

## Chapter 10

# Transportation Plan

### Introduction

The federal and state legislation regarding the development of long range transportation plans discusses the need for constraining the list of projects contained in the plan to those that can be reasonably expected to be built given the financial resources of the local community. With that philosophy as the MPO's guide, the adopted cost feasible *Volusia County MPO 2020 Long Range Transportation Plan - Refinement* (henceforth referred to as the *2020 LRTP Refinement*) has been developed to best accommodate the future travel needs of its citizens based on the expected amount of federal, state, and local funding sources.

The *2020 LRTP Refinement* was developed by testing a series of three alternative transportation systems and evaluating their relative effectiveness in meeting the stated goals and objectives of the MPO. These tests involved different levels of commitment to road improvements and transit service. The levels of countywide development with which these tests were made are documented in Chapter Four - Land Use Data.

### Alternative Transportation Systems Plan Testing

Alternative transportation systems were tested in three rounds and were evaluated by the Long Range Transportation Plan – Refinement (LRTP-R) Subcommittee. The LRTP-R Subcommittee was comprised of all members of the MPO's Technical Advisory Committee, the Citizens Advisory Committee, plus a representative from the Transportation Disadvantaged Local Coordinating Board.

The purpose of each of these tests was to determine the level of improvements needed to address future capacity issues. Prior to the Alternatives Testing a “no-build” scenario was prepared to see what the effects of a moratorium on construction would have on the transportation system throughout the County. This “no-build” scenario was labeled the Existing plus Committed (E+C) network. The E+C transportation system included all projects that were built since 1997 (existing projects), plus all other projects that are funded for construction within the next five years (the committed projects), to the existing network. The year 1997 was used since this coincided with the transportation model validation. The purpose of the E+C network was to represent the conditions that would occur in the year 2020 if only those projects that have been funded for construction utilizing our existing five-year budgets were built. This provides the opportunity to see what effects future development would have on the County's transportation system if no roads were built during the next twenty years, except for those projects that already have committed funding.

The E+C transportation system is the starting point where the analysis of what future transportation improvements would be needed. This was used to indicate how potential improvements would be judged as to their effectiveness.

After the E+C network analysis was completed, the first round of testing evaluated the previous *Volusia County MPO 2020 Long Range Transportation Plan* (which was adopted on December

15, 1995). Where the E+C analysis served as the starting point for the development of alternative analyses, Alternative #1 served as a test of the previously adopted *2020 Long Range Transportation Plan*. In addition to testing the previous Plan, several projects were added that had been requested in writing prior to the start of the refinement process.

The LRTP-R Subcommittee compared this list of projects to the congestion forecasted in the E+C 2020 model output and added several additional projects to the Alternative #1 list. What Alternative #1 showed was that a large majority of roads that were expected to fail in the E+C network were helped by projects from the previous LRTP. A majority of roads that had projected capacity problems in the E+C network would be alleviated by the improvements due to Alternative #1. However, not all road segments would have been helped.

The three alternatives were evaluated based on how each improvement answered the following set of questions.

1. Was the Proposed Improvement to Alleviate Congestion on this Road or a Parallel Road?
2. Did the Improvement Alleviate the Congestion?
3. Was the Improvement Necessary?; and
4. Is there Still a Capacity Problem After the Improvement has been Completed?

The results of Alternative #1 were then used by the LRTP-R Subcommittee to develop Alternative #2. After the above four questions were answered for each improvement the LRTP-R Subcommittee developed Alternative #2 by answering one additional question: Were there any additional roads that began to have capacity problems due to, or lack of, projects from Alternative #1?

The results of Alternative #2 were then used by the LRTP-R Subcommittee to develop the LRTP-R Subcommittee's final alternative, Alternative #3. Again, the same questions were evaluated for each improvement, and how that improvement would help meet the MPO's goals.

Once Alternative #3 was completed all three alternatives were compared by the LRTP-R Subcommittee to see which improvements would be recommended to become part of the Cost Feasible Plan. This analysis allowed the LRTP-R Subcommittee to fully evaluate the effects of the different roadway scenarios of the E+C, Alternative #1, Alternative #2, and Alternative #3 scenarios.

## **Cost Feasible Plan**

The approach used to develop the cost feasible *2020 LRTP Refinement* was to select roadway improvements that would minimize the level of congestion (i.e., below adopted standards) within the constraints of affordability. Local government agencies, through their Comprehensive Plan Transportation Elements, have established level of service standards for all major roads within their jurisdictions. The Florida DOT has also established level of service standards for Interstate Highways and roads on the Florida Intrastate Highway System. These standards served as the basis to decide which roads need to be improved by 2020, when they should be improved, and to what extent they should be improved.

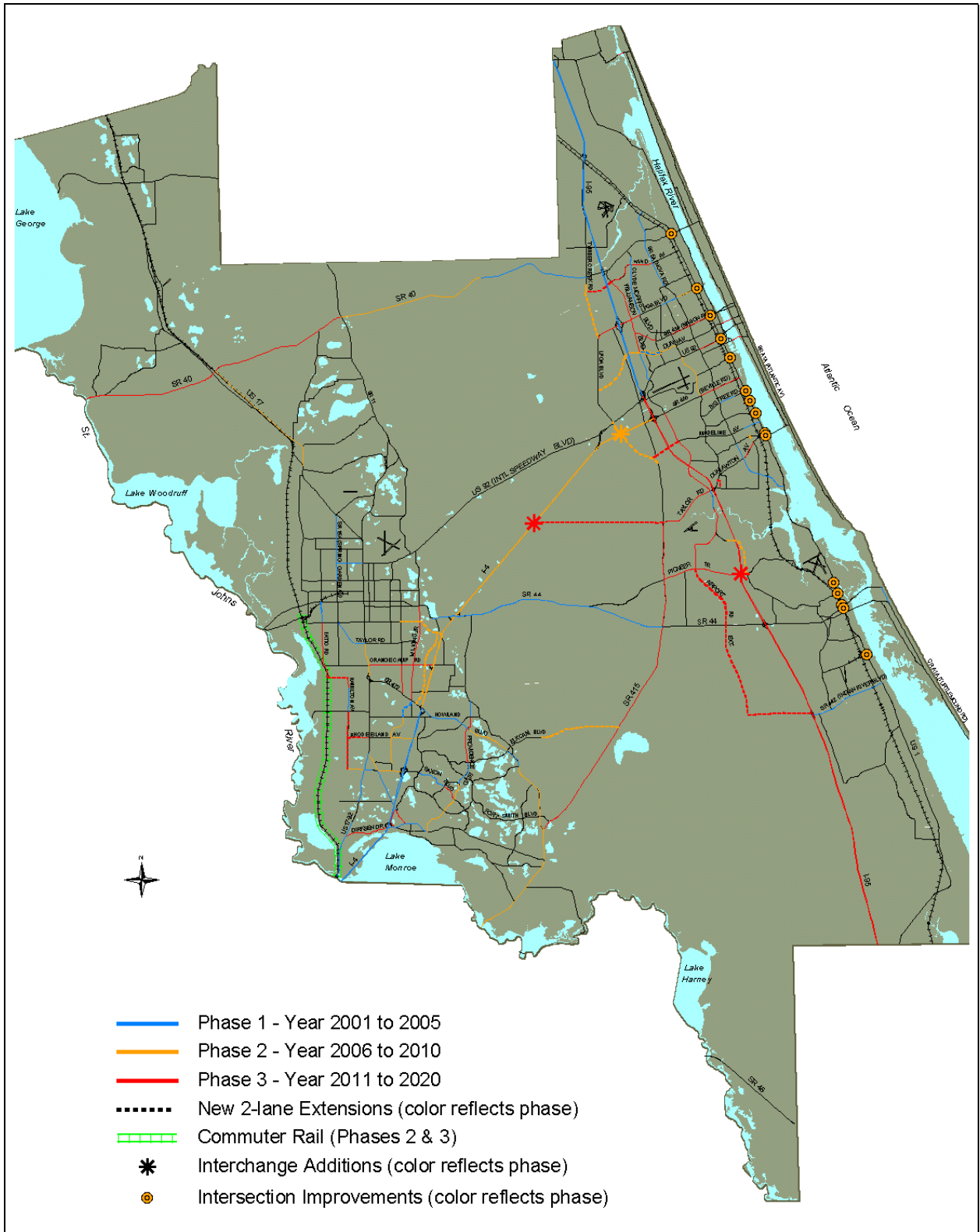
By testing several alternative scenarios, the highway network plan illustrated in Figure 10.1 was developed to respond to the majority of transportation demands by 2020. Figure 10.1 illustrates the location and phasing adopted for the cost feasible *2020 LRTP Refinement*. In this figure,

