



# 6.0 TRANSPORTATION

*2020-30 CAMPUS MASTER PLAN UPDATE*

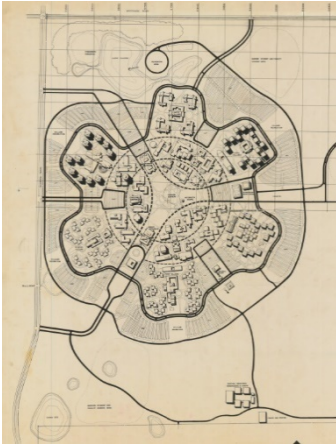
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# 6.0 TRANSPORTATION INTRODUCTION

## INTRODUCTION

### NARRATIVE



The UCF campus provides diverse modes of transportation for use by students, faculty, staff, and visitors, including bicycle, pedestrian, bus/transit, and motor vehicles.

The Parking and Transportation Services Department supports the vital movement of people and services by managing and improving:

- Parking Systems and Facilities
- Transit Network

Facilities and Safety and the UCF Police Department support the operations by managing and improving:

- Traffic Circulation (roadways)
- Pedestrian and Non-Motorized Circulation
- Sustainable Transportation Approaches

### RELATED ELEMENTS

See 1.0 INTRODUCTION for the Projected Enrollment for the 10-year planning period.

See 8.0 PUBLIC SAFETY for more information on Pedestrian Safety and Crime Prevention Through Environmental Design (CPTED).

See 7.0 INTERGOVERNMENTAL COORDINATION for collaboration with the host and affected local governments concerning campus traffic and infrastructure development.

### STATUTE & REGULATION



6.0 TRANSPORTATION is an element that is required by Florida Statue 1013.30(3). The element must follow the guidelines stated in Florida Board of Governors (BOG) Regulations, Chapter 21.

BOG 21.205 states the purpose of the element as follows:

“This element assesses and makes transportation recommendations for integrating all modes of travel (bicycle, pedestrian, bus/transit, and motor vehicle) both on campus and in the off-campus planning study area. These recommendations shall coordinate policies, programs and projects with the host and/or affected local governments, as well as with other state and regional agencies.”

### TERMINOLOGY

Public Transit System

Terms used in this element may include:

Central Florida Regional Transit Authority (LYNX) is the public buss service in Orange, Seminole, and Osceola Counties.

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Private Transit System	UCF on-campus and off-campus shuttles to area apartment complexes and the Central Florida Research Park.
Commuter Rail Line	Central Florida's commuter rail line is SunRail, with 16 Stops from DeBary, FL to Kissimmee, FL.
Multimodal Center	<p>Multimodal Centers are locations that accommodate transit arrivals and transfers from one means of transit to another. On the Main Campus these are the UCF/LYNX Transit Center<sup>1</sup> and the Research I Bus Terminal.</p> <p>The Lynx Central Station at 101 West Livingston Street in Orlando, is also a multimodal center, providing easy transfers between LYNX and SunRail, and transportation to areas all over Central Florida.</p>
Traffic Circulation System	All roadway facilities within the University Main Campus boundaries, as well as the external roadway facilities located within the Context Area.
Vehicular	Vehicles include automobiles, trucks, motorized shuttles, autonomous shuttles, and motorized carts.
Non-Vehicular Circulation	Non-Vehicular includes bicycles, skateboards, skates (in-line or roller), scooters (manual and motorized), or similar devices, and the paths or systems that serve them.
MetroPlan Orlando	MetroPlan Orlando is the metropolitan transportation planning organization for Orange, Osceola, and Seminole Counties.
Headway	Headway is a measurement of the distance or time between vehicles in a transit system. It can be expressed as the distance between vehicles, or as the time it will take for the trailing vehicle to cover that distance.
Large Urbanized Area	A Large Urbanized Area has a minimum population of over 1,000,000, "as defined by the Federal Highway Administration (FHWA) approved boundary, which encompasses the entire Census Urbanized Area, as well as a surrounding geographic area as agreed upon by FDOT, FHWA, and the Metropolitan Planning Organization (MPO)."

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<sup>1</sup> The UCF/LYNX Transit Center is noted as the "UCF SuperStop" on Google Maps and other internet sites such as TransitFeeds.com and OpenMobilityData.com.

# 6.0 TRANSPORTATION GOALS, OBJECTIVES & POLICIES

## GOALS, OBJECTIVES, & POLICIES

### Traffic Circulation Systems

**GOAL 1: Provide adequate vehicular access to the campus, while continuing to coordinate with local communities and planning agencies regarding essential transportation improvements.**

**OBJECTIVE 1.1: Set guidelines to ensure safe, effective vehicular access to, from, and within campus.**

POLICY 1.1.1: Every five years, the University shall review all campus development plans for compliance with Campus Master Plan criteria for traffic circulation.

POLICY 1.1.2: The University shall continue to limit general vehicular access to the campus core, as defined by the 1,200-foot radius sidewalk, including by signage and boom gates.

POLICY 1.1.3: The University shall improve the Main campus entrance at University Boulevard, in accordance with a Campus Development Agreement executed in December 2016 between UCF and Orange County.

POLICY 1.1.4: The University shall reduce direct vehicular access onto major roads, such as Gemini Blvd. and North Orion Blvd., by regulating the number of new driveways, consolidating access points, and creating cross-access and shared-access between adjacent driveways.

POLICY 1.1.5: The University shall strive to maintain a minimum level of service of "E" for all campus roadways, as defined in the *2013 FDOT Quality/Level of Service Handbook (Q/LOS)*<sup>2</sup>, except when that LOS could only be accomplished by widening campus roadways beyond four lanes.

POLICY 1.1.6: The University shall improve its traffic circulation without detrimental impact to environmentally sensitive areas. Such areas shall be mitigated consistent with policies in element 9.0 CONSERVATION, the local management district, and state and local environmental regulatory agencies.

POLICY 1.1.7: The University shall identify proposed on-campus traffic circulation improvements in the 10-Year Schedule of Capital Projects (SCP) found within element 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION.

**OBJECTIVE 1.2: Ensure continued coordination of UCF's transportation system with that of the**

POLICY 1.2.1: The University shall ensure concurrency of campus development with the host government. The impacts of development, such as roadways and parking facilities, must be in place and operating within available capacity and without degradation to the LOS as defined by the University.

<sup>2</sup> [2013 FDOT Q/LOS Handbook](#) defines LOS on a scale of A-F.

## 6.0 TRANSPORTATION GOALS, OBJECTIVES & POLICIES

**host and affected local governments.**

POLICY 1.2.2: The University shall coordinate transportation with the host and affected local governments, MetroPlan Orlando, and the Florida Department of Transportation (FDOT) by:

- collecting and reporting traffic data for on-campus roadways concurrent to every 5-year Campus Master Plan Update, or as necessary, to determine impact on the local host and affected governments;
- evaluating strategies and improvements to meet the projected need for additional access to the UCF campus;
- investigating on-campus traffic management systems<sup>3</sup> that integrate with Public Safety and are compatible with the systems used in the Context Area;
- ensuring interconnection and synchronization of existing and new signalization;
- continuing to participate on the MetroPlan Orlando Transportation Systems Management & Operations Advisory Committee (TSMO) in an ex-officio capacity; and
- working together regarding their proposed transportation improvement projects.

POLICY 1.2.3: The University shall survey students every five years regarding transit, bicycle, and pedestrian services.

POLICY 1.2.4: The University shall evaluate the availability of on-campus bicycle commuter support facilities such as showers, lockers, and covered and secured bicycle parking.

### Parking Services and Facilities

**GOAL 2: Strive to consistently manage parking demand on campus by maximizing multimodal transportation solutions with existing resources.**

**OBJECTIVE 2.1: Ensure the provision of adequate parking facilities to meet future needs.**

POLICY 2.1.1: The University shall monitor parking utilization and parking space ratios annually to determine if parking is adequate.

POLICY 2.1.2: The University shall continue to issue residential parking permits that restrict student residents from parking outside of residential parking areas; and prevent commuter students from parking within residential areas.

POLICY 2.1.3: The University shall reduce campus parking and traffic congestion by building “intercept garages” at the outer perimeter of campus. Such garages are intended to stop vehicular traffic from entering campus and transport drivers from the garages to the campus core by other means such as shuttles, autonomous vehicles, and bike sharing.

<sup>3</sup> UCF currently uses the Split Cycle Offset Optimization Technique (SCOOT) system on the on-campus roadway system.

## 6.0 TRANSPORTATION GOALS, OBJECTIVES & POLICIES

**OBJECTIVE 2.2: Provide adequate campus parking facilities that are safe, accessible, and effective.**



POLICY 2.2.1: The University shall monitor campus parking annually, to maintain the student-to-parking space ratio range that UCF designates as adequate (3:1 to 4:1).

POLICY 2.2.2: The University shall provide adequate lighting at parking garages and lots, in keeping with to IES standards; and ensure the safety of students, faculty, and staff through the application of the *Crime Prevention Through Environmental Design* (CPTED) methodology.

POLICY 2.2.3: The University shall monitor visitor parking annually to establish and maintain appropriate visitor parking spots.

POLICY 2.2.4: The University shall investigate the feasibility of providing a parking incentive program that provides preferential parking for vehicles carrying two or more persons.

POLICY 2.2.5: The University shall not build any future parking garages within the Campus Core, inside of Gemini Boulevard.

POLICY 2.2.6: Parking and Transportation Services shall continue to implement parking industry technologies to enhance the student experience, e.g., smartphone applications for short-term parking payments, push notifications on parking/shuttle updates, license plate recognition, and virtual parking credentials.

POLICY 2.2.7: If new construction displaces an existing parking lot, replacement parking shall be considered as part of the new construction budget. Funding for replacement parking shall be considered on a case-by-case basis.

POLICY 2.1.8: Parking and Transportation Services shall continuously evaluate current resources to identify under-used parking locations, develop strategies to maximize usage, remain fiscally responsible, and operate efficiently.

POLICY 2.1.9: The University shall strive to provide additional garage(s) during the 10-year Planning Timeframe, as indicated in Future Conditions in the Data & Analysis section of this element.

### Transit Systems and Facilities

**GOAL 3: Develop a financially feasible multimodal transportation system that integrates services provided by UCF's private transit system, Central Florida's public transit system and commuter rail line, and a future autonomous vehicle (AV) shuttle service.**

**OBJECTIVE 3.1: Employ forward-thinking methods to reduce traffic**

POLICY 3.1.1: The University shall continue to explore opportunities with other transportation management associations to promote Transportation Demand Management (TDM) strategies both on-campus and in the Context Area.

## 6.0 TRANSPORTATION GOALS, OBJECTIES & POLICIES

**congestion within the  
campus core.**



**OBJECTIVE 3.2: Increase  
transit ridership.**

**OBJECTIVE 3.3: Implement  
measures to improve  
transit service to, from,  
and within the campus.**

POLICY 3.1.2: The University shall continue to optimize its existing services, with routes accommodating many students within the Context Area, as well as shuttle services to the Health Sciences Campus, UCF Downtown, and the Rosen College of Hospitality Management. These initiatives are achieved by creating partnerships with LYNX and SunRail, to support the University's integration with the Central Florida region.

POLICY 3.1.3: The University shall implement Transportation Demand Management strategies, as appropriate and fiscally feasible, including but not limited to:

- Improved utilization of public or private transit services
- Improved pedestrian and non-vehicular facilities
- Increased number of students living on campus
- Modifications to class scheduling times

POLICY 3.1.4: The University shall continue to coordinate with the host and affected local governments, LYNX, and SunRail to promote alternative modes of transportation.

POLICY 3.1.5: The University shall continue to coordinate with the Central Florida Expressway Authority (CFX) regarding future transportation improvements.

