



**Putnam County**

**COMPREHENSIVE PLAN  
TRAFFIC CIRCULATION ELEMENT**

*EAR-Based Amendment*

Putnam County  
2509 Crill Avenue  
Palatka, FL. 32177

PUTNAM COUNTY
TRAFFIC CIRCULATION ELEMENT

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**TRAFFIC CIRCULATION ELEMENT****I. PURPOSE AND INTRODUCTION**

The purpose of the Traffic Circulation Element is to establish the desired transportation system and plan for future motorized and non-motorized traffic circulation systems, pursuant to Chapter 163, Florida Statutes, and Chapter 9J-5, Florida Administrative Code. An important component of the analysis of a traffic circulation system is the Future Land Use Element and map. Land use and transportation systems are highly interdependent; changes in one often have a direct effect on the other. Improvement to the roadway network can serve as an impetus to intensification of the development of adjacent land uses, which in turn can cause the need for further improvements. The future land use map can help determine where roadway facilities must be improved and where new roadway facilities must be constructed as well as locations where transportation improvements should be avoided due to land development constraints.

The Traffic Circulation Element provides an assessment of the capability of the existing traffic circulation system to serve current and future demand. Existing levels of service are determined and existing roadway deficiencies are identified. Facility improvements and new roadway facilities are recommended. Alternative modes of transportation such as public transportation, pedestrian and bicycle systems will be analyzed and recommendations for improvements are made in the goals, objectives and policies. This information will provide local officials with a tool for developing a traffic circulation system that will adequately meet the current and future needs of the community.

The Traffic Circulation Element was originally adopted in 1991 as part of the Putnam County Comprehensive Plan. Since then, some changes to the Element have been made to reflect, in part, modified Florida Department of Transportation level of service standards, particularly as they concern those roadway segments on the Florida Intrastate Highway System (FIHS)/Strategic Intermodal Systems (SIS). In addition, modifications to Putnam County constrained facilities were updated through amendments to policies within the Traffic Circulation Element.

Putnam County is a rural county with a 2010 population of 75,805 people, according to the recent BEBR estimates. The County's traffic circulation system is not only composed of State and County roads, but also includes an airport facility, a barge port facility and rail lines. The major transportation routes in Putnam County are U.S. 17 (S.R. 15), S.R. 19, S.R. 20, S.R. 100, and S.R. 207. The Florida Department of Transportation maintains these federal-aid primary roads. This system of roads is essential to the efficient mobility of people and goods within the region. The federal-aid primary roads account for approximately 133 miles (36 percent) of the total 372 miles of the primary federal-aid hard surface system in the County.

Putnam County maintains the County roads, except those under dedication. As of September, 2010, the existing secondary County road system had 1,675 miles of paved and unpaved roads; of the 1,675 miles of County road, 1,198 miles (71.5 percent) are unpaved and only 477 miles (28.5 percent) are paved.

## II. EXISTING CONDITIONS

### A. EXISTING PLANNING AND REGULATORY FRAMEWORK

Transportation planning in Putnam County is done in conjunction and coordinated with a number of agencies. A brief discussion of the responsibilities of the four (4) relevant agencies follows.

#### 1. Florida Department of Transportation (FDOT)

The Florida Department of Transportation (FDOT) is the agency responsible for the planning, design, construction, and maintenance of the state highway system. The state highway system is established by Florida Statutes, and consists of all State and federally designated roadways. The FDOT has adopted the Florida Transportation Plan, which is part of the State Comprehensive Plan and guides major transportation planning for state facilities. Every year, the FDOT develops, with the cooperation of the County Commission, the Five-Year Work Program, which establishes priorities and funding for specific transportation improvement projects. Project priorities are established by the County Commission for all State roadways within the Putnam County boundaries.

#### 2. The Northeast Florida Regional Council (NEFRC)

The Northeast Florida Regional Council (NEFRC) is one of eleven Florida planning councils. In 1993, the State Legislature recognized RPCs as Florida's only multipurpose regional entity that is in position to plan for and coordinate intergovernmental solutions to growth-related problems on greater-than-local issues. The NEFRC is comprised of elected officials and governor appointees from the seven counties in Northeast Florida; Baker, Clay, Duval, Flagler, Nassau, Putnam, and St. Johns. The NEFRC is an advocate for the collective interests of this seven-county jurisdiction, providing a wide variety of services, including technical and administrative assistance. The NEFRC's role in transportation planning includes the review and coordination of each municipality's transportation and traffic circulation element, technical assistance for traffic impact analysis, and coordinating technical forums and land use decisions in determining solutions to transportation problems. The NEFRC also serves as the Designated Official Planning Agency (DOPA) for six of its counties, including Putnam County. The NEFRC Transportation Committee provides a forum for problem discussion and solution to better address regional transportation needs.

Pursuant to Sec. 186.508, F.S., the NEFRC was required to develop and adopt, by rule, a Strategic Regional Policy Plan (SRPP), to replace the existing Comprehensive Regional Policy Plan (CRPP). The five strategic areas required to be addressed in the SRPP, consistent with Sec. 186.507, F.S., include Affordable Housing, Economic Development, Emergency Preparedness, Natural Resources of Regional Significance, and Regional Transportation. The Regional Transportation Component of the Northeast Florida Regional Policy Plan (SRPP) establishes the long-range framework for the development of the regional transportation network and priorities.

#### 3. Putnam County

Putnam County is responsible for the maintenance of the County roadway system, which primarily involves collector and local roads. The County's Public Works Department has primary responsibility for roadway maintenance and development. The following inventory and analysis will demonstrate

that the primary problem with the transportation system in Putnam County concerns the condition of local roads and future anticipated adversities along state and federal facilities.

#### 4. City of Palatka

As identified within the Florida Senate Bill 360, the City of Palatka was legislatively identified as a Dense Urban Land Area (DULA), which qualifies the City to implement a Transportation Concurrency Exception Area (TCEA). When, and if, the City recognizes itself as a TCEA, the City shall have the availability to establish the adopted level-of-service standards within the TCEA that need not be consistent with any standards established by the FDOT. The City is currently updating their Comprehensive Plan, in which the operations of SIS facilities within the City will have to be further evaluated.

### B. ROADWAY FUNCTIONAL CLASSIFICATIONS

Roadways are classified in terms of their function throughout the County. Roadways are classified as either principal or minor arterials, collector roads, or local roads. Arterial roadways are the primary highways providing access between Putnam County and external destinations. Collector roadways provide access primarily between communities and neighborhoods of the County and the arterial roadways that provide access to the primary shopping and employment destinations in the County, region and State. Local roads primarily provide access between residential areas and collector roadways that may also provide access to secondary shopping and employment destinations. Map B-1 shows all of the arterial and collector roadways of the County's roadway network.

### C. LEVEL OF SERVICE CRITERIA

Level of service, as used in transportation planning and engineering, is a qualitative measure describing operational conditions within a traffic stream and their perception by motorists. The qualitative descriptions are equated to quantitative measures for the purposes of planning and engineering analyses. Factors which affect the qualitative measures include vehicle density, average travel speed, volume to capacity ratio, average stopped delay, and others. Levels of service are described by A through F, with A representing free flow conditions with significant amounts of available capacity and F representing stop and go conditions in an over-capacity state.

In 2009, the FDOT updated the Level of Service standards in the Quality Level of Service Handbook (see Table B-1). The standards are to be used by FDOT planners for developing long range transportation plans, programs, policies, procedures, and guidelines; for providing technical assistance; for reviewing and commenting on local government comprehensive plans and developments of regional impact; and for reporting conditions on the State Highway System. The statewide level of service standards applicable for all State roadways, with the exception of the Strategic Intermodal System (SIS) and Florida Intrastate Highway System (FIHS), are as follows: (1) Rural multi-lane roadways: minimum acceptable level of service of LOS B; (2) All other roadways within Putnam County: minimum acceptable level of service of LOS C.

In 2009, FDOT modified the level of service standards and placed special emphasis on maintaining an acceptable level of service for roadways on the SIS/FIHS. The SIS/FIHS comprises a statewide network of limited and controlled access highways. The SIS/FIHS was established in 1990 as defined in Section 338.001, Florida Statutes, as "a statewide system of limited access facilities and controlled

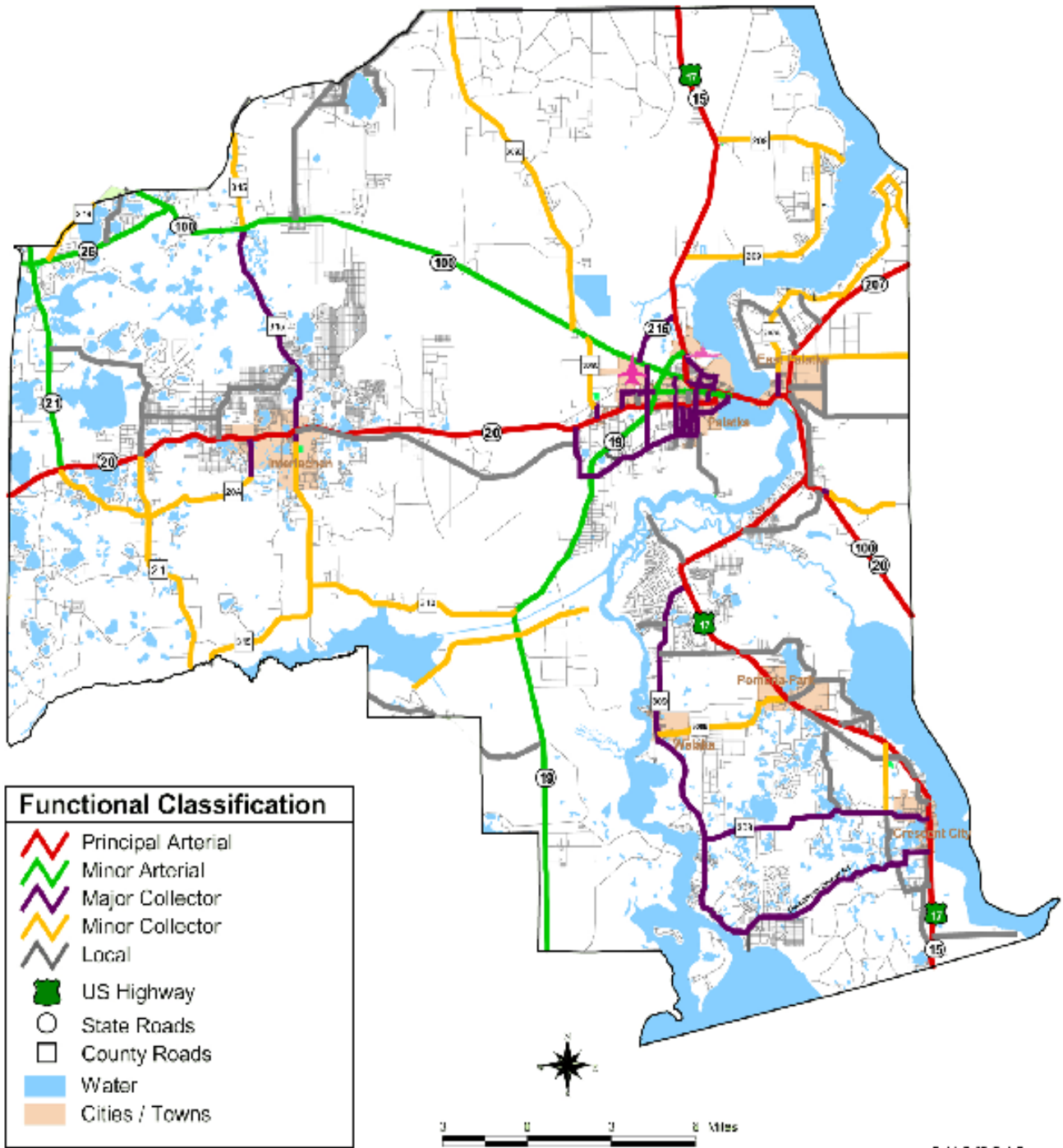
access facilities...that allow for high-speed and high-volume traffic movements within the State." The segments considered existing SIS, emerging SIS, or on the FIHS are shown on Map B-3. In order to preserve these facilities' role on the FIHS, the FDOT adopted LOS B as the standard for intrastate roadways in rural areas of the State. However, rural two-lane roadway segments are permitted to maintain a LOS C standard until they are upgraded to four-lane or six-lane facilities, at which time the minimum service standard must be raised to LOS B. The minimum service standard for FIHS roadway segments in areas defined as transitioning, urban area, or community, is LOS C. The roadways in Putnam County (including within Palatka) on either the Florida Intrastate Highway System or part of the Strategic Intermodal System include:

- S.R. 207: U.S. 17/S.R. 100 to St. John's County line
- U.S. 17: S.R. 207 to N. 1<sup>st</sup> Street
- S.R. 100: U.S. 17 to S.R. 19
- S.R. 19: S.R. 100 to S.R. 20
- S.R. 20: S.R. 19 to Alachua County line

Legislation resulting from Senate Bill 360 mandates the adoption of FDOT level of service standards for roadways on the SIS/FIHS. If the City of Palatka implements the TCEA by providing adequate data and analysis to the Department of Community Affairs, the level of service standards on SIS/FIHS facilities can be modified within City limits, however because the City's Comprehensive Plan has not been updated to date, the County will recognize the current FDOT standards within City limits. The County is allowed more flexibility, however, in adopting level of service standards for roadways not on the SIS/FIHS. Resultant legislation only requires that local governments shall establish an "adequate" LOS standard. This adopted standard need not be consistent with the FDOT adopted LOS standards for these non-intrastate system roadways. This flexibility allows the County to apply level of service standards which are adequate based on existing traffic volumes, directing future development to desired locations where other facilities and services are available and providing adequate access for local residents as well as through traffic. Table B-2 shows the general acceptable level of service standards for Putnam County.



Figure B-1



9/10/2010

# Roadway Functional Classification Map



**Putnam County**  
Comprehensive Plan 2010

Source: FDOT District 2 State Highway System 2009 LOS Report; Putnam County Planning and Development Services

Table B-1

Generalized **Peak Hour Two-Way** Volumes for Florida's  
**Rural Undeveloped Areas and Cities OR**  
**Developed Areas Less Than 5,000 Population**<sup>1</sup>

9/4/09

Rural Undeveloped Areas						Cities or Rural Developed Areas Less Than 5000					
<b>FREEWAYS</b>						<b>FREEWAYS</b>					
Lanes	B	C	D	E		Lanes	B	C	D	E	
4	3,820	5,230	6,170	6,560		4	3,820	5,140	6,110	6,560	
6	5,820	7,870	9,260	10,120		6	5,640	7,690	9,170	10,120	
8	7,730	10,410	12,350	13,690		8	7,550	10,320	12,220	13,670	
<b>Freeway Adjustments</b>						<b>Freeway Adjustments</b>					
Auxiliary Lanes +1,800						Auxiliary lanes +1,800					
<b>UNINTERRUPTED FLOW TWO-LANE HIGHWAYS</b>						<b>UNINTERRUPTED FLOW HIGHWAYS</b>					
Lanes	Median	B	C	D	E	Lanes	Median	B	C	D	E
2	Undivided	440	790	1,350	2,700	2	Undivided	770	1,420	2,000	2,550
<b>Passing Lane Adjustment</b>						<b>Uninterrupted Flow Highway Adjustments</b>					
Alter LOS B-D volumes in proportion to passing lane length to the highway segment length.						Lanes Median Exclusive left lanes Adjustment factors					
<b>UNINTERRUPTED FLOW MULTILANE HIGHWAYS</b>						<b>STATE SIGNALIZED ARTERIALS</b>					
Lanes	Median	B	C	D	E	Lanes	Median	B	C	D	E
4	Divided	2,570	4,020	5,100	5,790	2	Undivided	**	950	1,260	1,350
6	Divided	3,860	6,040	7,640	8,680	4	Divided	**	2,260	2,710	2,900
<b>ISOLATED STATE SIGNALIZED INTERSECTIONS</b>						<b>Non-State Signalized Roadway Adjustments</b>					
Lanes	B	C	D	E		(Alter corresponding volume by the indicated percent.)					
2	**	460	1,020	1,200		Major City/County Roadways -10%					
4	**	1,000	2,280	2,500		Other Signalized Roadways -35%					
6	**	1,550	3,530	3,770		<b>State &amp; Non-State Signalized Roadway Adjustments</b>					
<b>BICYCLE MODE</b> <sup>2</sup>						<b>Divided/Undivided &amp; Turn Lane Adjustments</b>					
(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						(Alter corresponding volume by the indicated percent.)					
Paved Shoulder/ Bicycle Lane Coverage						Exclusive Left Turn Lanes Exclusive Right Turn Lanes Adjustment Factors					
0-49%						Lanes Median Lanes Lanes					
50-84%						2 Divided Yes No +5%					
85-100%						2 Undivided No No -20%					
**						Multi Undivided Yes No -5%					
***						Multi Undivided No No -25%					
***						- - Yes +15%					
<b>BICYCLE MODE</b> <sup>2</sup>						<b>BICYCLE MODE</b> <sup>2</sup>					
(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)					
Paved Shoulder/ Bicycle Lane Coverage						Paved Shoulder/ Bicycle Lane Coverage					
0-49%						B C D E					
50-84%						** 270 710 >710					
85-100%						220 330 1,270 >1,270					
***						400 >400 *** ***					
<b>PEDESTRIAN MODE</b> <sup>2</sup>						<b>PEDESTRIAN MODE</b> <sup>2</sup>					
(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)					
Sidewalk Coverage						Sidewalk Coverage					
0-49%						B C D E					
50-84%						** ** 480 1,390					
85-100%						** ** 1,100 1,820					
***						** 1,100 1,820 >1,820					

<sup>1</sup> Values shown are presented as hourly two-way volumes for levels of service and are for the automobile/truck modes unless specifically stated. Although presented as peak hour two-way volume, they actually represent peak hour direction conditions with an applicable D factor applied. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model and Pedestrian LOS Model, respectively for the automobile/truck, bicycle, and pedestrian modes.