roadways scheduled for improvement and have committed funding between 2001 and 2005 (Phase 1) are illustrated in blue, roads to be improved between 2006 and 2010 (Phase 2) in gold, and roads to be improved between 2011 and 2020 (Phase 3) in red. Existing roads that will not be improved are indicated in black. A listing of the roadway improvements, as identified in Figure 10.1, by phase and their estimated costs are provided in Tables 10.1, 10.2, and 10.3. Only projects listed in Phase 1 have committed funding dedicated either by federal, state, or local sources. Projects listed in Phases 2 and 3 are eligible for federal and state funding through the MPO's Priority Process, but funding has not been committed to by any identified agency yet.

Local governments can use the Phase 2 and 3 lists (Tables 10.2 and 10.3) as guides for which roadway capacity improvement projects that are eligible for federal and state funding. Once identified, local governments can submit a project application through the MPO's yearly Priority Process to be ranked relative to all other projects trying to receive federal and state assistance.

The MPO typically accepts project applications between March and April of each year for evaluation. The MPO Board uses its advisory committees to help screen and rank the applications. The MPO listens to the recommendations of its advisory committees before making the final decision. Once the MPO decides on its list of Prioritized Projects, that list is submitted each year to FDOT by September. By early December the FDOT announces how many of the Priority Projects have been funded. At this point FDOT solicits public comment on its proposed list of newly funded projects. On July 1 of each year the FDOT formally adopts its list of funded projects. Since the FDOT develops a stable 5 year funding list of projects, the project applications that are submitted and ranked as part of the MPO's Priority Project process are vying for funding 6 years out in the future.

Figure 10.1 - Volusia County MPO Cost Feasible 2020 LRTP-R Map



**Table 10.1 – Cost Feasible 2020 Long Range Transportation Plan – Refinement**  
**Adopted 11/28/2000**

<b>Phase 1 - 2001 to 2005</b>			
<b>Road Name</b>	<b>Limits (From - To)</b>	<b>Improvement</b>	<b>Estimated Costs</b>
<b>Florida Intrastate Highway System (FIHS) Roads</b>			
I-4	St Johns River Bridge to Saxon Blvd	Widen to 6 Lanes	\$296,783,000
I-4	Saxon Blvd to SR 472	Widen to 6 Lanes	\$30,428,000
I-95	Flagler County Line to SR 40	Widen to 6 Lanes	\$26,551,000
I-95	SR 40 to LPGA Blvd	Widen to 8 Lanes	\$32,289,000
I-95	LPGA Blvd to US 92	Widen to 6 Lanes	
SR 40	Cone Rd to Tymber Creek Rd	Widen to 4 Lanes	\$16,013,000
<b>Subtotal</b>			<b>\$402,064,000</b>
<b>Non-FIHS State Roads</b>			
US 17/92	Enterprise Rd to Highbanks Rd	Widen to 4 Lanes	\$10,544,000
US 17/92	Plantation Rd to Seminole County	Widen to 4 Lanes	\$3,727,000
SR 5A (Nova Rd)	US 1 to Wilmette Av	Widen to 4 Lanes	\$4,350,000
SR 5A (Nova Rd)	Wilmette Av to Flomich Av	Widen to 6 Lanes	\$14,823,000
SR 5A (Nova Rd)	Herbert St to Village Trail	Widen to 4 Lanes	\$6,215,000
SR 5A (Nova Rd)	Village Trail to US 1	Widen to 4 Lanes	\$12,596,000
SR 15A	US 17 to Greens Dairy Rd	Widen to 4 Lanes	\$10,242,000
SR 15A	Greens Dairy Rd to Plymouth Av	Widen to 4 Lanes	\$3,901,000
SR 15A	Beresford Av to US 17/92	Widen to 4 Lanes	\$7,399,000
SR 44	Summit Av to I-4	Widen to 4 Lanes	\$9,086,000
SR 44	I-4 to Pioneer Trail	Widen to 4 Lanes	\$32,265,690
SR 44	Pioneer Trail to SR 415	Widen to 4 Lanes	\$17,007,310
SR 442 (Indian River Blvd)	I-95 to Air Park Rd	Widen to 4 Lanes	\$6,267,000
SR 442 (Indian River Blvd)	Air Park Rd to US 1	Widen to 4 Lanes	\$16,936,000
<b>Subtotal</b>			<b>\$155,359,000</b>
<b>Local Roads</b>			
Airport Rd	Taylor Rd/Williamson Blvd to Summertrees Rd	Widen to 4 Lanes	\$2,870,000
Atlantic Av	Flagler Av to 6th St	Widen to 3 Lanes	\$1,130,000
Big Tree Rd	Nova Rd to Kenilworth Av	Widen to 3 Lanes	\$920,000
CR 92	SR 15A to US 17/92	Widen to 4 Lanes	\$1,800,000
Clyde Morris Blvd	Falls Way to LPGA Blvd	Widen to 4 Lanes	\$2,890,000
Enterprise Rd	Saxon Blvd to Highbanks Rd	Widen to 4 Lanes	\$3,600,000
Enterprise Rd	Highbanks Rd to Deltona Blvd	Widen to 4 Lanes	\$330,000

**Table 10.1 – Cost Feasible 2020 Long Range Transportation Plan – Refinement**  
**Adopted 11/28/2000**

<b>Phase 1 - 2001 to 2005</b>			
<b>Road Name</b>	<b>Limits (From - To)</b>	<b>Improvement</b>	<b>Estimated Costs</b>
Dunn Ave	Williamson Blvd to Bill France Blvd	Extend as 2 Ln Rd	\$1,880,000
Dirksen/BeBary (realign)	I-4 to Providence Blvd	Widen to 4 Lanes	\$4,390,000
Howland Blvd Extension	SR472/I-4 to Deltona High School	Extend as 4 Ln Rd	\$5,750,000
Howland Blvd	Deltona High School to Providence Blvd	Widen to 4 Lanes	\$3,680,000
Howland Blvd	Elkcam Blvd to Newmark Dr	Widen to 4 Lanes	\$2,245,000
LPGA Blvd	Jimmy Ann Dr to Nova Rd (SR 5A)	Widen to 4 Lanes	\$3,020,000
Madeline Av	Sauls Rd to US 1	Extend as 3 Ln Rd	\$1,650,000
Providence/Idlewise/Sixma	Lake Helen Osteen Rd to Catalina Blvd	Extend as 2 Ln Rd	\$73,500
Providence Blvd	Elkcam Blvd to Ft. Smith Blvd	Widen to 4 Lanes	\$1,550,000
Providence Blvd	Ft. Smith Blvd to Tivoli Dr	Widen to 4 Lanes	\$570,000
Saxon Blvd	US 17/92 to W.of Enterprise Rd (4 lane portion)	Widen to 4 Lanes	\$1,750,000
Saxon Blvd	Normandy Blvd to Sumatra Av	Widen to 4 Lanes	\$1,615,000
Saxon Blvd	Sumatra Av to Tivoli Dr	Widen to 4 Lanes	\$3,000,000
Westside Connector (Fatio Rd)	SR 44 to Beresford Av	Extend as 2 Ln Rd	\$1,415,000
Westside Connector (Hamilton Av)	20th St to French Av	Extend as 2 Ln Rd	\$1,000,000
W. Volusia Bltwy/Veteran's Memorial Pkwy	SR 472 to Graves Av	Widen to 4 Lanes	\$2,040,000
Williamson Blvd.	Indigo Dr to US 92	Widen to 4 Lanes	\$1,970,000
<b>Subtotal</b>			<b>\$51,138,500</b>
<b>Phase 1 Total Costs</b>			<b>\$608,561,500</b>

