



# US 192 Alternatives Analysis Final Report



PREPARED BY

**VHB** *Vanasse Hangen Brustlin, Inc.*

225 E. Robinson Street  
Suite 300  
Orlando, FL 32801  
407.839.4006

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# ES

## Executive Summary

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### Background

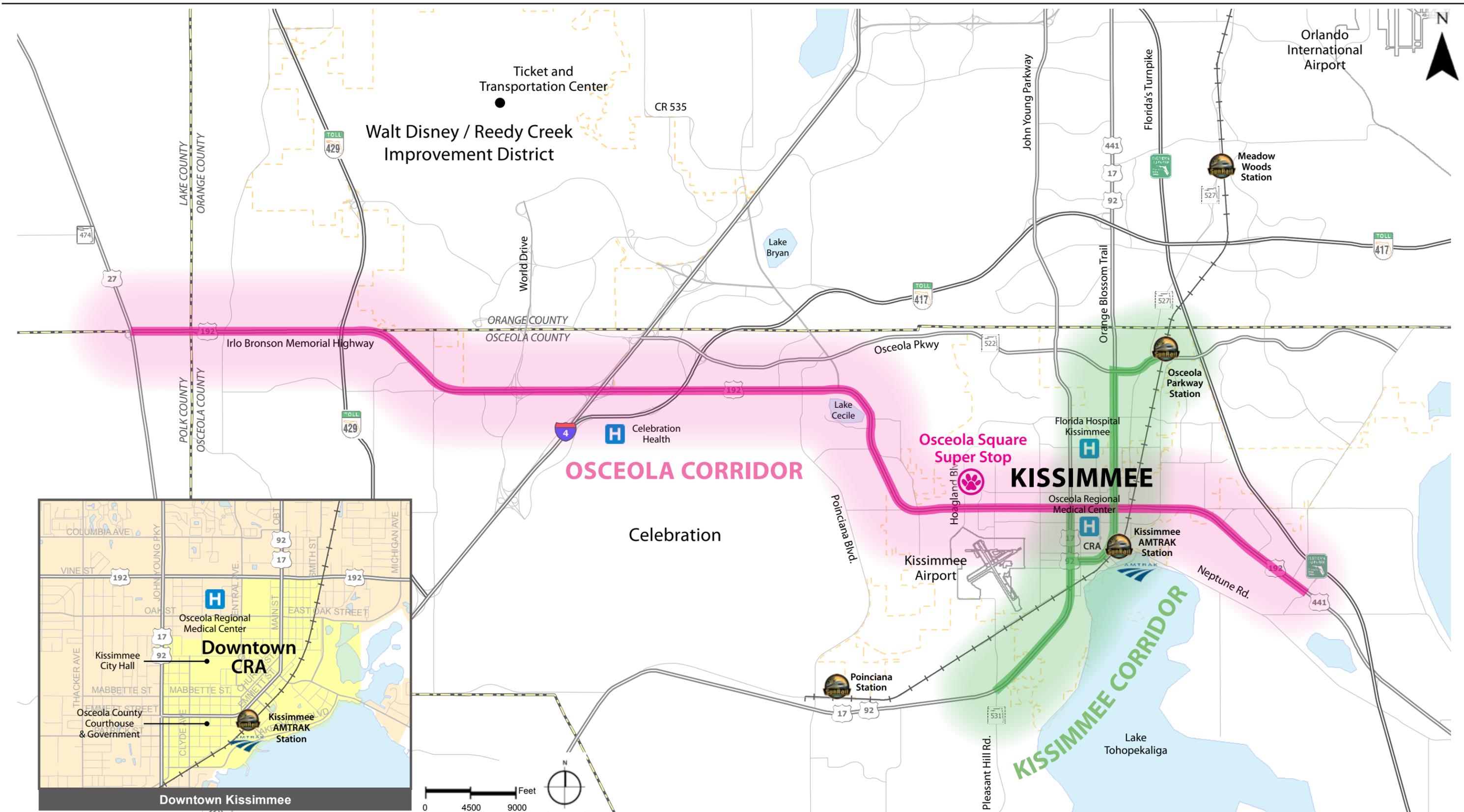
The LYNX US 192 Alternatives Analysis study (US 192 AA) is co-sponsored by the Central Florida Regional Transportation Authority (LYNX) and Osceola County. This study evaluates alternatives for the potential improvement and expansion of transit service along two corridors, primarily located in Osceola County, Florida and results in the selection of a Locally Preferred Alternative (LPA). As shown in **Figure A**, the Osceola Corridor runs east to west along US 192, extending 23 miles from US 27 in the west to Florida's Turnpike (Shady Lane Park & Ride) in the east. The north-south Kissimmee Corridor primarily follows US 441/Orange Blossom Trail and John Young Parkway, and is eight miles in length. The two corridors intersect in the City of Kissimmee.

US 192 is a corridor of regional significance for Central Florida. However, it is plagued with an increasing array of challenges and problems, consisting of, but not limited to:

- Growing congestion due to:
  - continuous growth in population and employment
  - increased land use densities
  - exceptional and consistent tourist travel
- A bus system that currently struggles to deliver both a service that transit dependent riders desire and a service that choice riders would use due to:
  - corridor congestion
  - deficiencies in both the transit infrastructure and transit service (coverage, frequency, access and performance)
  - increasing demand
  - a lack of transit visibility
  - lack of transportation options for all ages, incomes and abilities
  - need for transit-supportive land uses
- Exceptional forecast population and employment growth
- A need to serve SunRail
- A lack of transportation options for all ages, incomes and abilities
- A lack of transit-supportive land uses
- A corridor that is need of investment and rebranding to attract economic development
- A lack of sufficient access to employment opportunities and basic services
- A lack of infrastructure that serves all modes including autos, transit, pedestrians and bicyclists



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- Osceola Corridor
- Kissimmee Corridor



US 192 Alternatives Analysis

Study Area

Figure 1-1





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Recognizing the challenges and problems with the US 192 Corridor, a data driven, detailed and well-vetted project was conducted. This Executive Summary summarizes the existing and future transportation conditions within the study area, the alternatives studied, and the Locally Preferred Alternative.

This study was funded by a joint US Department of Transportation/Housing and Urban Development/Environmental Protection Agency program. This program has the following principles, which were used to guide the study:

- Provide more transportation choices. Develop safe, reliable, and economical transportation choices to decrease household transportation costs, reduce our nation’s dependence on foreign oil, improve air quality, reduce greenhouse gas emissions, and promote public health.
- Promote equitable, affordable housing. Expand location-and energy-efficient housing choices for people of all ages, incomes, races, and ethnicities to increase mobility and lower the combined cost of housing and transportation.
- Enhance economic competitiveness. Improve economic competitiveness through reliable and timely access to employment centers, educational opportunities, services, and other basic needs by workers, as well as expanded business access to markets.
- Support existing communities. Target Federal funding toward existing communities—through strategies like transit oriented, mixed-use development, and land recycling—to increase community revitalization and the efficiency of public works investments and safeguard rural landscapes.
- Coordinate and leverage Federal policies and investment. Align Federal policies and funding to remove barriers to collaboration, leverage funding, and increase the accountability and effectiveness of all levels of government to plan for future growth, including making smart energy choices such as locally generated renewable energy.
- Value communities and neighborhoods. Enhance the unique characteristics of all communities by investing in healthy, safe, and walkable neighborhoods —rural, urban, or suburban.

This study also builds off of significant previous planning efforts conducted by LYNX, Osceola County and other project stakeholders along US 192.

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## Existing Conditions

Demographic analyses show that the populations in the Study Area include many demographic groups with a high level of transit dependency based on traditional indicators such as concentrations of low-income populations, elderly people, minorities and populations with little or no access to a vehicle. In addition to these transit-dependent resident groups, the corridor hosts millions of tourists annually, a captive population with a high propensity to use transit.

Population within the Project Study Area has increased by of 31.5 percent between 2000 and 2010.<sup>1</sup> This exceptional population growth is expected to continue within the Study Area, especially for transit-dependent populations. The median household income of the County is the lowest in Central Florida. The easternmost sections of US 192 in the study area have a median income lower than the Osceola County median income of \$42,400. There is also a significant portion of the elderly population (19.1 percent aged 65+ in the western section of US 192). For the Study Area as a whole, the average percentage of

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<sup>1</sup> US Census Bureau, Census 2010 SF-1 via ESRI Business Analyst





households having 1 car or fewer is 44 percent. Approximately 20 percent of the homeless population in Central Florida resides in Osceola County, but only 5 percent of available shelter beds are located within the County.

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## Land Use

The Osceola and Kissimmee Corridors contain a wide array of highway-fronting commercial uses. Behind these commercial uses are various forms of residential uses. The three primary existing land uses are commercial, low density residential and environmental conservation. Land use intensity is lowest in the western section of the corridor while the eastern section is the oldest and most developed.

Transit improvements, specifically premium transit, have been identified as part of the land use visions of local governments throughout the Study Area. Both Osceola County and the City of Kissimmee have been working towards changing the historic suburban, auto-dependent development pattern in the Study Area corridors.

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## Transportation

US 192 is primarily a six lane divided highway and Osceola Parkway is a four lane divided roadway. Transportation information is summarized below:

- LYNX operates seven local bus routes, four Downtown Disney Direct (3D) routes, one FastLink, and one NeighborLink within the US 192 Study Area.
- Ridership on Study Area bus routes grew significantly in the last five years with growth of over 50% on two of the Osceola Corridor Routes (Link 55 and 56), which outpaces the system-wide growth by almost 40%.
- On-street parking is limited with few public parking lots.
- Roadway Usage is estimated to grow between 0.15% and 1.5% annually.
- There have been 3,780 crashes with 36 fatalities for all modes in the study area. The majority of reported crashes are at or near a signalized intersection.
- A 2011 study ranked the Orlando region the worst in the nation for pedestrian safety.<sup>2</sup>
- A number of private taxis, limos, and shuttles operate within the Study Area, including Walt Disney World's Transportation system and private hotel shuttles. Amtrak and Greyhound offer daily service from Kissimmee Station to local and long distance destinations.
- The FDOT sponsors the reThink ride matching program for multi-occupant commuting options.
- Most of the roadways segments within the study are are projected to operate at LOS F conditions during year 2030.

## Future Planned Infrastructure

The region's first commuter rail service (SunRail) is currently under construction and will be operated by the Florida Department of Transportation (FDOT) for the first seven years. SunRail will pay for the incremental operational costs of extending existing LYNX routes to SunRail stations, as well as for 16 additional buses. The SunRail Phase I ridership is projected (2013) to be 4,300 trips and by 2030, with the completion of Phase II, the system is expected to carry 7,400 passengers per day. A single train station,

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<sup>2</sup> Dangerous by Design 2011: Solving the Epidemic of Preventable Pedestrian Deaths



served by Amtrak's Silver Star and Silver Meteor services, is situated central to the Study Area in Kissimmee. Two SunRail stations would be constructed as part of Phase II in the study area; one adjacent to the existing Amtrak station and a second adjacent to Osceola Parkway. LYNX is constructing an intermodal bus station, the Kissimmee Intermodal Facility, adjacent to the planned Kissimmee SunRail/existing Amtrak station. Projects to widen sections of US 192 and implement new turn lanes have been proposed for implementation in the upcoming years.

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## Purpose and Need Statement

Transportation improvements are needed in the Study Area to support existing and projected travel demands that are resulting from continuous growth in population and employment, increased land use densities, and exceptional and consistent tourist travel. There is a need to address existing deficiencies in both the transit infrastructure and transit service (coverage, frequency, access and performance) to improve the attractiveness and effectiveness of the transit system so that travelers increasingly choose it over auto travel. Improvements are needed to better serve the highly transit-dependent population, to attract new riders so that congestion can be reduced, and to provide improved connectivity between existing and proposed transit-supportive land uses and other modal transportation systems, including SunRail and future High Speed Rail. Transportation investments are needed that are cost-effective and utilize existing transportation rights-of-way to the maximum extent feasible by employing advanced and accepted transportation technology. An improved transportation system will enhance the livability of the Study Area by providing better access to employment opportunities and basic services; by providing a range of transportation options for all ages, incomes and abilities; by supporting the economic vitality of existing communities; and by reducing household transportation costs.

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## Transportation Needs in the Study Area

The transportation needs in the Study Area are primarily based on the existing system and planned future changes and projections to and about the system and communities which expose certain deficiencies.

### Roadway System Deficiencies

The Study Area's road network is primarily comprised of a single, continuous east-west roadway (US 192) and several north-south roadways. Additionally there are:

- Parallel east-west roadways that do not run the entire length of the corridor and are tolled.
- Over 50 signalized intersections within the combined Corridors.
- Sections of US 192 and other roadways that have been widened and improved.
- The roadways operate at unacceptable levels of service and are projected to further deteriorate as the County grows and demand exceeds the infrastructures capacity.
- The study corridor's roadways exhibit a high crash frequency rate with associated fatalities.



## Transit System Deficiencies

LYNX routes operate on those roadways which affect travel time, reliability and crowding. Additionally:

- Limited technological transportation advancements have been implemented in the system.
- The LYNX routes in the Study Area are comprised primarily of local service with long headways (30-60 minutes) and end-to-end travel times that are not competitive with auto travel times.
- The LYNX system is not unified throughout the Study Area, resulting in differing passenger amenities at stops and a lack of identity and visibility.
- There are poor linkages between transportation modes.
- The Study Area has poor access to the LYNX routes. LYNX support facilities are also not ideally located, resulting in operational inefficiencies. The system has experienced significant ridership growth, which has stretched the system's capacity.
- The SunRail commuter rail system will require a robust transit system to maximize its potential.

## Other Deficiencies

The density of development in some Study Area sections restricts the ability to add roadway capacity. Currently, there are undeveloped sections of the Study Area that have been identified as future development sites. These developments will result in further degradation of travel conditions. Additionally, the Housing and Transportation Affordability index states that the Study Area has a combined housing and transportation cost higher than the recommended 45% of an individual's income<sup>3</sup>.

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## Goals and Objectives

Based upon the project Purpose and Need, five goals with supporting objectives have been identified for the US 192 AA project. The following goals were developed with input from the project's advisory groups:

1. Improve Mobility and Transportation Access
2. Enhance the Livability and Economic Competitiveness of the Study Area through an Improved Transportation System
3. Develop the Most Efficient Transportation System, Which Maximizes Limited Resources for the Greatest Public Benefit
4. Develop a Transit System Consistent With Adopted Local and Regional Plans and Policies
5. Preserve and Enhance the Environment, Natural Resources and Open Space

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## Public Outreach and Technical Coordination

A range of community outreach activities were completed and integrated into the technical work elements of the US 192 Alternatives Analysis (AA) study. The intent of the outreach program was to share project information with the area stakeholders and interested parties, while creating a comfortable environment for the exchange of ideas and public input.

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<sup>3</sup> Center for Neighborhood Technology: [www.htaindex.cnt.org](http://www.htaindex.cnt.org)



At the onset of the study, the following outreach objectives were identified: Coordinate with transit agencies, local governments, and corridor stakeholders; Solicit public input from study area stakeholders; Provide opportunities for interested individuals and the general public to share input; Create a variety of communication tools that are easily accessible so that everyone has the opportunity to participate and comment on the study; and Comply with the FHWA/FTA Title VI program.

These objectives were met by using a range of techniques, which included: study mailing list, Public Involvement Plan, Project Advisory Working Groups (PAWGs), study website (and website links), newsletters, open houses, local briefings, and community events. range of community outreach activities were completed and integrated into the technical work elements of the US 192 Alternatives Analysis (AA) study. The intent of the outreach program was to share project information with the area stakeholders and interested parties, while creating a comfortable environment for the exchange of ideas and public input.

## Identification of Alternatives

The project was focused on the development of alternative solutions to address the Purpose and Need and the resultant Goals as stated by the collaboration of Corridor’s stakeholders (legislative bodies, transportation agencies, community groups, business community and the public), significant partnerships (community leaders, businesses, Disney, W192 Development Authority) and the general public.

Alternative modes were identified using the universe of practicable alternatives that would be available for the corridor. These alternatives were identified from previous studies, planning documents and many other resources. The modes that were considered including Enhanced Bus, Bus Rapid Transit, Light Rail, Streetcar, Commuter Rail, Heavy Rail, Monorail, High Speed Rail and Maglev.

### Tier 1 Screening

The modal alternatives were evaluated using defined criteria to eliminate modes that would be unreliable or unsuitable for the region. Among these factors were the consistency of the technology with the Study Area’s operating environment and right-of-way and the maturity of the technology. Alternatives were scored from one (the worst) to five (the best) based on five separate criteria. The results of this evaluation are shown in **Table ES-1**.

**Table ES-1: Tier One Screening Results**

| Evaluation Criteria | Enhanced Bus | Bus Rapid Transit | Light Rail | Streetcar | Commuter Rail | Heavy Rail | Monorail  | High Speed Rail | Maglev   |
|---------------------|--------------|-------------------|------------|-----------|---------------|------------|-----------|-----------------|----------|
| Consistency         | 5            | 5                 | 4          | 4         | 3             | 2          | 3         | 1               | 1        |
| Flexibility         | 5            | 5                 | 3          | 3         | 1             | 1          | 3         | 1               | 1        |
| Availability        | 5            | 5                 | 5          | 5         | 5             | 5          | 1         | 2               | 1        |
| Maturity            | 5            | 5                 | 5          | 5         | 5             | 5          | 3         | 3               | 4        |
| Expandability       | 5            | 5                 | 4          | 4         | 3             | 3          | 3         | 2               | 2        |
| <b>Total</b>        | <b>25</b>    | <b>25</b>         | <b>21</b>  | <b>21</b> | <b>17</b>     | <b>16</b>  | <b>13</b> | <b>9</b>        | <b>9</b> |

Maximum score=25; 5=Best, 1=Worst

Source: VHB





Based on this evaluation, the best technology alternatives for the Study Area are Bus, BRT, Light Rail, and Streetcar. The remaining modal alternatives were significantly lower performing and thus were eliminated. The following alternatives, along with alignments, infrastructure and service patterns were then proposed (Table ES-2).