<sup>2</sup> Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

\*\* Cannot be achieved using table input value defaults.

\*\*\* Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:

Florida Department of Transportation  
Systems Planning Office  
605 Suwannee Street, MS 19  
Tallahassee, FL 32399-0450

**Table B-2**

STATEWIDE MINIMUM LEVEL OF SERVICE STANDARDS FOR THE STATE HIGHWAY SYSTEM, ROADWAYS ON THE STRATEGIC INTERMODAL SYSTEM (SIS), ROADWAYS ON THE FLORIDA INTRASTATE HIGHWAY SYSTEM (FIHS) AND ROADWAY FACILITIES FUNDED IN ACCORDANCE WITH SECTION 339.2819, FLORIDA STATUTES, THE TRANSPORTATION REGIONAL INCENTIVE PROGRAM (TRIP)				
	SIS AND FIHS FACILITIES		TRIP FUNDED FACILITIES AND OTHER STATE ROADS <sup>3</sup>	
	Limited Access Highway <sup>4</sup> (Freeway)	Controlled Access Highway <sup>4</sup>	Other Multilane <sup>4</sup>	Two-Lane <sup>4</sup>
Rural Areas	<b>B</b>	<b>B1</b>	<b>B</b>	<b>C</b>
Transitioning Urbanized Areas, Urban Areas, or Communities	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>
Urbanized Areas Under 500,000	<b>C(D)</b>	<b>C</b>	<b>D</b>	<b>D</b>
Urbanized Areas Over 500,000	<b>D(E)</b>	<b>D</b>	<b>D</b>	<b>D</b>
Roadways Parallel to Exclusive Transit Facilities	<b>E</b>	<b>E</b>	<b>E</b>	<b>E</b>
Inside TCMA <sup>s</sup>	<b>D(E)2</b>	<b>E2</b>	<b>--2</b>	<b>--2</b>
Inside TCEA <sup>s</sup> <sup>2</sup> and MMTD <sup>s</sup> <sup>2</sup>	<b>--2</b>	<b>--2</b>	<b>--2</b>	<b>--2</b>

Level of service standards inside of parentheses apply to general use lanes only when exclusive through lanes exist.

- For rural two-lane facilities, the standard is C.
- Means the Department must be consulted as provided by Section 163.3180(5), (7), or (15), Florida Statutes, regarding level of service standards set on SIS or TRIP facilities impacted by TCMA<sup>s</sup>, MMTD<sup>s</sup>, or TCEA<sup>s</sup> respectively.
- Means the level of service standards for non TRIP facilities may be set by local governments in accordance with Rule 9J-5.0055, F.A.C.
- It is recognized that certain roadways (i.e., constrained roadways) will not be expanded by the addition of through lanes for physical, environmental, or policy reasons. In such instances, a variance to the level of service may be sought pursuant to Section 120.542, Florida Statutes.

NOTE: Level of service letter designations are defined in the Department’s 2002 *Quality/Level of Service Handbook*.

**D. INVENTORY OF ARTERIAL AND COLLECTOR (MAJOR) ROADWAYS**

The following is a brief description of the arterial and collector roadways as shown on Map B-1 including location and specifics regarding their use. All other roadways within unincorporated Putnam County are considered local roadways. Table B-3 summarizes the historical traffic counts for State roadways. Table B-4 shows the 2008/09 traffic volume, location and existing level of service for arterial and collector roadway segments for which data is available. Map B-2 shows the number of existing lanes and the 2008/09 annual average daily traffic counts (AADT) for these arterial and collector roadways.

**U.S. 17 (State Road 15):** U.S.17 is a principal arterial which runs north-south through Putnam County. This facility is a four-lane road from Clay County to San Mateo; and two-lane south of San Mateo. U.S.17 is a part of the state primary road system and is currently identified as an Emerging SIS facility, with the exception of the section from S.R. 207 to N. 1<sup>st</sup> Street, which is currently designated as an SIS facility. The roadway serves to connect the urban service areas of Palatka, Pomona Park, Crescent City, and Welaka. In 2008, daily traffic volumes ranged from 5,900 vehicles in the southern part of Putnam County, 35,500 vehicles near Palatka, and 8,000 vehicles in northern Putnam County.

**State Road 19:** State Road 19 runs north-south from U.S. 17 to the Marion County line, passing through the City of Palatka. S.R. 19 is classified as a minor arterial. S.R. 19 is four-lanes from U.S. 17 to S.R. 100, six-lanes from S.R. 100 to S.R. 20, and two-lanes for the other segments. The portion between S.R. 100 and S.R. 20 is designated as an SIS facility. This facility provides County residents with access to the Ocala National Forest and to property west of the Forest. Traffic records indicate that in 2008, S.R. 19 carried approximately 19,700 vehicles a day south of S.R. 100, 8,600 vehicles south of S.R. 20, and 2,900 vehicles south of C.R. 310.

**State Road 20:** State Road 20 runs east-west from Alachua County through Palatka to its junction with S.R. 207, and then runs southeast to Flagler County. This facility is a principal arterial on the state primary road system. S.R. 20 is a two-lane facility from Alachua County to C.R. 315, where it becomes part of U.S. 17 and is four-lane for approximately six miles from C.R. 315 to east of S.R. 19. S.R. 20 then becomes two lanes and turns southeast to Flagler County, from east of S.R. 19 to U.S. 17. This facility is a principal arterial on the state primary road system. The portion of S.R. 20 west of Palatka is designated as an SIS facility, whereas the southeastern portion is designated as an Emerging SIS facility. S.R. 20 provides the County residents with direct access to the western part of the County. The roadway carries approximately 8,600 vehicles at the western boundary of Interlachen and 13,500 vehicles west of S.R. 19.

**State Road 100:** State Road 100 is an east-west oriented minor arterial on the state primary road system. S.R. 100, traveling east from the northwestern corner of Putnam County, is a two-lane facility from Clay County to C.R. 216 then it becomes four-lane. S.R. 100 merges into U.S. 17 at its junction with U.S. 17. The facility turns south at S.R.207. Then approximately 2.6 miles south of S.R. 207, S.R. 100 becomes two-lane and turns southeast from U.S. 17. S.R. 100 is designated as an Emerging SIS facility from the Clay County Line to S.R. 19 and a SIS facility from S.R. 19 to U.S. 17. In 2008 S.R. 100 carried approximately 6,100 vehicles east of C.R. 315; 7,800 vehicles west of C.R. 309D; 10,500 vehicles west of C.R. 26; and 16,100 vehicles west of the City of Palatka.

**State Road 207:** State Road 207 is a principal arterial that runs northeast from U.S. 17 through St. Johns County. This facility provides Putnam County residents with access to I-95. S.R. 207 is a four-

lane facility and is designated as a SIS facility. S.R. 207 handles approximately 14,500 vehicles south of C.R. 207A.

**State Road 26:** State Road 26 is a minor arterial that runs southwest from S.R. 100 to Alachua County. This roadway is a two-lane facility and is part of the state highway system. S.R. 26 carries approximately 9,000 vehicles south of S.R. 21 in 2008.

**County/State Road 21:** The northern section of S.R. 21 runs from Clay County to S.R. 20. State Road 21, north of S.R. 20, is a two-lane minor collector and part of the state secondary road system. The southern section of C.R. 21 runs from S.R. 20 to Marion County.

**County Road 207A/Putnam County Boulevard:** County Road 207A and Putnam County Boulevard are two-lane minor collector roadways providing access from S.R. 207 and U.S. 17 in East Palatka to residential and agricultural areas along the east side of the St. Johns River north of East Palatka.

**County Road 20A:** County Road 20A is a minor collector located in the western part of the County. This roadway runs from its junction with S.R. 20 southwest where it intersects with the southern section of C.R. 21. The facility then runs northeast through Interlachen to S.R. 20.

**County Road 209:** County Road 209 is a minor collector located in the northeast part of the County. This two-lane facility runs east from U.S. 17 for 3.5 miles, then runs north for 4.6 miles until it turns west for 3.2 miles to its junction with U.S. 17.

**County Road 216:** County Road 216 is a two-lane minor collection which connects U.S. 17 to S.R. 100 north of Palatka. .

**County Road 308:** County Road 308, located in the southeast section of the County, runs east from C.R. 309 to U.S. 17. C.R. 308 is a two-lane minor collector that provides County residents with access to Crescent City.

**County Road 308B:** County Road 308B is a two-lane minor collector, located in the southeast section of the county, that runs east from C.R. 309 to U.S. 17. C.R. 308B provides County residents access to Welaka and Pomona Park.

**County Road 309:** County Road 309 runs from U.S. 17 south to St. George Road. C.R. 309 is a major collector from U.S. 17 to C.R. 308. This two-lane facility provides County residents with access to the Town of Welaka and the southern part of the County.

**County Road 309C:** County Road 309C is a two-lane minor collector roadway providing access between S.R. 20 and S.R. 100 just west of the City of Palatka incorporated area. This roadway will provide access between the County's business park near the Kay Larkin Airport and the major roadway network.

**County Road 309D:** County Road 309D, also known as Bardin Road, provides access from the north part of the County including residential and agricultural areas to S.R. 100. This roadway is turns into an unpaved surface at the Clay County line.

**County Road 310:** County Road 310, located in the south central part of the county, is a two-lane minor collector that runs east from C.R. 315 to S.R. 19.

**County Road 315:** County Road 315 is a two-lane minor collector, which runs north-south from Clay County to Marion County. C.R. 315 provides county residents with access to the Town of Interlachen.

**Federal Point Road/Commercial Avenue/Seminole Street/ Hastings-Federal Point Road:** These roadways form a continuous two-lane collector roadway west of S.R. 207 along the St. Johns River north of C.R. 207A. These roadways serve as the only access to the residential area of Federal Point.

**Cracker Swamp Road:** Cracker Swamp Road is a County-maintained two-lane minor collector that begins at the north edge of the East Palatka Urban Service Area running east-west from Putnam County Boulevard to S.R. 207, and then continuing east to the St. John's County Line.

**East End Road:** East End Road is a County-maintained minor collector, running east-west from S.R. 100 to the Flagler County Line.

**Georgetown-Denver Road:** The Georgetown-Denver Road is a County-maintained two-lane minor collector providing direct access between Georgetown and Crescent City.

**Silver Lake Drive/Peniel Road/W. Peniel Road:** These roadways serve as a continuous two-lane minor collector, providing access between the large areas of residential development with supporting commercial and community facilities and S.R. 19 and S.R.20.

**Table B-3**  
**Historical Traffic Count Data - State Roadways**

Count St.	Putnam	Roadway	Roadway Segment	2004-2008					
				Count St.	Count St.	1989	1995	2000	2004
4	36	SR 26	West of CR 219	2,399	3,000	3,000	3,600	7,442	26.68%
10	--	SR 100	W of US 17	15,143	18,400	18,600	21,500	18,000	-4.07%
12	8	US 17	South of CR 209	10,210	11,100	11,300	15,700	15,956	0.41%
17	4	US 17	South of San Mateo Road	7,665	9,800	11,000	12,000	13,338	2.79%
20	44	SR 100/20	East of San Mateo Road	2,823	3,300	3,700	4,400	6,215	10.31%
23	--	SR 21	N of SR 26	6,141	7,800	8,600	9,600	8,900	-1.82%
37	39	SR 100	East of CR 315	3,004	3,000	4,000	4,600	7,476	15.63%
39	39	SR 100	East of CR 315	3,978	5,400	5,800	7,300	7,476	0.60%
41	38	SR 100	East of Holloway Road	4,187	4,200	5,700	7,500	7,655	0.52%
43	37	SR 100	East of CR 315	6,277	7,400	7,800	6,600	11,629	19.05%
45	--	SR 100	S of SR 26	10,155	11,300	9,800	9,800	10,893	2.79%
63	35	SR 21	1.0 Mi. North of SR 20	2,795	3,000	3,500	4,400	2,750	-9.38%
67	1B	US 17	1.0 Mi. North of Clifton Road	4,281	5,900	6,000	6,300	5,477	-3.27%
86	9	US 17	North of CR 209 S (W River Rd)	7,533	8,800	9,700	11,700	11,743	0.09%
88	8	US 17	South of CR 209	9,228	13,000	11,200	11,500	15,956	9.69%
100	7	US 17	North of SR 100	9,032	10,000	11,200	11,500	11,644	0.31%
105	5	US 17 / SR 100	South of Yelvington Road	13,524	17,055	18,504	19,756	23,170	4.32%
106	17	SR 20	East of Silver Lake Road	13,133	16,500	16,500	20,000	13,335	-8.33%
110	36	SR 26	West of CR 219	4,650	4,800	6,000	7,000	7,442	1.58%
116	13	SR 19	South of S. Moody Road	10,396	8,700	9,600	10,000	10,766	1.92%
121	6	US 17	West of Masters Road	26,011	35,000	30,000	35,500	35,115	-0.27%
131	2	US 17	North of Citron Avenue	5,017	6,300	6,200	7,200	6,361	-2.91%
132	3	US 17	North of Sisco Road	4,153	5,500	6,300	6,100	6,836	3.02%
135	3	US 17	North of Sisco Road	4,045	5,600	6,800	7,100	6,836	-0.93%
136	16	SR 207	South of Cracker Swamp Road	9,723	10,000	10,500	14,600	16,167	2.68%
138	4	US 17	South of San Mateo Road	10,952	13,500	14,500	16,000	13,338	-4.16%
156	--	SR 20	E of Mosely Avenue	10,627	11,000	12,000	10,500	10,000	-1.19%
161	20	SR 20	East of CR 21	5,841	6,900	7,400	9,700	7,315	-6.15%
164	15	SR 207	West of Putnam/St. Johns County Line	6,377	7,800	9,700	14,400	13,859	-0.94%
232	39	SR 100	East of CR 315	3,874	4,900	5,800	7,400	7,476	0.26%
240	18	SR 20	West of Hoover Road	N/A	9,438	10,432	10,783	14,250	8.04%
252	10	US 17	North of CR 209 N (Palmetto Bluff Rd)	6,749	7,200	8,100	8,000	11,523	11.01%
253	14	SR 19	North of St. Johns Ave	11,956	17,400	18,100	22,000	22,585	0.66%
254	--	SR 19	SW of SR 15	5,224	6,800	6,500	9,000	8,700	-0.83%
261	17	SR 20	East of Silver Lake Road	15,873	17,100	17,100	19,300	13,335	-7.73%
270	35	SR 21	1.0 Mi. North of SR 20	1,769	2,400	2,800	3,100	2,750	-2.82%

Sources: District 2 FDOT State Highway System 2008 LOS Report

Putnam County Annual Traffic Count Program

Prepared by: GMB Engineers & Planners, Inc.