**Table 10.2 - Cost Feasible 2020 Long Range Transportation Plan – Refinement**  
**Adopted 11/28/2000**

<b>Phase 2 - 2006 to 2010</b>			
<b>Road Name</b>	<b>Limits (From - To)</b>	<b>Improvement</b>	<b>Estimated Costs</b>
<b>Rail</b>			
Commuter Rail Operations	DeLand to Kissimmee	Commuter Rail Line	<b>\$3,400,000</b>
<b>Florida Intrastate Highway System (FIHS) Roads</b>			
I-4	@ LPGA Blvd	New Interchange	\$17,126,800
I-4	SR 472 to I-95	Widen to 6 Lanes	\$78,500,000
SR 40	SR 11 to Cone Rd	Widen to 4 Lanes	\$21,150,900
<b>Subtotal</b>			<b>\$116,777,700</b>
<b>Non-FIHS State Roads</b>			
US 1	SR 40 to Park Av	Intersection Improvements	\$4,649,100
US 17	SR 40 to Ponce DeLeon Blvd	Widen to 4 Lanes	\$22,231,600
US 17/92	SR 15A (Taylor Rd) to SR 472	Widen to 6 Lanes	\$4,514,600
SR 415	Howland Blvd to Seminole County	Widen to 4 Lanes	\$23,423,200
SR 483 (Clyde Morris Blvd)	US 92 to Beville Rd	Widen to 6 Lanes	\$10,923,000
<b>Subtotal</b>			<b>\$65,741,500</b>
<b>Local Roads</b>			
Beresford Av	Blue Lake Av to Summit Av	Extend as 2 Ln Rd	\$2,020,200
Dunn Av	LPGA Blvd to Williamson Blvd	Extend as 2 Ln Rd	\$15,000,000
Dunn Av	Williamson Blvd to Clyde Morris Blvd	Widen to 4 Lanes	\$3,863,700
Elkcam Blvd	Riverhead Dr to SR 415	Extend as 2 Ln Rd	\$10,100,000
Enterprise Rd	US 17/92 to Saxon Blvd	Widen to 6 Lanes	\$3,086,000
Frontage Road (along I-4) and Realignment	Summit Av to Orange Camp Rd	Extend as 2 Ln Rd	\$2,044,000
Frontage Road (along I-4)	Orange Camp Rd to SR 472	Extend as 2 Ln Rd	\$1,435,000
Howland Blvd	Providence Blvd to Elkcam Blvd	Widen to 4 Lanes	\$4,681,200
Howland Blvd	Newmark Dr to Courtland Blvd	Widen to 4 Lanes	\$2,184,000
Howland Blvd	Courtland Blvd to SR 415	Widen to 4 Lanes	\$5,708,800
LPGA Blvd	US 1 to Nova Rd	Widen to 4 Lanes	\$24,000,000
LPGA Blvd	US 92 to Tomoka Farms Rd	Extend as 2 Ln Rd	\$4,836,000
Providence Blvd	Tivoli Dr to Doyle Rd	Widen to 4 Lanes	\$6,069,400
Rhode Island Av	Veteran's Memorial Pkwy to Normandy Blvd	Extend as 2 Ln Rd	\$3,630,000
Saxon Blvd	Westside Connector to US 17/92	Extend as 2 Ln Rd	\$827,800
Saxon Blvd	Enterprise Rd. to I-4	Widen to 6 Lanes	\$2,140,000
Spruce Creek Rd	Herbert St to Dunlawton Av	Extend as 2 Ln Rd	\$1,200,000

**Table 10.2 - Cost Feasible 2020 Long Range Transportation Plan – Refinement**  
 Adopted 11/28/2000

<b>Phase 2 - 2006 to 2010</b>			
<b>Road Name</b>	<b>Limits (From - To)</b>	<b>Improvement</b>	<b>Estimated Costs</b>
Tymber Creek Rd	Riverbend Rd to LPGA Blvd	Extend as 2 Ln Rd	\$5,195,000
W. Volusia Bltwy/Veteran's Mem Pkwy	Graves Av to Harley Strickland Blvd	Widen to 4 Lanes	\$2,646,900
Williamson Blvd	Current terminus to Pioneer Trail/Turnbull Bay	Extend as 2 Ln Rd	\$9,603,000
<b>Subtotal</b>			<b>\$110,271,000</b>
<b>Phase 2 Total Costs</b>			<b>\$296,190,200</b>



**Table 10.3 - Cost Feasible 2020 Long Range Transportation Plan – Refinement**  
**Adopted 11/28/2000**

<b>Phase 3 - 2011 to 2020</b>			
<b>Road Name</b>	<b>Limits (From - To)</b>	<b>Improvement</b>	<b>Estimated Costs</b>
<b>Rail</b>			
Commuter Rail Operations	DeLand to Kissimmee	Commuter Rail Line	<b>\$6,800,000</b>
<b>Florida Intrastate Highway System (FIHS) Roads</b>			
I-95	US 92 to Brevard County	Widen to 6 Lanes	\$141,000,000
I-95	@ Pioneer Trail	New Interchange	\$17,126,800
I-4	@ Taylor Rd (extension)	New Interchange	\$17,126,800
SR 40	Lake County to SR 11	Widen to 4 Lanes	\$43,928,700
<b>Subtotal</b>			<b>\$219,182,300</b>
<b>Non-FIHS State Roads</b>			
US 92	Nova Rd to US 1	Widen to 6 Lanes	\$4,956,400
SR 400 (Beville Rd)	SR 483 (Clyde Morris Blvd) to Nova Rd	Widen to 6 Lanes	\$8,494,900
SR 400 (Beville Rd)	Nova Rd to US 1	Widen to 6 Lanes	\$10,005,400
SR 415	SR 44 to Howland Blvd	Widen to 4 Lanes	\$38,940,700
SR 421 (Dunlawton Av)	Nova Rd to Spruce Creek Rd	Widen to 6 Lanes	\$3,717,300
SR 430 (Mason Av)	SR 483 (Clyde Morris Blvd) to Seabreeze Bridge	Widen to 6 Lanes	\$13,217,100
SR 442 (Indian River Blvd)	Airport Rd to I-95	Extend as 2 Ln Rd	\$6,281,800
<b>Subtotal</b>			<b>\$85,613,600</b>
<b>Local Roads</b>			
Airport Rd	Summer Tree to Pioneer Trail	Widen to 4 Lanes	\$5,802,900
Airport Rd	Pioneer Trail to SR 44	Extend as 2 Ln Rd	\$4,400,000
Airport Rd	SR 44 to SR 442	Extend as 2 Ln Rd	\$5,896,500
Blue Lake Av	Orange Camp Rd to SR 472	Extend as 2 Ln Rd	\$1,474,200
Deltona Blvd	Enterprise Rd to DeBary Av	Widen to 4 Lanes	\$2,658,800
Dirksen Dr	US 17/92 to I-4	Widen to 4 Lanes	\$6,256,000
Enterprise Rd	Deltona Blvd to Main St/Lexington Av	Widen to 4 Lanes	\$2,346,000
Hand Av	Tymber Creek Rd to Williamson Blvd	Extend as 2 Ln Rd	\$4,644,600
Hand Av	Williamson Rd to Nova Rd	Widen to 4 Lanes	\$7,038,000
Knox Bridge	@ Highbridge Rd	Reconstruct Bridge	\$20,350,000
LPGA Blvd	Clyde Morris Blvd to I-95	Widen to 6 Lanes	\$1,652,000
LPGA Blvd	I-95 to Tymber Creek Rd extension	Widen to 4 Lanes	\$2,380,900
Madeline Av	LPGA Blvd extension to Williamson Blvd	Extend as 2 Ln Rd	\$4,503,000
Main Street Bridge	Beach St to Halifax Av	4 Lane High Rise Bridge	\$41,040,000