POLICY 3.2.1: The University shall continue to encourage transit as a means of travel from residential areas and parking lots to campus destinations.

POLICY 3.2.2: The University shall continue to monitor, promote, and increase ridership on its private shuttle service.

POLICY 3.2.3: The University shall develop initiatives to: market student transit services; increase shuttle ridership; decrease parking demand; and decrease the use of single-occupant vehicles.

POLICY 3.3.1: The University shall continue to explore opportunities to add new multimodal centers, in conjunction with parking facilities, to minimize single-user vehicles on campus.

POLICY 3.3.2: The University shall measure the quality of its current services using performance-based assessments based on feedback collected through online<sup>4</sup> surveys, student orientation, and focus groups.

POLICY 3.3.3: The University shall continue to plan for future campus intermodal transportation terminals in conjunction with proposed parking facilities.

POLICY 3.3.4: The University shall continue to identify residential concentrations of students and to provide convenient transit routes by:

- increasing transit service on these routes
- decreasing transit headway times

<sup>4</sup> Online assessment addresses: [Shuttles@ucf.edu](mailto:Shuttles@ucf.edu), [Decals@ucf.edu](mailto:Decals@ucf.edu) and [Parkingevents@ucf.edu](mailto:Parkingevents@ucf.edu).



## 6.0 TRANSPORTATION GOALS, OBJECTIVES & POLICIES

- developing additional new routes
- modifying existing routes

### Pedestrian and Non-Vehicular Systems and Facilities

**GOAL 4: Create logical patterns of pedestrian and non-vehicular circulation systems which enhance the overall urban and social-academic quality of the campus.**

**OBJECTIVE 4.1:  
Encourage the use of  
pedestrian and non-  
vehicular circulation  
systems.**



**OBJECTIVE 4.2:  
Coordinate pedestrian and  
non-vehicular circulation  
systems with those  
developed by the host and  
affected local  
governments.**

POLICY 4.1.1: The University shall continue to encourage bicycle and pedestrian modes as a means of travel from residential areas and parking lots to the campus core.

POLICY 4.1.2: The University shall continue to encourage and promote pedestrian and non-vehicular transportation by providing:

- Well-maintained sidewalks and bike pathways
- Bicycle racks near buildings
- Bike lockers
- Bicycle racks on UCF shuttles
- Bike- and/or Scooter- sharing
- Skateboard lockers
- Showers/dressing rooms in new UCF buildings<sup>5</sup>

POLICY 4.1.3: The University shall continue to provide bicycle lanes on newly-constructed or improved on-campus roadways, where feasible.

POLICY 4.1.4: The University shall continue to provide crosswalks at all points where pedestrian and non-vehicular circulation cross Gemini Boulevard, at all campus entrances, and where required for safety. The University shall continue to evaluate crossings to ensure pedestrian safety.

- Traffic calming measures and pedestrian signalization may be used to make crossings safer.
- Pedestrian crossing shall be subject to enforcement by the UCF Police department.

POLICY 4.2.1: The University shall continue to coordinate with the host and affected local governments regarding the implementation of sidewalks, bicycle paths and lanes, and safety-enhanced pedestrian crosswalks along all vehicular corridors adjacent to or leading in and out of campus.

<sup>5</sup> LEED requires one on-site shower with changing facility for the first 100 regular building occupants and one additional shower for every 150 regular building occupants thereafter.



## 6.0 TRANSPORTATION GOALS, OBJECTIVES & POLICIES



**OBJECTIVE 4.3: Continue to promote pedestrian safety.**

**OBJECTIVE 4.4: Continue to grow the cycling culture at UCF by prioritizing ridership and safety.**

POLICY 4.2.2: The University shall continue to coordinate with the host and affected local governments by reviewing their local comprehensive plans, bicycle plans, or pedestrian circulation plans, and meeting with local governments, as necessary.

POLICY 4.2.3: The University shall support the concept of mid-block pedestrian crosswalks on roads near campus to improve pedestrian safety by reducing jaywalking.

Two future mid-block pedestrian crosswalks are required by a Campus Development Agreement (CDA) executed in December 2016 between UCF and Orange County:

- Alafaya Trail near Salon Drive
- University Boulevard at Turbine Drive

Other future locations could improve pedestrian safety:

- McCulloch Road<sup>6</sup> at one or more points between Alafaya Trail and Lockwood Blvd<sup>7</sup>

POLICY 4.2.4: In partnership with Orange County, the University shall “develop an on-campus bicycle pathway through the UCF campus, linking the existing trail systems of Orange and Seminole Counties.”<sup>8</sup>

POLICY 4.3.1: The University shall develop and provide educational programs related to pedestrian safety, as required by a Campus Development Agreement executed in December 2016 between UCF and Orange County.

POLICY 4.3.2: The University shall continue to educate the campus community with Pedestrian Safety Tips.

POLICY 4.4.1: The University will strive to improve its bicycle facilities in order to maintain its status and improve its ranking as a “Bicycle Friendly University.”<sup>9</sup>

POLICY 4.4.2: The University will continue to provide information and education on bicycle safety and cycling amenities.

- The UCF Student Government Association website explains the SGA Bike Share (bike rental) and bike repair facilities.
- The UCF Police Department website details Bicycle Safety Tips and other information.
- The Parking and Transportation Department website identifies bike rack locations.

<sup>6</sup> McCulloch Road crossings would require a partnership between UCF, Orange County, and Seminole County.

<sup>7</sup> McCulloch Road crossings would require coordination with the improvement of trails through the conservation area at the north edge of the UCF campus.

<sup>8</sup> Source: Campus Development Agreement executed in December 2016 between UCF and Orange County.

<sup>9</sup> The League of American Bicyclists designated UCF as “bicycle friendly” in November 2017.

## 6.0 TRANSPORTATION GOALS, OBJECTIVES & POLICIES

**OBJECTIVE 4.5: Continue to support the use of other non-vehicular personal transportation devices on campus.**

POLICY 4.5.1: The University shall limit the use of skateboards, roller blades, or similar devices<sup>10</sup> to sidewalks and crosswalks. The use of such devices is prohibited in all other areas, including roadways, bike paths, parking lots, or inside any building or garage; or upon site improvements such as walls, steps, ramps, site furniture, or architectural elements. Riders must also yield the right of way to pedestrians, bicyclists, and motorists.

**OBJECTIVE 4.6: Review the need for additional lighting along pedestrian and non-vehicular circulation routes.**

POLICY 4.6.1: The University shall follow the lighting guidelines described in the UCF Design, Construction, and Renovation Standards. Concurrency requires that appropriate lighting systems be constructed concurrent with pedestrian and non-vehicular circulation systems.

POLICY 4.6.2: The University shall review all future lighting plans along proposed pedestrian and non-vehicular systems to ensure compliance with the UCF Design, Construction, and Renovation Standards.

POLICY 4.6.3: The University shall install pedestrian-scale lighting within the right of way on UCF property on the east side of Alafaya Trail, as required by a Campus Development Agreement executed in December 2016 between UCF and Orange County.

### Sustainable Transportation

**GOAL 5: Develop sustainable transportation options, while balancing the economic and social benefits of transportation with the need to protect the environment.**

**OBJECTIVE 5.1: Integrate transportation and land use planning.**

POLICY 5.1.1: Conduct transportation and land use planning concurrently to accommodate the effects of land use on transportation systems as well as the demands for transportation on land development.

POLICY 5.1.2: Encourage supportive land use designs including compact, mixed-use, trip length reductions and pedestrian-friendly.

**OBJECTIVE 5.2: Protect the environmental health of the campus.**

POLICY 5.2.1: The University shall continue implement distance learning and coordination with satellite campuses, as techniques to reduce the quantity of students travelling to the Main Campus.

POLICY 5.2.2: The University shall continue to refine class scheduling as a method of mitigating peak-hour traffic conditions and maximizing utilization of existing transportation infrastructure investment.

<sup>10</sup> Scooters and Segways are examples of “similar personal transportation devices.”

## 6.0 TRANSPORTATION GOALS, OBJECTIVES & POLICIES

**OBJECTIVE 5.3: Reduce dependence on the personal automobile by encouraging the use of alternative modes of transportation.**

POLICY 5.3.1: The University shall continue to promote Zimride (Enterprise) and Zipcar as campus-wide car-sharing programs for UCF faculty, staff, and students.

POLICY 5.3.1: The University shall support Uber and Lyft as campus-wide ridesharing programs for UCF faculty, staff, and students.

POLICY 5.3.3: By 2030, the University shall study the effectiveness and feasibility of a parking incentive program that provides preferential parking for automobiles carrying two or more persons.

POLICY 5.3.4: The University shall work with the host and affected local governments and public transit providers to evaluate other options for reducing the dependence on the personal automobile.

POLICY 5.3.5: The University shall continue to provide Electric Vehicle (EV) charging stations, where feasible.

POLICY 5.3.6: The University shall deploy and research an autonomous vehicle (AV) shuttle service to provide a mode of transit within the Academic Core, with particular emphasis on accessibility.

**OBJECTIVE 5.4: Consider all modes of alternative transportation.**

POLICY 5.4.1: The University shall identify strategies to increase walking, cycling, micro-mobility, transit, rideshare, and telecommuting.

POLICY 5.4.2: The University shall identify strategies to make transit operation more sustainable, including increased ridership, route optimization, and alternative energy sources.

POLICY 5.4.3: The University shall identify strategies to make motor vehicle use more sustainable, including incident management, signal optimization, rideshare, and carpooling.

**OBJECTIVE 5.5: Measure performance.**

POLICY 5.5.1: The University shall deploy measurement programs to monitor progress toward sustainable transportation goals.

POLICY 5.5.2: The University shall deploy a performance measurement framework that ties to the plan's strategic framework and monitors outputs, outcomes, and external influences.

POLICY 5.5.3: The University shall identify a reporting and marketing strategy to effectively communicate performance measurement results.

**OBJECTIVE 5.6: Create a living plan with public involvement.**

POLICY 5.6.1: The University shall involve the public in the transportation planning process and identify ways for public involvement to enhance the future program and project implementation.

POLICY 5.6.2: The University shall identify a process for regular updates to the implementation program as an extension of the plan.

# 6.0 TRANSPORTATION DATA & ANALYSIS

## DATA & ANALYSIS

### TRANSPORTATION

#### NARRATIVE

Since its inception in 1963 as the Florida Technical University, the University has experienced tremendous growth, and is now the largest state university in Florida with an enrollment of more than 68,000 students. Enrollment projections for the Main Campus during the 10-year planning timeframe can be found in 1.0 INTRODUCTION.

An increasing student population results in increased demands on infrastructure, such as new and improved roads, pedestrian walkways, bicycle facilities, transit improvements, and parking. The University has added significant transportation infrastructure to accommodate this growth, including Transportation Demand Management (TDM) strategies to decrease the use of single-occupant vehicles and encourage multimodal travel.

The University of Central Florida maintains a network of internal roadways, as well as a fleet of over 49 shuttle buses that provide a critical transit mode to and from the campus. In addition, the University also maintains an extensive network of pedestrian and bicycle facilities on campus.

With a growing student population, the University strives to integrate and coordinate all available modes of transportation within and surrounding the campus. The area that will be examined by this transportation element is shown in Figure 6.0-12 Context Area Map.

Data & Analysis includes the following:

- Existing conditions
- Planned improvements
- Sustainable transportation approaches
- Future conditions

### Existing Conditions

#### INVENTORY

This element requires an analysis of existing transportation facilities within and surrounding the University. In order to evaluate the existing conditions of the transportation facilities on campus, as well as those external facilities and systems located within the Context Area, an inventory of the existing transportation systems and campus demographic data was performed.

