



Chapter 7: Needs Plan and Alternatives Testing

Introduction

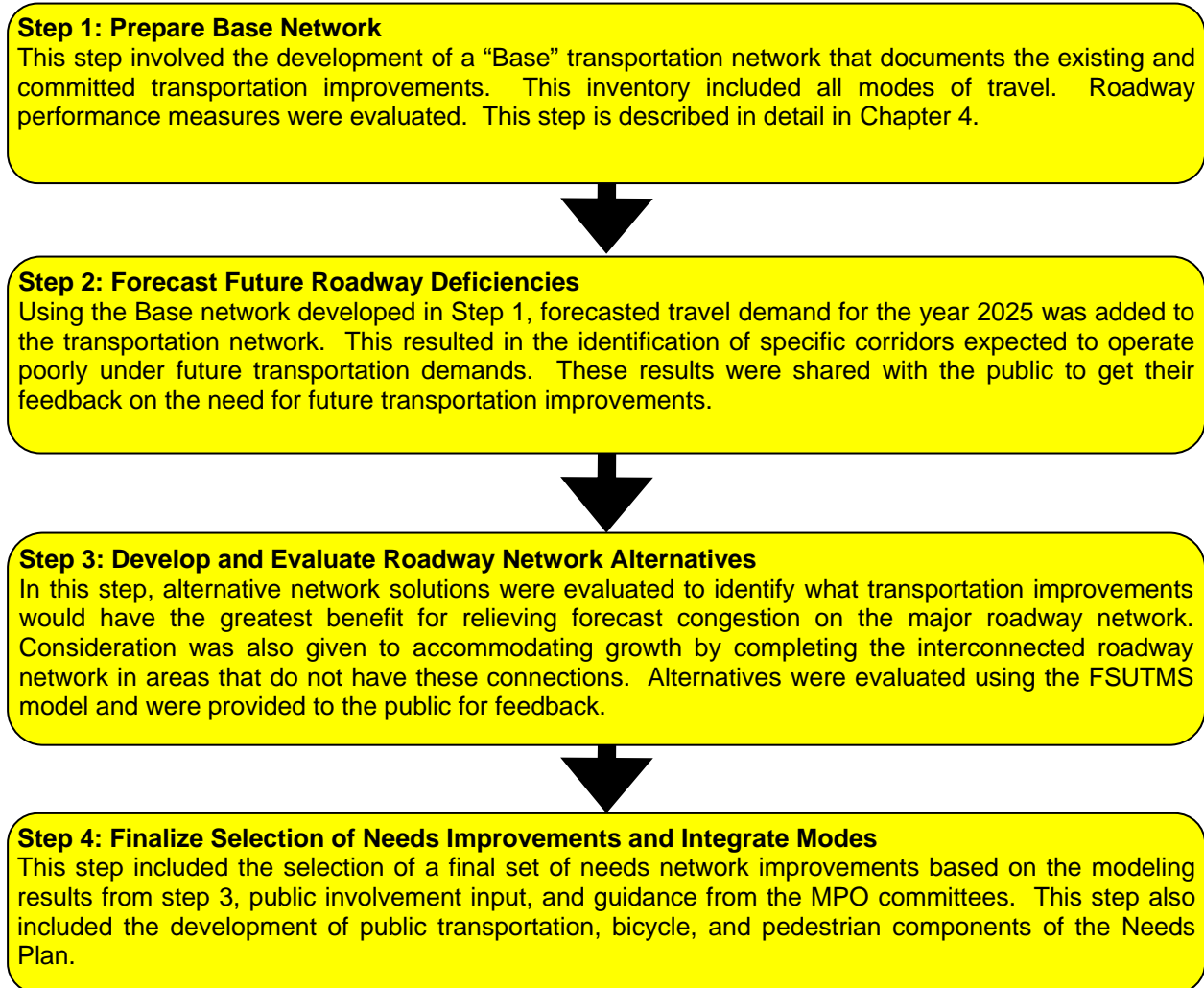
This chapter discusses the development of the Needs Plan, the transportation improvements included in the Needs Plan, and the alternatives evaluated throughout the development of the Needs Plan.

The Needs Plan was adopted on August 17, 2005 by the Lake-Sumter MPO Board. This plan represents the needed multimodal transportation improvements in the MPO planning area without regard to costs. The Needs Plan was later used as a foundation for the Cost Affordable Plan. If additional funding becomes available the Cost Affordable Plan can be amended to include additional projects from the Needs Plan or to fund other priorities.

Methodology

The methodology for developing the Needs Plan is illustrated in Figure 7-1 below:

Figure 7-1: Needs Plan Process



Prepare Base Network

The initial step included the development of a base transportation network that represents the Existing + Committed improvements identified in Chapter 4. This network was inputted into a transportation demand model.

Forecast Future Roadway Deficiencies

The second step involved forecasting the travel demand on the base network using the forecast socioeconomic data for 2025. This evaluation produced a forecast of the performance of the road system if no additional improvements were undertaken after the projects that were reasonably expected to be completed by the year 2010. A discussion concerning the development of the socioeconomic data is included as Chapter 5 of this report.

Develop and Evaluate Roadway Network Alternatives

The third step was to develop and evaluate needs plan roadway network alternatives. These alternatives were created through an assessment of roads that are forecast to be deficient if no roadway improvements were undertaken after the committed projects. Adjustments were made based on professional judgment and the consideration of public input. This step was performed in multiple iterations to test the effect of different alternatives to address congestion.

Finalize Selection of Needs Improvements and Integrate Modes

The fourth step was to finalize the selection of roadway improvements and to integrate other transportation modes, such as pedestrians, bicycles, and transit. Also included in this plan is the integration of Rails-to-Trails projects.

