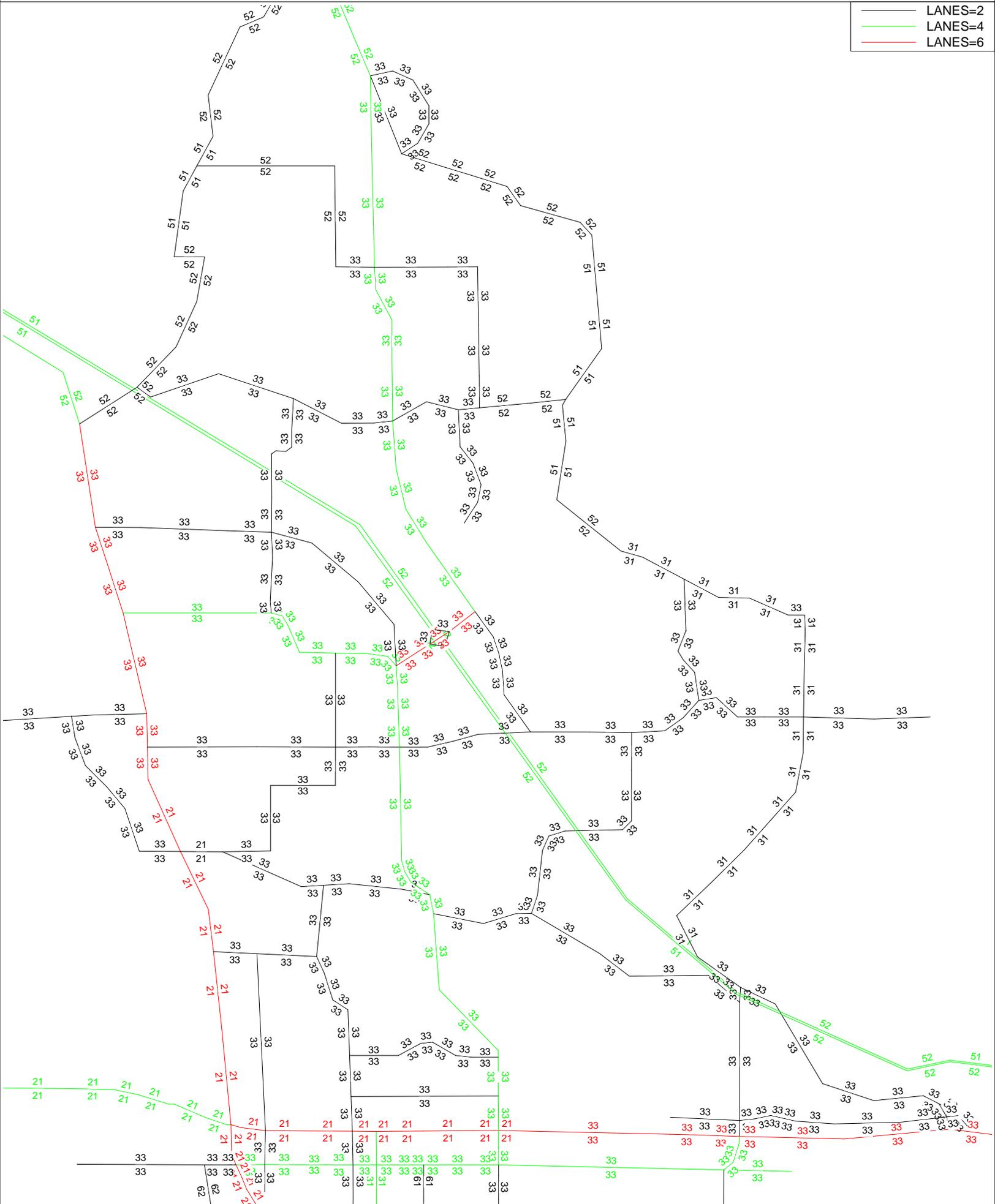
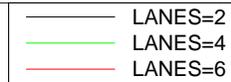
APPENDIX 2-A
FSUTMS Network Plots