**Table ES-2: Preliminary Long List of Alternatives**

| Alternative                              | Primary Alignments              | Infrastructure  | Service Pattern  |
|--|---------------------------------|---|--|
| <b>Alternative 0-1 No Build</b>          | US 192, US 441                  | Committed, funded transportation infrastructure improvements in 2030 LRTP   | Committed, funded transit service improvements in the 2030 LRTP                    |
| <b>Alternative 1-1 Enhanced Bus</b>      | US 192, US 441                  | Low cost TDM and intersection improvements  | Local and Express Bus service; 15 min. minimum headway; some route modifications   |
| <b>Alternative 2-1 Bus Rapid Transit</b> | US 192, US 441                  | Queue jumps, TSP, off-board fare collection, substantial stations; branded buses  | Three route skip stop service; 15 min. minimum headway; possible local bus overlay |
| <b>Alternative 2-2 Bus Rapid Transit</b> | US 192, US 441                  | Queue jumps, TSP, off-board fare collection, substantial stations; branded buses  | Four route zone express; 15 min. minimum headway; possible local bus overlay       |
| <b>Alternative 2-3 Bus Rapid Transit</b> | US 192; US 441; Osceola Parkway | Queue jumps, TSP, off-board fare collection, substantial stations; branded buses  | Four route zone express; 15 min. minimum headway; possible local bus overlay       |
| <b>Alternative 2-4 Bus Rapid Transit</b> | US 192, US 441                  | Some dedicated bus lanes on US 192, queue jumps, TSP, off-board fare collection, substantial stations; branded buses        | Three route skip stop service; 15 min. minimum headway; possible local bus overlay |
| <b>Alternative 2-5 Bus Rapid Transit</b> | US 192, US 441                  | Some dedicated bus lanes on US 192, queue jumps, TSP, off-board fare collection, substantial stations; branded buses        | Four route zone express; 15 min. minimum headway; possible local bus overlay       |
| <b>Alternative 2-6 Bus Rapid Transit</b> | US 192; US 441; Osceola Parkway | Some dedicated bus lanes on US 192, queue jumps, TSP, off-board fare collection, substantial stations; branded buses        | Four route zone express; 15 min. minimum headway; possible local bus overlay       |
| <b>Alternative 2-7 Bus Rapid Transit</b> | US 192, US 441                  | Full length dedicated bus lanes on US 192, queue jumps, TSP, off-board fare collection, substantial stations; branded buses | Three route skip stop service; 15 min. minimum headway; possible local bus overlay |
| <b>Alternative 2-8 Bus Rapid Transit</b> | US 192, US 441                  | Full length dedicated bus lanes on US 192, queue jumps, TSP, off-board fare collection, substantial stations; branded buses | Four route zone express; 15 min. minimum headway; possible local bus overlay       |



**Table ES-2: Preliminary Long List of Alternatives (continued)**

| Alternative   | Primary Alignments              | Infrastructure  | Service Pattern   |
|---|---------------------------------|---|---|
| <b>Alternative 2-9 Bus Rapid Transit</b>                | US 192; US 441; Osceola Parkway | Full length dedicated bus lanes on US 192, queue jumps, TSP, off-board fare collection, substantial stations; branded buses | Four route zone express; 15 min. minimum headway; possible local bus overlay  |
| <b>Alternative 3-1 Bus Rapid Transit with Streetcar</b> | US 192, US 441                  | Preferred BRT infrastructure <sup>4</sup> on US 192 with Kissimmee/ US 441 Streetcar circulator                             | Preferred BRT service plan <sup>5</sup> with multi-stop Kissimmee Circulator; 15 min. minimum headway; possible local bus overlay |
| <b>Alternative 4-1 Light Rail Transit</b>               | US 192                          | Partial dedicated guideway and mixed traffic alignment with TSP; off-board fare collection; substantial stations            | Single route all stop service (15 min. minimum headway) with possible local bus overlay and express feeders/distributors          |
| <b>Alternative 4-2 Light Rail Transit</b>               | US 192, US 441                  | Partial dedicated guideway and mixed traffic alignment with TSP; off-board fare collection; substantial stations            | Three routes all stop service, (15 min. minimum headway) with possible local bus overlay  |
| <b>Alternative 4-3 Light Rail Transit</b>               | US 192                          | Full dedicated guideway on US 192; off-board fare collection; substantial stations  | Single route all stop service with possible local bus overlay and express feeders/distributors                                    |
| <b>Alternative 4-4 Light Rail Transit</b>               | US 192, US 441                  | Full dedicated guideway on US 192 and Osceola Parkway; off-board fare collection; substantial stations                      | Three routes all stop service, (15 min. minimum headway) with possible local bus overlay  |

### Consolidated Long List Evaluation

As a result of the further development of the service plans, it was determined that the zone express stopping pattern would result in the most efficient and effective provision of BRT service. Accordingly, the Short List Alternatives that included the “skip stop” stopping pattern were eliminated from further consideration.

### Tier 2 Screening

The goal of the Tier Two screening was to evaluate the Consolidated Long List Alternatives and select the alternatives (Short List of Alternatives) that would best meet the project’s purpose and need. The Consolidated Long List Alternatives were evaluated against the Tier Two Screening criteria, which are based on the project’s goals and objectives. Alternative 0-1 (No Build) and Alternative 1-1 (Enhanced Bus) are benchmark alternatives and automatically qualify as Short List Alternatives. The remaining

<sup>4</sup> Preferred BRT infrastructure would be the most effective infrastructure selected from the nine BRT alternatives with modifications to incorporate streetcar circulator

<sup>5</sup> Preferred BRT service plan would be the most effective infrastructure selected from the nine BRT alternatives with modifications to incorporate streetcar circulator





alternatives were evaluated and summarized below (Table ES-3). Alternatives that scored the highest were advanced to the next level of development.

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### Tier 3 Screening

The Short List Alternatives are listed below:

- **No Build Alternative:** Make no improvements beyond those already committed;
- **Enhanced Bus Alternative:** Improve the existing bus system with transit signal priority, queue jumps and service modifications but make no additional capital investments;
- **Alternative 1:** BRT service and infrastructure with transit signal priority and queue jumps;
- **Alternative 2:** BRT service and infrastructure with transit signal priority, queue jumps and dedicated bus lanes for part of the US 192 alignment (from Celebration to Hoagland Blvd); and
- **Alternative 3:** BRT service and infrastructure with transit signal priority, queue jumps and dedicated bus lanes for the majority of the US 192 alignment.

Each of the Short List Alternatives was further developed to include more detailed components including Conceptual Engineering, environmental analyses, cost estimations, and Demand Forecasting.

A conceptual design for the physical infrastructure was developed. This layout depicts a median busway, queue jumps, and station locations along US 192 and queue jumps along Osceola Parkway (locations and treatments vary by alternative). This conceptual design enabled a preliminary evaluation of the potential impacts and costs associated with the improvements. The service plans for the BRT routes were defined further. This included developing stop-to-stop running times and schedules that coordinated with the arrival and departure of SunRail service in Kissimmee. Using these service plans, the team developed ridership demand forecasts and operating and maintenance cost estimates.

When reviewing the alternatives, the following alternative elements were considered in the evaluation process to account for additional factors:

- A transformative project that serves as a foundation for overall improvement of the corridor
- Maximizes the benefits for transit dependent citizens
- Maximizes the ability to attract choice riders
- Consistent with the adopted plans of LYNX, Osceola County and Kissimmee.
- The ability to leverage economic development;



Below are the short list Alternative rankings for meeting the projects goals and the results.

**Table ES-3: Tier Two Evaluation Summary by Goal**

| Tier Two Criteria  | Consolidated Long List Alternatives |                   |                    |                   |                    |                   |               |                   |                   |                   |                   |
|--|-------------------------------------|-------------------|--------------------|-------------------|--------------------|-------------------|---------------|-------------------|-------------------|-------------------|-------------------|
|  | Bus Rapid Transit (BRT)             |                   |                    |                   | BRT+Streetcar      |                   | Light Rail    |                   |                   |                   |                   |
|  | Alt. 2-1/2-2                        | Alt. 2-3          | Alt. 2-4/2-5       | Alt. 2-6          | Alt. 2-7/2-8       | Alt. 2-9          | Alt. 3-1      | Alt. 4-1          | Alt. 4-2          | Alt. 4-3          | Alt. 4-4          |
| <b>GOAL 1:</b> Improve Mobility and Transportation Access  | Medium                              | Medium-Low        | Medium-High        | Medium            | High               | Medium            | Medium        | Medium            | Medium-High       | Medium            | Medium-High       |
| <b>GOAL 2:</b> Enhance the Livability and Economic Competitiveness of the Study Area through an Improved Transportation System     | Medium-High                         | Medium-Low        | Medium-High        | Medium-Low        | Medium-High        | Medium-Low        | Medium        | Low               | Low               | Low               | Low               |
| <b>GOAL 3:</b> Develop the Most Efficient Transportation System, Which Maximizes Limited Resources for the Greatest Public Benefit | High                                | High              | Medium             | Medium            | Medium             | Medium            | Medium        | Low               | Low               | Low               | Low               |
| <b>GOAL 4:</b> Develop a Transit System Consistent With Adopted Local and Regional Plans and Policies                              | High                                | Low               | High               | Low               | High               | Low               | High          | Medium            | Medium            | Medium            | Medium            |
| <b>GOAL 5:</b> Preserve and Enhance the Environment, Natural Resources and Open Space  | Medium-High                         | Medium-High       | Medium             | Medium            | Medium             | Medium            | Medium        | Medium            | Medium            | Medium            | Medium            |
| <b>OVERALL EVALUATION</b>  | <b>Medium-High</b>                  | <b>Medium-Low</b> | <b>Medium-High</b> | <b>Medium-Low</b> | <b>Medium-High</b> | <b>Medium-Low</b> | <b>Medium</b> | <b>Medium-Low</b> | <b>Medium-Low</b> | <b>Medium-Low</b> | <b>Medium-Low</b> |
| <b>PASS TO SHORT LIST</b>  | Yes                                 | No                | Yes                | • No              | Yes                | • No              | • No          | • No              | • No              | • No              | • No              |



**Table ES-4: Tier Three Evaluation Summary by Goal**

| Project Goal   | Final Short List Alternatives |                   |               |             |                    |
|--|-------------------------------|-------------------|---------------|-------------|--------------------|
|  | No Build                      | Enhanced Bus      | Build 1       | Build 2     | Build 3            |
| <b>GOAL 1:</b> Improve Mobility and Transportation Access  | Low                           | Low               | Medium        | High        | High               |
| <b>GOAL 2:</b> Enhance the Livability and Economic Competitiveness of the Study Area through an Improved Transportation System     | Low                           | Low               | Medium        | High        | High               |
| <b>GOAL 3:</b> Develop the Most Efficient Transportation System, Which Maximizes Limited Resources for the Greatest Public Benefit | Low                           | Medium            | Medium        | High        | Low                |
| <b>GOAL 4:</b> Develop a Transit System Consistent With Adopted Local and Regional Plans and Policies                              | Low                           | Low               | Medium        | High        | High               |
| <b>GOAL 5:</b> Preserve and Enhance the Environment, Natural Resources and Open Space  | Low                           | Medium            | Medium        | Medium      | Medium             |
| <b>Overall Evaluation</b>  | <b>Low</b>                    | <b>Medium-Low</b> | <b>Medium</b> | <b>High</b> | <b>Medium-High</b> |
| <b>Select as Recommended Alternative?</b>  | No                            | No                | No            | Yes         | No                 |

Source: VHB

The Build Alternative 2 was advanced as the Recommended Alternative for the project.

## Recommended Alternative: Build 2 - Bus Rapid Transit

The Recommended Alternative: Build 2 - Bus Rapid Transit, includes improvements to transit service and infrastructure along the US 192 corridor between US 27 and the Kissimmee Intermodal Facility as well as between the Kissimmee Intermodal Facility and the Osceola Parkway SunRail Station. Exclusive bus lanes for BRT operations would be included between Celebration Place and Hoagland Boulevard within the existing right-of-way (6 miles). Transit Signal Priority (TSP) would be installed along major that streets the BRT vehicles would use. Select intersections would also be upgraded to include queue jumps. **Figure B** depicts the Recommended Alternative.

The service plan for this alternative includes four BRT routes that would operate between the corridors termini. Each route would operate approximately every 15 minutes:

- Four Corners to Kissimmee Intermodal Facility
- Walt Disney World to the Osceola Parkway SunRail Station (via Kissimmee Intermodal Facility)
- Four Corners to Walt Disney World
- Celebration to Kissimmee Intermodal Facility

LYNX local bus service along US 192 (Links 55 and 56) would be maintained. A new route would provide limited-stop bus service along US 192 from downtown Kissimmee to St. Cloud. BRT stations would be proposed at or near areas that have existing high bus ridership. Stations would be spaced approximately every mile apart, which is further apart than the stops for the



existing bus service. All stations would be located at signalized intersections to allow for safe pedestrian crossings.

BRT Stations would include the following amenities:

- 1) A sheltered waiting area
- 2) A slightly higher curb that enables level boarding with the vehicle
- 3) Fare payment machinery
- 4) Next-Bus displays, or other customer information

**Figure B:** Rendering of the Locally Preferred Alternative in the vicinity of Celebration Avenue





The following stations are proposed:

- Four Corners
- Westside Boulevard
- Vista Del Lago Boulevard
- Orange Lake Boulevard East
- Old Lake Wilson Road
- Walt Disney World
- Celebration Place
- Holiday Trail
- Poinciana Boulevard
- Lake Cecile
- Siesta Lago
- Old Vineland Road
- Armstrong Boulevard
- Emory Avenue
- Osceola Regional Medical Center
- Kissimmee Intermodal Facility
- Florida Hospital
- Osceola Parkway

The Recommended Alternative is projected to capture approximately 10,300 riders in the 2030, the study's horizon year.<sup>6</sup> Estimated capital costs for the Locally Preferred Alternative are approximately \$120-130 million in Year 2013 dollars. This estimate does not include soft costs. Estimated incremental operating and maintenance costs beyond the No Build Alternative for the Recommended Alternative service are \$30 million in Year 2030 dollars.

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## Locally Preferred Alternative

Consistent with recent MAP-21 guidance, the recommended alternative was reviewed and adopted by the following organizations as the "Locally Preferred Alternative:"

- Project Advisory Work Group: *Steering Group*
- Project Advisory Work Group: *Community Liaison Group*
- City of Kissimmee
- W192 Development Authority
- Osceola Board of County Commissioners
- LYNX Board of Directors
- MetroPlan Orlando Metropolitan Planning Organization

<sup>6</sup> Note: Based on coordination with the corridor's hoteliers and an initial evaluation of available trips between the hotels and surrounding tourist destinations, careful coordination and development of the project with the tourist hotels along US 192 may create the opportunity to capture up to 2,000-3,000 additional trips per day.



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## Implementation Plan

The new Federal Transportation bill, Moving Ahead for Progress in the 21st Century (MAP-21), requires that the adoption of the Alternative identified in this report be selected as the Locally Preferred Alternative by MetroPlan Orlando, the local Metropolitan Planning Organization (MPO). Subsequently, the process for pursuing federal funding for a portion of the project's financing plan would require the specific actions as required by MAP-21. The key elements required prior to advancing the project towards implementation by virtue of gaining entry into the FTA's Engineering Phase include:

- Prepare NEPA documentation, incorporating Alternatives Analysis and resulting LPA
- Prepare FTA Letter for Entry into Project Development Phase
- Prepare Preliminary Financial Plan
- Prepare Project Rating Package
- Prepare FTA Letter for Entry into Engineering Phase

Note: The above elements would not necessarily be sequential, but would require an integrated strategy to comply with MAP-21 timelines governing the activities.

Beyond FTA funding support for the project, there would be numerous opportunities for project funding at the local, regional and state level. A discussion of these potential funding sources is documented in Appendix M.

It is important to note that this transit project would require a significant amount of roadway modifications and adaptations of Florida Department of Transportation highways (US 192 and US 441), as well as City of Kissimmee streets. Therefore, at the state level, the next important step towards implementation would be the execution of FDOT Project Development and Environmental Study, as documented in the Department's Project Development and Environmental Manual.



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# 1

## Study Background

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### 1.1 Project Location and Analysis Sections

The Central Florida Regional Transportation Authority (LYNX) and Osceola County are in partnership sponsoring a study to evaluate alternatives for the potential improvement and expansion of transit service along two corridors, primarily located in Osceola County, Florida. The Osceola Corridor runs east to west along US 192, extending 23 miles from US 27 in the west to Florida's Turnpike (Shady Lane Park & Ride) in the east. The north-south Kissimmee Corridor primarily follows US 441/Orange Blossom Trail and John Young Parkway, and is eight miles in length. The two corridors intersect in the City of Kissimmee. The majority (83%) of the Study Area is encompassed within Osceola County, with the remainder in Polk, Lake and Orange Counties. The Study Area and existing transit routes are depicted in **Figure 1-1**.

For the purposes of this study, the corridor has been divided into three sections. Those sections are described below and shown in **Figure 1-2**. These sections will be used throughout this document.

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#### Section 1 Overview

Section 1 extends from the intersection of US 192 and US 27 at the western limits of the Study Area to Interstate 4. Section 1 has the lowest population of the three sections and is comprised primarily of low-density residential development and tourist supportive businesses.

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#### Section 2 Overview

Section 2 extends from Interstate 4 east to the City of Kissimmee limits west of Bass Road. There are significant minority and low-income populations in this Section. The frontage along US 192 in Section 2 is comprised of tourist-supportive businesses with permanent homes and short-term rentals behind the commercial strip. Section 2 contains the entrance to the Town of Celebration which has single and multi-family units as well as an office district.



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## Section 3 Overview

Section 3 extends from the City of Kissimmee limits on US 192 to the intersection of US 192 and the entrance to Florida’s Turnpike at the eastern limits of the Study Area. Section 3 also includes the entire Kissimmee Corridor. It contains the City of Kissimmee and the highest population and employment densities in the Study Area. Section 3 has minority and low-income populations in the western portion. The City of Kissimmee is the most densely developed part of the area. Section 3 includes major employers in the Study Area including the City of Kissimmee offices, Kissimmee Memorial Hospital, and Osceola Regional Medical Center.

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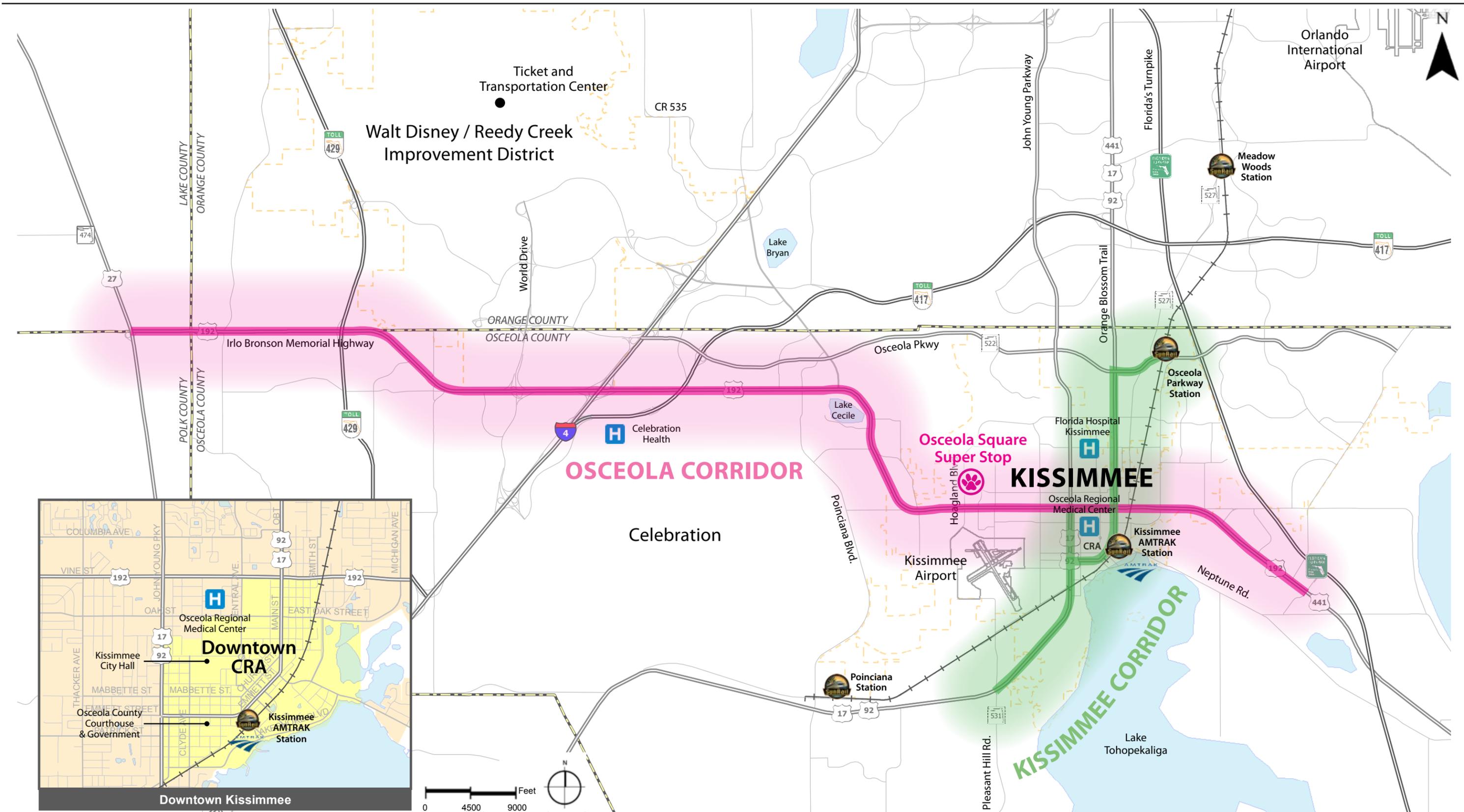
## 1.2 Planning Context

The US 192 Alternatives Analysis Study (US 192 AA) began as a result of state, regional, county and local planning efforts that studied the existing transportation and land use conditions in the region and Osceola County. The corridor was identified as needing transit improvement in the following system planning or land use documents:

- LYNX 5-Year Service Plan
- LYNX Vision 2030
- MetroPlan Orlando’s 2030 Long Range Transportation Plan
- Osceola County Comprehensive Plan 2025
- Osceola County’s Long Range Transit Plan

These studies, described further below, proposed improvements to create a more cohesive transportation system in the metropolitan Orlando area that would accommodate the projected growth in population. This specific corridor, US 192, was selected for improvement based on immediate and future needs as well as its unique transportation and land use characteristics including its location next to two of Central Florida’s major cities (Orlando and Kissimmee) and many tourist attractions including Walt Disney World.

