Miami-Dade Transportation Planning Organization

SMART Plan Corridor Inventory

East - West Corridor

SMART PLAN CORRIDOR INVENTORY

EAST-WEST CORRIDOR

Prepared for:

Miami-Dade Transportation Planning Organization

Miami-Dade Transportation Planning Organization

Prepared by:

ATKINS

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1. Introduction

This study provides a preliminary inventory of available demographic and socioeconomic data for the East-West Corridor of the SMART Plan. The East-West Corridor study area includes the Miami Intermodal Center (MIC), the Miami International Airport (MIA), and Florida International University (FIU). The East-West Corridor will provide multimodal solutions for the severe traffic congestion along SR 836/Dolphin Expressway, which is the only east-west expressway in central Miami-Dade County.

1.1. Purpose

The purpose of this study is to provide available demographic and socioeconomic data that will function as an initial inventory of the current land use along the East-West Corridor.

1.2. Background

The Strategic Miami Area Rapid Transit (SMART) Plan was approved by the Miami-Dade Metropolitan Planning Organization (MPO) Governing Board on April 21, 2016 in recognition of the necessity to advance a program of rapid transit initiatives to address the mobility needs throughout Miami-Dade County. The SMART Plan includes six (6) major rapid transit corridors, one of which is the East-West Corridor.

1.3. Scope

The scope of the project includes the following: coordination with key state, county, and municipal agencies; a nationwide literature review of best practices and lessons from other similar initiatives; collection of demographic and socio-economic data; an existing conditions analysis including a corridor profile; a needs assessment identifying deficiencies for baseline conditions; and a final report documenting the findings.

1.4. Report Layout

The report is organized into the following four sections:

- I. Introduction: Provides an overview of the study along with the literature review.
- II. Corridor Profile: Provides the inventory of conditions within the corridor.
- III. Needs Analysis: Identifies deficiencies for baseline conditions.
- IV. Conclusion and Next Steps: Summarizes the results and findings of the study.

1.5. Literature Review

A regional and nationwide literature review of planning initiatives was conducted with a focus on transportation and land use connections and implementation measures. The purpose of the literature review was to survey applicable transit programs and implementation methods that may offer strategic ideas or provide guidance for the overall SMART Plan implementation, with an emphasis on sources pertaining to the East-West Corridor.

The literature review is divided into two sections. The first section provides an assortment of best practices resources for transportation and land use planning alternatives focusing on the following twelve (12) topics:

- Form Based Codes
- Access Management
- Corridor Improvements
- Economic Development
- Safety
- Housing Development
- Complete Streets
- Livable Communities
- Transit-Oriented Development (TOD) Guidelines
- Facilities for Pedestrians and Bicyclists
- Transit Services and Infrastructure
- Population and Employment Growth

The second portion of the literature review provides an overview of the two specific sources assigned to the Consultant for review. The two sources reviewed in this section are the *Smart Growth Implementation Toolkit* from the Smart Growth Leadership Institute, and the *Developer's Toolbox* provided by the Smart Growth Network.

TOD, Seattle. Source: Seattle Transit Communities, 2010.

1.5.1. Transportation and Land Use Planning Alternatives

The first section of the literature review for the East-West Corridor involved identifying local and regionally significant initiatives and policies, and reviewing national research performed by organizations and think tanks addressing the identified twelve (12) transportation and land use topics. The sources chosen represent a selection of national research initiatives along with local and regional-level transit system examples relevant to the SMART Plan and specifically, the East-West corridor. The following is a list of the reviewed literature summarized in this section.

National Research Initiatives

- *Why Transit Development and Why Now,* report from the national non-profit Reconnecting America (2007)
- *Building Livable Communities with Transit: Planning, Developing, and Implementing Community-Sensitive Transit*, report from the Federal Transit Administration and USDOT (1999)
- *Realizing the Potential: Expanding Housing Opportunities Near Transit,* report from Reconnecting America (2007)
- *Light Rail and Land Use Change: Rail Transit's Role in Reshaping and Revitalizing Cities,* Journal of Public Transportation (2014)
- *Elements of an Ideal Complete Streets Policy,* policy analysis report from Smart Growth America | National Complete Streets Coalition (2011)
- *Station Area Planning: How to Make Great Transit-Oriented Places,* report from Reconnecting America (2008)
- *Performance-Based Transit-Oriented Development Typology Guidebook,* Center for Transit Oriented Development (2010)

Local and Regional-Level Best Practices

- *Seattle Transit Communities: Integrating Neighborhoods with Transit,* Seattle Planning Commission (2010)
- *Transit Oriented Development and Proposition 207 in Metropolitan Phoenix*, United States Environmental Protection Agency (2009)

National Research Initiatives

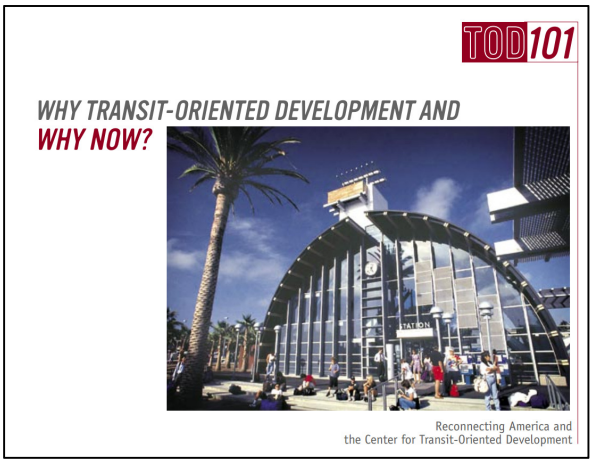
WHY TRANSIT-ORIENTED DEVELOPMENT AND WHY NOW?

Source(s): Reconnecting America, Center for Transit-Oriented Development

Publication Year: 2007

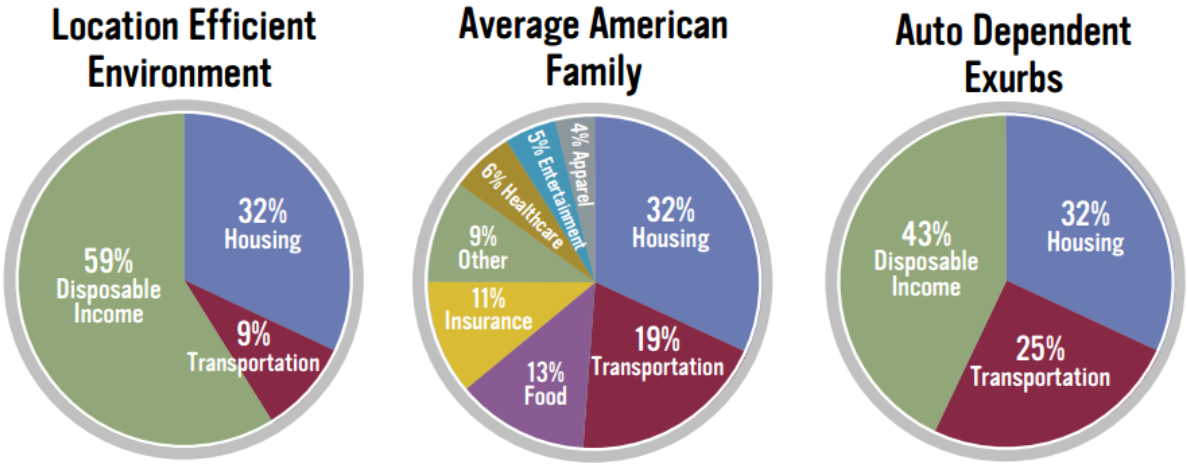
Transportation/Land Use Topics: Economic Development, Housing Development, Livable Communities, TOD Guidelines, Transit Services and Infrastructure, Population and Employment Growth

Description: A report describing how the shifting demographics and the changing real estate market have provided opportunities for transit-oriented development. The report explains what TOD is, how it benefits communities, and how it can be used as an affordability strategy for regions.



Lessons Learned:

- TOD is defined as more compact development within half a mile of transit stations containing a mix of uses increasing 'location efficiency' allowing people to walk, bike, and take transit, live healthier lifestyles, build community and sense of place. Examples of how location efficiency effects housing and transportation affordability are provided in the graphic below.



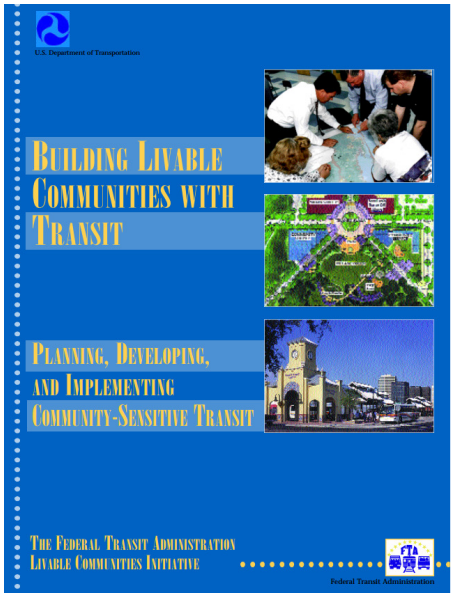
Source: Center for TOD Housing + Transportation Affordability Index, 2004 Bureau of Labor Statistics

Location Matters graphic, Why TOD and Why Now?

- TOD boosts transit ridership and minimizes traffic impacts.
- TOD provides value for public and private sectors, and for new and existing residents.
- Americans want more housing and transportation choices.
- TOD is beneficial for cities and suburbs.

- Portland, Oregon Streetcar Case Study:
  - Private investment in TOD within the Pearl District helped the city meet public goals and objectives.
  - TOD has leveraged large-scale redevelopment in downtown Portland.
  - In the 1990s, the city negotiated with a landowner to build a streetcar past his property if he would up-zone from 15 dwelling units (du)/acre to 125 du/acre. Today, this is the city's densest neighborhood.
  - Properties closest to the streetcar developed at 90% permitted density, compared to 43% density three or four blocks away.
  - Portland's 20-year housing goal was met in 7 years on 1/10th of the projected lands, with 25% of the units affordable.

BUILDING LIVABLE COMMUNITIES WITH TRANSIT: PLANNING, DEVELOPING, AND IMPLEMENTING COMMUNITY-SENSITIVE TRANSIT



Source(s): US Department of Transportation (USDOT), Federal Highway Administration (FHWA)

Publication Year: 1999

Transportation/Land Use Topics: Access Management, Corridor Improvements, Economic Development, Safety, Housing Development, Livable Communities, TOD Guidelines, Transit Services and Infrastructure, Population and Employment Growth

Description: This report demonstrates ways to improve the link between transit and communities, promoting customer-friendly, community-oriented, and well-designed facilities and services through the Livable Communities Initiative, which is an initiative created by the FTA to strengthen the link between transit and communities. The initiative awarded funding to 21 demonstration projects that promote characteristics of community sensitive transit.

Lessons Learned: Two of the demonstration projects are summarized below (St. Louis Metrolink and Oakland BART) as examples of having rapid rail connections between an international airport and a state universities, similar to the East-West Corridor.

St. Louis Metrolink Wellston Station Enhancements

At a total cost of approximately $1 million, a Livable Communities Initiative demonstration project in St. Louis has led to creating a center for mobility, child care and educational facilities, a police substation, and employment opportunities at the Metrolink Wellston Station.

Using intensive and extensive community outreach, local groups and transit planners have collaborated to identify priorities for revitalizing a dying neighborhood. The effort is having a significant impact on changing Wellston from a depressed area with a decaying industrial park, high crime and unemployment to an attractive and viable community. Improvements include a new pedestrian pathway featuring an artist designed fence, lighting improvements, resurfacing of roads, new signage, bicycle lockers, and information on services at the Cornerstone Partnership.

Transit Ridership: Both the improved access and expanded activities increased transit ridership and improved intermodal transfer.

Site Amenities: Station aesthetics and customer service benefitted as a result of the various landscaping, access, and information provisions.

Leveraging Other Assistance: Through the St. Louis County Economic Council, the U.S. Department of Commerce committed $4.5 million for the Cornerstone Partnership project construction. An additional $1.5 million for training equipment was donated by the National Center for Manufacturing Sciences. Other funding participants include Arts in Transit, the Bi-State Development Agency, the East West Gateway Coordinating Council, and the City of Wellston.

Public/Private Participation: The project united government agencies, non-profits, community residents, and businesses to develop and sustain the vocational training center.

Community Involvement: The station area was planned and designed using innovative public involvement techniques, including use of a Visual Preferences Survey of focus groups.

Oakland, CA BART Fruitvale Station Enhancements

The Spanish Speaking Unity Council (SSUC), in cooperation with the City of Oakland, CA, the Bay Area Rapid Transit District (BART) and other Federal agencies, was developing a transit village at the BART Fruitvale station in Oakland. California legislation supports the development of transit villages, and the BART Board passed a resolution promoting transit village development around BART stations. The specific improvements included a new pedestrian plaza, relocation of the bus turn around facility, a child care center, a health care clinic, a public library, senior citizen housing, a police substation, and other public and commercial facilities.

Fruitvale Station Rendering. Source: Building Livable Communities.

The Federal Transit Administration (FTA) provided funding to develop the site plan through a grant to the Metropolitan Transportation Commission (MTC), who worked with the SSUC. Additional FTA funding in the amount of $2.3 million supports station area enhancements and is leveraging $42 million in other transit village investments.

Transit Ridership: New development around the station, improved bus and pedestrian access, and safety and security improvements will increase ridership.

Economic Development: The incorporation of community services and commercial facilities into the site will provide entrepreneurial and employment opportunities within the community.

Leveraging Other Assistance: The FTA assistance will leverage assistance from the City of Oakland, U.S. Department of Housing and Urban Development, U.S. Department of Health and Human Services, and Federal Highway Administration.

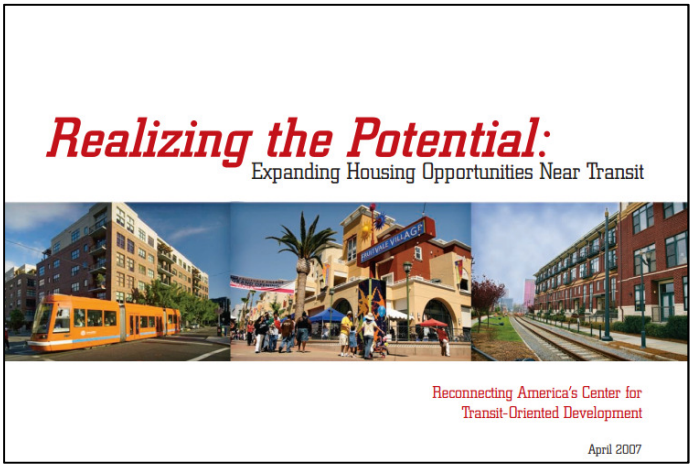
Community Involvement: The overall project vision and development concept were conceived through a collaborative, community-based planning process which will be continued through construction.

REALIZING THE POTENTIAL: EXPANDING HOUSING OPPORTUNITIES NEAR TRANSIT

Source(s): Reconnecting America, Center for Transit-Oriented Development

Publication Year: 2007

Transportation/Land Use Topics: Housing Development, Livable Communities, TOD Guidelines, Population and Employment Growth



Description: A report demonstrating that location matters a great deal when it comes to reducing household costs. The report examines five case study regions-Boston, Charlotte, Denver, Minneapolis, and Portland-to understand strategies being used to preserve affordable housing near transit.

Lessons Learned:

- Mixed-income TOD housing obstacles:
  - High land prices around stations
  - Lack of capital for affordable housing developers
  - Complex financing structures
- Parking requirements not up-to-date with TOD needs
- Community opposition towards density and affordable housing
- Mixed-income TOD housing strategies:
  - Provide incentives
  - Remove regulatory barriers density and mixed-use developments
  - Coordinate housing and transportation plans and investments
  - Improve local technical capacity, partnerships, and data collection
- Twin Cities Hiawatha Corridor Case Study:
  - Strong inclusion of local city staff, community residents, and private sector help with the siting of critical infrastructure.
  - Market momentum should be captured via TOD to address concentrated poverty and provide affordable housing.

- Leverage community benefits from large development projects through developer agreements that link changes in use (i.e. increased density) and other entitlements to local community investments such as affordable housing. These types of programs need to be put in place prior to major rezoning and coordinated with public infrastructure improvements to be successful.

New Development along Hiawatha Line, 2005. Source: Peter Ehrlich.

- Providing incentives for increased density is a powerful way to also generate additional transit ridership and should be coordinated with reduced parking requirements for TOD projects.
- Strong regional coordination of investments and policies is important to the overall efficacy of transit-oriented development.