This plan built on work previously undertaken in the Minneola Areawide Study. The Minneola Areawide Study included revisions to the traffic analysis zone revisions and roadway network in the Minneola area using the Lake County Model. These revisions were brought forward into the Central Florida Regional Planning Model. The Lake County Model was used to forecast travel demand on the roadway network during the early stages of the needs plan development while the regional model was being developed. After the release of the regional model, the Needs Plan was evaluated using the regional model.

This Needs Plan also includes several major improvements, such as:

- The Wekiva Parkway, a freeway that connects I-4 south of Orlando to I-4 north of Orlando, effectively creating a complete beltway around Orlando
- The SR 46 Bypass, a freeway parallel to SR 46 in the Mount Plymouth area, connecting the Wekiva Parkway to US 441 in Mount Dora
- A toll freeway extending across the northern portion of the county connecting I-75 with the proposed Wekiva Parkway
- A North-South reliever for US 27 in the Leesburg Area
- A new turnpike interchange in Minneola
- The extension of the SR 408 East-West Expressway to US 27

Improvements Included in the Needs Plan

Table 7-1 displays the roadway improvement projects included in the needs plan. These projects are highlighted on Map 7-1. There are 894 lane-miles of roadway improvement projects, which is an increase of 53 percent over the Existing + Committed Network.



Map 7-2 illustrates the Pedestrian Facility Needs Plan. For Pedestrian Facilities, a project was considered a need if the following criteria are met:

- No sidewalk exists
- The location of the roadway is in an area expected to be urbanized
- The roadway is not a freeway

The Pedestrian Facilities Needs Plan includes 285.6 centerline miles of new sidewalks adjacent to roadways. Also included on Map 7-2 are the Rails-to-Trails needs.