Alternative 1 - With Turnpike Interchange Number of Lanes



Alternative 1 - With Turnpike Interchange

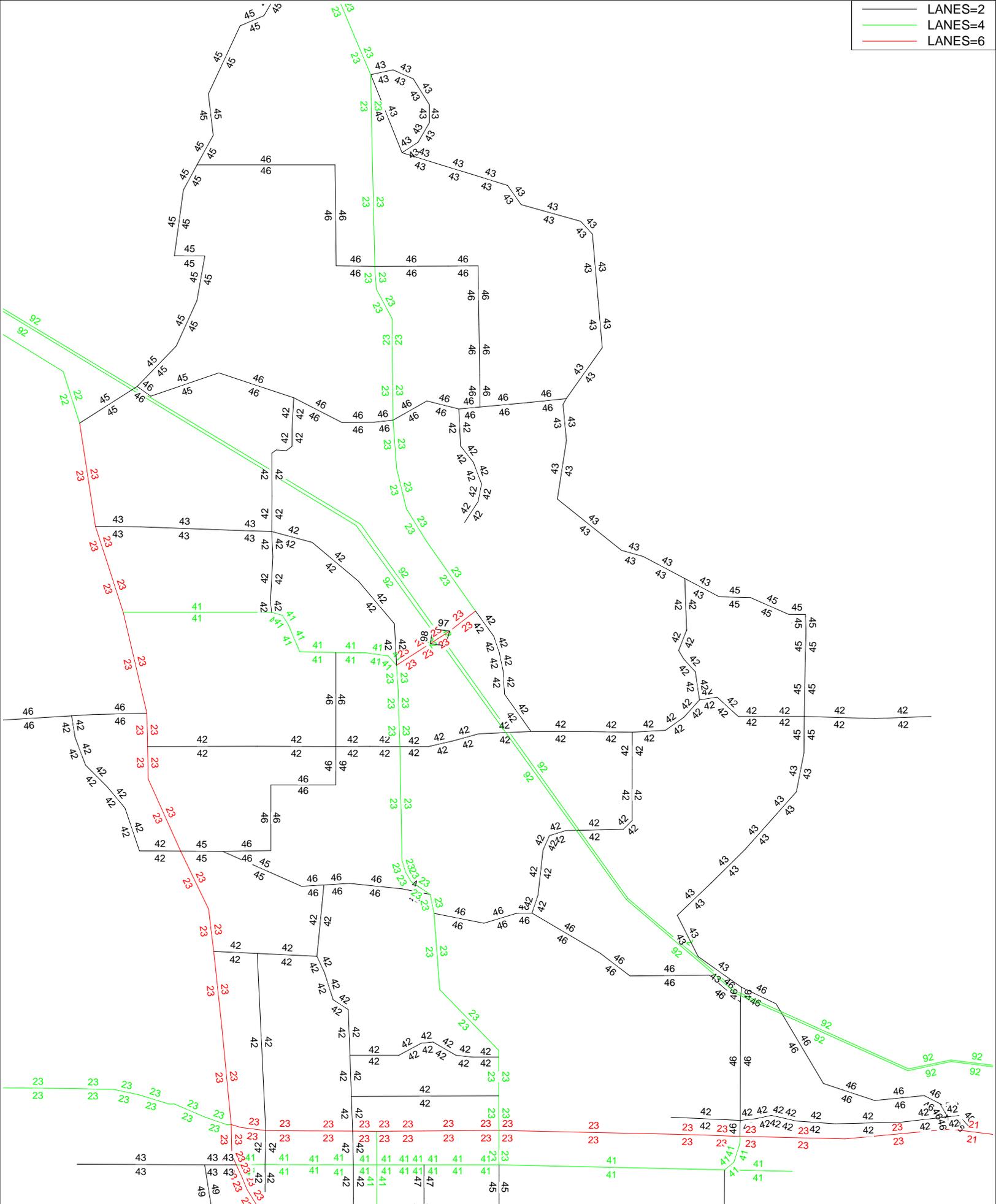
Number of Lanes - Area Type Annotated



Alternative 1 - With Turnpike Interchange

Number of Lanes - Facility Type Annotated

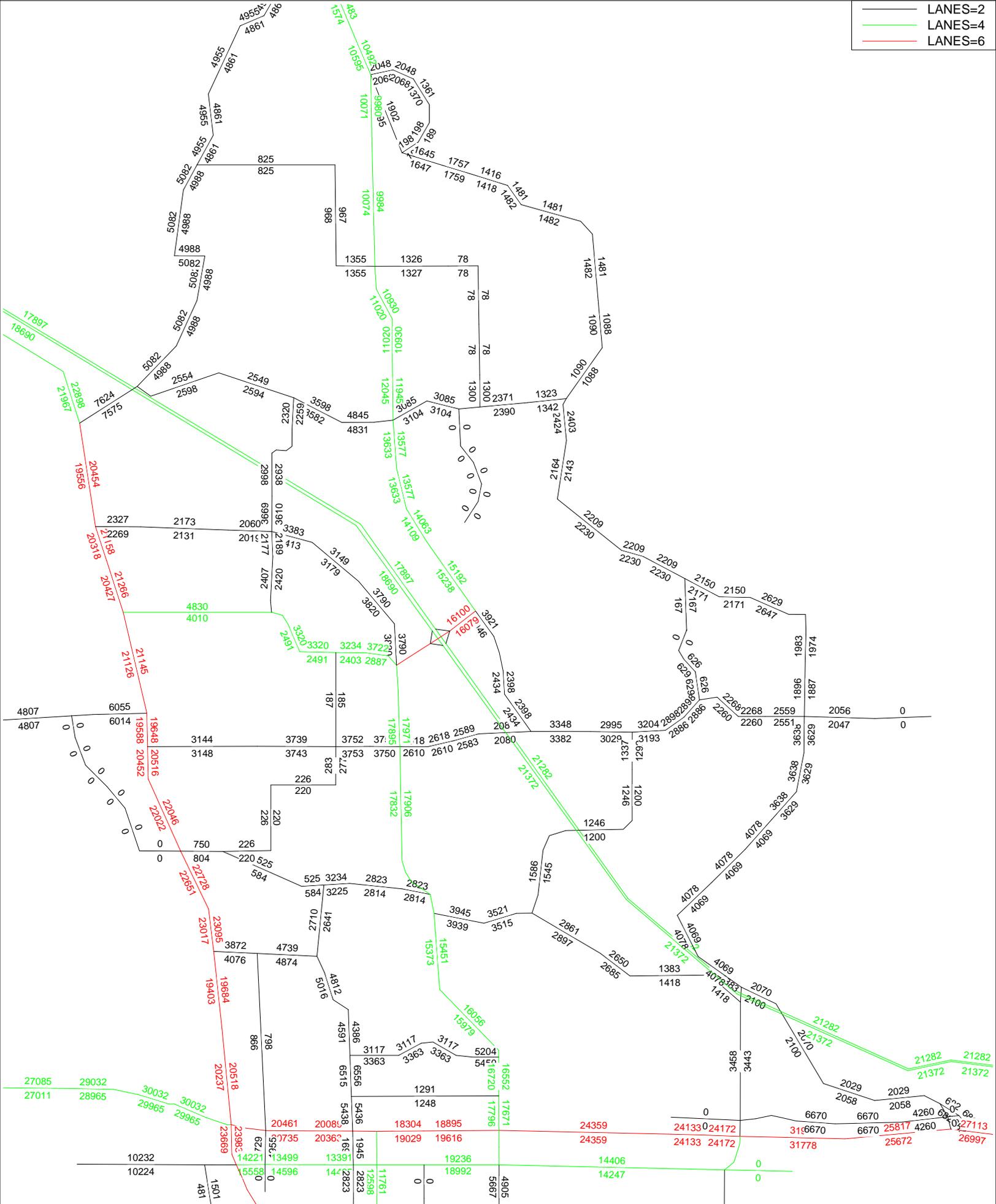
- LANES=2
- LANES=4
- LANES=6



Alternative 1 - With Turnpike Interchange

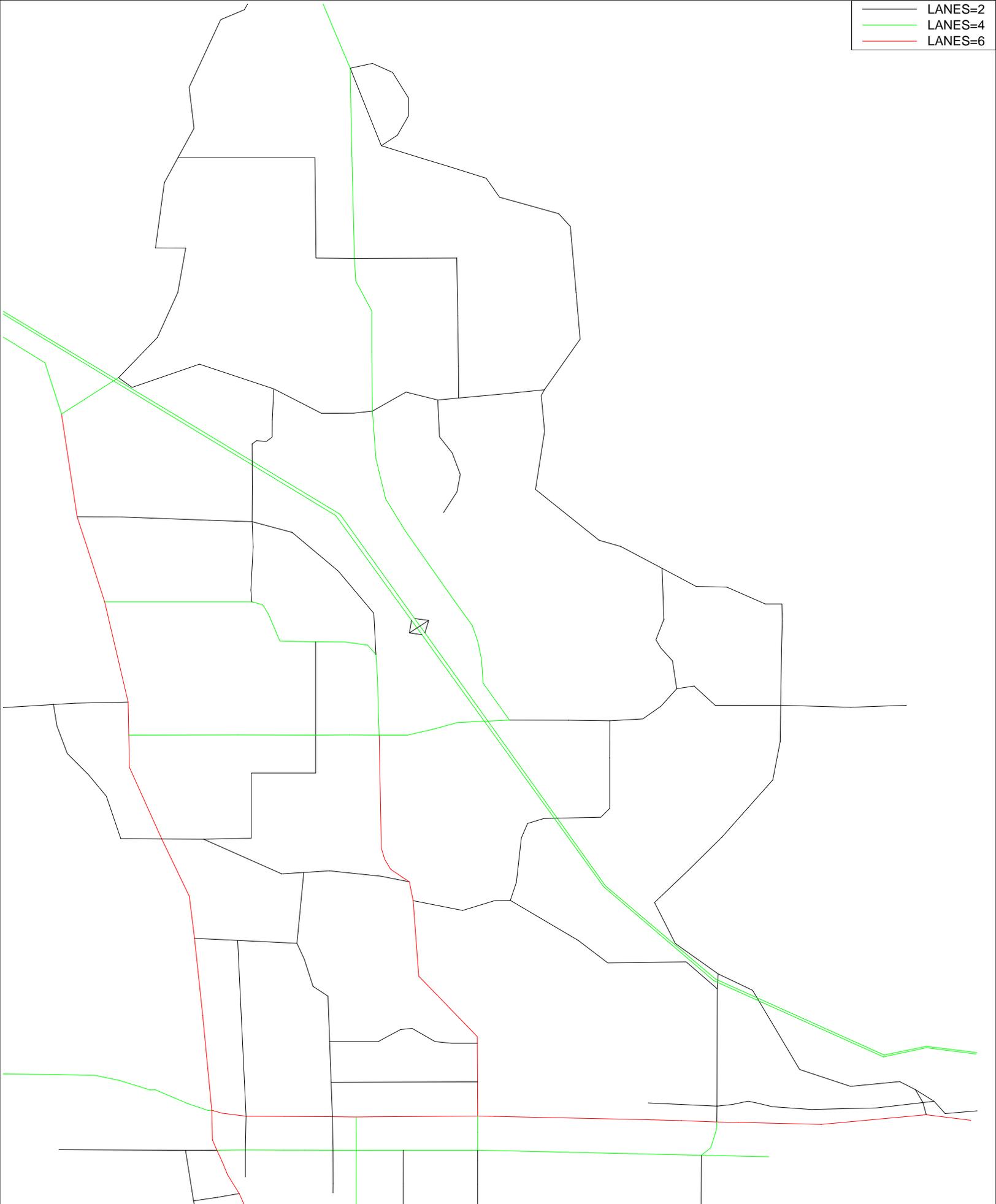
Number of Lanes - Volumes Annotated

- LANES=2
- LANES=4
- LANES=6



Alternative 2 - Without Turnpike Interchange

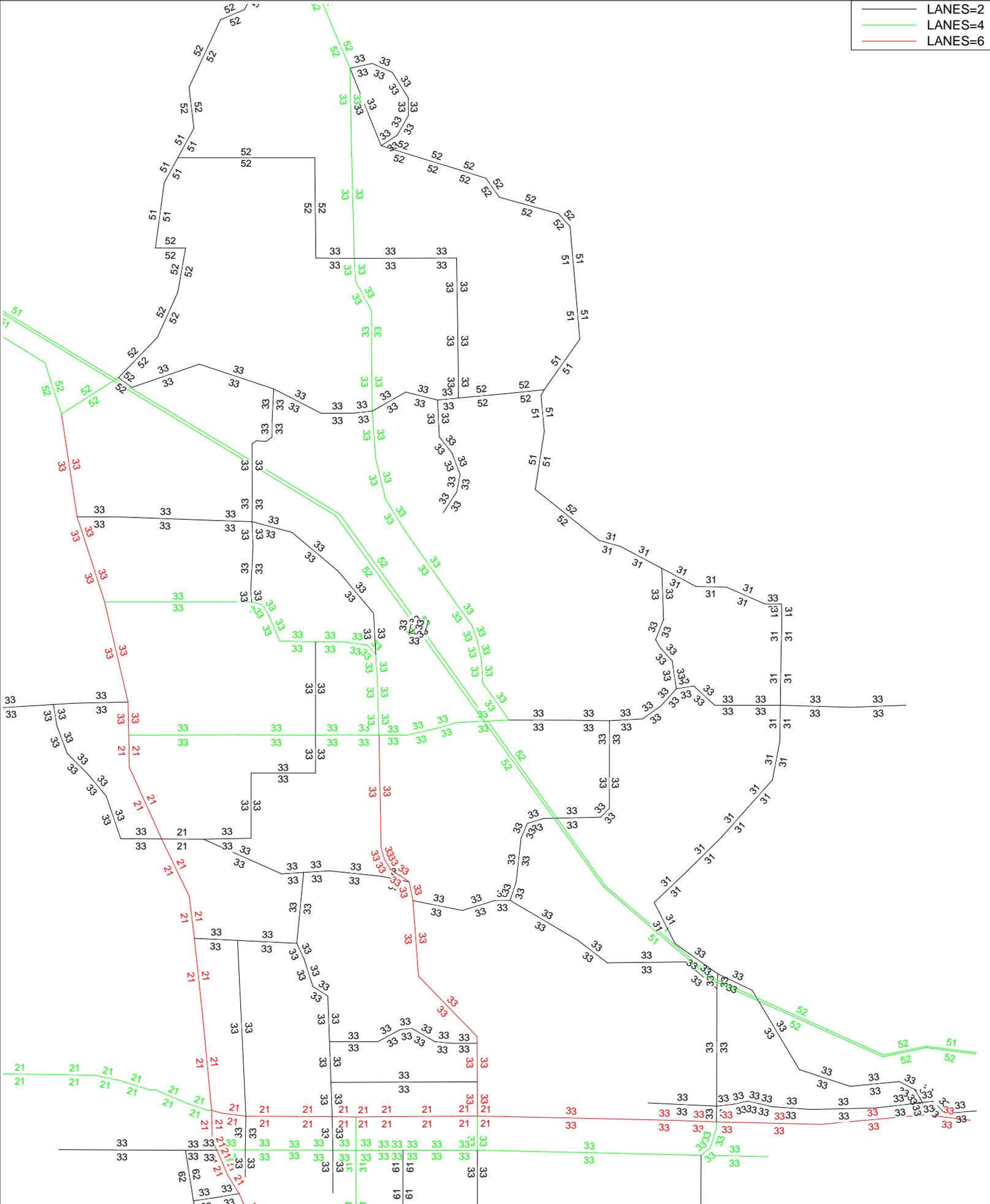
Number of Lanes



Alternative 2 - Without Turnpike Interchange

Number of Lanes - Area Type Annotated

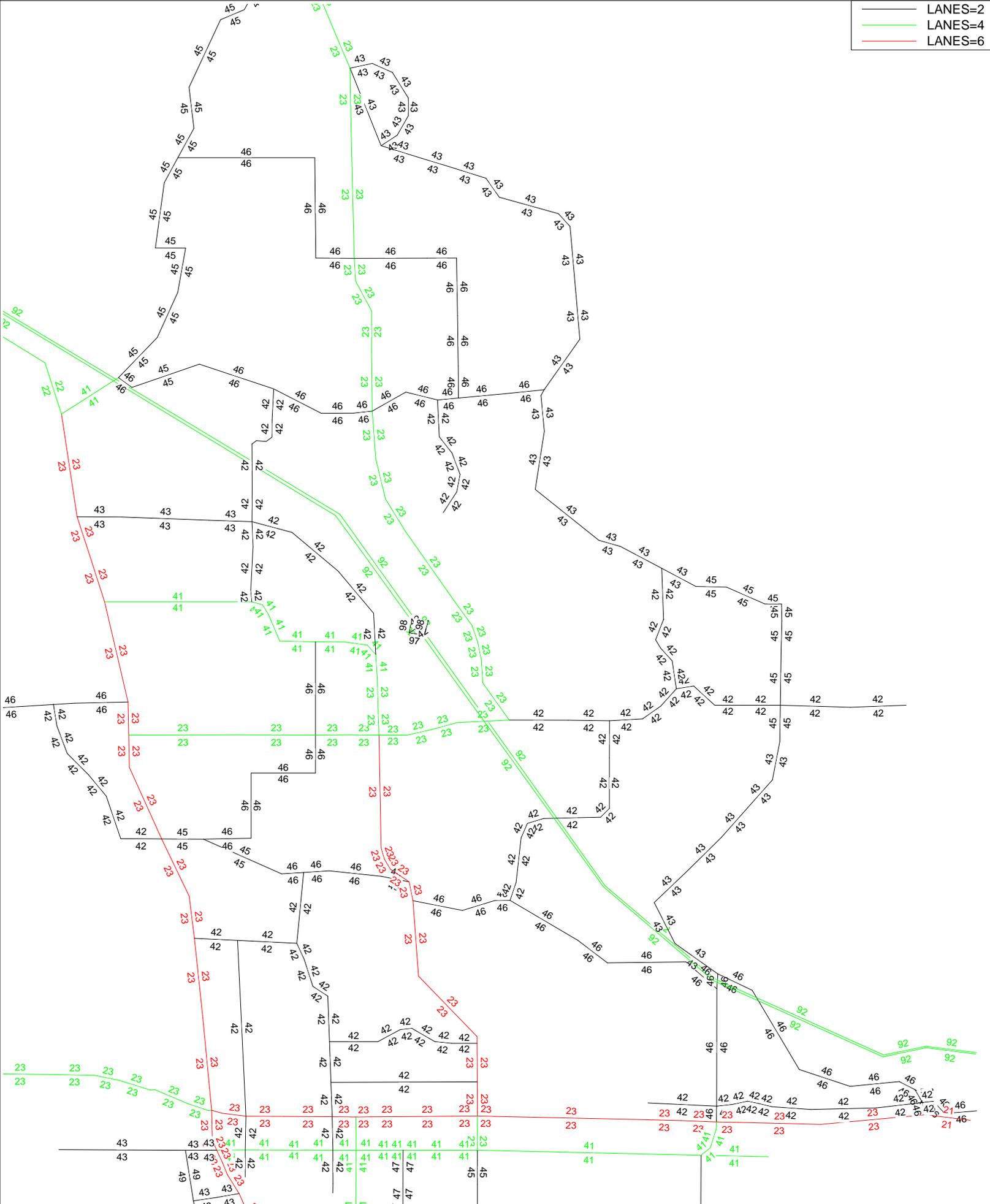
- LANES=2
- LANES=4
- LANES=6



Alternative 2 - Without Turnpike Interchange

Number of Lanes - Facility Type Annotated

- LANES=2
- LANES=4
- LANES=6



APPENDIX 3-A
Project Level Costs

Appendix 3-A
Minneola Ridge Area-Wide Traffic Study
Anticipated Project Costs

LINK ID	ON	FROM	TO	Jurisdiction	Length	Existing Lanes	With Interchange			Without Interchange		
							Lanes	Cost	Improvement	Lanes	Cost	Improvement
1000	Blackstill Lake Rd	Ridgewood Av	Old Hwy 50	County	1.82	2	2	\$1,922,000	Reconstructed	2	\$1,922,000	Reconstructed
1080	Citrus Tower Bv	US 27	Grand Hwy	County	0.31	2	2	\$0	No Change	2	\$0	No Change
1090	Citrus Tower Bv	Grand Hwy	Mohawk Rd	County	0.43	2	2	\$0	No Change	2	\$0	No Change
1030	Citrus Tower Bv	Mohawk Rd	Oakley Seaver Bv	County	0.79	2	2	\$0	No Change	2	\$0	No Change
1040	Citrus Tower Bv	Oakley Seaver Bv	Legends Way	County	0.29	2	2	\$0	No Change	2	\$0	No Change
1050	Citrus Tower Bv	Legends Way	SR 50	County	0.25	2	2	\$0	No Change	2	\$0	No Change
100	CR 455	SR 19	CR 561	County	2.75	2	2	\$0	No Change	2	\$0	No Change
110	CR 455	CR 561	Sugarloaf Circle N	County	1.12	2	4	\$1,396,000	Improved	4	\$1,396,000	Improved
120	CR 455	Sugarloaf Circle N	Sugarloaf Circle S	County	0.60	2	2	\$0	No Change	2	\$0	No Change
130	CR 455	Sugarloaf Circle S	CR 561A	County	2.79	2	2	\$0	No Change	2	\$0	No Change
140	CR 455	CR 561A	Fosgate Rd	County	1.77	2	2	\$0	No Change	2	\$0	No Change