LIGHT RAIL AND LAND USE CHANGE: RAIL TRANSIT'S ROLE IN RESHAPING AND REVITALIZING CITIES

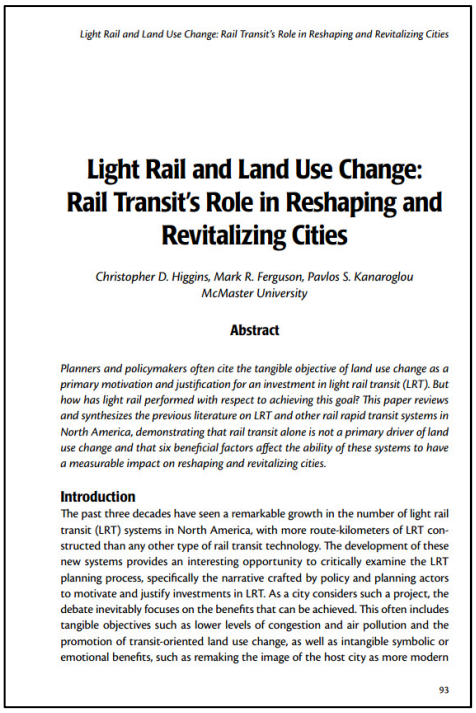
Source(s): Journal of Public Transportation, Vol. 17, No. 2

Publication Year: 2014

Transportation/Land Use Topics: Corridor Improvements, Economic Development, Housing Development, TOD Guidelines, Facilities for Pedestrians and Bicyclists, Transit Services and Infrastructure, Population and Employment Growth.

Description: A literature review to determine which factors contribute to the ability of investments in rapid transit to promote land use change. The six factors identified were: transit accessibility, positive growth and demand, positive social conditions, positive physical conditions, available land, and complementary planning.

Lessons Learned: The six factors are further detailed below.



Light Rail and Land Use Change: Rail Transit's Role in Reshaping and Revitalizing Cities

Light Rail and Land Use Change: Rail Transit's Role in Reshaping and Revitalizing Cities

Christopher D. Higgins, Mark R. Ferguson, Pavlos S. Kanaroglou
McMaster University

Abstract

Planners and policymakers often cite the tangible objective of land use change as a primary motivation and justification for an investment in light rail transit (LRT). But how has light rail performed with respect to achieving this goal? This paper reviews and synthesizes the previous literature on LRT and other rail rapid transit systems in North America, demonstrating that rail transit alone is not a primary driver of land use change and that six beneficial factors affect the ability of these systems to have a measurable impact on reshaping and revitalizing cities.

Introduction

The past three decades have seen a remarkable growth in the number of light rail transit (LRT) systems in North America, with more route-kilometers of LRT constructed than any other type of rail transit technology. The development of these new systems provides an interesting opportunity to critically examine the LRT planning process, specifically the narrative crafted by policy and planning actors to motivate and justify investments in LRT. As a city considers such a project, the debate inevitably focuses on the benefits that can be achieved. This often includes tangible objectives such as lower levels of congestion and air pollution and the promotion of transit-oriented land use change, as well as intangible symbolic or emotional benefits, such as remaking the image of the host city as more modern

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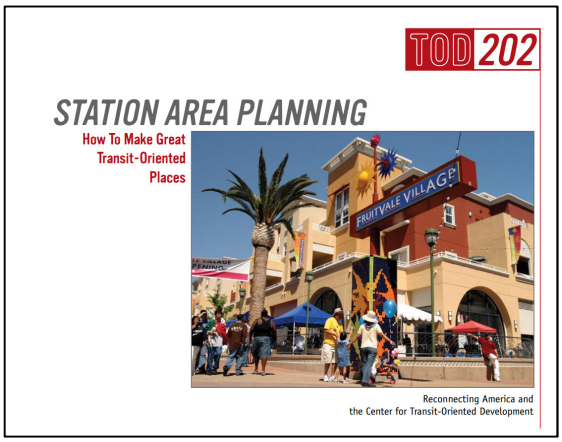
- Accessibility is central to locational advantages in an urban market. If rapid transit offers only a marginal or negligible improvement in accessibility and reduction in transportation costs it is unlikely to create a transit-based locational advantage which can in turn negatively impact by choice ridership and land use change.
- Land use impact of transit is contingent on regional economic, population, and employment growth, coupled with a strong real estate market with demand for high-density living. The impact will be enhanced if the transit service begins prior to a period of rapid growth.
- Pedestrian friendly environments are ideal for transit riders, and therefore more attractive to developers, financers, and those currently or interested in living there.
- Positive social conditions are crucial to the attractiveness of station areas for development.
- TOD is more straightforward and profitable if large parcels of land are already available, cheap, and suitable for development.
- Policies incentivizing TOD are crucial. Incentives include zoning, financing, and planning policies promoting TOD, parking and road investment policies that restrict the automobile, and complementary regional policies such as urban growth boundaries.

STATION AREA PLANNING: HOW TO MAKE GREAT TRANSIT-ORIENTED PLACES

Source(s): Reconnecting America, Center for Transit-Oriented Development

Publication Year: 2008



Transportation/Land Use Topics: Corridor Improvements, Complete Streets, Livable Communities, TOD Guidelines, Facilities for Pedestrians and Bicyclists, Transit Services and Infrastructure.

Description: A guidebook to promote best practices in transit-oriented development intended to help with TOD and station area projects by providing examples based on seven 'TOD place types'. Includes station area planning principles and TOD checklists.

Lessons Learned:

- Station area planning principles:
    - Maximize ridership with TOD. Develop clear land use alternatives, understand market demand, forecast ridership using TOD modeling tools, minimize land use conflicts, evaluate zoning requirements on potential densities, locate key services near stations.
    - Generate meaningful community involvement. Provide multilingual outreach, organize citizen advisory and technical committees, create a plan website, have a media strategy.

Light rail station, Portland. Source: Station Area Planning, 2008.

    - Design streets for all users. Consider TOD-specific street design standards, multimodal performance standards, incorporate bicycle and pedestrian access, prioritize safety and security.
    - Create opportunities for affordable and accessible living. Set affordable housing goals, target affordable housing resources to station areas, provide a range of housing options, minimize displacement of current residents, ensure accessibility.

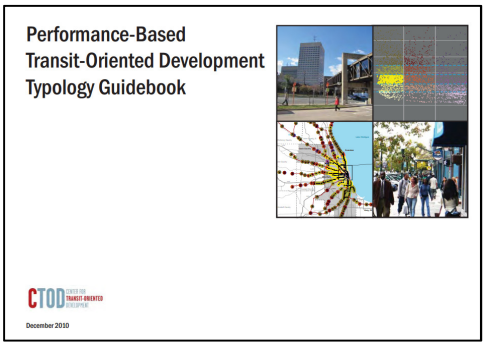
- Make great public spaces. Consider parks and open space, community involvement, public art, design standards.
- Manage parking effectively. Evaluate parking supply and demand, review parking management policies, consider whether to provide parking, provide bicycle parking facilities, locate parking to maximize placemaking.
- Capture the value of transit. Explore financing mechanisms for public infrastructure and affordable housing.
- Maximize neighborhood and station connectivity. Identify key pedestrian corridors, create a bicycle network, consider the design of intermodal facilities.
- Implement and evaluate its success. Provide for environmental review, develop an implementation plan and budget, monitor progress.

Suburban station, Portland. Source: Station Area Planning, 2008.

PERFORMANCE-BASED TRANSIT-ORIENTED DEVELOPMENT TYPOLOGY GUIDEBOOK

Source(s): Center for Transit Oriented Development

Publication Year: 2010

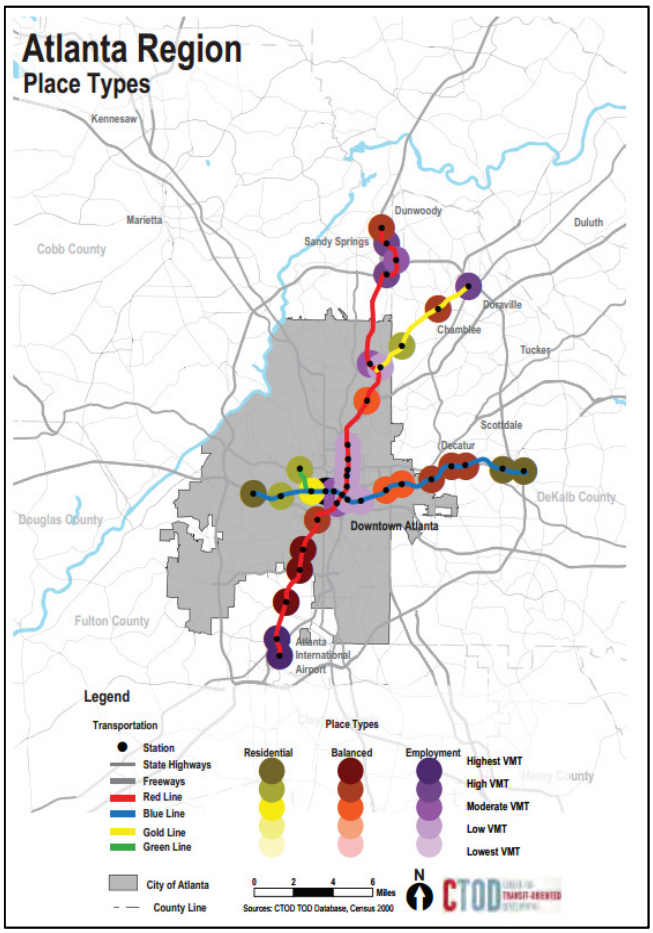


Transportation/Land Use Topics: Corridor Improvements, Housing Development, Transit Services and Infrastructure, Population and Employment Growth

Description: A guidebook created to evaluate the performance of transit zones in neighborhoods and towns using TOD typologies based upon the number of miles a typical household will travel in a year. These typologies identify the different conditions that exist in places and determine the form that TOD takes. Additionally, the guidebook includes nine case studies of transit zones to demonstrate the concepts.

Lessons Learned:

- Community composition and transit quality influences greenhouse gas emissions and the ability of areas to meet their climate change goals.
- Performance of TOD should be measured at the neighborhood scale, or larger.
- Transit zones in low vehicle miles traveled (VMT) places tend have low transportation costs and low rates of automobile ownership.
- Low VMT zones are located much closer to employment than high VMT zones.
- Encouraging new development in transit zones, independent of the place type, can help reduce regional VMT, especially with above-average household VMTs.
- High VMT transit zones can see significant reductions in average household VMT from relatively moderate amounts of new development.
- Prioritizing low VMT transit zones for new development can produce the largest reductions in total regional VMT.



Atlanta, GA place typologies. Source: Performance-Based Guidebook, 2010.

Local and Regional-Level Best Practices and Implementation

The local and regional-level best practices examples were chosen based on comparable characteristics to the East-West Corridor, specifically examples with connections to an airport and a university. A nationwide search yielded the results identified in **Table 1-1** below. A description of each transit line summarizing the service provided is detailed in this section. Additionally, a policy review was conducted for two of the transit corridors (Seattle and Phoenix) to illustrate best practices and lessons learned.

Table 1-1 Comparable Transit Corridors

Location	Transit Line, Agency	University	Airport
Miami, FL	**Metrorail Corridor, MDT+PW**	**University of Miami**	**Miami International (MIA)**
	Type: Heavy Rail	Students (Fall 2015): 16,801	Annual Passengers (2016): 45 million
Seattle, WA	**Link, Sound Transit**	**Univ. of Washington**	**Seattle-Tacoma (SeaTac)**
	Type: Light Rail	Students (Fall 2016): 46,081	Annual Passengers (2016): 45 million
Phoenix, AZ	**Valley Metro Rail, Valley Metro**	**Arizona State University**	**Phoenix Sky Harbor (PHX)**
	Type: Light Rail	Students (Fall 2016): 71,946	Annual Passengers (2016): 44 million
Salt Lake City, UT	**TRAX Red/Green, UTA**	**University of Utah**	**Salt Lake International (SLC)**
	Type: Light Rail	Students (Fall 2016): 32,061	Annual Passengers (2016): 23 million
Minneapolis, MN	**Metro Blue/Green, Metro Transit**	**University of Minnesota**	**Minneapolis-St. Paul (MSP)**
	Type: Light Rail	Students (Fall 2016): 51,580	Annual Passengers (2016): 37 million
St. Louis, MO	**Red Line, METRO St. Louis**	**University of Missouri**	**Lambert International (STL)**
	Type: Light Rail	Students (Fall 2016): 10,872	Annual Passengers (2016): 13.9 million
San Diego, CA	**Green/Blue/Rapid Lines, San Diego Metropolitan Transit System**	**San Diego State Univ., UC San Diego**	**San Diego International (SAN)**
	Type: Bus Rapid Transit, Light Rail	SDSU Students: 33,778 UCSD Students: 35,821	Annual Passengers (2016): 20.7 million
Los Angeles, CA	**Metro Blue/Green, LA County Metropolitan Transit Authority**	**University of Southern California**	**LA International (LAX)**
	Type: Light Rail	Students (Fall 2016): 44,000	Annual Passengers (2016): 80.1 million
Atlanta, GA	**Red Line, MARTA**	**Georgia Tech University**	**Hartsfield-Jackson Int'l (ATL)**
	Type: Heavy Rail	Students (2015): 26,839	Annual Passengers (2016): 104 million
Oakland, CA	**Warm Springs-Richmond Line, BART**	**UC Berkeley**	**Oakland International (OAK)**
	Type: Heavy Rail	Students (2016): 40,173	Annual Passengers (2016): 12 million

SEATTLE, WASHINGTON

Transit Agency: Sound Transit

Transit Line: Link

Mode: Light Rail

Airport Connection: Seattle-Tacoma International (SeaTac)

University Connection: University of Washington

Link light rail, Seattle, WA. Source: soundtransit.org, 2017.

Description: The Link light rail line services the Seattle-Tacoma (Sea-Tac) International Airport, CenturyLink and Safeco Fields (NFL, MLS, and MLB stadiums), and the University of Washington. Trains run from 5:00 AM to 1:00 AM on Monday through Saturday, with frequencies ranging from every six minutes to every fifteen minutes. On Sundays and holidays, the trains run from 6:00 AM to 12:00 AM, with ten to fifteen minute frequencies. Adult fares range from $2.25 to $3.25.

PHOENIX, ARIZONA

Transit Agency: Valley Metro

Transit Line: Valley Metro Rail

Mode: Light Rail

Airport Connection: Phoenix Sky Harbor International (PHX)

University Connection: Arizona State University

Valley Metro Rail map. Source: Economic Development Brochure, 2017.

Description: The Valley Metro Rail is a light rail line spanning approximately 26.3 miles servicing the cities of Phoenix, Tempe, and Mesa. The rail line also provides service to the Sky Harbor Airport, and Arizona State University. The rail system operates seven days a week, over 20 hours each day, with a 12-minute peak frequency. Fare options are: $2.00, one ride; $4.00, all day pass, $20.00 seven-day pass; $33.00 fifteen-day pass; $64 thirty-one day pass.

SALT LAKE CITY, UTAH

Transit Agency: Utah Transit Authority

Transit Line: TRAX Red/TRAX Green

Mode: Light Rail

Airport Connection: Salt Lake International (SLC)

University Connection: University of Utah

TRAX train, Salt Lake City, UT. Source: utahstories.com, 2013.

Description: TRAX is Utah Transit Authority's light rail system spanning 42.5 miles of line and 50 stations. The TRAX Red Line services the University of Utah, and the TRAX Green Line services the Salt Lake International Airport. Trains range in length from one to four cars depending on time, day, and projected ridership. The system runs seven days per week, with 15-minute frequency during peak times. An adult one-way fare costs $2.50, and an adult day pass costs $6.25.

MINNEAPOLIS, MINNESOTA

Transit Agency: Metro Transit

Transit Line: Metro Blue/Green

Mode: Light Rail

Airport Connection: Minneapolis-St. Paul International

University Connection: University of Minnesota

Description: Metro Transit's Blue and Green lines provide light rail service to Minneapolis and St. Paul, Minnesota 24 hours a day, seven days a week. The Blue Line services the University of Minnesota and the Mall of America, and the Green Line services the Minneapolis/St. Paul International Airport. Light rail trips operate every 10 minutes throughout the day, every 10 to15 minutes in the evenings, and every 30-60 minutes overnight. The fare structure is based upon rush hours (Monday-Friday, 6:00 to 9:00 AM and 3:00 to 6:30 PM), and non-rush hours. A typical adult fare for rush hour is $2.25, and non-rush hour is $1.75.

Metro Transit Blue Line map. Source: metrotransit.org, 2017.

ST. LOUIS, MISSOURI

Transit Agency: METRO St. Louis

Transit Line: Red Line, MetroLink

Mode: Light Rail

Airport Connection: Lambert International (STL)

University Connection: University of Missouri

MetroLink train, St. Louis, MO. Source: cml-stl.org, 2017.

Description: The MetroLink Red Line provides service to Lambert Airport and the University of Missouri. The Red Line runs 7 days per week with 12-minute frequency during peak times. The line runs from approximately 4:00 AM to 1:00 AM. The adult base fare for a one-way pass is $2.50; a 2-hour pass/transfer fare is $3.00, and a one-day pass is $7.50.