At LYNX, multiple plans documented the need for improvements to the US 192 Corridor. LYNX’s Vision 2030 Report (October 2011) evaluated 22 corridors which are areas that have future and current transportation needs that are not being met by the system according to studies and local feedback. Public workshops and other key community events were held to ensure that this area is indeed a priority for improvement and investment by the local community and that they generally support and agree with proposed changes to their system. The segments along US 192 were identified by LYNX as being one of the most important priorities within the system, especially in the immediate goals to be completed by 2015 and 2020. The US 192 routes include the segment from Disney to Kissimmee and the segment from Lake County to St. Cloud (which passes through Kissimmee). These segments included suggestions for either BRT or (in certain cases) a street car by 2030. The US 192 corridor was also carried forward in LYNX’s 5-year Service Plan and Transit Development Plan (2013), which further strengthened the need for improved transit service in this corridor.



- Osceola Corridor
- Kissimmee Corridor

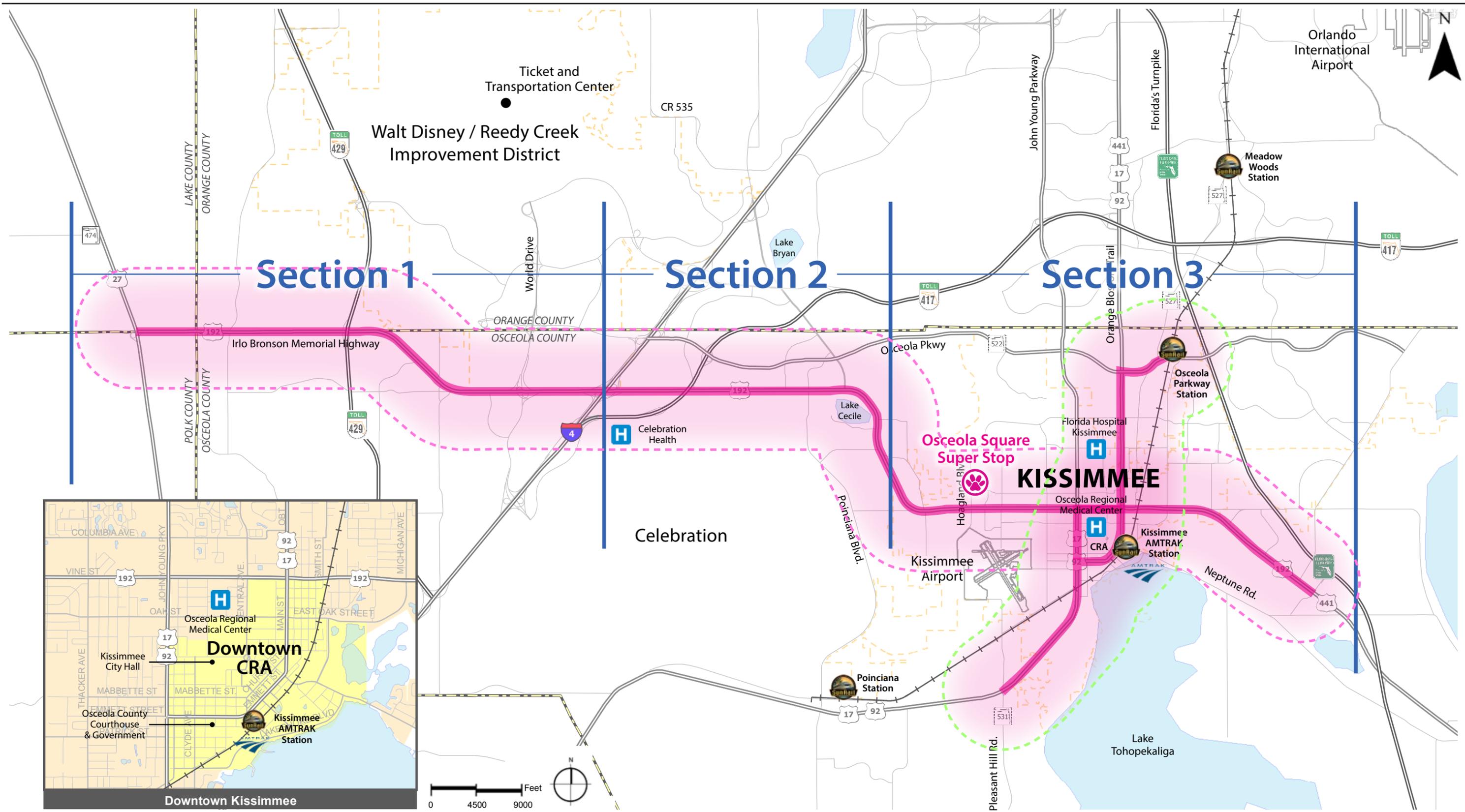


US 192 Alternatives Analysis

Study Area

Figure 1-1





- Osceola Corridor
- Kissimmee Corridor
- Study Area



US 192 Alternatives Analysis

Study Area Sections

Figure 1-2



Osceola County included the US 192 corridor in most of its comprehensive transportation planning documents. This includes Osceola County's Comprehensive Plan for 2025 (December 2007) which is used in the county as a guideline for linking mobility and land use in the county in the future. Osceola County also identified the corridor in its Long Range Transit Plan (LRTP), which represents new transportation opportunities such as SunRail, the local commuter rail system that is currently being implemented. The LRTP identified 16 activity centers that presented the greatest need for future development, and local corridor plans were proposed in response to the identified centers. The studies highlighted needs across the current transportation system to provide better and more frequent service within the area.

The Florida Department of Transportation (FDOT) was involved with the regional studies as a stakeholder and has remained closely involved in the US 192 AA since it is one of the first large-scale explorations of transit improvement along a major State route, with unique operational scenarios and its potential connectivity the FDOT's SunRail project.

On a regional level, the MetroPlan 2030 Long Range Transportation Plan (LRTP) identified the US 192 corridor as an important part of the Transit Vision Concept Plan (TVCP). This vision plan prioritizes the region's transit investment based on the wishes of the regional stakeholders that are a part of MetroPlan Orlando. MetroPlan Orlando is the Metropolitan Planning Organization (MPO) responsible for studying, prioritizing and allocating funding for transportation improvements in the greater Orlando region.

Additional proposals that have been presented by various agencies regarding this corridor are the Kissimmee Intermodal Center Project and the proposals from many of the corridor's established Community Redevelopment Agencies (CRAs) which all aim to increase the effectiveness of the current transportation system and revitalize the community. The CRAs seek to expand and change transportation in support of redevelopment within the community. The number of CRAs in the US 192 corridor have increased in recent years, and there are now at least four active community groups advocating for Bus Rapid Transit (BRT) service in the corridor. Three new agencies (East 192 CRA, West 192 CRA and US 441 CRA) were all established after 2011, and have all been vocal advocates of revitalizing their communities and some have expressed their support for transportation enhancements to the US 192 corridor. They join the Downtown Kissimmee CRA and the Vine Street CRA in this common mission.

In response to the overwhelming consensus of need from the regional stakeholders, LYNX (with the support of Osceola County) applied for the Federal Transportation Administration (FTA) Grant FY 2010 Discretionary Livability Funding Opportunity Alternatives Analysis Program. The grant application identified the US 192 corridors as a major location for future transportation development. The LYNX & Osceola County Alternatives Analysis Project: Osceola and Kissimmee Corridors were awarded the \$800,000 FTA grant for the completion of the project. The lead agency for the grant was LYNX with Osceola County as a partner agency. The project grant was allocated to the preparation of this Alternatives Analysis (AA) document with the leadership of LYNX and Osceola County and in collaboration with various other partners including the Florida Department of Transportation, MetroPlan Orlando, FTA, the City of Kissimmee, the City of St. Cloud, local planning groups and interested citizens. The grant, and this resulting AA, highlights the local communities that would benefit from improved transit service, the local support for this



project and the emphasis on the connection between transportation improvement and the US DOT/HUD/EPA's joint Livability Principles (see below). This AA, which resulted from this grant, built upon the collaborative nature of the project and outlines the future steps for creating communication to advance the project, citing past agreements.

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### US DOT/HUD/EPA Livability Principles

- Provide more transportation choices. Develop safe, reliable, and economical transportation choices to decrease household transportation costs, reduce our nation's dependence on foreign oil, improve air quality, reduce greenhouse gas emissions, and promote public health.
- Promote equitable, affordable housing. Expand location- and energy-efficient housing choices for people of all ages, incomes, races, and ethnicities to increase mobility and lower the combined cost of housing and transportation.
- Enhance economic competitiveness. Improve economic competitiveness through reliable and timely access to employment centers, educational opportunities, services, and other basic needs by workers, as well as expanded business access to markets.
- Support existing communities. Target Federal funding toward existing communities—through strategies like transit oriented, mixed-use development, and land recycling—to increase community revitalization and the efficiency of public works investments and safeguard rural landscapes.
- Coordinate and leverage Federal policies and investment. Align Federal policies and funding to remove barriers to collaboration, leverage funding, and increase the accountability and effectiveness of all levels of government to plan for future growth, including making smart energy choices such as locally generated renewable energy.
- Value communities and neighborhoods. Enhance the unique characteristics of all communities by investing in healthy, safe, and walkable neighborhoods—rural, urban, or suburban.



# 2

## Existing and Future Conditions

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### 2.1 Introduction

This chapter presents the existing conditions, historical trends and future conditions of the US 192 Alternatives Analysis Study Area including the following characteristics:

- Demographics
- Land Use and Communities
- Transportation
- Environmental
- Financial Assessment

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### 2.2 Demographics

The demographic analysis demonstrates that the populations in the Study Area include many groups with a high level of transit dependency based on traditional indicators such as concentrations of low-income populations, elderly people, minorities and populations with little or no access to a vehicle. In addition to these transit-dependent resident groups, the corridor hosts millions of tourists annually, a captive population with a high propensity to use transit.

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#### Population

Geographically the sixth largest county in Florida, Osceola County is also one of the fastest growing counties in Central Florida. Osceola County's population grew by a remarkable 55.8 percent to 268,685 persons in 10 years.<sup>7</sup> Growth has been similarly strong within the Project Study Area, with an increase in population from 61,165 in 2000 to 80,422 in 2010 – a growth of 31.5 percent.<sup>8</sup> While the study area contains only five percent of the land area in the county, it holds a significant portion of the county's total population.

<sup>7</sup> US Census Bureau QuickFacts, [quickfacts.census.gov](http://quickfacts.census.gov)

<sup>8</sup> US Census Bureau, Census 2010 SF-1 via ESRI Business Analyst



## Population Density

Population density can indicate which sections of the Study Area are most transit-supportive. Areas with higher population densities tend to support greater levels of transit service including increased frequency and the types of transit service provided (such as local, limited stop or express service). The *Toolbox for Alleviating Traffic Congestion* developed by the Institute for Transportation Engineers (1989) indicates the minimum population density thresholds to support various types of transit service. The recognized thresholds are described in **Table 2-1**.

**Table 2-1: Transit-Supportive Thresholds**

| Type of Transit Service                        | Population Density Threshold (du/acre) |
|--|--|
| Local bus (1 bus/hr.)                          | 4-5                                    |
| Intermediate bus service (1 bus/30 minutes)    | 7                                      |
| Frequent bus service (1 bus/10 minutes)        | 15                                     |
| Light rail (5-min headways or better, peak)    | 9                                      |
| Rapid Transit (5-min headways or better, peak) | 12                                     |

Source: *Toolbox for Alleviating Traffic Congestion*, Institute for Transportation Engineers, 1989.

While the densities of the permanent population are generally not transit-supportive, the population in the Study Area is supplemented on a daily basis by a significant tourist population (See **Figure 2-1**) which contributes significantly to daily, year round congestion.

## Transit Dependent Populations

In LYNX’s 2010 Five-Year Service Plan, the region’s transit dependent populations were defined as persons that are environmental justice populations (including minorities and low-income persons); elderly persons; and households with 0 to 1 vehicles. **Figures 2-2** and **2-3** show the distribution of transportation dependent populations within the Study Area. **Table 2-2** indicates the median household income. Study Area Sections 2 and 3 have a median income lower than the Osceola County median income of \$42,400.

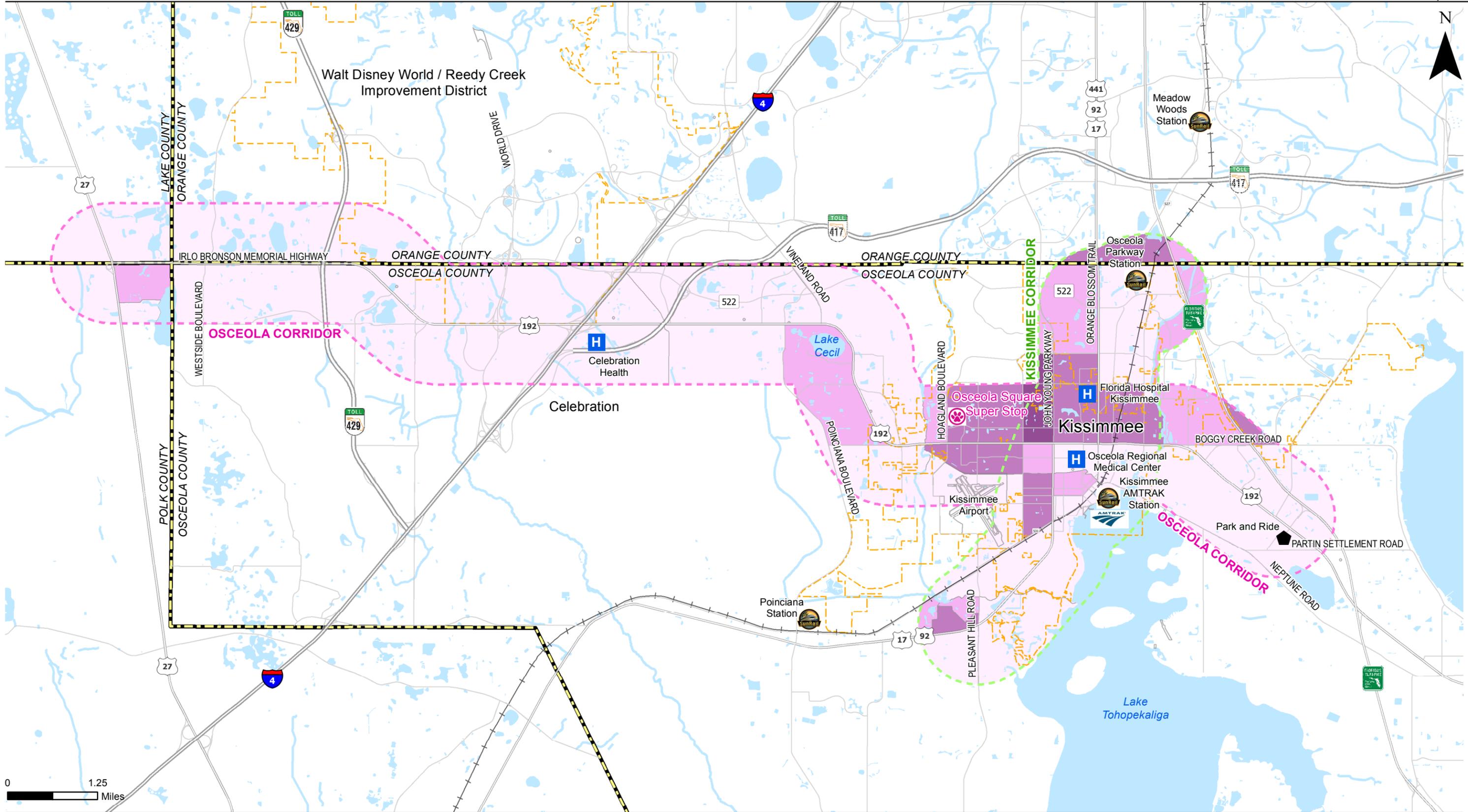
**Table 2-2: Median Household Incomes, Study Area**

|               | Section 1 | Section 2 | Section 3 |
|---------------|-----------|-----------|-----------|
| Median Income | \$44,231  | \$40,694  | \$37,960  |

Source: US Census Bureau, Census 2000 via ESRI Business Analyst, ESRI forecasts for 2010

Osceola County also has the lowest median household income in Central Florida. Section 1 is home to a significant portion of the elderly population (19.1 percent aged 65+). According to the 2010 Osceola County Report Card<sup>9</sup>, the population of seniors age 60 and over in Osceola County was 42,613 at the time of publication, 15 percent of the county’s population.

<sup>9</sup> Source: Osceola County Report Card, 2010, [www.communityvision.org/rptcard.htm](http://www.communityvision.org/rptcard.htm). Statistic sourced from the Florida Department of Elder Affairs.