**Table 10.3 - Cost Feasible 2020 Long Range Transportation Plan – Refinement**  
**Adopted 11/28/2000**

<b>Phase 3 - 2011 to 2020</b>			
<b>Road Name</b>	<b>Limits (From - To)</b>	<b>Improvement</b>	<b>Estimated Costs</b>
Mason Av	Williamson Blvd to Bill France Blvd	Widen to 4 Lanes	\$3,440,800
Memorial Bridge (Orange Av)	City Island to Peninsula Dr	4 Lane High Rise Bridge	\$41,040,000
Orange Camp Rd	US 17/92 to I-4	Widen to 4 Lanes	\$10,009,600
Pioneer Trail	Tomoka Farms Rd to Turnbull Bay Rd	Widen to 4 Lanes	\$12,853,500
Providence/Idlewise/Sixma	Catalina Blvd to Howland Blvd	Extend as 2 Ln Rd	\$655,200
Providence Blvd	Howland Blvd to Elkcam Blvd	Widen to 4 Lanes	\$4,192,900
Rhode Island Av	Westside Connector to US 17/92	Extend as 2 Ln Rd	\$873,600
Saxon Blvd	Tivoli Dr to Providence Blvd	Widen to 4 Lanes	\$3,446,000
Taylor Rd (CR 421)	I-4 to Tomoka Farms Rd (see I-4 for Interchange)	Extend as 2 Ln Rd	\$10,395,000
Taylor Rd (CR 421)	Tomoka Farms Rd to Williamson Blvd/Airport Rd	Widen to 4 Lanes	\$9,592,000
Tomoka Farms Rd (CR 415)	Taylor Rd to SR 44	Widen to 4 Lanes	\$14,864,700
Westside Connector	Beresford Av to 20th/Hamilton Av	New 2 Lane Corridor	\$3,822,000
Westside Connector	French Av to Saxon Blvd	New 2 Lane Corridor	\$2,948,400
W. Volusia Bltwy/Veteran's Mem Pkwy	SR 44 to SR 472	Widen to 4 Lanes	\$4,427,500
Williamson Blvd	Hand Av to Indigo/Dunn Av	Widen to 4 Lanes	\$8,602,000
Williamson Blvd	Beville Rd to Taylor Rd	Widen to 4 Lanes	\$10,515,400
Yorktowne Blvd	Dunlawton Av to Taylor Rd	Extend as 2 Ln Rd	\$6,001,800
<b>Subtotal</b>			<b>\$258,123,300</b>
<b>Phase 3 Total Costs</b>			<b>\$569,719,200</b>

**Subtotal Phase 1 (2001 to 2005) = \$608,561,500**  
**Subtotal Phase 2 (2006 to 2010) = \$296,190,200**  
**Subtotal Phase 3 (2011 to 2020) = \$569,719,200**  
**Total = \$1,474,470,900**

## Measures of Effectiveness

Table 10.4 provides a “report card” summarizing the performance of the road network from the 1997 base year through to the year 2020 using three measures. Those measures are:

1. Vehicle Miles of Travel (VMT);
2. Congestion Weighted by VMT; and
3. VMT per Licensed Driver.

Measure #1 shows the amount of travel, Measure #2 shows the average level of congestion, while Measure #3 shows the amount of travel normalized on a per driver basis.

**Table 10.4 – Measures of Effectiveness**

Measure		1997	2020	% Annual Growth
1.	State Road Daily VMT	7,879,912	14,366,184	2.65
	County Road Daily VMT	2,509,499	5,908,541	3.80
	Total Daily VMT	10,395,298	20,278,609	2.95
	State Road Annual VMT	2,876,168,008	5,243,657,109	2.65
	County Road Annual VMT	915,967,314	2,156,617,639	3.80
	Total Annual VMT	3,794,283,620	7,401,692,262	2.95
2.	State Road Congestion Weighted by VMT	0.7817	0.8463	0.35
	County Road Congestion Weighted by VMT	0.5416	0.8642	2.05
	Total Road Congestion Weighted by VMT	0.7235	0.8514	0.71
3.	State Road Daily VMT per Licensed Driver	21.72	27.34	1.01
	County Road Daily VMT per Licensed Driver	6.92	11.25	2.14
	Total Daily VMT per Licensed Driver	28.65	38.60	1.30
	State Road Annual VMT per Licensed Driver	7,927	9,980	1.01
	County Road Annual VMT per Licensed Driver	2,525	4,105	2.14
	Total Annual VMT per Licensed Driver	10,458	14,088	1.30

The results of Measure #1 indicate that the demand for travel will nearly double between 1997 and 2020. The total daily vehicle miles of travel (VMT) is expected to grow from 10.40 million in 1997 to 20.28 million by 2020, which will be a 2.95 percent annual increase. In addition, the rate of growth in VMT over the next 20 years also shows a shift of where this growth will occur. The VMT in 1997 was split 75.8 percent on the State Highway system, with 24.2 percent on the local system. But, over the next twenty years the local roadway system is expected to carry a larger percentage of overall traffic up from 24.2 percent in 1997 to 29.2 percent in 2020. Between 1997 and 2020 growth on the State system will average 2.65 percent per year, while growth on the local system will average 3.80 percent per year. This clearly indicates that the lo-

cal system over the next twenty years will begin to handle more traffic proportionately than the State system.

Measure #2 is similar to a volume to capacity (v/c) ratio, but instead is the summed average v/c ratio of all roads weighted by the amount of VMT. Therefore, in 2020 when this measure is expected to be 0.8642 on County roads, this means that on average typical travel will occur on County roads that will be at 86 percent of their adopted level-of-service standard.

Overall, the average weighted congestion level of travel is expected to increase from 72.35 percent in 1997 to 85.14 percent in 2020. This is an indication that the demand for travel is growing at a rate faster than capacity is being added to the road system. In addition, the increase in the proportion of travel carried by the non-State road system is expected to increase by more than 5 times the rate of State roads.

The results of Measure #3 indicate the total daily vehicle miles of travel (VMT) per licensed driver is expected to grow from 28.65 miles in 1997 to 38.60 miles by 2020, which will be a 1.30 percent annual increase. Measure #1 shows that the demand for travel will nearly double by 2020. Sixty-seven (67) percent of this increase will be attributable to population growth, while the remaining 33 percent will be attributable to the growing demand for travel per-person. In addition, similar to Measure #1, the rate of growth in VMT per licensed driver over the next 20 years also shows a shift of where this growth will occur – primarily from State to County roads. Between 1997 and 2020 growth in VMT per licensed driver on the State system will average 1.01 percent per year, while growth in VMT per licensed driver on the local system will average 2.14 percent per year. Again similar to Measure #1, this indicates that the local system over the next twenty years will begin to handle more traffic proportionately than the State system.