Table 7-1: 2025 Needs Plan Projects and Costs

	Street	From Street	To Street	2010 Road Type	2025 Needs Road Type	Design Cost	ROW Cost	Construction Cost	Total Cost
SIS	SR 91	SULLIVAN RD	ORANGE CO. LINE	4F	6F	\$ 6,827,656	\$ 5,057,523	\$ 25,287,616	\$ 57,172,795
	SR 25 (US 27)	CR 561A	O'BRIEN RD	4D	6D	\$ 9,503,356	\$ 33,358,301	\$ 45,392,506	\$ 88,254,163
	SR 25 (US 27)	CR 33	SR 44	4D	6D	\$ 2,654,502	\$ 1,966,297	\$ 9,831,489	\$ 14,452,288
	SR 25 (US 27)	MAIN ST	MAIN ST	4U	6D	\$ 1,593,344	\$ 1,180,255	\$ 5,901,273	\$ 8,674,872
	SR 46 BYPASS	SR 46	ORANGE COUNTY LINE	00	4F	\$ 5,803,237	\$ 4,298,694	\$ 21,493,469	\$ 31,595,400
	US 27/US 441	WEST BOONE CT	POLK COUNTY	4D	6D	\$ 789,942	\$ 585,142	\$ 2,925,710	\$ 4,300,794
	WEKIVA PKWY	ORANGE COUNTY LINE	SEMINOLE COUNTY LINE	00	4F	\$ 11,232,759	\$ 8,320,562	\$ 41,602,812	\$ 61,156,133
State Roads	SR 19	SR 25 (US 27)	O'BRIEN RD (N)	2U	4D	\$ 1,573,189	\$ 1,165,325	\$ 5,826,627	\$ 8,565,141
	SR 19	CR 48	CR 561	2U	6D	\$ 15,406,283	\$ 2,919,022	\$ 57,060,307	\$ 75,385,612
	SR 19	CR 561	SR 19 (NB/SB)	4D	6D	\$ 3,146,352	\$ 2,330,632	\$ 11,653,162	\$ 17,130,146
	SR 19	CR 450 (S)	CR 42	2U	4D	\$ 1,840,656	\$ 1,363,449	\$ 6,817,245	\$ 10,021,350
	SR 19	SR 50 (EB)	SR 25 (US 27)	2U	4D	\$ 4,546,418	\$ 3,367,717	\$ 16,838,582	\$ 24,752,717
	SR 19 / CR 561 CONNECTOR	SR 19	CR 561	00	4D	\$ 4,618,583	\$ 3,421,173	\$ 17,105,864	\$ 25,145,620
	SR 33	LAKE ERIE RD	SR 50	2U	4D	\$ 4,308,872	\$ 3,191,756	\$ 15,958,782	\$ 23,459,410
	SR 408	SR 27	ORANGE COUNTY LINE	00	4F	\$ 6,138,848	\$ 4,547,295	\$ 22,736,473	\$ 33,422,616
	SR 44	CR 44	VOLUSIA CO. LINE	2U	4D	\$ 15,236,586	\$ 11,286,359	\$ 56,431,796	\$ 82,954,741
	SR 46	SR 500 (US 441)	SEMINOLE CO LINE	2U	4D	\$ 9,566,461	\$ 7,086,267	\$ 35,431,337	\$ 52,084,065
	SR 50	SUMTER CO. LINE	SUNSET AV	2U	4D	\$ 2,761,960	\$ 2,045,897	\$ 10,229,482	\$ 15,037,339
	SR 50	CR 561	HANCOCK RD	4D	6D	\$ 3,962,657	\$ 2,935,301	\$ 14,676,507	\$ 21,574,465
	SR 500 (US 441)	CR 44A	WOLF BRANCH RD	4D	6D	\$ 4,997,224	\$ 3,701,648	\$ 18,508,237	\$ 27,207,109
Roads	BRONSON RD	CR 561	LAKESHORE DR	00	2U	\$ 193,922	\$ 228,144	\$ 1,140,720	\$ 1,562,786
	CAPT. HAYNES	SR 19	DEAD RIVER RD	00	2U	\$ 206,769	\$ 243,258	\$ 1,216,288	\$ 1,666,315
	CHERRY LAKE RD	CR 478	E APSHAWA RD	2U	4D	\$ 716,447	\$ 842,879	\$ 4,214,394	\$ 5,773,720
	CR 25	US 27/US 441 (S)	US 27/US 441 (N)	2U	2D	\$ 74,534	\$ 87,687	\$ 438,433	\$ 600,654
	CR 25A	THOMAS AV	CR466A	2U	2D	\$ 141,506	\$ 166,478	\$ 832,391	\$ 1,140,375
	CR 25	US 27/US 441 (N)	MARION CO. LINE	2U	4D	\$ 741,432	\$ 872,273	\$ 4,361,364	\$ 5,975,069
	CR 33	CR 48	CR 470	2U	4D	\$ 174,443	\$ 205,227	\$ 1,026,136	\$ 1,405,806
	CR 33	CR 470	SR 25 (US 27)	2U	6D	\$ 939,966	\$ 1,105,843	\$ 5,529,214	\$ 7,575,023
	CR 437	SR 46	WOLF BRANCH RD	2U	4D	\$ 167,553	\$ 197,121	\$ 985,606	\$ 1,350,280
	CR 439	SR 44	CR 44A	2U	4D	\$ 514,958	\$ 605,833	\$ 3,029,167	\$ 4,149,958
	CR 44	SR 500 (US 441)	CR 473	2U	4D	\$ 1,423,300	\$ 1,674,470	\$ 8,372,349	\$ 11,470,119
	CR 44	CR 473	CR 44A (LEG)	2U	6D	\$ 5,629,443	\$ 6,622,873	\$ 33,114,371	\$ 45,366,687
	CR 44	CR 44A (LEG)	SR 44	2U	4D	\$ 380,117	\$ 447,197	\$ 2,235,985	\$ 3,063,299
	CR 441 (OLD)	SR 500 (US 441)	SR 19	2U	4D	\$ 99,939	\$ 117,576	\$ 587,879	\$ 805,394
	CR 441 (OLD)	SR 19	CR 44C	2U	2D	\$ 486,926	\$ 572,854	\$ 2,864,270	\$ 3,924,050
	CR 448	CR 561	ORANGE COUNTY LN	2U	4D	\$ 1,763,171	\$ 2,074,318	\$ 10,371,591	\$ 14,209,080
	CR 448	SR 500 (US 441)	SR 44	4D	6D	\$ 1,880,852	\$ 1,393,224	\$ 6,966,119	\$ 10,240,195
	CR 448A	CR 48	DUDA RD	2U	4D	\$ 173,992	\$ 204,697	\$ 1,023,485	\$ 1,402,174
	CR 44A	ESTES RD	CR 439	2U	6D	\$ 1,493,167	\$ 1,756,667	\$ 8,783,333	\$ 12,033,167
	CR 44A (LEG)	CR 44	CR 44A	2U	6D	\$ 577,903	\$ 679,886	\$ 3,399,432	\$ 4,657,221
	CR 452	SR 19 (NB)	CR 44	2U	4D	\$ 316,110	\$ 371,894	\$ 1,859,470	\$ 2,547,474
	CR 455	CR 561	SR 19	2U	4D	\$ 928,561	\$ 1,092,424	\$ 5,462,121	\$ 7,483,106
	CR 455B	FOSGATE RD	CR 581	00	4D	\$ 526,485	\$ 619,394	\$ 3,096,970	\$ 4,242,849
	CR 460	CR 468	US 27/US 441	00/2U	4D	\$ 474,004	\$ 557,651	\$ 2,788,257	\$ 3,819,912
	CR 466	CR 101	US 27/US 441	4D	6D	\$ 1,320,445	\$ 1,553,464	\$ 7,767,321	\$ 10,641,230
	CR 466A	SUMTER CO. LINE	US 27/US 441	2U	4D	\$ 5,274,228	\$ 9,429,825	\$ 19,868,421	\$ 34,572,474
	CR 468	SR 44	CR 466A	2U	4D	\$ 1,156,064	\$ 1,360,076	\$ 6,800,379	\$ 9,316,519
	CR 46A	ORLANDO BELTWAY	ORLANDO BELTWAY	2U	4D	\$ 1,841,344	\$ 2,166,288	\$ 10,831,440	\$ 14,839,072
	CR 470	SUMTER CO. LINE	SR 91	2U	4D	\$ 315,144	\$ 370,758	\$ 1,853,788	\$ 2,539,690
	CR 470	SR 91	SR 25 (US 27)	2U	6D	\$ 2,510,611	\$ 2,953,660	\$ 14,768,300	\$ 20,232,571
	CR 473	SR 500 (US 441)	CR 44	2U	4D	\$ 1,289,875	\$ 1,517,500	\$ 7,587,500	\$ 10,394,875
	CR 478	SR 19	CHERRY LAKE RD	2U	4D	\$ 1,214,470	\$ 1,428,788	\$ 7,143,940	\$ 9,787,198
	CR 48	SR 25 (US 27)	SR 19	2U	6D	\$ 4,404,392	\$ 5,181,638	\$ 25,908,191	\$ 35,494,221
	CR 48	N. AUSTIN MERRITT	CR 33	2U	4D	\$ 1,459,811	\$ 1,717,424	\$ 8,587,121	\$ 11,764,356
	CR 48	CR 561	CR 448A	2U	4D	\$ 1,364,572	\$ 1,605,379	\$ 8,026,894	\$ 10,996,845
	CR 50	LAKESHORE DR	SR 25 (US 27)	00	2U	\$ 48,634	\$ 57,216	\$ 286,080	\$ 391,930
	CR 50	TURKEY FARMS RD	HANCOCK RD	2U	4D	\$ 94,466	\$ 111,136	\$ 555,682	\$ 761,284