Households per Acre  
 0 - 1   1 - 2   2 - 4   4 and More

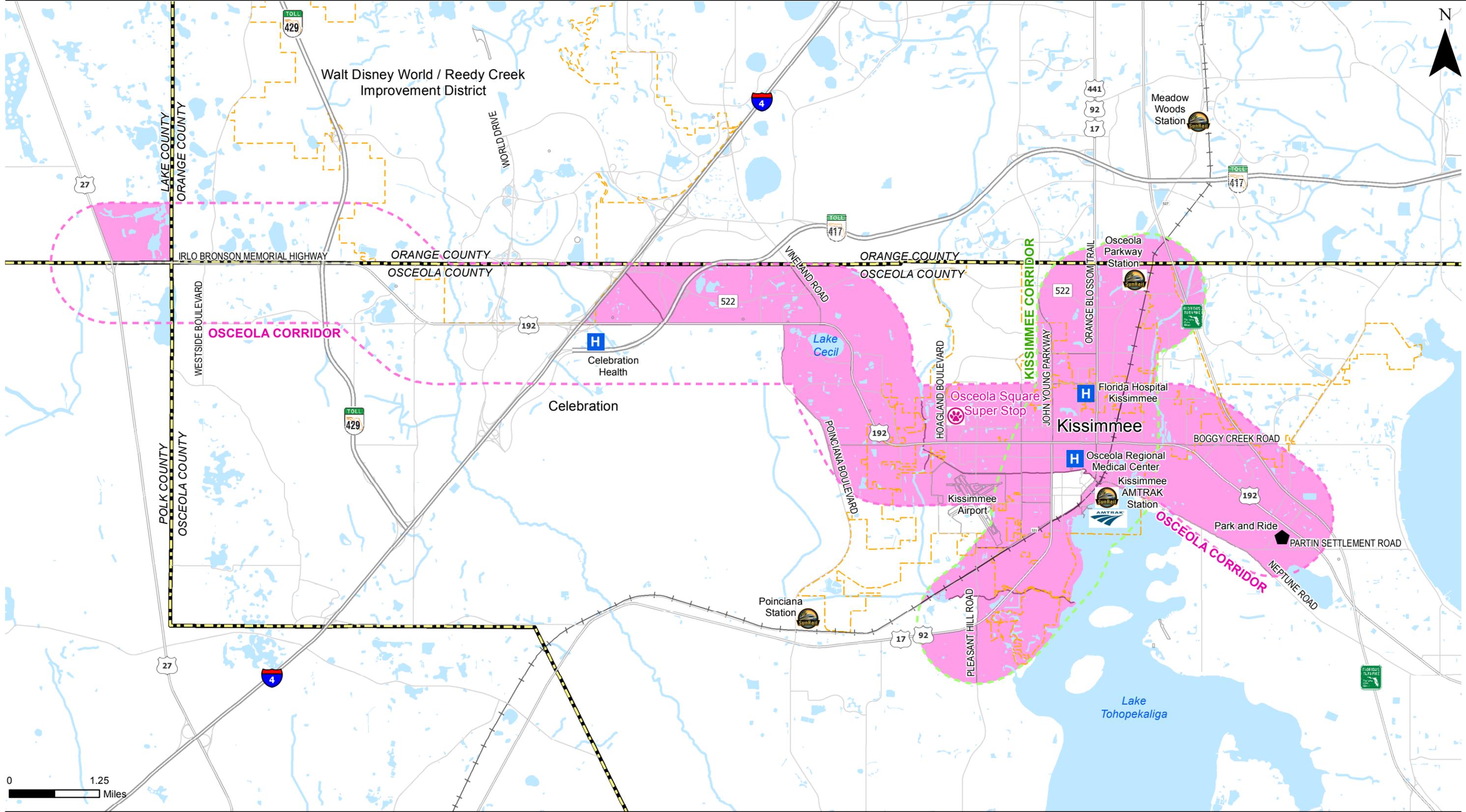
Source:  
 Census 2010



US 192 Alternatives Analysis

Population Density

Figure 2-1



Block Group with Minority > 50%

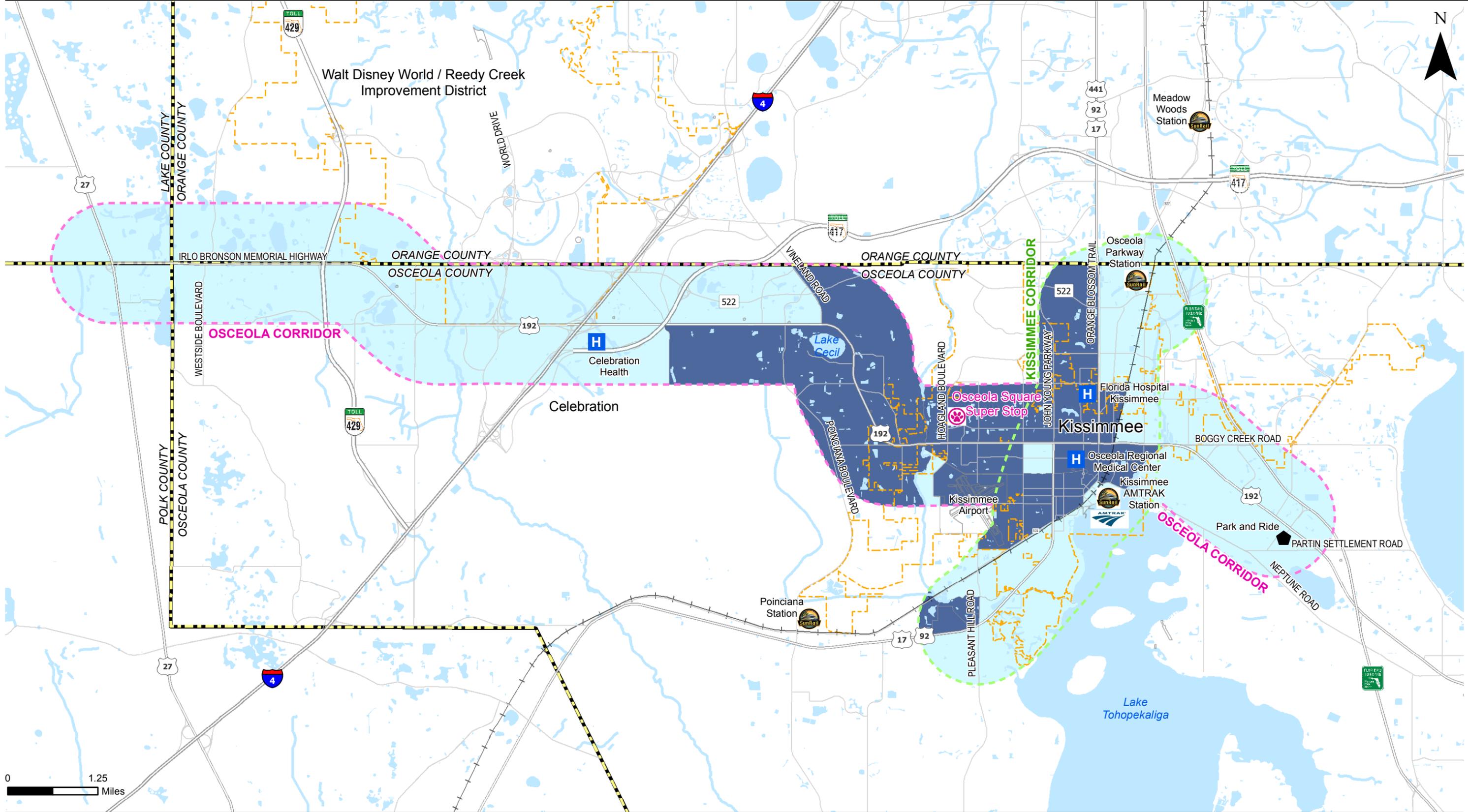


US 192 Alternatives Analysis

Minority Populations

Figure 2-2

Source: Census 2010



2010 Median HH Income

- \$0 - \$17,300
- \$17,301 - \$42,400
- \$42,401 +

Source:  
Census 2010



US 192 Alternatives Analysis

Low Income Populations

Figure 2-3



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The population of seniors (60+) is expected to grow by nearly 99 percent in the period between 2000 and 2015. These senior populations are more reliant on transit due to lack of access to automobiles.

The populace within the Study Area exhibits further characteristics of a heavily transit dependent population in terms of their auto-ownership characteristics. For the Study Area as a whole, the average percentage of households having 1 car or fewer is 44 percent; a similar portion (43 percent for both) of the population within the County and region exhibits low auto ownership.

The Osceola County School District's Families in Transition Program reports that as of April 2011, there were 1,360 homeless/transient students enrolled in the District<sup>10</sup>. The total number of "hotel families", who rely on public transportation, could be larger because school data does not account for families without school aged children and other reasons. 1,900 persons become homeless in the County annually. Approximately 20 percent of the homeless population in Central Florida resides in Osceola County, but only 5 percent of available shelter beds are located within the County.

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### Special Transit Populations

In addition to the Study Area's permanent population, the US 192 corridor and its environs host a significant seasonal and tourist population. Osceola County hosts between five and six million overnight visitors each year, with approximately 100,000 visitors staying in the county on any given night. Proximity to major theme parks and an international airport set the stage for the significant tourism industry footprint in the county, and the study corridor acts as the primary spine for tourist activity within the County. More information on tourist populations is available in Appendix A.

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### Housing Stock

As of the 2010 US Census there were 128,366 housing units in Osceola County; an estimated 42,274 of those units are located within the Study Area. In general housing values tend to be highest in Section 2 and lowest in Section 3. Osceola County overall has a low percentage (24.1 percent) of higher valued housing stock, as compared to other counties in the region – 27.7 percent in Orange County and 30.7 percent in Seminole County are valued at \$200,000 or more. More than 50 percent in Sections 1 and 2, and 40 percent in Section 3 of the existing housing stock is detached, single-family residences. There are, however, areas with a significant amount of multi-family units.

### Affordable Housing

Although the housing stock within the Study Area is on the low end from a cost perspective, housing affordability is still an issue. The Center for Neighborhood Technology's Housing and Transportation (H+T®) Affordability Index offers an expanded view of affordability, one that combines housing and transportation costs and sets the benchmark at no more than 45 percent of the median income.

<sup>10</sup> Source: Homeless Services Network 2011 "Point in Time" Report to Osceola County



The H+T Affordability Index reveals that the indices within the Study Area range between 46.29 and 77.6. Given the car dependence in Central Florida and rising gas prices, this result is unsurprising. **Table 2-3** shows the H+T index for several counties within Central Florida as a point of comparison to the Study Area.

**Table 2-3: H+T Affordability Index**

| County   | Index |
|----------|-------|
| Osceola  | 58.89 |
| Seminole | 50.74 |
| Polk     | 54.97 |
| Orange   | 57.08 |

Source: Center for Neighborhood Technology, Housing and Transportation (H+T) Affordability Index, <http://htaindex.cnt.org/map/>.

### Vacant Housing

As of the 2010 US Census there were 40,277 vacant housing units in Osceola County, an estimated 11,704 of those units are located within the project Study Area. Vacant units account for approximately 27.7 percent of the housing stock within the Study Area. Based on the characteristics of vacant housing within the Study Area as of the 2000 US Census, a significant amount of the housing stock listed as “vacant” is used for seasonal or recreational use.

### Employment

Tourism is the largest industry in Osceola County, generating approximately \$2.4 billion per year in economic impact<sup>11</sup>. The tourism industry supports approximately 40,000 jobs for local residents, ranging from entry-level jobs to high-level management positions. Walt Disney World alone employs 61,000<sup>12</sup> persons. Employment within the Study Area accounts for more than 70 percent of the jobs in the County.

Based on a 2011 study by the Center for Transit Oriented Development<sup>13</sup>, origin proximity, destination size, employment density are the factors of central importance in creating viable transit service in an era of dispersed employment.

### Jobs-Housing Balance and Employment Density

According to the origin proximity theory, providing the right mix of housing near employment may encourage more employees within the Study Area to use transit for their commute. There are approximately 56,500 jobs within the Study Area and 42,274 housing units (most used as rentals or timeshare). This jobs-housing imbalance indicates that a significant number of workers within the Study Area are commuting from outside of the Study Area. For Osceola County overall, there are an estimate 79,000 jobs and 129,700 housing units, which indicates there are more commuters leaving the County than coming in.

<sup>11</sup> Kissimmee Convention and Visitors Bureau, “Destination Osceola 2022 – Strategic Planning for the Osceola County Tourism Industry”, February 2012.

<sup>12</sup> Source: Orlando Business Journal 2012 Book of Lists

<sup>13</sup> Center for Transit-Oriented Development, "Transit-Oriented Development and Employment." May, 2011



Higher employment densities are associated with beneficial impacts for transit ridership. In the study area the densest areas of employment are near the three hospitals, and generally within the Downtown Kissimmee core. Disney-owned property is quite large and thus, employment density is not high, however there are a very large number of jobs in that area. Similar to population, the vast majority of jobs within the County are localized in or near the project Study Area.

### Major Employers

**Figure 2-4** shows the location of major employees in the study area. Although Disney World falls outside of the Study Area, it is included because of the impact the Disney holdings have on the region. As noted previously, higher employment densities are associated with beneficial impacts for transit ridership. The densest areas of employment are near the three hospitals within the Study Area, and the Downtown Kissimmee core. The vast majority of jobs within the County are localized in or near the project Study Area. The average wages for these jobs are typically the lowest amongst all in Central Florida due to the tourist dependent nature of the economy.

### Unemployment and Wages

As of 2010, 85.9 percent of the civilian labor force in the Study Area was employed and 14.1 percent unemployed<sup>14</sup>. This unemployment rate was similar to that of the Osceola County labor force as a whole<sup>15</sup>. Increases in the unemployment rate were felt throughout the Study Area and Central Florida from 2006-2010. Recently, there has been some decline in unemployment throughout the region although the unemployment rate in Osceola County is currently the highest in the region.

Osceola County's average wages are amongst the lowest in Central Florida. Given the tourist-dependent nature of much of the Study Area and high number of low-paying, service sector jobs; it is likely that the average wage within the Study Area is even lower than the County average.

### Commuter Trips by Mode

Table 2-3 in Appendix A includes a summary of how commuters in Osceola County and surrounding counties travel to work. The 2010 Census shows that the percentage of workers using public transportation to travel to work in the County was low (1.4%). This percentage may have changed given the increase in public transportation usage throughout the state as a result of high gas prices – the mode shift has been evident on several LYNX routes (notably on Links 55 and 56, which have seen increasing ridership); however, the single occupant vehicle is still the mode of choice.

Population and employment in Osceola County is expected to continue to grow in the future. For the 5-county Workforce Region 10<sup>16</sup>, the number of jobs is expected to increase of 2.17 percent annually and 17 percent overall through 2019. Population in Osceola County is supposed to grow dramatically, increasing by as much as 43 percent by 2020<sup>17</sup>.

<sup>14</sup> Source: US Census Bureau, Census 2000 via ESRI Business Analyst, ESRI forecast for 2010

<sup>15</sup> Source: US Census Bureau, 2010 American Community Survey

<sup>16</sup> Osceola, Orange, Seminole, Sumter and Lake Counties.

<sup>17</sup> Bureau of Economic and Business Research, "Projections of Florida Population by County, 2011-2040", March 2012.



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## 2.3 Land Use

The Osceola and Kissimmee Corridors contain a wide array of highway-fronting commercial uses. Behind these commercial uses are various forms of residential uses, ranging from single family to short-term rentals. **Figure 2-5** shows the existing land uses within the Osceola and Kissimmee Corridors. The three primary existing land use categories are commercial, low density residential and environmental conservation.

Section 1 (US 27 to Interstate 4) is 8.5 miles long and has the lowest land use intensity of the three Sections. This section has no fronting development. Historically, the western portion of Section 1 near US 27 was the last to develop, resulting in low-density land use patterns as well as a large supply of vacant land. The residential housing stock in Section 1 contains a significant number of investor-owned single family homes that are used as short-term rentals.

Section 2 (Interstate 4 to western Kissimmee City Limits) is 6.8 miles long and contains different land use intensities. However, Section 2 maintains the general land use pattern of highway commercial parcels along US 192, with low density residential behind the commercial uses with a few exceptions. Section 2 contains the entrance to the Town of Celebration, a community designed around New Urbanist principles. Along US 192 within the Osceola Corridor, Celebration contains an employment / office district. This Section also contains tourist commercial destinations.

Section 3 (western Kissimmee City Limits to Florida's Turnpike and Osceola Parkway SunRail Station to Pleasant Hill Road) is the oldest developed section in the Study Area, with the City of Kissimmee existing as an established community long before the arrival of Walt Disney World. As a result, this Section has the most diversity of land uses including the pedestrian oriented downtown Kissimmee, Valencia College and Osceola Heritage Park. This Section also has the least amount of vacant land and has seen the most significant decline in hotel and commercial uses.

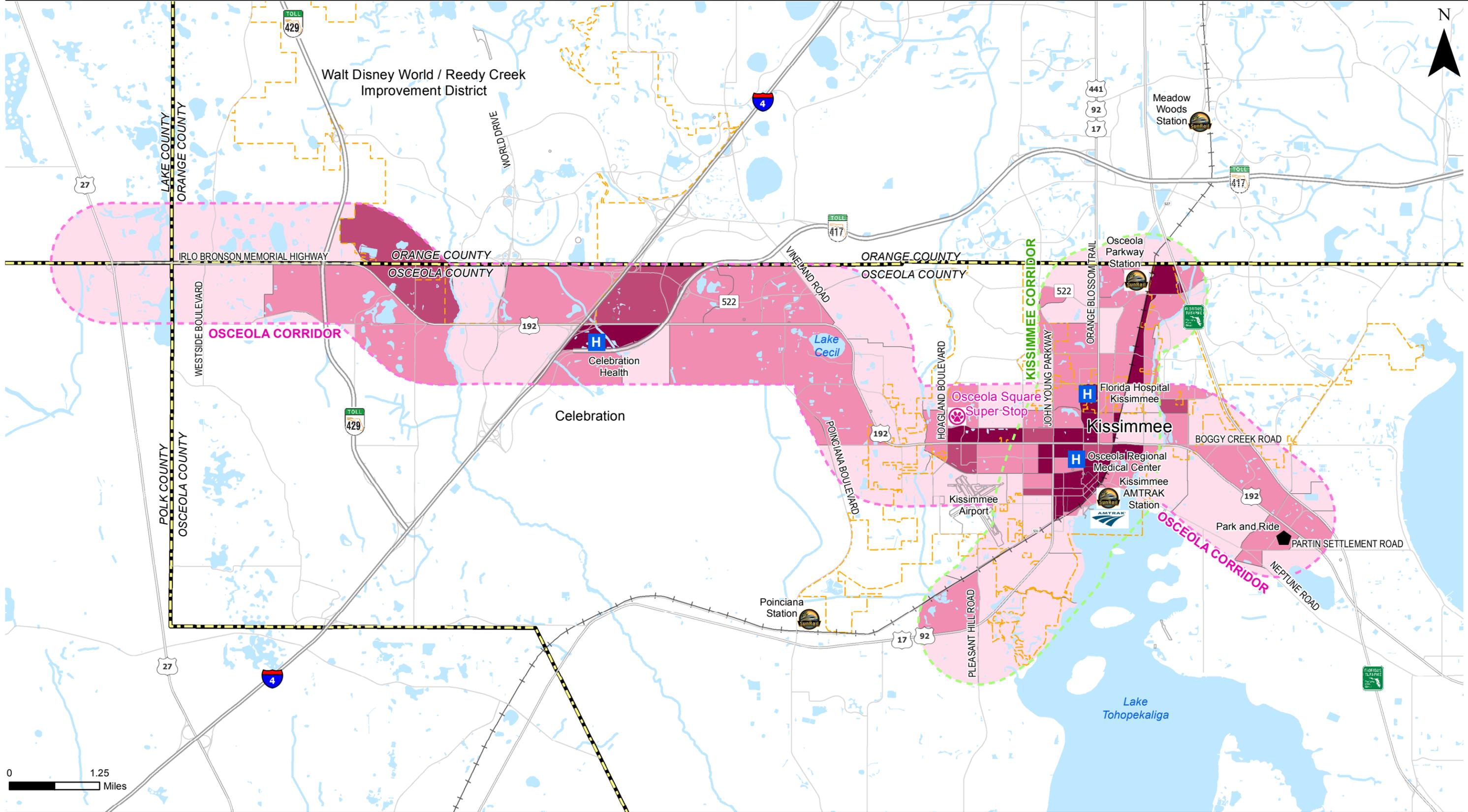
While the existing development pattern is consistent, the western portions of the Study Area are oriented to tourists and short-term residents, while uses in the eastern section are geared to a more permanent population. Throughout the Study Area, significant trip generators and attractors exist. The Comprehensive Plan for the City of Kissimmee promotes land use patterns and intensities intended to support the expansion of transit service. The majority of the Study Area within Osceola County has a Tourist Commercial FLU designation. Several existing and proposed CRAs provide both a potential funding mechanism for infrastructure improvements and a regulatory structure for implementing transit-oriented development patterns.