Table 10.4 shows that the demand for travel is expected to grow more on the County than the State road system. While the State road system carries the majority of travel, the local roadway system is beginning to feel the pressure of congestion. Therefore, one of the strategies pursued in the highway component of the cost feasible *2020 LRTP Refinement* was to improve the network of major County roads to provide arterial roads parallel to State roads to alleviate congestion on the State road system. Examples of this on the west side of the County include: development of the Westside Connector, and improvements to US 17/92, Enterprise Road, and the West Volusia Beltway/Veteran's Memorial Parkway. Examples of this on the east side of the County include: extensions of the Airport Road, Dunn Avenue, LPGA Boulevard, Taylor Road, and Tymber Creek Road corridors, and improvements to Clyde Morris Boulevard and Williamson Boulevard.

Not every road in Volusia County will operate at or better than the level of service standard adopted by each of the local governments, as is indicated by the 2020 weighted congestion level of VMT in Table 10.4. Due to the financial constraints not all level of service issues can be resolved. Three options that can be typically considered by local governments to resolve such situations are:

1. Increase revenues to provide additional and/or alternative transportation systems or services;
2. Modify the standard of acceptable level-of-service (LOS) standards; or
3. Modify growth patterns by the current level of service standards.

The first option looks at increasing the funds that are contributed by the local governments. Each of the local governments have contributed significantly to the financial resources necessary to fund the adopted cost feasible *2020 LRTP Refinement*. The second option looks at modifying the

LOS standards. Except on the state roads, which local governments don't have jurisdictional power, the adopted LOS standards are about as low as they can go. The third option looks at changing the growth patterns to provide incentives for more compact infill development. This is an area that each local government will need to consider as they update their Comprehensive Plans.

## Compatibility With Previous LRTP

The highway component of the previous *2020 Long Range Transportation Plan* was developed inconsistent with local/state constraints, in respect to the adopted number of allowable through lanes. During the refinement process the number of lanes necessary to provide for the mobility of Volusia's citizens were scaled back as much as possible to be consistent with the model projections and applicable local comprehensive plans.

The exceptions are Mason Avenue and US 92 in Daytona Beach, where Volusia County and Daytona Beach have conflicting number of lane standards between their comprehensive plans. The Volusia County Comprehensive Plan states that these facilities are constrained to 4 lanes. However, the Daytona Beach Comprehensive Plan shows that these roads can accommodate 6 lanes of traffic. Since the modeling efforts illustrate congestion problems along these corridors, the adopted cost feasible *2020 LRTP Refinement*, consistent with the previous *2020 Long Range Transportation Plan* and Daytona Beach's Comprehensive Plan, shows that both Mason Avenue and US 92 will be 6 laned facilities by 2020.

In addition, it appears that the number of lanes on DeBary Avenue was also exceeded; however, this is not the case. The DeBary Avenue widening plan, although originally inconsistent, was modified through a re-alignment of the roadway, which allowed this corridor to be improved to four lanes.

The State Road 40 widening project (from Tymber Creek to US 1) was eliminated from the new 2020 Transportation Plan. In place of the State Road 40 widening is the widening of Hand Avenue, a parallel facility. The Dunlawton Avenue widening was also eliminated from the Plan, but this was due to FDOT's policy of not funding the construction of 8 lane roadways.

Roads from the previous and newly adopted long range transportation plans where the recommended number of lanes in the *2020 LRTP Refinement* exceeded the adopted constraint are identified in Table 10.5 below.

**Table 10.5 – Locations Where Planned Road Exceeds Constraint**

Street Name	From	To	Maximum No. of Lanes	Pervious Plan No. of Lanes	New Plan No. of Lanes
DeBary Av	Deltona Blvd.	Providence Blvd.	2U	4D	4D
SR 40 (Granada Blvd)	Nova Rd.	US 1	4D	6D	4D
SR 421 (Dunlawton Av)	I-95	Clyde Morris Blvd.	6D	8D	6D
SR 430 (Mason Av) <sup>1</sup>	Nova Rd.	Seabreeze Bridge	4D	6D	6D
US 92 <sup>1</sup>	Nova Rd.	US 1	4D	6D	6D

1) The Volusia County Comprehensive Plan shows the maximum allowable number of lanes on Mason Av and US 92 at 4, while the City of Daytona Beach's Comprehensive Plan shows the maximum allowable number of lanes on Mason Av and US 92 at 6.

The previous *2020 Long Range Transportation Plan* also assumed a “minimum” right-of-way cross-section to reduce project impacts and costs. These “minimum” cross-section standards were used for the refinement process which included urban construction (closed drainage/curb and gutter) with a 16-foot median, 11 foot lanes, five-foot bicycle lanes, and a ten-foot side-walk/utility strip. On-street parking would not be provided on these roads.

During the public hearing for the previous *2020 Long Range Transportation Plan* (1995), several comments were made by MPO members and the public which the MPO desired to incorporate into its Transportation Plan. These comments were as follows:

- ◆ A corridor study for SR 44 from US 17/92 eastward to I-4 should be undertaken to examine the service ability of the existing alignment for future traffic volumes; and
- ◆ The extension of both Taylor Road (which is the Dunlawton corridor) and SR 442 be considered in future alternative tests to promote convenient access to/from Port Orange and New Smyrna Beach/Edgewater to serve as hurricane evacuation routes.

These issues were considered and evaluated during the *2020 LRTP Refinement* process. In December 2000 the State Road 44 Planning and Environmental (PLEMO) study between the Lake/Volusia county line and I-4 had been completed. By mid 2001 the Program, Development, and Environmental (PD&E) study will begin to take an in-depth look at the traffic issues of State Road 44 in DeLand.

Both the extensions of Dunlawton Avenue and SR 442 were considered and, at least partially, incorporated into the new cost feasible *2020 LRTP Refinement*. The extension of Taylor Road from Tomoka Farms Road (CR 415) to I-4, including an interchange, was adopted into the cost feasible *2020 LRTP Refinement*. The SR 442 corridor extension between SR 415 and I-95 was included, but not all of it. The portion of SR 442 between SR 415 and the Airport Road extension was not included in the cost feasible *2020 LRTP Refinement* due to financial constraints.

## **Public Transportation**

The previous *2020 Long Range Transportation Plan* tested “high” and “low” transit initiatives. These tests indicated that even under the most favorable conditions, fixed-route bus transit does not compete effectively with the private automobile to attract ridership. Even so, the Volusia County MPO is committed to bus transit as an essential alternative mode of mobility to those who do not have access to a private automobile, and as a means to provide an efficient alternative to the private automobile on congested corridors. Volusia County has adopted a standard that transit service will be provided to areas when specific residential densities and non-residential floor area ratios are exceeded (The Volusia County Comprehensive Plan, Policy 2.1.6.5). The transit service plan through 2020 is intended to meet this goal.

VOTRAN, the Volusia County public transportation provider, will implement service changes and expand service as recommended in their latest five-year Transit Development Plan (TDP), which was approved in September 2000. The transit service expansions proposed through 2020 include a continuation of improvements recommended in the TDP, as well as expansion to serve the growing community.

Specific enhancements to service since the last *2020 Long Range Transportation Plan* was adopted in 1995 include:

- ◆ Implementation of “Express Service” to downtown Orlando;
- ◆ Development of a vanpool program;
- ◆ Continuation of the vehicle replacement program;
- ◆ Development of a bus stop inventory;
- ◆ Completion of a Comprehensive Operations Analysis (COA) of service;
- ◆ Implementation of New service to northwest Volusia County; and
- ◆ Installation of bike racks on fixed route buses.

Proposed transit service expansions between 2001 and 2020 include a continuation of the improvements recommended in the TDP such as:

- ◆ Implementation of more frequent Beach Trolley Service;
- ◆ Improve frequency on VOTRAN’s busiest routes;
- ◆ Increase span of service;
- ◆ Upgrade current radio system; and
- ◆ Upgrade fare box system to accept magnetic fare media.