## 6.0 TRANSPORTATION DATA & ANALYSIS

Campus Population – Enrollment and Employment

Student enrollment headcount on the Main Campus was 54,324 in Fall 2018, which equates to approximately 37,057 Full Time Equivalent (FTE) students<sup>11</sup>.

Additionally, there are about 12,000 permanent and temporary employees on the Main Campus.

### a. Traffic Circulation Systems

Functional Classification System

For the purposes of this Transportation Element, traffic circulation system will be defined as all roadway facilities within the University Campus boundaries, as well as within the Context Area (see Figure 6.0-12 Context Area Map).

An inventory of the existing roadway facilities located within the Context Area is shown in Figure 6.0-1 Roadway Facility Inventory Table. This inventory includes the following roadway characteristics: roadway name, segment limits, number of lanes, jurisdiction, adopted level of service (LOS), and functional classification.

The Florida Department of Transportation (FDOT) defines functional classification as “the process by which streets and highways are grouped into classes or systems, according to the character of service they are intended to provide.”

Generally, there are six (6) major classifications of roads:

- Expressway Freeway
- Principal Arterial
- Minor Arterial
- Collector (Major and Minor)
- Local Road

Roadways provide two functions within the functional classification by providing varying levels of access and mobility.

The functional classification of a roadway is used to set level of service standards and to evaluate operational characteristics.

**Figure 6.0-1 Roadway Facility Inventory Table**

Figure 6.0-1 includes roadway segments<sup>12</sup> on campus and within the Context Area (see Figure 6.0-12 Context Area Map)

Road Name	From	To	Lanes	Jurisdiction	Functional Classification	Adopted LOS
Alafaya Trail (SR 434)	Colonial Drive (SR 50)	Science Drive	6LD	State	Principal Arterial	E
	Science Drive	University Blvd	6LD	State	Principal Arterial	E
	University Blvd.	McCulloch Road	6LD	State	Principal Arterial	E

<sup>11</sup> FTE totals are based on 40 undergraduate annual student credit hours and 32 graduate student credit hours produced in live (non-Web) course sections on the UCF Main Campus, for fundable and non-fundable student credit hours.

<sup>12</sup> Although named, UCF’s Local Roads are not considered in Figure 6.0-1, including East Plaza Drive, Knights Victory Way, Mensa Lane, Pictor Lane, Greek Court, Scorpius Street, Pegasus Drive, Aquarius Agora Drive, Leo Lane, Andromeda Loop, Pyxis Lane, Hydra Lane, Ursa Minor Street, and Ara Drive.

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	McCulloch Road	Chapman Road	6LD	State	Principal Arterial	E
Central Florida Blvd.	Alafaya Trail (SR 434)	Gemini Blvd.	4LD	UCF	Minor Collector	E
Centaurus Drive	Alafaya Trail (SR 434)	Gemini Blvd.	4LD	UCF	Minor Collector	E
Chapman Road	Aloma Avenue	Alafaya Trail (434)	4LD	Seminole Co.	Major Collector	E
Colonial Drive (SR 50)	Rouse Road	Alafaya Trail (434)	6LD	State	Principal Arterial	E
Discovery Drive / Libra Drive	Research Parkway	Gemini Blvd.	4LD	UCF	Minor Collector	E
Gemini Blvd.	Central Florida Blvd.	University Blvd.	4LD	UCF	Minor Collector	E
	University Blvd.	Centaurus Drive	4LD	UCF	Minor Collector	E
	Alafaya Trail (SR 434)	Greek Park Drive	4LD	UCF	Minor Collector	E
	Greek Park Drive	N. Orion Blvd.	4LD	UCF	Minor Collector	E
	N. Orion Blvd.	Libra Drive	4LD	UCF	Minor Collector	E
Gemini Blvd. East	Libra Dr.	Scorpius St. (Star St.)	4LD	UCF	Minor Collector	E
Gemini Blvd. South	Andromeda Dr.	Hercules Dr.	4LD	UCF	Minor Collector	E
Greek Park Drive	Centaurus Drive	Gemini Blvd. North	4LD	UCF	Minor Collector	E
Lake Pickett Road	Colonial Drive (SR 50)	Percival Road	2L	Orange Co.	Major Collector	E
	Percival Road	S. Tanner Road	2L	Orange Co.	Major Collector	E
Lokanotosa Trail	Rouse Road	Alafaya Trail (434)	2L	Orange Co.	Minor Collector	E
Lockwood Blvd.	McCulloch Road	Oviedo City Limits	4LD	Seminole Co.	Minor Collector	E
McCulloch Road	Alafaya Trail (SR 434)	Lockwood Blvd.	4LD	Seminole Co.	Minor Collector	E
	Lockwood Blvd.	Old Lockwood	2L	Seminole Co.	Minor Collector	E
N. Orion Blvd.	McCulloch Road	Gemini Blvd.	4LD	UCF	Minor Collector	E
Percival Road	Tanner Road	Lake Pickett Road	2L	Orange Co.	Minor Collector	E
Rouse Road	Colonial Drive (SR 50)	Lokanotosa Trail	4LD	Orange Co.	Minor Collector	E
	Lokanotosa Trail	University Blvd.	4LD	Orange Co.	Minor Collector	E
	University Blvd.	Seminole Co. Line	4LD	Orange Co.	Minor Collector	E
University Blvd.	Rouse Road	Alafaya Trail (434)	6LD	Orange Co.	Minor Arterial	E
	Alafaya Trail (SR 434)	Gemini Blvd.	6LD	UCF	Minor Collector	E
W. Plaza Dr.	Knights Victory Way	N. Orion Blvd.	2L	UCF	Minor Collector	E

### Roadways

Figure 6.0-13 Campus Area Roadways Map – by Functional Classification details the functional classification of all study roadways within the Context Area (see Maps & Tables at the end of this element).

Roadways within the Context Area for the University’s Campus Master Plan include the following classifications:

- Principal Arterial – This is the highest level of arterial and generally has restricted access, and serves longer distance through trips servicing larger metropolitan areas. This facility type connects minor arterials and freeways as well as other principal arterials.

## 6.0 TRANSPORTATION DATA & ANALYSIS

- Minor Arterial – This type of roadway provides connections between principal arterials and collectors. It typically serves moderate distances with less emphasis on mobility than a principal arterial and with a greater level of access to adjacent land parcels.
- Collector (Major and Minor) – The collector street system provides a combination of land access and mobility, generally within residential neighborhoods, or larger industrial or commercial developments, and joins with other collector systems. Collectors distribute traffic from arterials to the local street system and their final destinations.
- Local – According to the AASHTO<sup>13</sup> “Greenbook”, the local street system comprises all facilities that do not fall into one of the higher roadway classifications. The primary function of a local street is to provide direct access to adjacent land uses and to connect to the collector roadway system.

### Level of Service (LOS) Standards

Level of service (LOS) is used to describe a qualitative measure of the operational performance of a roadway under existing or projected traffic conditions.

There are six alphabetical LOS designations, A-F, that are used to describe the operating conditions of a roadway. These designations range from the best, LOS “A”, which represents free-flow conditions, to the worst, LOS “F”, which represents breakdown conditions with significant delays.

For the purposes of this update, this element will follow the LOS standards developed in the [FDOT 2013 Quality/Level of Service Handbook](#) (Q/LOS).

The FDOT 2013 Q/LOS Handbook includes Table 7 Generalized Peak Hour Directional Volumes for Florida’s Urbanized Areas. It shows the existing traffic volumes, roadway geometry and LOS for roadways within the Context Area.

### Oversized Maps and Tables for Traffic Circulation Systems

The following oversized tables are located at the end of this element:

- *Figure 6.0-10 Existing Roadway Conditions Table* details an analysis of existing conditions of the roadways within the Context Area.
- *Figure 6.0-14 Existing Roadway Network and Daily Traffic Volumes Map* which identifies the 2019 traffic volumes, roadway geometry, and LOS for roadways within the Context Area.

<sup>13</sup> The American Association of State Highway Transportation Officials (AASHTO).



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### b. Parking Systems

The need for large-capacity, well-distributed parking is paramount to support the needs of UCF's students, faculty, staff, and visitors. To accommodate parking demands, both permanent and temporary parking facilities are provided on campus.

Parking for nearly 18,600 vehicles is provided on campus in ten (10) garages and more than 60 parking lots and other locations. The sites of UCF's parking garages are depicted in Figure 6.0-15 Existing Parking Structures Map. All parking is indicated on Parking and Transportation Service's [Campus Map and Parking Guide](#).

**Figure 6.0-2 Campus Parking Structures (garages)**

UCF has 10 parking garages.

Garage	Year	# of Spaces
Garage A	2007	1,647
Garage B	2000	1,289
Garage C	1998/2016	1,852
Garage D	2002	1,279
Garage E	2007	696
Garage F	2008	678
Garage G	2000	696
Garage H	2011	1,340
Garage I	1997	1,270
Libra Garage (J)	2014	1,039

**Figure 6.0-3 Parking by User Type**

Figure 6.0-3 identifies parking statistics by user type.

User Type	# of Spaces	% of Total
Student	10,926	58.76%
Housing (Student Residents)	3,232	17.38%
Faculty	465	10.97%
Staff	590	
Faculty/Staff	984	
Reserved	177	0.95%
Disabled	435	2.34%
Meters	118	0.63%
Service	240	1.29%
Motorcycle	198	1.06%
Event Parking	604	3.25%
Health Center Spaces	44	0.24%
Other	625	3.12%
	<b>18,594</b>	

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### Analysis

#### Student Commuter Parking

As Figure 6.0-3 shows, the majority of parking is allocated for student commuters, with nearly 59% of the total spaces on campus.

UCF had nearly 32,000 student commuters in Fall 2018 (D and DT Permits)<sup>14</sup>. Parking industry standards indicate that student commuter parking turns over two to four times a day. Because of this turnover, UCF is able to accommodate parking demand for the student population with fewer than 11,000 designated student commuter parking spaces.

#### Student Residential Parking

Residential parking, such as Garage E, Garage G, and lots in Greek Park, and Lake Claire Community may be used by students who keep their cars on campus. These areas require Residential parking permits (R, RL, and KP), which may not be used in Student Commuter parking spaces in other campus lots and garages.

#### Faculty and Staff Parking

Faculty and staff parking spaces total nearly 11% of UCFs total.

#### All-user parking

Some parking spaces, including disabled, overflow, event parking, and motorcycle parking, may be used by all users, including students, faculty, and staff.

#### Specialty Parking

Nearly 2,400 spaces on campus serve “specialty” uses, including event parking, disabled, motorcycle, reserved, service, metered, health care, and other parking. Figure 6.0-4 shows a breakout of specialty parking spaces by type.

### Figure 6.0-4 Specialty Parking

Type	# of Spaces
Event Garage (F)	604
Disabled	435
Motorcycle	198
Reserved	177
Service	240
Metered	118
Health care	44
Other – overflow, pay by space, car pool, electric vehicle hybrid parking, etc.	581
<b>Total</b>	<b>2,397</b>

#### Parking Utilization Study

In October 2018, University staff performed a detailed 5-day Parking Utilization Study for all major lot types on campus, including number of vehicles parked in each lot, utilization by location and time, average counts by location and time of day, and parking capacity by type.

In summary, the study indicated that, in general, the student, faculty, staff, and housing parking lots are more than 70%

<sup>14</sup> In Fall 2018, UCF sold 31,821 “D” or “DT” commuter student permits, and in Spring 2018, 10,314 permits.

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occupied during most periods of the day, and several are close to full capacity.

Peak usage on an average weekday is between 10am and noon; when faculty and student lots were approximately 95% and 92% occupied, respectively. Parking availability was seen in the faculty and student lots after 4pm on most days.