SAN DIEGO, CALIFORNIA

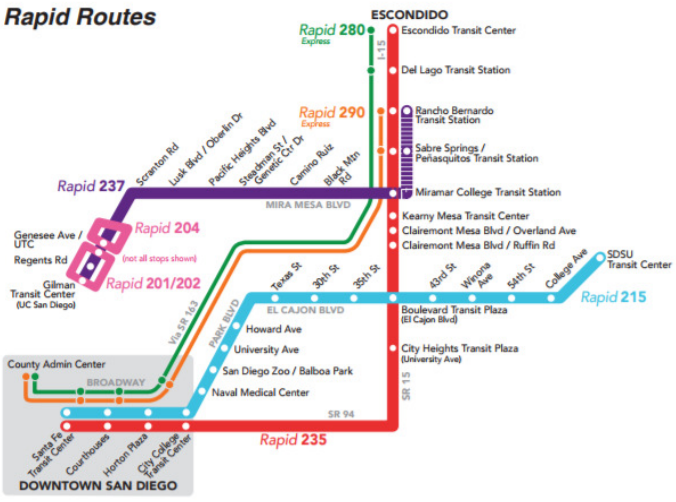
Transit Agency: San Diego Metropolitan Transit System

Transit Line: Mid City Rapid 215, Rapid 237, Green Line, Blue Line

Mode: Bus Rapid Transit, Light Rail

Airport Connection: San Diego International (SAN)

University Connection: San Diego State University, University of California San Diego



Rapid Route Map, San Diego, CA. Source: sdmtsl.org,

Description: The San Diego Metropolitan Transit System (MTS) provides rapid bus and light rail service to major attractions and destinations in San Diego. The rapid service is a high-frequency, limited-stop bus service. Some of the routes offer rapid service seven days a week, and some only weekdays. Generally, rapid service is provided from approximately 5:00 AM to 11:00 PM every 15 to 30 minutes. The light rail system, 'The Trolley' services the San Diego Airport (Green Line), and UC San Diego (Blue Line). Fares are collected via random fare inspections. The Trolley generally runs form approximately 5:00 AM through 1:00 AM on weekdays, at a peak frequency of every 15 minutes.

LOS ANGELES, CALIFORNIA

Transit Agency: LA County Metropolitan Transit Authority

Transit Line: Metro Green, Expo Line

Mode: Bus Rapid Transit, Light Rail

Airport Connection: Los Angeles International (LAX)

University Connection: University of Southern California

Metro Rail Car, Los Angeles, CA. Source: la.streetsblog.org, 2014.

Description: Metro Rail is an urban rail system serving Los Angeles County, California. The system consists of two rapid transit subway lines (Red and Purple), and four light rail lines (Blue, Green, Gold, and Expo). The Metro Green Line is a fully grade-separated route running partly in the median of Interstate 105, and provides service to the Los Angeles International Airport. However, a shuttle bus is required from the Metro Green Line to ultimately reach the airport. The Expo Line serves the University of Southern California, with operating hours from approximately 4:30 AM to 2:00 AM on weekdays, and until 2:30 AM on Fridays and Saturdays, at a peak frequency of every 6 minutes. A one-ride base fare is $1.75.

ATLANTA, GA

Transit Agency: Metropolitan Atlanta Rapid Transit Authority (MARTA)

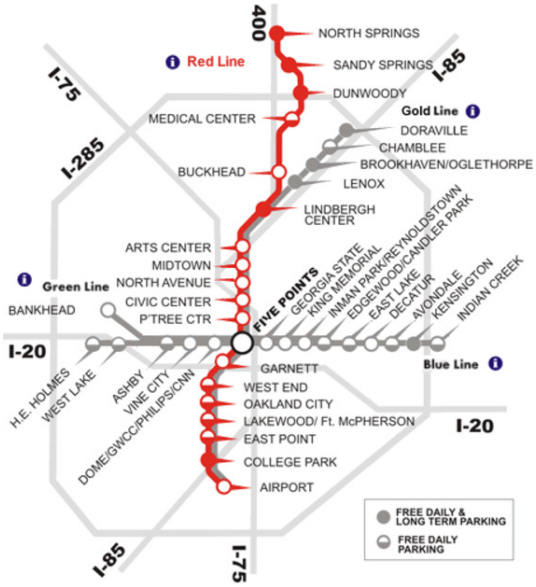
Transit Line: Red Line

Mode: Heavy Rail

Airport Connection: Hartsfield-Jackson International (ATL)

University Connection: Georgia Tech University

Description: MARTA provides heavy 'rapid' rail service to the Atlanta metropolitan area. The rapid rail system consists of 47.6 miles of route and 38 stations. The MARTA Red Line travels north and south through Atlanta, providing service to the Atlanta International Airport and Georgia Tech University. The Red Line operates between approximately 4:45 AM to 1:15 on weekdays, and 6:00 AM to 1:15 AM on weekends and holidays. Generally, trains run every 10 to 12 minutes and weekdays, and transition to every 20 minutes after 8:00 PM, and on weekends and holidays.



MARTA Red Line route. Source: martaguide.com, 2017.

OAKLAND, CA

Transit Agency: Bay Area Rapid Transit (BART)

Transit Line: Warm Springs-Richmond Line (Orange)

Mode: Heavy Rail

Airport Connection: Oakland International (OAK)

University Connection: UC Berkeley

BART train. Source: eastbaytimes.com, 2017.

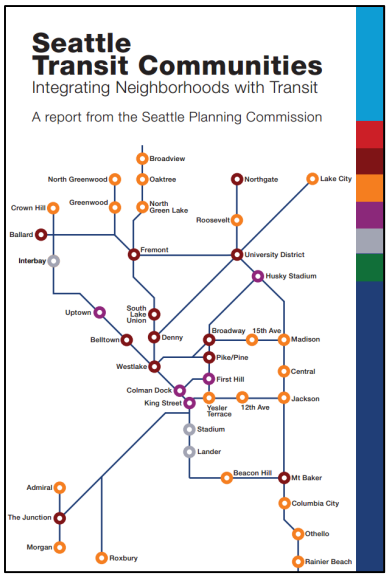
Description: BART is a heavy rail elevated and subway system operating six routes on 112 miles of track connecting 46 stations. The Warm Springs-Richmond Line runs through Oakland providing connections to UC Berkeley and the Oakland International Airport, and is the only line that does not go to San Francisco. Train service begins around 4:00 AM on weekdays, 6:00 AM on Saturdays, and 8:00 AM on Sundays. Service ends daily around midnight, with station closings timed to the last train station. Fares are based on a formula that accounts both the length and the speed of the tip. A surcharge is sometimes added to trips; included with this surcharge are trips to the Oakland Airport. Unlike other rapid transit systems, BART does not have an unlimited ride pass. The minimum fare is $1.95.

BART system map. Source: bart.gov, 2016.

SEATTLE TRANSIT COMMUNITIES: INTEGRATING NEIGHBORHOODS WITH TRANSIT

Source(s): Seattle Planning Commission

Publication Year: 2010

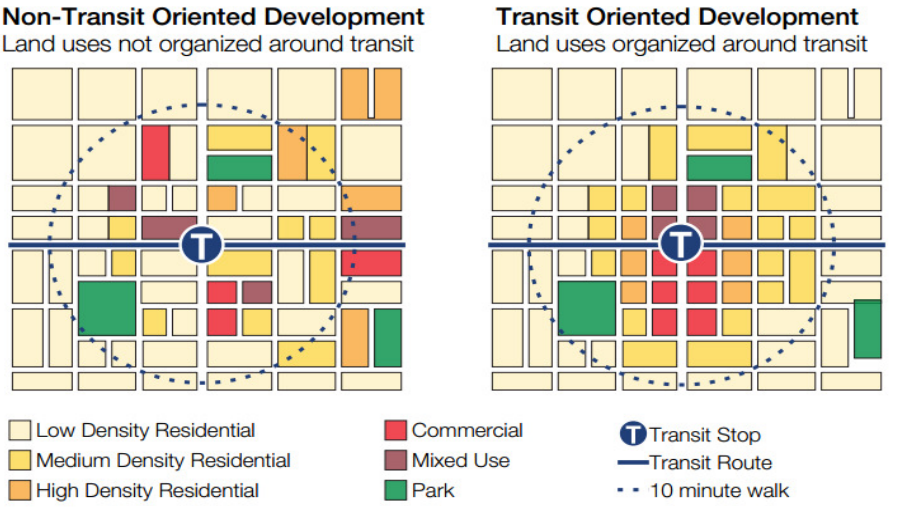


Transportation/Land Use Topics: Corridor Improvements, Economic Development, Housing Development, Livable Communities, Transit Services and Infrastructure, Population and Employment Growth.

Description: This report was created in response to the growth demand forecasted in Seattle. The document outlines how Seattle's policies, practices, and infrastructure can create vital, sustainable communities, prioritizes transit communities where investment is urgent and will create the most impact, and provides a range of resources to leverage funding.

Lessons Learned:

- The success of transit communities requires three integral components: investment in transit; appropriate zoning for focused, higher density development; and necessary investment in the essential components for livability.
- Benefits of transit communities are: lower overall household costs, improve public health, support diversity, enhance local business districts, reduce carbon footprint, and preserve regional open space and natural resource lands.
- The essential components for livability include: adequate open space, enhanced streetscape, and opportunities and activities for the people who live/work there.



TOD and Land Use Graphic. Source: Seattle Transit Communities, 2010.

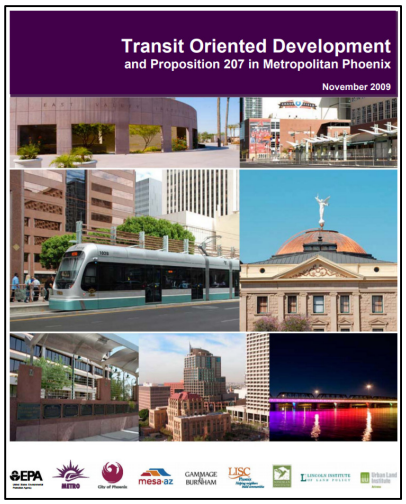
- All transit nodes should include the basic fundamental elements for transit connections, such as: protection from vehicular traffic, complete/context sensitive streets, well-defined waiting spaces that are safe and comfortable, sidewalks with adequate room to walk, places to secure bicycles, and coherent, consistent wayfinding.

TRANSIT ORIENTED DEVELOPMENT AND PROPOSITION 207 IN METROPOLITAN PHOENIX

Source(s): US Environmental Protection Agency (EPA)

Publication Year: 2009

Transportation/Land Use Topics: Form-Based Codes, Corridor Improvements, Economic Development, Livable Communities, TOD Guidelines, Facilities for Pedestrians and Bicyclists



Description: A 'toolbox' of five documents created by the EPA in response to the passage of Proposition 207 (Arizona Private Property Rights Protection Act) and its effects on the newly opened light rail and future extensions for the City of Phoenix, Valley Metro Rail, and the City of Mesa. The toolbox was developed to provide options for encouraging TOD while addressing Proposition 207. The project evolved into a discussion of the most appropriate tools and incentives localities can use to promote TOD.

Lessons Learned:

- For rail systems, support for planning, relaxed parking standards, density bonuses, capital funding (infrastructure), and land use assembly are the most common TOD policy tools.
- The four most effective forms of state and regional policies to promote TOD are planning grants, targeted infrastructure funding, tying capital grants to TOD commitments, and locating government buildings near transit.
- Flexible parking standards for residential and commercial development near transit stations have been adopted in more than half of all rail-based TOD programs. The two rationales behind this are: households living near stations own fewer cars, and more workers take transit to jobs located near stations.
- Density bonuses are effective when: there is a market potential for any density beyond what is otherwise allowed; and if the density bonus changes the type of building to be built, the bonus must allow enough of an increase in square footage to offset the higher construction costs.
- Form-based codes may be an attractive alternative to TOD overlay zones or other traditional zoning methods in TOD districts to ensure the development around stations makes walking safe and pleasant, and builds ridership without restricting uses. They allow overall zones to focus on placemaking rather than controlling uses and moderating intensity. Examples of form-based codes to support TOD are Leander, Texas; Albuquerque, New Mexico; and Dallas, Texas.

- Promoting TOD improves chances of receiving federal support to expand rail systems.
- Recommended TOD policy tools with positive viability for the area are: city and regional TOD strategic plans, station area plans, market studies, station area rezoning, land use standards and intensity tools, parking tools, fast track development review, tax-increment financing, reduced impact fees at station areas, streetscape bike/pedestrian improvements, a marketing plan, and livable communities plan.

1.5.2. Assigned Literature Sources

The two sources reviewed in this section are the *Smart Growth Implementation Toolkit* from the Smart Growth Leadership Institute, and the *Developer's Toolbox* provided by the Smart Growth Network.

Smart Growth Implementation Toolkit

Smart Growth America's Leadership Institute developed the implementation toolkit through a four-year technical assistance program funded by the US EPA. The Smart Growth Implementation Toolkit is designed to help practitioners review current policies and process that do not match the citizen's goal of a sustainable community. The tools provide a guide to evaluate development requirements that impact growth. In addition, the tools are designed to build support for smart growth policies and identify the most problematic development issues.

The tools provided below are templates that can be custom built to meet the community's smart growth goal.

QUICK DIAGNOSTIC

The Quick Diagnostic is a simple flowchart that will help you to understand which of the Smart Growth Implementation Tools can best help your community.

POLICY AUDIT

The Smart Growth Policy Audit is a guide to help evaluate land use and development polices to make sure they align with the jurisdictions intent to build sustainable communities.

CODE AND ZONING AUDIT

The Smart Growth Code and Zoning Audit is a guide to help evaluate land use codes and identify any hindrance to achieving smarter growth.

AUDIT SUMMARY

The Smart Growth Audit Summary is a compilation of the results from the Smart Growth Policy Audit and the Smart Growth Code and Zoning Audit. This will help identifying any polices or regulations that need improvements. In addition, it includes the governmental body responsible for approving any changes to the documents on record.

INCENTIVES MATRIX

The Incentive matrix is a summary of incentive programs provided by various level of government that encourage redevelopment, infill, and mix use development with the intent of making smart growth development appealing to developers.

STRATEGY BUILDER

The Smart Growth Strategy Builder helps develop support for a Smart Growth vision. This tool can be utilized for group discussion to evaluate opportunities and challenges to build support for a community's vision of Smart Growth.

PROJECT SCOREBOARD

The Smart Growth Project Scoreboard will help identify good projects and others that need improvements to align with the Smart Growth vision. Citizens can use it as a checklist during a community and stakeholders process to determine the qualities of proposed projects and to identify areas for improvement.

Developer's Toolbox, Smart Growth Network

The US EPA provides a set of smart growth tools and resources to help communities implement a smart growth network. The reviewed tool categories include: general smart growth tools, planning, zoning, and building codes, and transportation. Any of the tools described here supplement transit supportive strategies within the corridor.

GENERAL SMART GROWTH TOOLS

Sustainable Communities HotReport

The HotReport is a web-based tool providing community leaders and residents a way to measure how well their community is performing on a variety of sustainability indicators. These indicators include transportation, housing, economic development, income, and equity. The tool functions by selecting a state and county, then charts, tables, and maps showing performance trends over time. **Table 1-2** displays a summary table generated from the HotReport comparing Miami-Dade County to Florida and the United States as an example of the tool capabilities.

Information from the HotReport uses sources from the American Community Survey (ACS), census data, the Department of Labor's Quarterly Census of Employment and Wages State Occupational Projections, and the Census Bureau's Local Employment Dynamics (LED). The HotReport was developed by the HUD-DOT-EPA Partnership for Sustainable Communities, with support from the US Census Bureau.

Table 1-2 HotReport Summary Table

Sustainability Indicator	Miami-Dade County	Florida	United States
Transportation			
Commute mode share percentage (non-single-occupant vehicle)	9.7%	5.8%	9.6%
Mean travel time to work (Minutes)	29	26	26
Housing			
Percent households with housing costs greater than 30% of income	52.4%	41.4%	35.5%
Equity			
Poverty rate	19.9%	16.3%	15.4%
Share of income held by top 5% of households	26.1%	23.6%	22.4%
Economic Development			
Unemployment	11.8%	11.7%	9.6%
Share of population with a college degree	26.3%	26.4%	28.8%
Income			
Median household income	$43,100	46,956	56,046

Sustainable Communities Indicator Catalog

The Sustainable Communities Indicator Catalog provides a collection of indicators to help communities measure progress towards their sustainability objectives. The indicators focus on the relationships among land use, housing, transportation, human health, and the environment. The catalog was developed by a team of researchers evaluating over 100 community indicator initiatives across the Unities States.

To use the catalog, the user selects one or more of the following: indicator topic (housing, land use, transportation), geographic scale (county, municipality, neighborhood/corridor, project, region), level of urbanization (rural, suburban, urban), and issue of concern. Once selections are made, relevant indicators are populated. The user may then select to view more information on indicators, including: a summary, how it relates to sustainable communities, data elements, calculation notes, and communities that use the metric.

For example, when selecting the following options: transportation, neighborhood/corridor, urban, and access and equity, indicators including intersection density, walkability, bike parking per capita, and travel time to work were populated.

