City of Leesburg

GROWTH MANAGEMENT PLAN
TRAFFIC CIRCULATION ELEMENT

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Exhibit B
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A. INTRODUCTION

The City of Leesburg does not participate in a Metropolitan Planning Organization (MPO). Therefore, the City is required to adopt a Traffic Circulation Element, instead of a Transportation Element. Although the City is not required to adopt mass transit or ports, aviation, and related facilities elements because it has less than 50,000 residents, the City has opted to prepare and adopt an Aviation Element.

Lake County has been actively coordinating the transportation issues in the County. The County adopted the Lake County's 2020 Long Range Transportation Plan on June 15, 1999 to provide a comprehensive statement of the transportation needs and policies of the County. This plan, which was prepared consistent with the Federal Metropolitan Transportation Planning Requirements of the Transportation Equity Act for the 21st Century (TEA-21), addresses multi-modal transportation needs including highways, public transportation, bicycle, and pedestrian facilities needs and linkages between these modes to provide a coordinated transportation system. That plan emphasizes the movement of persons and goods by modes other than the automobile. It also pursued public input through a formal public involvement process.

The purpose of the City's Traffic Circulation Element is to plan for a transportation system that emphasizes the need to integrate vehicular traffic with pedestrian and bicycle traffic. The element encourages the development of compact, pedestrian-oriented urban areas; promotes energy efficient development patterns; and protects air quality.

An essential base for planning a transportation system is the Future Land Use Element. The Future Land Use Map determines where new or improved transportation facilities will be needed. The Traffic Circulation Element assesses the condition and capacity of the existing transportation facilities, projects future needs, sets Levels of Service (LOS) standards for roads and determines future system improvements. Roadway level of service standards is established to ensure that adequate facility capacity for future development is concurrently sufficient with the issuance of development orders and development permits. These standards are established for each roadway link consistent with the facility type, and current Florida Department of Transportation (FDOT) LOS guidelines.

B. INVENTORY

An efficient transportation system should provide access to various land uses through alternative transportation modes. The overview of the existing transportation system within the City of Leesburg provides the basis for analyzing existing transportation deficiencies and needs within the City.

This section will identify existing roadway facilities, availability of public transit, bicycle and pedestrian facilities, and other ancillary services and programs.

1. Road System

This section describes the major roadway facilities within the City and their relative function

to the City's circulation system. The roads within the central City were developed based on a grid pattern, which provides good opportunities for connectivity. There are, however, several physical obstructions in the area such as lakes and existing land uses that interrupt that connectivity. All the major roads in the City are listed on Table II- 1 and displayed on Map II- 1. The following is a description of the major Federal and State roadways in the City of Leesburg.

- ***Ronald Reagan Turnpike.*** The Turnpike is a four-lane toll expressway running from Sumter County to Dade County. It provides a linkage from Interstate 75 in Sumter County to the Orlando urban area. There are currently two interchanges within Lake County – at US 27 south of Leesburg, and SR 19 between Groveland and Tavares. A third interchange is planned at CR 470, southwest of downtown Leesburg (Project ID 404214-1-52-01). The majority of the traffic served by The Turnpike is passing through, rather than having destinations within Lake County.

- ***U.S. Highway 27 (SR 25).*** U.S. Highway 27 is a north-south corridor located in the western portion of Lake County. It provides a linkage to I-4 in Polk County to the south, extends through the City of Clermont; and, merges with US 441 in Leesburg. It is currently a four-lane divided arterial, and operates at good levels of service. The portion of US 27 between the Turnpike and the Polk County line is a part of the Florida Intrastate Highway System. US 27 is known in Leesburg as 14th Street, except when it merges with US 441. This dual road is also called Citrus Boulevard.

- ***US Highway 441 (SR 500).*** The most heavily traveled arterial in Lake County is U.S. Highway 441, which extends through the County from the northwest to the southeast. The majority of the County's development is served by this corridor, such as the Leesburg Regional Airport, major shopping centers, and medical centers. Currently, US 441 is a four and six-lane divided arterial. In Leesburg, routes US 27 and US 441 merge to become one roadway. The highest volumes on US 441 are carried on the sections between Leesburg and the "Golden Triangle" of Tavares, Eustis and Mount Dora. The Florida Department of Transportation (FDOT) has initiated preliminary engineering and design studies for widening the four-lane sections of this road to six lanes, and began the first phase of construction in 2002. The City has been actively involved in this project, especially on the US 441/US 27 intersection design, and the location of a proposed bike trail along it. US 441 is known in Leesburg as North Boulevard, except where it joins US 27.

- ***State Road 44.*** This road links the Leesburg area to Interstate 75 through Sumter County, and links SR 19 in Eustis eastward to Deland in Volusia County. In Leesburg and Eustis, it is a four-lane highway, and in the eastern areas it has two lanes. SR 44 is known in Leesburg as South Dixie Highway.

The State Road system is supplemented by County and municipal streets, which provide land access and, in some cases, alternative travel routes. The County road system is predominantly a network of two-lane highways.

a. Jurisdiction and Maintenance Responsibility

Table II- 1 and Map II- 2 show the maintenance responsibility of each roadway in the City of Leesburg. There are four state roadways, US 27, US 441, the Ronald Reagan Turnpike, and SR 44; and four major County roadways, CR 44, a two-lane road extending from us 441 to SR 19; Main Street, a two-lane road extending from SR 441 to SR 44 through downtown Leesburg; Griffin Road (CR 44A); and Thomas Avenue (CR 44C).

Several minor roadway segments under City or County jurisdiction have also been included in the classification because of their impact on the overall traffic. They include Lee Street, Canal Street, Lake Street, Lone Oak Drive, and Sunnyside Drive.

b. Functional Classification

Table II- 1 and Map II- 1 show the functional classification of major roads in the City of Leesburg. The functional classification of public roads in this element is based on FDOT criteria, which considers quantitative and qualitative factors such as jurisdiction, land access, route length, and trip lengths. A road hierarchy is used to identify relative importance of roads within the system, provide guidance for level of service and design standards, aid in establishing improvement priorities, identify maintenance responsibility, and assist in determining funding and financing policies. The hierarchy used in this element includes:

(1) ***Arterials:*** Provide regional mobility via both uninterrupted flow and interrupted flow segments. Arterials provide mobility around and through urban and community cores, and accommodate relatively long trip lengths as opposed to providing access to adjacent properties. ***Minor arterials*** provide for intra-county circulation, higher volumes, speeds, and trip lengths. ***Principal arterials*** provide for high speed, long trips, and high traffic volumes serving inter-county travel.

(2) ***Collectors:*** Provide for movement between local streets and the arterial network. Collectors serve residential, commercial and industrial areas. ***Minor collectors*** collect traffic from local streets and access roads of higher function. ***Major collectors*** serve higher volumes of traffic at moderate to high speeds, connecting rural and urban areas.

(3) ***Local roads:*** Provide direct access to abutting properties. Local roads accommodate traffic originating in or traveling to properties within a neighborhood, commercial or industrial development. Local roads are not considered part of the major thoroughfare system.

c. Constrained Facilities

Section 339.155, Florida Statutes, makes governmental police powers available to preserve and protect property necessary for transportation corridors and recommends that needed right-of-way be acquired as far in advance of construction as possible. FDOT requests that local governments identify constrained roadways in their comprehensive plans to ensure maintenance of the operating conditions, so that significant degradation in the level of service does not occur.

A constrained roadway is one in which adding two or more through lanes to meet current or future needs is not possible due to physical, environmental or policy barriers. Map II- 3 shows the existing number of lanes of all roads. The County has established, by policy, a maximum number of lanes allowed on major roads:

No more than six lanes: US 441/US 27 and SR 44 west of US 27.

No more than four lanes: SR 44 east of US 27, US 27 south of US 441, CR 468, Griffin Road, CR 460, CR 48, CR 33, CR 466, Grays Airport Road, and Eaglenest Road.

No more than two lanes: CR 466A & B and Main Street.

d. Accident Locations

Accident analysis is critical because it provides a tool for City, County and state officials to recommend appropriate safety measures. Accident frequency along with roadway performance can be used to prioritize future roadway needs. Table II- 2 shows accident data occurring between January 1, 2000 and December 31, 2000, compiled by the Leesburg Police Department. It shows those road segments with three or more accidents during 2000. The road segment with the largest number of accidents was the intersection of SR 44 and CR 44 with 48 accidents during 2000, followed by the intersection of SR 25 and SR 44 with 35 accidents during the same period. Within the City of Leesburg, signalized intersections are located mainly along principal and minor arterials.

e. Evacuation Routes

The City of Leesburg has an adopted Disaster Operations Plan as a supplement to Lake County's Peacetime Emergency Plan, which was approved by the Board of County Commissioners and the State of Florida Department of Emergency Preparedness. The City also adopted the Fire Department Disaster Operations Plan in June 2001 to provide for the organized mobilization of fire department personnel and resources in the event of a disaster.

For large-scale disasters, the City follows the County's Peacetime Emergency Plan. This document does not identify evacuation routes, as Leesburg is a host city for evacuees from coastal cities, but lists the shelters available. There are currently 10 shelters in Leesburg. Map II- 4 shows the roads that serve as evacuation routes.

f. Goods Movement

Much of the goods movement in Lake County consists of trucking of dry goods for retail sales and agricultural goods. Lake County has no adopted truck route system; however, much of the goods movement demand is served by the State Road System. The level of saturation on the State Road System is estimated to be 81 percent of the adopted performance standard in 1995. With planned improvements, this degree of saturation will increase to 125 percent in 2020.

A significant quantity of freight transportation occurs on the Ronald Reagan Turnpike passing through Lake County. This has led to existing and planned distribution and warehousing facilities in the vicinity of the Ronald Reagan Turnpike (at the U.S. 27 and S.R. 19 interchange). Much of this goods movement associated with these activities is solely dependent upon the Ronald Reagan Turnpike and no improvements are recommended for this facility with the exception of constructing the interchange at the Ronald Reagan Turnpike - C.R. 470.

2. Public Transportation

The public transportation service in the Leesburg area and surrounding jurisdictions is provided by Lake County Transit, a department of Life Stream Behavioral Center. This agency has been designated as the community transportation coordinator for Lake County by the State of Florida Commission for the Transportation Disadvantaged, the Lake County Board of County Commissioners, and the Regional Planning Council. The agency provides public transportation services of two different types: (1) Countywide demand-responsive transportation system for the transportation disadvantaged, and (2) a route deviation bus system operation on an existing "base line" route.

The coverage of the demand-responsive transportation system is the entire County, which is a subsidized taxi type of transportation service. The alignment of the route-deviation bus system is indicated in Map II- 5. The route deviation system operates on 60 to 120 minute headways, utilizing two vehicles.

These services are available to the general public on a fare basis, and to the transportation disadvantaged on a subsidized fare basis. Service is provided from 6 am to 7 pm, Monday through Friday (24 hours per day, seven days per week if prior arrangements are made). According to the Lake County Transportation Plan 2020, current ridership estimates are from 45 to 60 riders per day per bus, thus indicating that approximately 2000 person trips per day are being served by the public transit system.

Concurrent with the development of the County's 2020 Long Range Transportation Plan, Lake County developed its first Transit Development Plan. The Transit Development Plan outlines significant enhancements to the public transportation system in Lake County including the development of fixed route bus service to connect the major communities in the County.

The major transit generators/attractors in and around the City of Leesburg include the U.S. 441 Commercial Corridor, as well as the following, which are displayed on Map II- 5 as the corresponding numbers.

1. Downtown Leesburg
2. Leesburg Regional Medical Center
3. West 44 Industrial Center
4. Lake Sumter Community College
5. Lake Square Mall
6. Greyhound Bus Terminal
7. Leesburg Regional Airport

3. Parking System

The City of Leesburg has a number of small parking areas in the downtown that serve the area businesses. These facilities are free to the public. There are no major parking structure facilities in the City at this time, however, in 2003, the City of Leesburg, with the assistance of a FDCA grant, will construct a 2-level parking garage at Meadow, Palmetto and Main Streets.

4. Bicycle System

The City of Leesburg does not have a citywide bicycle system in place but has great potential for creating a bicycle route network. There are two abandoned rail lines that the City hopes to use for trails. One is an east-west rail spur line going from Wildwood to just past the Coca-Cola Foods (Minute Maid) plant. The other line is a smaller spur line that goes north from the main line to near the north corporate limits of Leesburg. Map II- 6 depicts existing and proposed bicycle facilities.

In 1999, the City prepared a plan for a Downtown trail. The report, entitled "City of Leesburg – Downtown Multi-Purpose Trail", was prepared with a grant from the Florida Department of Environmental Protection, Office of Greenways and Trails. The downtown trail project acquired new interest with the improvements to the City's downtown area and the FDOT project to widen US 441 into the City. The road widening plans involve the construction of a bike/pedestrian facility that will connect the Cities of Tavares and Leesburg, passing through the Lake-Sumter Community College, several parks and the commercial district along the highway. That project is known locally as the "TAV-LEE Trail". The City created the Downtown Multi-Purpose trail project to connect the downtown to the proposed TAV-LEE Trail, and also to provide a link to the Leesburg-Okahumpka Trail, which is an interconnecting loop within the planned Central Florida Loop Trail System. The Leesburg-Okahumpka Trail depends mostly on an abandoned rail right-of-way, and provides a connection to Flat Island, an environmental preserve, prior to continuing southward to the General Van Fleet Trail.

The Downtown trail will extend approximately three quarters of a mile, from 12th Street (Mote-Morris House) to Venetian Gardens. The City already owns the entire right-of-way for the trail, and recently hired a consultant to design the trail.