## c. Transit Circulation

### NARRATIVE

UCF offers various transit options for students, faculty, and staff to travel on- and off-campus. The University is served by both public and private transit systems.

The LYNX system provides regional, public transportation throughout the metropolitan Orlando area, and KnightLYNX (a collaborative effort between LYNX and the UCF Student Government) provides late night, weekend bus service to students on two routes near campus.

The University provides transportation for students living in apartment complexes within one mile of campus through the Campus Transit Shuttle system, which includes 15 regular, fixed shuttle routes serving 22 apartment complexes.

The University also runs four Pegasus Express shuttles throughout campus for 12 hours per day to alleviate internal roadway congestion.

### TRANSIT SERVICES Multimodal Centers

Multimodal Centers are locations that accommodate transit arrivals and transfers from one means of transit to another. Examples are:

- UCF/LYNX Transit Center on Leo Lane
- Research I Bus Terminal on Scorpius Drive

### LYNX

LYNX is the regional, public transit service provider that connects the University to the greater Orlando area, including Downtown Orlando.

The LYNX bus service enters the campus via University Boulevard and uses the UCF/LYNX Transit Center, a multimodal hub located near a parking garage, a large surface parking lot, and outer perimeter pedestrian walkways. It is important to note that the LYNX bus routes also have stops near several residential clusters where they may serve students.

Link #13:

Link #13 is specific to the University, and services the following areas:

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Link #104	<p>Primary stops for the link include:</p> <ul style="list-style-type: none"><li>• Lynx Central Station</li><li>• Colonial Plaza SuperStop</li><li>• Fashion Square Mall</li><li>• VA Clinic</li><li>• Advent Health Winter Park</li><li>• UCF/LYNX Transit Center</li></ul>
Link #434	<p>Link #104 stretches from Downtown Orlando at the LYNX Central Station, down to the UCF campus via SR 50, Colonial Drive.</p> <p>Primary stops for this link include:</p> <ul style="list-style-type: none"><li>• Lynx Central Station</li><li>• Fashion Square Mall</li><li>• Semoran Boulevard and E. Colonial Drive</li><li>• Valencia College East</li><li>• Alafaya Trail and Colonial Drive</li><li>• UCF/LYNX Transit Center</li></ul>
<b>KnightLYNX</b>	<p>Link #434 offers flex service within the City of Oviedo. The route originates at Seminole State College Altamonte and commences at the University, serving SR 434 in the following areas: UCF, Oviedo, Winter Springs, Longwood, and Forest City.</p> <p>Primary stops for the link include:</p> <ul style="list-style-type: none"><li>• UCF/LYNX Transit Center</li><li>• Oviedo Medical Center</li><li>• Oviedo Mall</li><li>• Winter Springs City Hall</li><li>• South Seminole Hospital</li><li>• US 17/92 and SR 434</li><li>• SunRail – Longwood Station</li><li>• Wekiva Springs Lane and SR 434</li><li>• Seminole State College Altamonte</li></ul>
Link #210	<p>KnightLYNX is a Student Government Association (SGA) Partnership with LYNX that connects the UCF community to high-demand locations around UCF with free rides on Friday and Saturday evenings.</p> <p>Primary stops for the link include:</p> <ul style="list-style-type: none"><li>• UCF Arena</li><li>• UCF Recreation and Wellness Center</li><li>• Alafaya Trail and Colonial Drive</li><li>• Alafaya Trail and Waterford Lakes Parkway</li></ul>

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### UCF Shuttle System

The University maintains a fleet of approximately forty-nine (49), 40-passenger shuttle buses. The shuttle system is an important transportation alternative to the single-passenger automobile.

- The UCF shuttle system transports approximately 9,000 passenger boardings daily.
- Average for the past three years is 1.9 million boardings annually.
- 1.9 million divided by 210 class days = 9,047 boardings per day.

### Pegasus Express

UCF offers an intra-campus shuttle route, The Pegasus Express, which operates on class days from 7am to 7pm. Two (2) routes provide an alternative transportation option for students, faculty, and staff with 11 strategic bus stops around campus. Both on-campus lines run during Summer semesters from 7am to 4pm, excluding Saturdays. The stops include:

1	UCF Student Union
2	Lake Claire Community
3	Additions Arena / Knights Plaza / Towers
4	Engineering / Business Administration / CREOL / Research I
5	Physical Sciences / Student Health Center
6	Nike / Hercules / Neptune Communities / Red Coach Connect
7	Ferrell Commons / Recreation and Wellness Center
8	Nike / Hercules / Neptune Communities / Center for Multilingual Multicultural Studies
9	Library / Millican Hall / Apollo
10	Teaching Academy / Howard Phillips Hall
11	UCF / LYNX Transit Center

### Off-Campus Transit

Fifteen (15) off-campus routes serve twenty-two (22) student housing complexes within a mile of UCF, as well as the Central Florida Research Park.

**Figure 6.0-5 Off-Campus Shuttle Routes**

Route	Apartment Complex(s)	UCF Stop
• Route 1	Knights Circle	Student Union
• Route 2	College Station / Boardwalk	Millican Hall
• Route 3	The Verge / The Place at Alafaya	UCF / LYNX Transit Center
• Route 4	Mercury 3100 / Campus Crossings	Millican Hall
• Route 5	Village at Science Drive / Research Pavilion	Health Center
• Route 6	Northgate Lakes / Tivoli Apartments	HPA
• Route 7	The Pointe at Central	Millican Hall
• Route 8	The Station / Riverwind at Alafaya	HPA
• Route 9	Knights Landing / Research Park	Health Center
• Route 10	Orion on Orpington / The Lofts	UCF / LYNX Transit Center

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• Route 11	The Marquee	UCF / LYNX Transit Center
• Route 12	University House	Millican Hall
• Route 13	NorthView	HPA
• Route 14	Plaza on University	UCF / LYNX Transit Center
• Route 15	Arden Villas / Collegiate Village Inn	UCF / LYNX Transit Center

### Satellite Campus Transit

Satellite Campus Shuttle Routes provide an excellent transportation solution for students who may have classes on the Main Campus and at satellite campus locations.

### Rosen College of Hospitality Management (RCHM)

Two (2) weekday buses operate on one (1) transit route to RCHM from the Main Campus. With nine round trips every day, leaving from the Student Union near stop number 1 on Aquarius Agora Drive, the Rosen College shuttle provides a reliable transportation option for students, faculty, and staff to commute to RCHM.

### Health Sciences Campus at Lake Nona

Three (3) buses are performing six (6) round trips on one (1) transit route from the Main Campus to the Health Sciences Campus at Lake Nona. The buses depart from the Physical Sciences building (stop no. 9 at the Main Campus) and stop at the Biomolecular Research Annex on the way to the Health Sciences Building on Laureate Boulevard in Lake Nona.

### UCF Downtown Campus

On August 26, 2019, service to the UCF Downtown Campus began. Two (2) buses operate on one (1) route from the UCF/LYNX Transit Center to UCF Downtown. These shuttles maintain set scheduled departure times from the Main Campus and UCF Downtown. This service is only offered on class days and is subject to change based on course offering times.

### Figure 6.0-6 Average UCF Shuttle Ridership Table – Fall 2018

Figure 6.0-6 details the average ridership of all UCF shuttles for Fall 2018. To summarize, a significant portion of the University's student, faculty, and staff arrive each day via the shuttle system. Total ridership was also tallied by month, with October and September showing the highest ridership respectively. This transit option significantly reduces the overall impact of the University on the surrounding roadway network.

Route		Total	Average Daily
1	Knights Circle	212,215	3,422
2	College Station / Boardwalk	36,810	593
3	The Verge / The Place at Alafaya	61,516	992
4	Mercury 3100 / Campus Crossings	60,846	981
5	Science Drive	44,701	720
6	Northgate Lakes / Tivoli Apartments	57,791	932
7	The Pointe at Central	73,709	1,188
8	The Station / Riverwind	15,837	255
9	Knights Landing / Research Parkway	20,660	333

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10	Orion on Orpington / The Lofts	53,690	865
11	The Marquee	58,016	935
12	University House	46,154	744
13	NorthView	33,384	538
14	Plaza on University	70,471	1,136
15	Arden Villas / Collegiate Village Inn	21,866	352
PegExp	Pegasus Express	15,594	251
PNR	Park and Ride	19,156	308
UCFDT	UCF Downtown <sup>15</sup>	218	3
GS	Tuesday Grocery Shuttle	5,426	87
HSC	Health Sciences Campus, Lake Nona	12,626	203
RC	Rosen College of Hospitality Management	50,227	810
<b>Total Ridership</b>		<b>970,913</b>	
<b>Average Daily Ridership</b>		<b>15,659</b>	

Maps and Tables for  
c. Transit Circulation.

See Maps & Tables at the end of this element for oversized Maps and Tables:

- Figure 6.0-16 Existing Campus Transit Service Map depicts the Lynx and UCF shuttle routes.
- Figure 6.0-17 Off-Campus Shuttle Map depicts the routes that serve off-campus residential communities.

### d. Bicycle and Pedestrian Circulation

#### NARRATIVE



The pedestrian and bicycle networks are key components of the University's multimodal transportation system. Since most students, faculty, and staff walk between their destinations, once on campus, it is important that a highly-developed network exist to allow for circulation.

The University has developed an intricate network of bicycle and pedestrian paths throughout the Campus, anchored with three concentric paths, Pegasus (400-foot radius), Mercury (800-foot radius), and Aquarius (1,200-foot radius). There is a network of connecting paths that crisscross the campus and connect at significant pedestrian generators such as academic buildings, parking facilities, multimodal centers, and on-campus residential complexes. A map of UCF's intricate sidewalk network can be found at: <https://map.ucf.edu/sidewalks/>.

The bicycle/pedestrian network is key to ensuring that all of the other modes that access the campus, such as personal vehicles (via parking facilities) and transit, are used to the fullest.

<sup>15</sup> Fall 2018 was a full year before the DT Campus opened – ridership was to the Center for Emerging Media (CEM).



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The University has made a significant investment in facilities necessary to encourage pedestrian and bicycle activity. These safe, aesthetically-pleasing facilities are well-used by the student population, as well as by an active cycling community.

Many University buildings have one or more bicycle racks located at their entrances. As of Spring 2019, the University provides bicycle racks for approximately 6,500 bicycles. An interactive map for their locations is found at: <http://map.ucf.edu/bikeracks/> .

## e. Sustainable Transportation Approaches

### NARRATIVE

The University has been developing various mobility options, as well as working to increase the student housing-to-enrollment ratio within the Context Area, to reduce the use of single-occupant vehicles.

The primary mobility options and strategies to reduce the dependence upon the personal automobile offered by the University include:

- Dependable campus shuttle service, with on-campus headways of 10 minutes or less during peak periods and special events, and off-campus headways of 15 minutes to University-affiliated housing and businesses in the Context Area.
- Robust connectivity via pedestrian and bicycle facilities. In support of the enhanced bicycle facilities, the UCF Student Government Association, in conjunction with the Student Union, offers a bike share program that allows students the daily rental of bicycles.

Additional sustainable transportation approaches are outlined below:

### Green Initiative

#### Electric Vehicle Charging Stations

Electric Vehicle (EV) charging stations support UCF's commitment to sustainability and clean transportation initiatives. For the 2018-2019 year, the EV charging stations saved 161,060 pounds of CO<sub>2</sub>, and 8,300 gallons of gasoline through the use of alternative fueling.

Fifteen (15) EV charging stations are located in five (5) high-demand parking areas throughout campus:

- Parking lot D1 (Memory Mall)
- Parking lot B6 (Visitor Information Center)
- Parking lot B1 (Teaching Academy)
- Parking Garage A (1st level near elevators)
- Parking Garage D (4th Level)

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### Car-Sharing

There is an hourly service fee to use the EV charging stations. After a 4-hour maximum charge time, there is a 30-minute courtesy window to relocate the vehicle.

