

MULTI-MODAL TRANSPORTATION ELEMENT



ORD. 21-O-06 - October 25, 2021

**Multi-Modal
Transportation Element
Data and Analysis
Table of Contents**

1.0 INTRODUCTION..... 1

2.0 EXISTING TRANSPORTATION SYSTEM 2

 2.1 Roadway 2

 2.1.1. Classification of Roadways 2

 2.1.2 Strategic Intermodal System 7

 2.1.3. Roadway Levels of Service 7

 2.1.4. 2017/2018 Existing Level of Service 8

 2.2 Existing Public Transit Facilities..... 12

 2.2.1. Transit Support 12

 2.2.2. Transit Level of Service 12

 2.3 Existing Bicycle and Pedestrian Facilities 15

 2.3.1 Pedestrian Level of Service..... 15

 2.3.2 Bicycle Level of Service 15

 2.4 Golf Cart Facilities 20

 2.5 Airport Facilities..... 20

 2.6 Hurricane Evacuation 20

3.0 TRENDS..... 23

 3.1 Population Characteristics 23

 3.2 Historic Traffic Growth..... 23

 3.3 Transportation Demand Forecasting..... 23

 3.4 Projected Growth Rates 23

4.0 FUTURE CONDITIONS 25

 4.1 Planned Improvements 25

 4.1.1 Roadway Improvements..... 25

 4.1.2 Pedestrian Improvements 25

 4.1.3 Bicycle Improvements 26

 4.1.4 Transit Improvements..... 26

 4.2 Year 2023 Conditions..... 27

 4.2.1 2023 Roadway Conditions 27

 4.2.2- 2023 Pedestrian Conditions..... 27

 4.2.3 - 2023 Bicycle Conditions..... 27

 4.2.4 - 2023 Transit Conditions 27

 4.3 Year 2030 Conditions..... 34

 4.3.1 2030 Roadway Conditions 34

 4.3.2 2030 Pedestrian Conditions 34

4.3.3 2030 Bicycle Conditions	34
4.3.4 2030 Transit Conditions	34
4.4 Internal Consistency within the Comprehensive Plan	34

List of Tables

Table 2 - 1: Existing Number of Lanes, Functional Classification, and Jurisdiction	3
Table 2 - 2: SIS Facilities	7
Table 2 - 3: Existing AADT and Level of Service	9
Table 2 - 4: Existing Peak Hour, Peak Direction, and Level of Service	10
Table 2 - 5: Transit Level of Service Threshold	12
Table 2 - 6: Pedestrian Level of Service Thresholds	15
Table 2 - 7: Bicycle Level of Service Thresholds	15
Table 2 - 8: Existing Bicycle and Pedestrian Level of Service	19
Table 3 - 1: Population Estimates of Crystal River and Citrus County	23
Table 3 - 2: Historic Traffic Annual Growth Rates	24
Table 4 - 1: 2023 AADT and Level of Service	28
Table 4 - 2: 2023 Peak Hour, Peak Direction, and Level of Service	29
Table 4 - 3: 2023 Bicycle and Pedestrian Level of Service	31
Table 4 - 4: 2030 AADT and Level of Service	35
Table 4 - 5: 2030 Peak Hour, Peak Direction, and Level of Service	36
Table 4 - 6: 2030 Bicycle and Pedestrian Level of Service	38

List of Figures

Figure 2 - 1: Crystal River Existing Number of Lanes	4
Figure 2 - 2: Crystal River Functional Classification	5
Figure 2 - 3: Crystal River Roadway Jurisdiction	6
Figure 2 - 4: Crystal River Existing Roadway Daily Level of Service	11
Figure 2 - 5: Crystal River Transit Service	13
Figure 2 - 6: Crystal River Future Land Use Along Transit Routes	14
Figure 2 - 7: Crystal River Bicycle and Pedestrian Facilities	16
Figure 2 - 8: Crystal River Existing Pedestrian Level of Service	17
Figure 2 - 9: Crystal River Existing Bicycle Level of Service	18
Figure 2 - 10: Crystal River Evacuation Routes	22
Figure 4 - 1: Crystal River 2023 Roadway Daily Level of Service	30
Figure 4 - 2: Crystal River 2023 Pedestrian Level of Service	32
Figure 4 - 3: Crystal River 2023 Bicycle Level of Service	33
Figure 4 - 4: Crystal River 2030 Roadway Daily Level of Service	37
Figure 4 - 5: Crystal River 2030 Pedestrian Level of Service	39
Figure 4 - 6: Crystal River 2030 Bicycle Level of Service	40

TRANSPORTATION ELEMENT DATA, INVENTORY, AND ANALYSIS

1.0 INTRODUCTION

The purpose of the Transportation Element is to plan for a safe and coordinated multimodal transportation system which supports the City's existing and projected population and is coordinated with the Future Land Use Map. The Transportation Element is comprised of two parts: (1) Goals, Objectives, and Policies (GOPs) which provide the policy guidance for the City's transportation system, and (2) the Data, Inventory, and Analysis (DIA) which supports the GOPs with the baseline information and projections for the City's transportation facilities. This DIA integrates the County and regional transportation plans which affect Crystal River including: the Multimodal Transportation Element of the Citrus County Comprehensive Plan, the Hernando/Citrus Metropolitan Planning Organization (MPO) 2040 Long Range Transportation Plan (LRTP), and the Florida Department of Transportation's (FDOT) Work Program.

This document provides the relevant data, inventory, and analysis of transportation conditions in support of the City's Transportation Element of their Comprehensive Plan, as described in Florida Statutes (F.S.) 163.3177(1)(f). This information was considered in developing the GOPs in the City's Transportation Element, and includes the following:

- An analysis of the existing transportation system, including the ability of transportation facilities and services to serve existing land uses;
- Growth trends and travel patterns;
- Projected transportation system levels of service;
- An analysis of local and state transportation programs; and
- Maintenance of adopted level of service standards.

2.0 EXISTING TRANSPORTATION SYSTEM

2.1 Roadway

2.1.1. Classification of Roadways

Roadway classifications are defined in the Florida Transportation Code, Section 334.03, Florida Statutes (F.S.). A jurisdiction's major thoroughfares are categorized into functional classification groups based on their characteristics. Classifications are primarily based on roadway access to abutting land uses and the extent of vehicular travel. The Florida Department of Transportation makes designation of functional classification at least once every 10 years following the decennial Census. For urban areas, the five functional classification groups include: principal arterials, minor arterials, major collectors, minor collectors, and local streets.

Principal Arterials – The principal arterial provides one of the highest levels of mobility at the highest speed, and typically over long distances. They primarily serve major movements of vehicles entering or leaving an urban area. Although access to adjacent land is not prohibited, it is controlled due to mobility being the primary function of arterials. Although arterials consist of a small percentage of the total roadway network, they serve a high proportion of the total urban area travel. Arterials are classified as Principal or Minor.

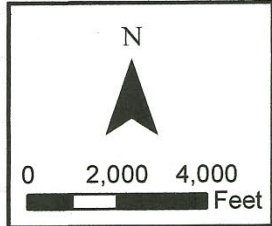
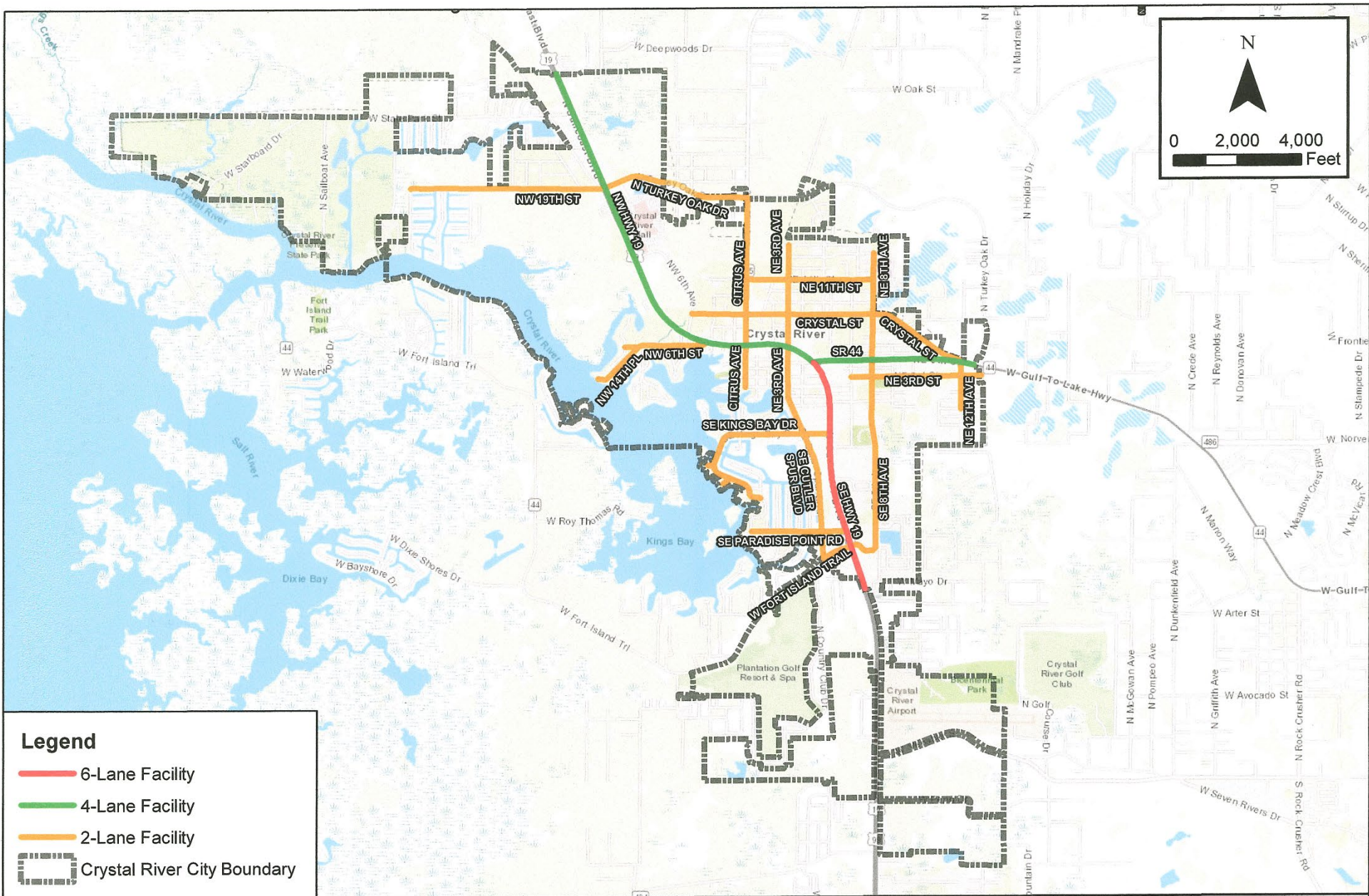
Collectors – The collector street provides vehicle access and mobility within residential, commercial and industrial areas. The collector street penetrates neighborhoods and distributes trips from arterials to the end destinations. Collector streets serve as a linkage between land access and mobility and can also support local transit service. Collector roadways are classified as Major or Minor.

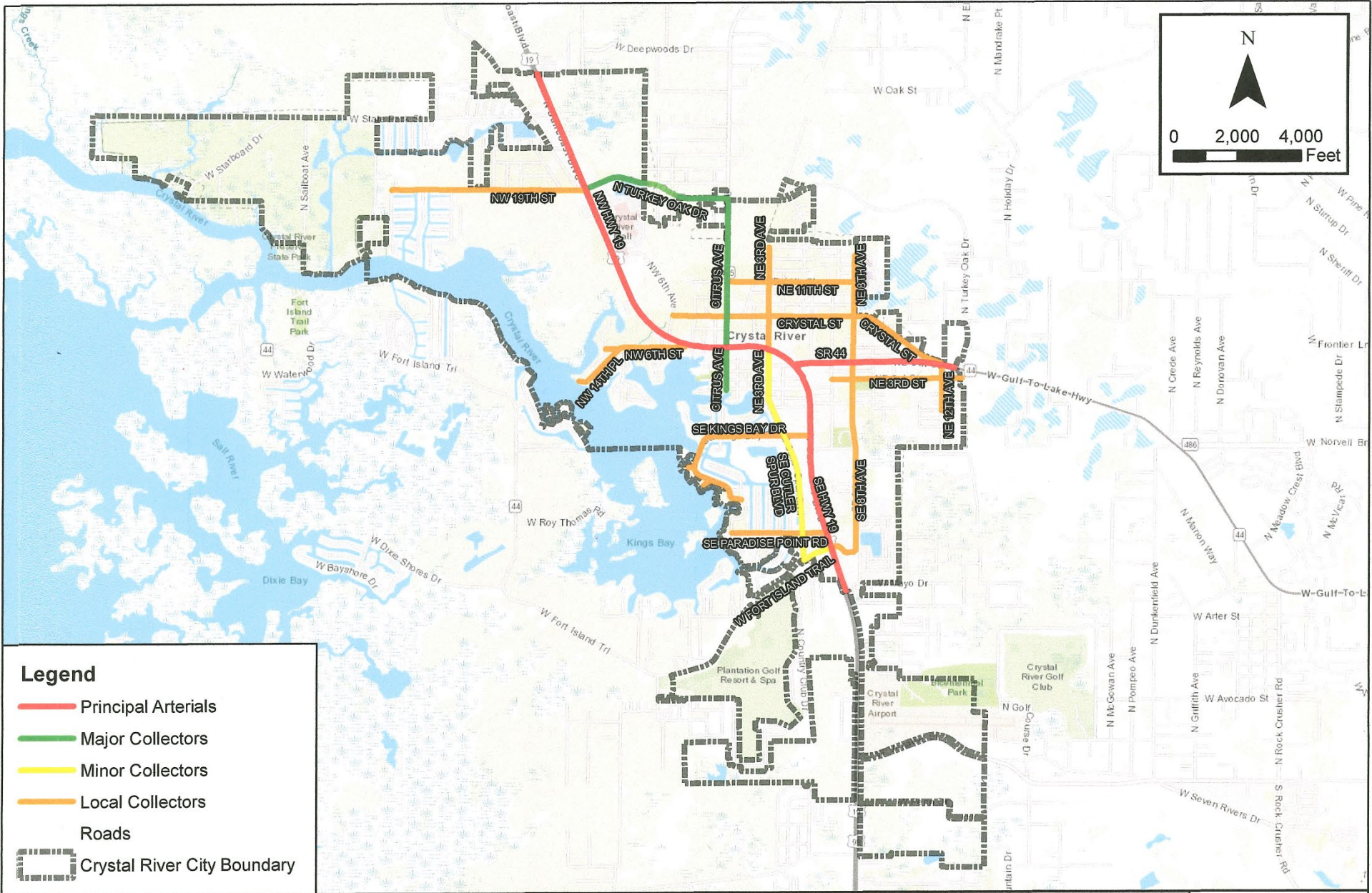
Local Collectors – The local collector collects and distributes traffic between local roads, collectors, and arterial roads. The roadways have relatively moderate average traffic volume, moderately average trip length, and moderately average operating speed. These routes provide linkage between land access and mobility but are not classified as collector roadways under the federal functional classification.

Local Streets – The local street is comprised of all roadways not in one of the higher classifications. It provides direct access to abutting land uses and connections to the higher order roadways. Local streets have relatively low average traffic volumes, short average trip length or minimal through traffic movement and high land access for abutting property.