The City has actively been pursuing the purchase of the CSX right-of-way for other trails in

the City. A Citywide master plan for bicycle and pedestrian facilities will need to be prepared to create an efficient and integrated system. Through its Capital Projects Fund, the City of Leesburg has scheduled $250,000 a year for FY 2002-2006 for Rails-to-Trails projects.

Lake County has been developing bicycle facilities, including bicycle lanes, paved shoulders, and off-road bicycle paths. The Lake County 2020 Transportation Plan shows that there are bicycle facilities along SR 44 from West Main Street to US 27; along US 27 from SR44 to CR 48; and along CR 33 from US 27 to the area south of the Turnpike.

5. Pedestrian System

The City does not keep an inventory of pedestrian facilities. Existing sidewalks are generally found in the downtown area, and along principal and minor arterials. Lake County's 2020 Transportation Plan shows sidewalks mainly along SR 44, and US 27 with 90 to 100 percent coverage; and along US 441 and US 27 with 65 to 90 percent coverage. When complete, the City of Leesburg Downtown Multipurpose Trail will serve to provide bicyclists and pedestrians with the core segment that will bind community neighborhoods, businesses, schools, hospitals, parks, library, museum, and other governmental and private uses.

6. Intermodal Facilities

Intermodal facilities are those transportation elements that accommodate and interconnect different modes of transportation and serve interstate, intrastate and international movement of people and goods. Some facilities considered intermodal include ports, airports, bus stations and train terminals. The Intermodal Surface Transportation Efficiency Act (ISTEA) legislation encourages the provision of efficient access to these intermodal facilities.

The Traffic Circulation Element is intended to address major thoroughfares and transportation routes, including bicycle and pedestrian ways. Other modes of transportation such as public transportation, aviation, rail, and port facilities are normally addressed in Transportation Elements (required for larger urban jurisdictions located within an MPO). The City of Leesburg has opted to prepare an Aviation Element. This section briefly describes other modes of transportation available to City residents.

The County is serviced by Greyhound Transportation Services with bus terminals at various locations. The closest terminal is located at 1006 South 14th Street. Currently, there are no active railways within the City of Leesburg.

Leesburg Regional Airport is located approximately three miles northeast of downtown Leesburg on U.S. 441. Leesburg Regional is a public use, general aviation airport, owned, operated, and maintained by the City of Leesburg. Leesburg Regional operates 199 aircraft based on the field and manages approximately 312 aircraft operations per day. Leesburg Regional Airport is discussed further in the Aviation Element of this Growth Management Plan.

C. TRANSPORTATION ANALYSIS

Transportation can have a major role shaping the spatial and functional organization of a community. It can determine the size, scale, status and identity of a community. However, there are

other contributing factors that need to be considered, such as the personal, social, physical, environmental, economic and cultural attributes of the community. This section will analyze existing conditions of the transportation system to provide a comprehensive assessment of the various transportation facilities and services, and their relationship with existing land uses.

This section will also address growth trends, travel patterns, and interactions between land use and transportation, including the compatibility between future land uses and transportation systems. The transportation analysis was conducted using the adopted Florida Standard Urban Transportation Modeling Structure (FSUTMS), to ensure coordination with Lake County and other jurisdictions. The adopted FSUTMS model has traffic forecasting integrated with future transit services simulation. The Florida Department of Transportation (FDOT) has established FSUTMS as the standardized travel model for the State.

Future travel demand estimates are based on a land use inventory for 1995, and projection of land uses for the years 2010 and 2020. The data is available at the Traffics Analysis Zone (TAZ) level and contains variables such as trip production (housing types and occupancy, and auto availability per dwelling unit); trip attraction (employment and school enrollment); special generators; and internal/external trips. TAZs are small, internally homogeneous aggregations of the entire urban area. They range from a City block to areas encompassing several square miles. Demographic data, such as population, housing, employment and traffic, is maintained at the TAZ level to measure existing roadway LOS

The County also incorporated information about trips that pass through Lake County, based on projected growth in surrounding counties, historical growth trends for traffic counts, and review of the Ronald Reagan Turnpike and Orlando Urban Area travel demand models (OUATS).

1. Socio-Economic Growth Trends

The 1990 U.S. Census reported a City population of 14,903. It is estimated that the population in 2000 was at 15,956. Population projections prepared by the City's consultants indicate that the City population will grow to approximately 19,659 residents by the year 2020.

Table II- 3 shows the socio-economic data by TAZ provided by Lake County. There are differences in numbers with the City estimates due to the fact that some TAZs include large unincorporated areas. The TAZ data also includes projections of employment

2. Roadway Current Performance

The 1985 Growth Management Act established two important responsibilities for local governments. The first was to set level of service (LOS) standards for public facilities within the jurisdiction as part of the Comprehensive Plan. The second was to ensure that the public facilities and services proposed in the Capital Improvements Element of the local Comprehensive Plan were available concurrent with the development. The Department of Community Affairs (DCA) requires that adopted level of service standards be achievable and financially feasible. The standards set a minimum service level that the City must maintain for each of the public facilities, including roadways.

The roadway LOS concept is defined in the Florida Department of Transportation (FDOT)

1998 Level of Service Handbook as a qualitative assessment of the road user's perception of the quality of flow, and is measured by a scale of driver satisfaction. The scale ranges from "A" to "F", with "A" generally representing the most favorable driving conditions and "F" representing the least favorable.

FDOT adopted statewide minimum level of service standards for the State highway system. The minimum level of service standards are used for planning applications, including the review of local government plans. The generalized maximum volume tables provided by FDOT are guidelines recommended for broad planning applications. They are to be used as a general guide to determine highway level of service and through-lane requirements.

For the purpose of LOS maintenance, the County has been divided into Traffic Analysis Zones (TAZs), nineteen of which are in Leesburg. Minimum level of service standards recommended for the state system are shown on Table II- 1. The standardized descriptions of service levels used in transportation planning are as follows:

- LOS A - A condition of road performance where traffic density is very low, with little or no restrictions in maneuverability. Drivers can maintain their desired speed with little or no delay.
- LOS B - A condition of road performance where traffic density is low and vehicles travel with operating speeds somewhat restricted by other vehicles. Drivers still have reasonable freedom to select their speeds.
- LOS C - A performance condition where operating speeds are determined by other vehicles, permitting a stable traffic flow. Drivers might have limitations to maneuver and to increase speeds.
- LOS D - A condition of road performance where traffic density is high but tolerable. Fluctuations in traffic volumes may cause reductions in operating speeds. Drivers have little freedom to maneuver. In some instances, traffic flows approach unstable conditions.
- LOS E - Represents traffic operation near the roadway capacity or maximum service volume. Vehicles flow at unstable conditions. Stop-and-go situations may happen. In freeways or limited access roads, speeds are near thirty (30) miles per hour and traffic density is high.
- LOS F - This condition usually results from long lines of vehicles backing up because the traffic volume exceeds the roadway capacity. The vehicles are forced to operate at very low speeds. Stop-and-go situations are frequent and in extreme cases, vehicles stop for long periods of time.

The revised 1998 FDOT Generalized Tables were used to evaluate roadway performance in the City of Leesburg are shown on Table II- 5. The 1998 FDOT Generalized Tables are expressed in terms of peak hour directional volumes and account for peaking characteristics within the hour. Peak hour directional tables are provided because traffic-engineering analyses are conducted on an hourly or sub-hourly basis. The travel demand model results are expressed in average daily traffic (ADT). The K factor utilized to convert ADT into peak hour directional traffic were 0.092 for roads in urbanized areas, and 0.094 for roads in transitional areas.

Table II- 6 shows the existing levels of service for each major thoroughfare in Leesburg. A

level-of-service analysis was performed to determine existing deficiencies. The capacity analysis was based on the FDOT Generalized Peak Hour Directional Maximum Service Volumes for different roadway types.

As represented in Table II- 6, several road segments within the City of Leesburg have a LOS F, which results from the "funnel effect" associated with Lakes Harris and Griffin, as well as from a high volume of through-traffic, such as truck routes, utilizing segments of U.S. 441 and S.R. 44.

The inventory and analysis of the existing traffic circulation conditions involved reviewing the physical and operational characteristics of the major thoroughfares serving the City of Leesburg, measuring its performance using the 1998 FDOT Generalized Tables maximum service volumes by level of service. Traffic counts taken by FDOT in 2000 were compared with the figures included in the model for validation. The counts were very close with the exception of US 27, between CR48 and the City's south City limits.

Table II- 6 and Map II- 8 show the current traffic conditions in the City of Leesburg. Several roadway segments tested exceed the physical capacity of the facility. All those that are deficient, however, are either State or County roads.

3. Future Roadway Performance

The Florida Standard Urban Transportation Model Structure (FSUTMS) was used for all of the city's travel demand forecasting. Consistency with the Lake County model data and traffic zone structure was maintained through the process in forecasting the City's travel demand.

a. Projected Levels of Service

Table II- 7 shows the 2010 and 2020 traffic conditions. Several State and County roadways will perform below the adopted level of service standards. The County and local roads that have a level of service F under the 2020 cost feasible scenario are as follows:

- U.S. 27 - from C.R. 48 to C.R. 33, from C.R. 33 to S.R. 44, from S.R. 44 to Main Street, and from Main Street to U.S 441/CR44A.
- U.S. 27/441 - U.S 441/CR44A to 466A and from 466A to 0.3 miles north of CR 25A.
- U.S. 441 – from U.S. 27 to S.R. 44, from S.R. 44 to Radio Road, and from Radio Road to 0.78 miles east of C.R. 473
- S.R. 44 - from Sumter County to C.R. 468, from Lone Oak Drive to U.S. 27, and from U.S. 27 to Main Street.

This LOS F is due to the funnel effect caused by natural features, a condition which cannot be changed, and is therefore, beyond the City's control. One example is Main Street, which is constrained. C.R. 470, however, will be improved when the

interchange is built. The City is not responsible for improvements to State or County roads.

The City of Leesburg has limited financial resources to address all of the potential traffic circulation system needs identified in its Traffic Circulation Element. Therefore, intergovernmental coordination is critical. The Lake County 2020 Transportation Plan provides a list of committed roadway projects and transportation studies impacting the City of Leesburg. Table II- 8 shows the applicable road projects contained in that plan. The traffic simulation process was accomplished in the following steps.

b. Methodology

(1) Transportation Network Development

Network development is the process of simulating alternative roadway and transit systems through computer modeling. The Lake County model provided the base year and future model data for simulation.

(2) Trip Generation

Trip Generation is performed by converting socioeconomic variables to person trips through a series of multiple regression equations. The outputs from this process are trip productions and attractions by traffic zone and by trip purpose. The six basic trip purposes are: Home-Based Work, Home-Based Personal Business, Home-Based Social-Recreational, Home-Based Shopping, Home-Based School, and Non-Home Based.

Special generators are land uses with unusual trip production and attraction features such as airports, colleges or universities. The socio-economic summary information for the traffic zones within the City of Leesburg is shown in Table II- 3.

(3) Trip Distribution

The Trip Distribution process is based on a "Gravity" simulation and trips are directly distributed depending on land use attractiveness and inversely distributed depending on travel time and distances. If the concentration of land uses is intense, more trips get distributed. Inversely, if the travel time and distances are longer, fewer trips get distributed. The trip distribution module from the model was used to assess the future transportation conditions.

(4) Mode Split

Mode Split is used to determine the proportion of person trips by transportation mode. The model provided is a "Highway Only" model and no transit lines are included. The impact of transit ridership on traffic assignment is not significant enough to warrant its inclusion.

(5) Trip Assignment

The Trip Assignment process simulates how many automobiles and buses are traveling on the transportation system. In this process, trips produced in one traffic zone are "added" according to the distribution patterns, into different roadways conducing to all other traffic zones. This process is repeated until all traffic zones are assigned and equilibrium is reached. An Equilibrium Assignment process was used in the model to estimate the future traffic conditions. Traffic count information from all available sources was provided and was compared with the actual model results for general validation purposes.

4. Other Transportation Systems

The City's current transportation network is based primarily on a road network serving vehicular traffic. At this time, there is little occurring with other means of transportation. The City needs to continue establishing facilities that will encourage the use of alternative transportation systems.

Bicycling is a viable mobility alternative. Bicycle networks provide a commuting alternative as well as a recreational asset. The City has made efforts to establish a bicycle system. It is the policy of FDOT to consider adding bicycle facilities to arterials, and wide curb lanes to collectors when the roads are improved within urbanized areas. The City will need to closely coordinate with the County and FDOT to achieve a more efficient and integrated bicycle system within the City.

Pedestrian mobility is greatly influenced by the mix and proximity of land uses as well as the availability of adequate sidewalks and other pedestrian facilities. Adequate land uses and appropriate urban design would encourage walking for short trips and for accessing transit facilities and services. The City's Land Development Code currently requires developers to provide sidewalks in new subdivisions.

Parking is an essential component of the overall transportation system. The decision of a commuter to drive alone or to use alternative transportation modes such as ride-sharing or public transit depends to a large extent on the cost, accessibility and availability of parking. As the City grows the need for these types of facilities will increase.

Public transit improvements offer the potential to significantly increase the capacity of the transportation network. One average size bus at capacity can carry as many passengers (approximately 40 persons) as 10 or more private automobiles. Successful transit systems emphasize the land use and travel demand relationship necessary to address congestion problems. The most important factors in encouraging transit use are mixed land uses and an urban form, which provides street connectivity and access to the pedestrian, transit and bikeway systems.

Transit facilities and multi-modal terminals also are important for the success of the transit system. These facilities allow for transfers among the various modes within the transportation system.

Public transit level of service criteria is based on the operational and service characteristics of the transit system. Operational characteristics include the number of vehicles operated in maximum service, the amount of service supplied, the average speed, and the number of days the service is provided. Service characteristics include geographic location and service area population. The local transit provider normally monitors these characteristics, but as the public transit system in Leesburg expands, the City could be monitoring levels of service for transit performance based on headway standards. Headway is the time that separates vehicles moving in the same direction on the same route or track. The emphasis should be on reducing headways to encourage public transit ridership.