The University is committed to ride-sharing and car-sharing for the reasons outlined below:

- reducing the demand for parking facilities on campus
- reducing traffic congestion
- preserving the environment by reducing gasoline consumption, greenhouse gases, carbon footprint
- providing economical, stress-free, convenient, and safe alternative transportation for students, faculty, and staff
- promoting ridesharing
- reducing wear and tear on personal vehicles

### Zipcar

Zipcar is a membership-based car sharing company providing automobile reservations to its members billable by the hour or day. It is an alternative to traditional car rental and car ownership. Currently, over 700 members actively use the service at UCF. There are nine (9) existing Zipcar vehicles on campus located in lots B9 and H4, and in Garage G. The average utilization rate is 23.24%.

### Zimride

The University initiated a ride sharing program called Zimride. This complimentary program offers students, faculty, and staff the flexibility to use social media networking to share rides to various destinations. To date, 4,330 participants have used this program, as noted at <https://new.zimride.com/ucf>.

### Parking Solutions

#### Park and Ride

The University has implemented a park and ride system at Lot E-5, with UCF shuttles readily available to transport students to the multimodal center known as Research I Bus Stop, located between Research I and Parking Garage C.

The shuttles operate every 15 minutes and provide students the convenience of peripheral parking and being transported to the inner core. These benefits support the University's mission to reduce vehicular traffic in the inner core of campus.

Like intercept garages, Park-and Rides stop cars before they reach the Campus Core, effectively reducing traffic congestion.

### Transit

The University provides high-quality transit for travel between residential areas and parking lots to other on-campus destinations. In conjunction with LYNX, the University continues to improve regional and campus transit service to, from, and within the University.

### Shuttle Tracking

To facilitate UCF Shuttle ridership, buses can be tracked through a website (<https://ucf.crystal-tod.com/rider/>) and smartphone app (UCF Mobile). Riders can view the shuttles' GPS locations with

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### **Pedestrian Walkways and Bicycle Paths**

estimated arrival and departure times, bus stops, vehicle numbers, and shuttle routes.

Residence halls, visitor parking areas, and campus parking lots are connected to other campus destinations via a network of pedestrian walkways and bicycle paths.

### **Bike Parking**

The University provides bicycle racks and skateboard lockers adjacent to classroom buildings to encourage non-vehicular circulation.

### **Limited-access Service Roads**

UCF limits non-service vehicles within the Academic Core to promote pedestrian and bicycle safety. Vehicles with Disabled Parking Permits may park in designated spaces in the Academic Core.

### **Transportation Demand Management (TDM)**

The University actively promotes TDM strategies both on-campus and in the Context Area. The University has implemented strategies, including, but not limited to:

- Flextime scheduling for University staff
- Comprehensive transit and shuttle services
- Improved pedestrian and non-vehicular facilities
- Increased number of students living on campus
- Modifications to class scheduling times

### **Academic Solutions**

The University has implemented academic solutions to reduce congestion and dependence on personal vehicles.

### **Class Scheduling**

The University has adjusted class scheduling to mitigate peak-hour traffic conditions and maximize utilization of existing transportation infrastructure.

### **Online Degree Program**

UCF has robust online degree programs that reduce the need for students to travel to campus.

## **North Campus – Event Traffic and Parking**

### **Kenneth G. Dixon Athletics Village**

The Kenneth G. Dixon Athletics Village is a mixed-use intercollegiate athletics complex located on the north end of campus. Dixon Village includes the 45,000 seat Spectrum Stadium which hosts UCF home football games.

Although the football stadium is a special trip generator, trips occur during non-peak hours. The impacts of the Dixon Village have been incorporated in previous sections of this element.

For the purposes of accommodating traffic generated by the stadium, the University has taken several measures to improve the flow of traffic entering and exiting the campus on game days. These strategies include signage, post-game activities that keep fans on campus and decrease traffic peaks, and the reversal of traffic lanes to double the capacity of roadways.

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### Knights Plaza



### Event Traffic and parking

Just across Gemini Boulevard and north of Memory Mall is Knight's Plaza, a lively urban environment that hosts more than 200 events per year and includes the following facilities:

- Additions Arena
- The Venue
- Retail and commercial spaces
- The Towers (4 student residential buildings with over 2,000 units)
- Three (3) parking garages

Major events that occur on-campus and require coordination of guest parking include high school, state college, and University commencements, sporting events, and concerts. UCF garages and parking lots accommodate guests at these events.

## FUTURE CONDITIONS

### Future Socioeconomic Conditions

Since the 2015-25 CMP update, Main Campus enrollment has increased from ~50,000<sup>16</sup> to ~54,000.<sup>17</sup> See 1.0

INTRODUCTION for Enrollment Projections for the 10-Year Planning Timeframe.

### Committed Transportation Improvements

Pursuant to a 2016 Campus Development Agreement (CDA), UCF and Orange County identified the following Partnership Projects that will "improve the road deficiencies outlined in the 2015-25 UCF Campus Master Plan Update."

- (a) Participating in a University Area Pedestrian Safety Study, with UCF undertaking the following:
- 1) Providing an additional 5 feet of right-of-way beyond FDOT's right-of-way;
  - 2) Designing and constructing the first phase of the Gateway Project, a landing pad and entryway features at University Boulevard and Alafaya Trail;
  - 3) Paying for the installation of recommended mid-block crossings on Alafaya Trail and on University Boulevard;
  - 4) Installing pedestrian-scale lighting within the right-of-way on UCF property along the UCF side of Alafaya Trail;
  - 5) Paying Duke Energy for lighting maintenance and utilities along the UCF side of Alafaya Trail;
  - 6) Contributing to the signalization changes at University Boulevard and Alafaya Trail;

<sup>16</sup> 2014 Fall Headcount 49,923 per 2015-25 Campus Master Plan, 2.11 Transportation Element, Table 2.11-1: UCF Projected Attendance for the Main Orlando Campus.

<sup>17</sup> 2018 Fall Headcount 54,324 per UCF Institutional Knowledge Management (IKM).

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- 7) Developing and providing educational programs related to pedestrian safety; and
  - 8) Providing wayfinding signage on Alafaya Trail and University Boulevard.
- (b) Developing and implementing a comprehensive wayfinding signage plan for the UCF Campus (completed);
  - (c) Developing a bicycle pathway through the UCF Campus that links the existing trail systems of Orange and Seminole Counties;
  - (e) UCF and Orange County jointly evaluating the operability and compatibility of the County's and UCF's traffic control systems;
  - (f) Working in partnership to secure state funds for concurrency; and
  - (g) UCF and Orange County jointly performing annual traffic counts on backlogged roads identified in CDA Section 10.6.

The MetroPlan Orlando Transportation Improvement Program (2019–2023) and the Seminole County Public Works Department report no other programmed improvements for the external facilities located in the Context Area.

### Future Parking Structures

The University will strive to provide additional garage(s) during the 10-year Planning Timeframe, to add 2,000 or more parking spaces.

No future parking garages are intended to be constructed inside of Gemini Boulevard.

### Intercept Garages

UCF will embrace the concept of intercept garages, located at the perimeter of campus to reduce the number of vehicles travelling into the campus core, and thereby reduce traffic congestion within the campus. Transportation from these garages to the campus core could include short-headway, zero-emission shuttles, autonomous shuttles, bicycle/pedestrian paths, etc.

Locations near these intersections will be studied (not in priority order):

- Alafaya Trail and University Boulevard
- Alafaya Trail and Centaurus Boulevard (this garage could also serve events at the future Performing Arts Center)
- North Orion Boulevard and McCulloch Road (this garage could also serve Intercollegiate Athletics events)
- Alafaya Trail and Central Florida Boulevard (this garage could also serve events at the RWC Sports Complex)
- Alafaya Trail and North Gemini Boulevard (this garage could also serve Greek Park)

Future garages will be listed on the 10-Year Schedule of Capital Projects (SCP) in element 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION.

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**Horizon YR 2030  
Roadway Conditions**

Background Growth  
Assessment

Multimodal Mobility Plan  
Assessment

**Figure 6.0-7 Trip Rate  
per Student (2009 to  
2014)**

**Figure 6.0-8 Trip Rate  
per Student (2014 to  
2019)**

**Year 2030 Offsite Roadway Analysis**

Pursuant to Florida Statute 1013.30(3), an analysis of the projected impacts of development on offsite infrastructure was conducted for Horizon Year 2030. The following analysis was conducted to project the growth identified in the year 2030 horizon.

To determine the background traffic growth through the Horizon Year 2030, the following resources were examined:

The anticipated project population growth rate for Orlando between YR 2020 and YR 2030 is 0.83% based on the latest BEBR projections.

A comparison of historical traffic counts obtained from either the Orange County or Seminole County Annual Count Programs over the previous planning period resulted in negative annual growth rates or growth rates less than 1% per year within the Context Area. Therefore, based on this assessment, and to provide a conservative analysis, a minimum 1% background growth rate was assumed for all roadways within the Context Area.

Although enrollment has increased since the 2015-25 Campus Master Plan Update was adopted, the University has continued to reduce the use of single-occupant vehicles, resulting in fewer trips in and out of campus.

As identified in the Sustainable Transportation Approach section, the University has achieved these reductions through various strategies such as UCF shuttle ridership, Lynx Bus ridership, pedestrian and bicycle trips, park and ride areas, vehicle sharing, online course offerings, and adjustments to class scheduling.

The evidence of these successful strategies is outlined in Figures 6.0-7 and 6.0-8. In the previous planning period (2014 to 2019), the University generated 0.45 trips per additional student.

However, through the strategies highlighted within this CMP, the University has further reduced this trip rate over the most recent 5-year period; and has decreased the total number of trips entering/exiting the campus, while the student population has increased.

	YR 2009	YR 2014	Net Increase	Additional Trips per Student
Students	42,150	49,000	6,850	0.45
Vehicle Trips	80,476	83,551	3,075	

	YR 2014	YR 2019	Net Increase	Additional Trips per Student
Students	49,000	54,324	5,324	-1.30
Vehicle Trips	83,551	76,620	-6,931	



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**Figure 6.0-9 UCF Trips based on Projected Student Enrollment**

The University has successfully decreased traffic volumes while increasing enrollment; however, for the purpose of providing a conservative analysis, the future growth traffic due to anticipated enrollment through YR 2030 will be based on the previous planning periods rate of 0.45 trips per additional student.

Utilizing this methodology, the resulting growth based on anticipated enrollment is summarized in Figure 6.0-9 UCF Trips based on Projected Student Enrollment.

See 1.0 INTRODUCTION for the method used to project student enrollment throughout the 10-year planning timeframe.

	2019	2030	Net Increase
Students	54,324	60,608 <sup>18</sup>	6,284
Trips per Additional Student	0.45		
Vehicle Trips	76,620	79,448	2,828

This net increase of trips was distributed to the Context Area roadways utilizing the latest Orlando Urban Area Transportation Study (OUATS) transportation planning model.

**Year 2030 Horizon Year Analysis**

The 2030 Horizon-Year Traffic Assessment is provided in Figure 6.0-11 Future Roadway Conditions Table, found in Maps & Tables at the end of this element.

As shown in Figure 6.0-11, four (4) roadways are projected to operate under adverse conditions, based on the maximum service volumes provided in the 2013 FDOT Quality/Level of Service Handbook. It should be noted that these roadways will operate adversely with or without the anticipated trips generated by the projected student population growth; thus, these roadways should be identified as pre-existing deficiencies.