As part of the transportation modeling process to reflect the projected growth in transit services the following improvements to VOTRAN were incorporated into the updated models. Specific changes to the model include increasing the frequency of bus service from 60 minutes to 30 minutes on the following existing routes along:

- ◆ SR A1A;
- ◆ US 1;
- ◆ US 92 (International Speedway Blvd.); and
- ◆ SR 5A (Nova Road).

Also, new routes that have been included in the updated models at the following locations:

- ◆ Clyde Morris Blvd from Tomoka Farms Road south to Dunlawton Avenue;
- ◆ SR 44 from New Smyrna Beach to DeLand;
- ◆ Williamson Road from Tomoka Road to Dunlawton Avenue;
- ◆ Deltona to the Sanford Mall along US17/92; and
- ◆ 10-minute trolley service along SR A1A from Dunlawton Avenue to the Bellair Plaza.

Additional information on the public transportation program in Volusia County can be found in Chapter Six (Public Transportation) of this document.

## Rail

Rail systems are an important consideration in the Volusia County MPO’s priorities. Three levels of rail service are of relevant concern: high-speed statewide rail service, regional commuter rail service, and localized light rail service.

The first of these, high-speed rail, creates the potential for significant benefits because of Daytona Beach’s popularity as a tourist destination. The addition of Volusia County as a destination on a proposed high-speed rail system could increase system ridership and contribute to Volusia County’s economy. In November of 2000 the High-Speed Rail Constitutional Amendment passed by popular vote establishing that a high-speed rail system be under construction by November 1, 2003. The amendment states that this system shall link the five largest urban areas. Below is the wording as it appeared on the November 7<sup>th</sup>, 2000 ballot.

No. 1 CONSTITUTIONAL AMENDMENT  
 ARTICLE X, SECTION 19 (Initiative)  
 Florida Transportation Initiative for statewide  
 high speed monorail, fixed guideway or  
 magnetic levitation system.

To reduce traffic and increase travel alternatives, this amendment provides for development of a high speed monorail, fixed guideway or magnetic levitation system linking Florida’s five largest urban areas and providing for access to existing air and ground transportation facilities and services by directing the state and/or state authorized private entity to implement the financing, acquisition of right-of-way, design construction and operation of the system, with construction beginning by November 1, 2003.

The popularity of the high-speed rail amendment illustrated to policy makers that the citizens of Florida are beginning to look toward alternative modes of transportation other than the single occupant vehicle. Below in Table 10.6 shows how the State and Volusia County voted for this amendment. Proportionately, the citizens of Volusia County supported the high-speed rail amendment by a larger margin than did the citizens throughout the State as a whole.

**Table 10.6 – Vote on the High-Speed Rail Amendment**

<b>Statewide</b>	<b>Votes</b>	<b>Percent</b>
Yes	2,900,253	52.7%
No	2,607,495	47.3%
<b>Total</b>	<b>5,507,748</b>	<b>100.0%</b>
<b>Volusia</b>	<b>Votes</b>	<b>Percent</b>
Yes	99,061	57.8%
No	72,367	42.2%
<b>Total</b>	<b>171,428</b>	<b>100.0%</b>



In coordination with the high-speed rail efforts of the FDOT, rail considerations were included in the major investment study of I-4. The “Interstate-4 Multi-Modal Master Plan/Major Investment Study,” directed by the FDOT, recommended that improvements be made to I-4 by 2020 to include the preparation of an envelope to accommodate high speed and/or commuter rail lines from the Orlando urban area. In its recommendations, this study acknowledged it was not likely that commuter rail service would be extended into Volusia County until after 2020, the horizon year of this plan. However, the Interstate-4 Multi-Modal Master Plan/Major Investment Study was completed prior to the High Speed Rail constitutional amendment and the renewed effort to bring commuter rail into Volusia County.

To encourage the extension of rail service (high speed and commuter rail) and to evaluate the potential for local light rail service, VOTRAN (Volusia County’s Public Transportation provider) and the MPO, with financial assistance from FDOT, undertook a rail feasibility study. The findings of this study have the potential of leading to amendments to the cost feasible *2020 LRTP Refinement* presented herein.

Phase I of the study evaluated potential rail corridors and examined the feasibility of building a rail system or adding rail service in Volusia County, within the context of the overall transportation system and land use development efforts of the County. Rail feasibility was examined on a macro-level; transportation and development needs, which could be addressed by rail service, were also identified. Connections to planned rail service in Orlando and Sanford were investigated and a comparison of the development patterns expected in Volusia County against those of other “new start” rail cities was performed. Financial requirements including local commitments needed to implement rail service were also identified. Phase I of the Volusia County Preliminary Rail Feasibility Study was completed in December 1999. Phase II of the study is pending discussions with CSX regarding the prospect of sharing tracks for commuter rail purposes.

In addition, several previous studies have been completed which have considered and recommended rail transit elements as a component of the County’s ultimate transportation system. Significant among these is the Regional Transit Systems Plan study, prepared by the Central Florida Commuter Rail Authority (now the Central Florida Regional Transportation Authority or LYNX), which called for the implementation of commuter rail service from the DeLand area into Orlando within the next twenty years. The Interstate-4 Multi-Modal Master Plan/Major Investment Study recommended preservation of an “envelope” in the median of I-4 through Volusia County for possible future rail service. However, the I-4 Multi-modal Master Plan did not make specific recommendations for rail service within the study’s twenty-year time frame.

As a result of the initial VOTRAN/MPO study, a commuter rail demonstration project is being developed and has received local Legislative support. While there are several potential scenarios offered by this plan, the Volusia County MPO has included as part of its cost feasible *2020 LRTP Refinement* the support and operation of Commuter Rail between DeLand and Kissimmee along the CSX rail-line, consistent with the proposal from Congressman Mica’s office. The estimated cost of operating such a service within Volusia County is expected to approach \$600,000 annually. These costs would need to be borne by local government support. The capital funding necessary to support this effort would be funded through State and Federal sources.

## Bicycle & Pedestrian

The Volusia County MPO recognizes the importance of providing bicycle and pedestrian facilities as a means of expanding the travel opportunities for county residents who, either by choice or by circumstance, do not use an automobile. These groups often include, but are not limited to, disabled individuals, children, the elderly, and the financially disadvantaged. In treating bicycling and walking as legitimate forms of travel the Volusia County MPO satisfies the spirit and intent of the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21). TEA-21 legislation seeks to “create an integrated, intermodal transportation system which provides travelers with a *real* choice of transportation modes.”

Bicycle and pedestrian facilities also provide expanded recreational opportunities for residents and visitors as well. As a recreational amenity, trail systems throughout Florida generate millions of dollars for state and local economies by attracting visitors from surrounding counties and states. The MPO will work with Volusia County as well as municipal government agencies to incorporate the trail vision into the functional aspects of the MPO planning efforts. An example of this collaboration led to the development of the County’s first multi-use trail running between Gemini Springs Park and the DeBary Mansion. Funded through the Florida Department of Transportation (FDOT) Transportation Enhancement Program, the Spring to Spring Trail opened in August 2000 and is the first phase of a network of multi-use trails that are planned to stretch over 76 miles. As the network expands, it will contribute to continuing economic growth without sacrificing environmental assets.

The Volusia County MPO has programs that address the needs of bicyclists and pedestrians. The MPO staff participates in Community Traffic Safety Programs, which cover the entire county area. In 1991, Volusia County had the fourth highest bicycle crash rate with a total of 281 bicycle crashes per 100,000 residents. By 1999 this rate had decreased to 207 bicycle crashes per 100,000 residents.