Table 2 - 1: Existing Number of Lanes, Functional Classification, and Jurisdiction

Roadway	From	To	Number of Lanes	Functional Classification	Jurisdiction
US 19/98	City Limits (N)	SR 44	4	Principal Arterial	FDOT
US 19/98	SR 44	City Limits (S)	6	Principal Arterial	FDOT
SR 44	City Limits (E)	US 19/98	4	Principal Arterial	FDOT
Citrus Avenue	NE 2 nd Street	NE 11 th Street	2	Major Collector	City
Citrus Avenue	NE 11 th Street	City Limits (N)	2	Major Collector	County
N Turkey Oak Drive	US 19/98	Citrus Avenue	2	Major Collector	County
SE Ft. Island Trail	US 19/98	City Limits	2	Minor Collector	County
SE Cutler Spur Boulevard	W Ft. Island Trail	NE 3 rd Avenue /NE 1 st Terrace	2	Minor Collector	City
NE 3 rd Avenue	NE 1 st Terrace	US 19/98	2	Minor Collector	City
NE 3 rd Avenue	US 19/98	NE 13 th Terrace	2	Local Collector	City
Crystal Street	NW 6 th Avenue	SR 44	2	Local Collector	City
SE Paradise Point Road	US 19/98	SE Kings Bay Drive	2	Local Collector	City
SE Kings Bay Drive	US 19/98	SW 1 st Court	2	Local Collector	City
SE 8 th Avenue	US 19/98 (S)	NE 1 st Terrace	2	Local Collector	City
NE 8 th Avenue	NE 1 st Terrace	NE 13 th Street	2	Local Collector	City
NW 14 th Place	NW 6 th Street	End of Road	2	Local Collector	City
NW 6 th Street	US 19/98	NW 14 th Place	2	Local Collector	City
NW 19 th Street	US 19/98	NW 21 st Court	2	Local Collector	City
NE 12 th Avenue	Crystal Street	SE 1 st Street	2	Local Collector	City
NE 11 th Street	NE 8 th Avenue	Citrus Avenue	2	Local Collector	City
NE 3 rd Street	NE 7 th Avenue	City Limits (E)	2	Local Collector	City



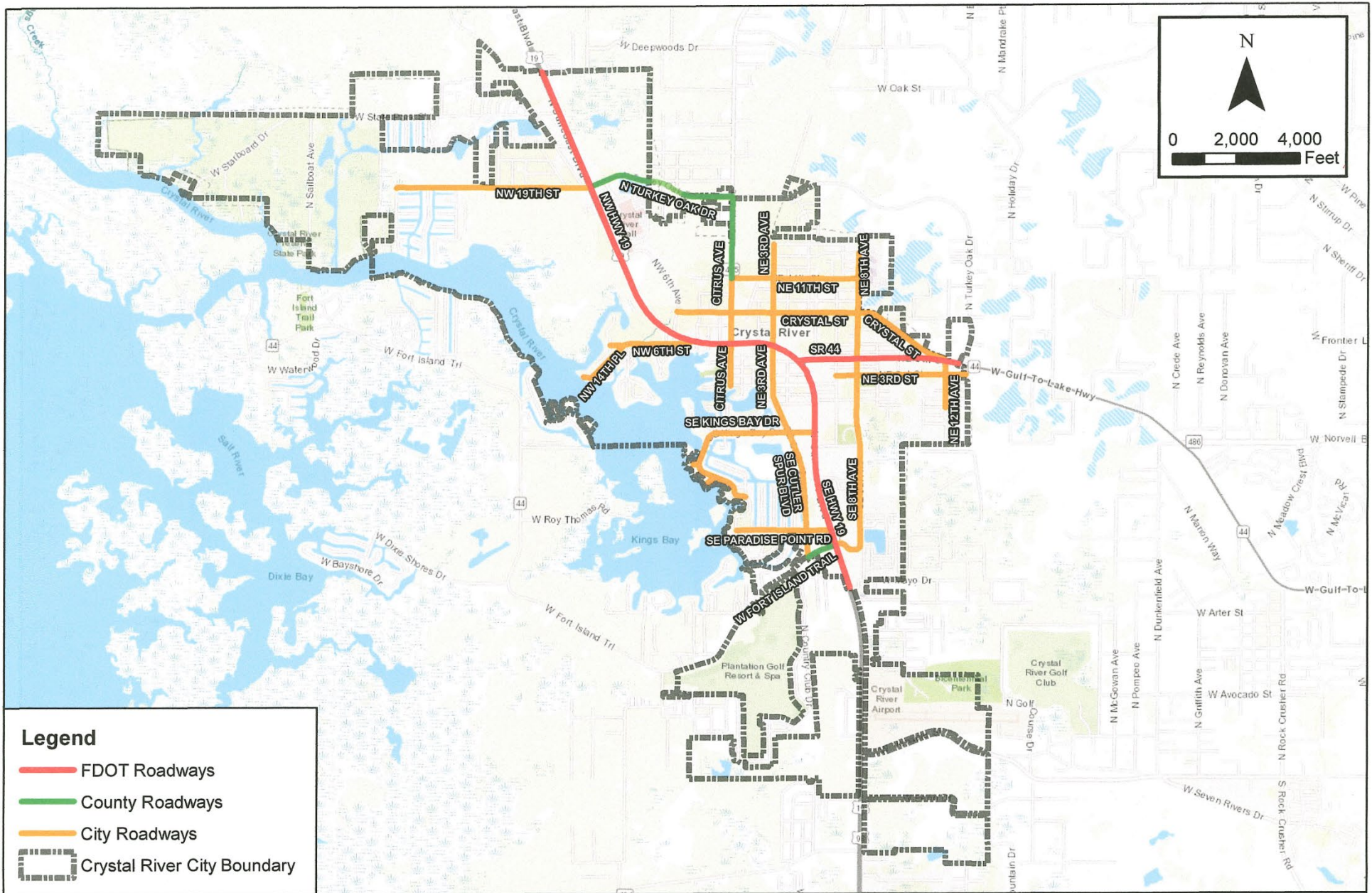


Legend

- Principal Arterials
- Major Collectors
- Minor Collectors
- Local Collectors
- Roads
- Crystal River City Boundary

FIGURE 2-2: CRYSTAL RIVER FUNCTIONAL CLASSIFICATION





Legend

- FDOT Roadways
- County Roadways
- City Roadways
- Crystal River City Boundary

FIGURE 2-3: CRYSTAL RIVER ROADWAY JURISDICTION



2.1.2 Strategic Intermodal System

The Florida Legislature established the Strategic Intermodal System (SIS) in 2003. It consists of a statewide system of high priority facilities including major interregional and intercity highways, airports, deep water sea ports, freight rail terminals, passenger rail and bus terminals, rail corridors, and waterways. These facilities help to expedite the international, interstate, and interregional travel to maintain the region's economic growth. SR 44 and U.S. Highway 19 are both classified as SIS facilities. U.S. Highway 19 north of the SR 44 intersection has been classified as an emerging SIS facility. The existing and emerging SIS facilities within the City are shown in Table 2-2.

Table 2 - 2: SIS Facilities

Mode	Facility Name	SIS Designation
Roadways	SR 44	Designated
	U.S. Highway 19/98 (south of SR 44)	Designated
	U.S. Highway 19/98/Suncoast Boulevard (north of SR 44)	Emerging

Source: Florida Department of Transportation, 2018

2.1.3. Roadway Levels of Service

Roadway Level of Service (LOS) standards are qualitative measures describing the quality of service on a particular roadway or segment. The roadway LOS system is divided into six letter grades, 'A' through 'F', with 'A' being the best quality and 'F' being the least. These letter grades simply reflect the quality of service as measured by a scale of user satisfaction based on influencing factors such as speed and travel time, freedom to maneuver, traffic interruptions, and driver comfort and convenience.

The six LOS standards for roadways include:

LOS A - Free-flow traffic conditions where individual users are virtually unaffected by the presence of others in the traffic stream. The general level of comfort and convenience provided to drivers is excellent.

LOS B - Allows for speeds that are at or near free-flow speeds; the presence of other users in the traffic stream begins to be noticeable. There is a slight decline in the freedom to maneuver within the traffic stream.

LOS C - Allows for speeds that are at or near free-flow speeds; freedom to maneuver within the traffic stream becomes noticeably restricted. The general level of comfort and convenience provided to drivers declines significantly at this level.

LOS D - Speeds begin to decline slightly with increasing volumes; freedom to maneuver becomes more restricted and drivers experience reductions in physical and psychological comfort.

LOS E - Operating conditions are at or near the roadway's capacity; maneuverability is extremely limited and drivers experience physical and psychological discomfort.

LOS F - Operating conditions strain the roadway's capacity; queues form quickly behind points in the roadway where the arrival flow rate exceeds the departure rate. Vehicles typically operate at low speeds and are often required to completely stop.

Currently, the City has adopted an LOS "C" standard for all roadways within the City. As part of the City's update to the Transportation Element, the City intends to adopt a target of LOS 'D' for all local collector, collector and arterial roadways within its jurisdiction consistent with the Florida Department of Transportation Policy 000-525-006-c.

2.1.4. 2017/2018 Existing Level of Service

To evaluate the existing transportation conditions, an evaluation of the current level of service (LOS) was undertaken. Traffic data was collected for both state roads and non-state roads within the City of Crystal River.

For state roadways and non-state roadways where FDOT data was available, year 2017 Average Annual Daily Traffic (AADT) volumes were obtained from the FDOT's *Florida Traffic Online* database. PM peak hour directional volumes were calculated from these volumes using standard K and D factors published by FDOT.

For non-state roadways for which FDOT does not collect traffic data, 24-hour count data collected by Crystal River was used to develop 2018 AADT volumes and peak hour directional volumes. Observed daily traffic volumes were adjusted to AADT volumes by applying seasonal factors obtained from the FDOT *Florida Traffic Online* database. Observed peak hour traffic volumes were adjusted to peak season by applying peak seasonal factors published by FDOT.

The existing LOS conditions were determined by comparing 2017/2018 AADT volume and peak season peak hour volumes to capacities found in the 2018 FDOT *Quality/Level of Service Handbook*. The peak hour directional volumes during the PM peak hour (4PM – 6PM) were evaluated in this analysis.

The results from the analysis are shown in Table 2-3 and Table 2-4. As indicated in the tables, the City's existing roadways are operating within the target "D" LOS standard. Figure 2-4 illustrates the existing LOS for classified roadways within the City.

Table 2 - 3: Existing AADT and Level of Service

Roadway	From	To	Number of Lanes ¹	LOS Standard	Service Volume ²	AAADT ³	LOS	Meets Standard
US 19/98	City Limits (N)	SR 44	4L	D	36,200	27,000	C	YES
	SR 44	City Limits (S)	6L	D	54,300	30,500	C	YES
SR 44	City Limits (E)	US 19/98	4L	D	36,200	31,500	D	YES
Citrus Avenue	NE 2 nd Street	N Turkey Oak Drive	2L	D	12,510	6,600	D	YES
N Turkey Oak Drive	US 19/98	Citrus Avenue	2L	D	12,510	3,500	C	YES
W. Ft. Island Trail	US 19/98	City Limits	2L	D	12,510	6,000	D	YES
SE Cutler Spur Boulevard	W Ft. Island Trail	NE 3 rd Avenue /NE 1 st Terrace	2L	D	12,510	2,900	C	YES
NE 3 rd Avenue	NE 1 st Terrace	US 19/98	2L	D	12,510	2,900	C	YES
	US 19/98	NE 13 th Terrace	2L	D	12,510	2,300	C	YES
Crystal Street	NW 6 th Avenue	SR 44	2L	D	12,510	2,100	C	YES
SE Paradise Point Road	US 19/98	SE Kings Bay Drive	2L	D	12,510	1,400	C	YES
SE Kings Bay Drive	US 19/98	SW 1 st Court	2L	D	12,510	1,600	C	YES
SE/NE 8 th Avenue	US 19/98 (S)	NE 1 st Terrace	2L	D	12,510	2,300	C	YES
	NE 1 st Terrace	NE 13 th Street	2L	D	12,510	1,700	C	YES
NW 14 th Place	NW 6 th Street	End of Road	2L	D	12,510	1,200	C	YES
NW 6 th Street	US 19/98	NW 14 th Place	2L	D	12,510	1,200	C	YES
NW 19 th Street	US 19/98	NW 21 st Court	2L	D	12,510	1,200	C	YES
NE 12 th Avenue	Crystal Street	SE 1 st Street	2L	D	12,510	1,100	C	YES
NE 11 th Street	NE 8 th Avenue	Citrus Avenue	2L	D	12,510	630	C	YES
NE 3 rd Street	NE 7 th Avenue	City Limits (E)	2L	D	12,510	580	C	YES

Source: Traffic counts from Crystal River/Citrus County and FDOT (2017 Florida Traffic Online)

- (1) L equals number of lanes
- (2) Service volumes are based on adopted LOS standards
- (3) Average Annual Daily Trips

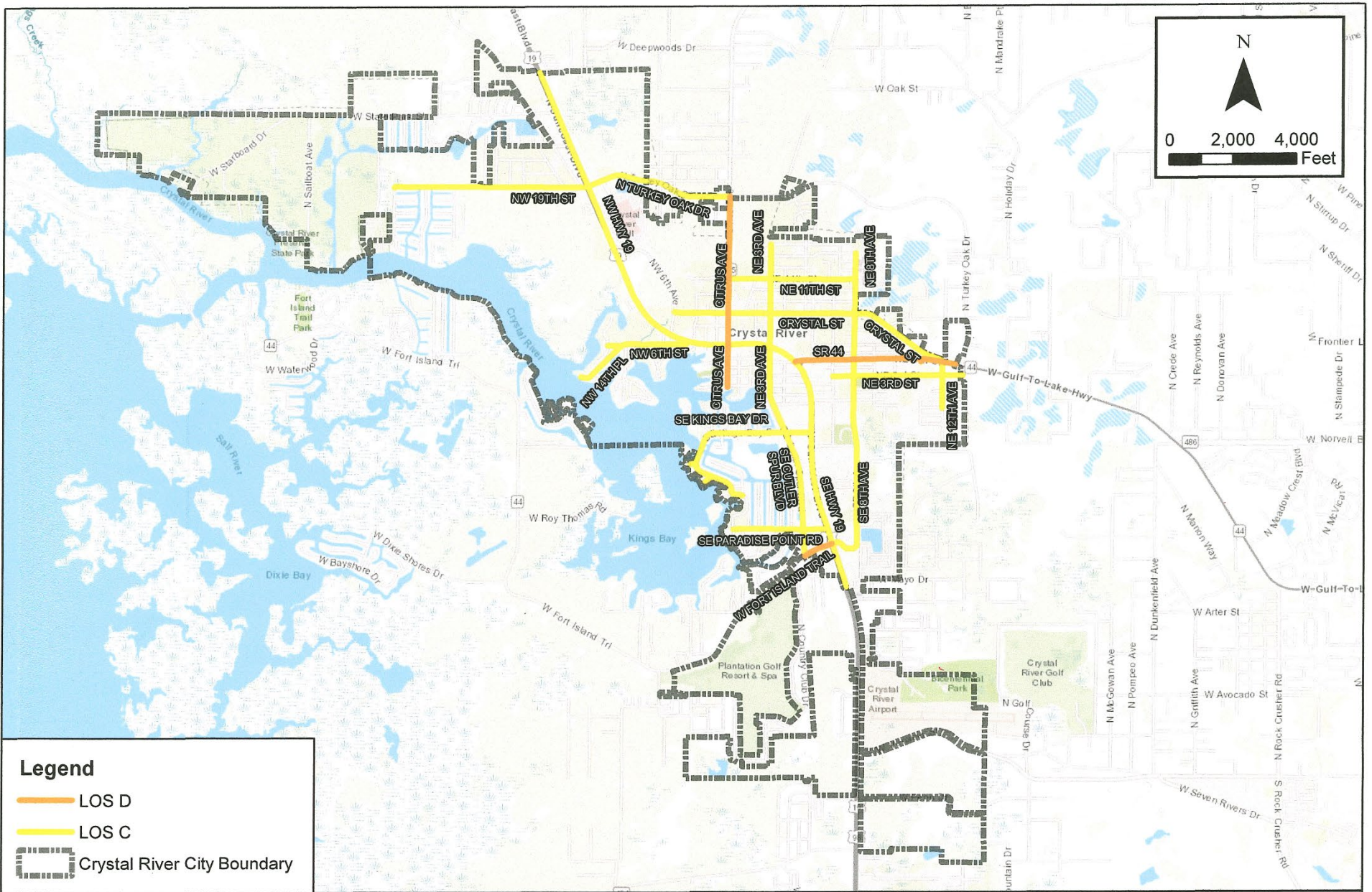
Table 2 - 4: Existing Peak Hour, Peak Direction, and Level of Service