As the University and the surrounding area continue to grow, the University will continue to implement the strategies identified in the Sustainable Transportation Approach section. As evidenced by the comparison of Year 2014 and Year 2019 traffic volumes, the University will continue to promote strategies that reduce the use of the single-occupant vehicle and encourage multimodal travel, therefore further reducing the traffic volumes within the Context Area.

<sup>18</sup> Projected Enrollment Source: See 1.0 INTRODUCTION, Figure 1.0-1: Main Campus Projected Enrollment



## **6.0 TRANSPORTATION**

### **MAPS & TABLES**

## 6.0 TRANSPORTATION MAPS & TABLES

**Figure 6.0-10 Existing Roadway Conditions Table**

Figure 6.0-10 is a detailed analysis of existing conditions of the roadways within the Context Area, including number of lanes, adopted level of service (LOS) standard, peak hour adopted level of service (LOS) standard, current peak hour volumes, and current LOS.

Road Name	From	To	# Lanes	Jurisdiction	Functional Classification	Adopted LOS	AADT	Adopted Pk. Hr. LOS Capacity	PM Pk. Hr./Dir. Volume	Source	LOS
Alafaya Trail (SR 434)	Colonial Drive (SR 50)	Science Drive	6LD	E	62,659	0.090	0.56	3,020	3,158	Orange County	F
	Science Drive	University Blvd.	6LD	E	59,749	0.090	0.56	3,020	2,904	Orange County	C
	University Blvd.	McCulloch Road	6LD	E	43,674	0.090	0.54	3,020	2,201	Orange County	C
	McCulloch Road	Chapman Road	6LD	E	45,264	0.091	0.57	3,020	2,340	FDOT	C
Central Florida Blvd.	Alafaya Trail (SR 434)	Gemini Blvd.	4LD	E	6,455	0.089	0.66	1,530	377	VHB Study	C
Centaurus Drive	Alafaya Trail (SR 434)	Gemini Blvd.	4LD	E	7,553	0.090	0.66	1,530	451	VHB Study	C
Chapman Road	Aloma Avenue	Alafaya Trail (434)	4LD	E	25,603	0.091	0.57	2,000	1,323	Seminole County	C
Colonial Drive (SR 50)	Rouse Road	Alafaya Trail (434)	6LD	E	53,060	0.900	0.53	3,020	2,531	Orange County	C
Discovery Drive/ Libra Drive	Research Parkway	Gemini Blvd.	4LD	E	8,337	0.104	0.54	1,530	469	VHB Study	C
Gemini Blvd.	Central Florida Blvd.	University Blvd.	4LD	E	18,408	0.079	0.57	1,530	823	VHB Study	D
	University Blvd.	Centaurus Drive	4LD	E	12,942	0.090	0.65	1,530	752	VHB Study	D
	Alafaya Trail (SR 434)	Greek Park Drive	4LD	E	16,453	0.079	0.59	1,530	762	VHB Study	D
	Greek Park Drive	N. Orion Blvd.	4LD	E	15,720	0.085	0.58	1,530	770	VHB Study	D
	N. Orion Blvd.	Libra Drive	4LD	E	23,067	0.092	0.61	1,530	1,284	VHB Study	D
Gemini Blvd. East	Libra Dr.	Scorpius St. (Star St.)	4LD	E	20,807	0.095	0.67	1,530	1,316	VHB Study	D
Gemini Blvd. South	Andromeda Dr.	Hercules Dr.	4LD	E	23,038	0.079	0.52	1,530	941	VHB Study	D
Greek Park Drive	Centaurus Drive	Gemini Blvd. North	4LD	E	8,232	0.096	0.67	1,530	531	VHB Study	C
Lake Pickett Road	Colonial Drive (SR 50)	Percival Road	2L	E	15,001	0.090	0.55	880	743	Orange County	C
	Percival Road	S. Tanner Road	2L	E	12,670	0.095	0.55	740	662	Orange County	D
Lokanotosa Trail	Rouse Road	Alafaya Trail (434)	2L	E	9,700	0.095	0.53	800	493	Orange County	D
Lockwood Blvd.	McCulloch Road	Oviedo City Limits	4LD	E	15,749	0.091	0.57	1,700	814	Seminole County	D
McCulloch Road	Alafaya Trail (SR 434)	Lockwood Blvd.	4LD	E	28,560	0.091	0.57	2,000	1,476	Seminole County	C
	Lockwood Blvd.	Old Lockwood	2L	E	20,229	0.091	0.57	880	1,046	Seminole County	F
N. Orion Blvd.	McCulloch Road	Gemini Blvd.	4LD	E	14,779	0.108	0.73	1,530	1,170	VHB Study	D
Percival Road	Tanner Road	Lake Pickett Road	2L	E	6,121	0.095	0.50	800	286	Orange County	C
Rouse Road	Colonial Drive (SR 50)	Lokanotosa Trail	4LD	E	29,111	0.090	0.54	2,000	1,415	Orange County	C
	Lokanotosa Trail	University Blvd.	4LD	E	24,551	0.090	0.54	2,000	1,193	Orange County	C
	University Blvd.	Seminole County Line	4LD	E	12,452	0.090	0.51	2,000	572	Orange County	C
University Blvd.	Rouse Road	Alafaya Trail (434)	6LD	E	54,868	0.090	0.56	3,020	2,765	Orange County	C
	Alafaya Trail (SR 434)	Gemini Blvd.	6LD	E	21,282	0.079	0.52	2,304	868	VHB Study	C
W. Plaza Dr.	Knights Victory Way	N. Orion Blvd.	2L	E	1,761	0.086	0.94	720	142	VHB Study	C

**Notes:** This table includes roadway segments included within the Context Area, as shown in Figure 6.0-12 Transportation Context Area Map

LOS service volumes based on the 2012 FDOT Quality/Level of Service Manual, Seminole County CMS, Orange County Traffic Volumes taken from latest Orange County (YR 2012) and Seminole County (YR 2013) count program.

UCF Trips Generated by enrollment growth reflects the projected increase in student enrollment and the trip rate of 0.45 per additional student, consistent with the previous Campus Master Plan. It should be noted that this is a conservative analysis as trips decreased over the previous planning timeframe.

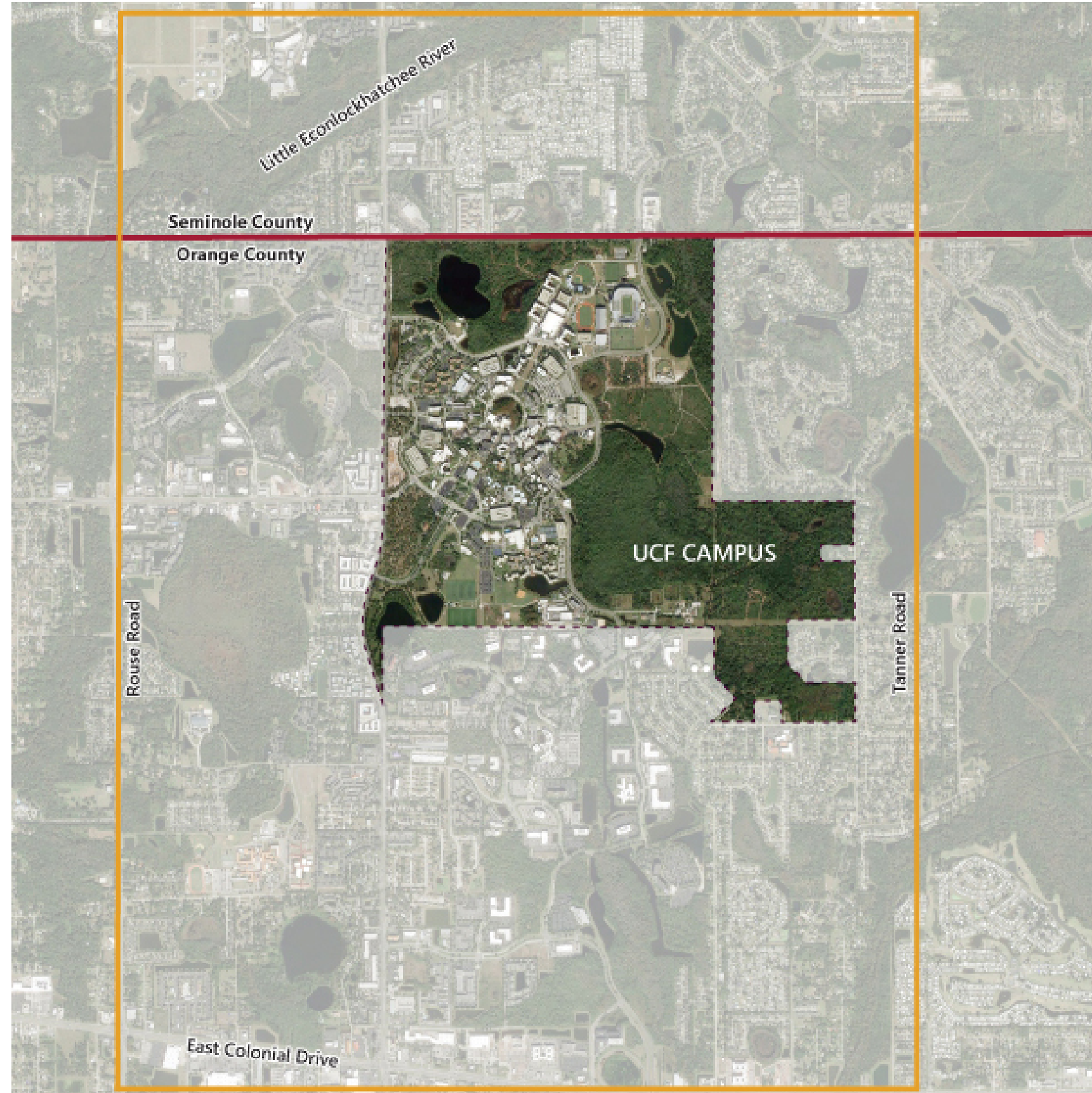
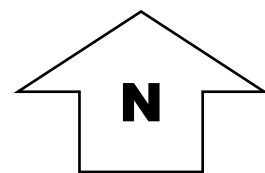
**6.0 TRANSPORTATION  
MAPS & TABLES**