Date: April 2010

**Table B-4 (1 of 2)**  
*Capacity Analysis of Existing Roadway System (2008/09 Traffic Volumes)*

SIS Facilities		Segment Limits		No. of Lanes	Functional Classification	Adopted LOS	PK Hr MSV	Existing		v/C Ratio	
Map ID (New)	Roadway	Segment Limits	AAADT					K <sub>pm</sub>	Peak Hr.		
9	SR 15 / US Highway 17	SR 207	N 1st Street	4LD	Principal Arterial	C	4,400	33,500	0.0914	3,062	0.70
17	SR 19	SR 20	SR 100	6LD	Minor Arterial	C	4,710	19,700	0.0914	1,801	0.38
19	SR 20	Alachua Co. Line	SR 21	2L	Principal Arterial	C	790	8,600	0.0969	833	1.05
20	SR 20	SR 21	Royal Way	2L	Principal Arterial	C	790	7,600	0.0914	695	0.88
21	SR 20	Royal Way	CR 315	2L	Principal Arterial	C	1,370	7,600	0.0914	695	0.51
22	SR 20	CR 315	Screen Rd	4LD	Principal Arterial	C	3,110	13,500	0.0914	1,234	0.40
23	SR 20	Screen Rd	Motes Rd	4LD	Principal Arterial	B	2,570	11,098	0.0920	1,021	0.40
24	SR 20	Motes Rd	SR 19	4LD	Principal Arterial	C	3,110	13,499	0.0917	1,238	0.40
43	SR 100	SR 19	US 17 / SR 15	4LD	Minor Arterial	C	2,200	16,100	0.0914	1,472	0.67
50	SR 207	SR 100	Louis Broer Rd	4LD	Principal Arterial	C	4,400	14,500	0.0914	1,325	0.30
51	SR 207	Louis Broer Rd	St Johns County Line	4LD	Principal Arterial	B	2,570	12,600	0.0914	1,152	0.45

**Emerging SIS Facilities**

Emerging SIS Facilities		Segment Limits		No. of Lanes	Functional Classification	Adopted LOS	PK Hr MSV	Existing		v/C Ratio	
Map ID (New)	Roadway	Segment Limits	AAADT					K <sub>pm</sub>	Peak Hr.		
1	SR 15 / US Highway 17	Volusia Co. Line	Orange Ave	2L	Principal Arterial	C	790	5,700	0.0914	521	0.66
3	SR 15 / US Highway 17	Vernon Ave/CR 308	Driveway N of Winn Dixie	2L	Principal Arterial	C	950	5,900	0.0914	539	0.57
6	SR 15 / US Highway 17	Lake St	San Mateo Rd	2L	Principal Arterial	C	790	8,200	0.0914	749	0.95
7	SR 15 / US Highway 17	San Mateo Rd	SR 100	2L	Principal Arterial	C	1,460	12,550	0.0914	1,147	0.79
8	SR 15 / US Highway 17	SR 100	SR 207	4LD	Principal Arterial	C	3,110	18,168	0.0908	1,650	0.53
12	SR 15 / US Highway 17	SR 100	SR 19	4LD	Principal Arterial	C	3,110	8,800	0.0914	804	0.26
13	SR 15 / US Highway 17	SR 19	Clay Co. Line	4LD	Principal Arterial	B	2,570	10,625	0.0914	971	0.38
32	SR 20	SR 15	East End Rd	2L	Minor Arterial	C	1,460	4,300	0.0914	393	0.27
33	SR 20	East End Rd	Flagler Co. Line	2L	Minor Arterial	C	790	4,300	0.0914	393	0.50
38	SR 100	Clay Co. Line	SR 26	2L	Minor Arterial	C	790	4,850	0.0914	443	0.56
39	SR 100	SR 26	CR 315	2L	Minor Arterial	C	790	6,100	0.0914	558	0.71
40	SR 100	CR 315	CR 309C	2L	Minor Arterial	C	790	6,567	0.0914	600	0.76
41	SR 100	CR 309C	CR 216	2L	Minor Arterial	C	790	7,800	0.0914	713	0.90
42	SR 100	CR 216	SR 19	4LD	Minor Arterial	C	2,200	9,600	0.0914	877	0.40

Sources: District 2 FDOT State Highway System 2008 LOS Report  
Putnam County Annual Traffic Count Program  
FDOT 2009 Generalized Level of Service Tables  
Prepared by: GMB Engineers & Planners, Inc.  
Date: April 2010 (revised August 2010)



**Table B-4 (2 of 2)**  
*Capacity Analysis of Existing Roadway System (2008/09 Traffic Volumes)*

Map ID (New)	Roadway	Segment Limits	No. of Lanes	Functional Classification	Adopted LOS	PK Hr MSV	Existing		v/C Ratio	
							AA DT	Peak Hr.		
14	SR 19	Marion County Line	2L	Minor Arterial	D	1,350	2,900	0.0914	265	0.20
15	SR 19	E Peniel Store Rd	2LD	Minor Arterial	D	1,480	8,600	0.0914	786	0.53
16	SR 19	Moody Rd	4LD	Minor Arterial	C	3,110	8,600	0.0914	786	0.25
	CR 309	Georgetown Denver Rd	2L	Major Collector	D	1,350	2,320	0.0914	212	0.18
	CR 308	CR 308B	2L	Major Collector	D	1,350	3,836	0.0914	351	0.26
	CR 309	US 17	2L	Minor Collector	D	1,350	1,047	0.0914	96	0.07
	CR 308B	US 17	2L	Minor Collector	D	1,350	1,472	0.0914	135	0.10
	CR 308	Huntington Shortcut Rd	2L	Minor Collector	D	1,350	1,652	0.0914	151	0.11
	Georgetown Denver Road	CR 309	2L	Minor Collector	D	1,350	1,921	0.0914	176	0.13
	CR 310	SR 19	2L	Minor Collector	D	1,350	2,043	0.0914	187	0.14
	CR 315	Marion County Line	2L	Minor Collector	D	1,350	2,661	0.0914	243	0.18
	CR 315	CR 310	2L	Minor Collector	D	1,350	665	0.0914	61	0.04
	CR 21	Lake Susan Rd	2L	Minor Collector	D	1,350	1,095	0.0914	100	0.07
	CR 21	CR 20A	2L	Minor Collector	D	1,350	1,358	0.0914	124	0.09
	CR 20A	CR 21	2L	Minor Collector	D	1,350	1,281	0.0914	117	0.09
	CR 21	SR 20	2L	Minor Collector	D	1,350	2,550	0.0914	233	0.17
34	SR 21	SR 26	2L	Minor Collector	D	1,350	7,900	0.0914	722	0.53
35	SR 21	SR 26	2L	Minor Collector	D	1,350	9,000	0.0914	872	0.65
36	SR 26	Alachua County Line	2L	Minor Arterial	D	1,350	4,850	0.0914	443	0.33
37	SR 26	SR 21	2L	Minor Arterial	D	1,350	2,053	0.0914	188	0.14
	CR 315	SR 20	2L	Minor Collector	D	1,350	1,707	0.0914	156	0.12
	CR 315	CR 100	2L	Minor Collector	D	1,350	899	0.0914	82	0.06
	Cracker Swamp Road	SR 207	2L	Minor Collector	D	1,350	3,131	0.0914	286	0.21
	CR 209 S	US 17	2L	Minor Collector	D	1,350	2,299	0.0914	210	0.16
	Palmetto Bluff Road	CR 209/W River Rd	2L	Minor Collector	C	790	4,244	0.0914	388	0.49
	SR 20/100	US 17	2L	Minor Collector	D	1,350	2,345	0.0914	214	0.16
	CR 309D	SR 100	2L	Minor Collector	D	1,350	1,285	0.0914	117	0.09
	CR 309 / Springside Road	SR 20	2L	Minor Collector	D	1,350	917	0.0914	84	0.06
	CR 207A	SR 207	2L	Minor Collector	D	2,000	5,668	0.0914	518	0.26
	CR 216	SR 100	2L	Minor Collector	D	1,350	751	0.0914	69	0.05
	Yelvington Road	US 17	2L	Local	D	819	212	0.0914	19	0.02
	Lake Susan Road	Alachua County Line	2L	Local Dirt	D	1,350	1,139	0.0914	104	0.08
	Browns Landing Road	Edgemoor St	2L	Local	D	1,480	3,926	0.0914	359	0.24
	N Moody Road	SR 100/Reid St	2L	Minor Collector	D	1,330	4,021	0.0914	368	0.28
	S Moody Road	St Johns Ave	2L	Minor Collector	D	2,952	11,971	0.0914	1,094	0.37
	St Johns Avenue	Palm Ave	4LD	Minor Collector	D	1,350	309	0.0914	28	0.02
	W Tocci Road	CR 209/Palmetto Bluff Rd	2L	Local	D	1,350	1,020	0.0914	93	0.07
	Coral Farms Road	SR 100	2L	Local	D	1,350	1,020	0.0914	93	0.07

Sources: District 2 FDOT State Highway System 2008 LOS Report  
Putnam County Annual Traffic Count Program  
FDOT 2009 Generalized Level of Service Tables  
Prepared by: GMB Engineers & Planners, Inc.  
Date: April 2010 (revised August 2010)

Figure B-2

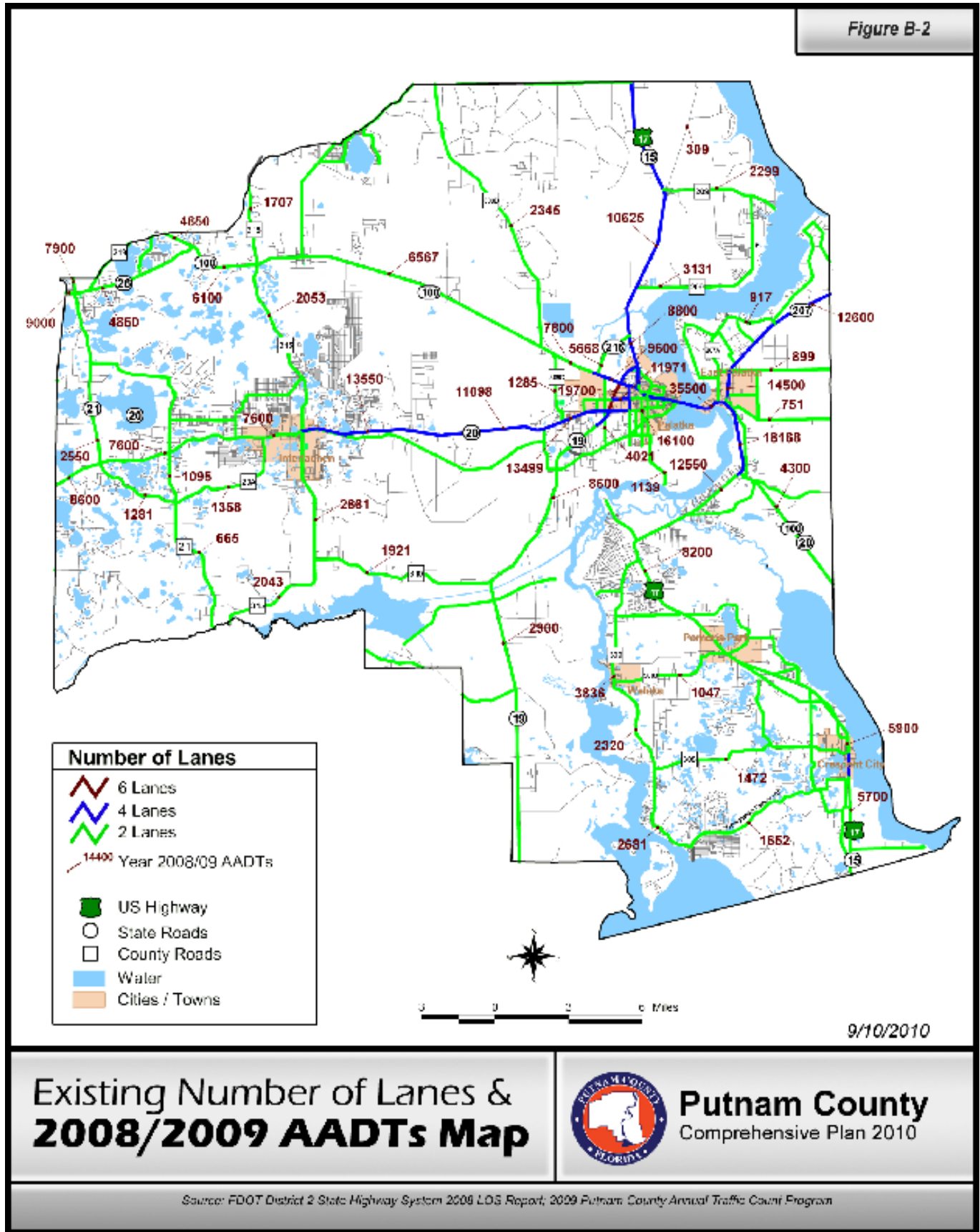
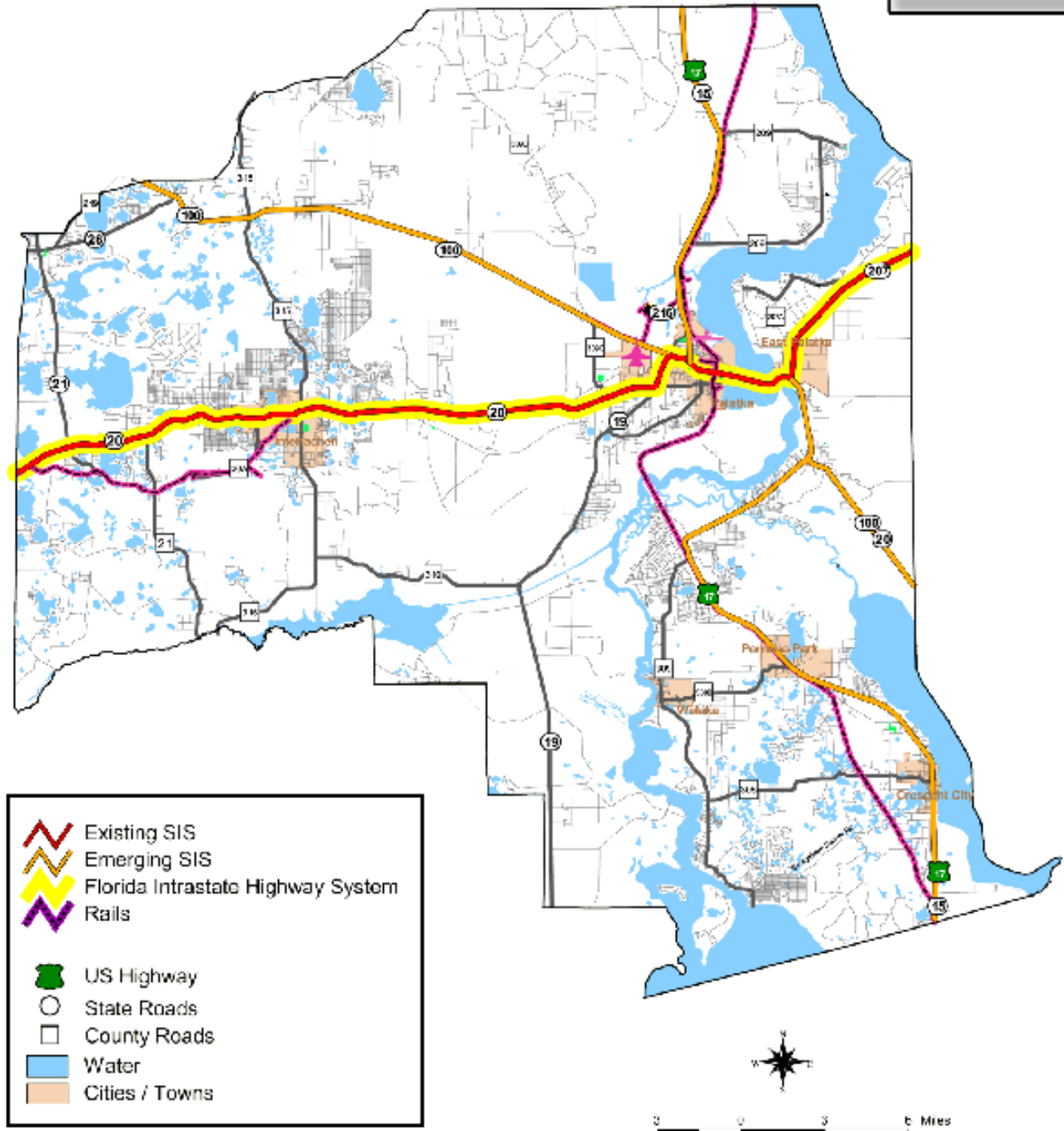


Figure B-3



9/10/2010

# FHIS, SIS & Rails Map



**Putnam County**  
Comprehensive Plan 2010

Source: FDOT District 2 State Highway System 2009 LOS Report; Putnam County Planning and Development Services

## E. LOCAL ROADWAYS

The most pervasive transportation problem facing Putnam County are the conditions and maintenance needs of the local road system. The condition of existing, local County-maintained roads always seems to be the number one complaint of the County's residents. With 71.5 percent of the County roads unpaved, heavily traveled roads in much of the developing residential areas require regular maintenance at a substantial cost to the County. Without adequate maintenance and a road paving program, drainage problems and other safety concerns will continue to increase. The availability of future funds and the nature of transportation improvement project priorities will dictate the annual amount of paving dollars allocated in a capital improvement program and determine the county-wide distribution.

In 1993, the County Administrator and Public Works Director co-authored a Transportation Plan that identified those roadway segments of the County's roadway network requiring improvements. According to the Plan, the number one problem that has faced Putnam County for at least the last 25 years has been the maintenance of unpaved roads. This plan offered the basis for determining prioritization of roadway paving and maintenance projects, which should be incorporated within the County's Five-Year Capital Improvements Program.

The plan notes that there are a number of problems with the continuous cycle of maintenance of unpaved roads. The never-ending requirement of road grading and maintenance is exacerbated by the soil structure of Florida and the weather. Continued population growth has added to the problem by increasing the number of cars using unpaved roads, as well as garbage collection trucks and school buses, which accelerates degradation of the roadway condition. The plan concludes that the solution is not more clay or graders, but more pavement.

The plan also points out that once a road gets paved, maintenance needs tend to be neglected. As maintenance needs are put off beyond a certain year, the costs of improvements substantially increase. Paved roads should be resurfaced prior to degrading to the point where reconstruction is necessary. However, regular resurfacing and a comprehensive and effective paving program will require a financial commitment from the County. The plan divided paved roadway maintenance needs into paved roads which have deteriorated to the point that they must be completely reconstructed, paved roads which must be resurfaced (if not resurfaced will deteriorate into roads which need to be reconstructed), and roads which are surface treatment projects. The goal of the County would be to eventually improve existing roads to the point where they would only need to be surface-treated periodically.

In May 1993, the County adopted Ordinance 93-11, which was entitled the Infrastructure Management Systems Act of Putnam County. The intent of the ordinance was to provide for the establishment of a pavement management system that provides for a systematic method by which to rank order roadways to be paved or improved. Unpaved roads were rated based on a number of criteria, such as annual maintenance cost, safety, traffic counts, and number of driveways. Ordinance 93-11 also requires that all paved road projects involving reconstruction, resurfacing or surface treatment are selected using the appropriate Pavement Condition Index to establish priorities. All road projects are required to be included in the Putnam County Five-Year Capital Improvement Program.