	Street	From Street	To Street	2010 Road Type	2025 Needs Road Type	Design Cost	ROW Cost	Construction Cost	Total Cost
County F	CR 561	SR 25 (US 27)	SR 19	2U	4D	\$ 4,167,639	\$ 4,903,107	\$ 24,515,530	\$ 33,586,276
	CR 561A	CR 561	FOSGATE RD	2U	4D	\$ 688,500	\$ 810,000	\$ 4,050,000	\$ 5,548,500
	CR 565A	SR 50	CR 561A	2U	2D	\$ 346,642	\$ 407,814	\$ 2,039,072	\$ 2,793,528
	CRITTEDEN RD	SR 50	SR 33	00	2U	\$ 65,059	\$ 76,540	\$ 382,699	\$ 524,298
	DUDA RD	CR 448A	COUNTY LINE	2U	4D	\$ 202,455	\$ 238,182	\$ 1,190,909	\$ 1,631,546
	E. APSHAWA RD	CHERRY LAKE RD	SR25 (US 27)	2U	4D	\$ 492,034	\$ 578,864	\$ 2,894,318	\$ 3,965,216
	E. ORANGE AV	SR 19 (SB)	CR 44	2U/4U	4D	\$ 1,427,216	\$ 1,057,197	\$ 5,285,986	\$ 7,770,399
	EAGLESNEST RD	US 27/US 441	CR 44	00/2U	6D	\$ 964,794	\$ 1,135,052	\$ 119,594,559	\$ 121,694,405
	EAST-WEST EXPRESSWAY	COUNTY LINE	SR 46	00	4F	\$ 2,657,150	\$ 1,968,259	\$ 9,841,295	\$ 14,466,704
	EICHELBERGER	SR 19	CR 561	2U	6D	\$ 733,109	\$ 862,481	\$ 4,312,405	\$ 5,907,995
	FOSGATE RD	TURNPIKE INTERCHANGE RD	CR 455 (W)	00	4D	\$ 1,175,448	\$ 1,382,879	\$ 6,914,394	\$ 9,472,721
	GOLF LINKS	KURT ST	SR 19	00	2U	\$ 59,859	\$ 70,422	\$ 352,112	\$ 482,393
	GRASSY LAKE RD	TURKEY FARMS RD	SULLIVAN RD	2U	4D	\$ 165,170	\$ 194,318	\$ 971,591	\$ 1,331,079
	HANCOCK RD	LAKE LOUISA RD	SR 50	2U	4D	\$ 1,263,666	\$ 1,486,667	\$ 7,433,333	\$ 10,183,666
	HARTLE RD	SHELL POND RD	SR 50	00/2U	4D	\$ 2,321,722	\$ 2,731,439	\$ 13,657,198	\$ 18,710,359
	HOOKS ST	LAKESHORE DR	SR 25 (US 27)	00	2U	\$ 55,271	\$ 65,025	\$ 325,123	\$ 445,419
	HOOKS ST	HANCOCK RD	HARTLE RD	00	4D	\$ 499,761	\$ 587,955	\$ 2,939,773	\$ 4,027,489
	JOHNS LAKE RD	HANCOCK RD	HARTLE RD	00	2U	\$ 218,851	\$ 257,472	\$ 1,287,358	\$ 1,763,681
	KURT ST	SR 500 (US 441)	GOLF LINKS	2U	2D	\$ 110,440	\$ 129,930	\$ 649,650	\$ 890,020
	LAKE ELLA RD	NORTH-SOUTH CORRIDOR	PADGETT LN	00	6D	\$ 1,410,274	\$ 1,659,146	\$ 8,295,729	\$ 11,365,149
	LAKE GRIFFIN RD	LEMMON ST	GRAYS AIRPORT RD	2U	2D	\$ 275,852	\$ 324,531	\$ 1,622,656	\$ 2,223,039
	LAKE LOUISA RD	HANCOCK RD	SR 25 (US 27)	2U	4D	\$ 225,958	\$ 265,833	\$ 1,329,167	\$ 1,820,958
	LAKESHORE DR	CRESCENT LN	LAKE LOUISA RD	2U	2D	\$ 262,826	\$ 309,207	\$ 1,546,037	\$ 2,118,070
	LOG HOUSE RD	CR 561	LAKESHORE DR	00	2U	\$ 133,666	\$ 157,254	\$ 786,269	\$ 1,077,189
	N. FRONTAGE RD	START	CR 50	00	2U	\$ 324,009	\$ 381,188	\$ 1,905,938	\$ 2,611,135
	N. GRASSY LAKE RD	SR 25 (US 27)	TURKEY FARMS RD	00	4D	\$ 363,439	\$ 427,576	\$ 2,137,879	\$ 2,928,894
	NORTH-SOUTH CORRIDOR	SR 91	US 27/US 441	00	4D	\$ 5,442,867	\$ 5,520,955	\$ 27,604,772	\$ 38,568,594
	NORTH-SOUTH CORRIDOR	CR 466	OAK ST	2U	4D	\$ 168,004	\$ 197,652	\$ 988,258	\$ 1,353,914
	PADGETT LN	LAKE ELLA RD	US 27/US 441	00	6D	\$ 279,120	\$ 328,377	\$ 1,641,884	\$ 2,249,381
	Q	CR 25A	SR 44	00	4D	\$ 455,008	\$ 535,303	\$ 2,676,515	\$ 3,666,826
	RADIO RD	TREADWAY SCHOOL RD	CR 44	2U	4D	\$ 584,568	\$ 687,727	\$ 3,438,636	\$ 4,710,931
	RANCH RD	WOLF BRANCH RD	SR 44	00	4D	\$ 871,636	\$ 1,025,455	\$ 5,127,273	\$ 7,024,364
ROUND LAKE RD	ORANGE CO. LINE	WOLF BRANCH RD	2U	4D	\$ 688,629	\$ 810,152	\$ 4,050,758	\$ 5,549,539	
SHELL POND RD	SR 25 (US 27)	ORANGE CO. LINE	00	4D	\$ 1,331,924	\$ 1,566,970	\$ 7,834,849	\$ 10,733,743	
SULLIVAN RD	GRASSY LAKE RD	TURKEY FARMS RD	00	2U	\$ 184,134	\$ 216,629	\$ 1,083,144	\$ 1,483,907	
TURKEY FARMS RD	CR 50	SULLIVAN RD	00	4D	\$ 927,015	\$ 1,090,606	\$ 5,453,030	\$ 7,470,651	
TURNPIKE INTERCHANGE RD	TURKEY FARM RD	FOSGATE RD	00	6D	\$ 435,798	\$ 512,704	\$ 2,563,518	\$ 3,512,020	
WOLF BRANCH RD	SR 500 (US 441)	CR 437	2U	4D	\$ 1,593,493	\$ 1,874,697	\$ 9,373,485	\$ 12,841,675	
Totals	SIS Facilities					\$ 38,404,796	\$ 54,766,774	\$ 152,434,875	\$ 265,606,445
	Other State Roads					\$ 78,104,089	\$ 49,361,841	\$ 289,274,401	\$ 416,740,331
	County Roads					\$ 75,892,562	\$ 89,028,585	\$ 531,781,504	\$ 696,702,651
	Plan Total					\$ 192,401,447	\$ 193,157,200	\$ 973,490,780	\$ 1,379,049,427