---

### Approved Zoning

**Figure 2-6** shows the approved zoning for the Study Area. While Polk County has no zoning; the rest of the Study Area maintains a general pattern of commercial uses along the US 192 corridor, with residential behind. This pattern is fairly consistent through Sections 1, 2 and 3.

Larger developments have Planned Development zoning, with site-specific regulations and development standards. The majority of the zoning in the corridor is mixed use with a combination of commercial, hotel, and tourist-oriented uses.



Employees per Acre

|           |           |           |                 |
|-----------|-----------|-----------|-----------------|
| 0.0 - 1.0 | 1.1 - 3.0 | 3.1 - 5.0 | 5.1 and Greater |
|-----------|-----------|-----------|-----------------|

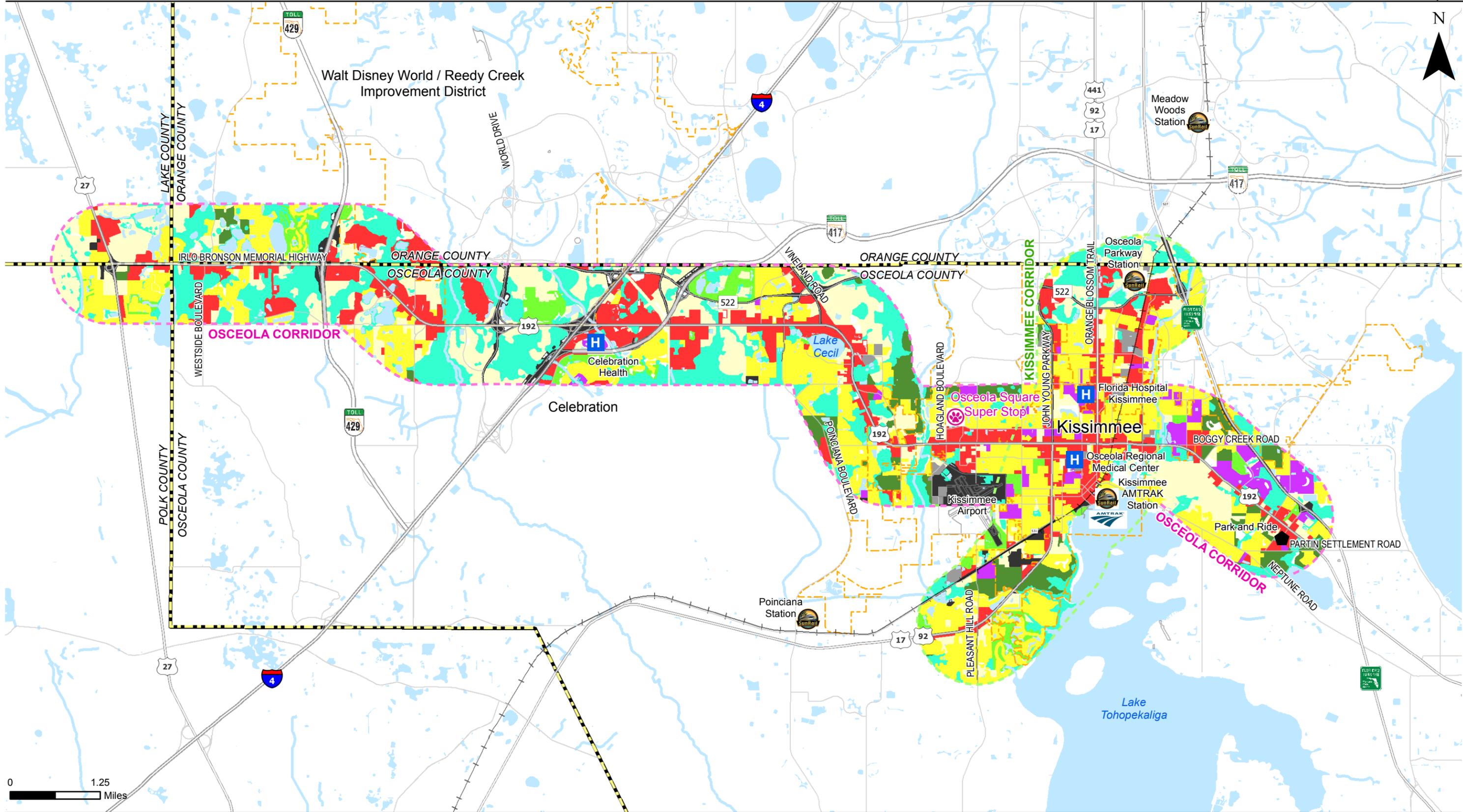
Source:  
Osceola County 2040 TAZ (2012)



US 192 Alternatives Analysis

Employment Density

Figure 2-4



0 1.25 Miles



- |              |               |                          |
|--------------|---------------|--------------------------|
| AGRICULTURAL | INSTITUTIONAL | TRANSPORTATION/UTILITIES |
| COMMERCIAL   | RECREATIONAL  | VACANT                   |
| INDUSTRIAL   | RESIDENTIAL   | WETLANDS                 |

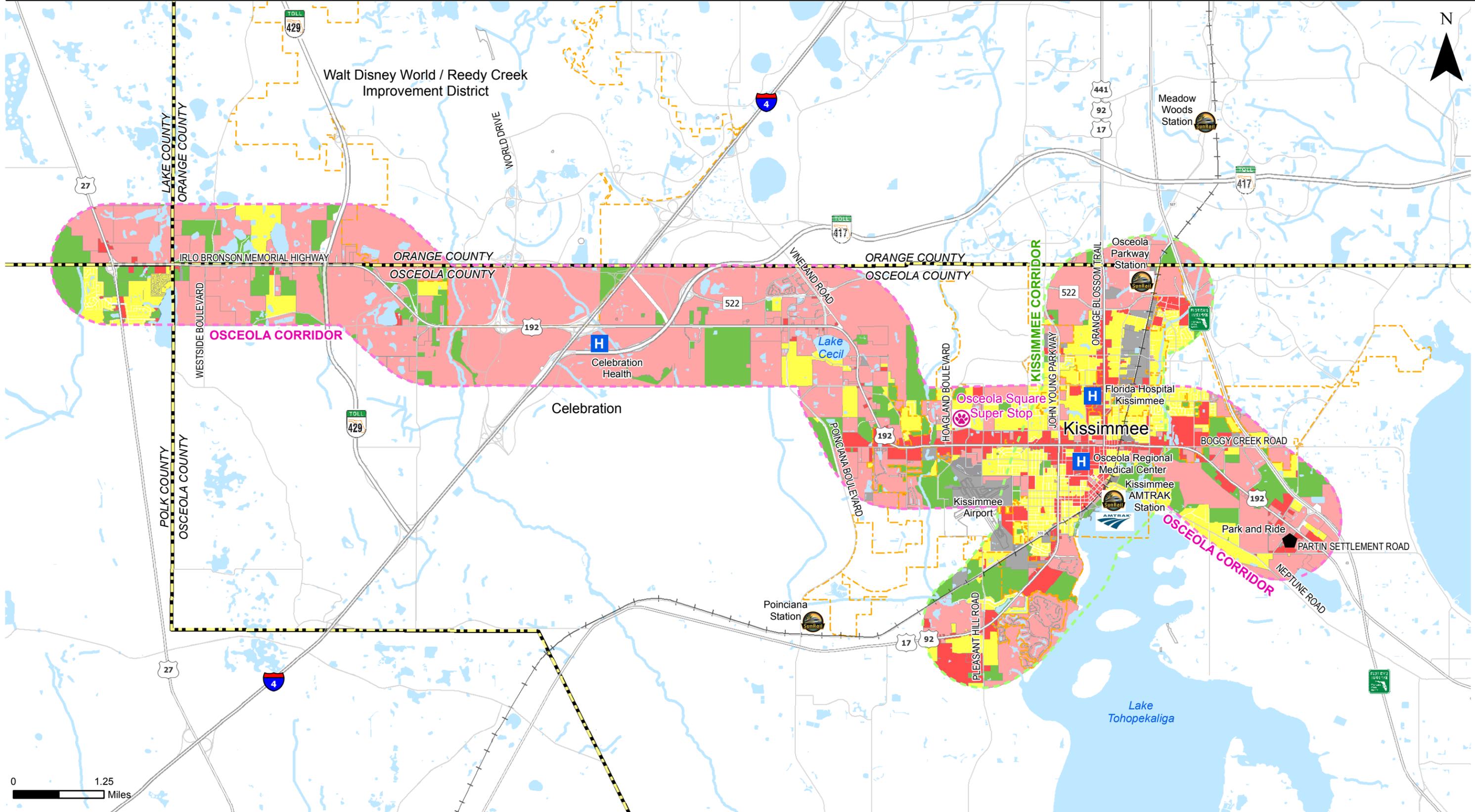


US 192 Alternatives Analysis

Existing Land Use Map

Figure 2-5

Source: SFWMD Land Use and Aerial Interpolation (2012)



- COMMERCIAL
- CONSERVATION / OPEN SPACE
- INSTITUTIONAL
- INDUSTRIAL
- MIXED USE / PLANNED DEVELOPMENT
- RESIDENTIAL
- ROW
- UTILITY
- WATER

Source:  
Zoning data from ECFRPC (2010).



**US 192 Alternatives Analysis**

**Existing Zoning**

Figure 2-6



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## Major Generators and Attractors

The Study Area contains a number of land uses which act as trip generators and attractors that are geared towards tourists, students and professionals.

### Tourist or Cultural Attractions

Walt Disney World is by far the largest and most dominant tourist location holding an average of 150,000 people on a given day. Tourist attractions in Section 2 include Arabian Nights, Gaylord Palms Resort and Old Town and Section 3 houses Medieval Times and Osceola Heritage Park.

### Higher Education

Valencia College in Section 3 and has 8,000 commuter students.

### Healthcare

There are three hospitals in the Study Area. In Section 2, Celebration Health has 112 beds and is located south of US 192. In Section 3, Osceola Regional Medical Center is located in downtown Kissimmee and will contain 321 beds, after an expansion to be completed in 2013. Florida Hospital Kissimmee is located on Orange Blossom Trail north of downtown Kissimmee and contains 83 beds.

### Business Districts

Downtown Kissimmee is the primary business district within the Study Area and is located in Section 3.

### Mobility

The primary mobility trip generators and attractors are located within Section 3. Downtown Kissimmee contains the existing Greyhound Bus and Amtrak train stations; the planned Kissimmee SunRail station will also be located at the Amtrak station. The future Kissimmee Intermodal Facility, a planned LYNX SuperStop, will be constructed at this location as well. The Kissimmee Municipal Airport (west of downtown), and the planned Osceola Parkway SunRail station are also in the study area.

---

## Comprehensive Plans

**Figure 2-7** summarizes the Future Land Use (FLU) designations for land the Study Area, per the Comprehensive Plans for County and municipal jurisdictions. In general, the Study Area is envisioned to include tourist-oriented commercial uses adjacent to US 192, with low-density residential for the parcels behind. This would maintain the existing scale and character of the corridor.



Transit improvements, specifically premium transit, have been identified as part of the land use visions of local governments throughout the Study Area. Both Osceola County and the City of Kissimmee have been working towards changing the historic suburban, auto-dependent development pattern in the Study Area corridors.

The City of Kissimmee has adopted land use policies along the US 192 (Vine Street) corridor and within Downtown that address minimum transit-supportive densities, mixed-use development and pedestrian-oriented design. In 2009, the City added the Vine Street Community Redevelopment Agency (CRA) to their existing Downtown CRA to provide funding for implementing infrastructure improvements consistent with their desired urban, transit-focused development pattern.

In the past year, Osceola County has initiated both the W192 CRA (approximately 15 miles from the Kissimmee City limits west to the Polk/Lake County line) and the East 192 CRA (3 miles from the eastern Kissimmee City limits to Partin Settlement Road). A third CRA for US 441 north of Kissimmee is also being contemplated by the County. The direction of these efforts has been towards implementing an urban form supportive of multiple transportation modes including pedestrians, bicycles and transit. For the W192 CRA, which encompasses the majority of the Osceola Corridor, initial concepts identify tourist commercial land uses similar to what is found today. However, higher development intensities are proposed, as well as more urban development patterns that place buildings adjacent to the sidewalk. Either of these changes would increase the transit supportive nature of the area.

---

## Special Districts and Plans

Local governments in the Study Area have been instituting Community Redevelopment Agencies (CRAs) within the Study Area. CRAs are independent quasi-governmental agencies charged with levying taxes and improving infrastructure within the district as an economic development initiative and are a commonly used tool to revitalize downtowns, preserve historic structures, and otherwise enhance communities. A CRA's Redevelopment Trust Fund is funded through Tax Increment Financing (TIF) and revenue bonds.

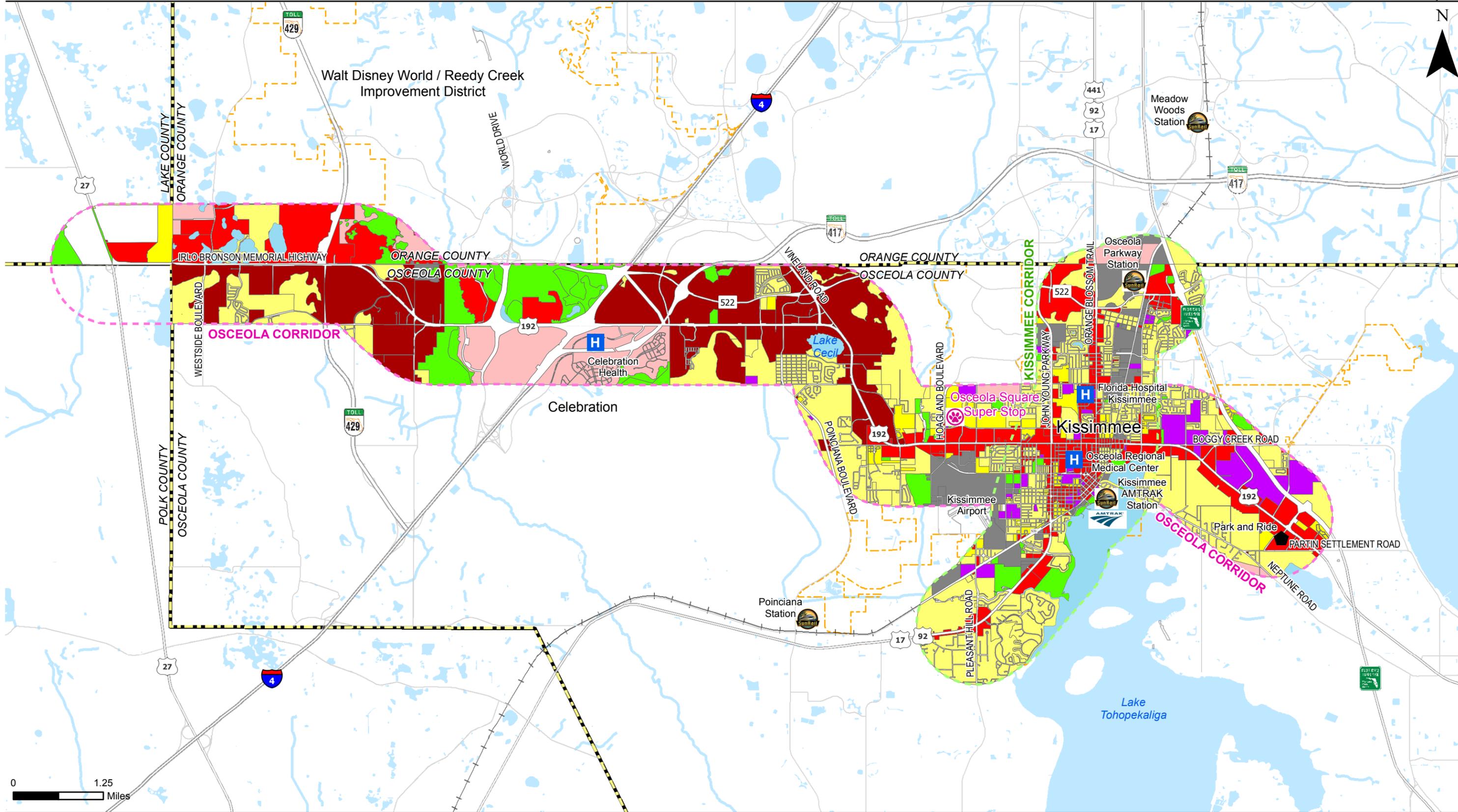
There are four existing CRAs within the Study Area, with one under consideration, seen in **Figure 2-8**

### Downtown Kissimmee CRA

The Downtown Kissimmee CRA is located within the business and government services center of the City of Kissimmee and includes City Hall, the Osceola County Courthouse and the Osceola County Administration Building. The CRA Plan builds upon the City's desired land use and transportation balance by promoting mixed uses with a multi-modal transportation system.

### East 192 CRA

The East 192 CRA was established by Osceola County and includes properties within unincorporated Osceola County east of the City of Kissimmee and within ½ mile of US 192. Recommended Goals and Objectives have been established, which include plans for connectivity between various destinations in and around the CRA area, an expansion of tourist economic gain and college housing opportunities.



- |  |  |   |
|--|--|---|
| <span style="display:inline-block; width:15px; height:15px; background-color:red; border:1px solid black;"></span> COMMERCIAL                  | <span style="display:inline-block; width:15px; height:15px; background-color:grey; border:1px solid black;"></span> INDUSTRIAL                           | <span style="display:inline-block; width:15px; height:15px; background-color:lightblue; border:1px solid black;"></span> WATER  |
| <span style="display:inline-block; width:15px; height:15px; background-color:orange; border:1px solid black;"></span> COMMERCIAL - TOURIST     | <span style="display:inline-block; width:15px; height:15px; background-color:lightpink; border:1px solid black;"></span> MIXED USE / PLANNED DEVELOPMENT | <span style="display:inline-block; width:15px; height:15px; background-color:darkgrey; border:1px solid black;"></span> UTILITY |
| <span style="display:inline-block; width:15px; height:15px; background-color:green; border:1px solid black;"></span> CONSERVATION / OPEN SPACE | <span style="display:inline-block; width:15px; height:15px; background-color:yellow; border:1px solid black;"></span> RESIDENTIAL                        |   |
| <span style="display:inline-block; width:15px; height:15px; background-color:purple; border:1px solid black;"></span> INSTITUTIONAL            | <span style="display:inline-block; width:15px; height:15px; border:1px solid black;"></span> ROW   |   |

Source:  
Future Land Use data from  
ECFRPC (2010).