5. Future Transportation Plan

This section provides recommendations for creating a safe, convenient, and energy efficient transportation system, coordinated with future land uses, plans and programs of Lake County and FDOT.

Since World War II, roadways have been designed primarily for automobiles. Very little attention has been given to accommodating other modes of transportation such as bicycles, pedestrians, and transit. The goal of this Traffic Circulation Element is to look at roads as multi-modal transportation corridors, and design them accordingly.

Intergovernmental coordination is essential for the most cost-effective provision of transportation system improvements. Clearly, the City of Leesburg does not possess the resources nor is it fiscally responsible for the entire transportation system within the City. Lake County and FDOT have financial responsibility for county roads and state highway system roads, respectively. Therefore, it is necessary for the City to review the transportation improvement plans and programs prepared by the County and FDOT. In this way, the effort and dollars expended by the City to improve its traffic circulation system may be complemented and perhaps enhanced by the activities of the County and FDOT.

One area of coordination should include the preservation and protection of rights-of-way for identified future roadway improvements and construction. With the escalating value of land and costs entailed in right-of-way acquisition it is essential that the City protect roadway corridors in advance from building encroachment. Increased right-of-way costs reduce the funds available for actual construction. The City needs to utilize such techniques as setback requirements, zoning restrictions, right-of-way protection regulations and official transportation maps to preserve and protect existing and future rights-of-way. Other measures are discussed in the policy section.

a. Future Transportation Map

The purpose of a Transportation Map is to graphically depict the location of all proposed transportation systems. Based on the fact that Leesburg is served by a number of County roads, and only one City road (Thomas Avenue) is not performing at unacceptable levels, not many improvements will be necessary in terms of new City road construction. Instead, future improvements will concentrate on upgrading certain roads to handle increased traffic, and coordinating with the County. Map II- 10 presents the proposed Future Transportation Map for the City

of Leesburg. This map shows the proposed roadway functional classification and number of lanes for each roadway segment. Roadway capacity is based on the functional classification and number of lanes. The level of service standard selected for each roadway was based either on its present or forecasted performance. The map shows the network as it is planned for the year 2020, with several roads at a LOS D, which is an acceptable standard. The map accounts for roadway projects included in the DOT and County programs (see Table II- 8).

Future roadway design will need to incorporate bicycle, pedestrian and transit features to achieve a true multi-modal system. In addition to incorporating roadway design standards in the City's Land Development Code, the City will start requiring that new developments be interconnected to enhance the transportation network. Development design must provide connectivity and access between adjacent residential developments and nearby land uses. Traffic calming techniques can be used to protect neighborhoods.

b. Future Pedestrian Plan

The analysis of existing pedestrian conditions found that in order to develop a pedestrian improvement/construction program, a citywide inventory of sidewalks, crosswalks and other pedestrian facilities must be completed. By identifying missing links in the pedestrian system, the inventory will allow prioritization of improvements. Implementation of these improvements will provide pedestrian connectivity to the overall transportation system.

c. Future Bicycle Plan

The existing bicycle path system needs to be expanded. According to the County's 2020 Transportation Plan, it is the policy of FDOT to consider adding bicycle facilities to arterials, and wide curb lanes to collectors when the roads are improved within urbanized areas. The City will be closely coordinating with the County and the State to make sure that any new bicycle paths/lanes are integrated into the City system. Map II- 6 shows the existing and proposed bicycle system.

Table II- 1: Major Thoroughfares

ROAD NAME	From	To	Jurisdiction	Group	Lanes/Type
FREEWAYS					
Florida's Turnpike	North of CR 470 interchange	--	State	T	4D
	South of CR 470 interchange	--	State	T	4D
PRINCIPAL ARTERIALS					
U.S. 27	South of CR 470	CR 470	State	T	4D
	CR 470	CR 33	State	T	4D
	CR 33	S.R. 44	State	T	4D
	S.R. 44	Main St.	State	U	4D
	Main St.	US 441/CR 44A	State	U	4D
U.S. 27/441	U.S. 441/CR 44A	CR 466A	State	U	4D
	CR 466A	0.3 mi. N of CR 25A	State	T	4D
U.S. 441	U.S. 27	S.R. 44	State	U	4D
	S.R. 44	Radio Road	State	U	4D
	Radio Road	0.78 mi. E of CR 473	State	U	4D
MINOR ARTERIALS					
S.R. 44	Sumter County	C.R. 468	State	T	4U
	Main St./C.R. 468	Lone Oak Dr.	State	U	4U
	Lone Oak Dr.	U.S. 27	State	U	4U
	U.S. 27	Main St.	State	U	4U
Main St.	U.S. 441	U.S. 27	County	U	2U
	U.S. 27	SR 44 (Dixie Ave.)	County	U	2U
	SR 44 (Dixie Ave.)	U.S. 441	County	U	2U

ROAD NAME	From	To	Jurisdiction	Group	Lanes/Type
CR 48	South City Limits	Florida's Turnpike	County	T	2U
	Florida's Turnpike	CR 33	County	T	2U
CR 470	West of Florida's Turnpike		County	T	2U
	Florida's Turnpike	CR 33	County	T	2U
	CR 33	US 27	County	T	2U
	East of US 27		County	T	2U
CR 33	Florida's Turnpike	CR 48	County	T	2U
	CR 48	CR 470	County	T	2U
	CR 470	US 27	County	T	2U
MAJOR COLLECTORS					
C.R. 44	U.S. 441	W. of Lisbon Bridge	County	T	2U
C.R. 44A (Griffin Road)	Thomas Ave.	U.S. 441/27	County	U	2U
C.R. 44C	C.R. 468	Thomas Ave.	County	U	2U
Thomas Ave.	Main St.	C.R. 44A/44C	City	U	2U
Lone Oak Dr.	Main St.	C.R.44	City	U	2U
Lee St.	Main St.	C.R. 44A/44C	City	U	2U
Canal St.	S.R. 44	U.S. 441 (S.R. 500)	City	U	2U
Lake St.	S.R. 44	U.S. 441 (S.R. 500)	City	U	2U
CR 466A	North of US 441		County	U	2U
CR 460 (Thomas Ave.)	CR 44A	US 441	County	U	2U
CR 25A	North of the CR 460/US 441 intersection		County	U	2U
MINOR COLLECTORS					
C.R. 473	C.R. 44	California St.	County	T	2U

ROAD NAME	From	To	Jurisdiction	Group	Lanes/Type
	California St.	U.S. 441	County	T	2U
C.R. 499/Silver Lake	U.S. 441	C.R. 44	County	T	2U
Radio Rd.	C.R. 44	Jackson Rd.	County	T	2U
	Jackson Rd.	U.S. 441	County	T	2U
C.R. 466A	U.S. 441	End of Picciola Dr.	County	T	2U
C.R. 468	Jct. S.R.44 &	C.R. 466A	County	T	2U
Sunnyside Dr.	South of S.R. 44		County	T	2U

NOTES:
Functional Classification as defined by Chapter 335, Florida Statutes; Arterial Group as classified by Lake County.
# of Lanes: D - Divided (physical median), U - no median or continuous left turn lane.
Group: T-Transitional; U-Urban

Sources: City of Leesburg, 2020 Lake County Transportation Plan and model, and Land Design Innovations, Inc., 2002.

Table II- 2: Accident Locations, 2000

Road	Cross Reference	# Accidents
Main Street	Lake Street	11
SR 25	Akron Drive	11
SR 25	Center Street	18
SR 25	Citizens Blvd.	22
SR 25	CR 460	26
SR 25	Griffin Road	36
SR 25	Main Street	23
SR 25	Picciola Road	17
SR 25	SR 44	35
SR 25	Sunshine Avenue	19
SR 25	Tally Road	13
SR 44	College Drive	30
SR 44	CR 44	48
SR 44	Flamingo Drive	12
SR 44	Ice Cream Road	10
SR 44	Lake Street	11
SR 44	Main Street	15
SR 44	SR 500	24
SR 500	3rd Street	14
SR 500	Canal Street	13
SR 500	East Main Street	10
SR 500	Lee Street	14
SR 500	Palmetto Street	11
SR 500	Perkins Street	10

Note: Tables shows intersections with 10 or more accidents.
Source: City of Leesburg Police Department and Land Design Innovations, Inc., July 2002

Table II- 3: Socio-Economic Data

TAZ	1995			2010			2020		
	Total Units	Hotel Rooms	Employment	Total Units	Hotel Rooms	Employment	Total Units	Hotel Rooms	Employment
70	820	0	963	1,085	0	963	1,262	0	963
71	408	0	77	500	0	77	561	0	77
72	439	0	282	554	0	556	630	0	658
105	619	61	568	619	61	581	619	61	600
106	1,013	30	1,004	1,098	30	1,031	1,155	30	1,068
107	510	36	551	884	36	589	1,134	36	643
110	532	0	953	552	0	1,380	566	0	1956
111	406	0	388	441	0	819	465	0	1,407
112	517	53	504	550	53	913	572	53	1,485
113	350	0	1,915	350	0	2,034	350	0	2,197
114	576	0	1,026	584	0	1,051	589	0	1,085
115	336	0	930	682	0	996	912	0	962
116	252	0	247	363	0	580	437	0	1,041
145	725	0	1,970	823	0	1,992	888	0	2,024
146	469	20	501	536	20	905	581	20	1,451
147	554	49	910	598	49	967	627	49	1,044
148	425	153	105	474	153	219	507	153	382
149	546	83	957	617	83	957	664	83	957
150	237	0	1,205	317	0	1,205	371	0	1,205
TOTAL	**9,734**	**485**	**15,056**	**11,627**	**485**	**17,815**	**12,890**	**485**	**21,205**

TAZ = Traffic Analysis Zone
NOTE: The Traffic Analysis Zones include areas outside the City boundaries. Therefore, total TAZ population figures do not coincide with City population figures.
Source: Lake County Model Files 1995-2020, Land Design Innovations, Inc., February 2002.

Table II- 4: FDOT Minimum Level of Service Standards

	Transitioning Urbanized Areas, Urban Areas, or Communities	Urbanized Areas Under 500,000	Urbanized Areas Over 500,000	Roadways Parallel to Exclusive Transit Facilities	Inside Transportation Concurrency Management Areas	Constrained and Backlogged Roadways
INTRASTATE						
Limited Access Highway (Freeway)	C	C(D)	D(E)	D(E)	D(E)	Maintain
Controlled Access Highways	C	C	D	E	E	Maintain
OTHER STATE ROADS						
Two-Lane	C	D	D	E	*	Maintain
Multilane	C	D	D	E	*	Maintain

* Means the level of service standard will be set in a transportation mobility element that meets the requirements of Rule 9J-5.0057.

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

SOURCE: FDOT 1998 Level of Service Handbook.

Table II- 5: Generalized Tables – Peak Hour Directional Volumes (Page 1 of 2)

GENERALIZED PEAK HOUR PEAK DIRECTIONAL VOLUMES FOR FLORIDA'S URBANIZED AREAS*

STATE TWO- WAY ARTERIALS

UNINTERRUPTED FLOW

Unsignalized

Lanes/ Divided	Level of Service A	B	C	D	E
2 Undivided	460	720	980	1,280	1,710
4 Divided	1,110	1,850	2,590	3,110	3,700
6 Divided	1,670	2,780	3,890	4,660	5,550

INTERRUPTED FLOW

Class I (>0.00 to 1.99 signalized intersections per mile)

Lanes/ Divided	Level of Service A**	B	C	D***	E***
2 Undivided	N/A	570	820	880	880
4 Divided	N/A	1,240	1,750	1,850	1,850
6 Divided	N/A	1,890	2,640	2,780	2,780
8 Divided	N/A	2,390	3,240	3,400	3,400

Class II (2.00 to 4.50 signalized intersections per mile)

Lanes/ Divided	Level of Service A**	B**	C	D	E
2 Undivided	N/A	N/A	520	790	850
4 Divided	N/A	N/A	1,210	1,710	1,810
6 Divided	N/A	N/A	1,880	2,580	2,730
8 Divided	N/A	N/A	2,360	3,180	3,350

Class III (more than 4.50 signalized intersections per mile and not within primary city central business district of urbanized area over 500,000)

Lanes/ Divided	Level of Service A**	B**	C	D	E
2 Undivided	N/A	N/A	170	630	820
4 Divided	N/A	N/A	410	1,450	1,750
6 Divided	N/A	N/A	630	2,260	2,640
8 Divided	N/A	N/A	800	2,830	3,240

Class IV (more than 4.50 signalized intersections per mile and within primary city central business district of urbanized area over 500,000)

Lanes/ Divided	Level of Service A**	B**	C	D	E
2 Undivided	N/A	N/A	190	720	800
4 Divided	N/A	N/A	470	1,560	1,700
6 Divided	N/A	N/A	730	2,380	2,560
8 Divided	N/A	N/A	920	2,930	3,140

Source: The Florida Department of Transportation
Systems Planning Office
605 Suwannee Street - Mail Station 19
Tallahassee, Florida 32399-0450

http:/ / www.dot.state.fl.us/ planning

FREEWAYS

Group 1 (within urbanized area over 500,000 and leading to or passing within 5 miles of the primary city central business district)

Lanes	Level of Service A	B	C	D	E
4	1,060	1,720	2,570	3,310	4,090
6	1,630	2,630	3,950	5,080	6,270
8	2,220	3,590	5,390	6,930	8,550
10	2,780	4,490	6,730	8,660	10,690
12	3,260	5,270	7,900	10,160	12,540

Group 2 (within urbanized area and not in Group 1)

Lanes	Level of Service A	B	C	D	E
4	1,090	1,710	2,570	3,270	3,900
6	1,680	2,630	3,950	5,030	5,990
8	2,290	3,590	5,390	6,860	8,170
10	2,860	4,490	6,740	8,580	10,210
12	3,350	5,270	7,900	10,050	11,970

NON- STATE ROADWAYS

MAJOR CITY/COUNTY ROADWAYS

Lanes	Level of Service A**	B**	C	D	E
2 Undivided	N/A	N/A	440	760	830
4 Divided	N/A	N/A	1,030	1,640	1,750
6 Divided	N/A	N/A	1,590	2,470	2,640

OTHER SIGNALIZED ROADWAYS
(signalized intersection analysis)

Lanes	A**	B**	C	D	E
2 Undivided	N/	N/	250	560	620
4 Divided	N/	N/	600	1,230	1,310

ADJUSTMENTS

DIVIDED/UNDIVIDED

(alter corresponding directional volume indicated percent)

Lanes	Median	Left Turn Bays	Adjustment Factors
2	Divided	Yes	+5%
2	Undivided	No	-20%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

ONE- WAY

(alter corresponding directional volume indicated percent)

One- Way Lanes	Equivalent Two-Way Lanes	Adjustment Factors
2	4	+20%
3	6	+20%
4	8	+20%
5	8	+50%

* The 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. Values shown are hourly directional volumes for levels of service, and are based on the 1997 Update to the Highway Capacity Manual and Florida traffic, roadway, and signalization data. To convert to annual average daily traffic volumes, these volumes must be divided by an appropriate D factor and K100 factor (not peak-to-daily ratio). The table's input value assumptions and level of service criteria appear on the following page.