150	CR 455	Fosgate Rd	CR 455/Seventh St	County	0.92	2	2	\$0	No Change	2	\$0	No Change
160	CR 455/Seventh St	CR 455	Ridgewood Av	County	0.73	2	2	\$0	No Change	2	\$0	No Change
170	CR 455	Ridgewood Av	Bella Colina Entrance	County	0.81	2	2	\$0	No Change	2	\$0	No Change
180	CR 455	Bella Colina Entrance	Old Hwy 50 E	County	1.68	2	2	\$0	No Change	2	\$0	No Change
190	CR 455	Old Hwy 50 E	Old Hwy 50 W	County	0.11	2	2	\$0	No Change	2	\$0	No Change
200	CR 455	Old Hwy 50 W	Plaza Colina Frontage	County	0.85	2	2	\$0	No Change	2	\$0	No Change
210	CR 455	Plaza Colina Frontage	SR 50	County	0.11	2	2	\$0	No Change	2	\$0	No Change
240	CR 561	CR 455	Sugarloaf Mountain Rd	County	1.58	2	2	\$0	No Change	2	\$0	No Change
250	CR 561	Sugarloaf Mountain Rd	CR 561A	County	1.98	2	2	\$0	No Change	2	\$0	No Change
255	CR 561	CR 561A	US 27	County	0.49	2	4	\$611,000	Improved	4	\$611,000	Improved
260	CR 561A	CR 561	Grassy Lake Rd	County	1.19	2	2	\$1,257,000	Reconstructed	2	\$1,257,000	Reconstructed
270	CR 561A	Grassy Lake Rd	North-South Collector	County	0.76	2	2	\$803,000	Reconstructed	2	\$803,000	Reconstructed
280	CR 561A	North-South Collector	Triple E Rd	County	0.52	2	2	\$0	Reconstructed	2	\$0	Reconstructed
290	CR 561A	Triple E Rd	Sugarloaf Mountain Rd	County	0.15	2	2	\$0	Reconstructed	2	\$0	Reconstructed
300	CR 561A	Sugarloaf Mountain Rd	CR 455	County	0.62	2	2	\$0	No Change	2	\$0	No Change
720	E Washington St	Grassy Lake Rd	Old Hwy 50	County	0.34	2	2	\$0	No Change	2	\$0	No Change
730	E Washington St	Old Hwy 50	US 27	County	0.30	2	2	\$0	No Change	2	\$0	No Change
490	Florida's Turnpike	Orange Co Line	New Interchange S	Turnpike	4.93	4	4	\$0	No Change	4	\$0	No Change
500	Florida's Turnpike	New Interchange S	New Interchange N	Turnpike	0.13	4	4	\$0	No Change	4	\$0	No Change
510	Florida's Turnpike	New Interchange N	SR 19	Turnpike	6.44	4	4	\$0	No Change	4	\$0	No Change
580	Fosgate Rd	Ridgewood Av	CR 455	County	0.92	2	2	\$0	No Change	2	\$0	No Change
640	Fosgate-Blackstill Collector	New Interchange Rd	Minneola-Montverde Collector	County	0.97	0	2	\$1,209,000	New	4	\$3,626,000	New