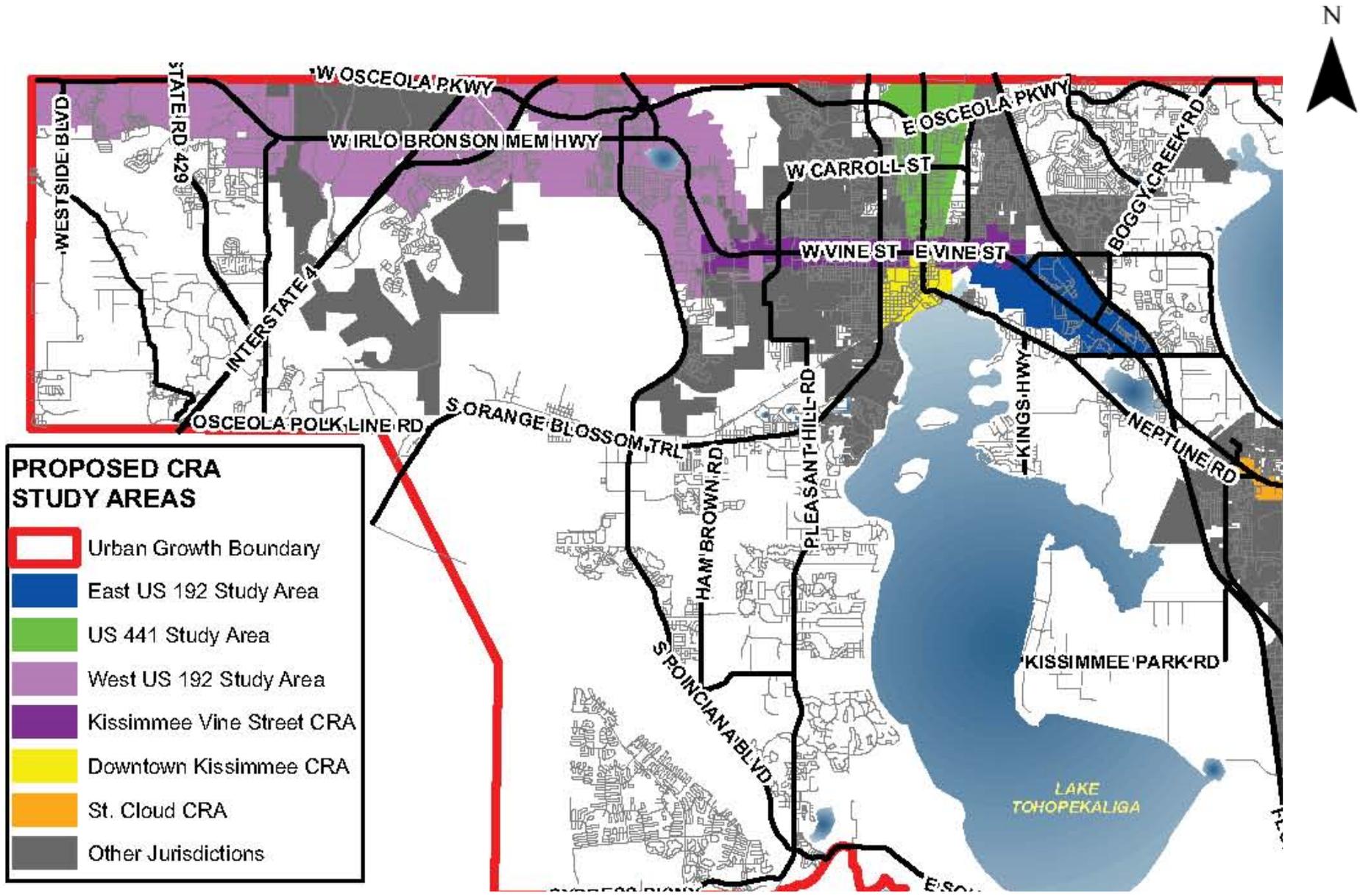
**US 192 Alternatives Analysis**

**Future Land Use Map**

Figure 2-7



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Source: Osceola County (2012)



US 192 Alternatives Analysis

Existing and Proposed  
Community Redevelopment Agencies

Figure 2-8



**LYNX**

US 192 Alternatives Analysis | Final Report

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The W192 CRA is in Sections 1 and 2 of the Study Area, west of Kissimmee. Overlapping with the majority of the West 192 Redevelopment District, the area of the W192 CRA is located within unincorporated Osceola County and extends from the Kissimmee City Limits west to the Polk County line (i.e., Sections 2 and 1). The West 192 area is a commercial corridor generally developed in an auto-oriented pattern. This land is a vital area because of its link to tourism and its economic consequences if left unchanged.

This CRA has the most vacant land which increases the potential for new development to advance infrastructure improvements. The World Drive entry to Walt Disney World is in the center of the proposed CRA, and has the potential to promote significant business and economic opportunities within the CRA limits.

### Vine Street CRA

The Vine Street CRA is located within Section 3 of the Study Area and covers US 192 (Vine Street) within the City of Kissimmee. The Vine Street corridor is also the spine of the Multimodal Transportation District (MMTD) adopted by the City. As part of the Vine Street CRA Master Plan, activity centers are identified at Osceola Square Mall, the Bronson property (at Emory Avenue and US 192) and Osceola Regional Medical Center.

### Proposed North 441 CRA

The proposed US 441 CRA is within Osceola County and is centered along Orange Blossom Trail (US 441) and is defined as the area south of the Orange County line. This area consists of established residential neighborhoods. The North US 441 corridor is the gateway to Historic Downtown Kissimmee.

### Developments of Regional Impact

A Developments of Regional Impact (DRIs) is a designation for a development that is deemed to have a substantial effect upon more than one county due to its character, magnitude or location. There are 20 approved DRIs within the Study Area. **Figure 2-9** shows the approved DRIs within the Study Area. The DRIs are in varying phases of development, with several of the larger developments in Section 2 remaining untouched.

---

## 2.4 Transportation

The US 192 Alternatives Analysis Study Area is defined by the area roadways described below. Bus transit and paratransit service is provided throughout the Study Area by LYNX. Intercity rail travel is provided at the Kissimmee Station by Amtrak. Intercity bus service is provided by Greyhound at Amtrak's Kissimmee Station. The following sections detail the existing conditions, the proposed transportation improvements, and the projected conditions of the Study Area transportation network.

---

### Roadway Infrastructure and Operational Restrictions

Two corridors comprise the Study Area: the Osceola Corridor, centered on US 192, and the Kissimmee Corridor, centered on Orange Blossom Trail and John Young Parkway. US 192 is the



only continuous east-west corridor within Osceola County. Within the Osceola Corridor, there are local streets that provide alternate routes:

- Osceola Parkway which is approximately one mile to the north of US 192 and parallels the corridor between Sherberth Road (in Section 1) and Vineland Avenue / CR 535 (in Section 2). Osceola Parkway is a four-lane median-divided roadway with few intersecting roadways and minimal development fronting the roadway.
- The most significant local street corridors within the City of Kissimmee are Columbia Avenue to the north (3 to 4 lanes) and Oak Street to the south (3 to 4 lanes). Columbia Avenue (adjacent to Osceola Square SuperStop) and Oak Street (adjacent to Osceola Regional Hospital) are both served by LYNX.
- From downtown Kissimmee, Neptune Road runs parallel to US 192.

Both the Osceola and Kissimmee corridors are projected to operate at poor levels of service (LOS F) by the Year 2030. US 192 is constrained to a six lane cross-section. Roadway infrastructure, high speed limits (40 mph to 55 mph) and congestion found in the majority of the corridor present a safety concerns for pedestrians and bicyclists.

### Osceola Corridor

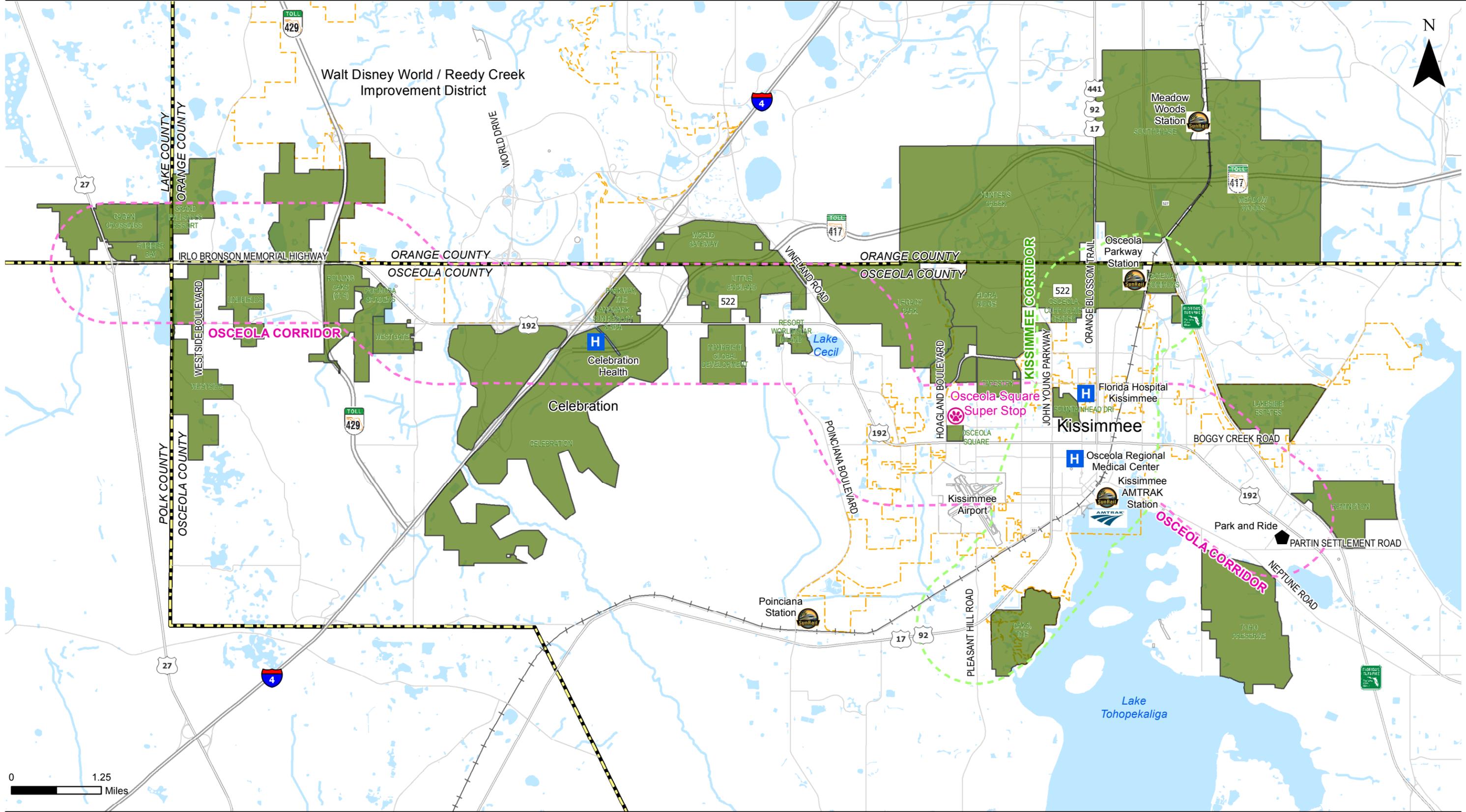
US 192 is classified as a Rural Principal Arterial (Other) within Lake County and as an Urban Principal Arterial within Orange and Osceola Counties. The study corridor roadways within Kissimmee are classified as urban arterials.

US 192 from Hoagland Boulevard to SR 500/Main Street (92090000 from M.P. 12.867 to M.P. 15.386) is a designated as a Strategic Intermodal System (SIS) Connector by FDOT. The SIS consists of transportation facilities of interregional significance that contribute to the State's economic vitality. FDOT generally prioritizes transportation improvements for SIS facilities when budgeting for transportation projects. The US 192 SIS Connector serves as a connection between the Kissimmee Gateway Airport and the Kissimmee Intermodal Center. In addition, US 192 from just east of Yates Road to Denn John Lane is designated as a Multimodal Transportation District (MMTD) corridor by the City of Kissimmee; this designation promotes the provision of transportation capacity in a way that encourages transit use, walking and bicycling. US 192 is also designated as a Multimodal Corridor in the Osceola County Comprehensive Plan.

Right-of-way (ROW) information was obtained from FDOT and is summarized in Appendix A. Some of the roadways have irregular right-of-way widths. In the Osceola Corridor, US 192 is primarily a six (6) lane divided roadway. Three typical cross sections exist in the Osceola Corridor, which are further described in Appendix A.

There are a total of 59 signalized intersections within the Osceola and Kissimmee Corridors. **Figure 2-10** shows the locations of traffic signals within the Study Area.

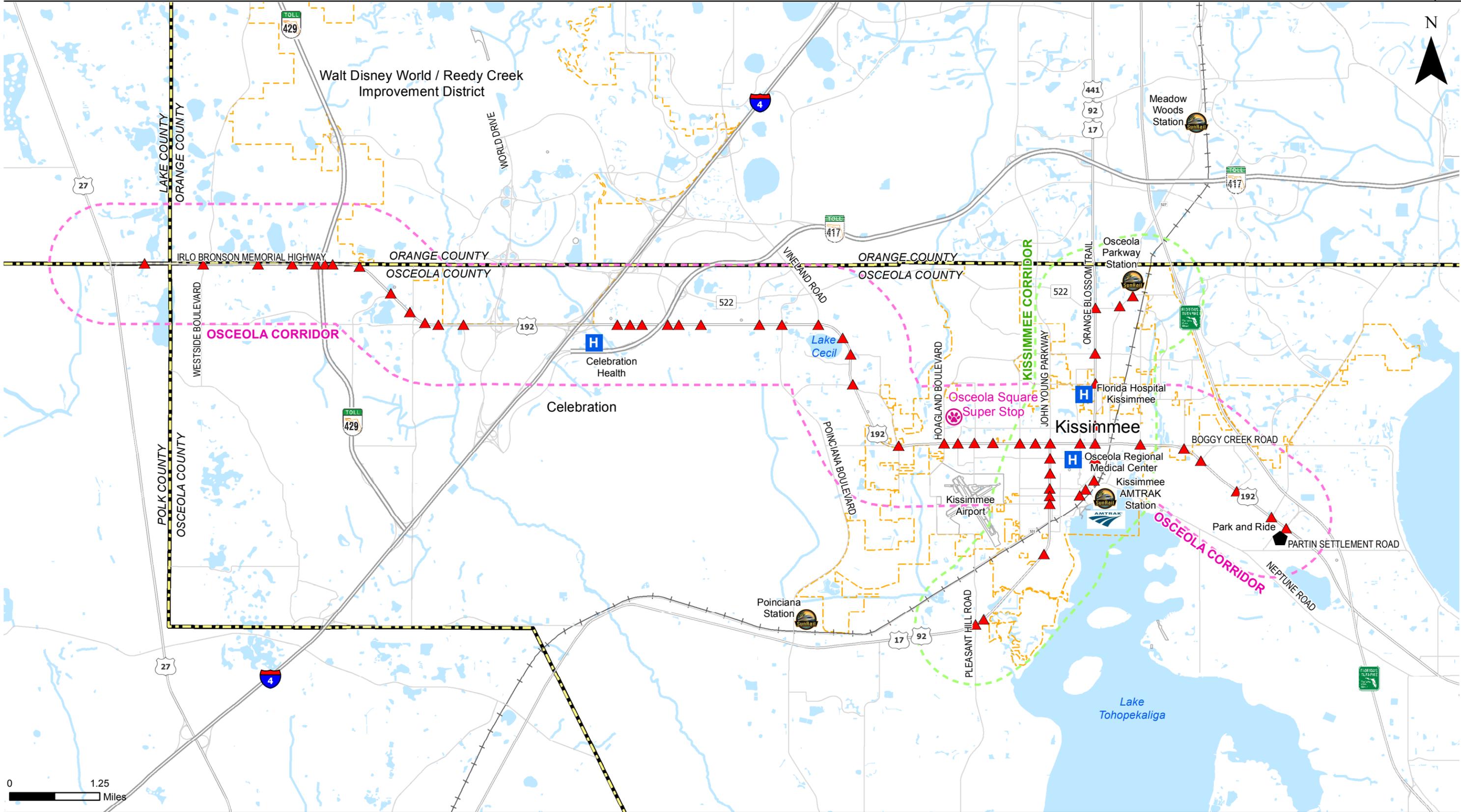
Access Classes dictate the spacing of signalized intersections, pedestrian crossing opportunities and local street connections for the corridors. US 192 in the Osceola Corridor falls under Access Class 3 or 5, which requires a minimum of 2,640 feet (½ mile) between signalized intersections.



  DRI

Figure 2-9

Source:  
ECFRPC (2011)



▲ Signalized Intersections



US 192 Alternatives Analysis

Signalized Intersections

Figure 2-10

Source: FDOT and Osceola County



### Kissimmee Corridor

**Table 2-4** illustrates the FDOT classification and jurisdiction for the corridor.

**Table 2-4: Kissimmee Corridor Classification & Jurisdiction Summary**

| Roadway                       | Limits                                   | Classification                 | Jurisdiction      |
|-------------------------------|--|--------------------------------|-------------------|
| SR 600 (John Young Parkway)   | Pleasant Hill Road to John Young Parkway | Urban Other Principal Arterial | FDOT              |
| Emmett/Broadway/Main          | John Young Parkway to US 192             | Urban Minor Arterial           | City of Kissimmee |
| SR 500 (Orange Blossom Trail) | US 192 to Osceola Parkway                | Urban Other Principal Arterial | FDOT              |
| John Young Parkway            | Emmett Street to US 192                  | Urban Other Principal Arterial | FDOT              |
| Osceola Parkway               | SR 500 to Orange Avenue                  | Urban Other Principal Arterial | Osceola County    |

Source: FDOT RCI Database, Osceola County & City of Kissimmee Transportation Elements

ROW information was obtained from FDOT and is summarized in Appendix A. The majority of the Kissimmee Corridor is a four (4) lane divided highway with a few exceptions.

### Parking

On-street parking is not provided on US 192. There is no on-street parking along roadways for the Kissimmee Corridor with the exception of downtown Kissimmee. Free parking is limited to a maximum of three hours. Based on the recent Kissimmee CRA Parking Study, the heaviest usage observed was during the afternoon hours. There are no designated Americans with Disabilities Act (ADA) spaces provided. Throughout the area, there are a few public parking lots. More information is available in Appendix A on public parking facilities that are maintained within the City limits.



## Roadway Usage

Table 2-5 shows daily traffic volumes and LOS conditions for the Study Area's roadways.