** Cannot be achieved.

*** Volumes are comparable because intersection capacities have been reached.

September 1998

Source: FDOT 1998 Level of Service Handbook, September 1998.

Table II-5: Generalized Tables – Peak Hour Directional Volumes (Page 2 of 2)

GENERALIZED PEAK HOUR PEAK DIRECTIONAL VOLUMES FOR FLORIDA'S AREAS TRANSITIONING INTO URBANIZED AREAS OR AREAS OVER 5000 NOT IN URBANIZED AREAS*

STATE TWO-WAY ARTERIALS

UNINTERRUPTED FLOW

Unsignalized Lanes/ Divided	Level of Service A	B	C	D	E
2 Undivided	440	690	930	1,230	1,640
4 Divided	1,090	1,820	2,520	3,010	3,500
6 Divided	1,630	2,730	3,780	4,520	5,260

INTERRUPTED FLOW

Class I (>0.00 to 1.99 signalized intersections per mile)

Lanes/ Divided	Level of Service A**	B	C	D***	E***
2 Undivided	N/A	540	770	830	830
4 Divided	N/A	1,170	1,630	1,750	1,750
6 Divided	N/A	1,790	2,460	2,630	2,630

Class II (2.00 to 4.50 signalized intersections per mile)

Lanes/ Divided	Level of Service A**	B**	C	D	E
2 Undivided	N/A	N/A	480	730	790
4 Divided	N/A	N/A	1,130	1,600	1,690
6 Divided	N/A	N/A	1,750	2,410	2,540

Class III (more than 4.50 signalized intersections per mile)

Lanes/ Divided	Level of Service A**	B**	C	D	E
2 Undivided	N/A	N/A	160	580	770
4 Divided	N/A	N/A	380	1,350	1,630
6 Divided	N/A	N/A	590	2,110	2,460

Source: The Florida Department of Transportation
Systems Planning Office
605 Suwannee Street - Mail Station 19
Tallahassee, Florida 32399-0450

http://www.dot.state.fl.us/planning

FREEWAYS

Lanes	Level of Service A	B	C	D	E
4	1,100	1,790	2,580	3,230	3,800
6	1,690	2,750	3,970	4,970	5,840
8	2,260	3,660	5,300	6,620	7,790
10	2,890	4,690	6,780	8,480	9,980

NON-STATE ROADWAYS

MAJOR CITY/COUNTY ROADWAYS

Lanes	Level of Service A**	B**	C	D	E
2 Undivided	N/A	N/A	420	710	780
4 Divided	N/A	N/A	980	1,550	1,660
6 Divided	N/A	N/A	1,520	2,340	2,490

OTHER SIGNALIZED ROADWAYS (signalized intersection analysis)

Lanes	Level of Service A**	B**	C	D	E
2 Undivided	N/A	N/A	230	530	580
4 Divided	N/A	N/A	560	1,160	1,240

ADJUSTMENTS

DIVIDED/UNDIVIDED

(alter corresponding directional volume indicated percent)

Lanes	Median	Left Turn Bays	Adjustment Factors
2	Divided	Yes	+5%
2	Undivided	No	-20%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

ONE- WAY

(alter corresponding directional volume indicated percent)

One-Way Lanes	Equivalent Two-Way Lanes	Adjustment Factors
2	4	+20%
3	6	+20%
4	6	+50%

* The 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. Values shown are hourly directional volumes for levels of service, and are based on the 1997 Update to the Highway Capacity Manual and Florida traffic, roadway, and signalization data. To convert to annual average daily traffic volumes, these volumes must be divided by an appropriate D factor and K100 factor (not peak-to-daily ratio). The table's input value assumptions and level of service criteria appear on the following page.

** Cannot be achieved.

*** Volumes are comparable because intersection capacities have been reached.

September 1998

Source: FDOT 1998 Level of Service Handbook, September 1998.

Table II- 6: Base Year Level of Service (2001)

ROAD NAME	From	To	Group	Lanes/Type	Peak D.	LOS
FREEWAYS						
Florida's Turnpike	North of CR 470 interchange	--	T	4D	2,119	C
	South of CR 470 interchange	--	T	4D	2,119	C
PRINCIPAL ARTERIALS						
U.S. 27	South of CR 470	CR 470	T	4D	827	C
	CR 470	CR 33	T	4D	1,085	C
	CR 33	S.R. 44	T	4D	1,909	F
	S.R. 44	Main St.	U	4D	1,280	D
	Main St.	US 441/CR 44A	U	4D	1,355	D
U.S. 27/441	U.S. 441/CR 44A	CR 466A	U	4D	2,552	F
	CR 466A	0.3 mi. N of CR 25A	T	4D	2,387	F
U.S. 441	U.S. 27	S.R. 44	U	4D	1,598	D
	S.R. 44	Radio Road	U	4D	3,251	F
	Radio Road	0.78 mi. E of CR 473	U	4D	2,730	F
MINOR ARTERIALS						
S.R. 44	Sumter County	C.R. 468	T	4U	1,295	E
	Main St./C.R. 468	Lone Oak Dr.	U	4U	1,231	D
	Lone Oak Dr.	U.S. 27	U	4U	1,184	D
	U.S. 27	Main St.	U	4U	1,481	F
Main St.	U.S. 441	U.S. 27	U	2U	835	E
	U.S. 27	SR 44 (Dixie Ave.)	U	2U	792	E
	SR 44 (Dixie Ave.)	U.S. 441	U	2U	627	D
CR 48	South City Limits	Florida's Turnpike	T	2U	134	C

ROAD NAME	From	To	Group	Lanes/Type	Peak D.	LOS
	Florida's Turnpike	CR 33	T	2U	143	C
CR 470	West of Florida's Turnpike	--	T	2U	315	C
	Florida's Turnpike	CR 33	T	2U	482	C
	CR 33	US 27	T	2U	384	C
	East of US 27	--	T	2U	428	C
CR 33	Florida's Turnpike	CR 48	T	2U	129	C
	CR 48	CR 470	T	2U	239	C
	CR 470	US 27	T	2U	682	D
MAJOR COLLECTORS						
C.R. 44	U.S. 441	W. of Lisbon Bridge	T	2U	670	C
C.R. 44A (Griffin Road)	Thomas Ave.	U.S. 441/27	U	2U	676	C
C.R. 44C	C.R. 468	Thomas Ave.	U	2U	69	C
Thomas Ave.	Main St.	C.R. 44A/44C	U	2U	465	D
Lone Oak Dr.	Main St.	C.R.44	U	2U	204	C
Lee St.	Main St.	C.R. 44A/44C	U	2U	394	C
Canal St.	S.R. 44	U.S. 441 (S.R. 500)	U	2U	447	D
Lake St.	S.R. 44	U.S. 441 (S.R. 500)	U	2U	250	C
CR 466A	North of US 441		U	2U	515	D
CR 460 (Thomas Ave.)	CR 44A	US 441	U	2U	109	C
CR 25A	North of the CR 460/US 441 intersection		U	2U	167	C
MINOR COLLECTORS						
C.R. 473	C.R. 44	California St.	T	2U	295	C
	California St.	U.S. 441	T	2U	689	C
C.R. 499/Silver Lake	U.S. 441	C.R. 44	T	2U	179	C
Radio Rd.	C.R. 44	Jackson Rd.	T	2U	183	C
	Jackson Rd.	U.S. 441	T	2U	404	C

ROAD NAME	From	To	Group	Lanes/Type	Peak D.	LOS
C.R. 466A	U.S. 441	End of Picciola Dr.	T	2U	653	C
C.R. 468	Jct. S.R.44 &	C.R. 466A	T	2U	378	C
Sunnyside Dr.	South of S.R. 44	--	T	2U	125	C

Note: Number of Lanes does not include center-turning lanes. Group: T=Transitioning; U=Urban
Source: Lake County, City of Leesburg Traffic Circulation Element, FDOT 1998 Level of Service Handbook Generalized Tables, Land Design Innovations, Inc., 2002.

Table II- 7: Projected Levels of Service (2010 & 2020)

ROAD NAME	From	To	2010 Cost Feasible Model			2020 Needs Model			2020 Cost Feasible Model		
			# Lanes	Peak D.	LOS	# Lanes	Peak D.	LOS	# Lanes	Peak D.	LOS
FREEWAYS											
Florida's Turnpike	North of CR 470 interchange		4D	2,243	C	4D	3,509	C	4D	3,509	C
	South of CR 470 interchange		4D	2,243	C	4D	2,520	C	4D	2,695	C
PRINCIPAL ARTERIALS											
U.S. 27	South of CR 470	CR 470	4D	876	C	4D	1,056	C	4D	1,326	D
	CR 470	CR 33	4D	1,740	E	4D	1,472	D	4D	2,123	F
	CR 33	S.R. 44	4D	2,546	F	4D-6D	3,149	F	4D-6D	3,385	F
	S.R. 44	Main St.	4D	1,550	D	4D	2,086	F	4D	1,984	F
	Main St.	US 441/CR 44A	4D	1,523	D	4D	2,071	F	4D	1,866	F
U.S. 27/441	U.S. 441/CR 44A	CR 466A	6D	3,313	F	6D	2,881	F	6D	4,082	F
	CR 466A	0.3 mi. N of CR 25A	6D	2,903	F	6D	2,402	D	6D	3,585	F
U.S. 441	U.S. 27	S.R. 44	6D	2,339	D	6D	1,464	C	6D	2,880	F
	S.R. 44	Radio Road	6D	3,396	F	6D	2,948	F	6D	4,140	F
	Radio Road	0.78 mi. E of CR 473	6D	2,522	D	6D	2,688	E	6D	3,071	F
MINOR ARTERIALS											
S.R. 44	Sumter County	C.R. 468	4U	1,195	D	4U	1,439	F	4U	1,454	F
	Main St./C.R. 468	Lone Oak Dr.	4U	786	C	4U	767	C	4U	793	C
	Lone Oak Dr.	U.S. 27	4U	1,249	D	4U	1,120	D	4U	1,755	F
	U.S. 27	Main St.	4U	1,468	F	4U	1,684	F	4U	1,825	F

ROAD NAME	From	To	2010 Cost Feasible Model			2020 Needs Model			2020 Cost Feasible Model		
			# Lanes	Peak D.	LOS	# Lanes	Peak D.	LOS	# Lanes	Peak D.	LOS
Main St.	U.S. 441	U.S. 27	2U	1,063	F	2U	1,478	F	2U	1,219	F
	U.S. 27	SR 44 (Dixie Ave.)	2U	574	D	2U	791	E	2U	587	D
	SR 44 (Dixie Ave.)	U.S. 441	2U	345	C	2U	916	F	2U	508	C
CR 48	South City Limits	Florida's Turnpike	2U	220	C	2U	308	C	2U	312	C
	Florida's Turnpike	CR 33	2U	233	C	2U	322	C	2U	330	C
CR 470	West of Florida's Turnpike		2U	505	C	2U	695	D	2U	693	D
	Florida's Turnpike	CR 33	2U	916	F	4U	1,364	F	2U	1,254	F
	CR 33	US 27	2U	989	F	4U	539	C	2U	1,058	F
	East of US 27		2U	622	D	4U	677	C	2U	778	D
CR 33	Florida's Turnpike	CR 48	2U	173	C	2U	167	C	2U	183	C
	CR 48	CR 470	2U	341	C	4U	442	C	2U	451	C
	CR 470	US 27	2U	597	D	4U	1,654	F	4U	1,088	D
MAJOR COLLECTORS											
C.R. 44	U.S. 441	W. of Lisbon Bridge	2U	859	F	2U	1,093	F	2U	1,093	F
C.R. 44A (Griffin Road)	Thomas Ave.	U.S. 441/27	2U	463	C	2U	549	C	2U	581	C
C.R. 44C	C.R. 468	Thomas Ave.	2U	89	C	2U	71	C	2U	150	C
Thomas Ave.	Main St.	C.R. 44A/44C	2U	639	D	2U	823	E	2U	871	F
Lone Oak Dr.	Main St.	C.R.44	2U	266	C	2U	335	C	2U	354	C
Lee St.	Main St.	C.R. 44A/44C	2U	514	D	2U	647	D	2U	684	D
Canal St.	S.R. 44	U.S. 441 (S.R. 500)	2U	584	D	2U	735	D	2U	777	E
Lake St.	S.R. 44	U.S. 441 (S.R. 500)	2U	326	C	2U	410	C	2U	434	C
CR 466A	North of US 441		2U	772	E	2U	702	D	2U	696	D
CR 460 (Thomas Ave.)	CR 44A	US 441	2U	127	C	2U	239	C	2U	211	C

ROAD NAME	From	To	2010 Cost Feasible Model			2020 Needs Model			2020 Cost Feasible Model		
			# Lanes	Peak D.	LOS	# Lanes	Peak D.	LOS	# Lanes	Peak D.	LOS
CR 25A	North of the CR 460/US 441 intersection		2U	375	C	2U	319	C	2U	442	D
MINOR COLLECTORS											
C.R. 473	C.R. 44	California St.	2U	362	C	2U	442	C	N/A	N/A	N/A
	California St.	U.S. 441	2U	855	F	2U	1,049	F	N/A	N/A	N/A
C.R. 499/Silver Lake	U.S. 441	C.R. 44	2U	234	C	2U	295	C	N/A	N/A	N/A
Radio Rd.	C.R. 44	Jackson Rd.	2U	217	C	2U	259	C	N/A	N/A	N/A
	Jackson Rd.	U.S. 441	2U	471	D	2U	559	D	N/A	N/A	N/A
C.R. 466A	U.S. 441	End of Picciola Dr.	2U	866	F	2U	1,098	F	N/A	N/A	N/A
C.R. 468	Jct. S.R.44 &	C.R. 466A	2U	447	C	2U	535	C	N/A	N/A	N/A
Sunnyside Dr.	South of S.R. 44		2U	163	C	2U	205	C	N/A	N/A	N/A

Source: Lake County, City of Leesburg Traffic Circulation Element, FDOT 1998 Level of Service Handbook Generalized Tables, Land Design Innovations, Inc.