1070	Grand Hwy	Citrus Tower Bv	SR 50	County	1.27	2	2	\$0	No Change	2	\$0	No Change
650	Grassy Lake Rd	CR 561A	Sullivan Rd	County	1.06	2	2	\$1,119,000	Reconstructed	2	\$1,119,000	Reconstructed
660	Grassy Lake Rd	Sullivan Rd	N Grassy Lake Rd	County	0.58	2	2	\$612,000	Reconstructed	2	\$612,000	Reconstructed
680	Grassy Lake Rd	Turkey Farm Rd	Hancock Rd N Ext	County	0.67	2	2	\$0	No Change	2	\$0	No Change
690	Grassy Lake Rd	Hancock Rd N Ext	Jack Pine St	County	0.27	2	2	\$0	No Change	2	\$0	No Change
700	Grassy Lake Rd	Jack Pine St	Grassy Lake Rd	County	0.46	2	2	\$0	No Change	2	\$0	No Change
710	Grassy Lake Rd	Grassy Lake Rd	E Washington St	County	0.47	2	2	\$0	No Change	2	\$0	No Change
870	Hancock Rd	SR 50	Hooks St	County	0.25	2	4	\$312,000	Improved	4	\$312,000	Improved
520	Hancock Rd N Ext	US 27	Grassy Lake Rd	County	1.34	0	2	\$1,670,000	New	4	\$5,009,000	New
530	Hancock Rd N Ext	Grassy Lake Rd	Turkey Farm Rd	County	0.45	0	2	\$561,000	New	4	\$1,682,000	New
220	Hartle Rd	SR 50	Unnamed Rd 1	County	0.28	2	4	\$349,000	Improved	4	\$349,000	Improved
230	Hartle Rd	Unnamed Rd 1	Island Bv	County	0.90	2	2	\$0	No Change	2	\$0	No Change
1230	Hooks St	US 27	Grand Hwy	County	0.21	2	4	\$262,000	Improved	4	\$262,000	Improved
1240	Hooks St	Grand Hwy	Citrus Tower Bv	County	0.63	2	4	\$785,000	Improved	4	\$785,000	Improved
1250	Hooks St	Citrus Tower Bv	Hancock Rd	County	1.04	2	4	\$1,296,000	Improved	4	\$1,296,000	Improved
1260	Hooks St	Hancock Rd	Hartle Rd	County	1.61	2	4	\$2,006,000	Improved	4	\$2,006,000	Improved
1120	Legends Way	Citrus Tower Bv	N Hancock Rd	County	1.05	2	2	\$0	No Change	2	\$0	No Change
550	Minneola-Montverde Collector	Turkey Farm Rd	Fosgate-Blackstill Frontage Rd	County	0.94	0	2	\$1,171,000	New	4	\$3,514,000	New
560	Minneola-Montverde Collector	Fosgate-Blackstill Frontage Rd	Blackstill Rd	County	0.72	0	2	\$897,000	New	2	\$897,000	New
1020	Mohawk Rd	Old Hwy 50	Citrus Tower Bv	County	0.51	2	2	\$0	No Change	2	\$0	No Change
950	N Grassy Lake Rd	US 27	Grassy Lake Rd	County	1.06	2	4	\$1,321,000	Improved	4	\$1,321,000	Improved
670	N Grassy Lake Rd	Grassy Lake Rd	Turkey Farm Rd	County	0.63	2	4	\$785,000	Improved	4	\$785,000	Improved