Lake - Sumter MPO

2025 Long Range Transportation Plan

FLAGLER

VOLUSIA

MARION

SEMINOLE

ORANGE

Alignment to be determined

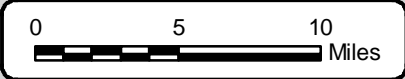
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LEGEND

		NUMBER OF LANES			
		2	3	4	6
ROAD TYPE	One-Way	---			
	Undivided	—	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
	Divided	—		■ ■ ■ ■	■ ■ ■ ■
	Freeway			■ ■ ■ ■	■ ■ ■ ■

- New or Expanded Roads
- New Cross-County Toll Facility
- New North South US 27/US 441 Reliever
- SR 46 Bypass
- Wekiva Parkway



Map 7-1
2025 Needs Plan
Number of Lanes & Road Type



Lake - Sumter MPO

2025 Long Range Transportation Plan

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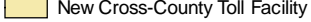
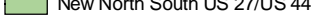
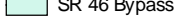
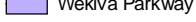
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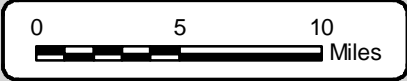
Alignment to be determined

SUMTER

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LEGEND

-  Existing Rails-to-Trails
-  Proposed Rails-to-Trails
-  Existing Sidewalks
-  Sidewalk Needs Plan
-  New Cross-County Toll Facility
-  New North South US 27/US 441 Reliever
-  SR 46 Bypass
-  Wekiva Parkway



Map 7-2
2025 Needs Plan
Pedestrian Facilities



Map 7-3 illustrates the Bicycle Facilities Needs Plan, which includes on-road bicycle facilities, multi-use trails, and Rails-to-Trails projects. Similar to above, for bicycle facilities, a location was considered a need if the following criteria were met:

- No bicycle facility exists
- The roadway is not freeway

It is noted that new toll projects generally have a multi-use trail located adjacent to them. Because of this, the SR 46 Bypass and Wekiva Parkway are shown on the maps as bicycle facility needs, although they are intended for both bicyclists and pedestrians. Also, Rails-to-Trails projects that are identified as needs are included as bicycle facility needs. The Rails-to-Trails projects are illustrated on both the pedestrian and bicycle needs maps. The Bicycle Facility Needs Plan includes 348.5 centerline miles of new bicycle facilities on or adjacent to roadways in addition to those constructed concurrently with roadway improvement projects, 106.7 miles of multi-use trails projects and Rails-to-Trails projects.

The Transit Needs Plan is illustrated in Map 7-4. Transit needs were identified primarily from the Lake County Transit Development Plan. It is anticipated that additional needs will be developed through the Transit Development Plan update process. This Needs Plan includes 7 transit routes, which provide service to 57.7 centerline miles of roadways. The transit service area, a ¼ mile buffer distance surrounding the bus routes, should include an area of 17,265 acres. Based on the forecast socioeconomic data, the transit service area should include approximately 38,730 people in 2025, which is an increase of 32 percent from 2000. Two of these bus routes are extensions of LYNX bus routes, and five of the routes are new transit routes to be operated by Lake County Transit.

Lake - Sumter MPO

2025 Long Range Transportation Plan

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SEMINOLE








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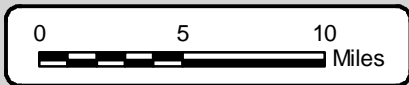
SUMTER

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Alignment to be determined

LEGEND

-  Existing Rails-to-Trails
-  Proposed Rails-to-Trails
-  Bicycle Needs Plan
-  New Cross-County Toll Facility
-  New North South US 27/US 441 Reliever
-  SR 46 Bypass
-  Wekiva Parkway



Map 7-3
2025 Needs Plan
Bicycle Facilities





Lake-Sumter
MPO

Tindale Oliver &
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Powered by VTMS

Lake - Sumter MPO

2025 Long Range Transportation Plan

2025 Needs Plan Transit Routes

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



Alignment to be determined

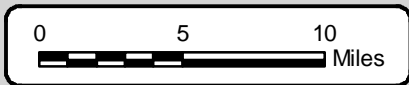
SUMTER

ORANGE

POLK

LEGEND

-  Lynx 55 Extension (US 192)
-  New Lynx Route (SR 50)
-  Mall West
-  Mid-County Mall East
-  Leesburg
-  Eustis
-  Golden Triangle
-  Lady Lake
-  New Cross-County Toll Facility
-  New North South US 27/US 441 Reliever
-  SR 46 Bypass
-  Wekiva Parkway



Map 7-4
2025 Needs Plan
Transit Routes

Performance of the 2025 Needs Plan

As part of the development of the 2025 Needs Plan, a travel demand model was used to forecast roadway volumes in the year 2025. Traffic volumes from the travel demand model were imported into a database that was used to perform a Generalized Level of Service Analysis and to summarize performance of the MPO's major road network by calculating the percent of vehicle miles of travel in congested conditions. This summary is included in Tables 7-2 and 7-3. Table 7-2 includes a summary of vehicle miles of travel on roadways where the roadway volume is greater than the roadways maximum service volume, which is the volume that corresponds to the roadways adopted Level of Service Standard. Table 7-3 includes a summary of the vehicle miles of travel on roadways that are greater than their physical capacity. These reports give an overall indicator of roadway transportation in the Lake-Sumter MPO planning area. Based on these reports, 29 percent of the vehicle miles of travel are forecasted to be in deficient conditions, and 11 percent of the vehicle miles of travel are forecasted to be in severely congested conditions.