**Table 2-5: Year 2011 Daily Roadway Volumes and LOS Information**

| Roadway                       | Limits   | # of Lanes     | Maximum Service Volume | Daily Traffic <sup>2</sup> | LOS |
|-------------------------------|--|----------------|------------------------|----------------------------|-----|
| <b>Osceola Corridor</b>       |  |                |                        |                            |     |
| US 192                        | US 27 to Lake/Orange County Line                 | 6              | 51,030                 | 39,000                     | B   |
| US 192                        | Lake/Orange County Line to Westside Boulevard    | 4              | 38,540                 | 39,000                     | F   |
| US 192                        | Westside Boulevard to Orange/Osceola County Line | 4              | 38,540                 | 41,000                     | F   |
| US 192                        | Orange/Osceola County Line to World Drive        | 6              | 52,820                 | 60,500                     | F   |
| US 192                        | World Drive to Interstate 4                      | 6 <sup>3</sup> | 130,300                | 73,000                     | B   |
| US 192                        | Interstate 4 to SR 535                           | 6              | 52,820                 | 45,300                     | D   |
| US 192                        | SR 535 to Hoagland Boulevard                     | 6              | 58,070                 | 54,300                     | C   |
| US 192                        | Hoagland Boulevard to SR 500/Main Street         | 6              | 50,300                 | 44,300                     | D   |
| US 192                        | SR 500/Main Street to Shady Lane                 | 6              | 58,070                 | 45,500                     | B   |
| <b>Kissimmee Corridor</b>     |  |                |                        |                            |     |
| SR 600 (John Young Parkway)   | Pleasant Hill Road to John Young Parkway         | 4              | 38,540                 | 53,000                     | F   |
| Emmett/Broadway/Main          | John Young Parkway to US 192                     | 4              | 31,600                 | 24,000                     | D   |
| SR 500 (Orange Blossom Trail) | US 192 to Donegan Avenue                         | 4              | 33,200                 | 28,500                     | D   |
| SR 500                        | Donegan Avenue to Osceola Parkway                | 4              | 38,540                 | 31,500                     | C   |
| John Young Parkway            | US 192 to Emmett Street                          | 4              | 36,700                 | 35,500                     | C   |
| Osceola Parkway               | SR 500 to Orange Avenue                          | 6              | 52,820                 | 49,500                     | D   |

Source: FDOT Traffic Database, Osceola County & City of Kissimmee Transportation Elements

Based on historical data on US 192, the annual growth rates in the study area have been estimated between 0.15% and 1.5%.



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## Long Range Traffic Forecasts and Projected Levels of Service

All of the roadway segments along US 192 within the study limits are projected to operate at LOS F conditions during year 2030, with two exceptions (US 192 from US 27 to the Orange County Line; and US 192 from World Drive to Interstate 4). All segments of the Kissimmee Corridor are projected to fail with LOS F during the year 2030. Most of the primary local roadways parallel to US 192 are expected to operate as LOS F in the Year 2030.

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## Safety and Bicycle / Pedestrian Facilities

The Florida Department of Transportation reports that there have been 3,780 total crashes with 36 fatalities for all modes in the study area between 2007 and 2011. This data suggests that bicycle / pedestrian safety is a significant problem within the Study Area. This is consistent with a recent 2011 study that ranked the Orlando region worst in the nation for pedestrian safety.<sup>18</sup> Looking at the location of bicycle and pedestrian crashes for the Study Area sections and comparing these crash locations against existing traffic signals show that while the majority of reported crashes are at or near a signalized intersection, there are several longer segments without signals that experience a high incidence of crashes.

MetroPlan's adopted Bicycle/Pedestrian Plan identifies priority bicycle reconstruction projects for portions of three streets in Kissimmee that are parallel to US 192/Vine Street and Main Street/Orange Blossom Trail.

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## Programmed and Planned Roadway Improvements

Several transportation improvements are programmed (i.e., with funding commitments) or planned (without funding commitments) in the Study Area. These projects are documented in the MetroPlan Orlando Transportation Improvement Program (TIP), Long Range Transportation Plan (LRTP), and the FDOT 5-year Draft Work Program (2012-2017) have been proposed. Information on these improvements is available in Appendix A. The most significant funded improvement in the Study Area is the widening of US 192 from four to six lanes from the Lake County line to Secret Lake Drive (near SR 429), in Section 1 of the Study Area. This project was accelerated due to the availability of funding and will be completed as a design-build effort beginning in 2014.

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## Transit System Overview

LYNX operates a total of 66 local fixed bus routes (or links), nine NeighborLinks, one bus rapid transit (BRT) route referred to as LYMMO, two FastLinks, complementary Americans with Disabilities (ADA) paratransit service, Transportation Disadvantaged (TD) services, and commuter assistance vanpools within a three county region comprised of Orange, Osceola, and Seminole counties. **Figure 2-11** presents the links that comprise the LYNX system within the Osceola and Kissimmee Corridors. More information about the different types of service is found in Appendix A.

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<sup>18</sup> Dangerous by Design 2011: Solving the Epidemic of Preventable Pedestrian Deaths



### Fare Policy

LYNX charges \$2.00 for a full-fare ride on its local bus routes. Discounted passes are available which can lower the cost of multiple rides. LYNX does not currently charge for LYMMO since the cost of that service is off-set by parking revenues collected from the City of Orlando. LYNX implements small incremental fare increases every two to three years. LYNX reviews fare revenue to ensure that fare collections continue to pay an adequate share of operating costs. In the past LYNX’s fare box recovery has averaged 24 percent for its fixed-route service.

### Vehicle Inventory

LYNX operates its fixed-route service using a fleet of 270 buses. The fleet consists of primarily standard 40’ buses, with six 60’ articulated vehicles used for routes with heavy ridership. All LYNX vehicles are 100% compliant with the Americans with Disabilities Act (ADA) and include low floors and wheelchair lifts.

### Vehicle Maintenance and Storage Facilities

LYNX uses three facilities to maintain and store its fixed route and paratransit services. Most of LYNX’s fleet is stored and maintained at the LYNX Operations Center (LOC) with the remainder if the fleet at either the South Street or Southern operations bases. The majority of the Osceola County routes are stored in the leased Southern Operations Base on Alaska Avenue in Kissimmee.

### Study Area Transit Routes

LYNX operates seven local routes, four Downtown Disney Direct (3D) routes, one FastLink, and one NeighborLink within the US 192 Study Area. These include Links 4, 10, 18, 26, 55, 56, 57, 301, 303, 305, 306, FastLink 441 and NeighborLink 631. Except for the 3D routes, most routes are bi-directional in operation.

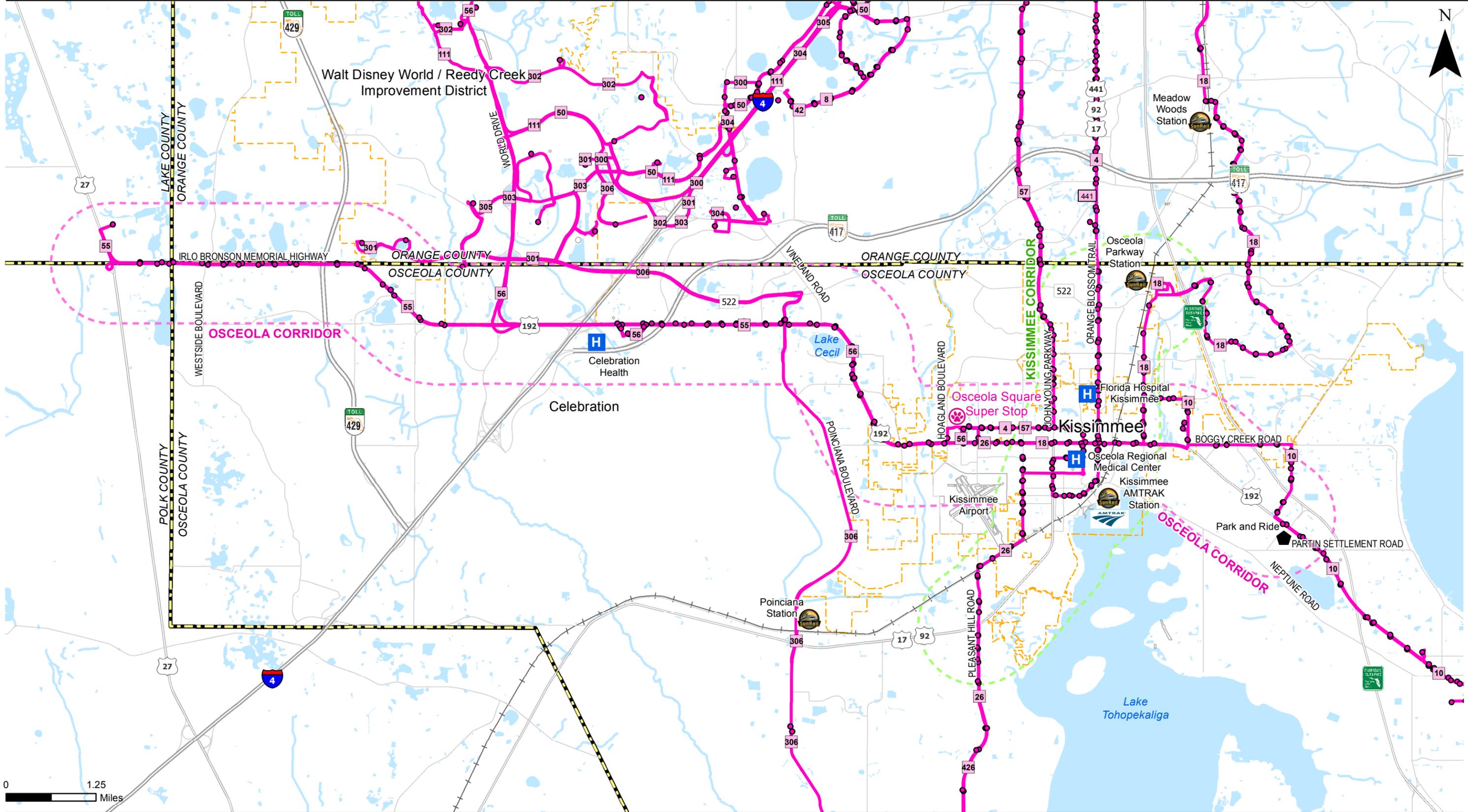
The comparison between the travel times for automobiles versus buses is shown in **Table 2-6**.

**Table 2-6: Running Times Along US 441/Orange Blossom Trail (Minutes)**

| Corridor  | Mode | Time Period | NB/EB | SB/WB |
|---|------|-------------|-------|-------|
| US 441/OBT  | Auto | AM (7-9 AM) | 3     | 3     |
|   |      | PM (4-6 PM) | 4     | 3     |
|   | Bus  | AM (7-9 AM) | 11    | 14    |
|   |      | PM (4-6 PM) | 15    | 14    |
| US 192 (Between US 27 and Osceola Square Mall)            | Auto | AM (7-9 AM) | 29    | 29    |
|   |      | PM (4-6 PM) | 37    | 33    |
|   | Bus  | AM (7-9 AM) | 42    | 39    |
|   |      | PM (4-6 PM) | 42    | 39    |
| US 192 (Between Osceola Square Mall and Valencia College) | Auto | AM (7-9 AM) | 13    | 13    |
|   |      | PM (4-6 PM) | 19    | 16    |
|   | Bus  | AM (7-9 AM) | 26    | 25    |
|   |      | PM (4-6 PM) | 26    | 28    |

Source: Link 4, 10, 18, 55 and 56 Year 2012 schedule. Auto time travel runs from May 2012





**VHB**

- Bus Stops
- Bus Routes
- 18 Link Number

Source:  
LYNX



**US 192 Alternatives Analysis**

**LYNX System Map**

Figure 2-11



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### Study Area Bus Stops

The majority of LYNX’s bus stops in the study area consist of a bus stop sign pole with limited benches and shelters throughout the system (see Figure 2-11). Pedestrian connections between bus stops and the surrounding community are also limited. Bus stops are not always located at signalized intersections, or in areas with sidewalk connections. Most stops outside of downtown Kissimmee are not located at signalized intersections or have a connection to a sidewalk.

### Other Passenger Amenities in the Study Area

In addition to the bus stops and shelters, the following transit facilities are located within Osceola County:

- Osceola Square Mall SuperStop –This location includes three bus bays and a sheltered waiting area, it serves all of the Osceola County routes except Link 306, Link 426, and the NeighborLink. Parking is available in the adjacent mall lot.
- Shady Lane Park and Ride –Although Link 10 runs near the Park and Ride along US 192, the 112 space, free park and ride is not served directly by LYNX service.

### Bus Route Ridership

Ridership on LYNX’s Osceola County routes continues to increase as a result of LYNX and Osceola County’s dedication to providing new routes, increasing services on existing routes, and overall growth of the system. Except for one year (2009), LYNX overall system ridership has grown consistently year-over-year by five percent. In the last five years (from 2006 to 2011), overall annual system ridership grew by 12 percent. Ridership for both the system and the routes in the Study Area are presented below in **Table 2-7**. The Study Area routes grew significantly in the last five years as well. Of particular interest is the growth of over 50% on two of the Osceola Corridor Routes (Link 55 and 56), which outpaces the system-wide growth by almost 40%. This dramatic increase is reflective of the importance of transit along this corridor. LYNX ridership is forecast to continue growing in the study area. See Chapter 9 for future ridership projections.

**Table 2-7: 2010 Average Weekday, Saturday and Sunday Ridership**

| Route   |                  | Monday -Friday | Saturday | Sunday |
|---------|------------------|----------------|----------|--------|
| Link 4  | Absolute         | 5,091          | 3,823    | 2,846  |
|         | Percent of Total | 43%            | 33%      | 24%    |
| Link 10 | Absolute         | 985            | 654      | N/A    |
|         | Percent of Total | 60%            | 40%      | N/A    |
| Link 18 | Absolute         | 1,527          | 978      | N/A    |
|         | Percent of Total | 61%            | 39%      | N/A    |
| Link 26 | Absolute         | 681            | 519      | N/A    |
|         | Percent of Total | 57%            | 43%      | N/A    |
| Link 55 | Absolute         | 1,541          | 1,509    | 1124   |
|         | Percent of Total | 37%            | 36%      | 27%    |
| Link 56 | Absolute         | 1,655          | 1,607    | 1292   |
|         | Percent of Total | 36%            | 35%      | 28%    |
| Link 57 | Absolute         | 804            | 583      | N/A    |
|         | Percent of Total | 58%            | 42%      | N/A    |

**Table 2-7: 2010 Average Weekday, Saturday and Sunday Ridership (continued)**

| Route                                 |                         | Monday -Friday | Saturday      | Sunday        |
|---------------------------------------|-------------------------|----------------|---------------|---------------|
| Link 301                              | Absolute                | 128            | 131           | 113           |
|                                       | Percent of Total        | 34%            | 35%           | 30%           |
| Link 303                              | Absolute                | 89             | 80            | 84            |
|                                       | Percent of Total        | 35%            | 32%           | 33%           |
| Link 305                              | Absolute                | 45             | 51            | 52            |
|                                       | Percent of Total        | 30%            | 34%           | 35%           |
| <b>Total (For Routes in Corridor)</b> | <b>Absolute</b>         | <b>12,546</b>  | <b>9,935</b>  | <b>5,511</b>  |
|                                       | <b>Percent of Total</b> | <b>45%</b>     | <b>35%</b>    | <b>20%</b>    |
| <b>System</b>                         | <b>Absolute</b>         | <b>76,540</b>  | <b>52,664</b> | <b>30,290</b> |
|                                       | <b>Percent of Total</b> | <b>48%</b>     | <b>33%</b>    | <b>19%</b>    |

Source: LYNX 5-Year Service Plan, 2010  
Information on Link 306 and FastLink 441 was not available

### On-Board Survey

Origin and destination data was also obtained through the LYNX 2010 on-board survey effort. Travel occurs primarily between locations west of Celebration to Kissimmee on the Link 55. There is a significant amount of people travelling from Walt Disney World to Buena Vista Lakes as well. The majority of users of the bus routes in the Study Area earn less than \$20,000 a year. This implies a level of transit dependence as low-income households typically lack the financial means to own an automobile. Other information on origins and destinations in the study area is shown in Appendix A.

### Bus Route Reliability

LYNX provided information on on-time performance for routes in its system. Routes are considered “on-time” if they arrive at the scheduled time-points within five minutes of the scheduled arrival. Most Links in the study area have reported a degradation of on time performances in the past few years.

## Other Corridor Transportation

A number of private taxis, limos, and shuttles operate within the Study Area, including Walt Disney Worlds Transportation system and private hotel shuttles. Amtrak and Greyhound offers daily service from Kissimmee Station to local and long distance destinations.

### Ridesharing

FDOT sponsors the reThink program which provides ridematching services and promotes non-single-occupant commuting options such as transit use, biking, and walking. reThink maintains a database of registered commuters that organize by worksite locations, work schedule, mode of travel and location of residence. Within the Study Area, the most common employment destinations for registered commuters are Walt Disney World and Orange Lake Resort and Country Club. Other reThink employment partners within the Study Area include Osceola County Government and the City of Kissimmee, located in Section 3.



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## Future Planned Transit Infrastructure

The region's first commuter rail service, known as SunRail, is currently under construction. Both the Osceola Parkway Station and the Kissimmee Amtrak Station are within the project Study Area. The SunRail budget includes money for LYNX to purchase and operate 27 new buses to provide connections to the new commuter train. The SunRail Phase I ridership is projected on opening day (2013) to be 4,300 trips and by 2030 the full system is anticipated to carry 7,400 passengers per day.

The City of Kissimmee is constructing the Kissimmee Intermodal Facility (KIF) which will serve as the new SuperStop for LYNX services operating in Osceola, replacing the Osceola SuperStop. This facility, which will be located on Broadway at the Amtrak Station, will provide intermodal connectivity to SunRail, Amtrak, and long distance bus service.

As part of the Florida High Speed Rail Authority's Vision Plan, the Interstate 4 corridor through the Study Area was identified as the general alignment for a corridor connecting Orlando and Tampa. A possible station within the study area was identified at the southwest quadrant of Interstate 4 and US 192.

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## 2.5 Environmental Conditions

The Study Area is substantially developed with some natural features. This section discusses the environmental resource areas of air quality, noise, wetlands, protected wildlife and habitat, and floodplains.

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### Air Quality

The Fifth Annual Report and Contingency Plan for Air Emissions Reduction in Central Florida (Cooper and Ross, 2011, University of Central Florida—for MetroPlan Orlando) states that the Orange, Seminole and Osceola County area (OSO area) does not exceed the US Environmental Protection Agency (EPA) National Ambient Air Quality Standards (NAAQS).

The primary air pollution of concern in the MetroPlan report is ozone. Ozone is created by reactions between nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs) in the presence of sunlight. The EPA standard for ozone is currently 75 parts per billion (ppb). The MetroPlan report indicates that if EPA standards are lowered the OSO area could be declared a non-attainment which would have a dramatic impact on the region's ability to obtain a share of federal transportation funds.

The FDOT SR 500 SEIR<sup>19</sup> suggests that carbon monoxide (CO) is also a concern. The one- and eight-hour NAAQS for CO are 35 parts per million (ppm) and 9 ppm.

There is no information regarding ozone or CO levels within the Study Area.

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<sup>19</sup> State Environmental Impact Report (SEIR) for State Road 500 (Orange Blossom Trail) Project Development and Environmental Study, From US 192 (Vine Street) to Country Boulevard, Florida Department of Transportation, 2011. The limits of this study correspond with the portion of the Kissimmee Corridor north of US 192.