Roadway	From	To	Number of Lanes ¹	LOS Standard	Service Volume ²	PM Peak Hour Peak Direction			
						Volume	Peak Direction	LOS	Meets Standard
US 19/98	City Limits (N)	SR 44	4L	D	1,790	1,160	SB	C	YES
	SR 44	City Limits (S)	6L	D	2,690	1,300	SB	C	YES
SR 44	City Limits (E)	US 19/98	4L	D	1,790	1,380	EB	D	YES
Citrus Avenue	NE 2 nd Street	N Turkey Oak Drive	2L	D	621	360	NB	D	YES
N Turkey Oak Drive	US 19/98	Citrus Avenue	2L	D	621	230	EB	D	YES
W. Ft. Island Trail	US 19/98	City Limits	2L	D	621	260	EB	D	YES
SE Cutler Spur Boulevard	W Ft. Island Trail	NE 3 rd Avenue /NE 1 st Terrace	2L	D	621	170	NB	C	YES
NE 3 rd Avenue	NE 1 st Terrace	US 19/98	2L	D	621	170	NB	C	YES
	US 19/98	NE 13 th Terrace	2L	D	621	130	NB	C	YES
Crystal Street	NW 6 th Avenue	SR 44	2L	D	621	100	WB	C	YES
SE Paradise Point Road	US 19/98	SE Kings Bay Drive	2L	D	621	80	EB	C	YES
SE Kings Bay Drive	US 19/98	SW 1 st Court	2L	D	621	80	WB	C	YES
SE/NE 8 th Avenue	US 19/98 (S)	NE 1 st Terrace	2L	D	621	110	NB	C	YES
	NE 1 st Terrace	NE 13 th Street	2L	D	621	90	SB	C	YES
NW 14 th Place	NW 6 th Street	End of Road	2L	D	621	50	EB	C	YES
NW 6 th Street	US 19/98	NW 14 th Place	2L	D	621	50	EB	C	YES
NW 19 th Street	US 19/98	NW 21 st Court	2L	D	621	50	WB	C	YES
NE 12 th Avenue	Crystal Street	SE 1 st Street	2L	D	621	50	SB	C	YES
NE 11 th Street	NE 8 th Avenue	Citrus Avenue	2L	D	621	40	WB	C	YES
NE 3 rd Street	NE 7 th Avenue	City Limits (E)	2L	D	621	30	EB	C	YES

Source: Traffic counts from Crystal River/Citrus County and FDOT (2017 Florida Traffic Online)

(1) L equals number of lanes

(2) Service volumes are based on adopted LOS standard



Legend

- LOS D
- LOS C
- Crystal River City Boundary

FIGURE 2-4: CRYSTAL RIVER EXISTING ROADWAY DAILY LEVEL OF SERVICE



2.2 Existing Public Transit Facilities

Public transit is provided by the Citrus County Transit Bus (CCT). The CCT provides door to door transit service throughout Citrus County as a demand-response paratransit bus system. CCT operates on preset schedules and reservations. The transportation disadvantaged consist of primarily elderly and handicapped persons. The CCT paratransit system operates from 7:00 AM to 4:30 PM, Monday through Friday (except holidays) in most areas and will pick up passengers anywhere within the County's 773-square mile area.

The CCT's fixed bus route system (Orange Line) provides service to the City of Crystal River on 135-minute headways. The Orange Line provides service between 6:00 AM and 7:00 PM, Monday through Friday (except holidays). There is currently no weekend service.

Figure 2-5 illustrates the existing transit service routes.

2.2.1. Transit Support

The City Future Land Use Element is consistent with, and supportive of, the transit service with higher land use densities and intensities located along Transit Routes. Figure 2-6 illustrates the Future Land Use Map land use categories in relation to the transit routes.

2.2.2. Transit Level of Service

As a part of the City's update to the Transportation Element, the City will adopt transit goals consistent with those of Citrus County, which includes improving service for existing routes to provide 60-minute headways (LOS E) and evaluate the need for weekend service.

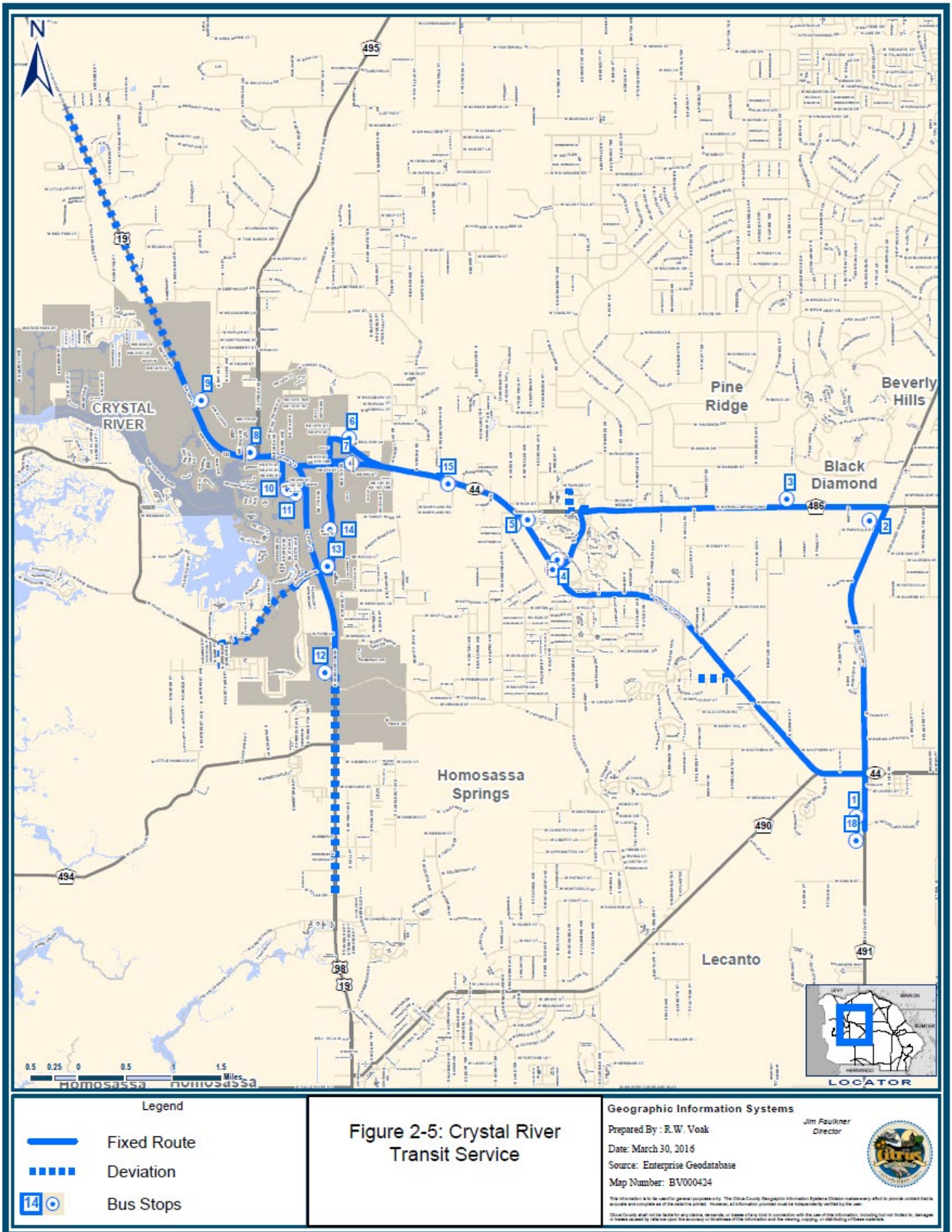
The criteria summarized in Table 2-5 is used to establish the level of service for transit. It is based on the frequency of buses during the peak hour and the availability of sidewalks along the route to facilitate bus riders to travel between the bus stops and their final destination.

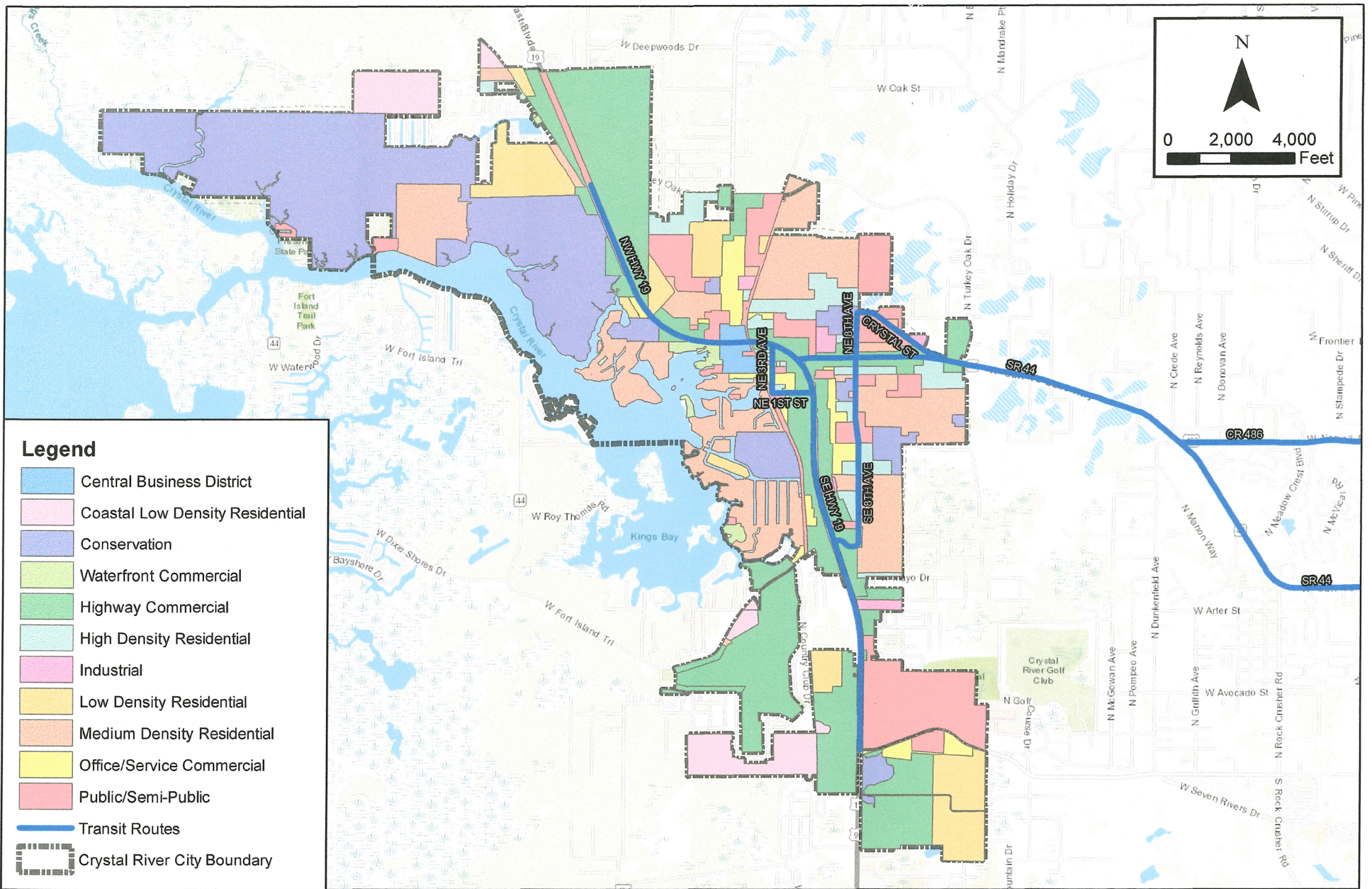
Table 2 - 5: Transit Level of Service Threshold

Sidewalk Coverage	Transit Vehicles in Peak Hour in Peak Direction			
	LOS B	LOS C	LOS D	LOS E
0% to 84%	>5	≥ 4	≥ 3	≥ 2
85% to 100%	>4	≥ 3	≥ 2	≥ 1

Source: 2018 FDOT Quality/Level of Service Handbook

The current level of service for the fixed-route transit service within Crystal River does not meet the LOS E standard. The County has a policy to increase service to establish LOS E by year 2030.





Legend

- Central Business District
- Coastal Low Density Residential
- Conservation
- Waterfront Commercial
- Highway Commercial
- High Density Residential
- Industrial
- Low Density Residential
- Medium Density Residential
- Office/Service Commercial
- Public/Semi-Public
- Transit Routes
- Crystal River City Boundary

FIGURE 2-6: CRYSTAL RIVER FUTURE LAND USE ALONG TRANSIT ROUTES



2.3 Existing Bicycle and Pedestrian Facilities

The City’s bicycle and pedestrian facilities are illustrated on Figure 2-7. Bicycle facilities can include both on-road facilities such as bike lanes and off-road facilities such as trails and recreation paths. Pedestrian facilities can include on-road facilities such as sidewalks and off-road facilities such as trails and recreation paths. The City’s bicycle facilities consist of bike lanes and multi-use paths. Similar to the bicycle facilities, the pedestrian facilities include both sidewalks and multi-use paths.

2.3.1 Pedestrian Level of Service

Currently, the City does not have a LOS Standard for pedestrian facilities. As a part of the City’s update to the Transportation Element, the City intends to adopt a LOS Standard of C for all pedestrian facilities within the City.

The criteria summarized in Table 2-6 is used to establish the pedestrian level of service for roadways.

Table 2 - 6: Pedestrian Level of Service Thresholds

Functional Classification	Sidewalk Coverage			
	LOS B	LOS C	LOS D	LOS E
Arterials and Collectors	100%	85% to 99%	50% to 84%	0% to 49%
Local Collectors and Streets	0% to 100%	n/a	n/a	n/a

Source: Adapted from the 2018 FDOT Quality/Level of Service Handbook

The existing level of service for pedestrian facilities within the City are identified in Table 2-8 and illustrated in Figure 2-8.

2.3.2 Bicycle Level of Service

Currently, the City does not have a LOS Standard for bicycle facilities. As a part of the City’s update to the Transportation Element, the City intends to adopt a LOS Standard of C for all bicycle facilities within the City.

The criteria summarized in Table 2-7 is used to establish the bicycle level of service for roadways.