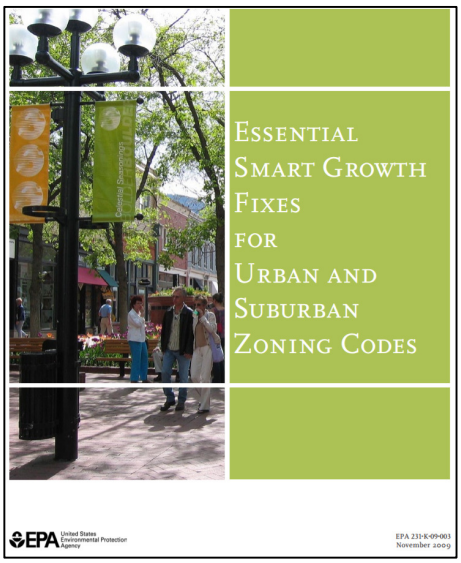
Tools and Resources for Sustainable Communities

The US EPA has compiled an additional list of tools and resources to help communities develop and support neighborhoods that provide transportation choices and affordable housing, increase economic competitiveness, and direct resources towards places with existing infrastructure. Some relevant tools and resources included with this list pertaining to transportation and land use are:

- Essential smart growth fixes for urban and suburban zoning codes.
- Smart growth scorecards.
- Codes that support smart growth development.
- Environmental justice.
- Funding resources.
- Housing and transportation affordability index.
- Walk score.
- Context sensitive solutions.
- Transit savings calculator.
- Toolkit for integrating land use and transportation decision-making.

PLANNING, ZONING, AND BUILDING CODES

Essential Smart Growth Fixes for Urban and Suburban Zoning Codes



This tool was created by the US EPA to help local governments apply targeted fixes to their zoning codes to address specific issues. The tool was created in response to land development codes and ordinances impeding smart growth goals for communities. Additionally, communities may not have the resources or expertise to make the specific regulatory changes that will create more sustainable communities. To respond to this, the US EPA assembled a panel of national smart growth experts to identify local zoning code topics that influence smart growth. Eleven 'essential fixes' were developed from this panel. These essential fixes are listed as follows, and are described in detail in the tool.

- Allow or require mixed-use zones.
- Use urban dimensions in urban places.
- Rein in and reform the use of planned unit developments.
- Fix parking requirements.
- Increase density and intensity in centers.
- Modernize street standards.
- Enact standards to foster walkable places.
- Designate and support preferred growth areas and development sites.
- Use green infrastructure to manage stormwater.
- Adopt smart annexation policies.
- Encourage appropriate development densities on the edge.

TRANSPORTATION TOOLS

National Walkability Index

The National Walkability Index is a nationwide geographic data resource that ranks Census block groups according to their relative walkability. The dataset includes walkability scores and the underlying attributes that were used to score the walk groups. Examples of the underlying attributes are: mix of employment types and occupied housing, mix of employment types in a block group, street intersection density, and predicted commute mode split. The data set is available to the public for download and geoprocessing, or is viewable as an interactive map.

Access to Jobs and Workers Via Transit Tool

The Access to Jobs and Workers Via Transit is a free geospatial data resource and web mapping tool used for comparing neighborhood accessibility through public transit service. The data set is available to the public for download and geoprocessing, or is viewable as an interactive map.

Infrastructure Financing Options for Transit-Oriented Development

The *Infrastructure Financing Options for Transit-Oriented Development* is a report created by the US EPA in 2013. The report provides communities a set of tools and strategies for funding TOD infrastructure. The set of tools includes financing mechanisms and strategies, examples of communities that use the financing tools, provides models communities can consider for their TOD planning, and explains how community context and market factors affect the types of financing tools or funding strategies that communities can use.

Mixed-Use Trip Generation Model

The Mixed-Use Trip Generation Model is a spreadsheet tool developed by the US EPA in cooperation with the Institute of Transportation Engineers (ITE) developed new data methods and models to estimate trip generation impacts of mixed-use developments. The resulting spreadsheet provides a method to estimate trips generated by mixed-use development to more fairly assess these projects in the development review process. The spreadsheet is available for download. The models have been validated against actual traffic counts at mixed-use developments across the country. The typical development planning and approval process treats mixed-use developments as though the uses were separated and accessible only by car, leaving mixed-use developments at a disadvantage compared to conventional, single-use developments. Recognizing the lower traffic impacts of mixed-use development in central, well-connected neighborhoods in the planning and approvals process would help communities reduce traffic and realize other benefits.

Smart Location Calculator

The Smart Location Calculator was developed by the US EPA and U.S. General Services Administration. The calculator demonstrates how workplace location affects worker commute travel. The calculator provides a Smart Location Index ranging from 0-100 to demonstrate site efficiency. A score of 0 is the least location efficient site in the region, and a score of 100 represents the most efficient site. Site scores are relative to the region, and should not be compared across regions. The calculator is an interactive tool located online.

Smart Location Database

The Smart Location Database is a nationwide geographic resource used for measuring location efficiency. Location efficiency attributes include transit service, housing density, land use diversity, and destination accessibility. This tool is available for download, or as an interactive map. The tool functions similarly to the National Walkability Index and Access to Jobs and Workers Via Transit tools.

Walkability Workbook

The Walkability Workbook is a tool developed through the Building Blocks for Sustainable Communities Program. The tool is used to guide communities in assessing the pedestrian environment and forming a vision for short and long-term improvements to sidewalks and streets. The workbook primarily functions as a guide for communities to host Walkability Workshops, but also contains a Walkability Toolbox which explains key concepts for advancing walkability.

2. Corridor Profile

The corridor profile was developed to establish a complete picture of the existing conditions within the East-West Corridor to provide an understanding of land use patterns and inconsistencies that are not transit supportive. The corridor profile includes the following:

- Existing Land Cover and Land Use
- Socioeconomic Conditions
- Employment
- Higher Education Student Population
- Community Features
- Historical Sites and Recreation
- Natural Features
- Physical Features
- Existing Transportation Network
- Zoning
- Property Values and Built Environment

2.1. Existing Land Cover

The land use and land cover summary data was derived from the South Florida Water Management District (SFWMD) Florida Land Use and Land Cover dataset. This dataset provides acreages and percentages for generalized land use types used to group parcel-specific existing land use assigned by the county property appraiser office according to the Florida Department of Revenue (DOR) land use codes. The top five land uses within the study area are:

- Commercial and Services (17.3%)
- Roads and Highways (16.8%)
- Airports (16.4%)
- Reservoirs (9.41%)
- Multiple Dwelling Units – Low Rise (9.2%)

FARMLANDS

There are 5.99 acres (0.8%) of Prime Farmlands – Farmlands of Unique Importance.

WETLANDS

According to the National Wetlands Inventory (NWI), there are a total of 957.64 acres of wetlands within the project area. Of the total wetlands, 493.1 acres (51.5%) are lacustrine wetlands; 447.76 (46.8%) are palustrine wetlands; and 16.78 acres (1.8%) are riverine wetlands. Additionally, the SFWMD Restoration Project Eastern C-4 Structure is located within the study area. Critical Restoration Projects are considered critical environmental restoration efforts.

FLOOD ZONES

Approximately 61% of the study area is classified as a Special Flood Hazard Area (flood zones AH and AE). Zone AH consists of 2645.51 acres (31.2%), and Zone AE consists of 2,192.63 acres (30.17%).

2.2. Socioeconomic Conditions

Socioeconomic conditions data was collected using the FDOT Environmental Screening Tool (EST) Sociocultural Data Report (SDR). The SDR uses the Census 2015 American Community Survey (ACS) data and reflects the approximation of the population based on a project buffer intersecting the Census Block Groups along the project corridor. Using the study area, the SDR identified the demographics summarized in this section.

POPULATION AND INCOME

The SDR identified 20,279 households, with a total population of 63,644 people. The median household income is $37,802. Several households are below poverty level (21.64%), and 2.88% of households receive public assistance. US Census poverty thresholds vary by family size and age of the members, and are updated annually for inflation using the Consumer Price Index for All Urban Consumers (CPI-U). For example, in 2016 the weighted average poverty threshold for a two person household under the age of 65 is $16,151.

RACE AND ETHNICITY

The minority population makes up 96.13% of the total population, most of whom (93.9%) identified as having a "Hispanic or Latino of Any Race" ethnicity. As defined by the SDR report, "Minority" refers to individuals who list a race other than White and/or list their ethnicity as Hispanic/Latino. In other words, people who are multi-racial, any single race other than White, or Hispanic/Latino of any race are considered minorities.

The population identified as the following:

- "White Alone", with a population of 59,924 (94.15%)
- "Black or African American Alone" with a population of 895 (1.41%)
- "Asian Alone" with a population of 792 (1.24%)
- "American Indian or Alaska Native Alone" with a population of 61 people (0.10%)
- "Some Other Race Alone" with a population of 916 (1.44%)
- "2 or More Races", with a population of 1,054 (1.66%)
- "Hispanic or Latino of Any Race" ethnicity with a population of 59,781 (93.4%)
- "Not Hispanic or Latino" ethnicity with a population of 3,863 (6.07%)
- "Minority" category, with a population of 61,181 (96.13%)

AGE AND DISABILITY

The median age is 41, and persons age 65 and over comprise 15.43% of the population. Nearly 25% of the population is under the age of 21. There are 1,997 persons (4.97%) between the ages of 20 and 64 that have a disability.

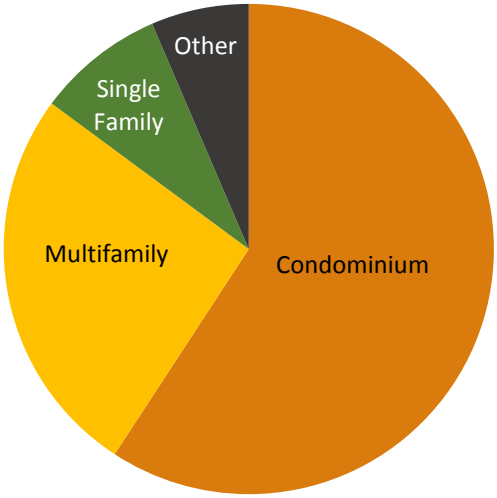
HOUSING

There are 29,078 housing units within the study area. A majority of the units (85.1%) are either condominiums (59.2%) or Multi-family (25.9%). Less than 10% of the available housing is single family (8.4%). The remaining units are either mobile homes (3.1%), duplexes (2.6%), or townhouses (0.7%). **Table 2-1** displays a summary of housing types.

Table 2-1 Housing Units by Type

Housing Type	# of Units	% of Units
Condominium	17,218	59.2%
Multifamily	7,533	25.9%
Single Family	2,446	8.4%
Mobile Home	908	3.1%
Duplex	768	2.6%
Townhouse	205	0.7%
Total	29,078	100.0%

Source: Miami-Dade County Property Appraiser GIS layer Prepared by Miami-Dade County, Department of Regulatory and Economic Resources, Planning Research and Economic Analysis, September 2016.

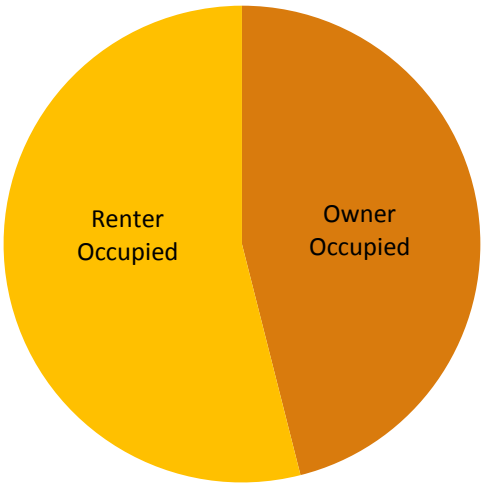


Of the total housing units, approximately 89.5% are occupied, meaning 10.5% are considered vacant. A majority of the occupied units are renter occupied (53.9%), whereas approximately 46.1% are owner occupied.

Table 2-2 Housing Tenure

Housing Tenure	# of Units
Total Housing Units	29,078
Vacant Housing Units	10.5%
Occupied Housing Units	89.5%
Owner Occupied	46.1%
Renter Occupied	53.9%

Source: U.S. Census Bureau, ACS 2010-2014, Tables B25001, B25002 and B25003, and Miami-Dade County, Regulatory and Economic Resources Department, Planning Research and Economic Analysis, September 2016.



LANGUAGE

Over 30% of the population claim to either not speak English at all (9,238 people, 15.49%) or not speak English well (10,387 people, 17.42%). The Florida Department of Transportation (FDOT) has identified factors based on US Department of Transportation Policy Guidance to help determine if Limited English Proficiency (LEP) services would be required as listed in the FDOT Project Development & Environment (PD&E) Manual, Part 1, Chapter 11, Section 11.1.2.2 Based on a review of these factors, and the fact that LEP population accounts for nearly one third of the population within the study area, LEP services will be required.

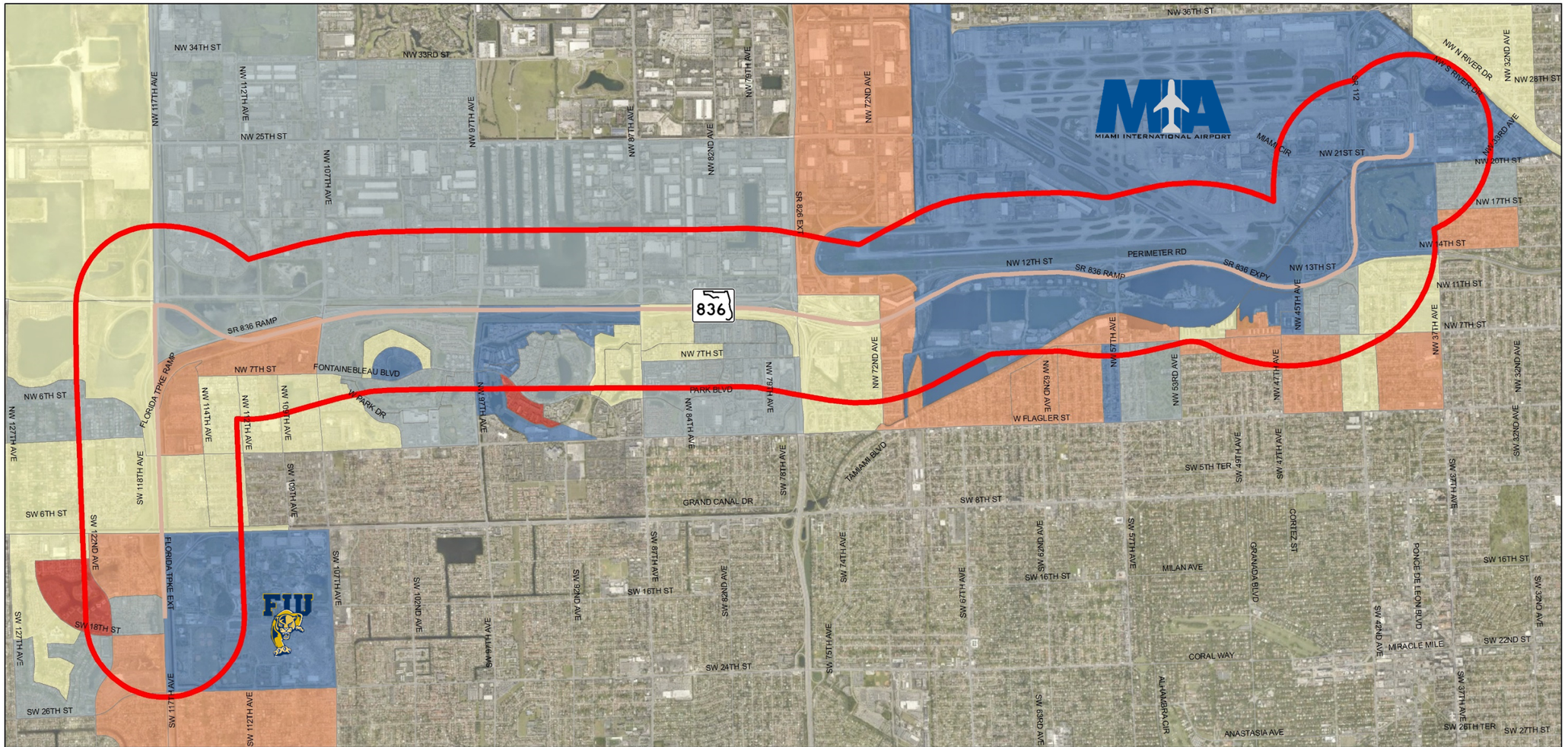
TRANSIT-DEPENDENT POPULATION

A spatial analysis was performed to demonstrate the concentrations of the transit-dependent populations near the study corridor. The transit-dependent population is recognized as those who must use public transportation for their travel. Generally, this population includes the following: those over the age of 65, those with low incomes (less than $25,000 household income), zero car households, and the minority population (the percentage of the population which is not 'white, non-Hispanic').