## F. EXISTING AVIATION, PORT, AND RAIL FACILITIES

### 1. Aviation Facilities

Kay Larkin airport in the City of Palatka is the only general aviation airport facility located in Putnam County. The airport is managed by the City of Palatka and was originally constructed as a training facility in World War II. It was later used as an auxiliary airfield by the U.S. Navy before being turned over to the City. The Navy currently has an established Military Operation Area (MOA) over much of the airspace in Putnam County and actively uses a bombing range area near Lake George for training purposes.

Runways at Kay Larkin, which sits at an elevation of 49 feet, consist of: 1) a primary 6,000 x 100 foot asphalt, lighted runway (9/27); 2) a secondary 3,500 x 75 foot asphalt, lighted runway (17/35), and; 3) a 3,000 x 75 foot asphalt unlighted runway (12/30). Approach control for the airport is provided by the Jacksonville approach control facility (Freq. 122.8) and flight service support is provided through the Gainesville Regional Airport, approximately 35 nautical miles to the west.

In 2005, there was a 75 percent increase in the aircraft housed at the airport since 1997. In 2007, 64 based aircraft were housed at the facility. Fuel service at Kay Larkin includes Grade 100LL (low lead blue) and Jet A type fuels. There are 50 paved automobile parking spaces to serve the general aviation terminal. Airfield amenities currently include 32 tie-downs for general aviation aircraft, 54 T-hangars, 3 commercial hangars, and 3 executive hangars. YR 2007 traffic counts at the Palatka Municipal Airport (Kay Larkin) totaled 67,301 general aviation operations, including general, local, and military operations.

### 2. Port Facilities

Putnam County is currently served by a small barge port on the St. Johns River, which is located between downtown Palatka and Rice Creek. The St. Johns River Barge Port was originally designed for use in conjunction with the once-proposed Cross Florida Barge Canal. This barge facility is incorporated into a larger industrial park setting and provides an alternative method of moving certain types of goods and material into and out of the County. Due to the shallow depth of the river channel, which averages 14 feet, and downstream bridge heights of 65 feet (Shands Bridge near Green Cove Springs), larger barges and ships are prohibited from utilizing the facility. The nearest deepwater port to Putnam County is the Port of Jacksonville, 65 miles to the north. This port accommodates many types of oceangoing ships with its average channel depth of 38 feet.

### 3. Rail Facilities

Presently, CSX Transportation owns and operates the only rail facilities located in Putnam County. These facilities include approximately 43 miles of track, which extends the length of the County, parallel to the St. John's River and U.S. Highway 17. A passenger rail terminal for Amtrak is located in the City of Palatka. This rail terminal provides an alternative to travel by road and air to other parts of the state and the country. According to the Florida Department of Transportation's Statewide Rail Plan, the rail lines located in Putnam County were some of the most heavily used in the State, carrying between 10 and 20 million gross tons of cargo per mile of track in 2007. Map B-3 identifies the airport facility, barge port facility and all the rail lines.

## G. INTEGRATED ALTERNATIVE MODES OF TRANSPORTATION

When evaluating existing transportation and future needs for Putnam County, alternative modes of travel must be considered as part of the overall integrated transportation system. The concept of a balanced and well integrated transportation system suggests a viable composition of transportation components serving both the county and the region. Recent policy direction by the Florida Department of Transportation has heightened awareness as to the need and responsibility for coordinating and planning a balanced transportation system, assuring the compatibility of all components, including not only highways, but water, air, rail and mass transit facilities.

Existing travel or modal choice alternatives are generally limited to the residents of Putnam County at this time, but the existing system of alternative modes of travel will be reviewed and analyzed.

### 1. Public Mass Transit

Transit services in Putnam County are limited to the following: transportation disadvantaged services and intra-city fixed-route service provided within the immediate Palatka area by Putnam County's transit authority (Ride Solution, Inc.); school bus programs; intercity bus route service, and taxi cab companies. For the purposes of transit planning within the County, this section only addresses the services provided for the transportation disadvantaged, and the existing Palatka fixed-route service.

### 2. Transportation Disadvantaged

The Transportation Disadvantaged (TD) program was created by the Florida Legislature in 1979 to provide transportation services for persons who are unable to transport themselves because of physical or mental disability, income status, age, or because they may be children-at-risk. These transportation disadvantaged persons are dependent upon others to obtain access to health care, employment, education, shopping, social activities or other life-sustaining activities. In 1989, the legislature amended Chapter 427, Florida Statutes, and Rule 41-2, Florida Administrative Code, which govern the Transportation Disadvantaged (TD) program and created the Commission for the Transportation Disadvantaged (CTD). The CTD is comprised of representatives from various state agencies and other stakeholders in the TD program from around Florida. The CTD and its staff oversee the allocation of monies from the Transportation Disadvantaged Trust Fund (TDTF) which are used to operate the program and to provide trips for TD persons around the state. The CTD also conducts quality assurance monitoring and provides technical assistance to the local TD programs.

The TD program operates in each of Florida's 67 counties and its mission is to promote the delivery of transportation services to the TD population in a manner that is cost effective, efficient, and reduces fragmentation and duplication of services. There are several organizations and individuals at the local level that play a role in accomplishing this mission and they include: 1) local Community Transportation Coordinators (CTCs) who arrange, and in some cases, provide the transportation services for the TD population; 2) Local Coordinating Boards (LCBs) which provide advice and direction to the CTCs and also set local priorities for the provision of TD services; 3) Designated Official Planning Agencies (DOPAs), which recommend each local CTC to the Commission, conduct planning studies related to service delivery, appoint LCB members, and serve as staff support to the LCBs, and; 4) government and non-profit agencies that purchase the transportation services from the CTCs for their respective clients.

a. Community Transportation Coordinator (CTC)

In April of 1984, the Putnam County Commission designated the Putnam County Association for Retarded Citizens (ARC) to serve as the Community Transportation Coordinator in Putnam County. To better perform its new duties, the ARC created a d/b/a corporation, Ride Solution, Inc., to operate the Putnam County TD program. Ride Solution has served in this capacity since that time and is the sole source provider of TD services in the County.

b. Local Coordinating Board (LCB)

The Local Coordinating Board (LCB) in Putnam County is comprised of a cross-section of individuals who each have a stake in the local TD program. Members on the LCB are designated by the DOPA and include representatives from the following areas:

- Putnam County Board of County Commissioners;
- Florida Department of Transportation;
- Florida Department of Children & Family Services;
- Florida Department of Labor & Employment Security;
- Florida Department of Elder Affairs;
- Agency for Health Care Administration;
- Putnam County School Board;
- Putnam County Veterans Services;
- Local Early Childhood Council;
- Economically disadvantaged in the community;
- Elderly in the community;
- Persons with disabilities;
- Citizen advocates who are both users and non-users of the program;
- Local private-for-profit transportation industry.

c. Designated Official Planning Agency (DOPA)

The Northeast Florida Regional Council (NEFRC) serves as the DOPA for the TD program in Putnam County. The functions of the NEFRC include preparing the County's Transportation Disadvantaged Service Plan (TDSP), conducting an Annual Evaluation of the CTC, recommending the selection of the CTC to the CTD, and providing staff support for the LCB. Funding for these functions is provided through annual planning grant monies generated by the Florida Transportation Disadvantaged Trust Fund and distributed by the CTD.

d. Purchasing Agencies

Ride Solution signs Purchase of Service (POS) contracts with most of the County's human service agencies to provide transportation for their clients. The staff takes requests for service that are made by either the clients themselves or by the client's sponsor. Subsequently, each individual agency is billed at the end of the month for services rendered. Additionally, Ride Solution files grant applications and other required reports as necessary for acquisition of funding from these agencies.

e. Transportation Disadvantaged Service Plan (TDSP)

Pursuant to Chapter 427 F.S., the CTD requires that a TDSP be developed for each county participating in the TD program. This plan covers a three (3) year period and is updated on an annual basis. The TDSP consists of four (4) sections covering service demographics & demand, service delivery, quality assurance & standards, and cost allocation & rate structures. The Putnam County TDSP is developed through a joint participation process between the NEFRPC, Ride Solution, and the Putnam County LCB.

f. Overview of TD Services

Ride Solution, Inc., has developed fixed routes, with deviation, that serve the cities of Palatka, Interlachen, Crescent City, St. Augustine (St. John's County), and Gainesville (Alachua County). All trip requests are coded for pick up and drop off locations. Route corridor flow studies are then utilized to determine the feasibility of fixed route with deviation service. Routes are then designed to include stops at all service centers (HRS, shopping malls, medical facilities, etc.). Route deviation time is then added to the route schedule so that the bus can provide door-to-door service when needed. All vehicles used on the fixed route with deviation are wheelchair-lift equipped with vehicles having between two and seven wheelchair lock down positions. Pure demand response service is used when routes are either not yet established or are not financially feasible.

Individuals wishing to utilize the Ride Solution, Inc. transportation services can access the system by calling the central reservation number by 12:00 p.m. (noon) the previous work day. This notification is required in order to group trips for individuals who are sponsored and non-sponsored to obtain the most cost-effective method of service delivery. Transportation services are provided seven days a week, 24 hours per day.

The degree to which public transit is being utilized in Putnam County is currently limited to a 3-times per day connection to the Gainesville RTS transit system that travels from the City of Palatka to the RTS bus plaza in Gainesville.



### III. TRAFFIC CIRCULATION ANALYSIS

The purpose of this analysis is to set forth general guidelines and recommendations for developing a strategy that will meet the transportation needs of the County in an efficient and economical manner.

Developing the roadway analysis requires two steps. First, the existing transportation system is analyzed based upon design capacities and most recently available average daily traffic counts. Second, an analysis of protected traffic circulation levels of service and systems needs are identified based upon future land use and projected growth rates for both population and transportation. An analysis of alternative modes of travel will follow the roadway analysis.

#### A. COMMUNITY VISION

In the fall of 2001, the County began a series of public workshops and hearings regarding the Evaluation and Appraisal Report (EAR) update to the County's Comprehensive Plan. During these workshops and hearings, it was recognized that there was a need to develop a long-term community vision to prepare a more meaningful Comprehensive Plan that would adequately address problems and issues unique to Putnam County, along with achieving a desired future for the citizens of Putnam County. This visioning process was known as the "Better Place Plan".

The workshops were designed to allow citizens to express their views on four target issue areas of interest. The targeted issue areas included: (i) quality of life; (ii) economic development; (iii) natural resources and recreation; and (iv) transportation and infrastructure.

The results of the community needs assessment survey confirmed the input received at the visioning workshops. When asked what factors are important to the quality of life in Putnam County, 49 percent of survey respondents chose job opportunities followed by quality of education (40%) and the condition of roads (26%). When survey respondents were asked to rank the quality of life on a scale of one to 10, with 10 being the highest and one the lowest ranking, the average score was 5.31, indicating there is significant room for improvement. When survey respondents were asked if they were optimistic about the economic future of the County, sixty (60) percent responded "yes", and thirty-six (36) percent responded "no" with four (4) percent "not sure".

Survey respondents indicated that the three most important strengths for retaining and bringing businesses and jobs to Putnam County are quality schools and training (39%), skilled workforce (28%) and real estate costs (27%). The biggest weaknesses perceived by survey respondents are unskilled workforce (47%), community appearance (36%) and inadequate infrastructure (26%) and permitting process (26%).

From 2003 to 2010, Putnam County has used Better Place funds for over seventy projects where eight-six (86) percent of the expenditures were for roads or transportation infrastructure projects while three percent of the expenditures are for recreation/quality of life projects. The summary below identifies the types of projects and the associated expenditures.

## B. LOCAL ROADS

The County's Five Year Capital Improvements Plan, approved annually, incorporates a number of roadway improvements. The latest five-year capital improvements plan can be found in the Capital Improvements Element.

The County Transportation Plan will need to be updated and implemented. The update of this Plan will require the continued and further development of a local County roadway data base. The data base will include road names, maintenance entity, whether or not it is in a Municipal Service Benefit Unit (MSBU), type of surface, segments and their length, average daily and peak hour traffic counts, design capacities, and accident data by location and fatalities. The data base information should be completed by first obtaining information on the County roads that have been identified as collector roadways on Map B-1. The update of the County Transportation Plan should then identify the necessary roadway improvements utilizing the criteria in Ordinance 93-11, as may be amended from time to time. The improvements will be identified by type: paving, reconstruction, resurfacing and other maintenance improvements such as additional or new, future right-of-way needs, drainage improvements, sidewalks, landscaping and street lighting.

The Transportation Plan will also need to identify the local roads that will be subject to the County's adopted level of service D. This will require an update to the data base to obtain existing traffic counts and appropriate design capacities as mentioned above. In addition, the Plan should consider the adoption of a specific LOS for dirt roads, especially those dirt roads that function as a collector to residential neighborhoods and are heavily traveled. The improvements identified in the County Transportation Plan must be coordinated with the desired land use pattern as determined by the adopted Future Land Use Map. In addition, development and implementation of the Plan will require coordination with state agencies and the County's five municipalities.

## C. ANALYSIS OF EXISTING DEFICIENCIES ON ARTERIAL AND COLLECTOR ROADS

Identifying existing major roadway deficiencies for the purpose of upgrading facilities to accommodate additional traffic volumes requires analysis based upon levels of service. The establishment and maintenance of an acceptable LOS is essential to preserving and enhancing local, regional, and interstate mobility and coordinating transportation and land development.

Generally, the minimum acceptable operating levels of service at peak hour are LOS C for principal arterials and D for minor arterials, collectors, and local roadways within the rural and small urban areas. These LOS standards have been chosen as planning design criterion by both the Florida Department of Transportation and the Northeast Florida Regional Council (NEFRC) for state and regionally significant facilities. In addition, the State has mandated LOS requirements for roads on the Florida Intrastate Highway System (FIHS)/Strategic Intermodal System (SIS) of LOS B for multi-lane rural segments, LOS C for two-lane rural roads, and LOS C for urban segments. These levels of service standards should be used to determine improvement project priorities and assist in the development of local long range transportation plans. Special Transportation Areas (STA's) sensitive to altered levels of service, may be adopted through formal agreement with local, regional, and state agencies.

Because the LOS standards for non-FIHS/SIS roadways are not mandatory, the County is allowed some leeway in establishing the standards for non-FIHS/SIS roadways. The County has chosen LOS D for all two-lane principal arterials in the County.

Using the above referenced LOS minimum standard for rural and urban areas at peak hour as the acceptable LOS standard for all collector and arterial roadways, all roadway segments are presently operating at an acceptable peak hour level of service for the existing base year, as shown in Table B-4, with the exception of S.R. 20, from the Alachua County Line to S.R. 21.

#### D. FUTURE TRAFFIC PROJECTIONS

Travel patterns and trip purposes are related to activities pursued by people and are reflected in the distribution and characteristics of a range of different land uses. By using the relationships established between present day land use and rates of trip activity, and applying them to future estimates of land use and population, it is possible to derive estimates of future travel patterns and traffic volumes. Pursuant to the requirements of Chapter 9J-5, FAC, projections were prepared based upon the future land uses shown on the future land use map of this comprehensive plan. These projections served as a basis for determining the need for new roadway facilities and expansions to support planned development and to maintain adopted LOS standards.

##### 1. District-wide Transportation Model

Four of the six counties located in Northeast Florida are currently in the process of updating their Long Range Transportation Plans (LRTP) and creating a district-wide transportation model. These counties include Duval, Nassau, Clay, and St. John's. Baker and Putnam Counties are being incorporated into the NEFRPM lately in order to update their LRTP. One of the primary tools used in support of the MPO, LRTP updates have been a used within the local travel demand model to forecast future deficiencies and help identify and prioritize the needed highway and transit projects. Historically, each MPO was responsible for development and maintenance of its own regional travel demand model to support their LRTP update and other local planning projects. However, with this updated cycle, these six counties agreed to utilize the FDOT District Two NEFRPM as the base model for their LRTP updates. The NEFRPM covers all of FDOT District Two Counties. With the use of the single model for both future FDOT and MPO use, it is important to change the context of the validation summaries and documentation for the NEFRPM. While District-wide summaries were appropriate for the previous versions of the model, MPO or County level summaries are now necessary, given the wider use of the new model. This will ensure that the NEFRPM is appropriately validated to local conditions and any limitations of the travel demand model can be identified.

##### 2. Historical Traffic Growth

An evaluation of the future 2015 and 2025 model projections was conducted through a comparison with the historical traffic growth rates. Based on the recorded traffic counts between 2004 and 2008, an annual growth rate was developed for each of the study roadways. As identified in this assessment, an area-wide growth rate for Putnam County was determined to be 2.21% per year.

The historic trends analysis was compared against the existing 2008/09 traffic volumes in order to provide reasonable traffic forecasts throughout the County. Tables B-5 and B-6 show projected traffic volumes for roadway segments of Putnam County based on the above assumptions for years 2015 and

2025. The growth rates for the state-maintained roadways were identified within the FDOT District Two 2008 LOS Report.

The procedure used for analyzing projected system needs was similar to that utilized for analyzing the existing roadway deficiencies, assuming a desired peak hour level of service C for multi-lane principal arterials and D for all two-lane principal arterial, minor arterial, collector, and local roadways within the County. Level of service determinations for the future roadway network were evaluated using generalized peak hour two-way service link capacities standards listed in Table B-2.