**Figure 6.0-11 Future  
Roadway Conditions  
Table**

Road Name	From	To	Roadway Characteristics				YR 2030 Background Traffic				UCF Trips Generated by Enrollment Growth			YR 2030 Total Trips				YR 2030 Traffic Conditions Comparison		
			# Lanes	Adopted LOS	Adopted Pk. Hr. LOS Capacity	Growth Rate	Daily	PM Peak	V/C	Pre-Existing Deficiency (Yes/No)	YR 2030 Distribution %	Daily Project Trips	PM Peak Project Trips	Daily	PM Peak	V/C	Deficiency (Yes/No)	YR2030 Background V/C	YR 2025 Total V/C	Add'l Deficiency Created (Yes/No)
Alafaya Trail (SR 434)	Colonial Drive (SR 50)	Science Drive	6LD	E	3,020	1.00%	70,178	3,537	1.17	Yes	20.08%	568	29	70,746	3,466	1.18	Yes	1.17	1.18	No
	Science Drive	University Blvd.	6LD	E	3,020	1.00%	66,919	3,252	1.08	Yes	7.88%	223	11	67,142	3,263	1.08	Yes	1.08	1.08	No
	University Blvd.	McCulloch Road	6LD	E	3,020	1.00%	48,915	2,465	0.82	No	9.00%	255	12	49,170	2,477	0.82	No	0.82	0.82	No
	McCulloch Road	Chapman Road	6LD	E	3,020	1.00%	50,696	2,620	0.87	No	12.70%	359	19	51,055	2,639	0.87	No	0.87	0.87	No
Central Florida Blvd.	Alafaya Trail (SR 434)	Gemini Blvd.	4LD	E	1,530	1.00%	7,165	419	0.27	No	13.73%	388	23	7,553	442	0.29	No	0.27	0.29	No
Centaurus Drive	Alafaya Trail (SR 434)	Gemini Blvd.	4LD	E	1,530	1.00%	8,384	500	0.33	No	9.24%	261	16	8,645	516	0.34	No	0.33	0.34	No
Chapman Road	Aloma Avenue	Alafaya Trail (434)	4LD	E	2,000	1.00%	28,675	1,482	0.74	No	1.66%	47	2	28,722	1,484	0.74	No	0.74	0.74	No
Colonial Drive (SR 50)	Rouse Road	Alafaya Trail (434)	6LD	E	3,020	1.00%	59,427	2,835	0.94	No	3.01%	85	41	59,512	2,876	0.95	No	0.94	0.95	No
Discovery Dr./ Libra Dr.	Research Parkway	Gemini Blvd.	4LD	E	1,530	1.00%	9,254	521	0.34	No	17.11%	484	27	9,738	548	0.36	No	0.34	0.36	No
Gemini Blvd.	Central Florida Blvd.	University Blvd.	4LD	E	1,530	1.00%	20,433	914	0.60	No	14.32%	405	18	20,838	932	0.61	No	0.60	0.61	No
	University Blvd.	Centaurus Drive	4LD	E	1,530	1.00%	14,366	835	0.55	No	15.84%	448	26	14,814	861	0.56	No	0.55	0.56	No
	Alafaya Trail (SR 434)	Greek Park Drive	4LD	E	1,530	1.00%	18,263	845	0.55	No	9.24%	261	12	18,524	857	0.56	No	0.55	0.56	No
	Greek Park Drive	N. Orion Blvd.	4LD	E	1,530	1.00%	17,449	854	0.56	No	18.79%	531	26	17,980	880	0.58	No	0.56	0.58	No
Gemini Blvd. East	Libra Dr.	Scorpius St.	4LD	E	1,530	1.00%	23,096	1,461	0.95	No	19.02%	538	34	23,634	1,495	0.98	No	0.95	0.98	No
		Hercules Dr.	4LD	E	1,530	1.00%	25,572	1,044	0.68	No	25.27%	715	29	26,287	1,073	0.70	No	0.68	0.70	No
Gemini Blvd. South	Andromeda Dr.	Hercules Dr.	4LD	E	1,530	1.00%	25,572	1,044	0.68	No	25.27%	715	29	26,287	1,073	0.70	No	0.68	0.70	No
Greek Park Drive	Centaurus Drive	Gemini Blvd. North	4LD	E	1,530	1.00%	9,138	589	0.38	No	8.84%	250	16	9,388	605	0.40	No	0.38	0.40	No
Lake Pickett Road	Colonial Drive (SR 50)	Percival Road	2L	E	880	1.00%	16,801	832	0.95	No	0.02%	1	0	16,802	832	0.95	No	0.95	0.95	No
	Percival Road	S. Tanner Road	2L	E	740	1.00%	14,190	741	1.00	Yes	0.00%	0	0	14,190	741	1.00	Yes	1.00	1.00	No
Lokantosa Trail	Rouse Road	Alafaya Trail (434)	2L	E	800	1.00%	10,864	552	0.69	No	0.74%	21	1	10,885	553	0.69	No	0.69	0.69	No
Lockwood Blvd.	McCulloch Road	Oviedo City Limits	4LD	E	1,700	1.00%	17,639	912	0.54	No	7.35%	208	11	17,847	923	0.54	No	0.54	0.54	No
McCulloch Road	Alafaya Trail (SR 434)	Lockwood Blvd.	4LD	E	2,000	1.00%	31,987	1,653	0.83	No	0.04%	1	0	31,988	1,653	0.83	No	0.83	0.83	No
	Lockwood Blvd.	Old Lockwood	2L	E	880	1.00%	22,656	1,171	1.33	Yes	5.42%	153	8	22,809	1,179	1.34	Yes	1.33	1.34	No
N. Orion Blvd.	McCulloch Road	Gemini Blvd.	4LD	E	1,530	1.00%	15,405	1,299	0.85	No	12.82%	363	29	15,768	1,328	0.87	No	0.85	0.87	No
Percival Road	Tanner Road	Lake Pickett Road	2L	E	800	1.00%	6,856	320	0.40	No	4.48%	127	6	6,883	326	0.41	No	0.40	0.41	No
Rouse Road	Colonial Drive (SR 50)	Lokantosa Trail	4LD	E	2,000	1.00%	32,604	1,585	0.79	No	2.01%	57	3	32,661	1,588	0.79	No	0.79	0.79	No
	Lokantosa Trail	University Blvd.	4LD	E	2,000	1.00%	27,497	1,336	0.67	No	3.27%	92	4	27,589	1,340	0.67	No	0.67	0.67	No
	University Blvd.	Seminole Co. Line	4LD	E	2,000	1.00%	13,946	641	0.32	No	0.00%	0	0	13,946	641	0.32	No	0.32	0.32	No
University Blvd.	Rouse Road	Alafaya Tr. (SR 434)	6LD	E	3,020	1.00%	61,452	3,097	1.03	Yes	20.38%	576	29	62,028	3,126	1.04	Yes	1.03	1.04	No
	Alafaya Trail (SR 434)	Gemini Blvd.	6LD	E	2,304	1.00%	23,623	963	0.42	No	17.74%	502	20	24,125	983	0.43	No	0.42	0.43	No
W. Plaza Dr.	Knights Victory Way	N. Orion Blvd.	2L	E	720	1.00%	1,955	158	0.22	No	3.75%	106	9	2,061	167	0.23	No	0.22	0.23	No



Figure 6.0-12  
Context Area Map






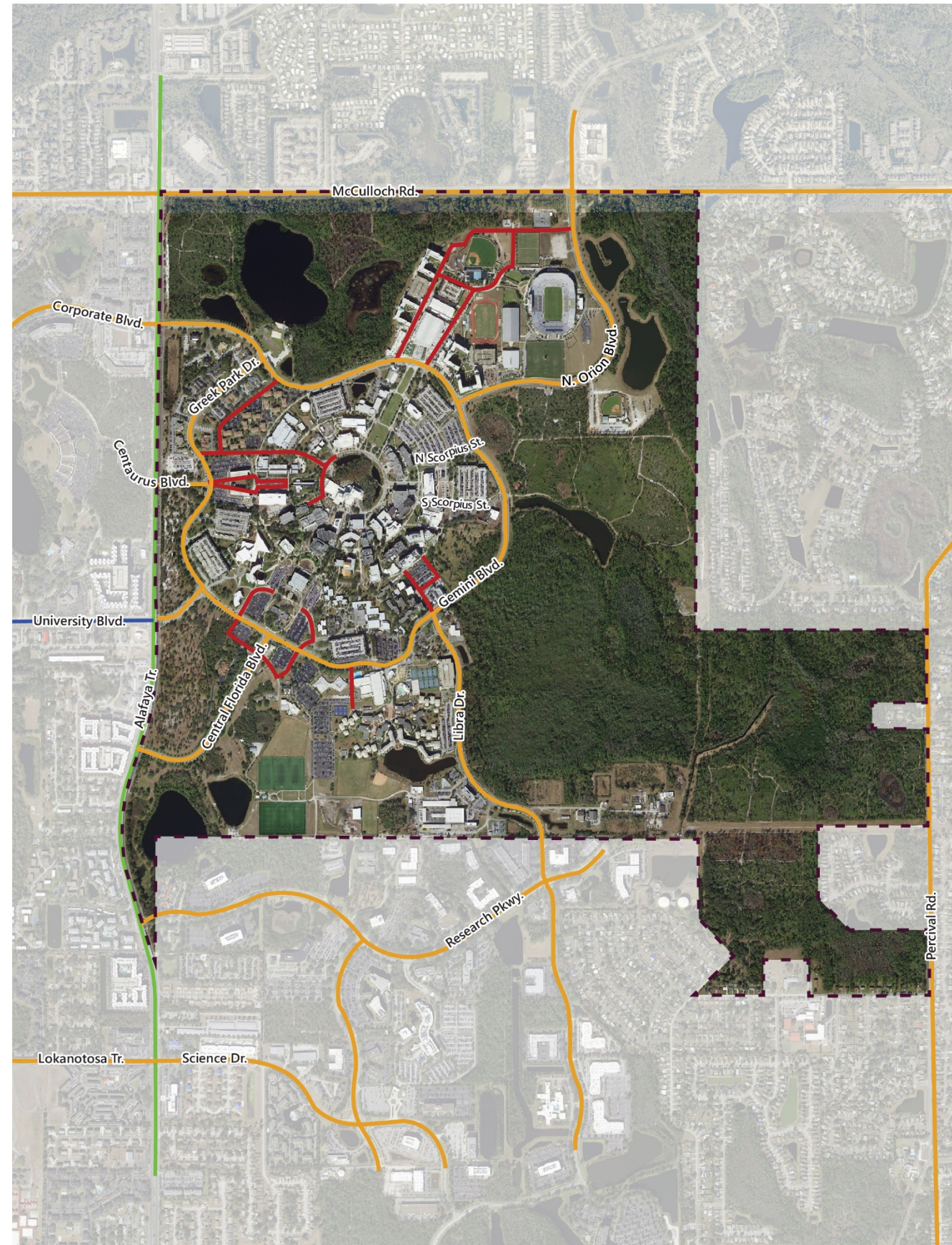
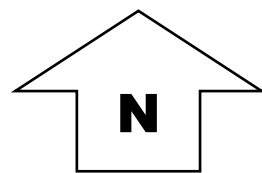
-  County Boundary
-  UCF Campus Boundary
-  Context Area