Each of these demographic measures are mapped individually in **Figure 2-1 through Figure 2-4,** followed by an additional transit-dependent population map featuring all four measures overlapping identifying concentrations of transit-dependent populations within the study area in **Figure 2-5**. Additionally, as the data is categorized by Census Block Group (CBG), it may reflect conditions that are beyond the corridor study limits. For example, the CBG adjacent to the MIA CBG to the west is primarily warehousing and industrial uses near the corridor, but the CBG boundaries reach further north which includes a residential area.

The results of the spatial analysis shown in **Figure 2-5** indicate that the CBGs with higher concentrations of transit-dependent populations are represented primarily south of SR 836/Dolphin Expressway (shown in red). The CBG adjacent to MIA is also shown as a high concentration, but this is likely referring to the population north of the industrial district outside of the study area. Additionally, the FIU and MIA CBGs are shown as having a low transit-dependent population (colored in blue). This is likely due to the lack of households and permanent population within those areas that are not typically represented in Census data.

Figure 2-1 Population Over the Age of 65



Miami-Dade SMART Plan

East-West Corridor

Population Age >65

Source: US Census Bureau

Date: 12/1/2017

Miami-Dade Transportation Planning Organization

N

0 0.25 0.5 Miles

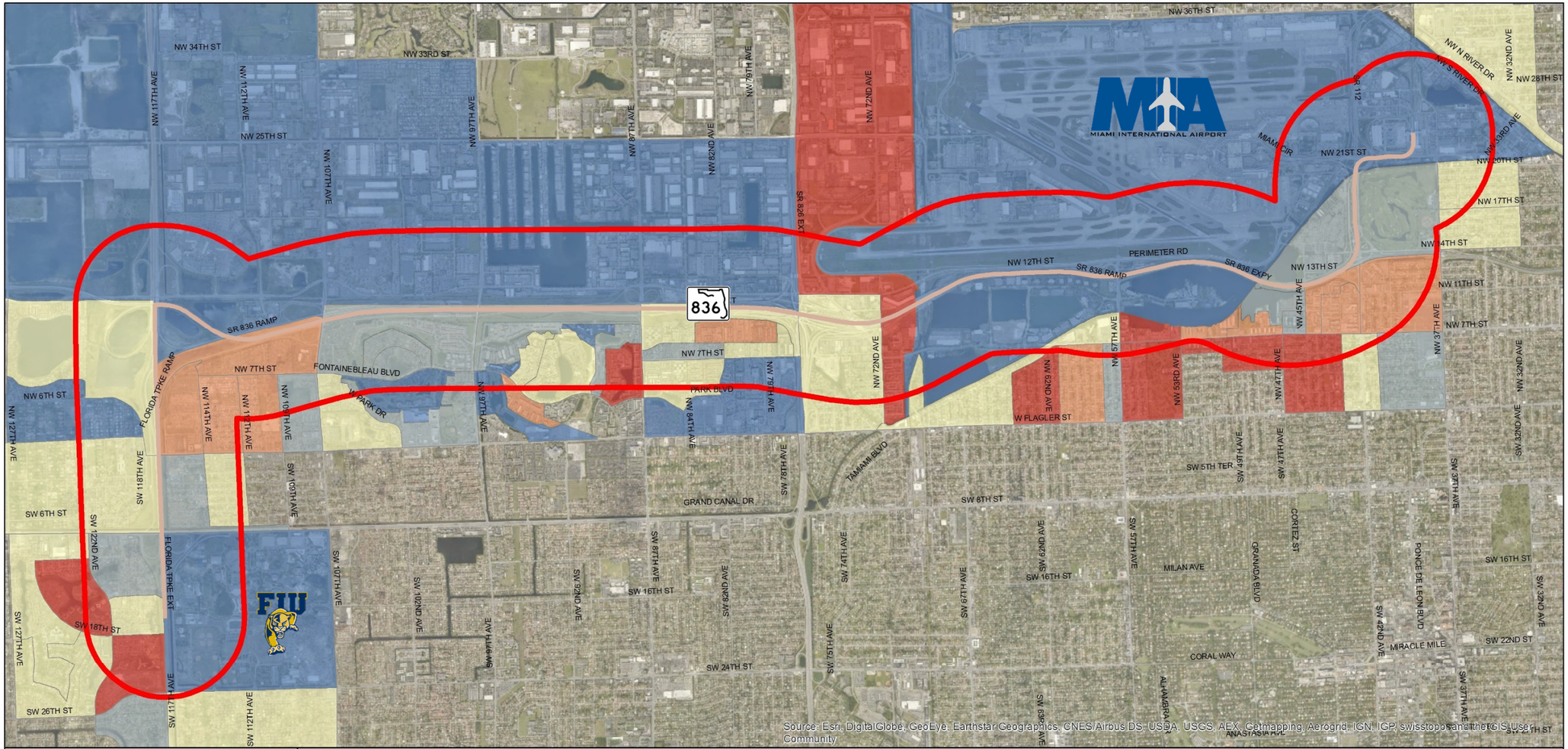
Legend

- Corridor Centerline
- East-West Corridor 0.5 Mile Buffer
- Major Roads

Population Age >65

- 0 - 137
- 138 - 271
- 272 - 418
- 419 - 643
- 644 - 971

Figure 2-2 Household Income Less than $25,000



Miami-Dade SMART Plan

East-West Corridor

Household Income < $25,000

Source: US Census Bureau

Date: 12/1/2017

N

Miami-Dade Transportation Planning Organization

0 0.25 0.5 Miles

Legend

Corridor Centerline

East-West Corridor 0.5 Mile Buffer

Household Income < $25,000

0 - 57

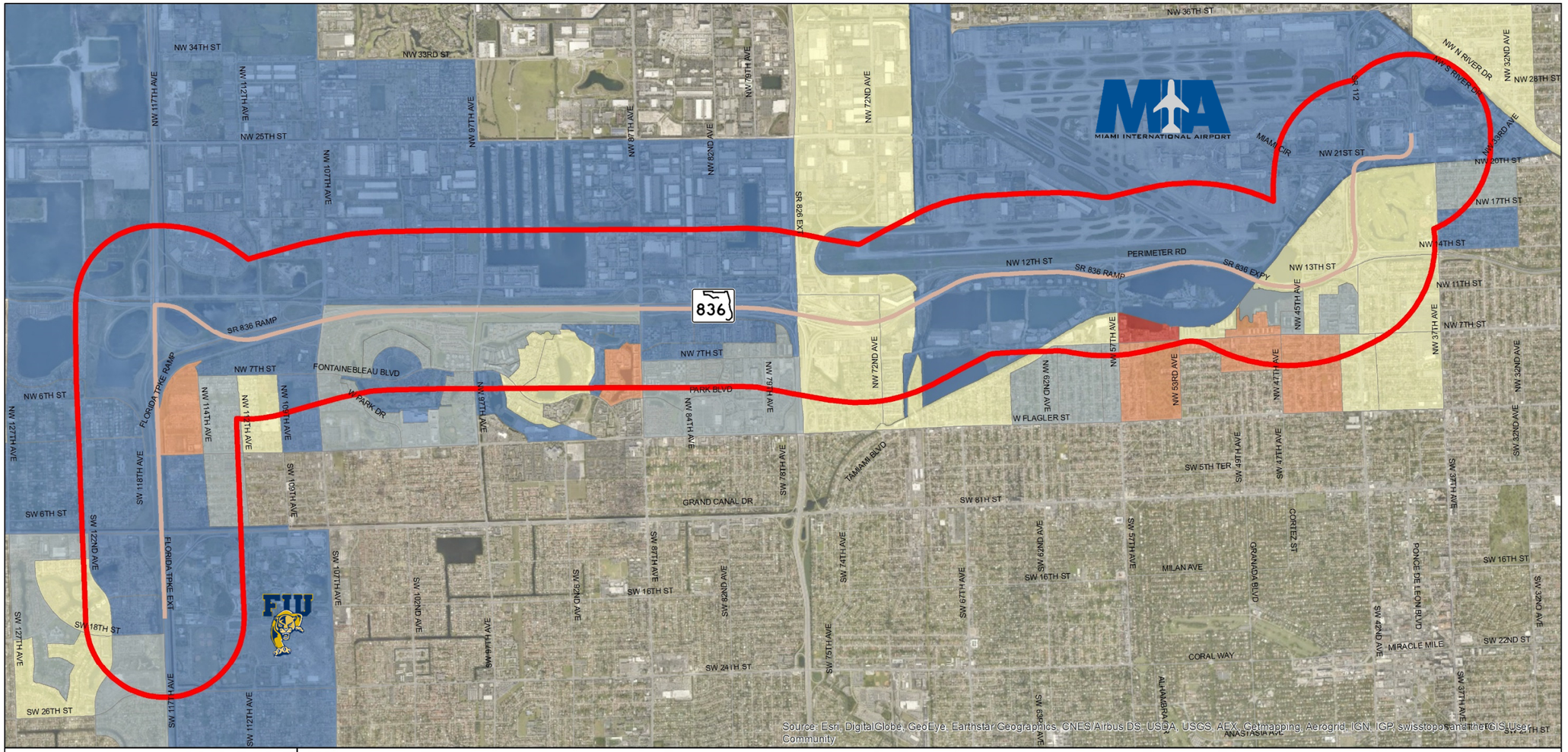
58 - 140

141 - 220

221 - 321

322 - 503

Figure 2-3 Zero Vehicle Households



Miami-Dade SMART Plan

East-West Corridor

Households with No Vehicle Available

Source: US Census Bureau

Date: 12/1/2017

Miami-Dade Transportation Planning Organization

N

0 0.25 0.5 Miles

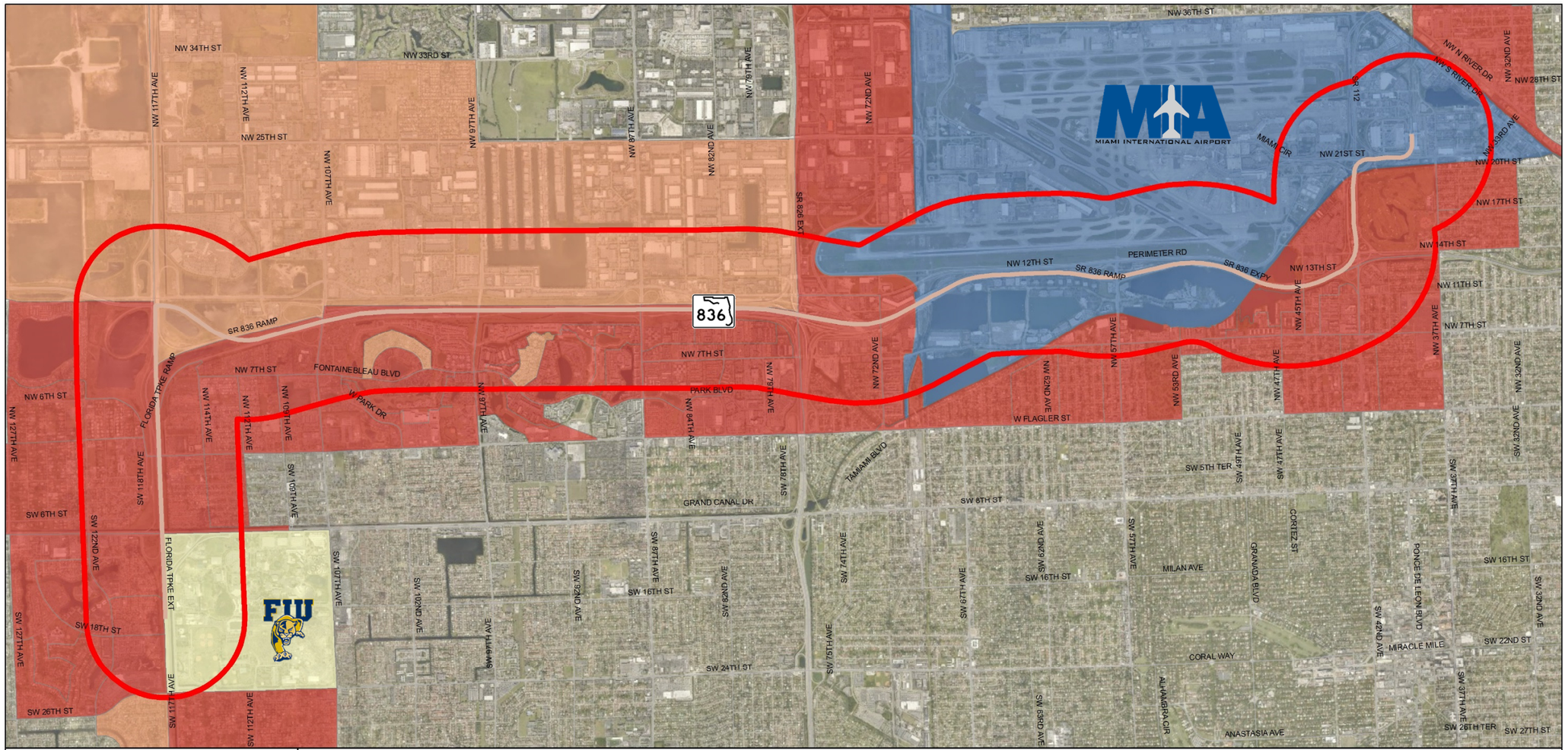
Legend

- Corridor Centerline
- East-West Corridor 0.5 Mile Buffer
- Major Roads

Zero Car Households

- 0 - 20
- 21 - 52
- 53 - 102
- 103 - 174
- 175 - 385

Figure 2-4 Minority Population



Miami-Dade SMART Plan

East-West Corridor

Percent Minority of Total Population

Source: US Census Bureau

Date: 12/1/2017

N

Miami-Dade Transportation Planning Organization

0 0.25 0.5 Miles

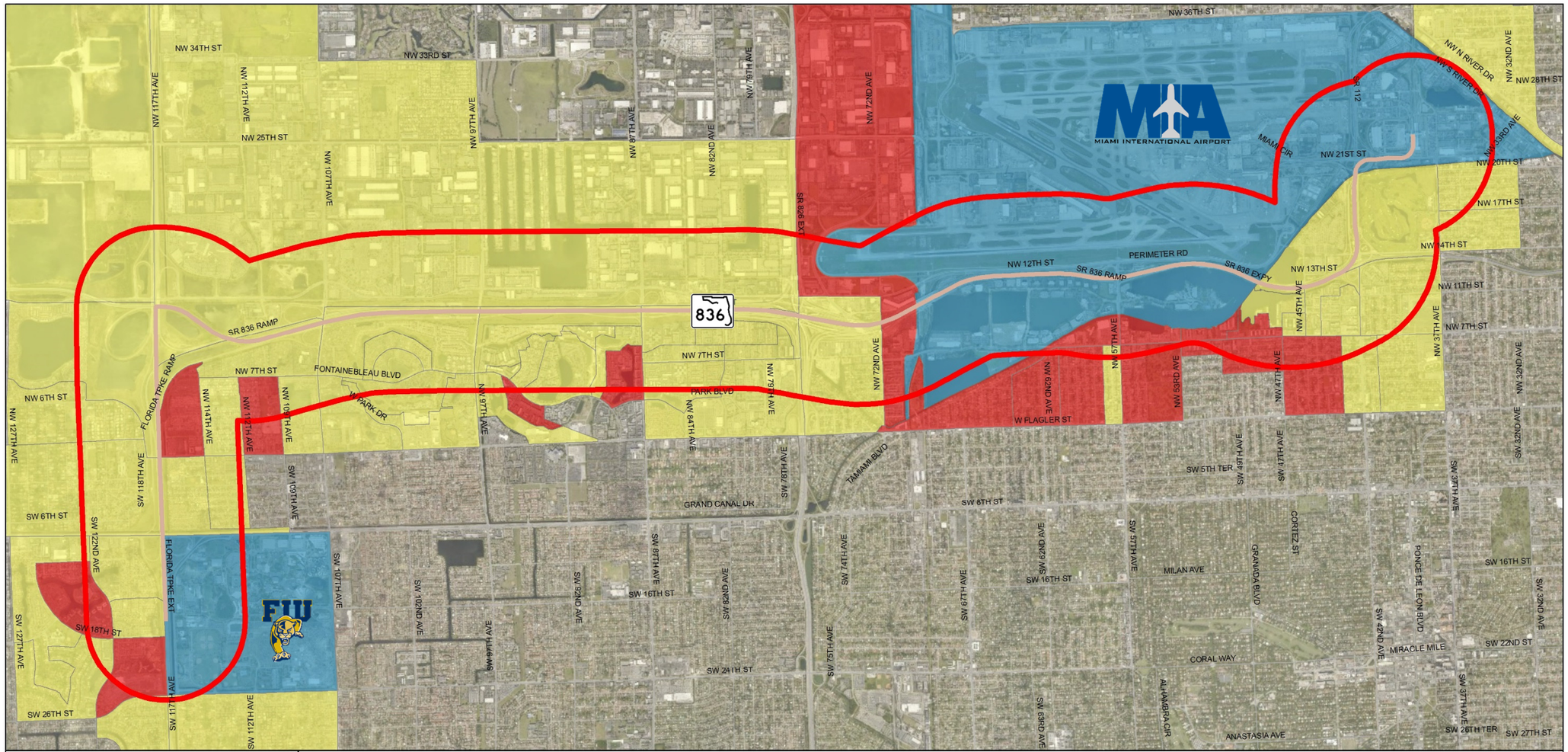
Legend

- Corridor Centerline
- East-West Corridor 0.5 Mile Buffer
- Major Roads

Percent Minority

- 0-30%
- 31-50%
- 51-75%
- 76-90%
- 91-100%

Figure 2-5 Transit Dependent Population



Miami-Dade SMART Plan

East-West Corridor

Transit Dependency

Source: US Census Bureau

Date: 12/1/2017

Miami-Dade Transportation Planning Organization

0 0.25 0.5 Miles

N

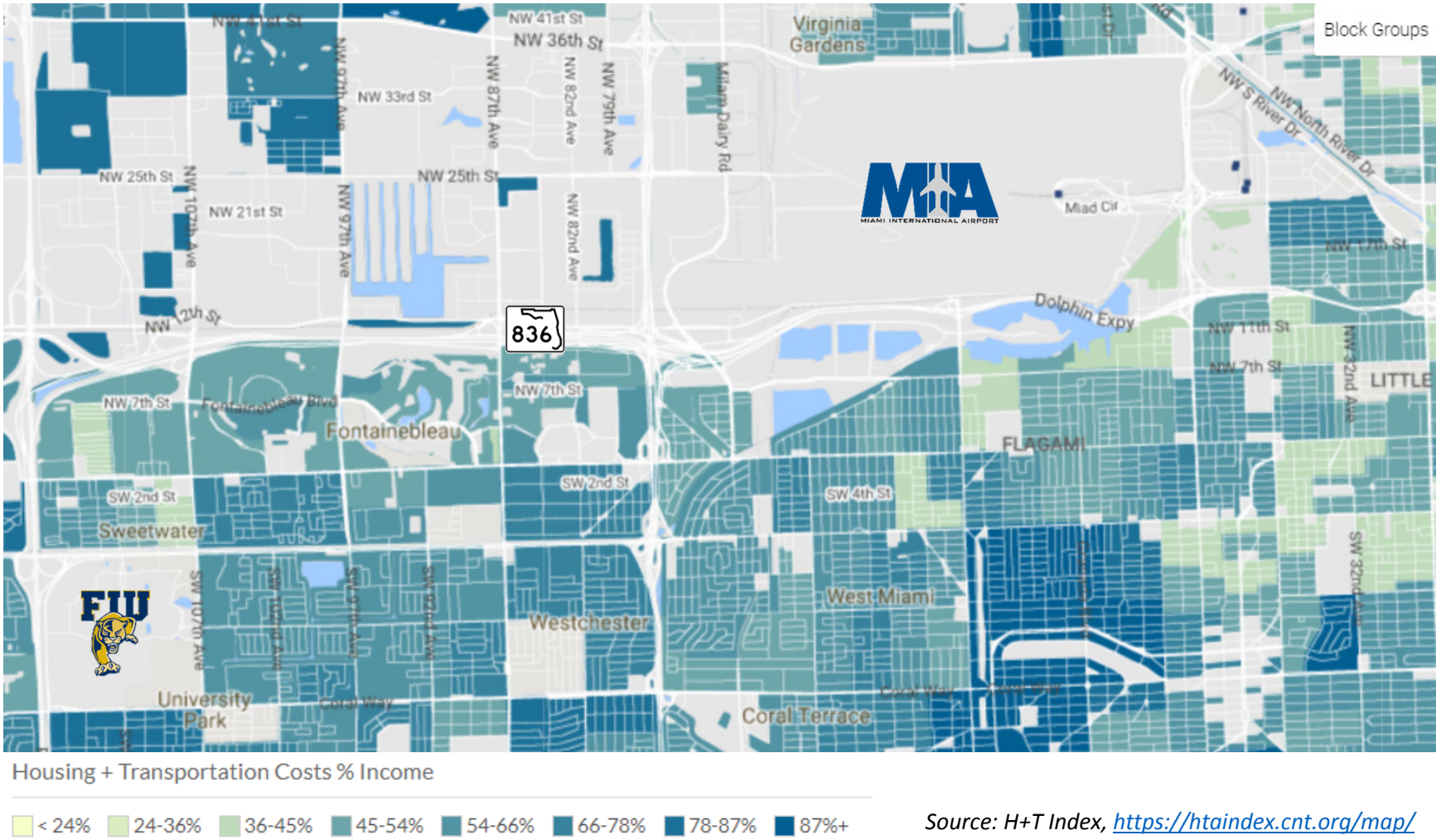
Legend

- Corridor Centerline
- East-West Corridor 0.5 Mile Buffer
- Major Roads
- Low Dependency
- Medium Dependency
- High Dependency

HOUSING AND TRANSPORTATION INDEX

According to the Housing and Transportation (H+T) Affordability Index overview of the study area displayed in **Figure 2-6**, many of the households are spending upwards of 45% of their income on housing and transportation costs.

Figure 2-6 Housing and Transportation Index



Source: H+T Index, https://htaindex.cnt.org/map/

2.3. Employment

Employment data was derived using 2015 socio-economic data from the Southeast Florida Regional Planning Model (SERPM7). According to the analysis, there were approximately 70,996 employees within the study area in 2015, with an employment density of 1,059 per square mile. The highest employment sectors were Wholesale and Warehousing (19.5%), Retail (17.4%), and Professional and Business Services (16.6%). **Figure 2-7** and **Table 2-3** provide a more detailed breakdown of the study area employment.

Figure 2-7 Employment Distribution, 2015

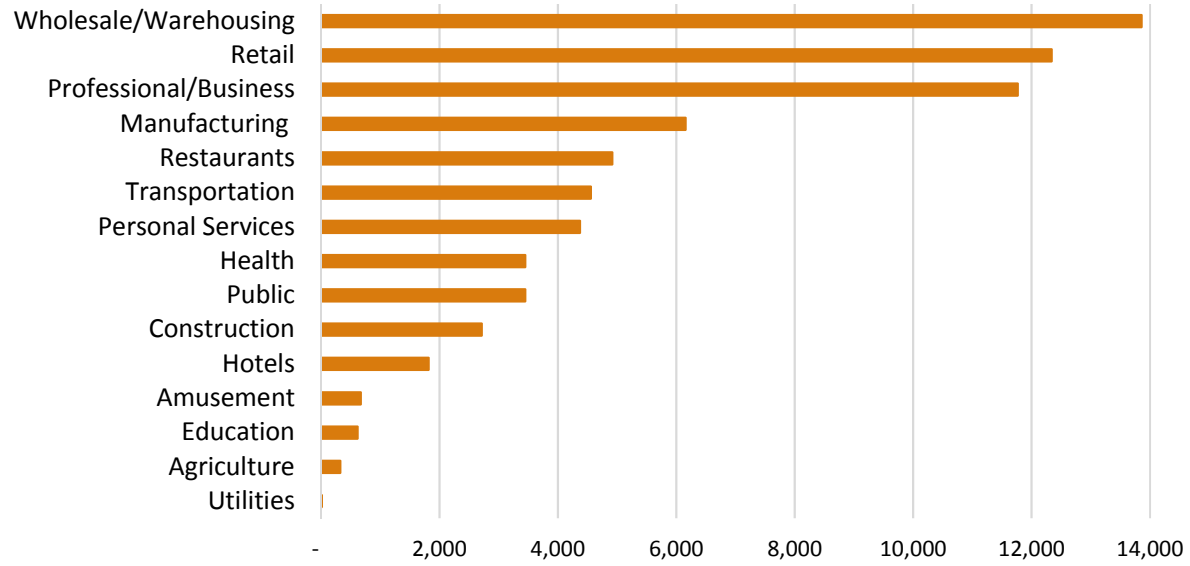


Table 2-3 Employment Summary, 2015

Employment Sector	Employees	Percent
Wholesale/Warehousing	13,857	19.5%
Retail	12,339	17.4%
Professional/Business	11,767	16.6%
Manufacturing	6,153	8.7%
Restaurants	4,918	6.9%
Transportation	4,554	6.4%
Personal Services	4,370	6.2%
Health	3,450	4.9%
Public	3,445	4.9%
Construction	2,712	3.8%
Hotels	1,815	2.6%
Amusement	668	0.9%
Education	615	0.9%
Agriculture	322	0.5%
Utilities	11	0.0%
Total Employees	70,996	100%

2.4. Student Population (Higher Education)

The higher education student population includes those enrolled in a non-K-12 school. This includes the FIU student population. According to the SERPM7 model, there were 40,261 students enrolled in higher education in 2015 within the study area.

2.5. Community Features

According to the EST, the following types of facilities are located within the project area:

- Air Facilities: Miami International Airport, District VI Helistop, CBS Channel 4 Helistop
- Community Centers: St. Dominic's Center, Knights of Columbus 14998, YMCA – Greater Miami, Directorio Democratico Cubano Inc., Junta Patriotica Cubana, and Municipos de Cuba En El Exilio
- Libraries: International Mall Branch Library, Third District Court of Appeal Law Library, ITT Technical Institute Learning Resource Center – Miami Library, and NOAA Miami Regional Library – National Hurricane Center Branch Central Library
- Recreational Trails: Coral Way Sidepath, Kitty Roedel Bike Path, and Tamiami Canal Park North
- Hospitals: Metropolitan Hospital of Miami
- Fire Departments: Miami Fire Department Rescue Station 10
- Law Enforcement Facilities: FDLE Miami Regional Operations Center, Florida Highway Patrol Miami – Troop E, Miami Police Department – Flagami/West Flagler Net, and Miami-Dade Police Department – Airport Station
- Government Buildings: Miami-Dade County Health Department – West Dade Family Planning Clinic, US Post Offices – Miami EAP Office Space and Avenue of the Americas, and Third District Court of Appeal
- Schools: El Redentor Presbyterian, ITT Technical Institute, University of Miami, US international Christian Academy, Vann Academy, Marjory Stoneman Douglas Elementary, Paul W. Bell Middle, Dr. Carlos J. Finlay Elementary, and George T. Baker Aviation School
- Public Lands: Florida International University Nature Preserve