## E. FUTURE SYSTEM NEEDS AND PRIORITIES

### 1. Year 2015

Table B-5 identifies those roadway segments derived from the LOS evaluation of 2015 projections and resulting capacity deficiencies. It is important to note that the strict use of annual growth rates in predicting future traffic volumes on the roadways beyond the base year 2008/09 assumes that what has happened in the immediate past will continue at the same rate indefinitely into the future. For several reasons this assumption may be unreasonable:

- the transportation-land use cycle modifies accessibility of an area; this in turn, leads to land use changes, alternative travel patterns, and varying capacities;
- significant new travel patterns emerge because of the availability of alternative trip satisfactions; and
- geometric time series extrapolation requires a growth increment decline ratio or dampening factor to provide asymmetric control to the numeric curve.

Map B-4 depicts estimated YR 2015 roadway conditions based upon the resultant historical trends analysis.

Given a policy of maintaining a principal arterial level of service C for two-lane FIHS/ SIS arterials and based upon projected traffic volumes, roadway segments within Putnam County are projected to operate at an acceptable level of service in YR 2015, with the exception of four (4) roadway segments: S.R. 20 (Alachua County Line to C.R. 21), S.R. 20 (C.R. 21 to Royal Way), U.S. 17/ S.R. 15 (Lake Street to San Mateo Road), and S.R. 100 (C.R. 309C to C.R. 216). It is important to note that S.R. 20 (Alachua County Line to C.R. 21) was identified to exceed the adopted service volume in the existing conditions.

To alleviate the future anticipated level of service deficiencies, the County proposes to increase multimodal options, by increasing transit services and providing additional park and ride options. The capital and annual cost, as identified within the Capital Improvement Element (CIE), will be established through a funding partnership with Ride Solutions, the County's transit authority. The following recommendations provide the necessary mitigation to provide for an adequate level of service, and were developed through close coordination with the Florida Department of Transportation and the County's transit authority. The proposed transit routes have been provided graphically on Map B-5.

- **SR 20:** SR 20 is an east-west arterial connecting the City of Gainesville with the City of Palatka. Ride Solutions is one of the only two public transportation services in the state that

have an agreement with Greyhound and provides service connecting the cities of Gainesville, Palatka, and St. Augustine. The current Greyhound Connector route connects Interstate 75 with Interstate 95. Therefore, to maintain an adequate level of service to/from Gainesville, it is proposed to increase the transit availability. Consistent with the YR 2015 LOS analysis, one (1) new route should be added to accommodate standard workforce hours, 8:00 AM to 5:00 PM during the traditional weekday condition (Monday to Friday). Currently, Ride Solutions has identified the availability of an additional bus in their current fleet to service a new transit route along this corridor. A schedule for hours of operation will be coordinated with Putnam County, Ride Solutions, and FDOT. The annual operating cost associated with this new service would be approximately \$87,500 per year.

- **SR 100:** SR 100 is an east-west arterial connecting western Putnam County with the City of Palatka. Ride Solutions has proposed several routes along this segment. The two (2) routes that would alleviate potential future LOS adversities on SR 100 are the full service Interlachen route and the Florahome route. Both routes would allow residents of the western cities of Putnam County (i.e. Interlachen, Florahome, Putnam Hall, and Melrose) the availability of transit service to downtown Palatka. Therefore, to maintain an adequate level of service to/from Gainesville, it is proposed to increase the transit availability. Consistent with the YR 2015 LOS analysis, two (2) new routes should be added to accommodate standard workforce hours, 8:00 AM to 5:00 PM during the traditional weekday condition (Monday to Friday). The Interlachen route should start in FY2012/13. The annual operating cost associated with the two (2) new service routes would be approximately \$157,500 per year. In addition, a one-time capital expenditure of \$344,000 will be needed for the additional two (2) buses to support the service routes.
- **U.S. Highway 17:** U.S. Highway 17 is a north-south arterial connecting the southern cities of Putnam County with the City of Palatka. While the some of the adverse segment along U.S. 17 resides along an existing transit route, a good majority of the segment does not have a direct service line into the City of Palatka. Consistent with the YR 2015 LOS analysis, one (1) new route should be added to accommodate standard workforce hours, 8:00 AM to 5:00 PM. The annual operating cost associated with this new service would be approximately \$78,750, along with a one-time capital expenditure of \$172,000 will be needed for an additional bus to support this service route.

In order to increase the ridership along the transit corridors, consistent with Transportation Element, Policy B.1.7.3, Putnam County has proposed the consideration of future Park and Ride lots. Two (2) candidate geographic locations have been identified as probable locations to support these lots (Kay Larkin Airport and Crescent City). Putnam County will coordinate with the City of Palatka in the feasibility of identifying a Park and Ride lot within the vicinity of the Kay Larkin Airport to support interregional travel along S.R. 100 to Clay County, to the north-west.

The County shall develop an additional Park and Ride within the vicinity of Crescent City to promote travel between Volusia County and the City of Palatka. The proposed Park and Ride lot will be identified through coordination with Putnam County, FDOT and Ride Solutions, on or before December 2013. It is anticipated that the lot will be operational by YR 2014 and maintained as a dirt/grass lot. Furthermore, the County shall assess the usage and benefit of the lot on or before December 31, 2015 and every year thereafter. If it is determined that the lot is not beneficial, through coordination with FDOT, the County shall cease the usage of this Park and Ride lot.

## 2. Year 2025

Table B-6 identifies those roadway segments derived from the LOS evaluation of 2025 conditions and resulting capacity deficiencies. Map B-6 depicts estimated 2025 roadway conditions based upon the anticipated historic traffic trends.

As indicated in Table B-6, several roadways are expected to fall below the adopted LOS standard by 2025: S.R. 20 (Alachua County Line to S.R. 21), S.R. 20 (S.R. 21 to Royal Way), U.S. 17 (Lake Street to San Mateo Road), S.R. 100 (C.R. 315 to C.R. 209C), S.R. 100 (C.R. 309C to C.R. 216), Palmetto Bluff Road (W. River Road to W. Tocci Road), and St. John's Avenue (Palm Avenue to S.R. 19). Map B-6 highlights the roadways that are determined to exceed the maximum service volume for the roadway.

**Table B-5 (1 of 2)**  
*Capacity Analysis of Existing Roadway System (YR 2015 Traffic Volumes)*

SIS Facilities		Segment Limits		No. of Lanes	Adopted LOS	Pk Hr MSV	Existing		Growth		YR 2015		
Map ID (New)	Roadway						AAADT	K <sub>900</sub>	Peak Hr.	Rate	AAADT	Peak Hr.	v/c
9	SR 15 / US Highway 17	SR 207	N 1st Street	4LD	C	4,400	33,500	0.0914	3,062	1.0%	36,500	3,336	0.76
17	SR 19	SR 20	SR 100	6LD	C	4,710	19,700	0.0914	1,801	1.3%	23,700	2,166	0.46
19	SR 20	Alachua Co. Line	SR 21	2L	C	790	8,600	0.0969	833	1.0%	9,300	901	1.14
20	SR 20	Royal Way	SR 21	2L	C	790	7,600	0.0914	695	1.0%	8,800	804	1.02
21	SR 20	Royal Way	SR 315	2L	C	1,370	7,600	0.0914	695	1.0%	8,800	804	0.59
22	SR 20	CR 315	Screen Rd	4LD	C	3,110	13,500	0.0914	1,234	1.0%	14,800	1,353	0.43
23	SR 20	Screen Rd	Motes Rd	4LD	B	2,570	11,098	0.0920	1,021	1.0%	12,300	1,132	0.44
24	SR 20	Motes Rd	SR 19	4LD	C	3,110	13,499	0.0917	1,238	1.0%	15,700	1,440	0.46
43	SR 100	SR 19	US 17 / SR 15	4LD	C	2,200	16,100	0.0914	1,472	1.0%	19,400	1,773	0.81
50	SR 207	SR 100	Louis Broer Rd	4LD	C	4,400	14,500	0.0914	1,325	3.1%	19,000	1,737	0.39
51	SR 207	Louis Broer Rd	St Johns County Line	4LD	B	2,570	12,600	0.0914	1,152	3.1%	16,900	1,545	0.60

Emerging SIS Facilities		Segment Limits		No. of Lanes	Adopted LOS	Pk Hr MSV	Existing		Growth		YR 2015		
Map ID (New)	Roadway						AAADT	K <sub>900</sub>	Peak Hr.	Rate	AAADT	Peak Hr.	v/c
1	SR 15 / US Highway 17	Volusia Co. Line	Orange Ave	2L	C	790	5,700	0.0914	521	1.0%	6,700	612	0.78
3	SR 15 / US Highway 17	Vernon Ave/CR 308	Driveaway N of Wilm Di	2L	C	950	5,900	0.0914	539	1.0%	7,000	640	0.67
6	SR 15 / US Highway 17	Lake St	San Mateo Rd	2L	C	790	8,200	0.0914	749	1.0%	9,400	859	1.09
7	SR 15 / US Highway 17	San Mateo Rd	SR 100	2L	C	1,460	12,550	0.0914	1,147	1.0%	14,100	1,289	0.88
8	SR 15 / US Highway 17	SR 100	SR 207	4LD	C	3,110	18,168	0.0908	1,650	1.0%	20,800	1,889	0.61
12	SR 15 / US Highway 17	SR 100	SR 19	4LD	C	3,110	8,800	0.0914	804	1.0%	10,500	960	0.31
13	SR 15 / US Highway 17	SR 19	Clay Co. Line	4LD	B	2,570	10,625	0.0914	971	1.0%	12,800	1,170	0.46
32	SR 20	SR 15	East End Rd	2L	C	1,460	4,300	0.0914	393	1.1%	4,700	430	0.29
33	SR 20	East End Rd	Flagler Co. Line	2L	C	790	4,300	0.0914	393	1.1%	4,700	430	0.54
38	SR 100	Clay Co. Line	SR 26	2L	C	790	4,850	0.0914	443	1.4%	6,100	558	0.71
39	SR 100	SR 26	CR 315	2L	C	790	6,100	0.0914	558	1.4%	7,600	695	0.88
40	SR 100	CR 315	CR 309C	2L	C	790	6,567	0.0914	600	1.0%	7,900	722	0.91
41	SR 100	CR 309C	CR 216	2L	C	790	7,800	0.0914	713	1.0%	9,200	841	1.06
42	SR 100	CR 216	SR 19	4LD	C	2,200	9,600	0.0914	877	1.0%	11,000	1,005	0.46

Sources: District 2 FDOT State Highway System 2008 LOS Report  
Putnam County Annual Traffic County Program  
FDOT 2009 Generalized Level of Service Tables  
Prepared by: GMB Engineers & Planners, Inc.  
Date: April 2010 (revised August 2010)

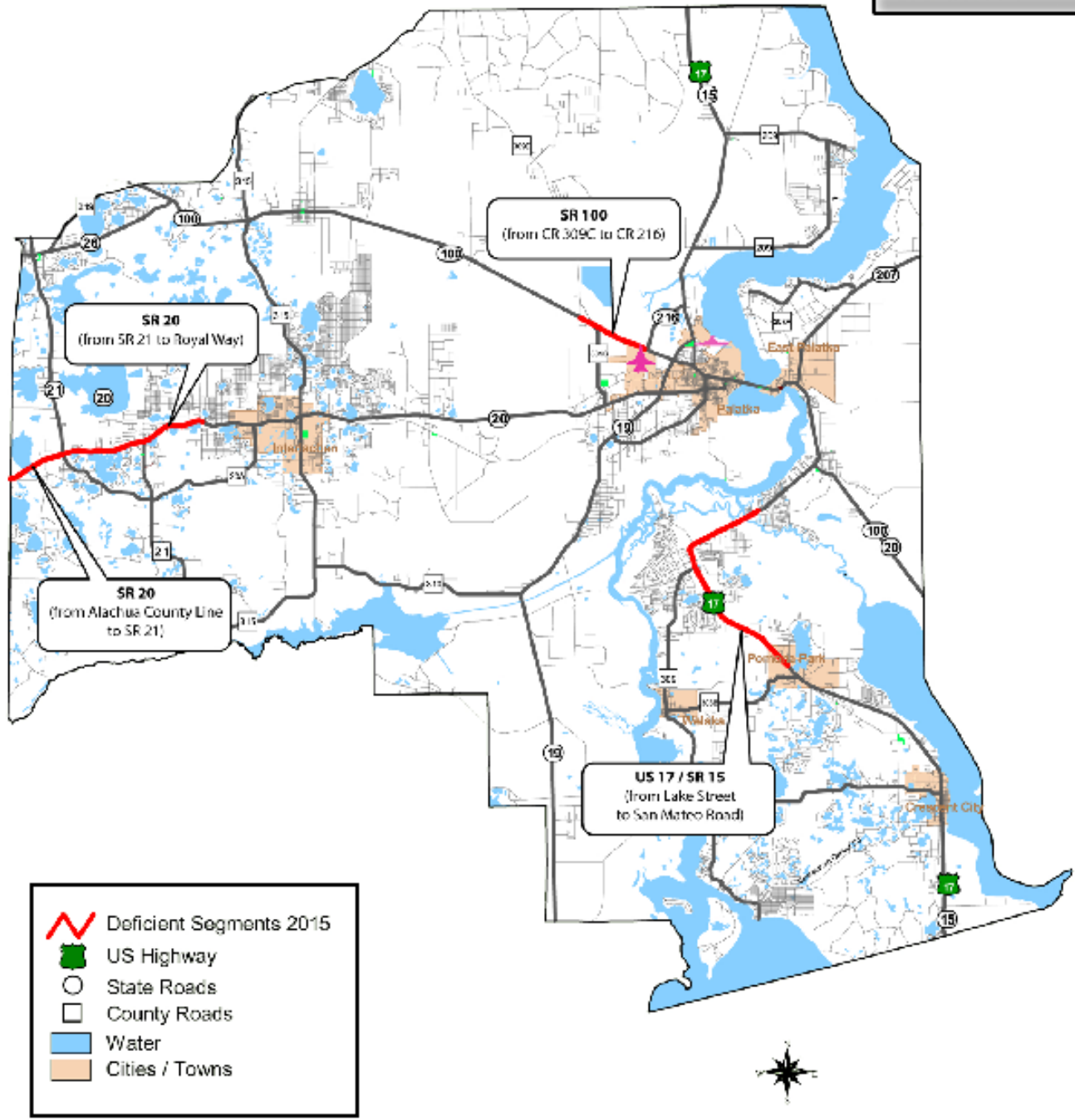
**Table B-5 (2 of 2)**  
*Capacity Analysis of Existing Roadway System (YR 2015 Traffic Volumes)*

SHS, County Facilities Map ID (New)	Roadway	Segment Limits	No. of Lanes	Adopted LOS	PK Hr MSV	Existing		Growth		YR 2015 Peak Hr.	v/c
						AAADT	K/mo	Peak Hr.	Rate		
14	SR 19	Manion County Line	2L	D	1,350	2,900	0.0914	265	1.0%	3,300	0.22
15	SR 19	E Peniel Store Rd	2LD	D	1,480	8,000	0.0914	786	1.0%	9,900	0.61
16	SR 19	Moody Rd	4LD	C	3,110	8,600	0.0914	786	1.0%	9,900	0.29
--	CR 309	Georgetown Denver Rd	2L	D	1,350	2,681	0.0914	245	12.5%	4,691	0.32
--	CR 309	CR 308B	2L	D	1,350	2,320	0.0914	212	5.6%	3,099	0.21
--	CR 309	CR 308B	2L	D	1,350	3,836	0.0914	351	10.5%	6,253	0.42
--	CR 308B	US 17	2L	D	1,350	1,047	0.0914	96	1.0%	1,110	0.08
--	CR 308	Huntington Shortcut Rd	2L	D	1,350	1,472	0.0914	135	1.0%	1,560	0.11
--	Georgetown Denver Road	CR 309	2L	D	1,350	1,652	0.0914	151	33.3%	4,952	0.34
--	CR 310	CR 315	2L	D	1,350	1,921	0.0914	176	1.0%	2,037	0.14
--	CR 315	Manion County Line	2L	D	1,350	2,043	0.0914	187	1.0%	2,165	0.15
--	CR 315	CR 310	2L	D	1,350	2,661	0.0914	243	2.2%	3,012	0.20
--	CR 21	Lake Susan Rd	2L	D	1,350	665	0.0914	61	1.0%	705	0.05
--	CR 21	CR 20A	2L	D	1,350	1,095	0.0914	100	28.6%	2,974	0.20
--	CR 20A	SR 20	2L	D	1,350	1,358	0.0914	124	10.3%	2,196	0.15
--	CR 20A	SR 20	2L	D	1,350	1,281	0.0914	117	1.0%	1,358	0.09
34	SR 21	SR 26	2L	D	1,350	2,550	0.0914	233	1.0%	3,300	0.22
35	SR 21	SR 26	2L	D	1,350	7,900	0.0914	722	1.0%	9,400	0.64
36	SR 26	Alachua County Line	2L	D	1,350	9,000	0.0969	872	1.0%	9,800	0.70
37	SR 26	SR 21	2L	D	1,350	4,850	0.0914	443	1.0%	5,400	0.37
--	CR 315	CR 20	2L	D	1,350	2,053	0.0914	188	16.7%	4,110	0.28
--	CR 315	CR 100	2L	D	1,350	1,707	0.0914	156	3.5%	2,065	0.14
--	Craker Swamp Road	CR 100	2L	D	1,350	899	0.0914	82	16.7%	1,800	0.12
--	CR 209 S	SR 207	2L	D	1,350	3,131	0.0914	286	6.1%	4,277	0.29
--	Palmetto Bluff Road	US 17	2L	D	1,350	2,299	0.0914	210	39.4%	7,735	0.52
--	SR 20/100	CR 209/W River Rd	2L	D	1,350	4,244	0.0914	388	1.0%	4,499	0.52
--	CR 309D	US 17	2L	C	790	2,345	0.0914	214	1.0%	2,485	0.17
--	CR 309D	SR 100	2L	D	1,350	1,285	0.0914	117	1.0%	1,362	0.09
--	CR 207A	CR 309 / Springside Road	2L	D	1,350	917	0.0914	84	1.0%	972	0.07
--	CR 216	SR 100	2L	D	2,000	5,668	0.0914	518	2.2%	6,416	0.29
--	Yelvington Road	US 17	2L	D	1,350	751	0.0914	69	14.3%	1,395	0.09
--	Lake Susan Road	Alachua County Line	2L	D	819	212	0.0914	19	1.0%	225	0.03
--	Browns Landing Road	Edgemoor St	2L	D	1,350	1,139	0.0914	104	1.0%	1,207	0.08
--	N Moody Road	SR 100/Reid St	2L	D	1,480	3,926	0.0914	359	1.0%	4,162	0.26
--	S Moody Road	SR 20/Chil Ave	2L	D	1,330	4,021	0.0914	368	1.0%	4,263	0.29
--	St Johns Avenue	SR 19	4LD	D	2,952	11,971	0.0914	1,094	9.4%	18,723	0.58
--	W Tocci Road	CR 209/Palmetto Bluff Rd	2L	D	1,350	309	0.0914	28	33.3%	926	0.06
--	Coral Farms Road	SR 100	2L	D	1,350	1,020	0.0914	93	3.0%	1,204	0.08