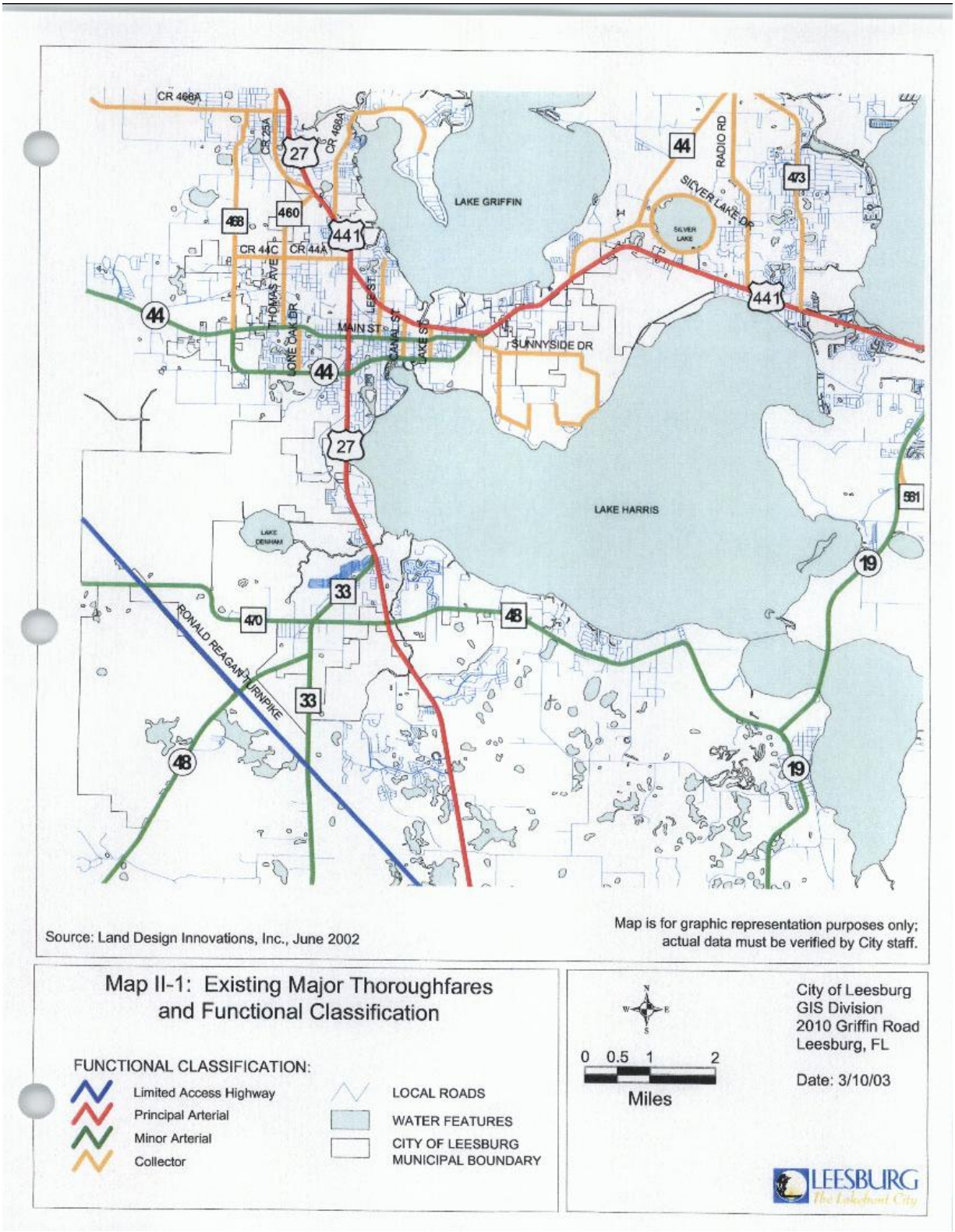
Table II- 8: Roadway Projects

Road	From	To	Improvement	Agency	Phase/Date
STATE					
Ronald Reagan Turnpike	At CR 470	---	Interchange	FDOT	Design & acquisition Now to Dec. 2002. Construction 2003 to 2005
Ronald Reagan Turnpike	At CR 470	---	Interchange Toll Plaza	FDOT	2002-2003
CR 44A (Griffin Road)	Thomas Avenue	U.S. 27	Safety Project	FDOT	2003
CR 470	SR 91	SR 25 US 27	Add lanes and reconstruct	FDOT	2002
SR 44	Sumter County Line	CR 468	Add lanes and reconstruct	FDOT	2002
SR 500 US 441	1500 feet South of SR 44	Picciola Road	Add lanes and reconstruct	FDOT	2002-2003
SR 500 US 441	Picciola Rd.	Boone Ct/Sumter County Line	P.D. & E/ EMO Study	FDOT	2005
SR 500 US 441	Picciola Rd	Shadow Hill Road	Add lanes and reconstruct	FDOT	2005
SR 500 US 441	SR 44 Leesburg	College Road	Add lanes and reconstruct	FDOT	2002-2003
LAKE COUNTY CAPITAL IMPROVEMENT PROGRAM					
Griffin Road	C 468	US 27/441	Turn lanes, upgrade railroad crossing, signalization, sidewalks	County	2002-2003
C 44	US 441	SR 44	P.D. & E	County	2002-2003
C 470 & C 48 (Part)	Turnpike	US 27	P.D. & E, Design, and ROW	County	2002-2003
C 470 (Part) Phase II	2,620 feet west of Turnpike	C 33	Construct 4 lane road & Turnpike Overpass	County	2002-2003
C 44/-C 468	Intersection	---	Flashing beacon, turn lanes, and ROW	County	2002-2003
East Main Street/Lake Street	Intersection	---	Reconstruct & signalize	County	2002-2003
North Thomas Road Extension	Thomas Avenue/CR 1-5108	C 25A	Construct 24' road with sidewalks and ROW	County	2002-2003
Thomas Avenue CR 1-5108	Tally Road CR 1-510	C 460	Stormwater system retrofit – flooding problems	County	2002-2003

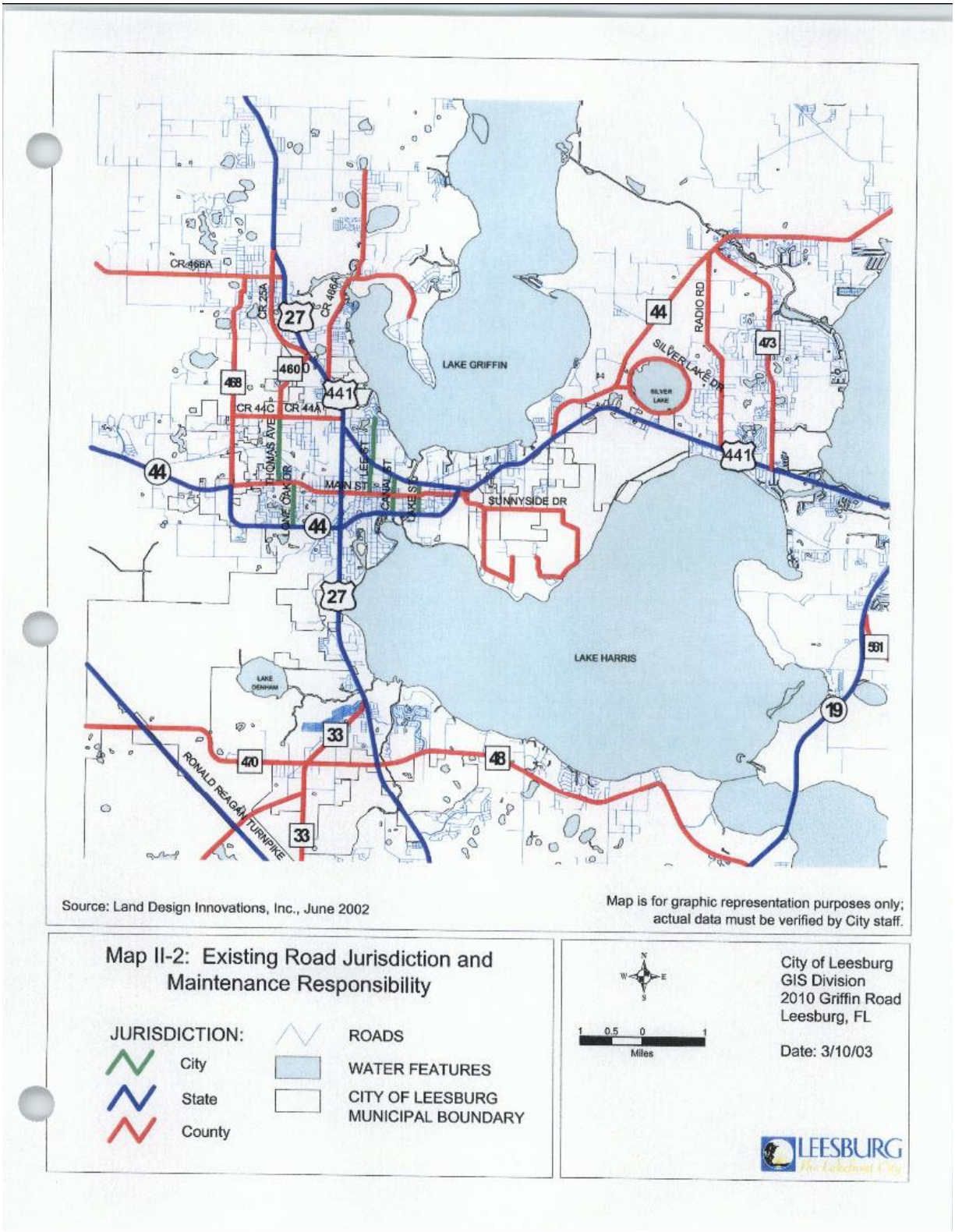
Road	From	To	Improvement	Agency	Phase/Date
Echo Road/US 441	Intersection	---	Align with C 44	County	2002-2003
C 44	US 441	SR 44	P.D.& E.	County	2002-2003
C 44/Sleepy Hollow Road CR1-4523	Intersection	---	Intersection improvements	County	2002-2003
Sleepy Hollow Road CR 1-4523	Sunnyside Drive CR 1-4122	US 441	Widen, sidewalks	County	2002-2003
Radio Road CR 1/3-5433	Shademoor Drive	Jackson Road	Widen to 30', improve Treadway School Road intersection	County	2002-2003
C460 East-West Connector	Thomas Avenue	C 468	Construct 24'/2 lane road	County	2002-2003
US 441	Lakes Boulevard	SR 44	Participation with FDOT – construction of pedestrian facility	County	2002-2003
C 468	SR 44	C 460	Four lane	County	2002-2003
LAKE COUNTY 2020 TRANSPORTATION PLAN					
CR 44	CR 44A	SR 44	Add 2 lanes for a total of 4.	County	Phase 2
CR 44B	US 441	SR 44	Add 2 lanes for a total of 4.	County	Phase 2
CR 44	US 441	Eustis	Corridor study	County	NA

(*) Includes the 5-mile segment noted in FDOT Project Number 2383151.
Phase 2 – 2003 to 2010; Phase 3 – 2011 to 2020
Source: Lake County Capital Improvement Program 2002-2003, Lake County Transportation Plan, and Land Design Innovations, Inc., August 2002. .