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## Noise

Noise can be defined as unwanted or undesirable sound. The basic parameters of environmental noise are (1) intensity or level; (2) frequency content; and (3) variation with time. Noise metrics are correlated with human annoyance, and is widely used for environmental noise impact assessment. Noise sensitive sites are considered properties that would be directly affected by the alternative. Sites include homes, schools, churches and healthcare facilities.

The SR 500 SEIR noise study was conducted in accordance with FDOT's PD&E Manual Chapter 17, Noise (April 18, 2007) and Title 23 Code of Federal Regulations (CFR) Part 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise. A total of 64 noise sensitive sites were located along the SR 500 corridor. Nine of these sites were expected to approach or exceed the FHWA Noise Abatement Criteria (NAC), including residences in a Mobile Home Park and a School playground.

Potential sources of noise for the US 192 AA will vary by alternative. Sources of noise are expected to include construction, varying number and types of vehicles.

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## Wetlands

Several sources of were available to map the type and extent of wetlands within the Area. These sources ranged from large scale GIS-based mapping of the region, to finer scale mapping within each County, or defined portions of the project Study Area.

### Wetland Areas

The approximate locations of wetlands within the Study Area are depicted in **Figure 2-12**. GIS maps from the South, St. Johns River and Southwest Florida Water Management Districts were used to identify the wetland boundaries and types. FDOT's Florida Land Use, Cover and Forms Classification System (FLUCFCS) were used to identify the wetland type. 7,651 acres of wetland are located within the Study Area. The largest portion is found in Section 1. The primary wetland habitat types include Cypress, Mixed Wetland Hardwoods and Wetland Forested Mixed.

### Wetland Protection

There are several regulatory agencies that protect wetlands. The US Army Corps of Engineers is the federal agency tasked with permitting wetland impacts. The water management districts are the primary State wetland permitting agencies. The Study Area lies within the permitting boundary of the South Florida Water Management District, with the Polk and Lake County portions falling within different jurisdictions.

On the local level, wetland protection and impact approval is implemented through permits and varies by government. In addition to general wetland protection, the Conservation Chapters of the local government comprehensive plans provide policies focused on protecting certain areas of wetland.



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## Protected Wildlife and Habitat

Protected wildlife includes those species listed as Threatened (T) or Endangered (E) in the Endangered Species Act for the Federal government, and wildlife listed as a Species of Special Concern (SSC), T or E by the State in Chapter 39, Florida Administrative Code. Some habitat types are also protected because of their rarity.

### Protected Wildlife

There are 28 protected wildlife species that may occur in the project Study Area including Whooping Cranes and the American Alligator.

The US Fish and Wildlife Service (FWS) has developed a series of maps which depict the know location of protected wildlife. Land disturbing projects within identified consultation areas and suitable habitat require coordination with the FWS to address potential impacts to these species. The entire Study Area falls within the limits of the Audubon's crested caracara, Everglades' snail kite, Florida scrub jay and red-cockaded woodpecker consultation areas. **Figure 2-13** depicts the limits of the sand and blue tailed mole skinks consultation area and wood stork core foraging area and the locations of protected species and bald eagle nests in the Study Area.

### Protected Habitat

The Conservation Chapters of the Osceola County Comprehensive plan includes goals, objectives and policies to create wildlife corridors and protect sensitive communities as well as protecting listed species and the bald eagle. These plan elements also identify locations where additional habitat protection measures will apply. The Green Swamp Area of Critical State Concern (Green Swamp Protection Area) in Polk and Lake County occurs just west of US 27 within the Study Area.

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## Floodplains

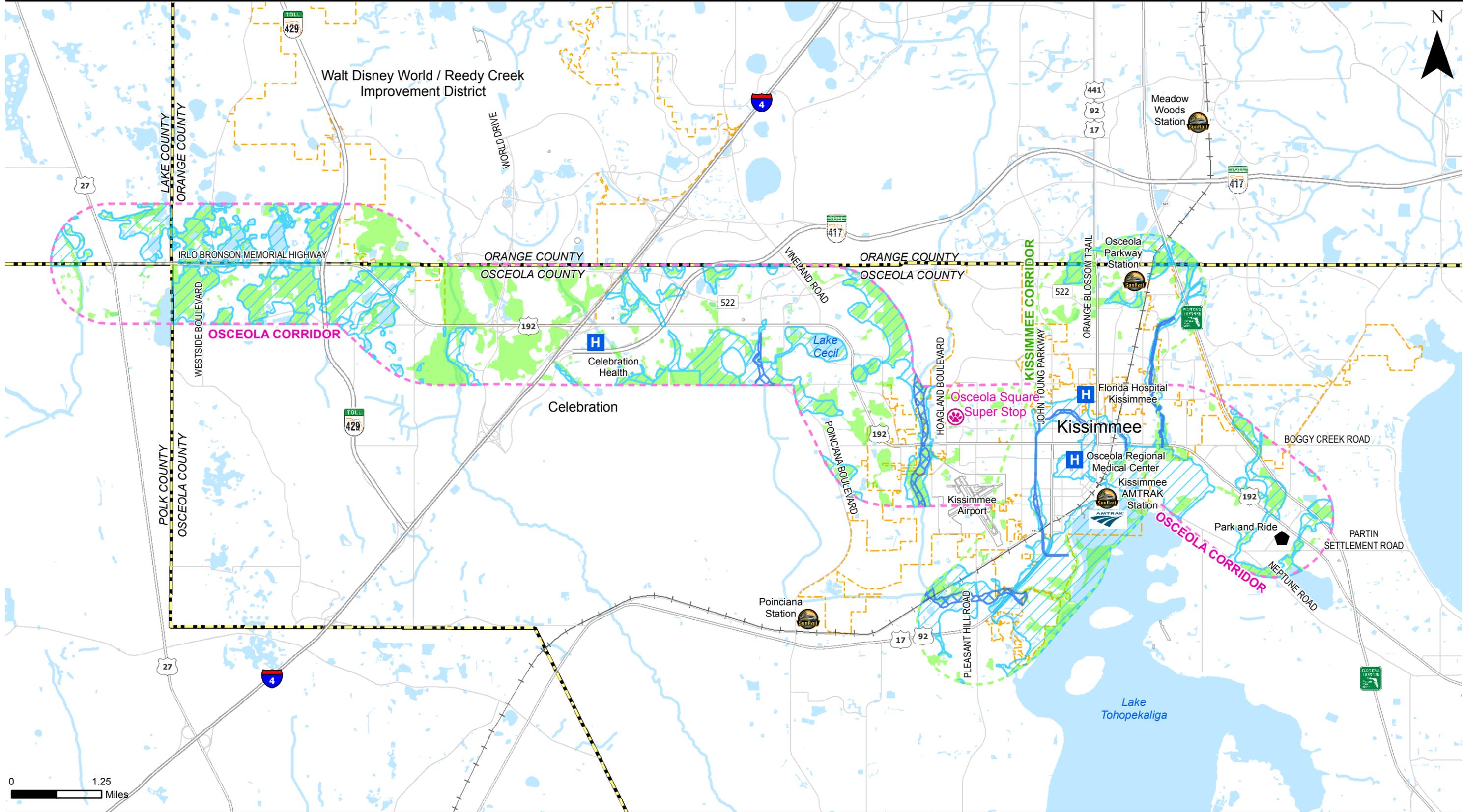
The Federal Emergency Management Agency (FEMA) database was used to identify 100-year floodplains in the vicinity of the Study Area. The information utilizes FEMA Flood Insurance Rate Maps (FIRM). A 100-year floodplain is defined as having one percent chance of flooding in any particular year. The floodway is a regulatory limit established by FEMA in which any encroachment cannot result in more than a 1.0 foot increase in surface water elevation. The floodway approximates the actual channel of the watercourse. There are approximately 10,092 acres of floodplains, including wetlands and lakes throughout the Study Area. There are designated floodways including the City of Kissimmee Ditch and Reedy Creek Swamp among others.

Federal, State and local government regulations all discourage encroachment into the floodplain. These regulations require efforts to avoid and minimize impacts to the floodplain resources and functions, including compensation for these impacts.



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- Floodways
- 100-Year Floodplains
- Wetlands (SFWM)

Source:  
 100-Year floodplains from FEMA (2011).  
 Wetlands from SFWM (2005).



**US 192 Alternatives Analysis**

**Wetlands and Floodplains**

Figure 2-12



Figure 2-13 – Threatened and Endangered Species



# 3

## Purpose and Need

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### 3.1 Problem Statement

Defining the purpose and need for transportation improvements in the US 192 Alternatives Analysis study is a critical first step in the FTA’s project development process. The following problem statement for this project has been developed with input from the project advisory groups and has been distributed and presented for public review:

*Transportation improvements are needed in the Study Area to support existing and projected travel demands that are resulting from continuous growth in population and employment, increased land use densities, and exceptional and consistent tourist travel. There is a need to address existing deficiencies in both the transit infrastructure and transit service (coverage, frequency, access and performance) to improve the attractiveness and effectiveness of the transit system so that travelers increasingly choose it over auto travel. Improvements are needed to better serve the highly transit-dependent population, to attract new riders so that congestion can be reduced, and to provide improved connectivity between existing and proposed transit-supportive land uses and other modal transportation systems, including SunRail and future High Speed Rail. Transportation investments are needed that are cost-effective and utilize existing transportation rights-of-way to the maximum extent feasible by employing advanced and accepted transportation technology. An improved transportation system will enhance the livability of the Study Area by providing better access to employment opportunities and basic services; by providing a range of transportation options for all ages, incomes and abilities; by supporting the economic vitality of existing communities; and by reducing household transportation costs.*

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### 3.2 Transportation Needs in the Study Area

The transportation needs in the Study Area are primarily based upon existing system deficiencies; expected future travel demand that will result from Study Area growth in population, employment and development/redevelopment; the desire for the Study Area to be comprised of more livable communities supported by a low cost and multi-modal transportation system; and feeder/distributor demands that will result from the 2016 start-up of the SunRail commuter rail line in Osceola County.





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## Roadway System Deficiencies

The Study Area's road network is primarily comprised of a single, continuous east-west roadway (US 192) and several north-south roadways (US 27, SR 429, World Drive, I-4, US 441/US 17/US 92 and Florida's Turnpike). Parallel east-west roadways such as Osceola Parkway and the Central Florida Greenway (SR 417) terminate in the west at I-4 and are tolled. Over 50 signalized intersections exist within the combined 31 miles of the Osceola and Kissimmee Corridors. In response to growing demand, sections of US 192 and US 441/US 17/US 92 have been widened and improved. Despite continuous improvement, these and other roadways in the Study Area have significant segments currently operating at unacceptable levels of service. Roadway levels of service are projected to further deteriorate throughout the Study Area as Osceola County continues to grow at an exceptional pace and travel demand continues to exceed the capacity of the available infrastructure. Additionally, due to congested conditions, wide rights-of-way,<sup>20</sup> a lack of supporting bicycle and pedestrian infrastructure, and other issues, the study corridor's roadways exhibit a high crash frequency rate with associated fatalities.

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## Transit System Deficiencies

LYNX routes operate primarily on the above-described roadways, traveling in congested conditions that negatively affect their travel time, on-time performance and reliability. These conditions have also resulted in crowding. Limited to no technological transportation advancements have been implemented in the corridor to maximize the efficiency of the multi-modal transportation system. The LYNX routes in the Study Area are comprised primarily of local service with long headways (30-60 minutes) and long end-to-end travel times that are not competitive with auto travel times.

The LYNX system is not unified throughout the Study Area, resulting in differing passenger amenities at stops and a lack of identity and visibility. Bus stops within the Study Area are not optimally placed at/near signalized intersections which results in safety concerns and disincentives to choose transit due to poor accessibility. Additionally, there are poor linkages between transportation modes with only a single park-and-ride at the eastern end of the Osceola Corridor oriented primarily towards ridesharing, a single bus transfer facility, few sidewalks at stops, limited ADA accessibility, and limited bicycle accessibility and storage at stops. The Study Area's land uses are set back from the mainline transit system, resulting in poor direct access to the provided routes, most without defined walk or bike paths. LYNX support facilities are also not ideally located within the Study Area, resulting in operational inefficiencies and high operating costs for the Study Area's routes. Despite these deficiencies, the LYNX system has experienced sustained and significant growth in ridership, which has stretched the system's capacity.<sup>21</sup>

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<sup>20</sup> In some sections, US 192 has a four to six lane cross-section with added double turning lanes in each direction.

<sup>21</sup> Two Study Area routes, Links 55 and 56, experienced a greater than 50% increase in ridership between 2006 and 2011.



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## Growth and Economic Development/Redevelopment

Exceptional population growth is expected to continue within the Study Area, especially for transit-dependent populations. Additionally, the Study Area's tourist populations<sup>22</sup>, which place significant, all-day, full-week, all-year demand upon the Study Area's roadways; are also projected to increase. Tourist usage of the transit system in the Study Area is currently low (3%) and with constrained roadway capacity there is a need to shift more tourist trips to higher occupancy modes. These combined permanent and temporary populations will continue to have competing demands for short and long-distance travel; express and local travel; and transportation system connectivity related to work, recreational, school and retail trip-making.

While the Study Area is not uniformly dense in population or employment, there are locations within and adjacent to the Study Area that have significant concentrations of residential and commercial land uses. The density of development in some Study Area sections restricts the ability to add roadway capacity. Additionally, there are large, undeveloped sections of the Study Area that have been identified as future development sites. These locations are projected to add significant growth to the corridor, potentially increasing both population and employment density. These developments will be joined by the redevelopment of existing land uses that have deteriorated or become blighted. With significant constraints on the existing transportation system, this growth will result in further degradation of travel conditions in the Study Area.

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## Livable Communities

With roadway cross-sections of up to eight lanes, inconsistent bicycle and pedestrian facilities, a roadway and transit system operating over capacity and a Housing and Transportation Affordability index that shows the households in the Study Area have a combined housing and transportation cost higher than the recommended 45% of income,<sup>23</sup> the Study Area communities are struggling to meet the basic mobility and livability needs of its residents, employees and visitors. There is limited local and political support for additional expansion of US 192 to meet the future demand. There are few effective transportation alternatives to the automobile consistently available in the Study Area. Furthermore, non-automotive connectivity between existing and planned developments is/will be limited or non-existent without improvements to the transportation network and operations. There is a need to provide improved intermodal connectivity between the communities in the Study Area and to provide effective, affordable transportation options.

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<sup>22</sup> Osceola County hosts between five and six million overnight visitors each year with approximately 100,000 visitors staying on a given night; Kissimmee Convention and Visitors Bureau, "Destination Osceola 2022-Strategic Planning for the Osceola County Tourism Industry", 2012

<sup>23</sup> Center for Neighborhood Technology: [www.htaindex.cnt.org](http://www.htaindex.cnt.org)



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## Serve SunRail

A single train station, served by Amtrak's Silver Star and Silver Meteor services, is situated central to the Study Area in Kissimmee. A new station for the SunRail commuter rail system will be co-located at this site and a new SunRail station will be constructed adjacent to Osceola Parkway. The SunRail commuter rail system will require a robust, east-west and local feeder/distributor transit system to maximize its potential.

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### 3.3 Summary of Needs

Improved transit infrastructure and service are needed to address the following needs:

Insufficient transportation infrastructure capacity to serve the projected travel demands;  
Insufficient implementation of technology to improve multimodal transportation efficiency;  
Congested roadways that lead to increasingly long trip times, unreliable bus service, and safety issues;

- Auto-oriented transportation system capacity that does not meet the objectives of local planning;
- Transit travel times that are excessively long and not competitive with auto travel times to key destinations or transfer points;
- Limited and inconvenient transfers between modes (auto to bus, bike/pedestrian to bus, bus to bus);
- Poor physical uniformity and identity of the transit system and minimal service levels that discourage choice rider usage;
- Insufficient transit stop infrastructure and amenities to support existing users or attract new riders;
- Inadequate placement of bus stops which results in limited accessibility, connectivity, transit attractiveness and safety issues;
- A lack of supporting facility infrastructure to optimize the financial performance of the transit system;
- Conflicting and diverse travel needs that are not well-served by the current transit system;
- A lack of robust and prominent transit service to support adopted, transit-oriented development land use policies and to encourage livability;
- A new commuter rail service that requires a supportive Study Area transit system,
- A lack of reliable and timely access to educational opportunities, services and to economically diverse employment opportunities;
- A higher than recommended percentage of study corridor incomes spent on combined housing and transportation costs; and
- Insufficient transit capacity to support and connect existing land uses, future growth and revitalized development.

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## Purpose of the Project

The purpose of the LYNX US 192 Alternatives Analysis study (US 192 AA) is to assess transportation needs and to develop alternative strategies for providing improved transit service to, from and through two key corridors in Central Florida: the Osceola Corridor and the



Kissimmee Corridor. The proposed improvements must respond to the existing Study Area transportation system deficiencies; respond to projected population; employment and transit demand growth; support planned economic development/ redevelopment; improve mobility and livability for the Study Area's residents, employees and visitors; and maximize the federal and local investment in the SunRail system. The improvements must be consistent with the character of the Study Area, must be cost-effective and considerate of limited funding, while avoiding or minimizing adverse environmental impacts.

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### 3.4 Goals and Objectives

Based upon the project Purpose and Need, five goals with supporting objectives have been identified for the US 192 Alternatives Analysis project. The following goals and objectives were developed with input from the project's advisory groups:

#### Goal 1: Improve Mobility and Transportation Access

- Reduce travel time.
- Improve transit reliability.
- Improve transit frequency.
- Provide a consistent, recognizable transit system that maximizes the ease of use.
- Relieve increasing highway congestion by attracting auto users to transit.
- Improve connectivity between transit system routes and increase opportunities for multi-modal transfers.
- Provide safe, multi-modal access to the transit system.
- Provide additional transit capacity to support existing and future travel demands (employees, residents, students, tourists).

#### Goal 2: Enhance the Livability and Economic Competitiveness of the Study Area through an Improved Transportation System

- Develop transit stations/park and rides that are supportive of transit-oriented development plans.
- Support existing communities by providing transportation access adjacent to significant residential (including low-income), business, educational and recreational land uses.
- Enhance economic competitiveness by providing reliable and timely access to job centers.
- Provide effective transportation choices that can assist households in moderating the level of household expenditures on transportation.
- Provide transportation options that serve travelers of all ages, incomes and abilities.

#### Goal 3: Develop the Most Efficient Transportation System, Which Maximizes Limited Resources for the Greatest Public Benefit

- Maximize use (capacity) of existing transportation corridors and infrastructure.
- Maximize investments in SunRail by providing a strong, connecting transit system.
- Advance the most cost-effective transit network.
- Develop transportation options that use known and proven transportation technologies suitable to the Study Area.
- Provide a transportation improvement that can be implemented in a timely and phased manner.



#### **Goal 4: Develop a Transit System Consistent with Adopted Local and Regional Plans and Policies**

- Support and implement transit improvements consistent with the MetroPlan 2030 Long Range Transportation Plan and the transit components of the Comprehensive Plans adopted by Osceola County, Orange County, Polk County, Lake County, Reedy Creek Improvement District and the City of Kissimmee.
- Build upon recent transportation planning and transit visioning conducted by LYNX, Osceola County and FDOT.

#### **Goal 5: Preserve and Enhance the Environment, Natural Resources and Open Space**

- Improve air quality by providing transit alternatives that moderate the increase of vehicle emissions.
- Minimize potential adverse impact on residences, businesses and the built environment.
- Minimize potential adverse impacts on the natural environment.