A generalized Level of Service Analysis was performed for all the roads on the MPO's Major Road Network. The result of this analysis is included in Map 7-5. The roads highlighted in purple on the map are roads that are forecasted to be deficient, which means that their volume is greater than their maximum service volume. This map illustrates the following roads as severely congested, with a Level of Service of F. These roadways are colored as red in Map 7-5.

- US 27/US 441 from Lake Ella Road to Marion County, and in some portions of Leesburg
- Morse Boulevard from CR 101 to US 27
- CR 48 from CR 33 to CR 470
- SR 50 in Clermont
- US 27 in Minneola
- SR 50 in Groveland
- SR 33/SR 19 Connector in Groveland
- SR 33 through the Green Swamp
- Old CR 441 in Tavares
- SR 44 in Mount Dora
- Wolf Branch Road in Mount Dora
- CR 437 in Mount Dora
- SR 44 in the northeastern part of the county



This map also illustrates the following roads as deficient, and approaching a severely congested condition, with a Level of Service of E. These roadways are colored as orange in Map 7-5.

- CR 452 from Emerald Ave to North County Line
- CR 48 from Sumter County to CR 33 in Leesburg
- SR 19 from SR 50 to CR 48 in Howey-In-The-Hills
- CR 474 in the Green Swamp
- Old CR 441 in Tavares

Many of these roads are constrained by development and are not able to be widened because of the significant public opposition and astronomical cost. Detailed performance information can be found in the Technical Appendix Section 7C.

At the conclusion of the needs plan, the highway, bicycle, pedestrian, and transit costs are determined and compared to the revenues. This comparison is presented in Table 7-2. Based on this table, there is a funding shortfall of over \$1 billion, which includes a shortfall of over \$300 million for State Roads, over \$400 million for County Roads, and over \$350 million for bicycle and pedestrian improvements. Methods to deal with this include removing transportation improvement projects from the needs plan to formulate a cost affordable plan, and enhancing the revenues to ensure that all available revenues are being collected and utilized. This process is discussed in the 2025 Cost Affordable Plan (Chapter 8).

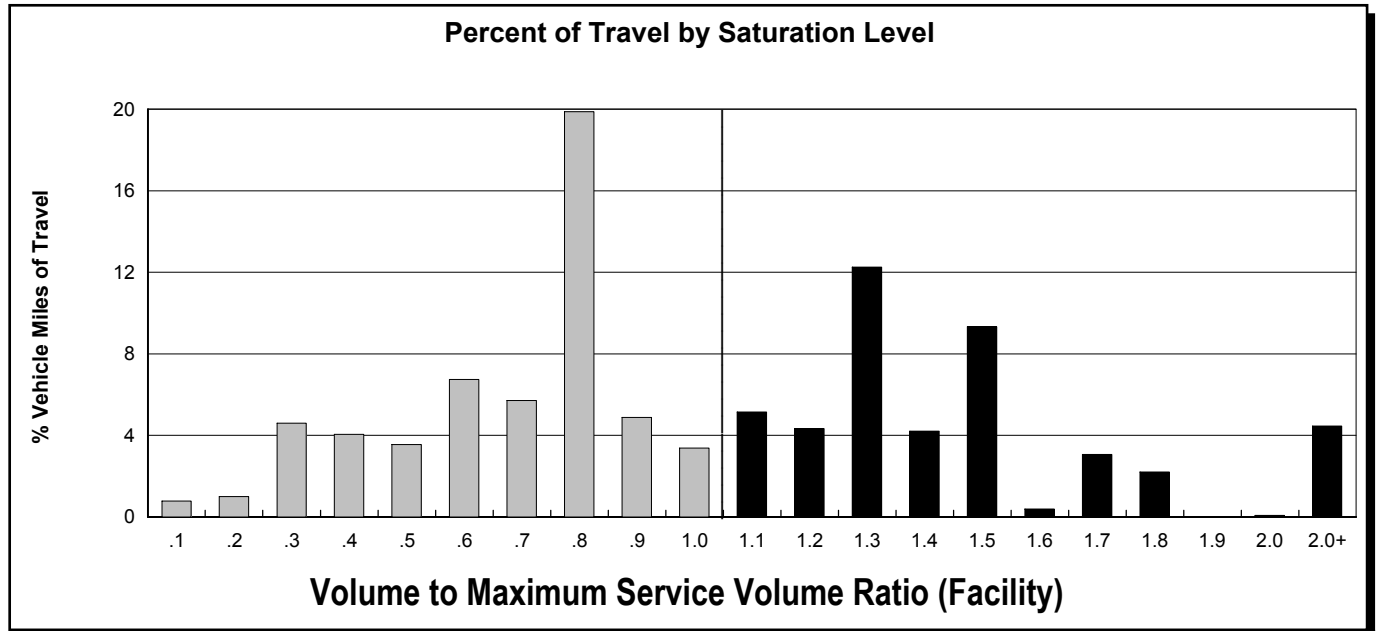
Table 7-2: Summary of Costs and Revenues for the 2025 Adopted Needs Plan