Sources: District 2 FDOT State Highway System 2008 LOS Report  
Putnam County Annual Traffic County Program  
FDOT 2009 Generalized Level of Service Tables  
Prepared by: GMB Engineers & Planners, Inc.  
Date: April 2010 (revised August 2010)



Figure B-4



9/10/2010

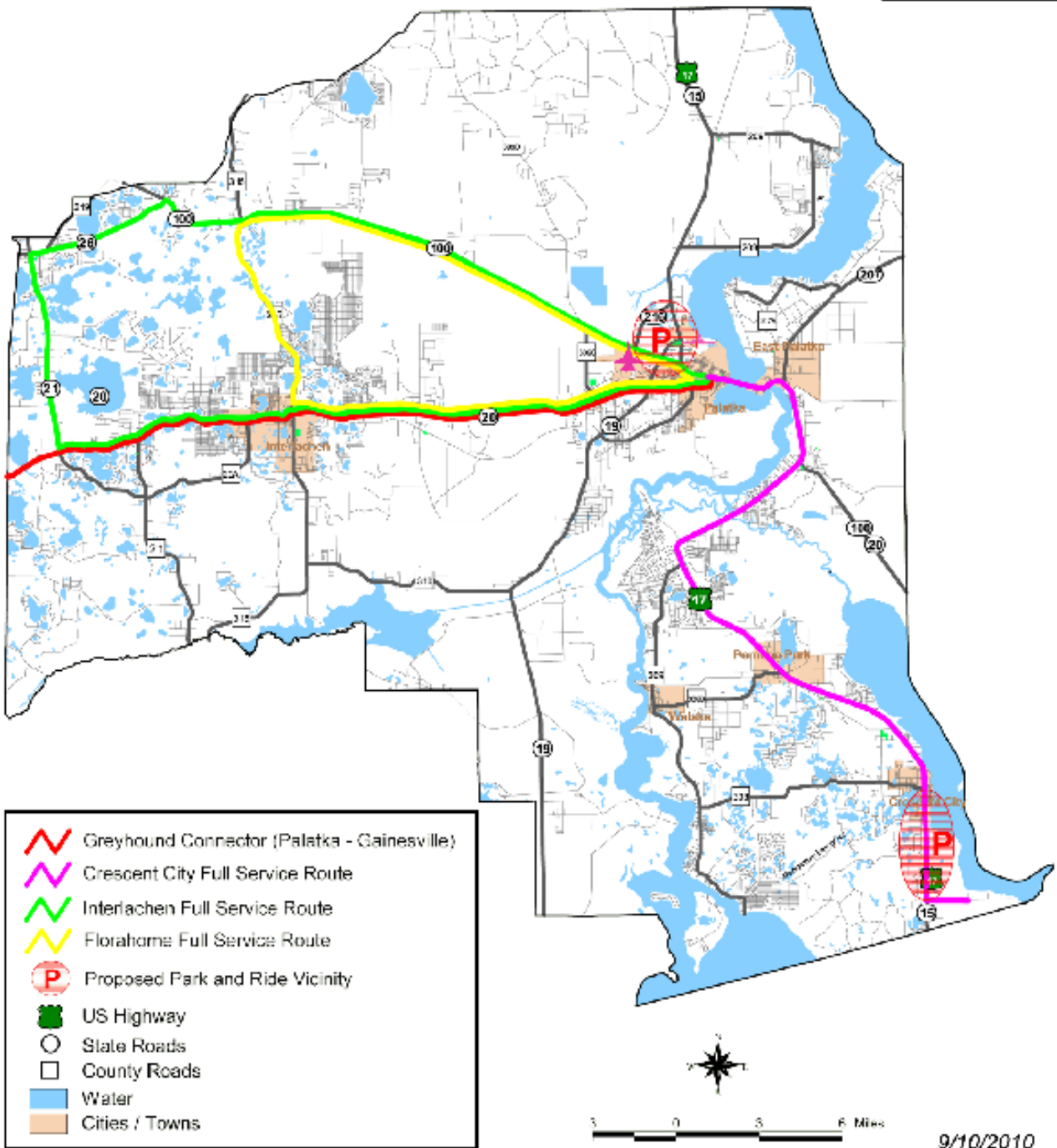
# Year 2015 Deficient Segments Map



**Putnam County**  
Comprehensive Plan 2010

Source: GME Engineers & Planners, Inc., 2010

Figure B-5



# Proposed Transit Routes and Park & Ride Lot Map



**Putnam County**  
Comprehensive Plan 2010

Source: GMB Engineers & Planners, Inc.; Rio Solutions, Inc. 2010

**Table B-6 (1 of 2)**  
*Capacity Analysis of Existing Roadway System (YR 2025 Traffic Volumes)*

SIS Facilities		Segment Limits		No. of Lanes	Adopted LOS	PK Hr MSV	Existing		Growth		YR 2025		
Map ID (New)	Roadway	Segment Limits	AAADT				K <sub>100</sub>	Peak Hr.	Rate	AAADT	Peak Hr.	Rate	AAADT
9	SR 15 / US Highway 17	SR 207	N 1st Street	4LD	C	4,400	33,500	0.0914	3,062	1.0%	39,900	3,647	0.83
17	SR 19	SR 20	SR 100	6LD	C	4,710	19,700	0.0914	1,801	1.3%	26,500	2,422	0.51
19	SR 20	Alachua Co Line		2L	C	790	8,600	0.0969	833	1.0%	10,200	988	1.25
20	SR 20	SR 21	Royal Way	2L	C	790	7,600	0.0914	695	1.0%	9,600	877	1.11
21	SR 20	SR 315	Royal Way	2L	C	1,370	7,600	0.0914	695	1.0%	9,600	877	0.64
22	SR 20	CR 315	Screen Rd	4LD	C	3,110	13,500	0.0914	1,234	1.0%	16,100	1,472	0.47
23	SR 20	Screen Rd	Motes Rd	4LD	B	2,570	11,098	0.0920	1,021	1.0%	13,400	1,233	0.48
24	SR 20	Motes Rd	SR 19	4LD	C	3,110	13,499	0.0917	1,238	1.0%	17,100	1,568	0.50
43	SR 100	SR 19	US 17 / SR 15	4LD	C	2,200	16,100	0.0914	1,472	1.0%	21,300	1,947	0.88
50	SR 207	SR 100	Louis Broer Rd	4LD	C	4,400	14,500	0.0914	1,325	3.1%	23,900	2,184	0.50
51	SR 207	Louis Broer Rd	St Johns County Line	4LD	B	2,570	12,600	0.0914	1,152	3.1%	21,200	1,938	0.75

Emerging SIS Facilities		Segment Limits		No. of Lanes	Adopted LOS	PK Hr MSV	Existing		Growth		YR 2025		
Map ID (New)	Roadway	Segment Limits	AAADT				K <sub>100</sub>	Peak Hr.	Rate	AAADT	Peak Hr.	Rate	AAADT
1	SR 15 / US Highway 17	Volusia Co. Line	Orange Ave	2L	C	790	5,700	0.0914	521	1.0%	7,300	667	0.84
3	SR 15 / US Highway 17	Vernon Ave / CR 308	Driveway N of Winn Dixie	2L	C	950	5,900	0.0914	539	1.0%	7,700	704	0.74
6	SR 15 / US Highway 17	Lake St	San Mateo Rd	2L	C	790	8,200	0.0914	749	1.0%	10,200	932	1.18
7	SR 15 / US Highway 17	San Mateo Rd	SR 100	2L	C	1,460	12,550	0.0914	1,147	1.0%	15,400	1,408	0.96
8	SR 15 / US Highway 17	SR 100	SR 207	4LD	C	3,110	18,168	0.0908	1,650	1.0%	22,800	2,070	0.67
12	SR 15 / US Highway 17	SR 100	SR 19	4LD	C	3,110	8,800	0.0914	804	1.0%	11,500	1,051	0.34
13	SR 15 / US Highway 17	SR 19	Clay Co. Line	4LD	B	2,570	10,625	0.0914	971	1.0%	14,000	1,280	0.50
32	SR 20	SR 15	East End Rd	2L	C	1,460	4,300	0.0914	393	1.1%	5,100	466	0.32
33	SR 20	East End Rd	Flagler Co. Line	2L	C	790	4,300	0.0914	393	1.1%	5,100	466	0.59
38	SR 100	Clay Co. Line	SR 26	2L	C	790	4,850	0.0914	443	1.4%	6,900	631	0.80
39	SR 100	SR 26	CR 315	2L	C	790	6,100	0.0914	558	1.4%	8,600	786	0.99
40	SR 100	CR 315	CR 309C	2L	C	790	6,567	0.0914	600	1.0%	8,700	795	1.01
41	SR 100	CR 100	CR 216	2L	C	790	7,800	0.0914	713	1.0%	10,100	923	1.17
42	SR 100	CR 216	SR 19	4LD	C	2,200	9,600	0.0914	877	1.0%	12,000	1,097	0.50

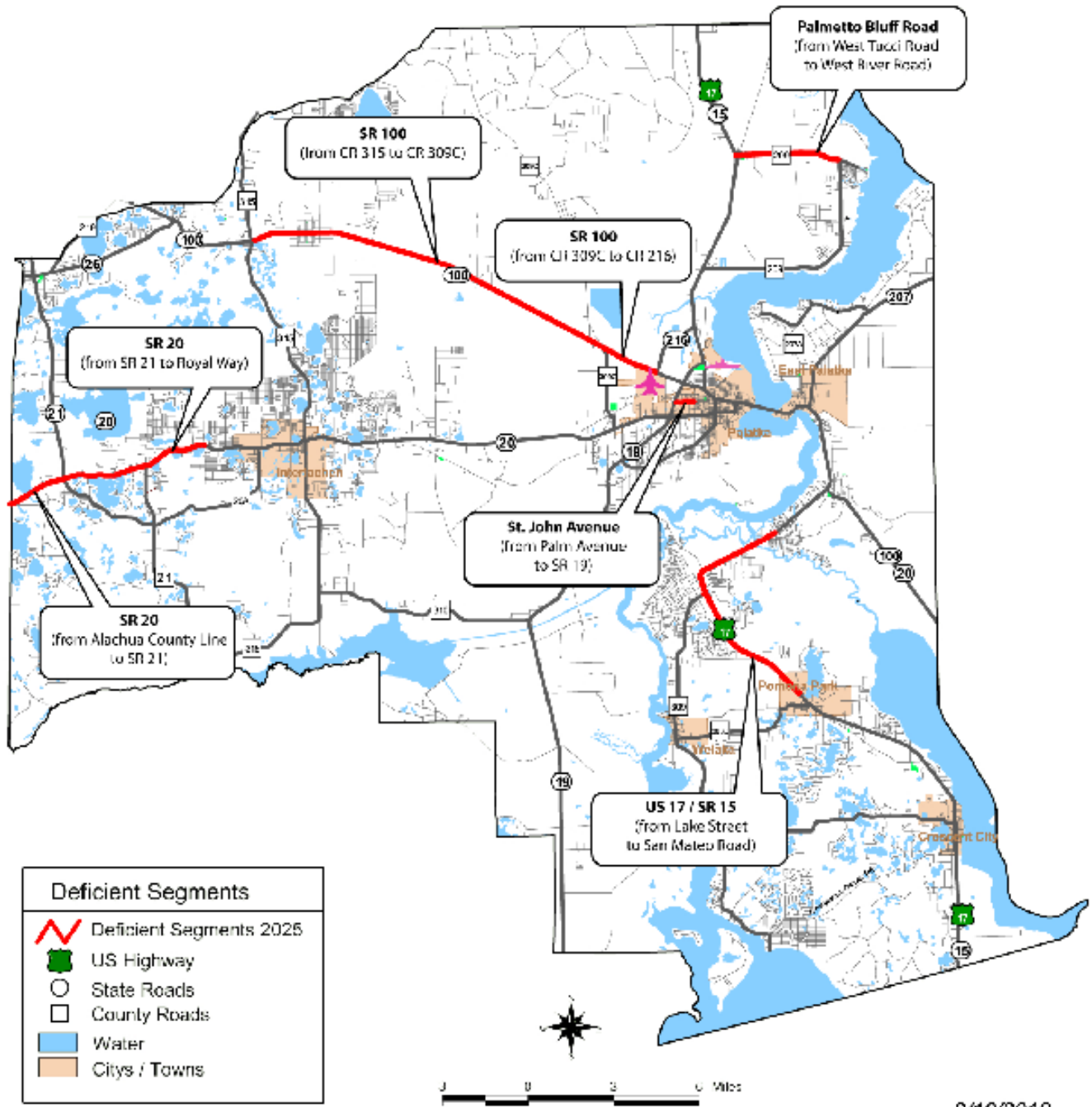
Sources: District 2 FDOT State Highway System 2008 LOS Report  
Putnam County Annual Traffic County Program  
FDOT 2009 Generalized Level of Service Tables  
Prepared by: GMB Engineers & Planners, Inc.  
Date: April 2010 (revised August 2010)

**Table B-6 (2 of 2)**  
*Capacity Analysis of Existing Roadway System (YR 2025 Traffic Volumes)*

Map ID	Roadway	Segment Limits	No. of Lanes	Adopted LOS	Pk Hr MSV	Existing		Growth		YR 2025 Peak Hr.	v/c	
						AADT	K <sub>100</sub>	Rate	Peak Hr.			
14	SR 19	Marion County Line	2L	D	1,350	2,900	0.0914	265	1.0%	3,700	338	0.25
15	SR 19	E Peniel Store Rd	2LD	D	1,480	8,600	0.0914	786	1.0%	10,800	987	0.67
16	SR 19	Moody Rd	4LD	C	3,110	8,600	0.0914	786	1.0%	10,800	987	0.32
--	CR 309	Georgetown Denver Rd	2L	D	1,350	2,681	0.0914	245	12.5%	9,718	888	0.66
--	CR 309	CR 308B	2L	D	1,350	2,320	0.0914	212	5.6%	5,048	461	0.34
--	CR 309	US 17	2L	D	1,350	3,836	0.0914	351	10.5%	12,296	1,124	0.83
--	CR 308B	US 17	2L	D	1,350	1,047	0.0914	96	1.0%	1,267	116	0.09
--	CR 308	CR 309	2L	D	1,350	1,472	0.0914	135	1.0%	1,781	163	0.12
--	CR 308	Huntington Shortcut Rd	2L	D	1,350	1,652	0.0914	151	33.3%	13,203	1,207	0.89
--	CR 310	Union Ave	2L	D	1,350	1,921	0.0914	176	1.0%	2,325	212	0.16
--	CR 315	SR 19	2L	D	1,350	1,921	0.0914	176	1.0%	2,325	212	0.16
--	CR 310	Marion County Line	2L	D	1,350	2,043	0.0914	187	1.0%	2,472	226	0.17
--	CR 310	CR 310	2L	D	1,350	2,661	0.0914	243	2.2%	3,891	356	0.26
--	CR 315	Shrickland Rd	2L	D	1,350	665	0.0914	61	1.0%	804	74	0.05
--	CR 21	Lake Susan Rd	2L	D	1,350	1,095	0.0914	100	28.6%	7,671	701	0.52
--	CR 21	CR 20A	2L	D	1,350	1,358	0.0914	124	10.3%	4,294	392	0.29
--	CR 20A	SR 20	2L	D	1,350	1,281	0.0914	117	1.0%	1,550	142	0.10
--	CR 20A	CR 21	2L	D	1,350	2,530	0.0914	233	1.0%	3,700	338	0.25
34	SR 21	SR 26	2L	D	1,350	7,900	0.0914	722	1.0%	10,300	941	0.70
35	SR 21	SR 26	2L	D	1,350	9,000	0.0969	872	1.0%	10,700	1,037	0.77
36	SR 26	Alachua County Line	2L	D	1,350	4,850	0.0914	443	1.0%	5,900	539	0.40
37	SR 26	SR 21	2L	D	1,350	2,053	0.0914	188	16.7%	9,253	846	0.63
--	CR 315	SR 20	2L	D	1,350	1,707	0.0914	156	3.5%	2,961	271	0.20
--	CR 315	Cracker Swamp Road	2L	D	1,350	899	0.0914	82	16.7%	4,052	370	0.27
--	CR 209 S	US 17	2L	D	1,350	3,131	0.0914	286	6.1%	7,141	653	0.48
--	Palmetto Bluff Road	CR 209/W River Rd	2L	D	1,350	2,299	0.0914	210	59.4%	21,324	1,949	1.44
--	SR 20/100	US 17	2L	C	790	4,244	0.0914	388	1.0%	5,136	469	0.59
--	CR 309D	SR 100	2L	D	1,350	2,345	0.0914	214	1.0%	2,837	259	0.19
--	CR 309/Springside Road	SR 20	2L	D	1,350	1,285	0.0914	117	1.0%	1,555	142	0.11
--	CR 207A	SR 207	2L	D	1,350	917	0.0914	84	1.0%	1,110	101	0.08
--	CR 216	SR 100	2L	D	2,000	5,668	0.0914	518	2.2%	8,286	757	0.38
--	Yelvington Road	US 17	2L	D	1,350	751	0.0914	69	14.3%	3,006	275	0.20
--	Lake Susan Road	Alachua County Line	2L	D	819	212	0.0914	19	1.0%	257	23	0.03
--	Browns Landing Road	Edgemoor St	2L	D	1,350	1,139	0.0914	104	1.0%	1,378	126	0.09
--	N Moody Road	SR 100/Reid St	2L	D	1,480	3,926	0.0914	359	1.0%	4,751	434	0.29
--	S Moody Road	SR 100/Reid St	2L	D	1,350	4,021	0.0914	368	1.0%	4,866	445	0.33
--	St Johns Avenue	Palm Ave	4LD	D	2,952	11,971	0.0914	1,094	9.4%	35,603	3,254	1.10
--	W Tocci Road	CR 209/Palmetto Bluff Rd	2L	D	1,350	309	0.0914	28	33.3%	2,468	226	0.17
--	Coral Farms Road	SR 100	2L	D	1,350	1,020	0.0914	93	3.0%	1,663	152	0.11