To assist in the planning for new facilities the MPO undertook, as part of the refinement process, the development of a methodology to help identify the need for system improvements on a countywide basis. This methodology divides the Volusia County Thoroughfare Roadway Network into small segments and applies a series of measures to each one to help gauge the need for sidewalk or bicycle path improvements.

The performance criteria used in this analysis was based on many of the measures commonly used to evaluate bicycle and pedestrian facilities. Additional consideration was given to input from planning professionals and citizens alike. The measures are supported by available data and are intended to represent a shared vision of the attributes required for providing a safe and practical bicycle and pedestrian network. Four performance measures were developed as part of this methodology.

1. Bicycle and pedestrian injuries per million vehicle miles;
2. Connectivity of Segments;
3. Proximity to Attractions; and
4. Proximity to Transit.

When the performance criteria were applied to each of the segments that comprise the network, the result is a listing of individual segments. The list provides an indication of where investments in bicycle or pedestrian facility improvements are likely to yield the greatest benefit.

The data collected in support of this analysis, along with the evaluation method itself, will serve the MPO during subsequent reviews of the bicycle and pedestrian facilities in Volusia County. However, to remain an effective tool for analysis, it is essential for the Volusia County MPO staff to update the supporting data on an annual basis.

During the long-range planning horizon the Volusia County MPO will continue to enhance the safety and convenience of non-motorized forms of travel. To accomplish this, it will be important for the Volusia County MPO to update the Bicycle and Pedestrian Comprehensive Plans to include clear and attainable goals and objectives. These future plans will provide a logical framework for the continuation of successful programs and strategies as well as the incorporation of new techniques that will improve the overall environment for all travel modes.

For additional information on bicycle and pedestrian issues please refer to Chapter five (Bicycle and Pedestrian and Appendix C). These areas provide an in-depth discussion regarding the methodology that was developed for prioritizing bicycle and pedestrian improvements.

## **Freight Mobility**

Because Volusia County's economy is primarily oriented towards the tourist industry and no substantial degree of heavy industry exists in Volusia County, the movement of goods is focused primarily on trucking and dry goods for retail sales and support of the agriculture. Some industries rely on rail for receiving materials, such as aggregate, newsprint, coal, and brewing materials. The two private rail companies providing freight rail service to Volusia County, CSX and the Florida East Coast Railroad, via direct spur lines and sidings serve these industries. These companies in Volusia County provide no Trailer-on-Flat-Car (TOFC) service. A concrete fabricating plant occasionally uses barges and the Intercoastal Waterway to transport pre-fabricated structural members.

The efficient movement of freight and goods is critically important to maintaining a healthy and growing economy. Transportation costs represent a significant part of the total cost of producing goods and moving them to market. Corporate decision-makers consider these costs when locating production and distribution facilities. Thus, an area with inordinately high transportation costs may find that it can't compete successfully for businesses seeking new sites. Moreover, the cost of transporting goods is reflected in the final price paid by consumers. Clearly, we all benefit when transportation costs are minimized.

Because of Florida's geographic position in relation to the South American and Caribbean markets, it is strategically positioned to benefit from anticipated growth in international shipping activity. However, the degree to which we benefit depends on how well we provide for the efficiency of freight movement through and between our seaports, airports and rail freight terminals.

While it may once have been sufficient to move freight entirely by sea, competition has made it increasingly important to improve transportation efficiency. Shippers have responded by moving from use of single mode transportation to multi-mode transportation. We are now seeing freight transferred from sea to road, rail or air in order to benefit from a particular advantage that each mode may offer. The interconnectivity of the various modes is critical. Containerization has greatly improved the efficiency of interconnectivity and has revolutionized freight transportation.

Despite significant increases in multimodal shipping, trucking still accounts for the biggest share of freight movement. The majority of this activity utilizes the Florida Intrastate Highway Sys-

tem (FIHS)<sup>1</sup> shown in Figure 10.2. The FIHS comprises only about 31 percent of the State Highway System, yet carries approximately 70 percent of all truck travel on the State Highway System.<sup>2</sup>

According to the Florida Department of Transportation (FDOT), travel demand and congestion on the FIHS is increasing more than two times faster than the FDOT can fund and construct lane miles to expand system capacity. Since inception of the FIHS in 1990, travel demand has increased 33%; congested travel has increased 29%; but FIHS lane miles have increased only 12.6%. Even so, traffic congestion and other impediments to truckers most often occurs on the urban streets that serve as direct connectors between the FIHS and the freight intermodal facilities.

Due to Volusia County's economy being oriented towards the tourist industry, it is difficult to assess the need for a stand-alone planning process for freight/goods movement. However, in an effort to include freight/goods movement into the planning process in the future, every effort will be made to incorporate the latest freight modeling techniques as the MPO undertakes its 2025 Long Range Transportation Plan update.

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<sup>1</sup> The FIHS is a statewide road network designed for high speed and high volume traffic, and is made up of Intra-state highways, Florida's Turnpike, expressways, and selected arterial highways. Components of the system in Volusia County include only Interstate Highways 4 and 95 and State Road 40.

<sup>2</sup> Florida Intrastate Highway System Status Report, Florida Department of Transportation, March 1999.

Figure 10.2 – Intrastate Highway System: Existing & Proposed Routes



## Financial Feasibility

The revenue forecasts used during the refinement process were updated with consideration to existing and potential revenue sources. These forecasts provided the financial estimates necessary for the development of alternative actions and strategies.

The anticipated financial revenue estimates for Volusia County through the year 2020 were developed from estimates prepared by FDOT for federal and state revenues, and by Volusia County for local impact fee and local option gas tax revenues. The total amount of federal and state revenues available for capacity enhancing projects between 2006 and 2020 is \$601,091,000. The projected local revenues available for capacity enhancing projects between 2001 and 2020 are \$256,753,000. Thus, the total projected revenues available for roadway capacity improvements are \$857,844,000. These anticipated revenues are summarized in Table 10.7. All revenue and cost forecasts are in 1998 dollars based on multipliers from Table E-1 of FDOT’s “Revenue Forecast Handbook: 2020 Revenue Forecast Update,” November 1999.

**Table 10.7 – Summary of the Revenue Available for the Cost Feasible Plan**

	2001-2005	2006-2010	2010-2020	Total (2006-2020)
<b>FIHS</b>	\$435,994,000	\$116,777,700	\$219,182,300	\$335,960,000
<b>State Highways</b>	\$132,771,000	\$93,941,000	\$171,190,000	\$265,131,000
<b>Local Roads</b>	\$54,475,000	\$66,549,000	\$124,415,000	\$190,964,000
<b>Municipal Contribution</b>	None	\$16,222,500	\$49,566,500	\$65,789,000
<b>Total</b>	<b>\$623,240,000</b>	<b>\$293,490,200</b>	<b>\$564,353,800</b>	<b>\$857,844,000</b>

The costs of the improvements tested during this refinement including design, right-of-way, and construction costs were estimated based on costs of similar projects in the MPO’s adopted Transportation Improvement Program (TIP), estimates of construction costs published by FDOT, and estimates of costs from the Volusia County Engineering Department.

The total amount of federal and state revenues needed to fund the cost feasible 2020 L RTP Refinement capacity enhancing projects between 2006 and 2020 is \$487,315,100. The projected local revenues needed to fund the cost feasible 2020 L RTP Refinement capacity enhancing projects between 2006 and 2020 is \$378,594,300. Thus, the total projected revenues available for roadway capacity improvements are \$865,909,400. These anticipated revenues are summarized in Table 10.8.