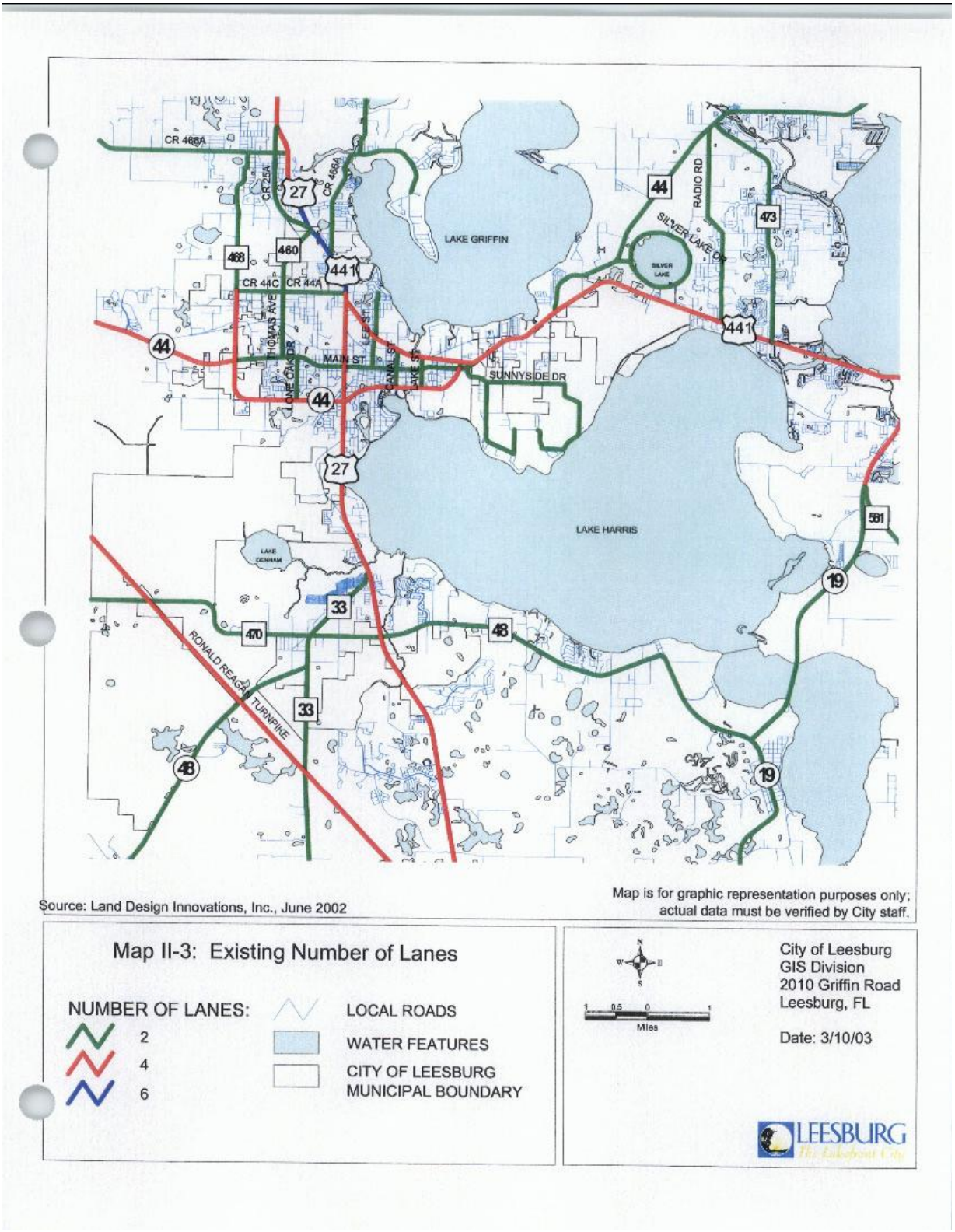
Map II- 1: Existing Major Thoroughfare and Functional Classification



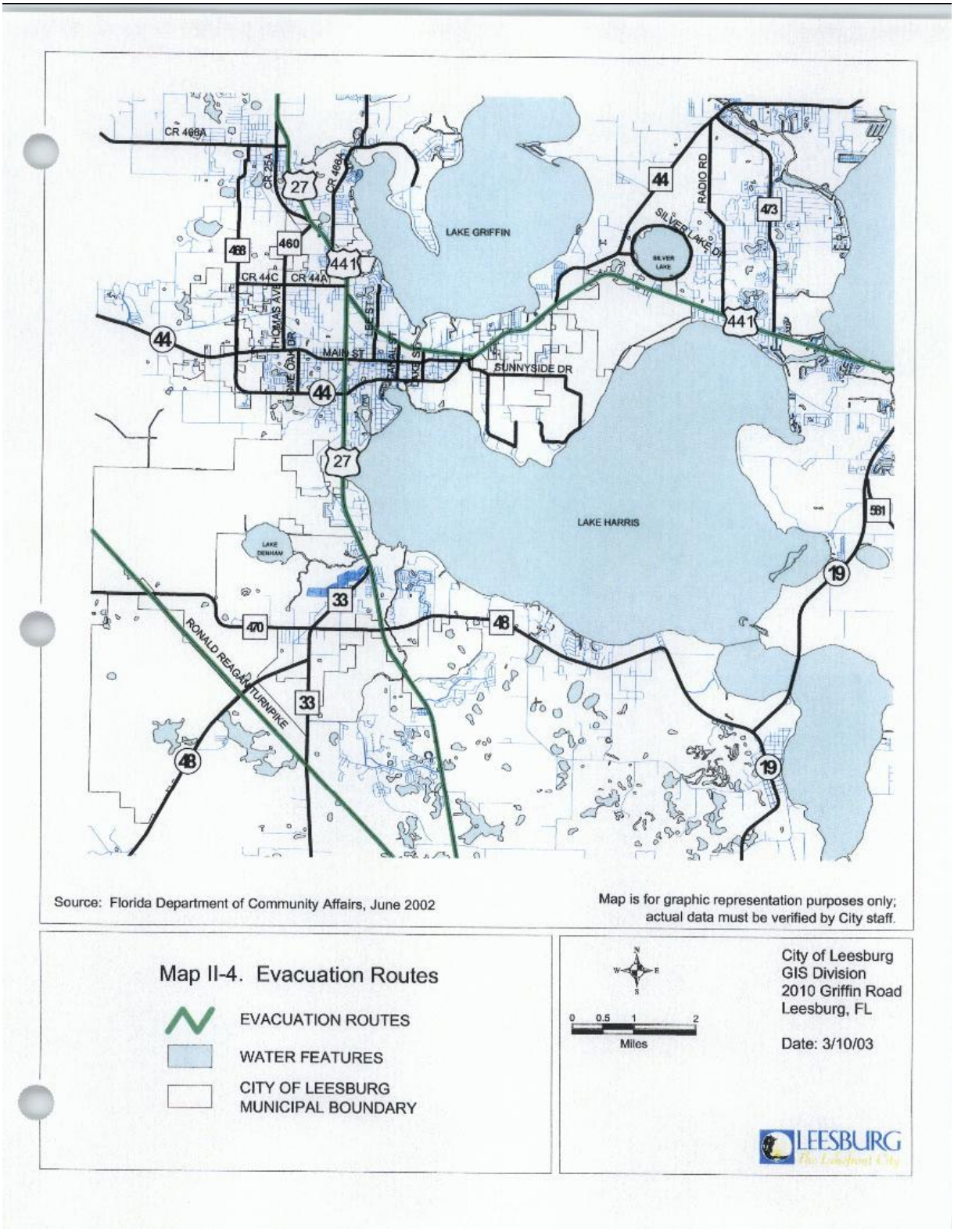
Map II- 2: Existing Road Jurisdiction and Maintenance Responsibility