Mode of Travel	Revenue (X1,000)	Costs (X1,000)	Difference (x1,000)
FIHS/SIS	\$186,827	\$186,827	\$0
State ⁽²⁾	\$55,297	\$378,312	(\$323,015)
County	\$199,738	\$634,051	(\$434,313)
<i>Subtotal - Roads</i>	<i>\$453,336</i>	<i>\$1,199,191</i>	<i>(\$757,329)</i>
Public Transportation	\$4,792	\$4,792	(\$0)
Bike / Pedestrian	\$9,926	\$380,864	(\$370,938)
Total	\$467,798	\$1,584,848	(\$1,128,523)

(1) Reflects 0.3 Million transfer to Public Transportation Capital and \$11.3 Million Transfer to Public Transportation Operation

(2) Reflects 0.3 Million transfer from County Gas Tax

Table 7-3 Road System Performance Evaluation 2025 Cost Affordable Plan - Based on Maximum Service Volume



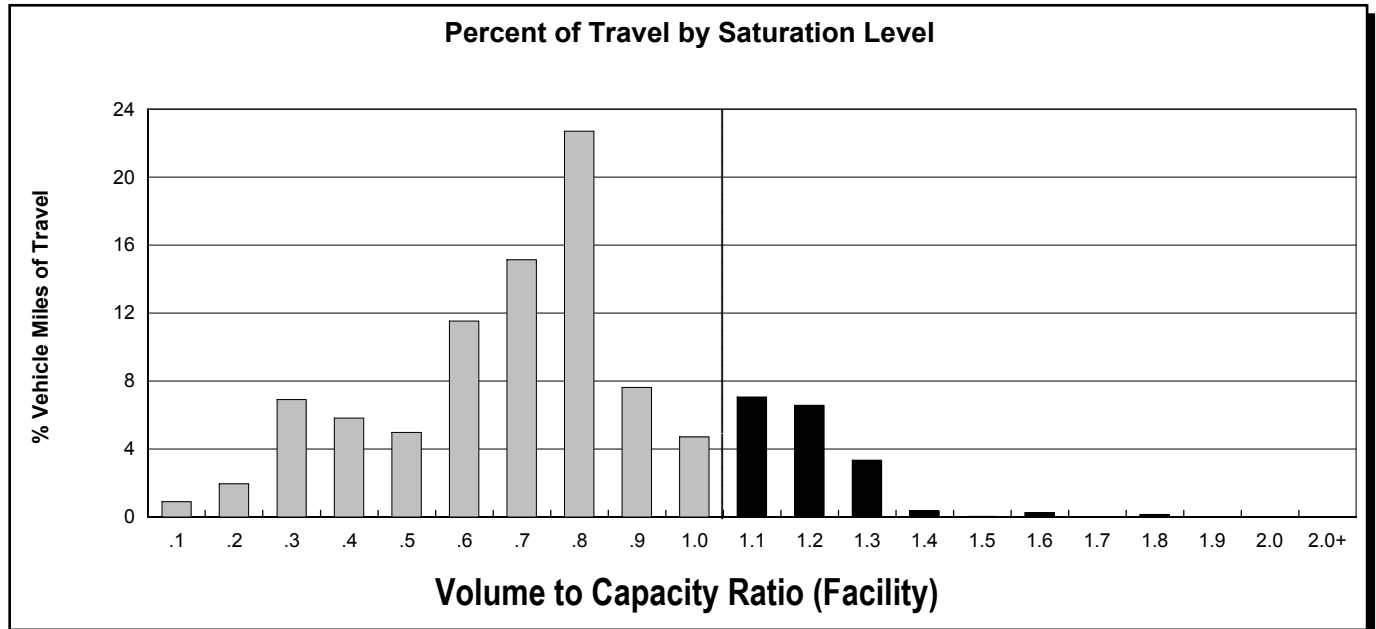
Percent of VMT with V/MSV Ratio Greater than 1.0: 45.45%
Based on: Maximum Service Volume

Roadway Type	V/MSV Ratio	VMT	% VMT Below STD.	VMC
All Roads	1.0085	783,040	45.45	1,853,889
All State Roads	1.2344	471,606	67.16	679,240
Intrastate Roads (Interstate Only)	1.3446	72,633	100.00	96,831
Intrastate Roads (Non-Interstate Only)	1.2821	115,964	78.36	155,666
Other State Roads	1.1866	283,009	54.14	426,742
County Roads	0.6664	311,434	12.56	1,176,722
All Other Roads	0.0000	0	0.00	0

Definition of Terms:

V/MSV Ratio: Volume to Maximum Service Volume Ratio
VMT: Vehicle Miles of Travel
% VMT Below STD: The percentage of Vehicle Miles of Travel where Volume to Maximum Service Volume (V/MSV) => 1
VMC: Vehicle Miles of Capacity

Table 7-4 Road System Performance Evaluation 2025 Cost Affordable Plan - Based on Physical Capacity



Percent of VMT with V/C Ratio Greater than 1.0: 17.74%
Based on: Physical Capacity

Roadway Type	VC Ratio	VMT	% VMT With V/C>1	VMC
All Roads	0.7044	783,040	17.74	1,853,889
All State Roads	0.8054	471,606	26.37	679,240
Intrastate Roads (Interstate Only)	0.7540	72,633	0.00	96,831
Intrastate Roads (Non-Interstate Only)	0.7813	115,964	24.10	155,666
Other State Roads	0.8284	283,009	34.06	426,742
County Roads	0.5514	311,434	4.67	1,176,722
All Other Roads	0.0000	0	0.00	0

Definition of Terms:

VC Ratio: Volume to Capacity Ratio
VMT: Vehicle Miles of Travel
% VMT With V/C>1: The percentage of Vehicle Miles of Travel where Volume to Capacity Ratio (VC Ratio) > 1
VMC: Vehicle Miles of Capacity