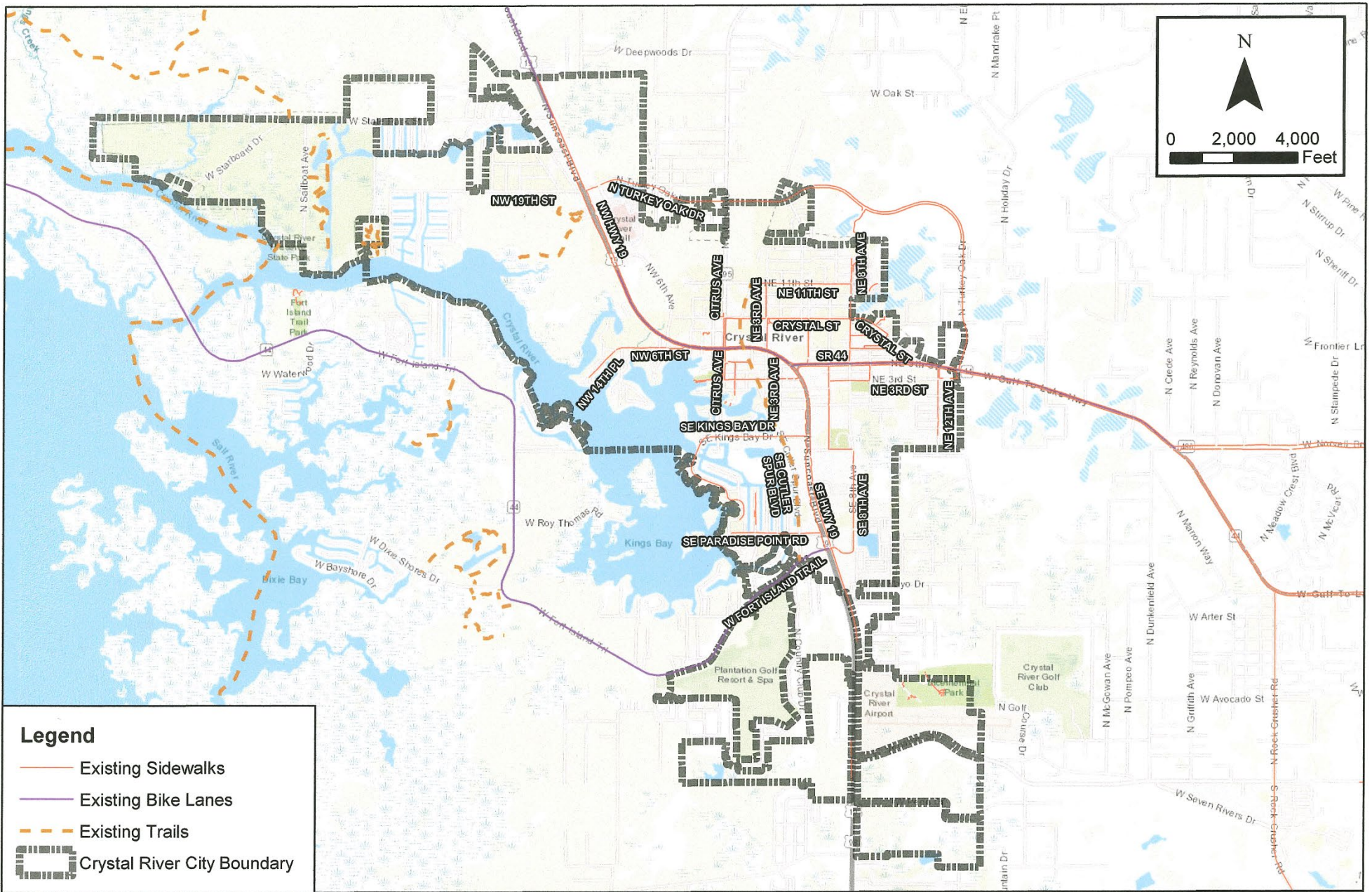
Table 2 - 7: Bicycle Level of Service Thresholds

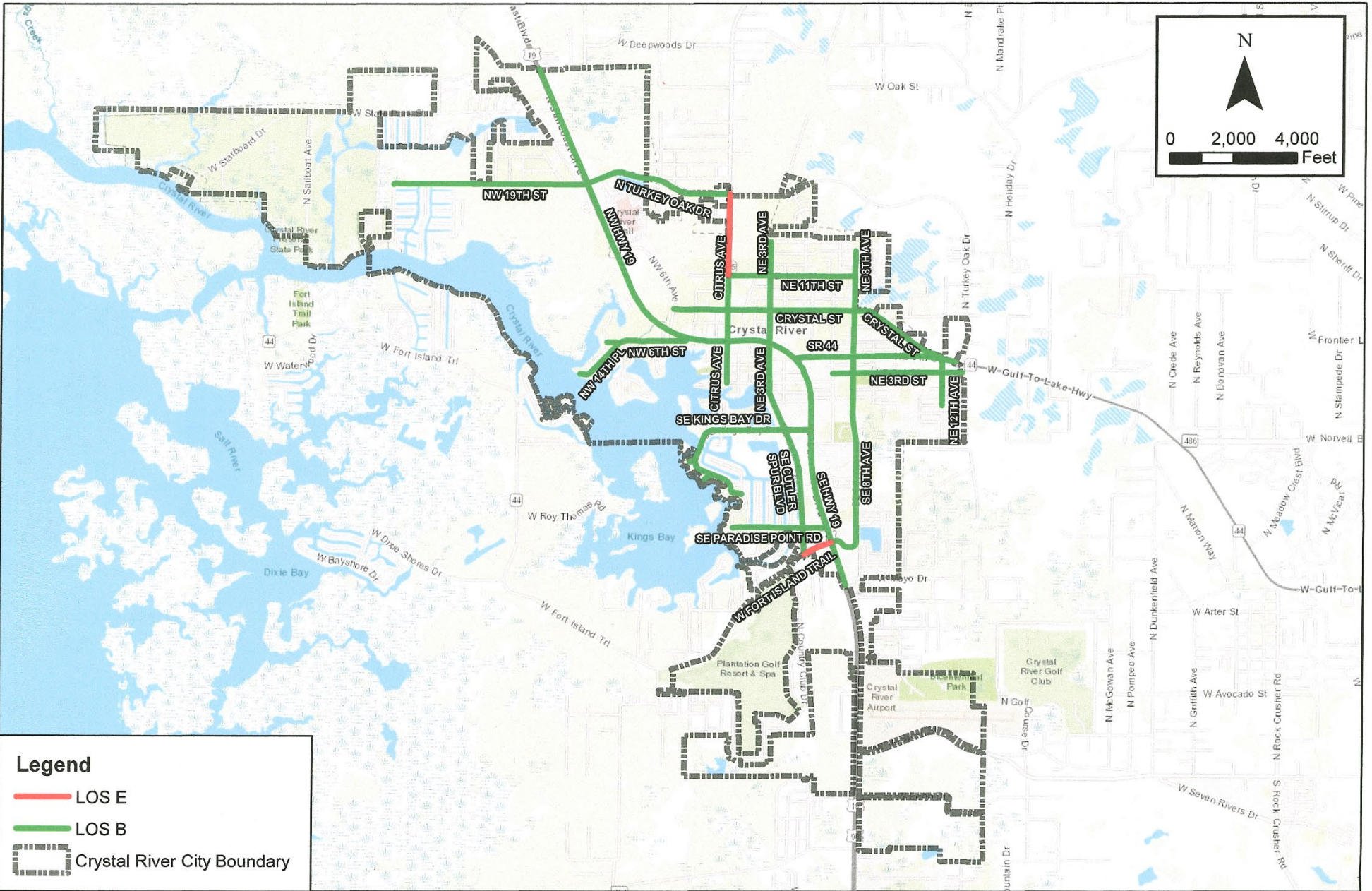
Functional Classification	Paved Shoulder/Bicycle Lane/Route/Trail Coverage*			
	LOS B	LOS C	LOS D	LOS E
Arterials and Collectors	100%	85% to 99%	50% to 84%	0% to 49%
Local Collectors and Streets	0% to 100%	n/a	n/a	n/a

Source: Adapted from the 2018 FDOT Quality/Level of Service Handbook

(1) LOS can be achieved by providing equivalent bicycle facility parallel to subject roadway

The existing level of service for bicycle facilities within the City are identified in Table 2-8 and illustrated in Figure 2-9.



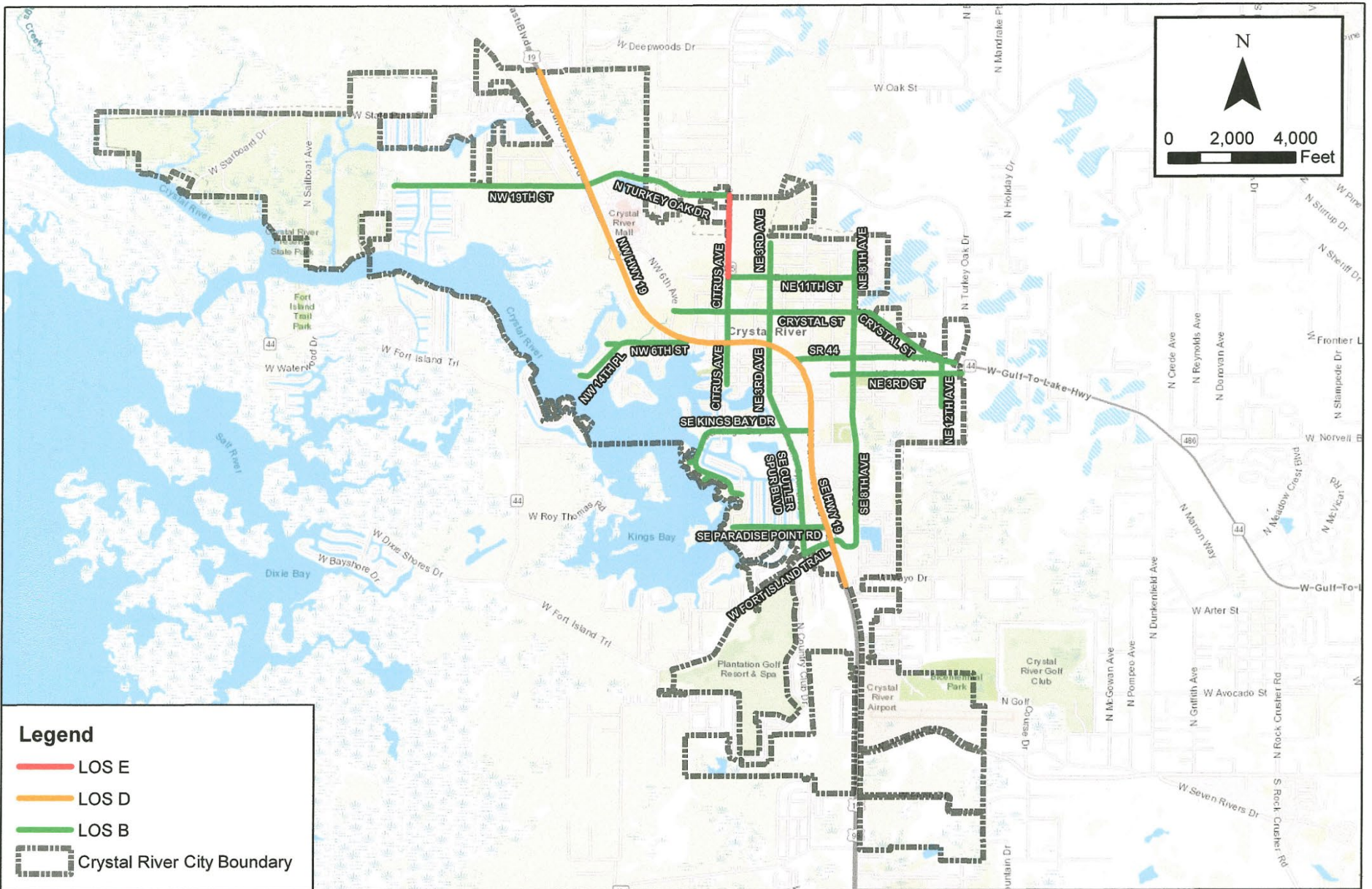


Legend

- LOS E
- LOS B
- Crystal River City Boundary

FIGURE 2-8: CRYSTAL RIVER EXISTING PEDESTRIAN LEVEL OF SERVICE





Legend

- LOS E
- LOS D
- LOS B
- Crystal River City Boundary

FIGURE 2-9: CRYSTAL RIVER EXISTING BICYCLE LEVEL OF SERVICE



Table 2 - 8: Existing Bicycle and Pedestrian Level of Service

Roadway	From	To	Pedestrian LOS	Bicycle LOS	Planned Improvements
US 19/98	City Limits (N)	SR 44	B	D	--
US 19/98	SR 44	City Limits (S)	B	D	US 19 Widening with Multi-Use Trail
SR 44	City Limits (E)	US 19/98	B	B	Three Sisters Springs Connector Multi-Use Trail
Citrus Avenue	NE 2 nd Street	NE 11 th Street	B	B	--
	NE 11 th Street	N Turkey Oak Drive	E	E	--
N Turkey Oak Drive	US 19/98	Citrus Avenue	B	B	Sidewalk Improvements
W. Ft. Island Trail	US 19/98	City Limits	E	B	W. Fort Island Trail Multi-Use Trail
SE Cutler Spur Boulevard	W Ft. Island Trail	NE 3 rd Avenue /NE 1 st Terrace	B	B	--
NE 3 rd Avenue	NE 1 st Terrace	US 19/98	B	B	--
	US 19/98	NE 13 th Terrace	B	B	--
Crystal Street	NW 6 th Avenue	SR 44	B	B	--
SE Paradise Point Road	US 19/98	SE Kings Bay Drive	B	B	--
SE Kings Bay Drive	US 19/98	SW 1 st Court	B	B	Three Sisters Springs Connector Multi-Use Trail
SE 8 th Avenue	US 19/98 (S)	NE 1 st Terrace	B	B	--
NE 8 th Avenue	NE 1 st Terrace	NE 13 th Street	B	B	--
NW 14 th Place	NW 6 th Street	End of Road	B	B	--
NW 6 th Street	US 19/98	NW 14 th Place	B	B	--
NW 19 th Street	US 19/98	NW 21 st Court	B	B	--
NE 12 th Avenue	Crystal Street	SE 1 st Street	B	B	--
NE 11 th Street	NE 8 th Avenue	Citrus Avenue	B	B	--
NE 3 rd Street	NE 7 th Avenue	City Limits (E)	B	B	--

2.4 Golf Cart Facilities

The City adopted roadways acceptable for golf cart use through Resolution 17-R-23. This update does not include an evaluation of the use of transportation facilities by golf carts, due to the recent approval of Resolution 17-R-23. Future updates should include golf cart traffic counts to evaluate the volume of golf carts utilizing approved roadways within Citrus County. Roadways approved for golf cart use are illustrated within Exhibit “A” of Resolution 17-R-23.

2.5 Airport Facilities

The Crystal River Airport (Airport) is located on a 196-acre site, three miles south of the Crystal River Business District at the northeast corner of U.S. Hwy. 19 and Venable Road. Primary access to the Airport is from U.S. Highway 19 via Godfrey and Lindbergh Streets. The Airport is owned and operated by Citrus County and the property consists of approximately 193 acres. It is classified as a General Aviation facility by the National Plan of Integrated Airport Systems and serves primarily rural areas.

The airport has two non-intersecting runways. These runways are Runway 09/27, which is 4,555 feet long by 75 feet wide and Runway 18/36, which is 2,665 feet long by 100 feet wide. Runway 09/27 is asphalt and in good condition. Runway 18/36 is turf and in good condition. Runway 09/27 has a full parallel taxiway, while Runway 18/36 does not have a taxiway. The airport has a large FBO general aviation terminal building with approximately 20 parking spaces for automobiles. The aircraft ramp can accommodate 53 aircraft. The current Airport Reference Code (ARC) as defined by the FAA Circular 150/5300-13 for the airport is B-II.

Roughly 40 percent of the airport's annual operations are related to flight training. Approximately 25 percent of the airport's business originates from transient users. The transient users frequent the airport for business, tourism, golf and dining in the community. The airport is conveniently located to support public service functions of search and rescue, MedEvac, forestry, and fish and wildlife surveys that account for approximately 5% of the operations.

The Airport is surrounded by a variety of land uses and existing development. There are significant residential and commercial land uses on the west, north, and east sides of the site. The existing development surrounding the Airport consists of the Crystal River Shopping Center directly to the west, the National Guard Armory to the southeast, and the Bicentennial Park to the north.