- Religious Centers: Emmanuel Church of the Nazarene, Kingdom Hall of Jehovah's, The Redeemer Presbyterian, Saint Dominic Catholic, El Tempo Morada de Jesucristo, Christian Churches Disciples of Christ, Centro Cristiano de Amor y Fe, and Ministerio Cristo el Rey
- Other Geocoded Facilities: 57 healthcare facilities, 4 social services facilities, 22 group care facilities

2.6. Historic Sites and Recreation Areas

The Department of Transportation Act of 1966 includes Section 4(f), which stipulates that FHWA and other DOT agencies cannot approve the of land from publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites unless one of the following conditions apply:

- There is no feasible and prudent avoidance alternative to the use of land; and the action includes all possible planning to minimize harm to the property resulting from such use
- The Administration determines that the use of the property will have a deminimus impact

The following resources listed may fall under the definition of Section 4(f):

- Florida Site File (FSF) Locations: Seven Archeological/Historical sites, one Historic Bridge eligible for the National Register of Historic Places (NHRP), 83 Historic Standing Structures, 12 Resource Groups
- Local Parks and Recreation Facilities: International Links – Melreese Golf Course, Tamiami Canal Park, Tamiami Park, Ronselli Park, Tamiami Linear Park, Antonio Maceo Park and Boat Ramp, Kinloch Park, Grapeland Park, Sweetwater Groves Park, and Robert King High / Carlos Arboleya Camp Ground
- National Parks Projects: Tamiami Linear Park, Sweetwater Groves Park, Thompson/Tamiami Parks, Blue Lagoon/Genantonio Maceo Park
- Office of Greenways and Trails Hiking and Multi-Use Trails: Ludlam Trail Corridor, Miccosukee Link Corridor, Perimeter Trail, and Snapper Creek Trail Corridor
- Public Land: FIU Nature Preserve
- Recreational Trails: Coral Way Sidepath, Kitty Roedel Bike Path, Tamiami Canal Park North

2.7. Natural Features

WATER QUALITY AND WATER QUANTITY

The following provides an inventory of the existing water quality and quantities within the study area:

- Water Bodies: C-6/Miami River, C-6/Miami Canal, C-2/Snapper Creek, Coral Gables Canal (East), C-5 (Comfort Canal), C-4 Tamiami Canal. These are Impaired Florida Waters except for C-5 (Comfort Canal)
- Major Dams: Structure No. 25B (ID#FL00679)
- Principal Aquifer: Biscayne Aquifer (Sole Source Aquifer) (100%)
- Recharge Areas of the Florida Aquifer: Discharge/Less than 1
- SFWMD Save Our Rivers Lands: East Coast Buffer (S/M Public lands coverage)
- SFWMD Canals: C-2, C-4, C-5

COASTAL AND MARINE LANDS

The Submerged Lands Act covers 10.03 acres (0.14%) within the study area.

WILDLIFE AND HABITAT

The following is the identified wildlife and habitat presence within the study area:

- Snail Kite Consultation Area: 100%
- Critical Habitat in Florida for the West Indian Manatee: 971.68 acres (13.37%)
- FWC State Manatee Protection Zone: Idle Speed (all year), 0.48 acres (0.01%); Slow Speed (all year), 191.28 acres (2.63%)
- American Crocodile Consultation Area: 100%
- Florida Natural Areas Inventory (FNAI) Element Occurrences: Bahama Brake, Bitter Bush, Fahkahatchee Ladies'- Tresses, Myrtle-of-the-River, Skyblue Clustervine, Smooth Strongbark, Wild Potato Morning Glory, and one senetive element occurrence that can be obtained from FNAI
- Rare and Imperiled Fish: Mountain Mullet (Tamiami Canal)
- Woodstork Core Foraging Areas: 7,266.42 acres (100%)

2.8. Physical Features

AIR QUALITY

The project is not located within a USEPA-designated Air Quality Maintenance or Non-Attainment Area for any of the four pollutants (nitrogen oxides, ozone, carbon monoxide, and small particulate matter) specified by the USEPA in National Ambient Air Quality Standards. Therefore, the Clean Air Act conformity requirements do not apply to this project at this time.

CONTAMINATION

The following lists the contamination sites in the study area:

- Biomedical Waste Sites (150)
- Brownfield Location Boundaries (8)
- Department of Environmental Records Management (DERM) Contaminated Sites in Miami-Dade County (179)
- Florida Department of Environmental Protection (FDEP) Off Site Contamination Notices (2)
- Hazardous Waste Facilities (107)
- National Priority List Site – Biscayne Aquifer - Varsol
- Onsite Sewage (176)
- Petroleum Contamination Monitoring Sites (182)
- Solid Waste Facilities (16)
- Storage Tank Contamination Monitoring Sites (237)
- Super Act Risk Sources (78)
- Superfund Hazardous Waste Site – Miami International Airport
- Toxic Release Inventory Sites (4)
- USEPA National Pollutant Discharge Elimination Systems (NPDES) (54)
- USEPA Resource Conservation and Recovery Act (RCRA) Regulated Facilities (154)

2.9. Existing Transportation Network

An overview of the existing transportation network is provided in this section. Included in this section is a traffic analysis evaluating the total vehicles and freight movement along the roadways, existing parking conditions, and an overview of planned projects.

2.9.1. Major Roadways

The major roadways within the corridor include the SR 836/Dolphin Expressway, the SR 826/Palmetto Expressway, and the SR 821/Homestead Extension of Florida's Turnpike (HEFT). All three roadways are currently operating at a Level of Service (LOS) F.

2.9.2. Traffic Analysis

Traffic analysis for the year 2040 was performed for the corridor using the standardized Florida Standard Urban Transportation Model Structure (FSUTMS) planning model developed by FDOT.

Total Vehicles and Freight Volume

Figure 2-8 displays the results for the total vehicles per day traveling the corridor, and **Figure 2-9** displays the freight volume. The roads with the highest amount of vehicles include the Palmetto Expressway (SR 826), and the HEFT between SW 8th Street and NW 2nd Street. The roads with the highest truck volumes include the HEFT, the Palmetto Expressway, and SR 836 west of the Palmetto Expressway.

Average Weekday Truck Speed

Additionally, the average weekday peak AM and PM truck speeds were analyzed within the corridor. Data was collected from February 1, 2017 through July 27, 2017. The AM peak results are displayed in **Figure 2-10,** and the PM peak results are in **Figure 2-11**.

As indicated in the maps, trucks during the AM peak travel faster going south and west, while the northbound and eastbound truck traffic travels at slower speeds. Generally, the converse is true for the PM peak with the northbound and eastbound trucks traveling at faster speeds than the southbound and westbound trucks.