Appendix 3-A
Minneola Ridge Area-Wide Traffic Study
Anticipated Project Costs

LINK ID	ON	FROM	TO	Jurisdiction	Length	Existing Lanes	With Interchange			Without Interchange		
							Lanes	Cost	Improvement	Lanes	Cost	Improvement
840	N Hancock Rd	Old Hwy 50	Oakley Seaver Bv	County	1.21	2	4	\$1,508,000	Improved	6	\$4,523,000	Improved
850	N Hancock Rd	Oakley Seaver Bv	Legends Way	County	0.28	2	4	\$349,000	Improved	6	\$1,047,000	Improved
860	N Hancock Rd	Legends Way	SR 50	County	0.25	2	4	\$312,000	Improved	6	\$935,000	Improved
970	New Interchange Rd	Turkey Farm Rd	New Interchange Rd W	County	0.28	0	6	\$1,745,000	New	#N/A	\$0	New
980	New Interchange Rd	New Interchange Rd W	New Interchange Rd E	County	0.17	0	6	\$1,059,000	New	2	\$212,000	New
990	New Interchange Rd	New Interchange Rd E	North-South Collector	County	0.23	0	6	\$1,433,000	New	#N/A	\$0	New
610	North-South Collector	CR 455	Sugarloaf Mountain Rd	County	1.37	0	4	\$5,121,000	New	4	\$5,121,000	New
620	North-South Collector	Sugarloaf Mountain Rd	CR 561A	County	1.12	0	4	\$4,187,000	New	4	\$4,187,000	New
630	North-South Collector	CR 561A	New Interchange Rd	County	1.54	0	4	\$5,757,000	New	4	\$5,757,000	New
1100	Oakley Seaver Bv	Citrus Tower Bv	N Hancock Rd	County	1.10	2	2	\$0	No Change	2	\$0	No Change
740	Old Hwy 50	E Washington St	Mohawk Rd	County	0.78	2	2	\$0	No Change	2	\$0	No Change
750	Old Hwy 50	Mohawk Rd	Turkey Farm Rd	County	0.78	2	2	\$0	No Change	2	\$0	No Change
760	Old Hwy 50	Old Hwy 50 N	Old Hwy 50 S	County	0.14	2	4	\$174,000	Improved	6	\$523,000	Improved
770	Old Hwy 50	Old Hwy 50 S	Blackstill Lake Rd	County	0.71	2	2	\$750,000	Reconstructed	2	\$750,000	Reconstructed
780	Old Hwy 50	Blackstill Lake Rd	N Greater Hill Bv	County	0.84	2	2	\$0	No Change	2	\$0	No Change
790	Old Hwy 50	N Greater Hill Bv	CR 455	County	0.87	2	2	\$0	No Change	2	\$0	No Change
480	Old Hwy 50	CR 455	Plaza Colina Frontage	County	1.92	2	2	\$0	No Change	2	\$0	No Change
475	Old Hwy 50	Plaza Colina Frontage	SR 50	County	0.09	2	2	\$0	No Change	2	\$0	No Change
1130	Plaza Colina Frontage	Greater Hills Bv	CR 455	County	0.50	0	2	\$623,000	New	2	\$623,000	New
1140	Plaza Colina Frontage	CR 455	Tim Morse Bv	County	0.41	0	2	\$511,000	New	2	\$511,000	New
1150	Plaza Colina Frontage	Tim Morse Bv	Old Hwy 50	County	1.08	0	2	\$1,346,000	New	2	\$1,346,000	New
570	Ridgewood Av	Blackstill Rd	Fosgate Rd	County	0.57	2	2	\$0	No Change	2	\$0	No Change
590	Ridgewood Av	Fosgate Rd	Seventh St	County	0.81	2	2	\$0	No Change	2	\$0	No Change
600	Ridgewood Av	Seventh St	Orange Co Line	County	0.90	2	2	\$0	No Change	2	\$0	No Change
410	SR 50	US 27	Grand HY	State	0.26	6	6	\$0	No Change	6	\$0	No Change
420	SR 50	Grand HY	Citrus Tower Bv	State	0.63	6	6	\$0	No Change	6	\$0	No Change
430	SR 50	Citrus Tower Bv	North Hancock Rd	State	1.05	6	6	\$0	No Change	6	\$0	No Change
450	SR 50	North Hancock Rd	CR 455	State	1.73	4	6	\$16,043,000	Improved	6	\$16,043,000	Improved
460	SR 50	CR 455	Magnolia Point Bv	State	0.76	4	6	\$7,048,000	Improved	6	\$7,048,000	Improved
470	SR 50	Magnolia Point Bv	Old Hwy 50	State	0.76	4	6	\$7,048,000	Improved	6	\$7,048,000	Improved
880	Sugarloaf Circle	North-South Collector	CR 455	County	0.97	0	2	\$1,209,000	New	2	\$1,209,000	New
900	Sugarloaf Mountain Rd	CR 561	North-South Collector	County	1.99	2	2	\$2,101,000	Reconstructed	2	\$2,101,000	Reconstructed
920	Sugarloaf Mountain Rd	North-South Collector	CR 561A	County	1.45	2	2	\$0	Reconstructed	2	\$0	Reconstructed
930	Sugarloaf Mountain Rd	North-South Collector	CR 561A	County	0.30	2	2	\$0	Reconstructed	2	\$0	Reconstructed
800	Sullivan Rd	US 27	Grassy Lake Rd	County	1.26	2	2	\$1,331,000	Reconstructed	2	\$1,331,000	Reconstructed
810	Sullivan Rd Ext	Grassy Lake Rd	Turkey Farm Rd	County	1.43	0	2	\$1,782,000	New	2	\$1,782,000	New
940	Triple E Rd	CR 561A	Hills of Minneola	County	0.90	2	2	\$0	No Change	2	\$0	No Change
960	Turkey Farm Rd	Grassy Lake Rd	New Interchange Rd	County	0.47	2	4	\$586,000	Improved	4	\$586,000	Improved
820	Turkey Farm Rd	New Interchange Rd	Hancock Rd N Ext	County	0.58	2	4	\$723,000	Improved	4	\$723,000	Improved
830	Turkey Farm Rd	Hancock Rd N Ext	Old Hwy 50	County	1.13	2	4	\$1,408,000	Improved	6	\$4,224,000	Improved
310	US 27	SR 19	CR 561	State	3.20	4	4	\$0	No Change	4	\$0	No Change
320	US 27	CR 561	Sullivan Rd	State	0.75	4	6	\$5,042,000	Improved	6	\$5,042,000	Improved
330	US 27	Sullivan Rd	N Grassy Lake Rd	State	0.65	4	6	\$4,369,000	Improved	6	\$4,369,000	Improved
340	US 27	N Grassy Lake Rd	CR 561/561A	State	0.74	4	6	\$4,974,000	Improved	6	\$4,974,000	Improved
350	US 27	CR 561/561A	S Grassy Lake Rd	State	0.24	4	6	\$1,613,000	Improved	6	\$1,613,000	Improved
360	US 27	S Grassy Lake Rd	Washington St	State	0.80	4	6	\$5,378,000	Improved	6	\$5,378,000	Improved
370	US 27	Washington St	Citrus Tower Bv	State	0.77	4	6	\$5,176,000	Improved	6	\$5,176,000	Improved
380	US 27	Citrus Tower Bv	SR 50	State	1.25	4	6	\$8,403,000	Improved	6	\$8,403,000	Improved
390	US 27	SR 50	Hooks St	State	0.29	4	6	\$1,949,000	Improved	6	\$1,949,000	Improved
400	US 27	Hooks St	Brogden Dr	State	0.35	4	6	\$2,353,000	Improved	6	\$2,353,000	Improved

Note: Costs represent thousands of dollars.