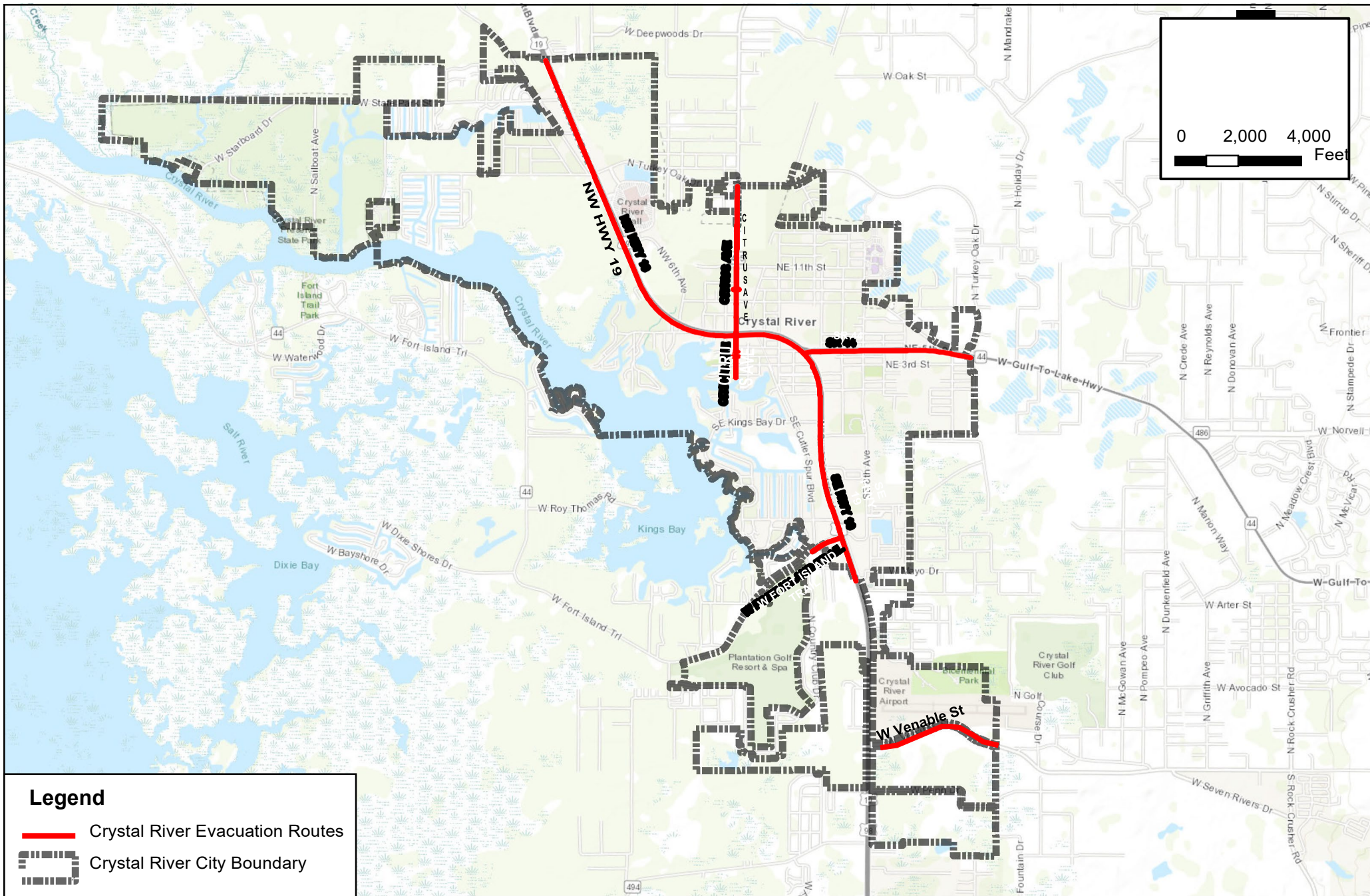
2.6 Hurricane Evacuation

The Atlantic Hurricane season begins on June 1 and continues until November 30. The primary danger associated with a hurricane is the storm surge. Citrus County has established a system of evacuation zones and the City is located within Zone A. This places the City within a general zone of vulnerability for storm surge for all hurricanes. The most important component of evacuation is the clearance time. The clearance time is a fixed period of time based on a specific scenario with a given level of threat and behavioral response.

In 2010, the Tampa Bay Regional Planning Council completed a Statewide Regional Evacuation Study in conjunction with the Florida Division of Emergency Management. An update was prepared in 2017. The study identified principal hurricane evacuation routes in Citrus County and those roadways that would be subjected to inundation. The evacuation routes consist of major west-east and north-south arterials. During a hurricane evacuation, a significant number of vehicles will have to be moved across the local and regional network. This quantity of evacuating vehicles will vary depending on the magnitude of the hurricane, publicity and warnings provided about the storm and particular behavioral response characteristics of the vulnerable population. Figure 2-10 illustrates the hurricane evacuation routes for the City.

Clearance time is the time required to clear the roadway of all vehicles evacuating in response to a hurricane situation. Clearance times include several components, including the mobilization time for the evacuating population to prepare for an evacuation, the actual time spent traveling on the roadway network, and the delay time caused by traffic congestion.

The out-of-county evacuation time is defined as the time it takes for county residents to evacuate the county. Five evacuation levels were evaluated in the Statewide Regional Evacuation Study Program; Level A, Level B, Level C, Level D, and Level E. For Citrus County, the out-of-county clearance time for 2017 projections ranged from 17.0 to 53.5 hours based on the Evacuation Level. For Citrus County, the out-of-county clearance time for 2020 projections ranged from 18.5 to 54.0 hours based on the Evacuation Level.



Legend

- Crystal River Evacuation Routes
- Crystal River City Boundary

FIGURE 2-10: CRYSTAL RIVER EVACUATION ROUTES



3.0 TRENDS

3.1 Population Characteristics

The City's year 2010 population was 3,108 according to the U.S. Census Bureau. According to the Bureau of Economics and Business Research (BEER), the 2015 population estimate for the City was 3,112. This represents an increase of less than one percent. Over this same period, Citrus County has experienced similar annual growth characteristics. The City is projected to experience an annual average growth rate of 0.56% between 2015 and 2030, whereas Citrus County's projected annual growth rates range from 0.6% to 0.9% between 2015 and 2030. The projected population for the City in 2025 is estimated to be 3,456. Table 3-1 presents the population estimates for the City and Citrus County.

Table 3 - 1: Population Estimates of Crystal River and Citrus County

Year	Crystal River		Citrus County		Source
	Population	Growth Rate	Population	Growth Rate	
2030	3,536	0.5%	163,600	0.8%	BEER Med
2025	3,456	1.7%	157,100	1.0%	BEER Med
2020	3,190	0.5%	149,383	1.1%	US Census
2015	3,112	0%	141,501	0%	US Census
2010	3,108	-10.8%	141,236	2.0%	US Census
2000	3,485	n/a	118,085	n/a	US Census

3.2 Historic Traffic Growth

Historic daily traffic volumes published by FDOT within Crystal River were reviewed to identify historic traffic growth trends. Most of the traffic counts covered a 10-year period, from 2007 to 2017. The historic traffic annual growth rates are summarized in Table 3-2.

3.3 Transportation Demand Forecasting

The Tampa Bay Regional Planning Model (TBRPM) was reviewed to identify future traffic demands within Crystal River. In an effort to capture the value of the model in projecting the impacts of future growth, without being affected by any inaccuracies in replicating existing conditions, growth rates were calculated by a model to model traffic volume comparison for each roadway within the model. Model years 2010 and 2030 were utilized for the growth rate analysis. The TBRPM does not include all of the roadways within this DIA.

Table 3-2 summarizes the model growth rates for roadways within Crystal River included in the model.

3.4 Projected Growth Rates

After considering the historic growth rates, projected model growth rates, and growth rates from population forecasts, growth rates to be used in projecting future conditions were identified as presented in Table 3-2. The growth rates for the analysis range from 1.0% to 3.0%. A minimum 1% growth rate was used, which provides a conservatively high estimate given the historic negative growth rates.

Table 3 - 2: Historic Traffic Annual Growth Rates

Roadway	From	To	FDOT Rate	City/County Rate	TBRPM Rate	Rate Used
US 19/98	City Limits (N)	SR 44	-0.57%	-0.58%	0.75%	1.00%
US 19/98	SR 44	City Limits (S)	-0.16%	0.57%	-0.23%	1.00%
SR 44	City Limits (E)	US 19/98	-0.16%	1.17%	2.10%	1.00%
Citrus Avenue	NE 2 nd Street	N Turkey Oak Drive	6.27%	0.60%	-0.07%	2.00%
N Turkey Oak Drive	US 19/98	Citrus Avenue	0.29%	-4.80%	1.69%	1.00%
W Ft. Island Trail	US 19/98	City Limits	0.88%	0.07%	1.20%	1.00%
SE Cutler Spur Boulevard	W Ft. Island Trail	NE 3 rd Avenue /NE 1 st Terrace	2.22%	1.58%	--	2.00%
NE 3 rd Avenue	NE 1 st Terrace	US 19/98	--	4.49%	--	2.00%
NE 3 rd Avenue	US 19/98	NE 13 th Terrace	--	1.26%	--	2.00%
Crystal Street	NW 6 th Avenue	SR 44	--	-0.50%	--	1.00%
SE Paradise Point Road	US 19/98	SE Kings Bay Drive	--	-0.69%	--	1.00%
SE Kings Bay Drive	US 19/98	SW 1 st Court	--	-5.14%	--	1.00%
SE 8 th Avenue	US 19/98 (S)	NE 1 st Terrace	--	-5.42%	--	1.00%
NE 8 th Avenue	NE 1 st Terrace	NE 13 th Street	--	-2.06%	--	1.00%
NW 14 th Place	NW 6 th Street	End of Road	--	-2.89%	--	1.00%
NW 6 th Street	US 19/98	NW 14 th Place	--	-0.05%	--	1.00%
NW 19 th Street	US 19/98	NW 21 st Court	--	-0.05%	--	1.00%
NE 12 th Avenue	Crystal Street	SE 1 st Street	--	4.19%	--	3.00%
NE 11 th Street	NE 8 th Avenue	Citrus Avenue	--	-2.44%	--	1.00%
NE 3 rd Street	NE 7 th Avenue	City Limits (E)	--	-4.07%	--	1.00%

4.0 FUTURE CONDITIONS

4.1 Planned Improvements

The Hernando/Citrus MPO 2040 LRTP, FDOT 5-year work program, Citrus County 5-year CIP, and Crystal River 5-year CIP were reviewed to identify any planned improvements within Crystal River.

4.1.1 Roadway Improvements

FDOT has the following roadway improvements within Crystal River listed within the current 5-year work program:

- US 19, from Jump Court to Fort Island Trail – Add Lanes and Reconstruct (FM 405822-3). The US 19 widening is scheduled for construction completion in the Fall 2022.
- SR 44, from US 19 to East of NE 10th Avenue (City Limits) – Resurfacing and sidewalk improvements as well as modifying from a 5-lane section with open median to a 4-lane divided section (FM 441665-1). The project is scheduled for construction completion in the Spring of 2022.

In 2020, the City conducted a series of virtual charettes to seek recommendations to improve the design of SR 44 from US 19 to East of NE 10th Avenue as part of the visioning work for the Highway 44 Neighborhoods Plan completed by the Dover Kohl & Partners Planning Team. The proposal supports compact, mixed-use development patterns with managed motor vehicle speeds. The project was precipitated by FDOT's 5-year work program to resurface the roadway and make safety improvements as listed above. The subject roadway has a C3 Context Classification (Suburban Commercial) and is a Low Volume Roadway per criteria established in the FDOT Design Manual (FDM). State Road 44 is classified as an Urban Principal Arterial Roadway that is part of the Strategic Intermodal System (SIS), State Highway System (SHS), and the National Highway System (NHS). As part of its aspiration to make this segment take on more of a neighborhood Main Street function, the City has proposed to FDOT that the speed be reduced from 45 mph to 35 mph on the SIS roadway in keeping with a C4 Context Classification. If it is not possible to get the lower posted speed, then the City has requested that the SIS facility be changed from its current location on SR 44 to an upgraded Turkey Oak Drive to bypass the center of Crystal River. The City received support from the County and the Board of County Commissioners voted to request the Hernando-Citrus MPO proceed with the necessary studies to designate Turkey Oak Drive as a FDOT SIS facility.

No other significant roadway improvements (i.e., road widenings) are planned within Crystal River.

4.1.2 Pedestrian Improvements

Understanding the importance and need for sidewalks and bike paths, Crystal River will continue working towards improving the existing bicycle and pedestrian networks. The City has adopted policy mechanisms to achieve this goal. These include: 1) Requiring bicycle parking for all new non-residential development and multifamily development must provide bicycle parking at any community center/facility; 2) All new roadways shall be designed using smart growth complete street principles; and 3) All new arterial roadways and major collectors shall be designed to accommodate bicycle travel through the construction of bicycle lanes, routes, or wide shoulders. Additionally, the City will continue to incorporate sidewalk construction projects in the Capital Improvements Plan. The City's efforts towards requiring new roadways to be designed for all users will improve non-automobile oriented access as well as provide additional travel choices which will help increase the overall capacity of the City's transportation network.

The City's efforts towards maintaining and improving the pedestrian and bicycle networks are consistent with the Hernando/Citrus MPO 2040 LRTP's proposed multi-use trail, pedestrian, and bicycle improvement program.

FDOT has the following pedestrian improvements within Crystal River listed within the current 5-year work program:

- N Turkey Oak Drive from SR 44 to US 19 – Sidewalk Improvements (FM 441104-1). The project has design funding allocated in FY 2019/2020 and construction funding allocated in FY 2021/2022.
- SR 44 from US 19 to East of NE 10th Avenue – Sidewalk improvement as part of SIS Resurfacing (FM 441665-1). The project has design funding allocation in FY 2020/2021 and construction funding in FY 2021/2022.

The planned multi-use trail network improvements listed in the next section will also improve pedestrian access.

4.1.3 Bicycle Improvements

Citrus County and Crystal River have several improvements planned to extend the bicycle and multi-use trail network throughout the City and County. The following multi-use trail and bicycle projects are listed in the Hernando/Citrus MPO FY 2020/2021 List of Priority Projects:

- Three Sisters Springs Connector Multi-Use Trail, from US 19/Kings Bay Drive to CR 486 Trail (Priority Number 7)
- Ft. Island Trail Multi-Use Trail, from Gulf of Mexico to Three Sisters Trail (Priority Number 9)
- US 19 Trailhead & Crossing, Crosstown Trail at US 19 (Priority Number 19)

The roadway widening of US 19, from Jump Court to Fort Island Trail will include a multi-use trail separated from the roadway to provide for improved bicycle LOS along US 19.

4.1.4 Transit Improvements

Based on the Hernando/Citrus MPO Citrus County Transit Development Plan (2016 Annual Progress Report), the existing transit service provided by CCT is planned to improve to a service frequency of 60 minutes by year 2030. Additionally, service will be extended 3 hours by year 2028.

The Hernando/Citrus MPO 2040 LRTP Cost Affordable Transit Plan has a future express service transit route identified along US 19 and SR 44 within Crystal River. A Future Park and Ride Location is identified at the intersection of US 19 and SR 44.

The Citrus County Transit Development Plan (Final Report, May 2020) identified the following key implications for the City of Crystal River:

- Need for a fixed transit route system to connect Crystal River to Inverness, Homosassa, and Lecanto,
- Need for internal fixed transit routes within the City Limits; and
- Need to establish infrastructure to support a fixed transit route system such as bus stops, a transit center, and other necessities.

4.2 Year 2023 Conditions

4.2.1 2023 Roadway Conditions

Year 2023 traffic conditions were projected for daily traffic conditions and PM peak hour traffic conditions using the growth rates identified in Table 3-2. The resulting roadway levels of service are summarized in Table 4-1 and Table 4-2 and illustrated in Figure 4-1.

All roadways are projected to operate at LOS D or better in year 2023.

4.2.2 2023 Pedestrian Conditions

The projected 2023 pedestrian levels of service for roadways are identified in Table 4-3 and illustrated in Figure 4-2. No pedestrian facility improvements are programmed for funding prior to year 2023; therefore, the pedestrian level of service projected for year 2023 is unchanged from existing conditions. Future bicycle and pedestrian improvements are planned but not programmed for funding.

4.2.3 2023 Bicycle Conditions

The projected 2023 bicycle levels of service for roadways are identified in Table 4-3 and illustrated in Figure 4-3. The only bicycle improvement programmed for construction prior to year 2023 is a multi-use trail along US 19, south of Fort Island Trail. This will improve bicycle LOS along US 19 from LOS D in existing conditions to LOS C in 2023.

4.2.4 2023 Transit Conditions

No transit improvements are planned prior to year 2023. Therefore, the transit level of service in 2023 is the same as existing conditions, which exceeds the LOS E standard. No changes to the existing transit levels of service are expected for 2023.