Figure 6.0-13  
Campus Area  
Roadways Map –  
by Functional  
Classification



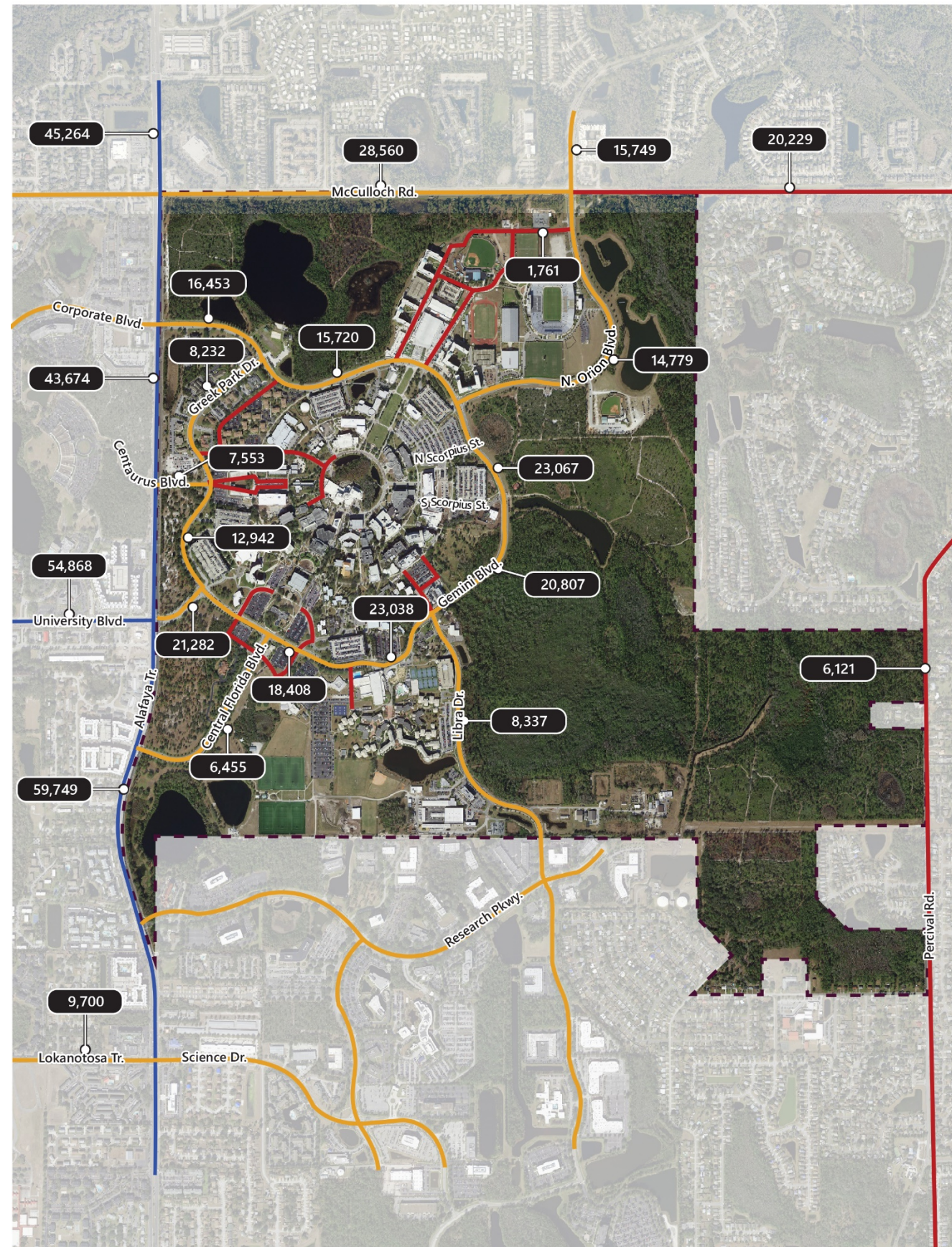
- UCF Campus Boundary
- Minor Arterial
- Minor Collector
- Principal Arterial
- Local Roadway





**Figure 6.0-14  
Existing Roadway  
Network Map and Daily  
Traffic Volume**

A comprehensive  
Campus Master Plan  
Update



- UCF Campus Boundary
- 6-Lane Roadway
- 4-Lane Roadway
- 2-Lane Roadway
- 00,000 Average Daily Traffic

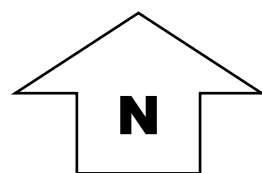
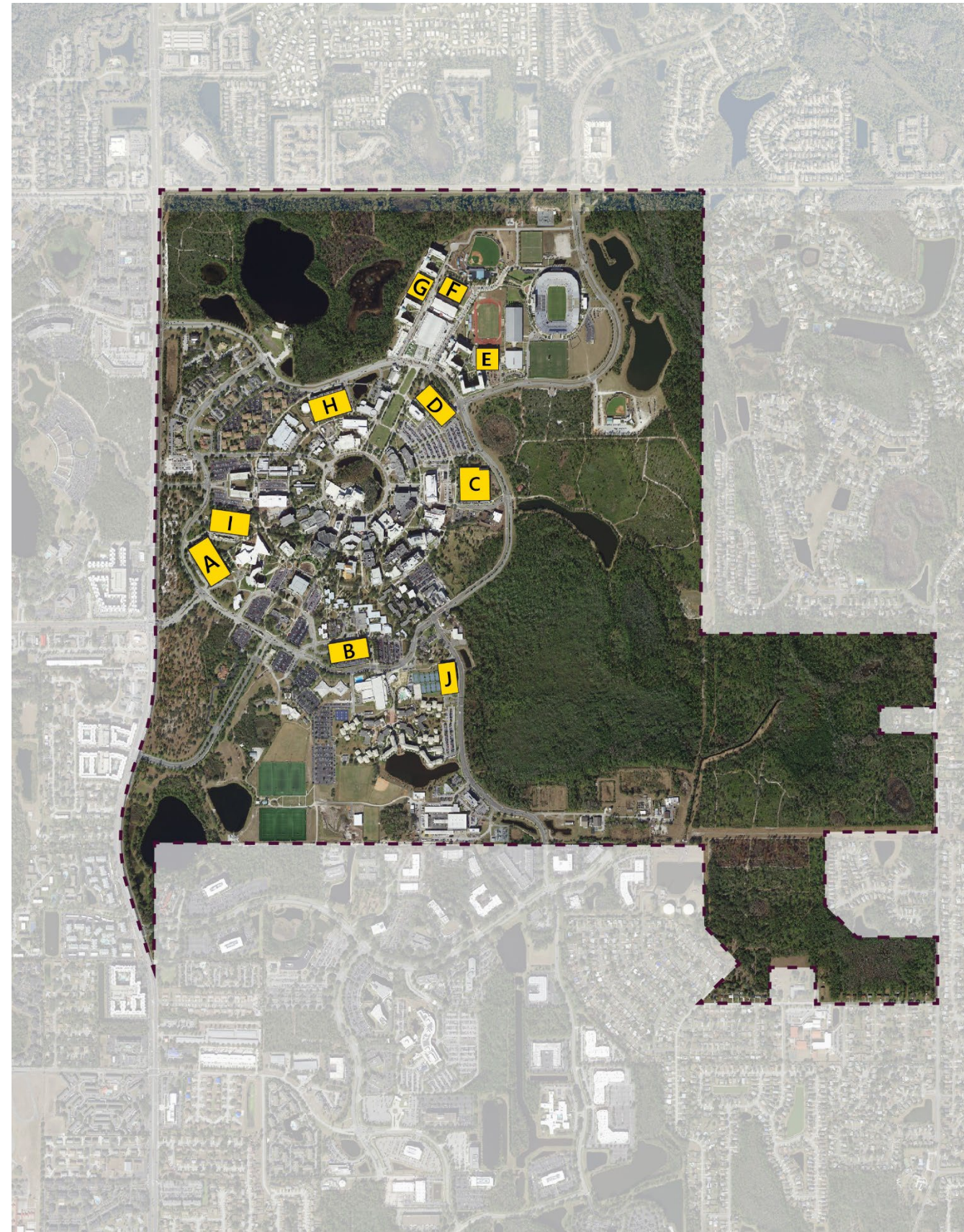




Figure 6.0-15  
Existing Parking  
Structures Map



- UCF Campus Boundary
- Existing Garage

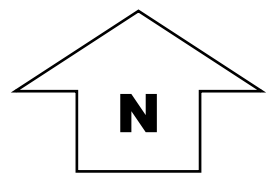




Figure 6.0-16  
Existing Campus  
Transit Service Map



- UCF Campus Boundary
- ⑬ Existing LYNX Routes
- Park and Ride
- The Pegasus Express

- Note: Satellite Campus Routes are not depicted**
- Rosen College of Hospitality Management Campus
  - Heath Sciences Campus at Lake Nona
  - UCF Downtown Campus

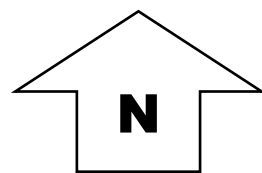
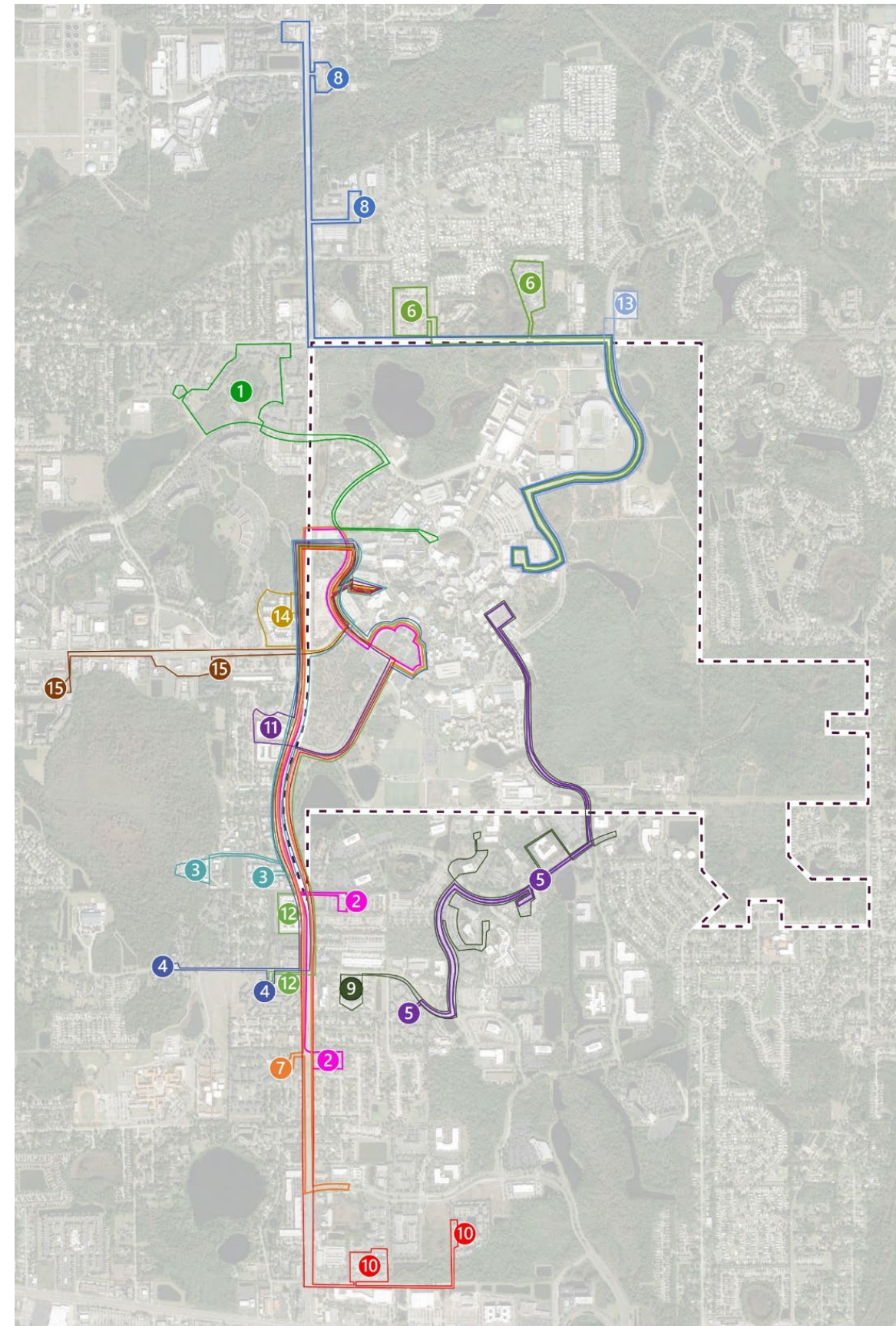
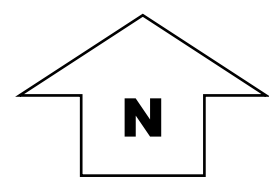




Figure 6.0-17  
Off-Campus UCF  
Shuttle Map



- 1 Knights Circle
- 2 College Station/Boardwalk
- 3 The Verge/The Place at Alafaya
- 4 Mercury 3100/Campus Crossings
- 5 Village at Science Drive
- 6 Northgate Lakes/Tivoli Apartments
- 7 The Pointe at Central
- 8 Riverwind at Alafaya
- 9 Knights Landing/Research Park
- 10 The Lofts/Orion on Orpington
- 11 The Marquee
- 12 University House Central Florida
- 13 Northview
- 14 Plaza on University
- 15 Collegiate Village Inn