Note: Cost is construction and design only. Cost does not include Right-of-Way.

Q:\16631.05_Minneola_Areawide_Study\Data[Performance_Evaluation_022805.xls]Costs

Subtotal	\$123,755,000	\$136,451,000
Turnpike Interchange	\$20,000,000	\$0
Fosgate Underpass	\$2,000,000	\$4,000,000
CR 561 Underpass	\$1,200,000	\$1,200,000
Total	\$146,955,000	\$141,651,000

APPENDIX 4-A
Public Meeting Flyer



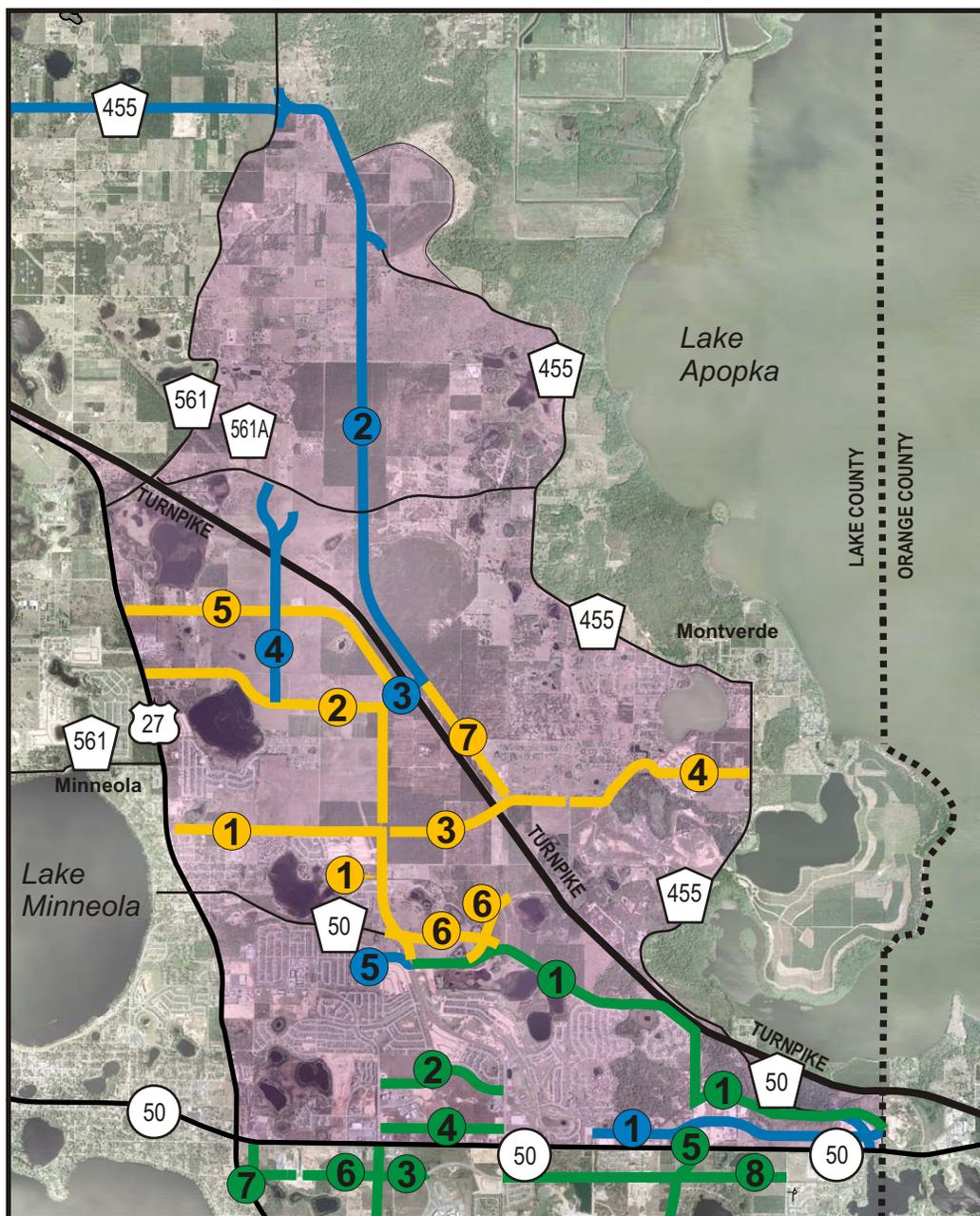
NOTICE OF PUBLIC MEETING

The Lake County Board of County Commissioners through its Department of Public Works has scheduled a public meeting at Minneola City Hall, 800 N. U.S. Highway 27, to discuss proposed road network improvements in the Minneola Ridge area. These proposed improvements may be necessary to accommodate approved and future developments for the area.

At the public meeting, Tuesday, March 15, at 6 p.m., representatives of the Department of Public Works and the transportation consulting firm of Tindale-Oliver and Associates will provide information and answer questions about the proposed roadway improvements and potential development impacts.

This mailing is provided to residents directly adjacent to Sullivan Road, North Grassy Lake Road and Turkey Farm Road. Other nearby residents will be notified by signage posted at appropriate locations and by assorted efforts of the Lake County Information Outreach Office.

For more information, call the Department of Public Works at (352) 253-4900, Lake County Communications Coordinator Chris Patton at (352) 343-9609 or log on to www.lakegovernment.com and browse the "latest news" section.



Legend

PROGRAMMED - FUNDED

- 1 SOUTH LAKE TRAIL
- 2 OAKLEY SEAVER BLVD
- 3 HOOKS STREET
- 4 LEGENDS WAY
- 5 HARTLE ROAD
- 6 HOOKS STREET
- 7 HOOKS STREET
- 8 HOOKS STREET

PROGRAMMED UNFUNDED

- 1 HANCOCK ROAD
- 2 HANCOCK ROAD
- 3 MINNEOLA-MONTVERDE COLLECTOR
- 4 RIDGEWOOD AVENUE
- 5 SULLIVAN ROAD
- 6 BLACKSTILL LAKE ROAD
- 7 FOSGATE ROAD

UNPROGRAMMED

- 1 REVERSE FRONTAGE ROAD/OLD CR-50
- 2 NORTH-SOUTH COLLECTOR
- 3 PROPOSED TURNPIKE INTERCHANGE
- 4 GRASSY LAKE ROAD
- 5 SOUTH AVENUE