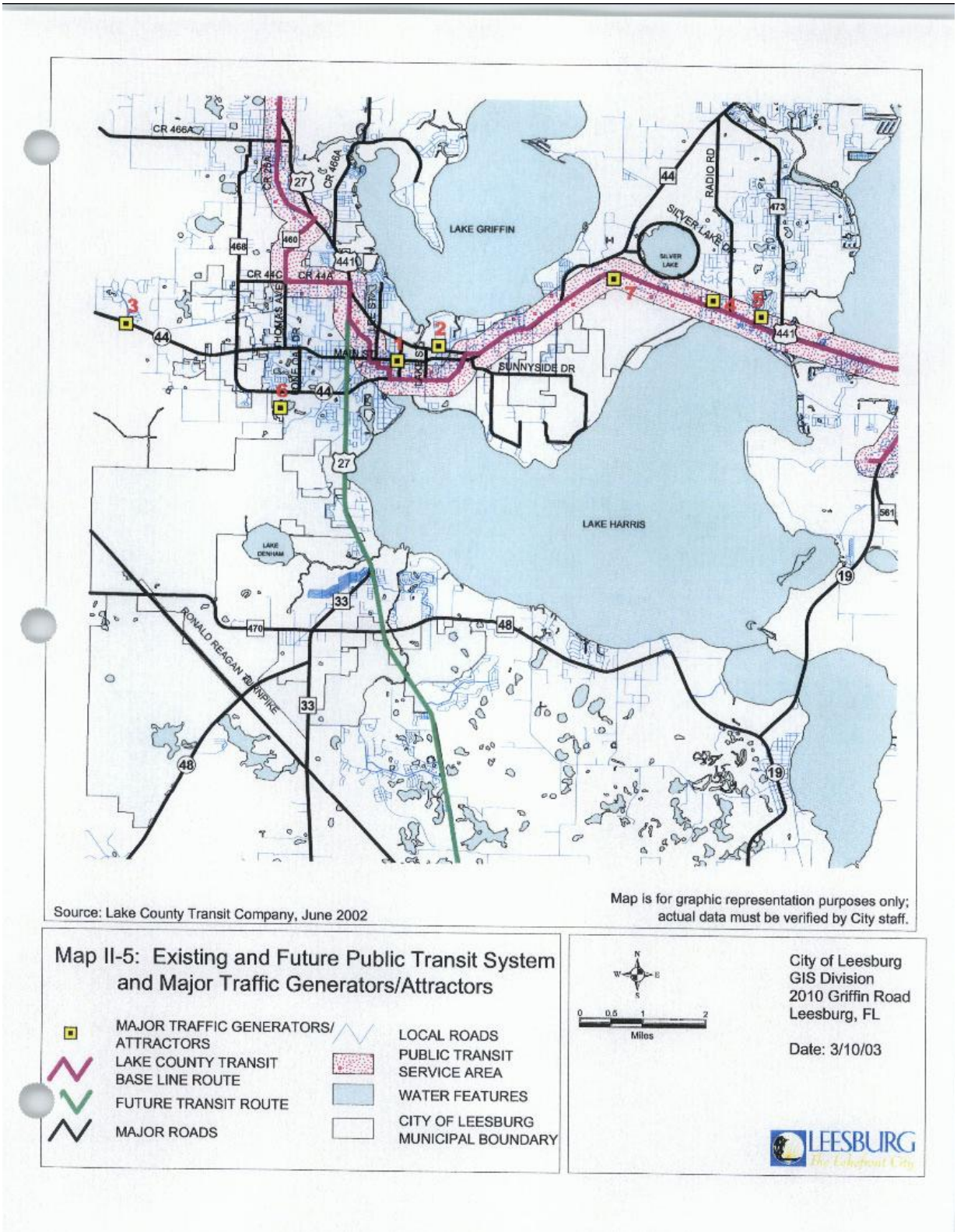
Map II- 3: Existing Number of Lanes



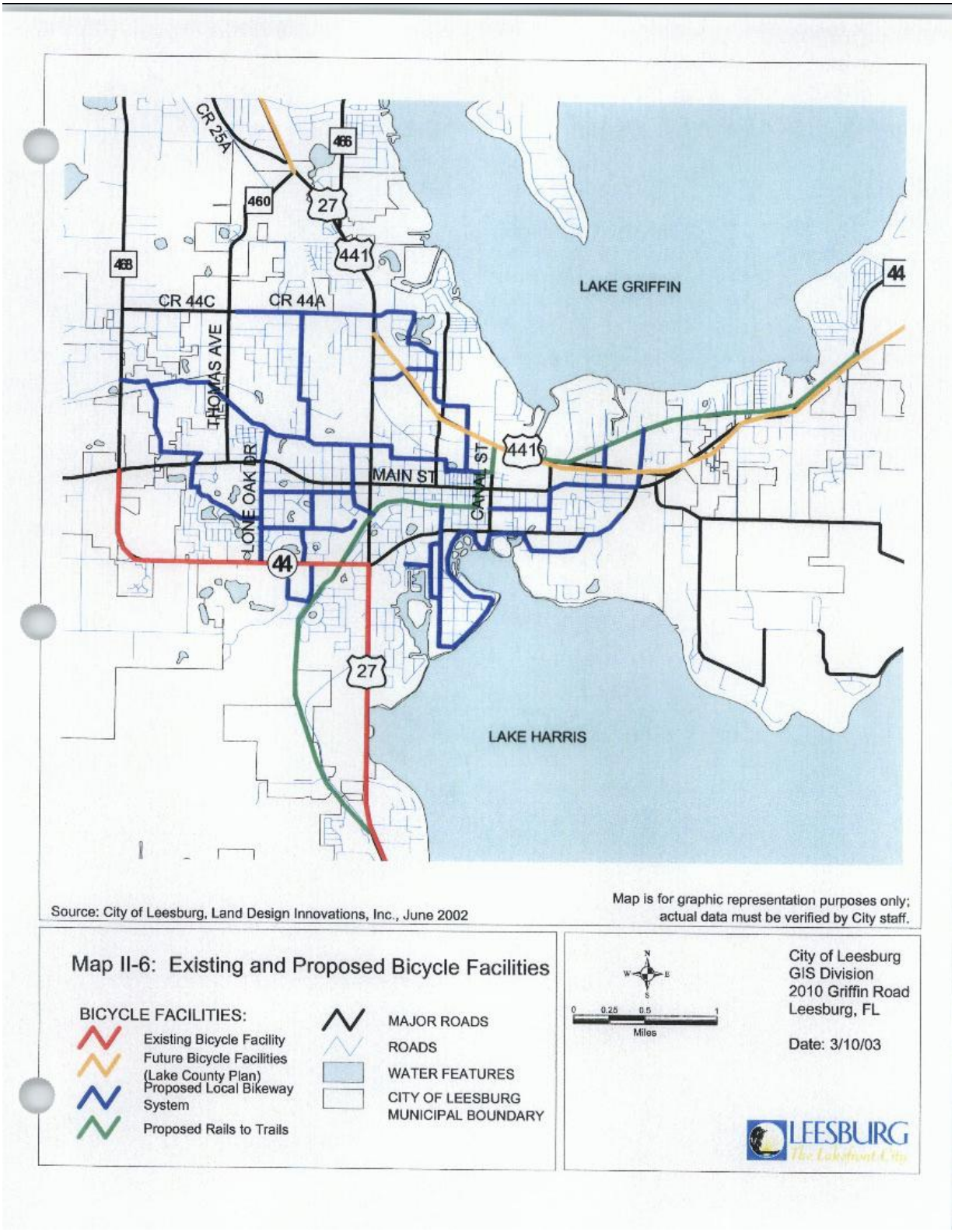
Map II- 4: Evacuation Routes



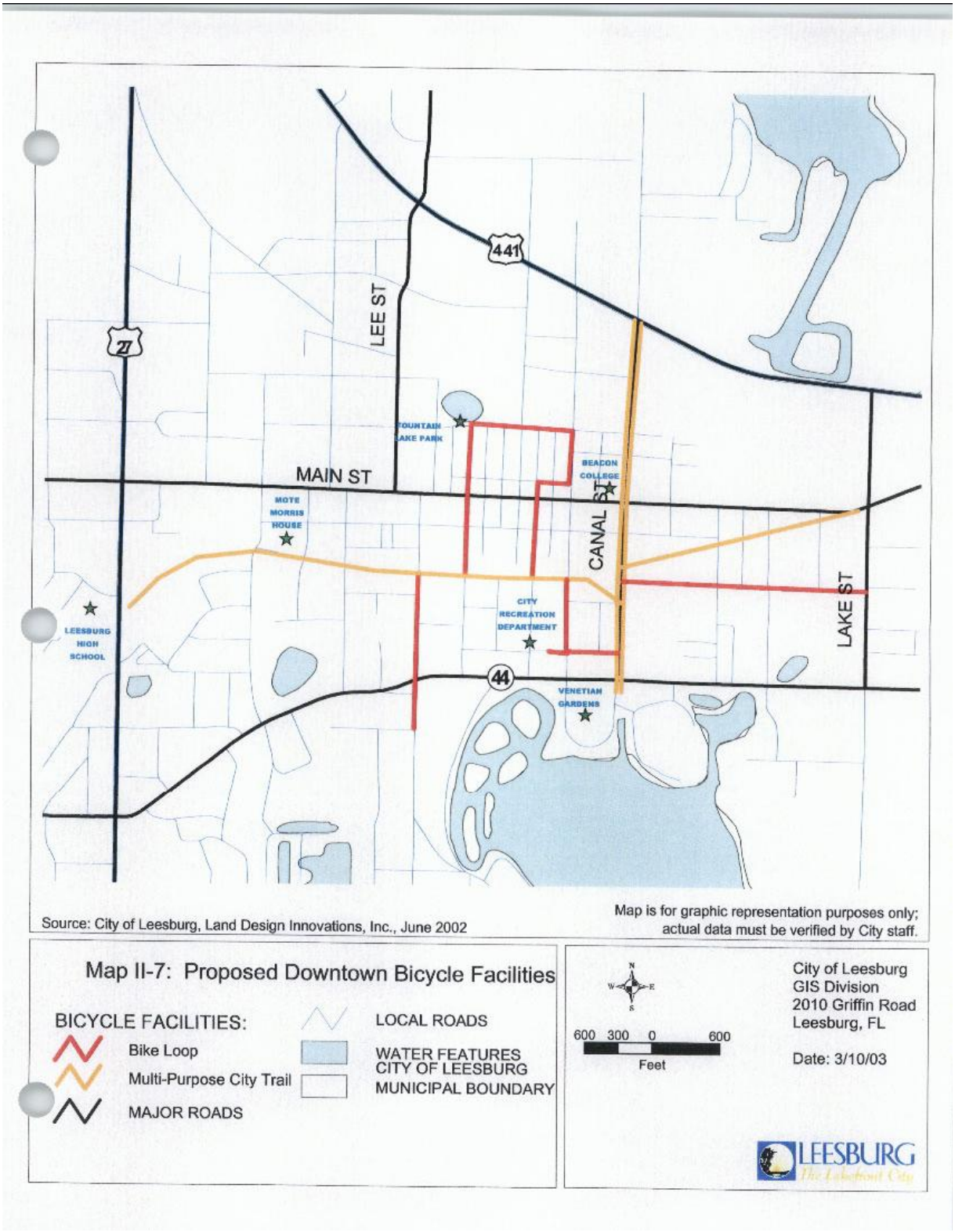
Map II- 5: Public Transit System and Major Traffic Generators/Attractors



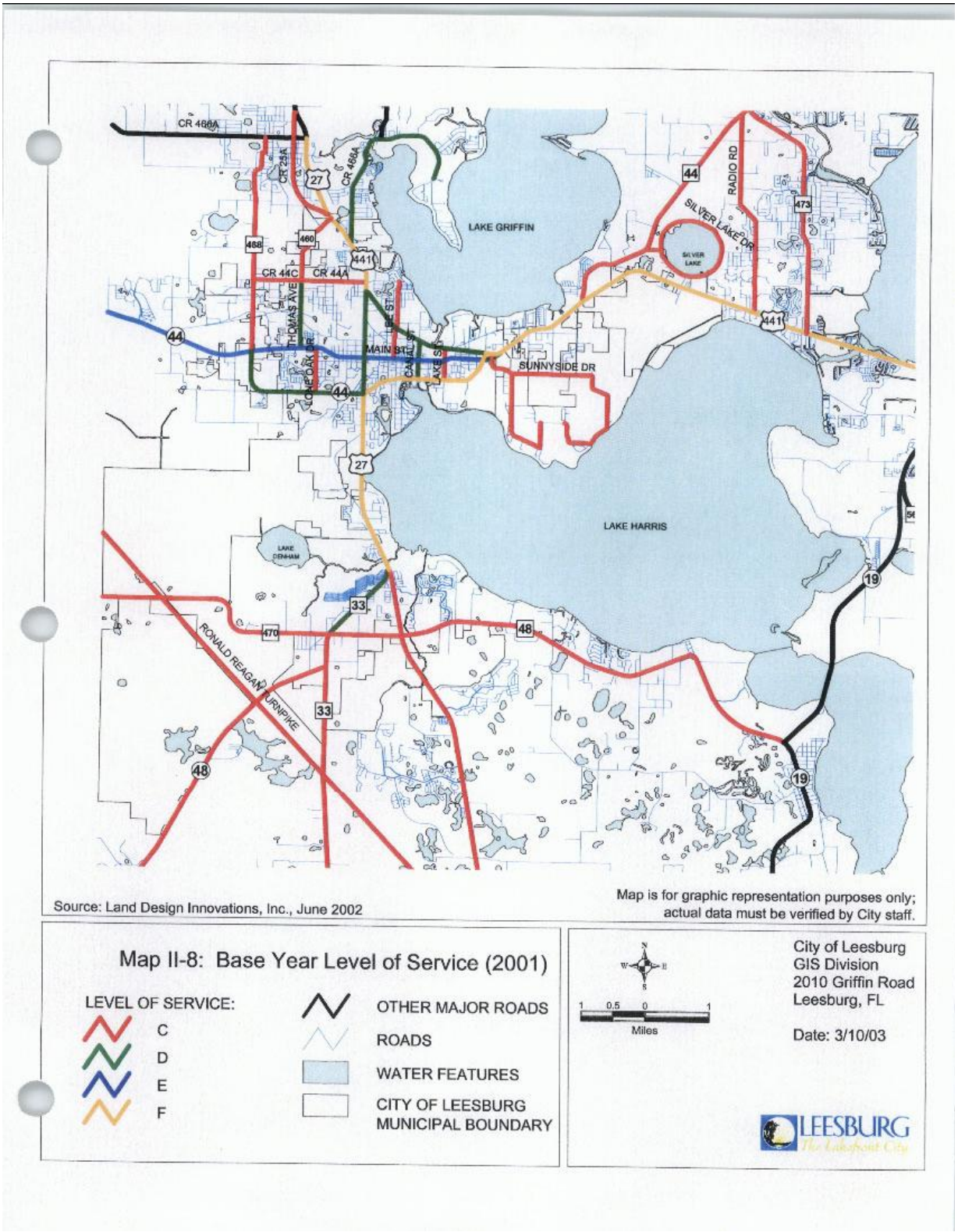
Map II- 6: Existing and Proposed Bicycle Facilities