Table 4 - 1: 2023 AADT and Level of Service

Roadway	From	To	Number of Lanes ¹	LOS Standard	Service Volume ²	AADT ³	LOS	Meets Standard
US 19/98	City Limits (N)	SR 44	4L	D	36,200	28,400	D	YES
	SR 44	City Limits (S)	6L	D	54,300	32,100	C	YES
SR 44	City Limits (E)	US 19/98	4L	D	36,200	33,100	D	YES
Citrus Avenue	NE 2 nd Street	N Turkey Oak Drive	2L	D	12,510	7,300	D	YES
N Turkey Oak Drive	US 19/98	Citrus Avenue	2L	D	12,510	3,700	D	YES
W Ft. Island Trail	US 19/98	City Limits	2L	D	12,510	6,300	D	YES
SE Cutler Spur Boulevard	W Ft. Island Trail	NE 3 rd Avenue /NE 1 st Terrace	2L	D	12,510	3,200	C	YES
NE 3 rd Avenue	NE 1 st Terrace	US 19/98	2L	D	12,510	3,200	C	YES
	US 19/98	NE 13 th Terrace	2L	D	12,510	2,600	C	YES
Crystal Street	NW 6 th Avenue	SR 44	2L	D	12,510	2,300	C	YES
SE Paradise Point Road	US 19/98	SE Kings Bay Drive	2L	D	12,510	1,500	C	YES
SE Kings Bay Drive	US 19/98	SW 1 st Court	2L	D	12,510	1,700	C	YES
SE/NE 8 th Avenue	US 19/98 (S)	NE 1 st Terrace	2L	D	12,510	2,500	C	YES
	NE 1 st Terrace	NE 13 th Street	2L	D	12,510	1,800	C	YES
NW 14 th Place	NW 6 th Street	End of Road	2L	D	12,510	1,300	C	YES
NW 6 th Street	US 19/98	NW 14 th Place	2L	D	12,510	1,300	C	YES
NW 19 th Street	US 19/98	NW 21 st Court	2L	D	12,510	1,300	C	YES
NE 12 th Avenue	Crystal Street	SE 1 st Street	2L	D	12,510	1,300	C	YES
NE 11 th Street	NE 8 th Avenue	Citrus Avenue	2L	D	12,510	670	C	YES
NE 3 rd Street	NE 7 th Avenue	City Limits (E)	2L	D	12,510	610	C	YES

Source: Traffic counts from Crystal River/Citrus County and FDOT (2017 Florida Traffic Online)

- (1) L equals number of lanes
- (2) Service volumes are based on adopted LOS standards
- (3) Average Annual Daily Trips

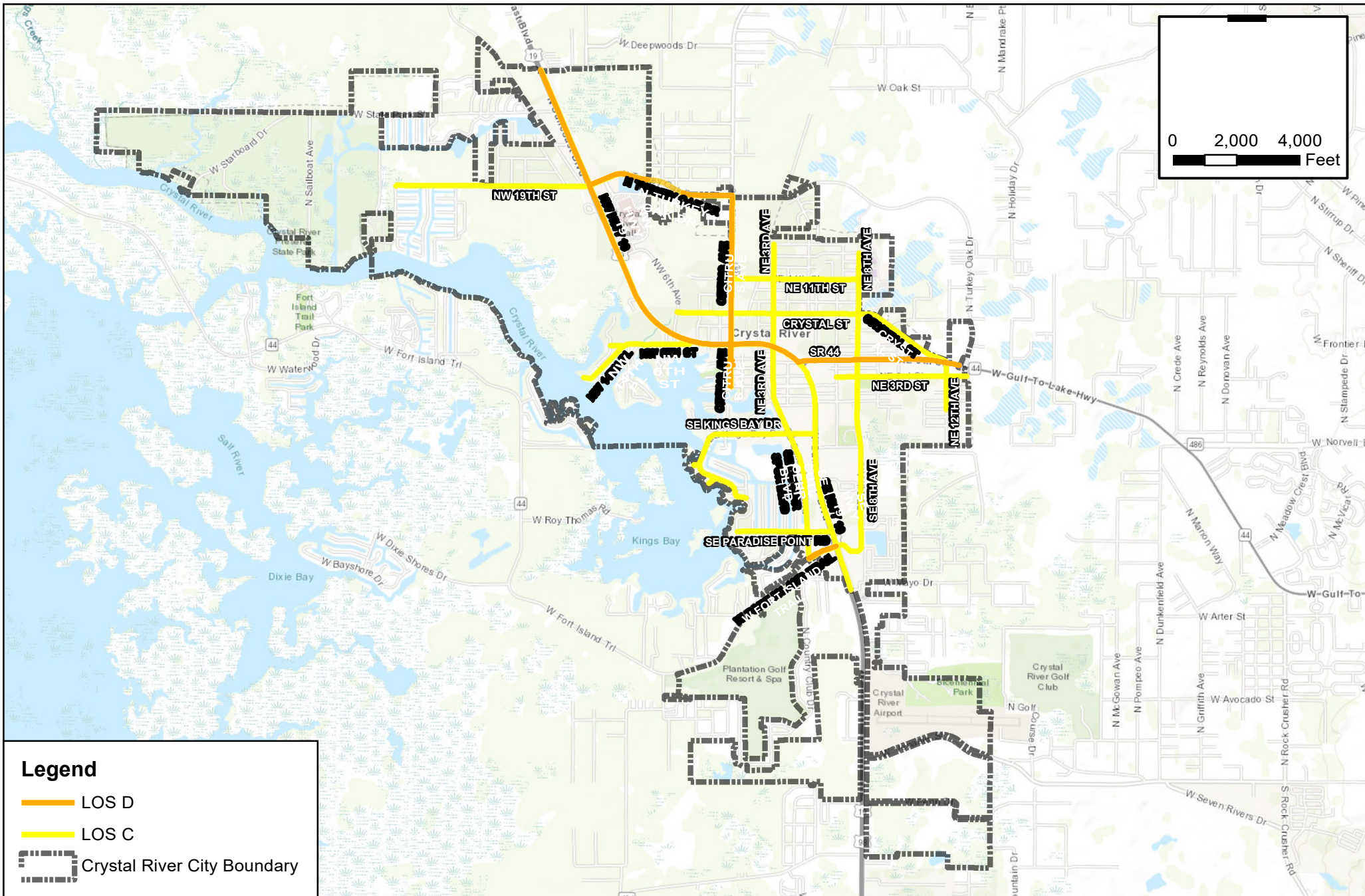
Table 4 - 2: 2023 Peak Hour, Peak Direction, and Level of Service

Roadway	From	To	Number of Lanes ¹	LOS Standard	Service Volume ²	PM Peak Hour Peak Direction			
						Volume	Peak Direction	LOS	Meets Standard
US 19/98	City Limits (N)	SR 44	4L	D	1,790	1,220	SB	C	YES
	SR 44	City Limits (S)	6L	D	2,690	1,370	SB	C	YES
SR 44	City Limits (E)	US 19/98	4L	D	1,790	1,450	EB	D	YES
Citrus Avenue	NE 2 nd Street	N Turkey Oak Drive	2L	D	621	400	NB	D	YES
N Turkey Oak Drive	US 19/98	Citrus Avenue	2L	D	621	240	EB	D	YES
W Ft. Island Trail	US 19/98	City Limits	2L	D	621	270	EB	D	YES
SE Cutler Spur Boulevard	W Ft. Island Trail	NE 3 rd Avenue /NE 1 st Terrace	2L	D	621	190	NB	D	YES
NE 3 rd Avenue	NE 1 st Terrace	US 19/98	2L	D	621	190	NB	D	YES
	US 19/98	NE 13 th Terrace	2L	D	621	140	WB	C	YES
Crystal Street	NW 6 th Avenue	SR 44	2L	D	621	110	EB	C	YES
SE Paradise Point Road	US 19/98	SE Kings Bay Drive	2L	D	621	80	WB	C	YES
SE Kings Bay Drive	US 19/98	SW 1st Court	2L	D	621	80	NB	C	YES
SE/NE 8 th Avenue	US 19/98 (S)	NE 1 st Terrace	2L	D	621	120	SB	C	YES
	NE 1 st Terrace	NE 13 th Street	2L	D	621	90	EB	C	YES
NW 14 th Place	NW 6 th Street	End of Road	2L	D	621	50	EB	C	YES
NW 6 th Street	US 19/98	NW 14 th Place	2L	D	621	50	WB	C	YES
NW 19 th Street	US 19/98	NW 21 st Court	2L	D	621	50	SB	C	YES
NE 12 th Avenue	Crystal Street	SE 1 st Street	2L	D	621	60	WB	C	YES
NE 11 th Street	NE 8 th Avenue	Citrus Avenue	2L	D	621	40	EB	C	YES
NE 3 rd Street	NE 7 th Avenue	City Limits (E)	2L	D	621	30	SB	C	YES

Source: Traffic counts from Crystal River/Citrus County and FDOT (2017 Florida Traffic Online)

(1) L equals number of lanes

(2) Service volumes are based on adopted LOS standard



Legend

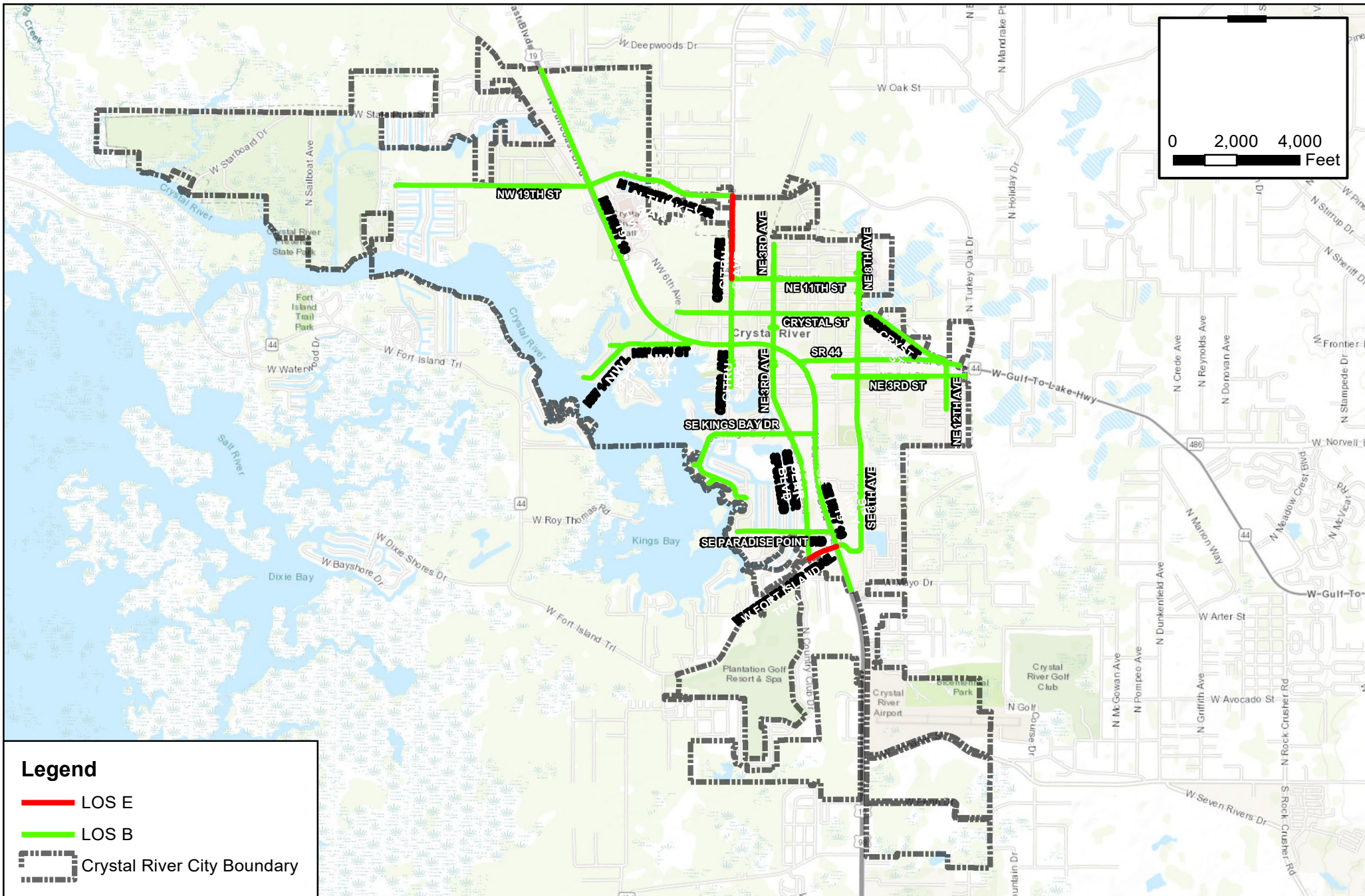
- LOS D
- LOS C
- Crystal River City Boundary

FIGURE 4-1: CRYSTAL RIVER 2023 ROADWAY DAILY LEVEL OF SERVICE



Table 4 - 3: 2023 Bicycle and Pedestrian Level of Service

Roadway	From	To	Pedestrian LOS	Bicycle LOS	Planned Improvements
US 19/98	City Limits (N)	SR 44	B	D	--
US 19/98	SR 44	City Limits (S)	B	C	--
SR 44	City Limits (E)	US 19/98	B	B	Three Sisters Springs Connector Multi-Use Trail
Citrus Avenue	NE 2 nd Street	NE 11 th Street	B	B	--
	NE 11 th Street	N Turkey Oak Drive	E	E	--
N Turkey Oak Drive	US 19/98	Citrus Avenue	B	B	Sidewalk Improvements
W Ft. Island Trail	US 19/98	City Limits	E	B	W. Fort Island Trail Multi-Use Trail
SE Cutler Spur Boulevard	W Ft. Island Trail	NE 3 rd Avenue /NE 1 st Terrace	B	B	--
NE 3 rd Avenue	NE 1 st Terrace	US 19/98	B	B	--
	US 19/98	NE 13 th Terrace	B	B	--
Crystal Street	NW 6 th Avenue	SR 44	B	B	--
SE Paradise Point Road	US 19/98	SE Kings Bay Drive	B	B	--
SE Kings Bay Drive	US 19/98	SW 1 st Court	B	B	Three Sisters Springs Connector Multi-Use Trail
SE 8 th Avenue	US 19/98 (S)	NE 1 st Terrace	B	B	--
NE 8 th Avenue	NE 1 st Terrace	NE 13 th Street	B	B	--
NW 14 th Place	NW 6 th Street	End of Road	B	B	--
NW 6 th Street	US 19/98	NW 14 th Place	B	B	--
NW 19 th Street	US 19/98	NW 21 st Court	B	B	--
NE 12 th Avenue	Crystal Street	SE 1 st Street	B	B	--
NE 11 th Street	NE 8 th Avenue	Citrus Avenue	B	B	--
NE 3 rd Street	NE 7 th Avenue	City Limits (E)	B	B	--