 STUDY AREA



PUBLIC MEETING

Regarding the
Minneola Ridge Area Traffic Study

Tuesday, March 15, 6 p.m.
Minneola City Hall
800 N. U.S. Hwy 27

Call (352) 253-4900 for information

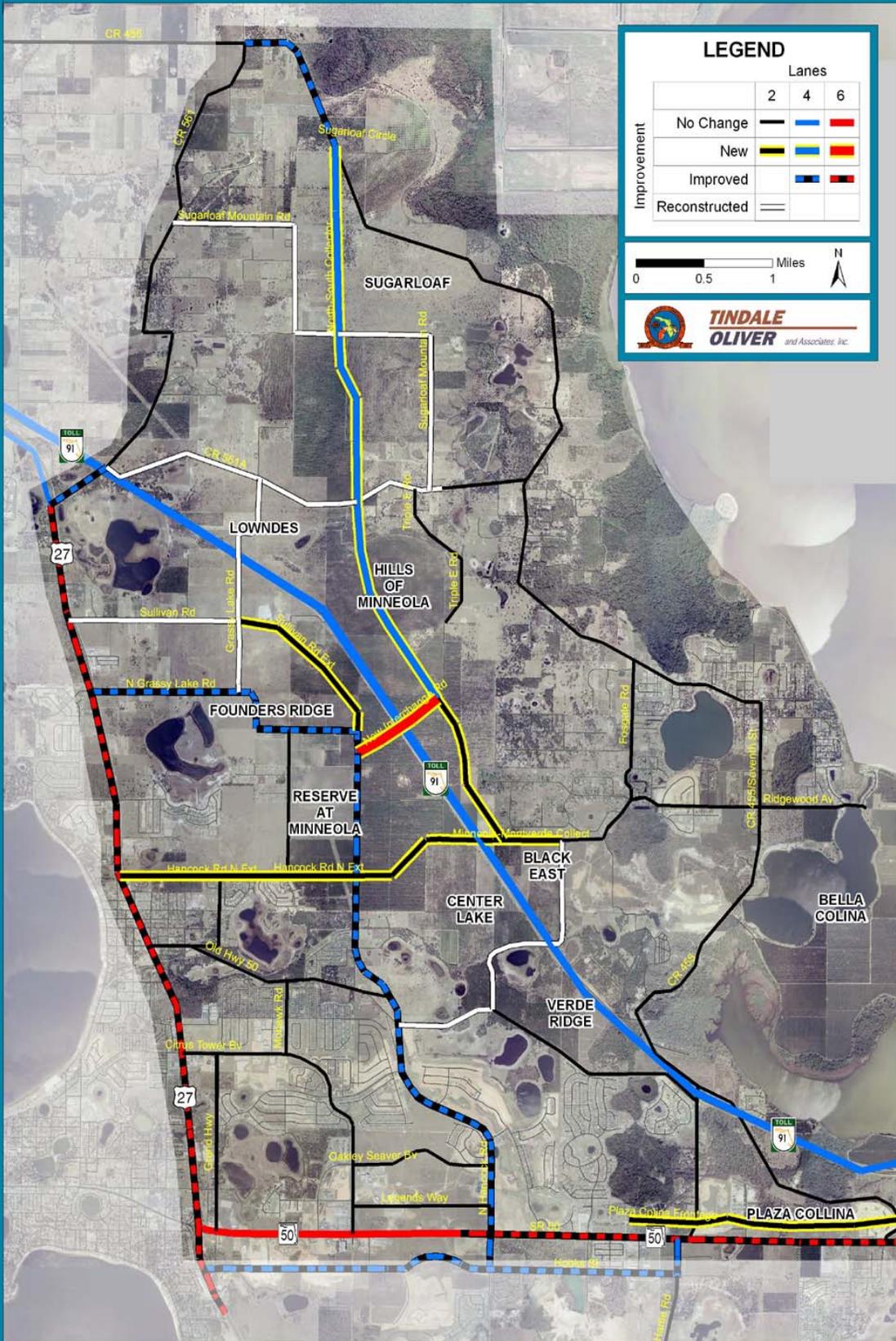


Lake County
Department of Public Works
123 N. Sinclair Avenue
Tavares, Florida 32778

APPENDIX 4-B
Sample Comment Card

MINNEOLA RIDGE AREA-WIDE TRAFFIC STUDY

With Turnpike Interchange Alternative
 Future Number of Lanes and Improvements



APPENDIX 4-C
Written Public Comments

Minneola Ridge Area-Wide Traffic Study Written Comments

1- Honor original land use plan-good growth
2- High: Since 1965 - Water Development Issue/time frame in completing road / How much land is required to fill for road & easement-who will pay and at what value. Grove land lost - went to 5 acres sites / How much for 2 lane vs. 4 land ROW / who exercises eminent domain / what type of compensation
3- Schools - safety and overcrowding
4- Keep Agricultural living - low density
5- In Favor of Interchange-would rather have a 4 lane than a 6
6- Integrity of topography needs - keep proposed roadways in line with the scope requirements of the proposed developments-who will maintain the roads when made 4 or 6
7- High: N/S CR455 is a scenic area approved by the State-find an alternative to 4 laneing in this area (2) Restricted ability to change to high density (3) Raise School/Road Impact Fees to pay for development (4) preserve rural character of the countryside (5) bike lanes
8- Bicyclists considerations - bike lanes for preservation of safety and recreation (not only conducive to trail riding)
9- How close to existing property will the new road be/What are the plans for noise abatement in Area A/what are the plans for 561A intersecting/will new road be limited access/projected impact to property values along right-of-way
10- High: Lake County Water Authority Board. - South Lake growth issues - diversion of Lakes - With the interchange, additional roads should be at least 4 lanes-current roads not able to handle current traffic/will the roads follow the contours of the hills & not cut through /Water is not evaluated / address sustainable safe yield in aquifer / low 10 water infrastructure planning / assume cumulative impacts
11- In favor of Additional road access-Frontage Rd is in no way going to relieve the horrendous traffic East/West road alternative needs to be initiated immediately-Approved new development will only exacerbate this need. (2) School overcrowded
12- School - proposal of site is obscene-consider safety issues and quality of life
13- High: Control Density-maintain zoning Low Density preferred 1-per 5 acres / Need new schools-Sullivan sight not good / why schools and no dev / leaving of hills / Turnpike makes sense / Orange County reduce impact fees / why low density rezoning - what is the criteria for rezoning /Low density=high value Build new roads through new developments not existing neighborhoods
14- Project poorly thought out-if proposed future development is stopped than roadway improvements can be avoided-education will suffer as development grows.
15- Slow growth-maintain agricultural zoning.- High density causes stress- more schools where are the teachers going to come from?
16- Water source-serious impact. State Laws require 10 year work plans to be completed before improvements - this is not being followed
17- Slow Growth to be consistent with highways, schools, water Lower density would help.
18- Water & Sewer needs/Are developers required to use reclaimed water/have parks & playgrounds- Developers need to pay their own way not tax money
19- Wildlife-(8 families documented in area) what will happen to the them if roads and developments are built along Grassy Lake Rd
20- High: Sullivan Rd since 1998 (1-5 acres) What type of Growth pays for itself / schools will suffer - Change density and zoning and hold builders to it - Impact fees to not cover the costs
21- Address Density - Safety for children/schools on the road- Residents paid premium for land - low density housing
22- High: Sullivan & Sem Trail Adjacent to school site / Who will pay property damage from road/school/development construction - who is going to monitor /Water treatment plant / not a good place to put a school find a new site / elected officials are not acting
23- Schools-move location to the sight adjacent to 561A