Sources: District 2 FDOT State Highway System 2008 LOS Report  
Putnam County Annual Traffic County Program  
FDOT 2009 Generalized Level of Service Tables  
Prepared by: GMB Engineers & Planners, Inc.  
Date: April 2010 (revised August 2010)

Figure B-6



9/10/2010

Year 2025  
**Deficient Segments Map**



**Putnam County**  
Comprehensive Plan 2010

Source: GMB Engineers & Planners, Inc., 2010

**F. STATE IMPROVEMENT PROJECTS**

The Florida Department of Transportation administers various state transportation programs including funding of transportation programs provided under federal law. The FDOT has under taken new direction in both their short-term and long-range planning activities. New projects have been included in the Florida Department of Transportation Five-Year Construction Plan for Putnam County. The Department has developed the Florida Highway Systems Plan, which addresses state highway direction setting and technical issues. Table B-7 lists the projects currently included in the improved tentative Florida Department of Transportation Five-Year Construction Plan.

**Table B-7**  
*FDOT Five Year Construction Plan*  
*FY 2009/10-2013/14*

Roadway	Location	Improvement	Construction
S.R. 100	Clay County Line to Airport Road	Resurfacing	2010
U.S. 17	C.R. 309 to Currie Road	Resurfacing	2010
U.S. 17	Junction Road to Laurel Lane	Resurfacing	2012
U.S. 17	S.R. 19 to C.R. 209	Resurfacing	2010
U.S. 17	Campground Entrance to (Beginning of) Memorial Bridge @ Point of Woods Trail	Lighting	2012
S.R. 19	S.R. 100 to U.S. 17	Add Turn Lane(s)	2011
S.R. 19	Alachua County Line to C.R. 315	Resurfacing	2010
S.R. 20	C.R. 315 (Interlachen) to Rowland Avenue	Resurfacing	2012
S.R. 20	in City of Palatka	Add Lanes & Reconstruct	2010
U.S. 17/S.R. 100	@ Browning Lane/Putnam County Boulevard	Rebuild Railroad Crossing	2010
U.S. 17	Marion County Line to S.R. 20	Add Left Turn Lane(s)	2011
C.R. 21	West River Road to Palmetto Bluff Road	Resurfacing	2013
C.R. 209	Sleepy Hollow Drive to Interlachen Library	Widen/Resurface Existing Lanes	2013
C.R. 315	Central Street to C.R. 308	Bike Lane/Sidewalk	2010
East Grand Rondo	U.S. 17 to Cisco Road	Bike Lane/Sidewalk	2010
Lake Street	U.S. 17 to Cisco Road	Bike Lane/Sidewalk	2010
Lake Street	Edgemoor Street to U.S. 17/S.R. 100	Sidewalk	2011
Moseley Avenue	Major Devall Outfall to Two Mile Creek	Resurfacing	2010
Silver Lake Drive	S.R. 19 to Palm Avenue	Replace OR Widen Br Culvert	2010
St. John's Avenue		Resurfacing	2010

**Source:** Florida Department of Transportation, 2010  
**Prepared by:** GMB Engineers & Planners, Inc.  
**Date:** April 2010

## G. TRANSPORTATION PLANNING FACTORS

While a traffic volume survey may provide an indication of the magnitude of traffic movement, it does not directly explain the factors that produce these movements. These explanations are bound up in the land use arrangements and the nature of the social and economic effects on the activity system.

In addition to a description of existing roadway loadings and physical condition, several other factors which influence design and use of the circulation system should be considered in the review process. The following evaluation looks at several factors, which influence and are influenced by transportation requirements.

The population in Putnam County has shown continuous but unsteady growth over the last several decades. The population grew a moderate 13.1 percent from 1960 through 1970, adding 4,212 persons. Population growth experienced a peak period increase from 1970 to 1980 with a total of 14,125 persons for a 38.8 percent growth rate. However, the 2000 Census indicates that the population for the total county (unincorporated and incorporated) population has increased to 70,423 persons, an increase of approximately 5,000 persons since 1990. The latest estimate indicates a YR 2010 population of 75,805.

Factors encouraging growth in Putnam County are reasonable local land costs attracting new residents and retirees and increased accessibility to Jacksonville's and Gainesville's employment/service centers. Population growth continues to more heavily distributed near the incorporated areas of Palatka and Interlachen, respectively.

Continued growth in Putnam County is likely to be in response to its numerous environmental amenities and location to the Jacksonville and Gainesville Urbanized Areas. As such, the Putnam County transportation system reflects the opportunities and costs associated with the growth occurring in much of North Florida. Due to the area's central proximity between interstate corridors, Putnam County can plan to serve as a crucial link for interstate and interregional travel. While population growth may not necessitate major changes or additions to the network of principal roadways, emphasis should be placed on supporting local and regional economic development efforts by developing a traffic circulation system which provides for the efficient, safe movement of people, goods and materials to and from agricultural, commercial and industrial establishments.

Transportation planning has often been viewed as being traffic functional. That is, it has aimed both to ameliorate those obvious inefficiencies of the current roadway system such as congestion, delay and accidents and to produce proposals for capital investment and construction in new facilities, which will improve existing operating deficiencies. However, it is also important to recognize that transportation planning is one of the most important tools for guiding and shaping the development and growth of both the urban and rural environment. It is essential that this dual function of transportation planning be recognized and implemented if the efforts of local government are to be successful in creating an environment which is an efficient and attractive place to live and work. It is important that the functional problems, which are primarily short-or-mid term problems, be dealt with as an integral part of the planning process. Equally, it is essential that the long term influence of the transportation system on shaping and changing development patterns be considered as an integral element of the planning process.



One example of a functional problem associated with economic growth in Putnam County centers around the County's workforce, who commute to the City of Gainesville along the primary arterial, S. R. 20. One impact of this pattern of commute is the potential safety issues and delays and congestion caused by the near capacity service volumes. Although this segment of roadway will function with transit improvements, these operational conditions of the roadway lead to uncomfortable driving conditions.

Traffic generated along this portion of roadway had a volume of 8,600 vehicle trips per day in year 2008, which is almost double the volume incorporated in the original plan. Due to increased commercial development and subsequent traffic expected along this corridor, the FDOT is currently widening S. R. 20, from C.R. 315 (Interlachen) to Rowland Avenue. The most recent FDOT Five-Year Work Program emphasizes improvements to roadways on the FIHS. This underscores FDOT's commitment to improve inter-county trip routes and provide for an overall statewide transportation network. The tilt of the balance of mobility versus access favors mobility for these roadways, where careful control of access points will continue to be a high priority in the FDOT Improvement plan.

Unlike the functional problems, other transportation needs are often more difficult to appraise and require a unique study approach involving long-range goals and objectives and projections of future socio-economic conditions.

The transportation forecasting methodology developed and employed for the Putnam County future traffic estimates analysis involved a number of engineering techniques. In addition to the front end development of historical traffic count data, the transportation analysis also requires both historical trend line projections and microcomputer transportation program modeling. The work tasks involved in performing the transportation analysis are described in the Future Traffic Projection Section.

The fundamental objective of the long-range transportation/land use study is to develop a plan serving the community of the future. Because future land use policies will have an obvious effect on the future traffic circulation system, decisions regarding the location of a new high school, industrial park, and subdivisions are critical to the future quality of life for residents of Putnam County. Long-range plans must consider the relationship of new development to the surrounding roadway system by attempting to accommodate increased levels of traffic without detracting from the area wide functions of the major thoroughfares.

#### 1. Florida Highway Sketch Plan

The County Comprehensive Plan - Transportation Element plays a critical role in the overall state-wide implementation and success of Florida's growth management policies. The passage of the 1985 growth management legislation established strategic goals and policies for the State and required the development of Agency Functional Plans (AFP's) by state agencies to document implementation of the State Comprehensive Plan (SCP).

The Florida Transportation Plan (FTP), which serves as the Agency Functional Plan for the Florida Department of Transportation (FDOT) to the State Comprehensive Plan, charts the course the FDOT will be taking for its state highway System into the 21<sup>st</sup> century. The FTP calls for the development of individual modal system plans. The Florida Highway System Plan is the modal plan for the state highway system, identifying potential highway projects which will preserve and enhance interstate and

inter-regional mobility. One section of the FTP will complete an inventory of all state highway facilities which cannot reasonably accommodate two or more additional lanes.

The inventory will primarily be based on right-of-way consideration. However, the three primary reasons for corridors to be constrained from adding two or more lanes are:

1. physical (immediately adjacent intense development, built to the maximum through lane standards, economic considerations or safety standards),
2. environmental (endangered species habitat, historical sites), or
3. local policy (project not acceptable to the local government of public)

## 2. Environment

Potential direct and indirect impacts of traffic systems on environmental systems should be an important consideration in traffic planning. This consideration, which extends to air, noise, and surface water pollution issues, as well as the concern for the loss of agricultural land, will make it increasingly difficult to meet urban and rural transportation needs in the future.

It is vital for the residents of Putnam County to address environmental issues which contribute to preserving the outstanding natural environment and quality of life in the County. Meeting this challenge requires a strong level of public and private involvement coupled with a balanced growth strategy.

## 3. Air Quality

Florida is mandated by federal law and state regulation to avoid degradation of air quality. The Clean Air Act establishes national standards and requirements for a State Implementation Plan (SIP) ensuring that development and transportation systems are consistent with the maintenance of optimum air quality. Florida is focusing on the negative impacts of vehicle emissions, with policies reflecting a growing concern about climate change. As a result, greenhouse gas reduction strategies are becoming an important part of the transportation and land use discussion. Planning strategies to address greenhouse gas emissions include:

- Encouraging transit use
- Encouraging carpooling
- Encouraging “trip chaining: (combining several errands into one outing)
- Using energy-efficient land use planning
- Increasing a focus on bicycle/pedestrian planning
- Devising other strategies to reduce vehicle miles traveled

The County has a significant amount of rural areas and very few urban areas, and to some extent these dynamics bring different values to the citizens of the County. The County has been very involved and has supported several initiatives to address the balance between statutory requirements and the various parts of the County. The County anticipates that the majority of development would occur in the eastern portion of the County, specifically in East Palatka. Accordingly, the County planned for infrastructure investments in this area, including the East Putnam Regional Water System and the

planned wastewater system. The County also anticipated that development would occur around its municipalities, especially within the utility service areas of Palatka and Crescent City. Growth was also anticipated in the Rural Centers and around the Melrose area. The County continues efforts toward the concept of energy efficiency and green house gas reduction. With little data pertinent to the County, this is a process that requires the County to embark on projects with landowners, developers, and other agencies to begin establishing the data and analyses. Recognizing these issues is the starting point for the County.

The Bureau of Economic and Business Research (BEBR) reports vehicles tag numbers indicate more cars per person. The average vehicles per household are 1.9. In 1980, that number was 0.96 vehicles per person, and in 1990 that number was 1.12 vehicles per person. Below is a summary of passenger car tags by County in YR 2007-2008.

*Passenger Car Tags*

County	No. of Tags
Baker	12,626
Clay	113,112
Duval	504,967
Flagler	58,662
Nassau	42,036
Putnam	36,064
St. John's	113,253

Source: Florida Statistical Abstract, 2009

**Date:** April 2010

Ideally the jobs available in a community should match the labor force skills, and housing should be available at prices, sizes, and locations suited to the workers in the area. A majority of workers in Putnam County work outside the County of residence, which influences higher commute times. Commute times are also a measure in part for jobs-housing balance. Air quality improvements related to mobile sources are achieved only in two ways: one method is to reduce the emissions per mile while the other is to reduce the number of vehicle miles traveled (VMT). While it is often correct to argue that new highway projects may induce more highway travel and thus decrease the overall air quality of the region, it is also important to remember that transportation planning incorporates traffic system management (TSM) which is aimed at reducing the emissions per mile through operational improvements. Currently, Putnam County has maintained an Air Quality Index (AQI) of 97 percent or higher from 2005-2007, based on the most recent Air Quality information provided by the Department of Environmental Protection (DEP). The monitored pollutants were PM10 and Sulfur Dioxide.

The County may begin to seek alternative fuel sources, such as the St. John's County Bio-fuel program. Potential action by the County may include the feasibility of participating in a bio-fuel program. Effective greenhouse gas emissions reduction measures are not County specific and they are not best implemented by a project by project approach. Other needs identified, as part of the Capital Improvement Program (CIP) priorities under Fiscal Management, relate to operational transportation control measures which may assist in mitigating possible adverse air quality impacts.

#### 4. Noise Quality

Noise can be described as unwanted sound, sound without value, or vibrational energy out of control. It can cause physical and psychological damage to humans, and can cause physical damage to buildings and other structures (Louis Keefer, Urban Transportation – Perspectives and Prospects). As in air quality, noise pollution is often associated with background noise in urbanized areas produced by hundreds of cars, trucks, buses, planes and other transportation vehicles in motion.

Although the Federal Highway Act of 1970 gave the Department of Transportation (DOT) authority to regulate noise from surface transportation, this authority has mainly been used to provide guidelines and funding assistance for the design and construction of noise mitigation measures applied to federally-aided highway projects. Moreover, the Environmental Protection Agency (EPA) has taken steps to reduce enforcement of existing regulations to control noise from large trucks and other heavy equipment. Thus it would appear that an optimal noise abatement strategy at all levels of government remains unclear. Lack of definitive information on impacts of noise, technological feasibility of noise control measures and their economic costs, and localized estimates of future travel and population growth make it difficult to determine with certainty the best control strategy.

At the present time in Putnam County, noise related to surface transportation does not appear to be a major environmental concern. However, future aviation development needs at Kay Larkin Municipal Airport may require developing regulations for land use and noise control. To coordinate and assist in meeting aviation needs, the Florida Department of Transportation is developing a statewide aviation system plan identifying long-range airport and aviation needs within the state. The Continuing Florida Aviation System Planning Process (CFASPP) is being conducted with the support of the Federal Aviation Administration and Local government participation.

#### 5. Water Quality

The relationship between transportation and water resources has to do with the preservation and quality of surface water, particularly in conjunction with construction of transportation facilities and storm-water runoff. Presently, the St. Johns River and Suwannee River Water Management Districts monitor water conditions affecting the County. The County will need to continue cooperating with these state agencies to further monitor groundwater levels. Further, as a preventive measure against potential degradation of County surface waters, a process of County oversight through inspection of development plans should be initiated: County roads, related facilities, and development should be located, constructed, and operated in a manner which will have the least negative impact on surface waters and wetlands.

#### 6. Loss of Agricultural Land

The relationship between transportation and the loss of agricultural land is tied to the provision of roadway facilities for new development. The potential loss of farmland as development encroaches upon valuable agricultural and timberland may adversely affect the total County economy and place additional strain on limited financial resources for capital improvements to scattered or leapfrogging growth. Future land-use decisions and utility constraints will ultimately affect the use of existing agricultural land.