Figure 2-8 Total Number of Vehicles (Vehicles Per Day)

Florida Statewide Model V6.0 (Passenger and Freight) - 2040 Scenario

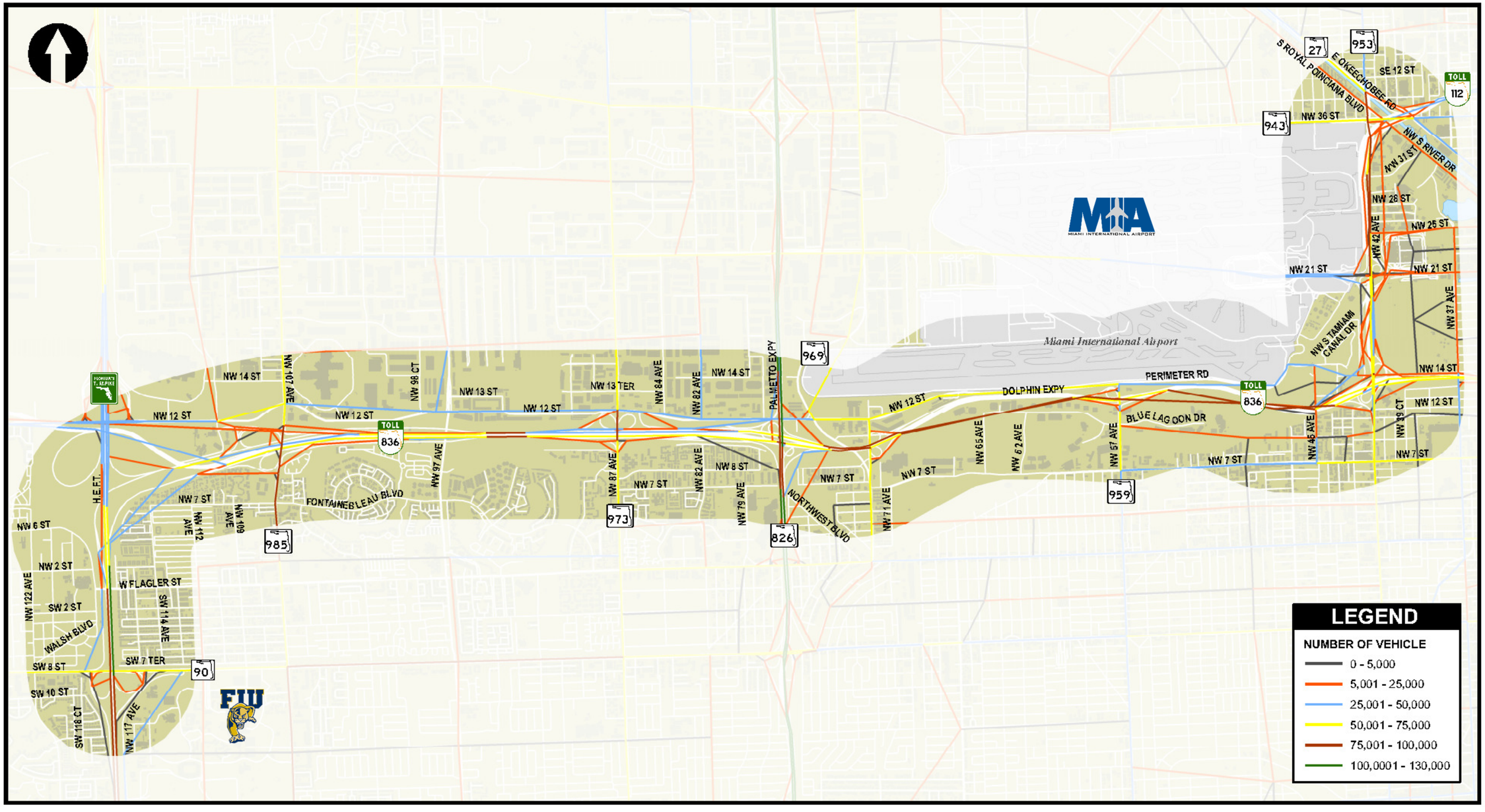


Figure 2-9 Freight Volume (Vehicles Per Day)

Florida Statewide Model V6.0 (Passenger and Freight) - 2040 Scenario

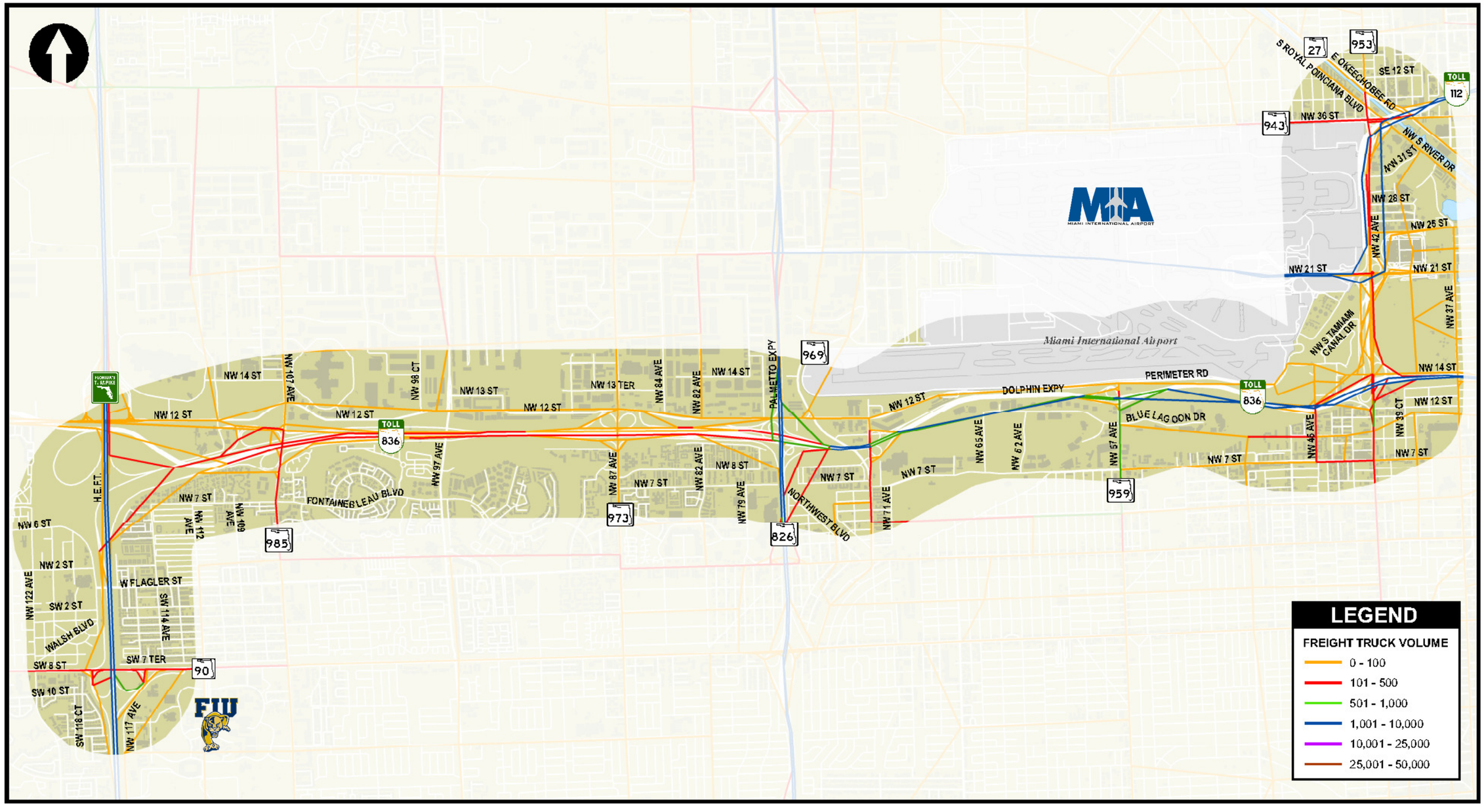


Figure 2-10 AM Peak Average Truck Speed

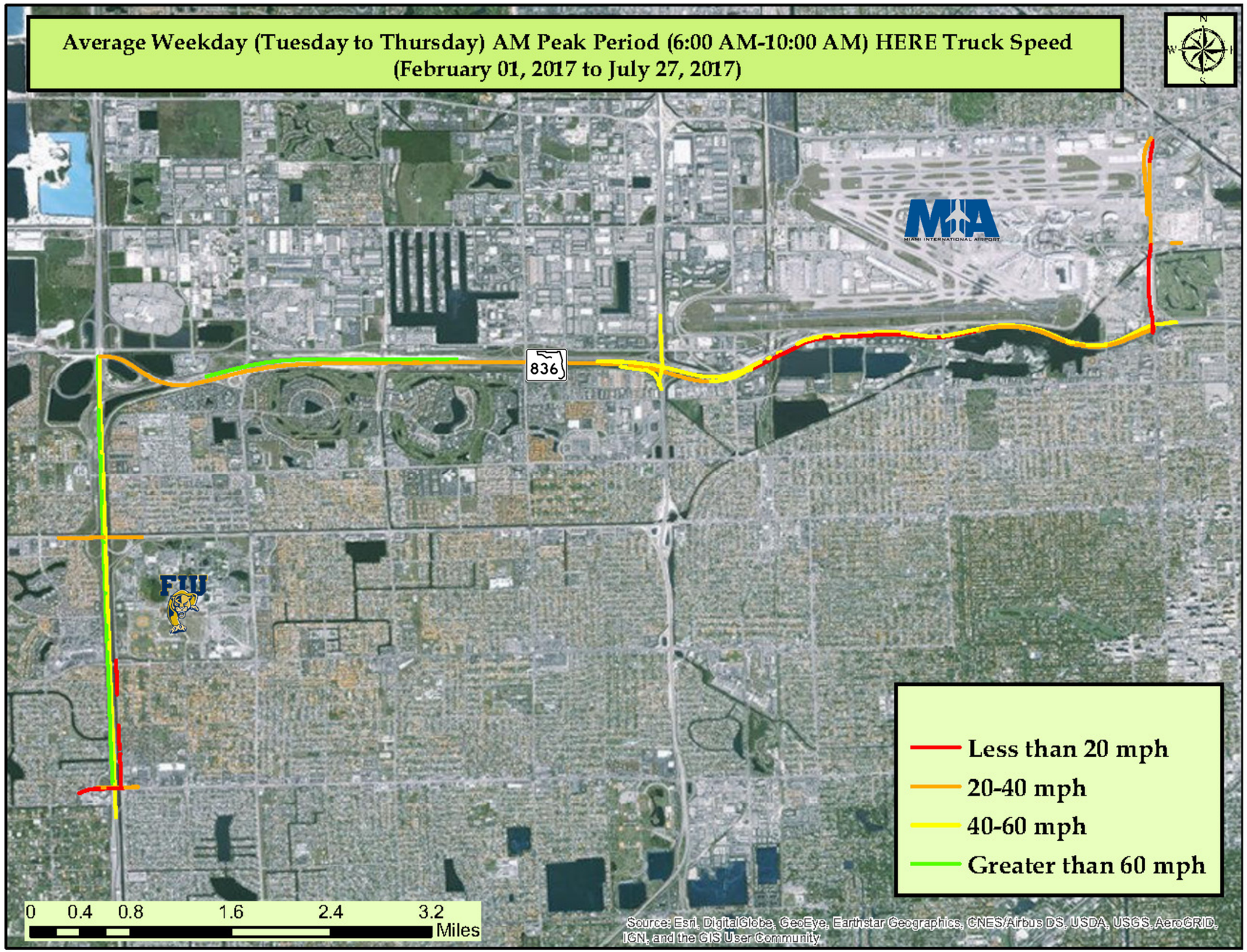
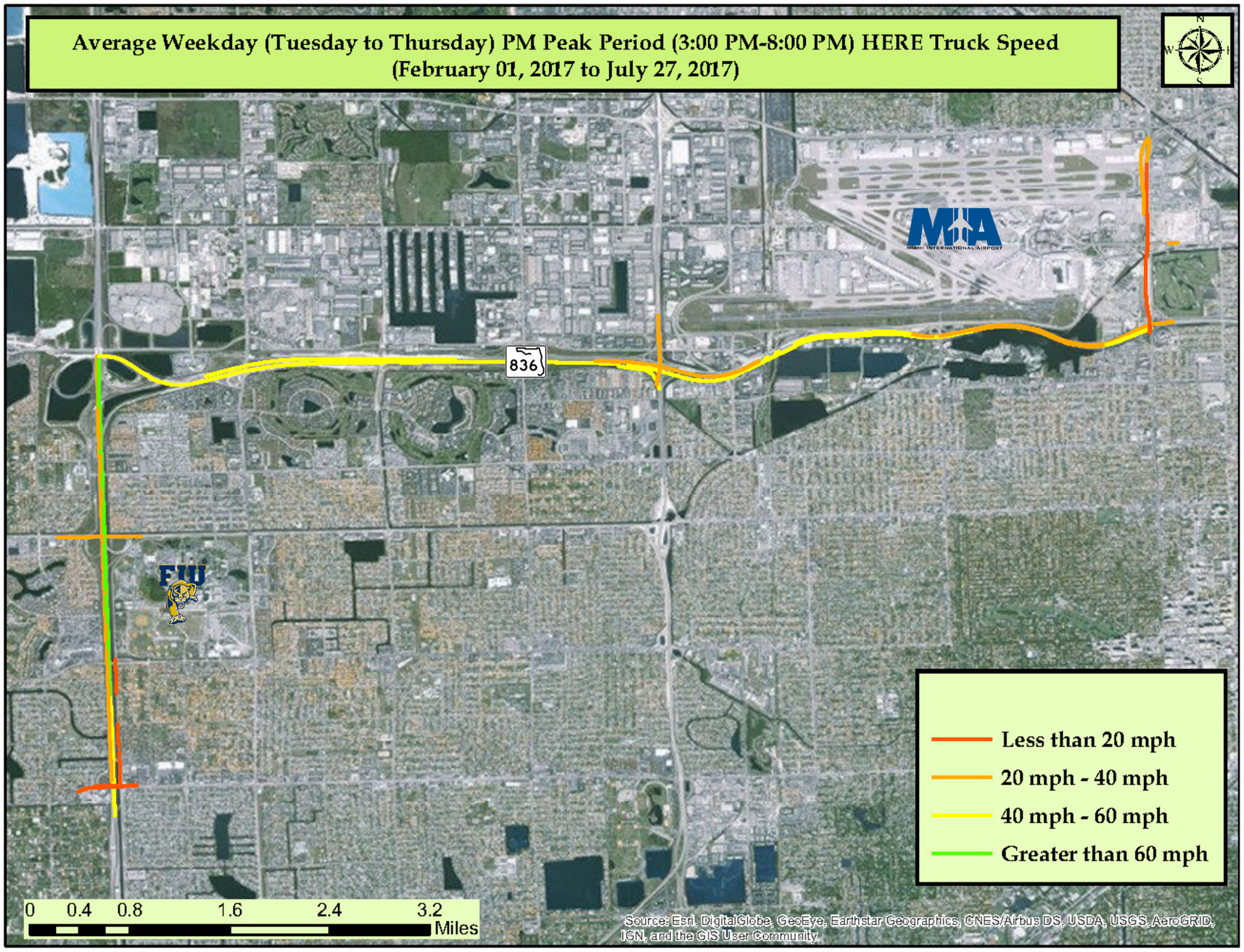


Figure 2-11 PM Peak Average Truck Speed



2.9.3. Parking

Several parking accommodations exist for transit service within the corridor. These accommodations include the MIC, the Dolphin Station Park and Ride Lot and Transit Facility, and surface lots and parking garages on FIU campus.

Miami Intermodal Center (MIC)

The MIC serves as a transportation hub designed to accommodate transportation connections between Metrorail, Tri-Rail, Amtrak, Greyhound, taxis, rental cars, the MIA Mover, and Metrobus routes. Along with elevated MIA Mover platforms, bus stops, bus stations, and room for future private development. **Figure 2-12** displays a rendering of the MIC. Parking for the MIC is positioned east of the Rental Car Center (RCC), bounded by NW 25th Street on the north, NW 37th Avenue on the east, NW 21st Street on the south, and NW 38th Court on the west. It was observed that the analyzed parking lots have a total of 483 available parking spaces with an overall average occupancy of approximately 30%. The peak parking demand was observed to occur at 5 PM with 163 occupied spaces. The complete parking statistics are found in the appendix.