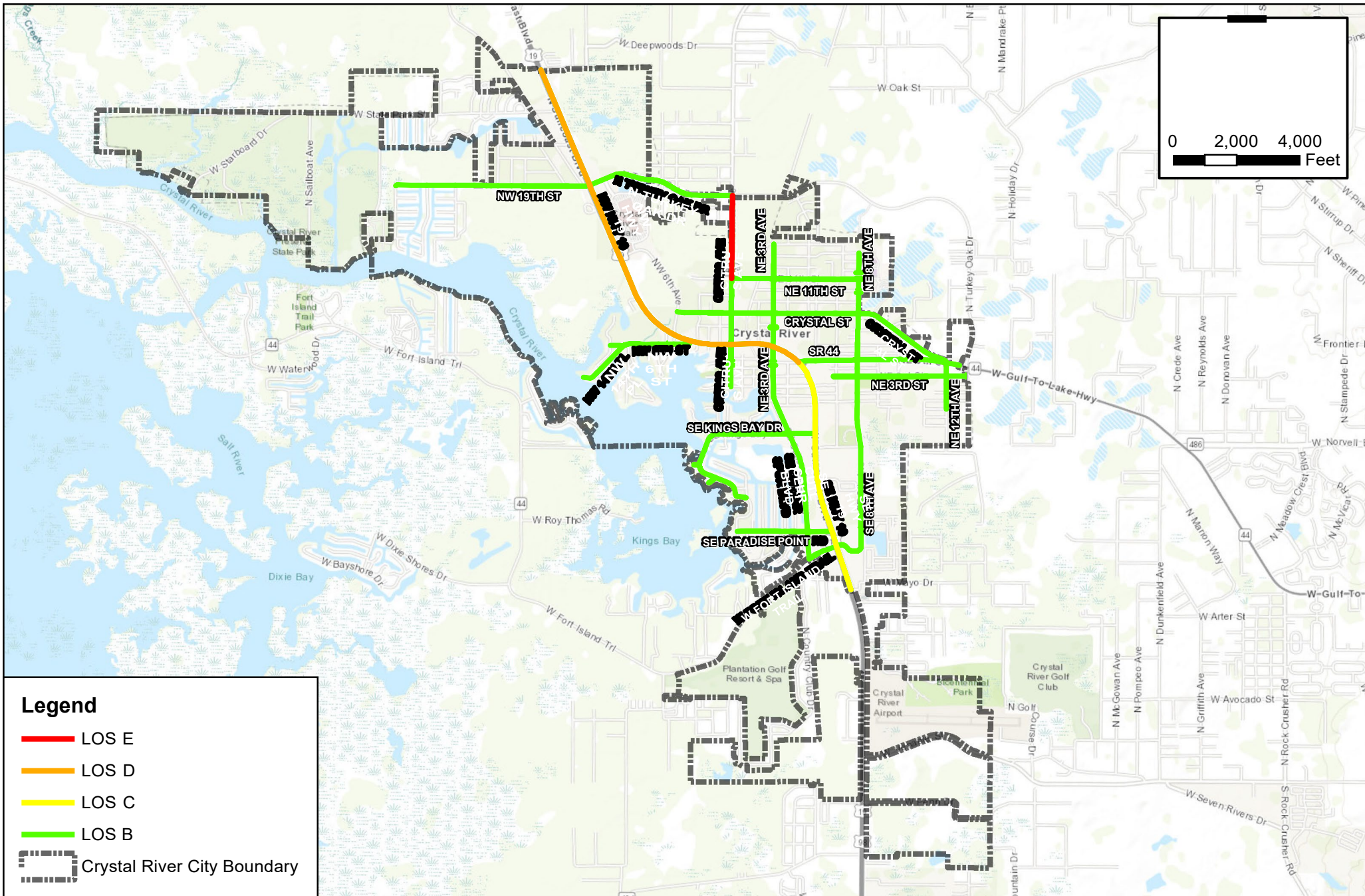


Legend

- LOS E
- LOS B
- Crystal River City Boundary

FIGURE 4-2: CRYSTAL RIVER 2023 PEDESTRIAN LEVEL OF SERVICE





Legend

- LOS E
- LOS D
- LOS C
- LOS B
- Crystal River City Boundary

FIGURE 4-3: CRYSTAL RIVER 2023 BICYCLE LEVEL OF SERVICE



4.3 Year 2030 Conditions

4.3.1 2030 Roadway Conditions

Year 2030 traffic conditions were projected for daily traffic conditions and PM peak hour traffic conditions using the growth rates identified in Table 3-2. The resulting roadway levels of service are summarized in Table 4-4 and Table 4-5 and illustrated in Figure 4-4.

All roadways are projected to operate at LOS D or better in 2030.

4.3.2 2030 Pedestrian Conditions

No major pedestrian improvements are planned prior to year 2030. Therefore, the pedestrian level of service in 2030 is the same as existing conditions. The projected 2030 pedestrian levels of service for roadways are identified in Table 4-6 and illustrated in Figure 4-5. No changes to the existing pedestrian levels of service are expected for 2030. Future bicycle and pedestrian improvements are planned but not programmed for funding.

4.3.3 2030 Bicycle Conditions

The projected 2030 bicycle levels of service for roadways are identified in Table 4-6 and illustrated in Figure 4-6. No changes to the year 2023 bicycle levels of service are expected for 2030.

4.3.4 2030 Transit Conditions

No transit improvements are planned prior to year 2030. Therefore, the transit level of service in 2030 is the same as existing conditions, which exceeds the LOS E standard. No changes to the existing transit levels of service are expected for 2030.

4.4 Internal Consistency within the Comprehensive Plan

The Transportation Element is consistent with the other elements of the City of Crystal River's Comprehensive Plan and is coordinated with the Future Land Use Element. The analysis of the future transportation system for the City was based upon the vision of Crystal River as expressed within the goals, objectives, and policies of the Comprehensive Plan and reflected on the Future Land Use Map (FLUM).

Table 4 - 4: 2030 AADT and Level of Service

Roadway	From	To	Number of Lanes ¹	LOS Standard	Service Volume ²	AADT ³	LOS	Meets Standard
US 19/98	City Limits (N)	SR 44	4L	D	36,200	30,200	D	YES
	SR 44	City Limits (S)	6L	D	54,300	34,200	C	YES
SR 44	City Limits (E)	US 19/98	4L	D	36,200	35,300	D	YES
Citrus Avenue	NE 2 nd Street	N Turkey Oak Drive	2L	D	12,510	8,200	D	YES
N Turkey Oak Drive	US 19/98	Citrus Avenue	2L	D	12,510	3,900	D	YES
W Ft. Island Trail	US 19/98	City Limits	2L	D	12,510	6,700	D	YES
SE Cutler Spur Boulevard	W Ft. Island Trail	NE 3 rd Avenue /NE 1 st Terrace	2L	D	12,510	3,600	D	YES
NE 3 rd Avenue	NE 1 st Terrace	US 19/98	2L	D	12,510	3,600	D	YES
	US 19/98	NE 13 th Terrace	2L	D	12,510	2,900	C	YES
Crystal Street	NW 6 th Avenue	SR 44	2L	D	12,510	2,400	C	YES
SE Paradise Point Road	US 19/98	SE Kings Bay Drive	2L	D	12,510	1,600	C	YES
SE Kings Bay Drive	US 19/98	SW 1 st Court	2L	D	12,510	1,800	C	YES
SE/NE 8 th Avenue	US 19/98 (S)	NE 1 st Terrace	2L	D	12,510	2,600	C	YES
	NE 1 st Terrace	NE 13 th Street	2L	D	12,510	1,900	C	YES
NW 14 th Place	NW 6 th Street	End of Road	2L	D	12,510	1,300	C	YES
NW 6 th Street	US 19/98	NW 14 th Place	2L	D	12,510	1,300	C	YES
NW 19 th Street	US 19/98	NW 21 st Court	2L	D	12,510	1,300	C	YES
NE 12 th Avenue	Crystal Street	SE 1 st Street	2L	D	12,510	1,500	C	YES
NE 11 th Street	NE 8 th Avenue	Citrus Avenue	2L	D	12,510	710	C	YES
NE 3 rd Street	NE 7 th Avenue	City Limits (E)	2L	D	12,510	650	C	YES

Source: Traffic counts from Crystal River/Citrus County and FDOT (2017 Florida Traffic Online)

- (1) L equals number of lanes
- (2) Service volumes are based on adopted LOS standards
- (3) Average Annual Daily Trips

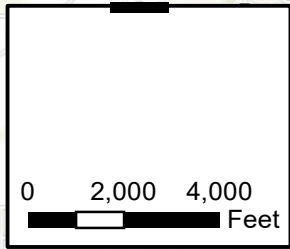
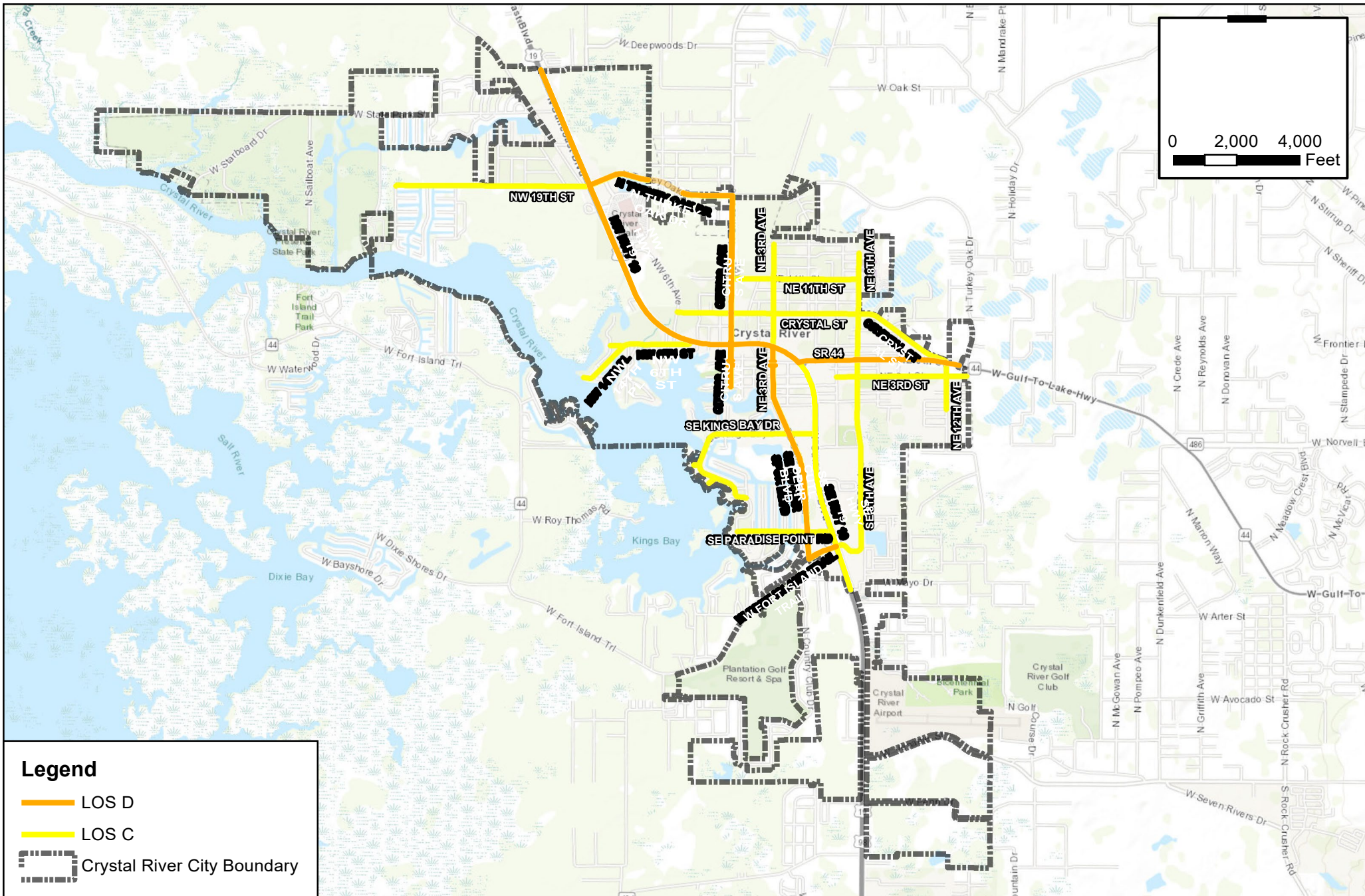
Table 4 - 5: 2030 Peak Hour, Peak Direction, and Level of Service

Roadway	From	To	Number of Lanes ¹	LOS Standard	Service Volume ²	PM Peak Hour Peak Direction			
						Volume	Peak Direction	LOS	Meets Standard
US 19/98	City Limits (N)	SR 44	4L	D	1,790	1,300	SB	C	YES
	SR 44	City Limits (S)	6L	D	2,690	1,460	SB	C	YES
SR 44	City Limits (E)	US 19/98	4L	D	1,790	1,550	EB	D	YES
Citrus Avenue	NE 2 nd Street	N Turkey Oak Drive	2L	D	621	450	NB	D	YES
N Turkey Oak Drive	US 19/98	Citrus Avenue	2L	D	621	260	EB	D	YES
SE Ft. Island Trail	US 19/98	City Limits	2L	D	621	290	EB	D	YES
SE Cutler Spur Boulevard	W Ft. Island Trail	NE 3 rd Avenue /NE 1 st Terrace	2L	D	621	210	NB	D	YES
NE 3 rd Avenue	NE 1 st Terrace	US 19/98	2L	D	621	210	NB	D	YES
	US 19/98	NE 13 th Terrace	2L	D	621	160	WB	C	YES
Crystal Street	NW 6 th Avenue	SR 44	2L	D	621	110	EB	C	YES
SE Paradise Point Road	US 19/98	SE Kings Bay Drive	2L	D	621	90	WB	C	YES
SE Kings Bay Drive	US 19/98	SW 1 st Court	2L	D	621	90	NB	C	YES
SE/NE 8 th Avenue	US 19/98 (S)	NE 1 st Terrace	2L	D	621	120	SB	C	YES
	NE 1 st Terrace	NE 13 th Street	2L	D	621	100	EB	C	YES
NW 14 th Place	NW 6 th Street	End of Road	2L	D	621	60	EB	C	YES
NW 6 th Street	US 19/98	NW 14 th Place	2L	D	621	60	WB	C	YES
NW 19 th Street	US 19/98	NW 21 st Court	2L	D	621	60	SB	C	YES
NE 12 th Avenue	Crystal Street	SE 1 st Street	2L	D	621	70	WB	C	YES
NE 11 th Street	NE 8 th Avenue	Citrus Avenue	2L	D	621	40	EB	C	YES
NE 3 rd Street	NE 7 th Avenue	City Limits (E)	2L	D	621	30	SB	C	YES

Source: Traffic counts from Crystal River/Citrus County and FDOT (2017 Florida Traffic Online)

(1) L equals number of lanes

(2) Service volumes are based on adopted LOS standard



Legend

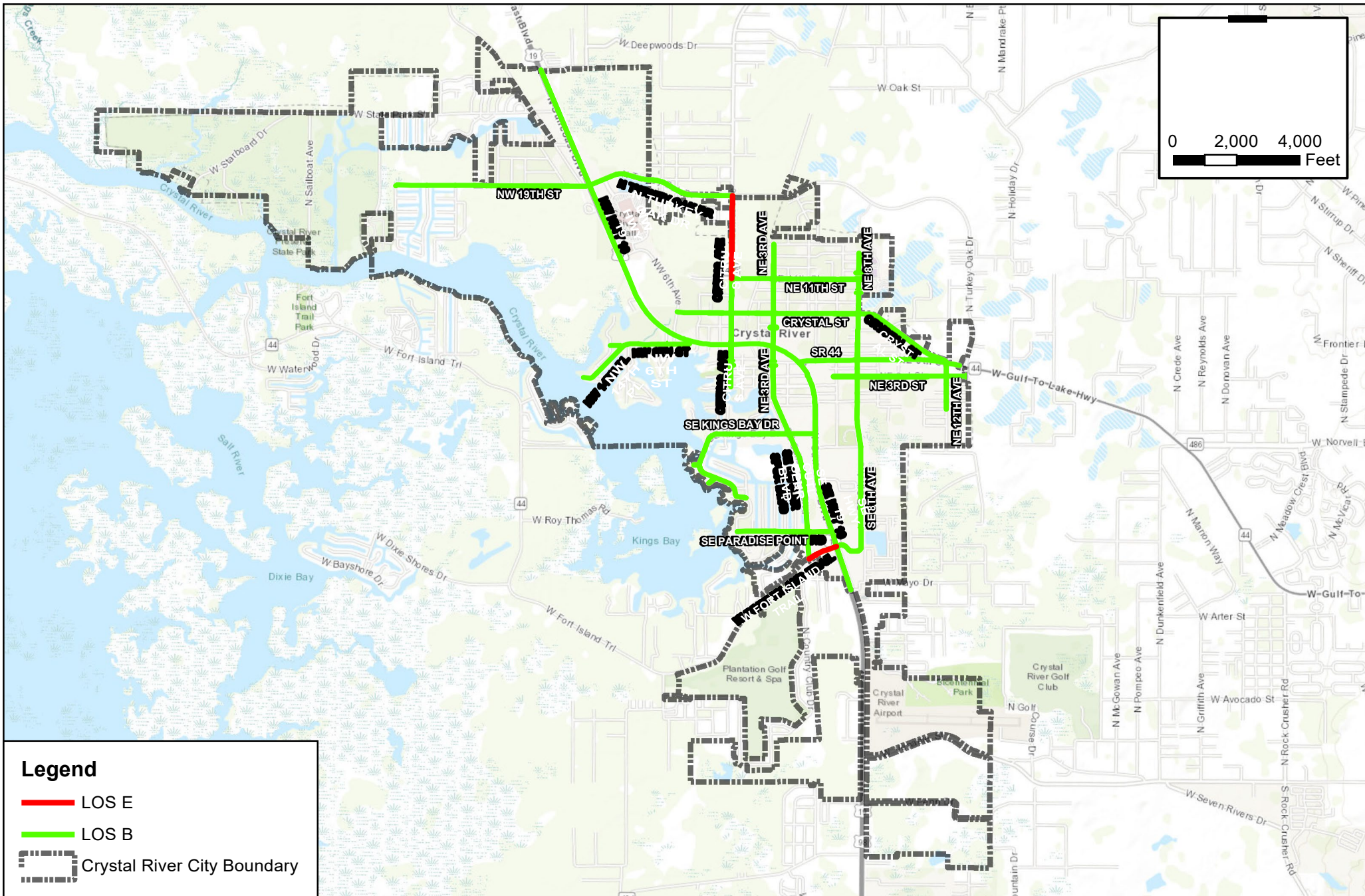
- LOS D
- LOS C
- Crystal River City Boundary