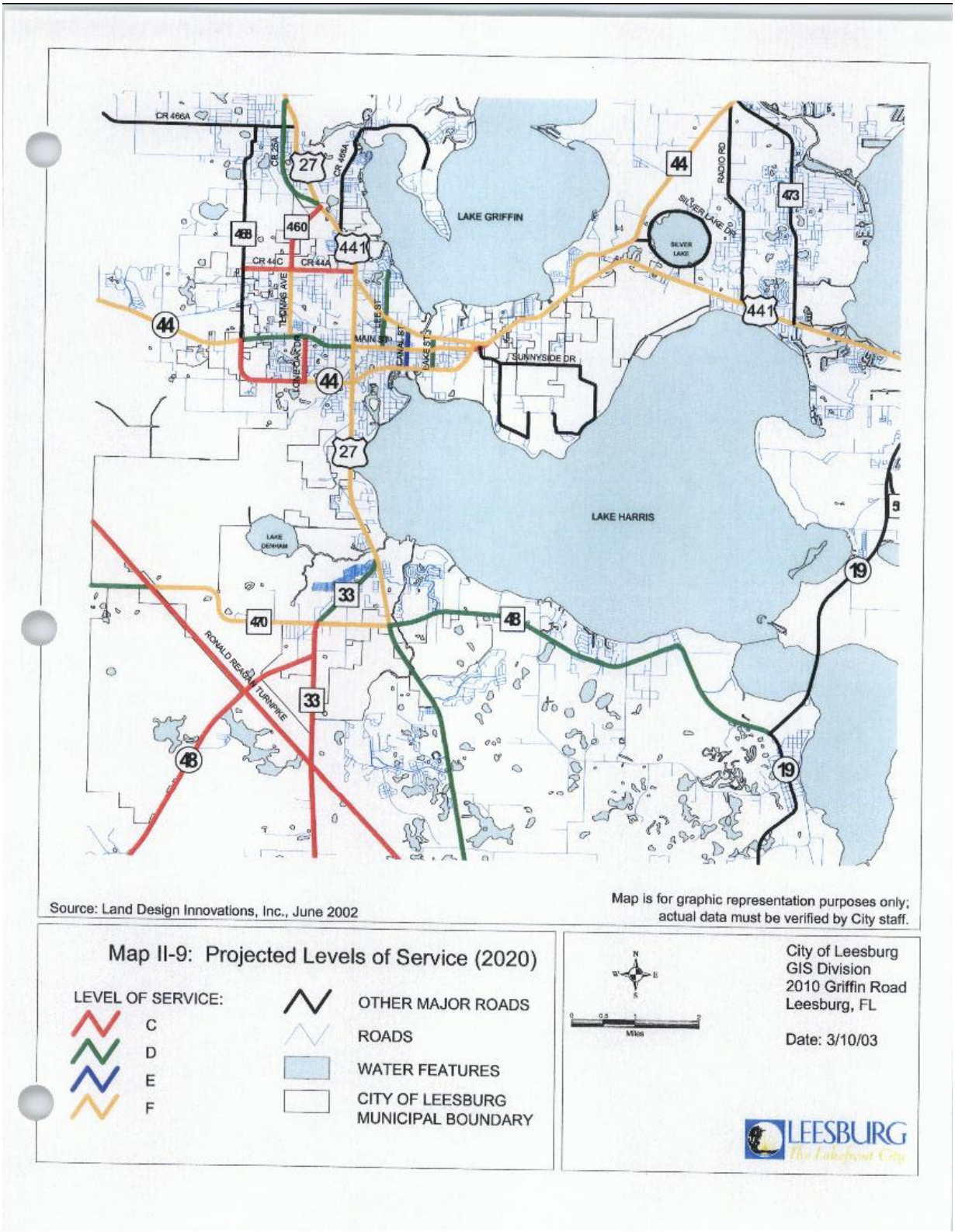
Map II- 7: Proposed Bicycle Facilities



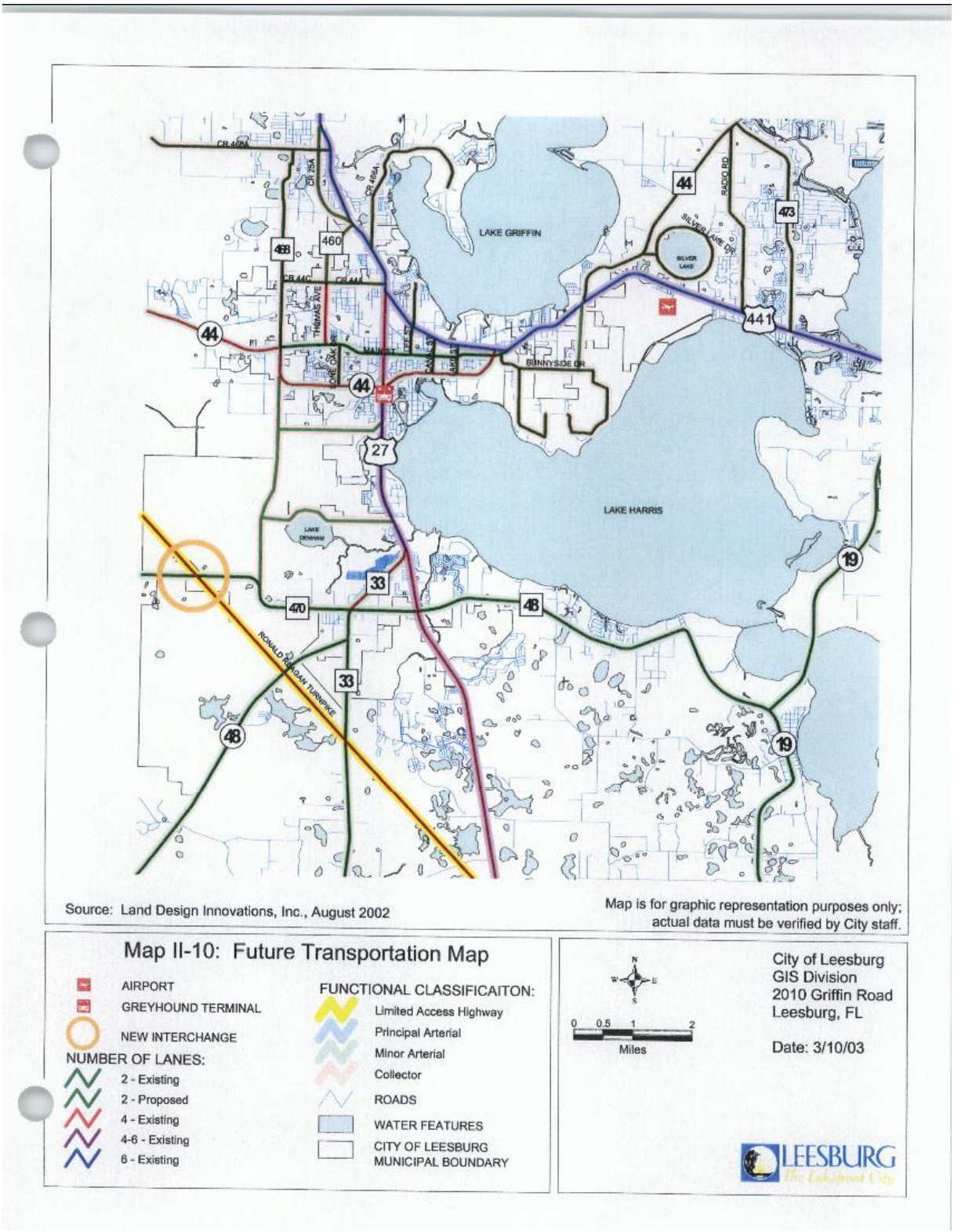
Map II- 8: Base Year Level of Service



Map II- 9: Projected Levels of Service (2020)



Map II- 10: Future Transportation Map



D. GOALS, OBJECTIVES AND POLICIES

GOAL 1:

To develop a safe, convenient, efficient and coordinated system of motorized and non-motorized transportation facilities which ensures adequate movement of people and goods through and within the City.

Objective 1.1: ***Roadway Network***. To provide attractive, safe, convenient, and efficient arterial, collector and local roadway system that serves travel demands within and through the City.

Policy 1.1.1: The arterial roadway system shall be designed through cooperation with the FDOT and Lake County to provide high-volume, multi-lane facilities with access controls, as needed, to preserve the through traffic carrying capacity of the facility. The City will require joint use access, cross access easements, and access prohibitions wherever traffic patterns and physical features make it possible in the development approval process.

Policy 1.1.2: The minimum Level of Service (LOS) standard to be adopted as part of this element and plan shall be as follows:

- Limited Access Roads C, or as otherwise prescribed by FDOT
- Arterials D
- Collectors D

Policy 1.1.3: A lower LOS may be acceptable immediately before and after special events where the impacts of such events on the roadway system are infrequent.

Policy 1.1.4: All major roadways shall be designed as complete transportation corridors, incorporating bicycle, pedestrian and transit features to achieve a true multi-modal system.

Policy 1.1.5: Projected traffic circulation system demand will be met and the LOS standards cited above will be maintained through the year 2020 by undertaking the projects listed on Table II- 8. The City will cooperate and extensively coordinate with the State and the County to ensure that these improvements are implemented by the dates indicated, and as the need develops. Proposed developments within the City will be monitored to determine if roadway infrastructure will be adequate to service projected demand, and development approvals will be dependent upon these criteria.

Policy 1.1.6: Lake County has adopted the following maximum through-lane standards for the below listed roadway classifications:

Road Classification	Maximum Through-Lane Standard
Principal Arterial	6
Minor Arterials	6
Major Collectors	4
Minor Collectors	4
Local Roadways	2
Scenic Roadways	2

Objective 1.2: ***Roadway Connectivity***. The City shall, through the development review process, require the provision of an efficient traffic circulation pattern.

Policy 1.2.1: Within developments that incorporate traditional Neighborhood Design principals, the City shall establish design cross sections for local roads in the Land Development Code by 2005 that accommodate narrower rights-of-way and roadway widths consistent with traditional neighborhood development.

Policy 1.2.2: The City shall require that roadways be dedicated to the public when there is a compelling public interest for the roadways to connect with existing public roadways.

Policy 1.2.3: The City shall require that subdivisions of 100 units or more have at least two (2) points of access open to motor vehicle traffic.

Policy 1.2.4: New subdivisions shall be required to "stub-out" to adjoining undeveloped lands to promote road connectivity, and to connect to existing roadways that are "stubbed-out" at their boundaries.

Policy 1.2.5: The City shall establish access management standards in the Land Development Code by 2005 to ensure appropriate access to the City's transportation system. Standards may include the requirement of joint-use driveways and/or cross access easements to access sites.

Policy 1.2.6: The City shall preserve the movement function of the major thoroughfare system by requiring development of parallel frontage roads

or cross access easements to connect developments as they are permitted along major roads.

Policy 1.2.7: The City shall review through the Development Review Committee process all proposed development for consistency with future transportation projects listed on Table II- 8 and for the implementation of the City's Bicycle Master Plan, when adopted.

Objective 1.3: ***Multi-Modal System.*** The City shall promote alternative modes of transportation to provide a safe and efficient multi-modal system.

Policy 1.3.1: By 2004, the City shall develop standards in the Land Development Code for access to public transit, bicycle and pedestrian systems. Such standards shall apply to new developments, substantial improvements of existing developments, and to road improvements.

Policy 1.3.2: By 2005, the City shall review the Land Development Code to address provision of bus stops, bike parking and circulation, pedestrian walkways, and handicap accessible facilities within new developments and existing developments undergoing substantial improvements. Site plan reviews will ensure that intermodal transfers are efficiently implemented.

Policy 1.3.3: The City shall encourage increased land use densities and mixed uses, consistent with the Future Land Use Element to enhance the feasibility of transit and promote alternative transportation modes.

Policy 1.3.4: The City shall amend the Land Development Code to require that new development be compatible with and further the achievement of the Traffic Circulation Element. Requirements for compatibility may include but are not limited to:

- Orienting pedestrian access to transit centers as well as existing and planned routes.
- Locating parking to the side or behind the development to provide pedestrian accessibility of building entrances and walkways to the street, rather than separating the building from the street by parking.
- Providing clearly delineated routes through parking lots to safely accommodate pedestrian and bicycle circulation.

Policy 1.3.5: The City shall analyze the viability of providing landscaping and streetscaping as roadway design components in order to enhance the function of collector roads and higher classification by 2006.

Policy 1.3.6: A Citywide Bicycle and Pedestrian Circulation Master Plan shall be prepared and adopted by 2005. Priority will be given to those walkways for which heavy recreational usage is projected, as well as those along roadways between residential areas and schools, which can be implemented concurrently with other roadway improvements.

Policy 1.3.7: The City's roadway system management will require implementation and construction of an adequate and safe pedestrian circulation system.

Policy 1.3.8: The City shall amend the Land Development Code by 2005 to require that sidewalks be constructed concurrently with new development, by the developer. Additional sidewalks will be constructed in existing developed areas when requested and funded by the abutting property owners.

Policy 1.3.9: The Land Development Code by 2005 shall be amended to require that new residential developments with densities of one or more dwelling units per acre provide sidewalks on every street.

Policy 1.3.10: Bike paths shall be established on one side of every arterial and collector street with sidewalks established on the opposite side of all arterial streets. The City shall coordinate with the County and the State to expand the current bicycle system.

Policy 1.3.11: Whenever possible, intersections shall be made pedestrian-friendly by limiting the crossing width to 48 feet; use of adequate lighting; adequate timing for traffic signals; and the provision of facilities for the handicapped. The City shall coordinate with FDOT and the County to implement this policy.

Objective 1.4: ***Rights-of-way.*** The City shall coordinate with the County and the State to prioritize and acquire future right-of-way in accordance with the future traffic circulation plan.

Policy 1.4.1: The City shall adopt the Future Transportation Map to ensure the protection of future rights-of-way.

Policy 1.4.2: The City shall continue requiring dedication of needed rights-of-way from new development, through subdivision regulations and applicable local ordinances.

Policy 1.4.3: The City shall amend the setback requirements, zoning restrictions and right-of-way protection requirements, if necessary, to make the regulations consistent with this element.

Policy 1.4.4: The City shall ensure adequate rights-of-way protection for intersections, interchanges and future park and ride sites in order to retain flexibility for future growth and expansion.

Policy 1.4.5: The City shall adopt minimum rights-of-way requirements in the Land Development Code for new roadways containing the following provisions:

- Arterial Roadways – 150-foot right-of-way;
- Collector Roadways – 100-foot right-of-way; and
- Local Roads – 60-foot right-of-way (open drainage) and 50-foot right-of-way (curb and gutter).
- Developments that incorporate Traditional Neighborhood Design principles – Determined at the discretion of the City on a case-by-case basis.

Policy 1.4.6: The City shall pursue grant opportunities for median landscaping and road beautification.

Policy 1.4.7: The City shall research alternative funding sources, and utilize those which are feasible, to assist in expediting traffic circulation improvement programs and for the protection and acquisition of rights-of-way for preserving levels of service standards and system performance.

Objective 1.5: ***Public Transit.*** The City shall work with Lake County and the Lake County Transit Authority to provide a safe and efficient public transit system.

Policy 1.5.1: The City shall encourage land uses and site developments that promote public transit within designated public transportation corridors, with priority given to those projects that will bring the greatest increase in transit ridership.

Policy 1.5.2: Residential development greater than 200 units or commercial developments over 50,000 square feet shall incorporate space for bus stops. Transit ridership to and from such developments shall be encouraged and further improved by including elements, such as the following:

- Transit stops meeting ADA requirements
- Parking lots and intersections designed with minimum corner turning radii for buses
- Clearly delineated walkways from the building to the transit stop
- Commercial and multi-family buildings and transit stops placed closer to the street.

Policy 1.5.3: The City shall ensure that all roads serviced by public transit routes function at a level of service sufficient to support the bus service.

Policy 1.5.4: The City shall notify the Lake County Transit Authority of any proposed traffic generators/attractors submitted to the City for review.

Policy 1.5.5: The City shall work with the Lake County Transit Authority to improve existing bus stops, and to design new ones to include benches, signage, lights, and protection from the elements. Bus stops shall also be convenient for the handicapped.

Objective 1.6: ***Intergovernmental Coordination.*** Traffic circulation planning will be coordinated with the FDOT, Lake County, ECFRPC, Lake County Transit Authority, neighboring jurisdictions and other transportation related agencies.

Policy 1.6.1: The City Community Development and Public Works Departments shall review subsequent versions of the FDOT Five-Year Transportation Plan, in order to update or modify this element, as necessary.

Policy 1.6.2: The Community Development and Public Works Departments shall review updates to the 2020 Lake County Transportation Plan, and the Transportation Element of the Lake County Comprehensive Plan, in order to update or modify this element, as necessary.

Policy 1.6.3: The City shall promote a comprehensive transportation planning process that coordinates state, regional, and local transportation plans.

Policy 1.6.4: The City will support the State and the County on the establishment of alternative transportation systems, including high speed and commuter rail line systems connecting Lake County with other areas in Florida.

Policy 1.6.5: The City shall coordinate with the County to adjust the population projections used in the model, to make them consistent with the City population projections.

Policy 1.6.6: The City shall coordinate with the FDOT, Lake County, and the municipalities of Lady Lake, Fruitland Park, Tavares, Eustis, and Mount Dora to alleviate, through planning improvements, any existing or projected deficiencies along US 441 and US 27/441. Alternate facilities shall be investigated as alternate routes and the City shall coordinate with the FDOT for the establishment of sections of US 441 as special transportation areas.

Policy 1.6.7: The City of Leesburg shall annually monitor traffic counts and, in coordination with the FDOT and Lake County, designate future projects in the capital improvements program to assure compliance with level of service standards.

Objective 1.7: ***Concurrency Management System***. The City shall maintain a Concurrency Management System to ensure that transportation facilities and services needed to support development and redevelopment are available concurrent with the impacts of such development.

Policy 1.7.1: The City shall continue requiring that adequate transportation facilities to maintain the City's level of service standards be available to meet the traffic demands of all new development prior to the issuance of a final development order, in accordance with the Concurrency Management Provisions set forth in the Capital Improvements Element of this Plan.

Policy 1.7.2: The City shall amend the Land Development Code to require submittal of a Transportation Impact Study for all new development which is expected to generate 500 or more trips per day of use, or as deemed necessary by City Staff.

Policy 1.7.3: New developments, regardless of size, shall provide operational improvements to the City' transportation system to mitigate their impacts on the system, to ensure smooth traffic flow, and to aid in the elimination of hazards. Improvements may include, but are not limited to, the addition of turn lanes, deceleration lanes, signage, signals and pavement markings.