7. Energy

Potential gains in transportation energy efficiency focuses on several factors, including new vehicle technology, modal choice, traffic operation characteristics, travel patterns, and the use of transportation control measures (TCM's).

One measure of efficiency is motor gasoline consumption. Based on information from the Governor's Energy Office, 2008 Florida Gasoline and Diesel Fuel Report, gasoline (including gasohol) consumption rose 2.0 percent per year from 1986 to 2008, consistent with the historical population growth. The average Floridian used 434.4 gallons, slightly higher than Putnam County's per capita consumption of 420.8 gallons in 2008. Three quarters of all motor gasoline sold in Florida are used by private passenger vehicles.

Putnam County's 2008 motor gasoline consumption totaled 31,557,000 gallons, a 15.6 percent increase over 1986's total consumption of 27,290,000 gallons. During the same period, per capita gasoline consumption decreased 0.3 percent per year due to the population increase. It is important to note that population, county size, travel patterns of county residents, proximity to major highways, seasonal influx of tourists, public transportation and ride sharing programs, per capita income, and industry mix all affect gasoline consumption.

8. Accident Analysis

Accident data (Table B-8) can often be used as a measure of traffic operations performance in that accident location data can often show spot problems while accident rates can be useful in evaluating overall highway system performance. Safety measurement criteria are often expressed in terms of accident and fatality reduction per intersection or per segment of roadway, safety goals may also be measured in terms of reducing accidents and fatalities in relation to traffic volumes or vehicle miles of travel.

Between 2005 and 2009, there was a 9.49 percent overall decrease in accidents investigated and reported in Putnam County. For the most part, accident data has remained level over the past five years. In fact, the number of fatalities has decreased by 5 thirteen (13) since 2005.

**Table B-8**  
*Reported Traffic Accidents*

Description	2005	2006	2007	2008	2009	Five-Year Inc./Dec.
Total Traffic Accidents	1,024	1,014	703	596	538	-9.49%
Accident-Related Injuries	882	877	652	536	562	-7.26%
Fatalities	22	24	15	13	9	-11.8%

**Source:** FDOT Crash Analysis Reporting System (CARS)  
**Prepared by:** GMB Engineers & Planners, Inc.  
**Date:** April 2010

## H. TRANSIT CONSIDERATIONS

### 1. Transportation Disadvantaged Population

The transportation disadvantaged population includes only those persons who meet the criteria set forth in the eligibility guidelines in Chapter 427, Florida Statutes. Chapter 427, Florida Statutes defines transportation disadvantaged as: “those persons who because of physical or mental disability, income status, or age are unable to transport themselves or to purchase transportation and are, therefore dependent upon others to obtain access to health care, employment, education, shopping, social activities or other life-sustaining activities, or children who are handicapped or high-risk or at-risk as defined in s. 411.202.” The potential transportation disadvantaged population includes all persons who are elderly, disabled and low-income.

The Center for Urban Transportation Research (CUTR) at the University of South Florida provides population and demand forecasts for the Statewide Transportation Disadvantaged Plan. These forecasts are used in determining these populations and demands in Putnam County. CUTR’s first step in forecasting the potential transportation disadvantaged population and present transportation disadvantaged population is to forecast the number of persons who are elderly, disabled or low-income. Next, CUTR allocates each member of each of these groups to a particular market segment to avoid double and triple counting. Finally, to forecast demand, CUTR adds the market segments together.

### 2. Elderly Population

Forecasts of total population and of elderly population (i.e.: persons age 60 and older) are based on county-level data from the Bureau of Economic and Business Research (BEBR) at the University of Florida. BEBR provides estimates or forecasts of population by age for the years 2000, 2005, 2010, 2015, and 2025. CUTR develops population forecasts for intermediate years under the assumption that the rate of population growth would remain constant within the five-year periods.

### 3. Disabled Population

The U.S. Census provides data on the number of persons reporting a “mobility limitation” and/or a “self-care limitation”. A “mobility limitation” is a health condition which has lasted for six or more months and which made it difficult to go outside the home alone. The Census defines “self-care limitation” as a health condition which had lasted for six or more months and which made it difficult to take care of personal needs, such as dressing, bathing, or getting around inside the home. For both definitions, “health condition” referred to both physical and mental conditions.

### 4. Low Income Population

CUTR uses county-level data from the U.S. Census to develop estimates of the percentage of the population who were low-income (i.e.: who lived in families with an income below the federal poverty level) in the 0 to 59 and the 60 and older age groups. To estimate the number of low-income persons in each year of the study period, CUTR assumes that the percentage of low-income persons in each county will remain unchanged.

5. High-Risk and At-Risk Children Populations

The CUTR indicates that because most of these children are disabled and/or are members of low income families, they are already included in the population forecasts of disabled and low-income persons.

6. Needs Assessment

Putnam County’s demand for transit will increase with its urbanization and increasing price for fuel. Although CUTR provides an accepted methodology the numbers generated appear abnormally high when compared to localized trip data. In order to create a more accurate projection of demand the County may need to option for a special study utilizing an alternative methodology.

I. AVIATION

As Northeast Florida and Putnam County continue to grow, aviation needs will play an increasingly important role in the transport of people, commodities and freight. It is vital to the long-range planning efforts of this County to participate with the Florida Department of Transportation in the Continuing Florida Aviation System Planning Process (CFASPP). The FDOT has programmed numerous improvements to Kay Larkin Airport into its 6 year budgeting process for aviation facilities. The chart below outlines the programmed improvements, the budgeted cost, and the scheduled fiscal year for the improvements to take place.

**TABLE B-9**  
*FDOT 5-Year Aviation Plan (FY 2009-2013)*  
*Kay Larkin Airport Programmed Improvements*

Facility Improvement	Funding Amount	Fiscal Year
T-Hangar Construction	\$500,000	2010
Taxiway Drainage (PH II)	\$1,375,000	2011
Construct Corporate Hangar	\$500,000	2010
Design/Construct Bulk Hangar	\$500,000	2012
Acquire Field Jet A Fuel Truck	\$100,000	2013
Field Update Airport Master Plan	\$200,000	2013
Municipal LT. Kay Larkin Field	\$240,000	2009

**Source:** Florida Department of Transportation, 2008

**Preparer:** GMB Engineers & Planners, Inc.

**Date:** April 2008

## J. BICYCLES

The use of bicycles for recreation, sport, health-fitness and transportation in the United States and Florida has increased dramatically over the past two decades. A U.S. Department of the Interior, Fish and Wildlife Service and U.S. Department of Commerce, Bureau of Census 1982 recreational survey indicated that population participation in bicycling has more than tripled since a similar survey in 1960, making bicycling one of the most popular participation sports and a significant form of transportation as well. Encouraging the use of bicycles as a transportation alternative assumes an increased modal split to bicycle use for short work commuter trips and other short trip purposes. To make this a viable alternative, the designation of street bicycle lanes and/or bicycle paths for exclusive bicycle use must be based on approved, recognized and coordinated design and location criteria.

Under the 1984 Bicycle Law bicycles and pedestrians must be given full consideration in the planning and development of local, regional, and state transportation plans and programs. Currently the Florida Department of Transportation is coordinating efforts to make bicycle use safer and a more desirable mode of travel. As part of this effort, wide curb lanes and paved shoulder additions are now being considered for application during resurfacing and reconstruction projects on state roads for maintenance cost and safety enhancement benefits, while also serving as bikeways. Application of a similar policy on selected urban collectors and arterials would result in a better bicycling environment for work and other trips.

The development of a bikeway improvement policy requires a degree of pre-planning and coordination with both public and private interests. For Putnam County, a Master Trails Plan can be found in the Recreation and Open Space Element.

## K. COMMERCIAL BUS LINES

Greyhound Bus Lines previously provided commercial long-distance bus service between Putnam County and the Jacksonville and Orlando metropolitan areas. Service is currently provided via a terminal located in Jacksonville.

## L. PASSENGER RAIL SERVICE

Amtrak currently services the Putnam County area via the historic railroad depot in the City of Palatka. Amtrak leases the CSX railroad line and operates two (2) trains daily to the Jacksonville area and two (2) trains daily to the Deland area.



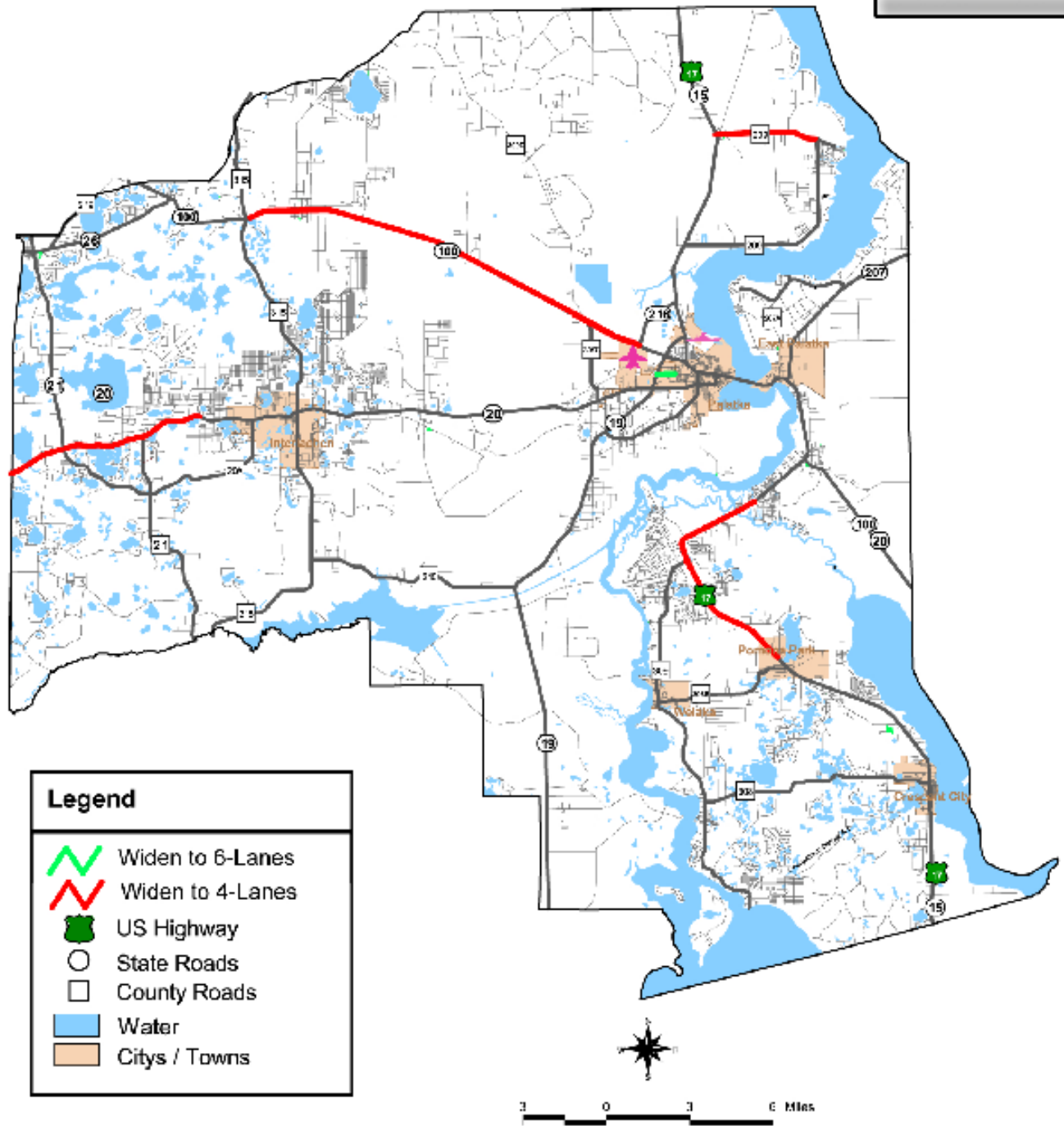
## M. FUTURE TRAFFIC CIRCULATION PLAN: 2015-2025

The Future Traffic Circulation Plan represents the financially feasible roadway network plan which responds to existing and projected transportation needs. The Traffic Circulation Plan is the County's plan recognizing the finite limits of available funding and the need for prioritization of proposed improvements. The improvements identified on Map B-7 have been defined by the projected growth of existing traffic volumes and future transportation demands in Putnam County. The Traffic Circulation Plan essentially identifies those roadway improvements for which a need was determined by the future projections that can reasonably and logically be expected to be complete within the outermost horizon year of this plan document.

The identified County roadway improvements will be listed here and included in the County's Five Year Capital Improvement Plan if necessary within the first five years. In addition, the County will continue to monitor the level of service conditions through the implementation of the County's Concurrency Management System/Comprehensive Plan updates. For roadways that are identified to exceed the maximum adopted service volumes in the concurrency management system, the County will develop a mitigation plan consistent with the provisions outlined in Rule 9J-5.0055(3) F.A.C. (Policy B.1.4.2).

As part of the County Transportation Plan, an analysis should be conducted of the projected roadway deficiencies to determine if there are other methods to consider in addressing the identified problems other than roadway widening. In addition, the County's local roadway problem can only be addressed with adequate funding that does not currently exist. Therefore, the County should consider alternative funding sources including, but not limited to, fuel sales tax, state transportation funding, local option fuel tax, local option sales tax, transportation impact fees and/or private development.

Figure B-7



**Legend**

- Widen to 6-Lanes
- Widen to 4-Lanes
- US Highway
- State Roads
- County Roads
- Water
- Citys / Towns

9/10/2010

Year 2025  
**Traffic Circulation  
Improvement Plan Map**



**Putnam County**  
Comprehensive Plan 2010

Source: GMB Engineers & Planners, Inc. 2010

### 1. Constrained Facilities

The Florida Highway System Plan also defines a constrained facility. A constrained facility is defined as “a roadway, regardless of transportation needs, which is constrained from adding at least two additional through lanes.” The FDOT identifies that construction constrained facilities may be designated as such based on physical barriers or policy barriers. Physical barriers or constraints primarily occur “when intensive land use development is immediately adjacent to highways making roadway expansion prohibitive, or a facility has reached the Maximum Through Lane Standards acceptable to the Department.” Policy barriers or constraints “are artificial barriers to roadway expansions based on environmental or political realities within a community. Unlike physical constraints, however, these barriers to roadway expansion can change over time, as needs and community goals change.”

Several roadway segments in Putnam County have been identified as having physical barriers which constrain the facility from being expanded. However, none are located in unincorporated Putnam County, and, therefore, no constrained facilities are identified in this Plan. The issue of constrained facilities shall be revisited by the County Commission as necessary, with the Plan amended to indicate the roadways which may be classified as constrained in the future, based on traffic projections and policy decision-making. In no circumstance shall a roadway on the State Highway system be classified as constrained unless such a designation has received the approval by FDOT.

### 2. Backlogged Facilities

As defined in the Florida House Bill 1021, the term “backlog” means a facility or facilities on which the adopted level-of-service standard is exceeded by the existing trips, plus additional projected background trips from any source other than the development project under review that are forecast by established traffic standards, including traffic modeling. Additional projected background trips are to be coincident with the particular stage or phase of development under review.

Any related mitigation plan for backlogged facilities must be financially feasible and consistent with other portions of the comprehensive plan. The backlog designation must be developed consistent with Sections 163.3180(9), 163.3180(12), 163.3180(16), and 163.3182 of the Florida Statutes.

### 3. Fiscal Management

The comprehensive plan should affect day to day county operations by being integrated into the local budgeting process. The degree to which planning and budgeting impact each other depends on whether fiscal policy has developed to a level commensurate to the task at hand. This task often remains difficult due to a weak revenue base, backlogged projects, and unclear priorities.

A useful method for making the connection between a plan and budget is to develop a list of projects required by anticipated changes resulting from the planning process. The programming of capital or project expenditures is a process through which priorities for capital investments and a schedule of expenditures is established to construct improvements, in accordance with the County’s present and anticipated fiscal capabilities. A first step in developing a capital improvement program (CIP) is to set a time frame for the planning period in which one will identify needs.

#### 4. Transportation Project Management

Local government has long been faced with the dilemma of limited funds versus a multitude of project requests. In spite of the lack of resources, proper transportation planning requires proper project administration. Infrastructure administration should mandate that all needs be identified, evaluated and planned just as if funds were available. A Project Priority Management System (22), lists all such project requests and becomes the basis for the Transportation Improvement Program (TIP). The Project Priority Management List is created by:

- **Project Evaluation:** All requests are evaluated for validity. If the requesting work is a valid county project, then it is listed. If not, the requester is so notified and informed as to the reason the project has not been added to the list.
- **Project Description:** All valid projects are then studied to determine location, facility name, description of work, and estimated cost.
- **Listing:** The project is selectively added to the existing list of projects. To develop a list, each project is assigned a fiscal year and priority rating number. In assigning a fiscal year, the latest practical date that a project should be undertaken is used. For priorities a, 1.2.3. group weighting is used. Group 1 projects are those which are essential, consistent with the approved Comprehensive Plan, and should be implemented with available funds; Group 2 projects are those which are consistent with the approved Comprehensive Plan, necessary and implemented if available funds are available after Group 1 priority projects have been committed to, under construction, or completed; and Group 3 projects are those which would improve facilities, but lie outside the five-year implementation period.

Once listed, this format becomes a working document. It is continually revised as additional data becomes available and can easily illustrate to interested citizens as well as elected officials the extent of all county-wide project requests. Additionally, the listing becomes the basis from which final Transportation Improvement Projects are selected.