Lake - Sumter MPO

2025 Long Range Transportation Plan

FLAGLER

VOLUSIA

MARION

SEMINOLE

ORANGE

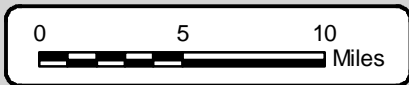
Alignment to be determined

SUMTER

POLK

LEGEND

- LOS Not Calculated
- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F
- Potentially Deficient Roads (based on Level of Service Standard)
- New Cross-County Toll Facility
- New North South US 27/US 441 Reliever
- SR 46 Bypass
- Wekiva Parkway



Map 7-5

2025 Needs Plan
Level of Service





2025 Needs Plan Alternatives

Two initial alternatives of the needs plan were evaluated. The initial alternative was the Existing + Committed network described at the beginning of this chapter. This network is illustrated in Map 7-6. The second alternative is illustrated in Map 7-7. This second network alternative was presented to a joint Technical Advisory Committee and Citizen's Advisory Committee meeting that resulted in the addition of the East-West Expressway along the northern part of Lake County that would be expected to extend to I-75 in Sumter County. Detailed information about these alternatives is included in Technical Appendixes 7A (Existing + Committed Network) and 7B (Needs Alternative 2).

Additional Plan Items

Additional items for the needs plan include Intelligent Transportation Systems, Transportation Demand Management and Goods Movement. These items are discussed in greater detail in the Cost Affordable Plan chapter (Chapter 8) of this document.

Conclusion

A Needs Plan was developed for the Lake-Sumter MPO Long Range Transportation Plan to assist in the development of the 2025 Cost Affordable Plan. This plan was presented to the public and to the MPO Standing Committees on multiple occasions. The 2025 Needs Plan was formally adopted by the MPO Board on August 17th, 2005. This Needs Plan includes 913 lane miles of roadway improvements, 285.6 roadway centerline miles of sidewalk construction, 348.5 roadway centerline miles of bike lane or bike shoulder construction, 106.7 miles of multi-use trails and Rails-to-Trails projects, and 7 bus routes that provide service to 57.7 centerline miles of roadway.

Lake - Sumter MPO

2025 Long Range Transportation Plan

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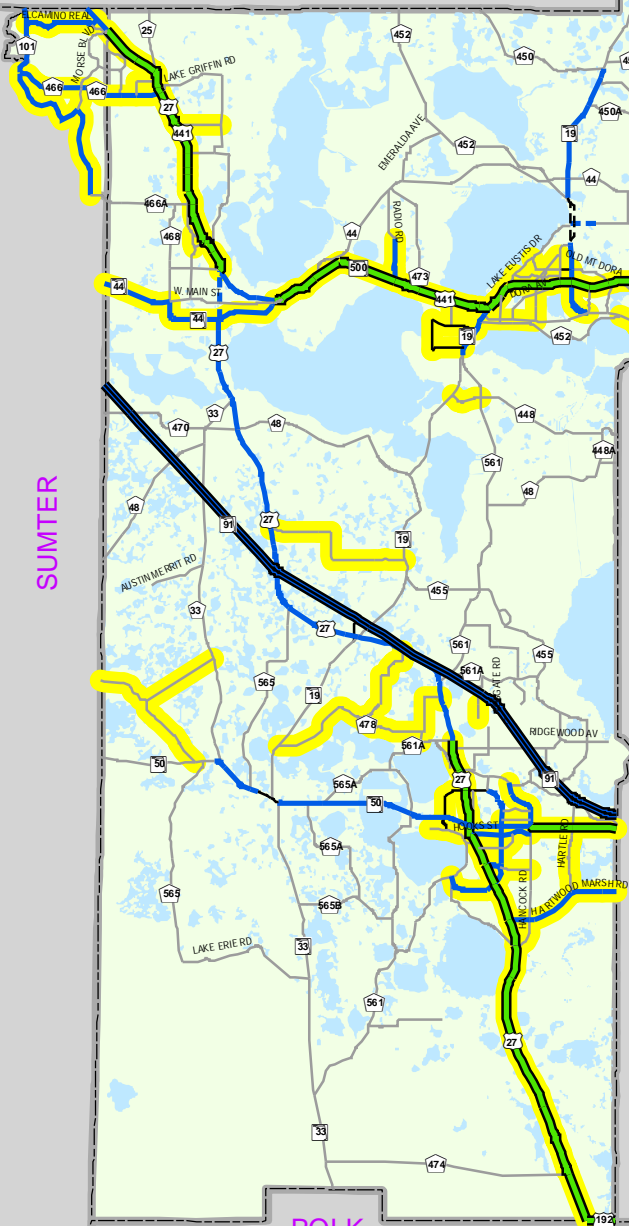
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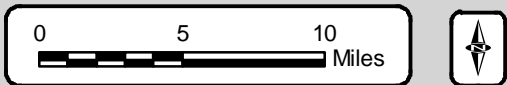
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LEGEND

		NUMBER OF LANES			
		2	3	4	6
ROAD TYPE	One-Way	---			
	Undivided	—	—	—	—
	Divided	—	—	—	—
	Freeway	—	—	—	—

New or Expanded Roads



Map 7-6
 2010 Existing + Committed Network
 Number of Lanes & Road Type

Lake - Sumter MPO

2025 Long Range Transportation Plan

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ORANGE

Alignment to be determined

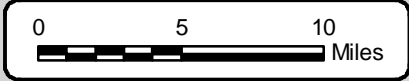
SUMTER

POLK

LEGEND

		NUMBER OF LANES			
		2	3	4	6
ROAD TYPE	One-Way	---			
	Undivided	—	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
	Divided	—		■ ■ ■ ■	■ ■ ■ ■
	Freeway			■ ■ ■ ■	■ ■ ■ ■

- New or Expanded Roads
- New Cross-County Toll Facility
- New North South US 27/US 441 Reliever
- SR 46 Bypass
- Wekiva Parkway



Map 7-7

2025 Needs Alternative 1
Number of Lanes & Road Type