Minneola Ridge Area-Wide Traffic Study Written Comments

24- Will developments proceed in an environmentally, economically sustainable way
25- School location safety - construction on Hancock Rd
26- Development - no more cheap tacky subdivisions
27- High: Turnpike in back yard/Schools/avoids Florida growth problem. High: Fosgate ext 3 more in 3 years-not ok to move again-has horses-make difficult for builders. No more development until present needs are addressed and taken care of
28- Safety for Children - intersection of Hancock Rd
29- Concerns raised by Montverde and Development-network should be evaluated w/turnpike interchange but w-o the Fosgate/Minneola collector overpass (2) w-o detailed Taz and Network info used in the model, info on level of internal connections and between projects should be identified. they may reduce arterial volumes. How were the cost estimates prepared.
30- Costs 2005 vs. 2025/Recreation/Safety/Projected Growth/Endangered wildlife/schools teachers/supplies/our children
31- Grading Issues/Landscape requirements / enforcement of ordinances
32- Either plan with or w/o a turnpike will DUMP traffic onto Montverde/Converting a clay road to a major road affects trails with noise and congestions. This is a rural horse community/STOP the unbridled growth - keep rural lifestyle / fix the current roads and put in bike lanes
33- Why not put the proposed frontage road on the south side of turnpike.
34- Preserve the small-town feel - concerned about the amount of danger currently on the road - How might the risk increase. Safety.
35- Against building N-S Collector across Sugar loaf. Roads are being put in for the SOLE benefit of Developers. Roads currently are quite adequate.
36- Continue subject road all the way to 455 by Hwy 50. You are more concerned about the developers than the residents-Why such minimum impact on proposed development that is still bare land. Add bike lanes to all roads which will help traffic
37- Before new development should we not have the school demand and water supply satisfied. - Roads from Hills to Fosgate will take out existing equestrian subdivision, to have new homes with roads-where is the logic. - Save money and improve roads already existing.- they could handle growth with improvements
38- Very discouraged that 75% of the comments came from elected officials. Obvious that the plan for roadways is what is being pushed for by the county/cities. I was not given the opportunity to ask a ?- nor were anyone who lived on N Grassy Lake Road
39- Quality of life will be disturbed-do not ruin rural setting
40- Against the Sullivan Rd ext - only Grassy Lake Rd s/b improved and would suffice-Against interchange - Extending Grassy Lake would be better
41- Intersection Old Hwy 50 is already problematic-witnessed numerous collisions. This road needs to be closed to all trucks and thru traffic. Let them access these new areas from 27 or the turnpike.
42- Right of way issues - N Grassy Lake Rd-how will the residents be compensated for property not to mention owning a house with a highway (4 lane) in front of it. Property value Negatively affected. How do we enter and exit our driveway safely onto a highway. What about fire and police to support growth.
43- Moderate: Please help me get to the turnpike easier. It takes me 45-55 minutes to get to work, Also any change in these roads could help extend our bike paths
44- Why route the new north-s connector to bend east to fosgate - WHY NOT plan it to run straight south to connect to Sullivan. South Lake County needs a breather on new development to allow Police, Fire, Roads Schools to catch up
45- Lower density - put roads in new developments - slow growth GET MORE IMPACT FEES - handle only current roads

Minneola Ridge Area-Wide Traffic Study

Written Comments

46- When will these projects take place/Will they occur prior to construction of homes/All funding should come from development companies.
47- Support steady low density planning - Funding dependent on Developers contributions-is this a required certainty of the developers (2) S lake county continues unbridled growth - crisis stage (3) what roads are planned to divert traffic off Hwy 455 it cannot handle anymore
48- Traffic light at 27 & North Grassy Rd - NEED A RED LIGHT NOW

APPENDIX 4-D
Comments from Speakers

Minneola Ridge Area-Wide Traffic Study

Speakers Comments

1- Montverde - proposed roads do impact 15 acres, drive from Ocoee 4 times a day / proposed interchange Fosgate dead-end / people can make a change / proposed roadway across neighbor, proposed bridge over house - NO TO ROADS
2- Sugarloaf Mountain - appalled at road through sugarloaf / suggest swing it to the east to not impact existing property / unbelievable this is highest point with 4 land road / lets not make the mistake to South US 27 North - 6 lane how far? / where is the economy going to benefit with people being funneled to Orange County.
3- Support: wanted to stop development-but will need roads-government intervention, 5 acre tracks running-attention on alignment, did you incorporate trails, DRI-no roads
4- Good turnout & forum / Approved Sugarloaf, when is it due / without by pass will it impact town and go through academy Bella Colina is approved, Fosgate go under turnpike, Eliminate Sullivan Rd / Thinking of running for BOCC / if you use Ridgewood at 455 multiple fatalities / improvement is needed
5- Meeting went out of hand - Approved vs. proposed
6- Concerned about wildlife and traffic 6,000 vehicles per day / Close off Sullivan Road at Trail since you cannot regulate traffic.
7- Which Alternatives are better / school board takes 3-5 years - in Minneola its 40 years
8- Southlake problem - roads and schools - can't stop growth Can do it (only 3 people need to say no) / Zone 1 to 5 vs. 4 to 1 / Follow current zoning / Put Rural Lake County on Hills of Minneola / Politicians say no to density increase - do not need to protect spectators / Commissioner Poole - no comp plan
9- Land Use Attorneys go to BOCC if Cities do not / Cities and counties being played against each other
10- 2U = 80 ft urban / 4D = 100-120 ft Urban / County has done few eminent domain / planning level study
11- US 27 GD vs. 192 to turnpike / SR50 2008 CST Hancock Rd to East, design to US 27 / Hartwood Marsh Rd in design / Trail on old CR50 4 1/2 mile link and additional trails
12- Sullivan Rd - one of the most hilly roads / safety/ impacts on low acreage road as a main thoroughfare / has been asked to turn over ROW of 1 acre will not turn over - If Sullivan - why link a trail to it to turnpike.
13- quality of life being lost / rural areas should stay as is / growth concern / Scrub Jay - preserve what is unique
14- N Grassy Lake Road paving vs. pot holes (like them paved recently, but no turn lanes on US 27 - safety issues/ school bus sign was demolished
15- Schools in catch up mode / Concurrency-timing issue / No concurrency requirement for schools in State but can be added to county (palm beach)
16- Sullivan Rd - moved for quality of life - don't want a busy place - schools not good for horses
17- Doesn't want growth / Rural lands under siege / proposed development doesn't need to happen / Lake County short on teachers/stop the growth
18- suggested 1300 homes , schools over capacity-kudos for Mayor in turning down (could not bring in overcrowding schools, Cost does not = NEED, poor reaction time to build needed schools Impact Fees not enough-Economic Development needs to consider children
19- N Grassy Lake Rd to North needs additional lanes obvious shortcut
20- Don't want growth 1 house on 300 acres is reasonable / don't want roads loves pot holes / preserve virgin land / buy land for preservation / Kansas Senate "Quote" We have raped the land and called it development
21- N Grassy Lake Road since 1996 was private grove road - became county ROW Issue
22- Need to look at some of the issues / a lot of people s SR 50 and old SR 50 was a high priority / trail desired / turnpike will expand in future / land issues are not addressed in study / lake county water going to other counties / developers need to help with schools, roads and parks / lack of parks in Clermont
23- Sullivan Rd 6 months - Assumed 1-5, then school it seems that this project was set up separately / property that sb purchased 3 parcels 47+45+277 acres 561A is a better place / illogical place to put school / logical to place south of SR50 / this meeting should have been before school board purchase
24- Behind on road growth/how accurate are assumptions/Costs/Look at full development and still provide roads
25- Minneola Principal quality of life is changing-asking BOCC & SB etc cooperate on development and approvals. Need new elementary school-additional students per day
26- Bicyclists-Plan for bike lanes on roads/more triathlons than anywhere else / recreation opportunities

Minneola Ridge Area-Wide Traffic Study

Speakers Comments

27- All roads lead to growth / how many accidents are occurring / Build roads NO Developments / attached Commissioner Poole
28- Sullivan Rd - Don't approve tacky subdivisions / No more increased density / basic planning study / Bob Wallace - future study - alignment - the PD&E final design / Few problems with study-infactored variables/turnpike location?, exact location of HS site , proposed approved development snags & details can stop development, exact problematic on some roads. Sullivan Road did not take into account ROW, safety issues. Damage to rural roads & resident homes - loss of income from barns / cost \$200 per avg ft and extra costs to hills, retention, utility, ROW relocation. Estimate 10,000,000 ROW issues - ridiculously high cost for short piece of road /SAFETY / how long before someone dies / Take some vacant developer land - less costly / 561A meant to be a thoroughfare vs. Sullivan
29- 30 acres of Orange Grove - 42 yrs of ownership, 3 freezes would like to keep, tower spoiled area, road goes through property, irrigation system will destroy property (18 acres of trees)



Lake County
Department of Public Works
123 N. Sinclair Avenue
Tavares, Florida 32778
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Planning and Engineering

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