**Table 10.8 – Summary of Improvement Costs for the Cost Feasible Plan**

	2001-2005	2006-2010	2010-2020	Total (2006-2020)
<b>Rail</b>	\$0	\$3,400,000	\$6,800,000	\$10,200,000
<b>FIHS</b>	\$402,064,000	\$116,777,700	\$219,182,300	\$335,960,000
<b>State Highways</b>	\$155,359,000	\$65,741,500	\$85,613,600	\$151,355,100
<b>Local Roads</b>	\$51,138,500	\$110,271,000	\$285,123,300	\$368,394,300
<b>Total</b>	<b>\$608,561,500</b>	<b>\$296,190,200</b>	<b>\$569,719,200</b>	<b>\$865,909,400</b>

The cost feasible *2020 LRTP Refinement* adopted by the MPO exceeds our expected revenues by approximately \$8 million. If we consider that the deficit will be realized in roughly equal parts during Phases 2 and 3, the projected revenues agree to within 1% of the estimated cost of the cost feasible *2020 LRTP Refinement* for each phase. This difference is reasonable given the length of the planning period and available cost estimation techniques.

For additional detail on the financial estimates and methodology please refer to Chapter 9, Appendix A, and Appendix B of this document.

## Unfunded Projects

Like many areas around the nation transportation demands within Volusia County continue to outpace the funding available for road construction and maintenance. Given the limited availability of funds, allocating financial resources necessary to upgrade and maintain the transportation system continues to present a challenge to planning officials.

Not all of the projects tested throughout the three alternatives testing runs made it into the final cost feasible *2020 LRTP Refinement*. There were two types of projects not included in the final plan. The first type of projects were roadway capacity improvements that were tested as part of the refinement process, but were eliminated either due to a lack of demonstrated need or a funding shortfall. A project of this type would include the extension of State Road 442 from State Road 415 east to the Airport Road extension. This project was not included due to financial constraints.

The second type of projects not specifically included in the adopted cost feasible *2020 LRTP Refinement* were non-motorized projects, such as bicycle and pedestrian improvement projects. Projects of this nature were not specifically listed in the adopted cost feasible *2020 LRTP Refinement*, but are consistent with the Goals and Objectives listed in Chapter 3 (Goals and Objectives) of this document. Goal 1.2 and its associated Objectives all speak toward the inclusion of alternative forms of transportation to the automobile as being important to the MPO. Projects of this type would include the safety and traffic operational enhancements being proposed by Daytona Beach Shores. This project grew out of the “SR A1A Corridor Enhancement Study,” which looked at bicycle and pedestrian improvements along SR A1A from SR 40 (Granada Boulevard) in Ormond Beach all the way south to SR 421 (Dunlawton Avenue) in Daytona Beach Shores. The projects listed in this report are all consistent with the Goals and Objectives of the MPO’s cost feasible *2020 LRTP Refinement*, but are not specifically included as identified projects in the Plan. Many of these non-motorized types of projects are identified and funded on a quicker timeline than typical roadway projects. While not specifically listed in the fiscally constrained project listings, this project, and other similar projects are consistent with the cost feasible *2020 LRTP Refinement*.

Table 10.9 below lists all of the roadway capacity improvement projects that were tested but not included in the final cost feasible *2020 LRTP Refinement*. The total amount of federal and state roadway capacity improvement projects not included in the final plan was \$108,026,900; and the total amount of local roadway capacity improvement projects not included in the final plan was \$184,298,800. In all (federal, state, and local projects), more than \$292 million worth of roadway capacity improvement projects did not make it into the adopted cost feasible *2020 LRTP Refinement*.

**Table 10.9 – Unfunded Projects**

Road Name	Limits (From - To)	Improvement	Estimated Costs
<b>Florida Intrastate Highway System (FIHS) Roads</b>			
I-95	between US 1 and SR 40 (Ormond Beach)	New Interchange	\$17,126,800
I-4	Seminole County to SR 472	Widen to 8 Lanes	\$31,688,400
SR 40	Tymber Creek to Nova Rd	Widen to 6 Lanes	\$22,105,300
<b>Subtotal</b>			<b>\$70,920,500</b>
<b>Non-FIHS State Roads</b>			
SR A1A	Sandra Dr to Neptune Av	Widen to 3 Lanes	\$9,850,900
SR 400 (Beville Rd)	I-95 to SR 483 (Clyde Morris Blvd)	Widen to 6 Lanes	\$10,738,900
SR 421 (Dunlawton Av)	Williamson/Airport Rd to I-95	Widen to 6 Lanes	\$619,600
SR 421 (Dunlawton Av)	Nova Rd to Spruce Creek Rd	Widen to 6 Lanes	\$3,717,300
SR 442 (Indian River Blvd)	SR 415 to Airport Rd	Extend as 2 Ln Rd	\$10,892,200
SR 472	Kentucky Av to I-4	Widen to 6 Lanes	\$1,287,500
<b>Subtotal</b>			<b>\$37,106,400</b>
<b>Local Roads</b>			
Bellevue Av	US 92 to Williamson Rd	Widen to 4 Lanes	\$7,156,800
Beresford Av	SR 15A to US 17/92	Widen to 4 Lanes	\$11,741,600
Beresford Av	SR 15A to US 17/92	Widen to 3 Lanes	\$6,636,500
Dirksen/DeBary/Doyle	Providence Blvd to SR 415	Widen to 4 Lanes	\$17,516,800
Dunn Av	LPGA Blvd to Williamson Blvd	Widen to 4 Lanes	\$2,887,500
Frontage Rd (along I-4)	Orange Camp Rd to SR 472	Widen to 4 Lanes	\$1,973,100
Garfield Av	Beresford Av to Taylor Rd	Extend as 2 Ln Rd	\$1,092,000
Hand Av	SR 40 to Williamson Blvd	Extend as 2 Ln Rd	\$12,260,100
Hand Av	Tymber Creek Rd to Nova Rd	Widen to 4 Lanes	\$9,853,200
New Smyrna Collector Rd	Pioneer Trail to SR 442 (extension)	Extend as 2 Ln Rd	\$8,190,000
Old Mission Rd	Josephine St to Eslinger Rd	Widen to 4 Lanes	\$2,346,000
Park Av	Airport Rd (extension) to Old Mission Rd	Extend as 2 Ln Rd	\$7,389,000
Pioneer Trail	Turnbull Bay Rd to Sugar Mill Rd	Widen to 4 Lanes	\$5,474,000
Saxon Blvd	US 17/92 to Normandy Blvd	Widen to 6 Lanes	\$11,986,600
Spruce Creek Rd	Dunlawton Av to Nova Rd	Widen to 4 Lanes	\$24,975,000
Spruce Creek Rd	Taylor Rd to Central Park Blvd	Widen to 4 Lanes	
Sugar Mill Rd	Pioneer Trail to SR 44	Widen to 4 Lanes	\$4,066,400
Tomoka Farms Rd (CR 415)	LPGA Blvd to US 92	Extend as 2 Ln Rd	\$4,095,000
Tomoka Farms Rd (CR 415)	US 92 to LPGA/Madeline (extension)	Widen to 4 Lanes	\$13,031,200
Tomoka Farms Rd (CR 415)	LPGA/Madeline Av to Taylor Rd	Widen to 4 Lanes	\$11,717,100



**Table 10.9 – Unfunded Projects**

<b>Road Name</b>	<b>Limits (From - To)</b>	<b>Improvement</b>	<b>Estimated Costs</b>
Westside Connector	Saxon Blvd to Highbanks Rd	New 2 Lane Corridor	\$1,554,000
W. Volusia Bltwy/Veteran's Mem Pkwy	US 92 to SR 44	Widen to 4 Lanes	\$8,717,800
Williamson Blvd	US 92 to Beville Rd	Widen to 6 Lanes	\$4,562,000
Williamson Blvd	Airport Rd to Pioneer Trail/Turnbull Bay Rd	Widen to 4 Lanes	\$5,077,100
<b>Subtotal</b>			<b>\$184,298,800</b>
<b>Unfunded Projects Total Costs</b>			<b>\$292,325,700</b>