FIGURE 4-4: CRYSTAL RIVER 2030 ROADWAY DAILY LEVEL OF SERVICE



Table 4 - 6: 2030 Bicycle and Pedestrian Level of Service

Roadway	From	To	Pedestrian LOS	Bicycle LOS	Planned Improvements
US 19/98	City Limits (N)	SR 44	B	D	--
US 19/98	SR 44	City Limits (S)	B	C	--
SR 44	City Limits (E)	US 19/98	B	B	Three Sisters Springs Connector Multi-Use Trail
Citrus Avenue	NE 2 nd Street	NE 11 th Street	B	B	--
	NE 11 th Street	N Turkey Oak Drive	E	E	--
N Turkey Oak Drive	US 19/98	Citrus Avenue	B	B	Sidewalk Improvements
SE Ft. Island Trail	US 19/98	City Limits	E	B	W. Fort Island Trail Multi-Use Trail
SE Cutler Spur Boulevard	W Ft. Island Trail	NE 3 rd Avenue /NE 1 st Terrace	B	B	--
NE 3 rd Avenue	NE 1 st Terrace	US 19/98	B	B	--
	US 19/98	NE 13 th Terrace	B	B	--
Crystal Street	NW 6 th Avenue	SR 44	B	B	--
SE Paradise Point Road	US 19/98	SE Kings Bay Drive	B	B	--
SE Kings Bay Drive	US 19/98	SW 1 st Court	B	B	Three Sisters Springs Connector Multi-Use Trail
SE 8 th Avenue	US 19/98 (S)	NE 1 st Terrace	B	B	--
NE 8 th Avenue	NE 1 st Terrace	NE 13 th Street	B	B	--
NW 14 th Place	NW 6 th Street	End of Road	B	B	--
NW 6 th Street	US 19/98	NW 14 th Place	B	B	--
NW 19 th Street	US 19/98	NW 21 st Court	B	B	--
NE 12 th Avenue	Crystal Street	SE 1 st Street	B	B	--
NE 11 th Street	NE 8 th Avenue	Citrus Avenue	B	B	--
NE 3 rd Street	NE 7 th Avenue	City Limits (E)	B	B	--



Legend

- LOS E
- LOS B
- Crystal River City Boundary

FIGURE 4-5: CRYSTAL RIVER 2030 PEDESTRIAN LEVEL OF SERVICE



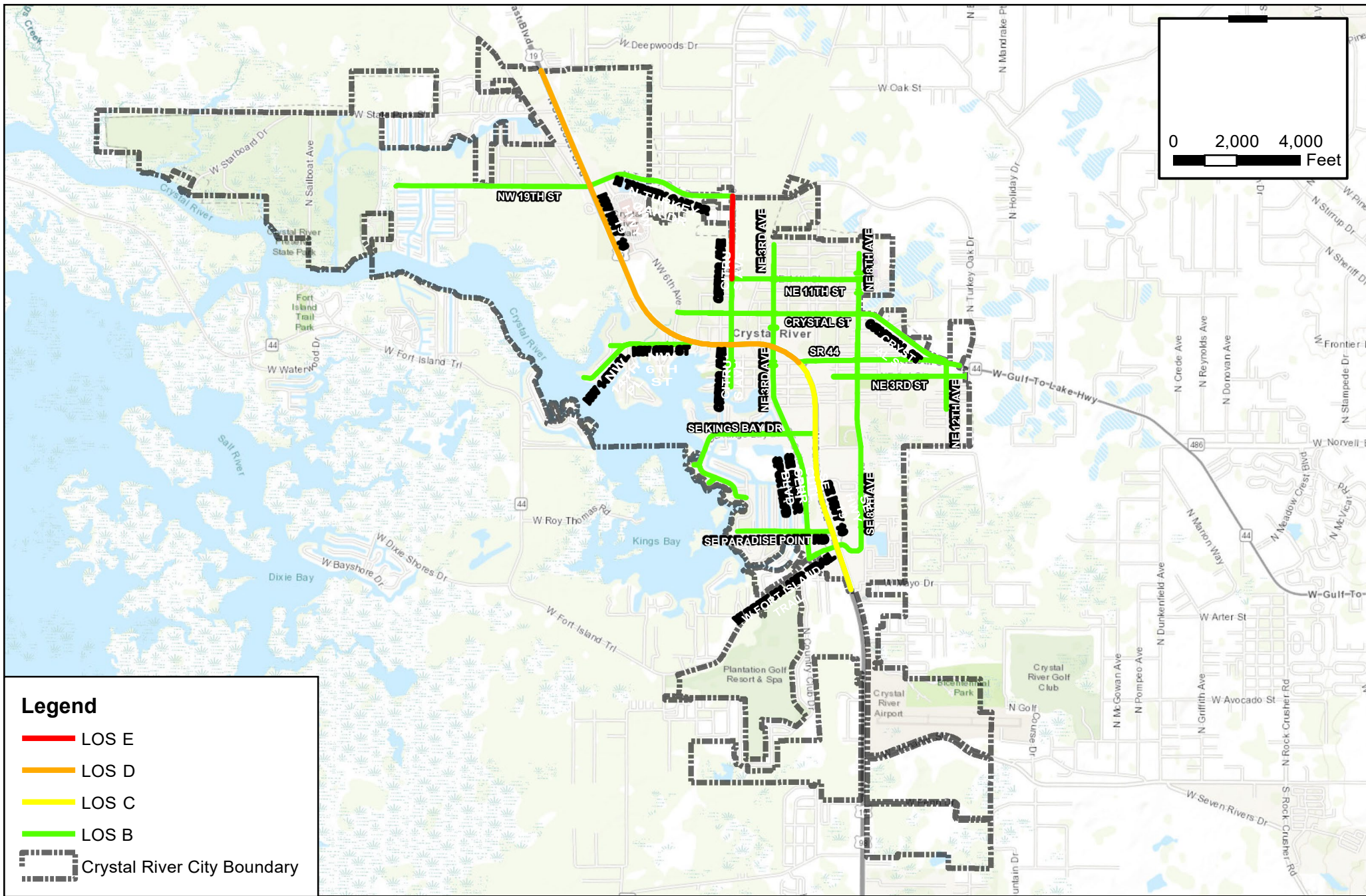


FIGURE 4-6: CRYSTAL RIVER 2030 BICYCLE LEVEL OF SERVICE



MULTI-MODAL TRANSPORTATION ELEMENT GOALS, OBJECTIVES AND POLICIES

Goal 1	PROVIDE A MULTIMODAL TRANSPORTATION SYSTEM THAT PROVIDES A SYSTEM FOR BOTH MOTORIZED AND NON-MOTORIZED MODES OF TRANSPORTATION WHICH SERVES TO MAXIMIZE PUBLIC SAFETY, SUPPLY CONVENIENT ACCESS TO DESTINATION, AND MAINTAIN ADOPTED LEVELS OF SERVICE FOR THE CITY OF CRYSTAL RIVER.
INTERGOVERNMENTAL COORDINATION	
Objective 1	Continue to coordinate with Citrus County, the Hernando-Citrus Metropolitan Planning Organization (MPO), and the Florida Department of Transportation (FDOT) to mitigate the projected capacity deficiencies along segments of state and county roadways and evacuation routes.
Policy 1.1	The City will coordinate appropriate actions with the FDOT and Citrus County when developments being reviewed by the City result in an increase in traffic volume on state and/or county roadways that will reduce the roadway’s operating level of service.
Policy 1.2	The City will continue to coordinate with the FDOT on LOS standards and appropriate technical data relative to state roadways, particularly the SIS, to maintain the adopted LOS standards and maintain coastal evacuation routes to evacuate the coastal population prior to an impending natural disaster.
Policy 1.3	The City will continue to enforce access management provisions in the Crystal River Land Development Regulations and coordinate with FDOT on commercial development proposals with impacts on state roads.
Policy 1.4	The City of Crystal River hereby incorporates by reference the Hernando-Citrus MPO’s, <i>2040 Long Range Transportation Plan (LRTP)</i> in effect into this comprehensive plan. The City will continue to coordinate through the MPO to implement the LRTP and to participate in developing updates to the LRTP as an ongoing effort.
Policy 1.5	The City shall coordinate with the FDOT, MPO, and County to continue discussions on the feasibility of locating the SIS facility designation from SR-44 (within the City limits) to N. Turkey Oak Drive as a direct route to US-19.
LEVEL OF SERVICE	
Objective 2	Maintain and update, as necessary, roadway levels of service for review of proposed development orders with respect to concurrency requirements established by this plan and for use in capital improvements programming.

Policy 2.1	The adopted peak hour, peak direction (PHPD) level of service (LOS) standard for all collector and arterial roadways within Crystal River is LOS D.
Policy 2.2	The City shall monitor the operating LOS for collector and arterial roadways in Crystal River based upon the FDOT generalized practices. If the operating LOS is determined to exceed the adopted LOS standard for roadways, the City shall undertake a more detailed LOS analysis. Of the detailed analysis determines that the adopted LOS is being exceeded, the City shall develop a plan to address the LOS issue that may include adjusting the LOS standards, transportation system management projects, or capacity improvements.
Policy 2.3	The City shall coordinate with FDOT and Citrus County regarding the State and County roadways within the City to achieve and maintain the adopted LOS standards. The City shall also coordinate with FDOT and the County to maintain coastal evacuation routes to evacuate the coastal population prior to an impending natural disaster.
Policy 2.4	The City will issue development orders provided that required transportation facilities are available to serve the proposed development at the adopted level of service standard, or are scheduled to be in place or under actual construction not more than three years after issuance of the building permit or development order or its equivalent as recognized in the adopted Crystal River Five Year Capital Improvements Plan, Citrus County Capital Improvements Plan, or the first three years of the adopted FDOT Five Year Work Program.
Objective 3	The City shall coordinate its transportation system with the Future Land Use Map and the Comprehensive Plan.
Policy 3.1	The Future Transportation Map adopted as part of this element shall be consistent with the City’s Future Land Use Map. Amendments to the Future Land Use Map will be reviewed based upon the potential impacts to the transportation system and the projected roadway LOS.
Policy 3.2	Any amendments to this Multimodal Transportation Element of the Crystal River Comprehensive Plan will be reviewed for consistency with the FDOT Five-Year Transportation Plan, the MPO Long Range Transportation Plan, and the Citrus County Comprehensive Plan.
Objective 4	The City’s transportation system shall be coordinated with the City’s Capital Improvement Element and Capital Improvements Plan, the FDOT Five-Year Transportation Improvement Plan and the Citrus County Comprehensive Plan and Capital Improvements Plan, the Tampa Bay Area Regional Transit authority and the Hernando-Citrus MPO.

Policy 4.1	Projects necessary to ensure that any adopted level-of-service standards are achieved and maintained for the 5-year Capital Improvement Plan will be identified as either funded or unfunded and given a level of priority for funding.
FUNCTIONAL CLASSIFICATION OF ROADS	
Objective 5	Maintain roadway functional classification system according to FDOT standards and policies.
Policy 5.1	Street improvements will be designed to provide sufficient carrying capacity to accommodate projected development as indicated in the Future Land Use Map.
Policy 5.2	Residential streets will be designed to provide access to local properties and not to carry through traffic into residential areas.
Policy 5.3	The Crystal River Land Development Regulations will continue to provide setback requirements to protect future rights-of-way from building encroachment.
RIGHT-OF-WAY PRESERVATION	
Objective 6	Continue to implement measures to preserve rights-of-way for capacity expansion.
Policy 6.1	The City will prohibit non-governmental signage and off-site signage from existing and future rights-of-way.
Policy 6.2	The Crystal River Land Development Regulations will continue to provide setback requirements based on a roads Functional Classification for minimum right-of-way width requirement to protect future rights-of-way from building encroachment.
Objective 7	The City shall administer land development code regulations that require safe and convenient on-site traffic circulation that incorporates vehicle parking.
Policy 7.1	All new development will provide on-site parking except in the Crystal River Redevelopment Area (CRA) Overlay District as shown on the Zoning Map. New development will be required to submit a parking plan that addresses parking and on-site traffic flow.
Policy 7.2	The City will work cooperatively with the property owners of the CRA to develop a parking management plan to provide parking which meets the needs of the businesses and achieves the City’s vision and guiding principles for the CRA as adopted in the Land Development Code.

Policy 7.3	The City shall regulate access management, specifically driveway access, through the Land Development Code. The City shall coordinate with FDOT and Citrus County regarding State and County arterials.
Policy 7.4	Bicycle parking standards shall be required for specified uses identified in the Land Development Code to support bicycling within the City.
MULTI-MODAL TRANSPORTATION	
Objective 8	The City shall implement “complete streets” principles for all roadways within the City to address the needs of bicyclist, pedestrians, and transit in all planning, programming, design, and construction.
Policy 8.1	The City will coordinate with the Florida Department of Transportation (FDOT), the Hernando/Citrus County MPO and Citrus County on implementing changes for state trail improvements and provide for bicycle/pedestrian facilities on county and/or state roadways throughout the City.
Policy 8.2	The City will coordinate with the FDOT officials to adopt safe standard bikeway regulations and to ensure continuity of adjoining pathways throughout the City.
Policy 8.3	The City will incorporate sidewalk construction in its Five-Year Transportation Plan. Funds for construction of sidewalks will be appropriated annually in the Capital Improvement Plan.
Policy 8.4	The City shall provide and/or require sidewalks and/or trails along all collector streets on at least one side of the street. The City shall provide and/or require sidewalks and/or trails on both sides of the roadway of all arterials and major collector streets.
Policy 8.5	The Crystal River Land Development Regulations will continue to provide standards for new residential and commercial developments to provide and dedicate pedestrian ways.
Policy 8.6	The City will continue to evaluate the opportunity for permitting golf carts on sidewalks, trails, and roadways within designated areas, as permitted by Florida Statutes, to enhance its multimodal transportation opportunities.
Policy 8.7	The City of Crystal River adopts Citrus County’s LOS target for transit services. The target standard for the existing fixed transit routes is LOS E (60 minute headways) by year 2030.
Policy 8.8	The City will regularly coordinate with the County regarding its transit plans within Crystal River.

Policy 8.9	The City currently has no direct rail access but will coordinate with the FDOT, the MPO, and Citrus County on implementing changes to improve connectivity to railroad infrastructure and coordinate rail improvements.
Objective 9	Coordinate with the FDOT and Citrus County to ensure a mechanism exists to address any issues related to the Crystal River airport.
Policy 9.1	The City shall support the County’s implementation of the Crystal River Airport master plan for maintenance, expansion, and operation of the airport facilities.
Policy 9.2	The City will coordinate with Citrus County staff to identify short term and long term needs within the City limits for Crystal River airport coordination.
Policy 9.3	The City shall adopt airport compatible land development regulations for the areas of the City surrounding the Crystal River Airport pursuant to Florida Statutes.