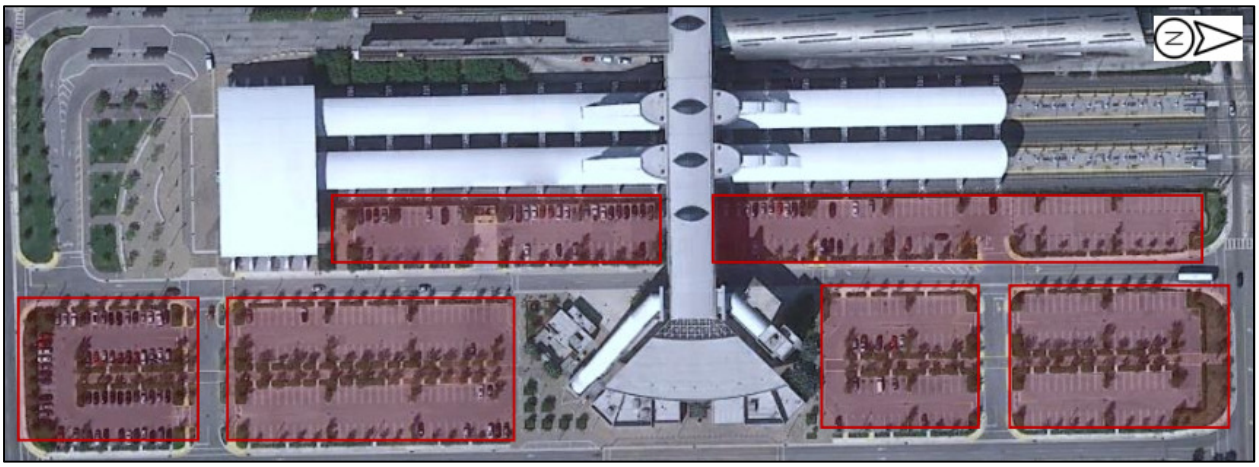
Figure 2-12 MIC Rendering

Source: Miami Intermodal Center, www.micdot.com

MIC PARKING DEMAND ANALYSIS

A 4-hour parking accumulation was performed with the purpose of calculating the parking demand for the parking spaces. **Figure 2-13** shows the MIC parking aerial photo with the studied parking parcels outlined in red. The study was performed on Thursday, August 24, 2017 during the morning and evening two-hour peaks spanning from 7 AM to 9 AM and 4 PM to 6 PM. The volumes of the vehicles were counted on intervals of 5 minutes. The average and peak volumes are provided in **Table 2-4** and **Table 2-5.**

Figure 2-13 MIC Parking Aerial



Source: Google maps.

Table 2-4 MIC Average Hourly Parking

Peak Hours	Parking Volume [1]	Available Parking	Occupancy [2]	Parking Load [3]	Efficiency [4]	Turnover [5]
7 AM – 9 AM	142	341	29.4%	11.8	2.5%	0.42
4 PM – 6 PM	149	334	30.1%	12.4	2.6%	0.44

Table 2-5 MIC Peak Hourly Parking

Peak Hours	Parking Volume [1]	Available Parking	Occupancy [2]	Parking Load [3]	Efficiency [4]	Turnover [5]
7 AM – 9 AM	151	332	31.3%	12.6	2.6%	0.45
4 PM – 6 PM	163	348	33.8%	13.58	2.8%	0.51

Notes:
[1] Parking Volume (average in **Table 2-4** or peak in **Table 2-5**).
[2] Occupancy is calculated as spaces used divided by total amount spaces, multiplied by 100.
[3] Parking Load is calculated as vehicles multiplied by the time interval/hour.
[4] Efficiency is calculated as parking load divided by parking capacity.
[5] Turnover is calculated as parking volume divided by available parking.

Additionally, the survey indicated that the highest volume of parked vehicles was at 5 PM, with a total of 163 vehicles. At this peak, the occupancy of the facility reached 33.75%. The hourly occupancy level is shown in **Figure 2-144 and 2-15.**

Figure 2-14 Hourly Occupancy Level (AM)

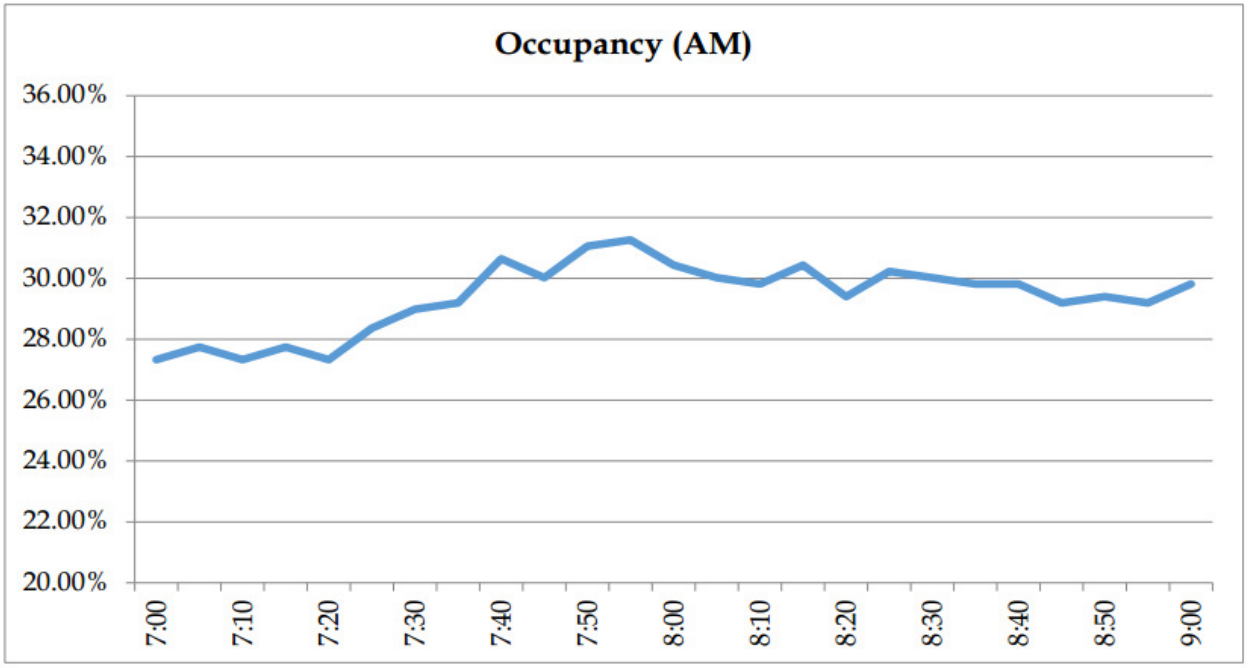
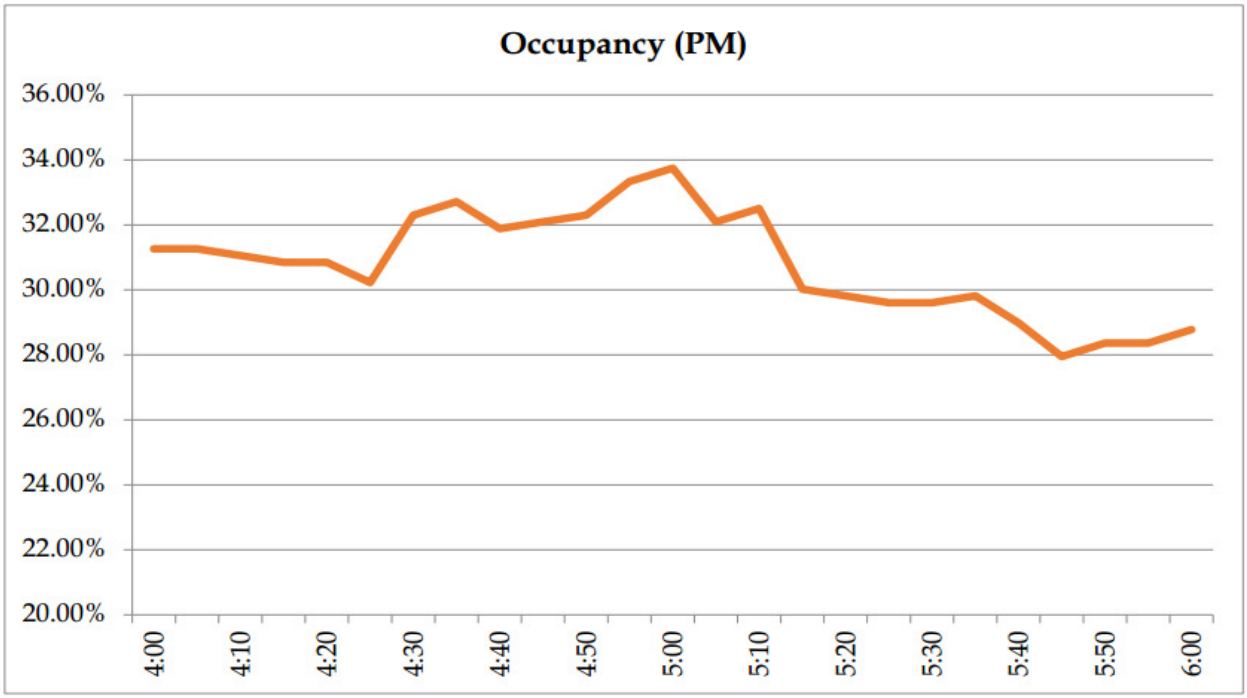


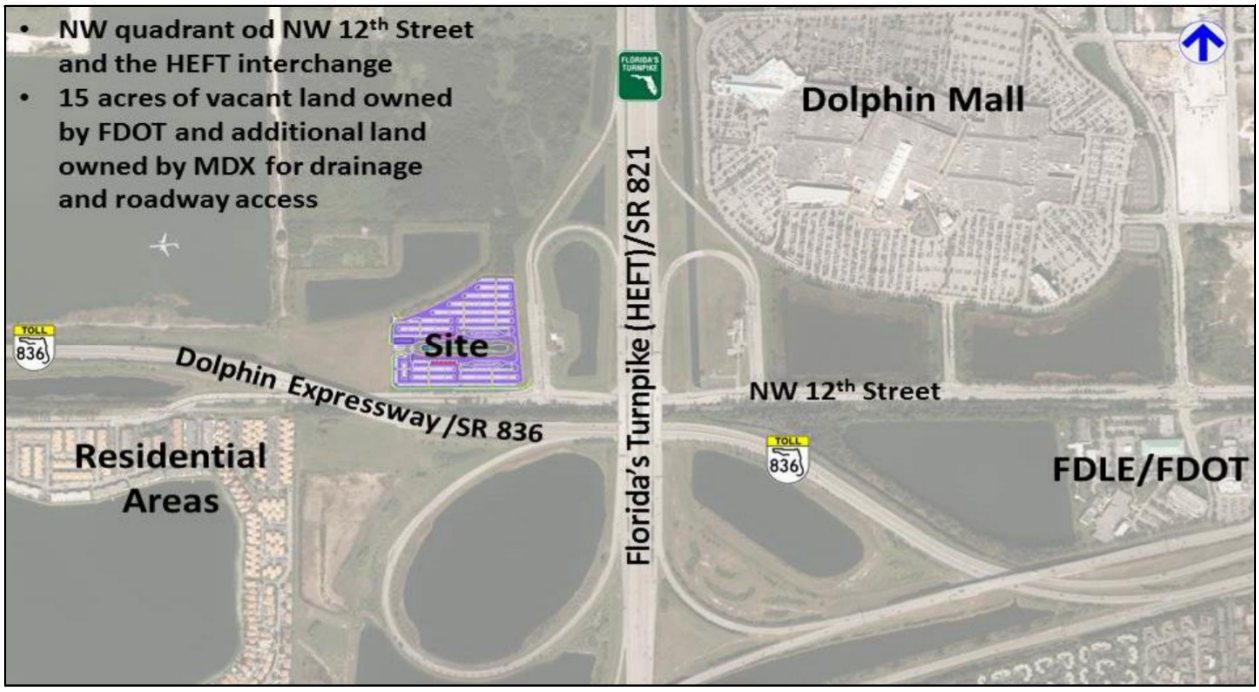
Figure 2-15 Hourly Occupancy Level (PM)



Dolphin Park and Ride Lot

The Dolphin Park and Ride Lot, also referred to as the Dolphin Transit Terminal Facility or "Dolphin Station", is an approximately 15-acre publicly owned parcel on NW 12th Street, west of the Turnpike and east of NW 122nd Avenue. The Dolphin Station location is displayed in **Figure 2-16**. A need for this park and ride/transit terminal facility was identified to serve as a transit hub for the SR 836 Express Bus Service, as well as other planned routes. Dolphin Station will provide a viable commute alternative for potential transit riders from Doral, Sweetwater, and other residential areas of West Dade to major employment areas such as MIA, the Health District, Downtown, and Brickell. It will also provide service for reverse commuters from the east to Doral, Dolphin and International Mall, and FIU.

Figure 2-16 Dolphin Station Project Location



Source: Dolphin Station Fact Sheet, www.miamidade.gov

Project elements include the following: 849 long term parking spaces and 20 short term parking spaces; 12 bus bays and 10 bus layover bays; a transit hub with passenger waiting areas and accommodation for retail; a driver's break lounge; bicycle racks and storage; landscaping, signage, fencing, and lighting; and 'Kiss-and-Ride' drop off areas. **Figure 2-17** displays a rendering of Dolphin Station. A groundbreaking event was held on January 23, 2017 to formally mark the start of construction of the project. Construction completion is scheduled for the end of 2017.

Figure 2-17 Dolphin Station Rendering

Source: Dolphin Station Fact Sheet, www.miamidade.gov

Florida International University (FIU)

A bus station is planned on FIU campus called the Panther Station, located near two existing parking garages along SW 8th Street between SW 112th and SW 109th Avenues. FIU constructed Parking Garage 6 (PG 6) at this location, which also features a transit station on the ground floor. However, this location presents an access challenge requiring roadway widening to construct bus only lanes, exclusive bike lanes, and traffic signal improvements to provide bus signal priority to the two intersections along this roadway segment. Once complete, Panther Station will provide 10 bus bays to accommodate the relocation of existing DTPW routes and provide for future routes such as the SR 836 Express Bus. Completion of the Panther Station is estimated to align with the start of the SR 836 Express Bus in 2019.

The existing parking facilities along SW 8th Street provide 5,248 total parking spaces for students, faculty, and visitors at Parking Garages (PG) 4, 5, and 6 at the capacity listed in **Table 2-6** FIU Parking Spaces, SW 8th Street.

Table 2-6 FIU Parking Spaces, SW 8th Street

User Type	Parking Structures	Capacity
Students	PG 4, 5, 6	4,280 spaces
Faculty/Staff/Admin/Exec.	PG 4, 5, 6	840 spaces
Visitors (not affiliated w/FIU)	PG 4, 5, 6	128 metered spaces

Figure 2-18 FIU PG-6 Aerial Image

Source: Facchina Construction of Florida; Smith Aerial Photos, 2/24/2015; www.facilities.fiu.edu

2.9.4. Planned Projects

Planned projects within the study area were identified within the Miami-Dade TPO Transportation Improvement Plan (TIP) and Long Range Transportation Plan (LRTP). The TIP specifies transportation improvements for an upcoming five-year period. All projects receiving federal funds must be included in this plan. The LRTP projects transportation improvements over a minimum of a 20-year planning horizon from the date of TPO adoption. The planned projects from the TIP and LRTP within the study area are summarized in this section.

TIP

The current TIP covers the period from October 1st, 2015 through September 30th, 2020. Categories of improvements include Highway, Transit, Aviation, Seaport, and Non-Motorized improvements with a combined cost in excess of $7.7 billion. The general goals of the TIP are to enhance mobility of the urban population, achieve a balanced transportation system, meet energy conservation needs, improve air quality, and preserve or enhance the physical and social environment of the community. The TIP projects that fall within the study area are detailed in **Table 2-7**.

LRTP

The current LRTP has a planning horizon through the year 2040. A major emphasis of the 2040 LRTP is the inclusion of projects that improve the operation of the existing system. Other emphases of the plan include:

- Quantitatively measuring the plan effectiveness in terms of mobility, safety, sustainability, and operational considerations
- Consideration of non-motorized modes of transportation
- Freight transportation movements

The LRTP projects within the study area are summarized in **Table 2-8**.

Table 2-7 Project Area TIP Projects

TIP Project Number	Responsible Agency	Project Name	From	To	Type of Work	FY	5-Year Funding ($000s)
TP4150515	Florida's Turnpike	Thermoplastic for Widen Heft	Bird Road	SR 836	Signing/Pavement Markings	2018	$358
TP4150517	Florida's Turnpike	Heft-SR 836 Express Lanes Direct	-	-	Interchange Improvement	-	-
XA20001	Miami-Dade Expressway Authority (MDX)	MDX Connect 4 Express	Central Miami-Dade County	N. Miami-Dade County	New Expressway Connecting SR 836, SR 112, SR 924 and SR 826	2018-2022	$5,551
XA83628	MDX	SR 836 (Dolphin) Improvements	NW 57 Avenue	NW 17 Avenue	Widening, Interchange Improvements	2018-2019	$61,370
XA83629	MDX	SR 836 Interchange Mod.	SR 836 West of 82 Avenue	NW 97 Avenue	Interchange Improvements	2018-2019	$33,558
XA83634	MDX	SR 836 New Heft Ramp Connections	NB/SB Heft	EB/WB SR 836	New Connector	2018-2021	$30,986
AP4292712	Miami-Dade Aviation (MDAD)	Perimeter Road	NW 57 Avenue	NW 18 Street	PD&E/EMO Study	-	-
DT4184236	FDOT	SR 826/Palmetto Expressway	SR 968/W. Flagler Street	NW 154 Street	PD&E/EMO Study	2021	$2,080
DT4293453	FDOT	SR 969/Milam Dairy Road/NW 72	N of Flagler Street	S of NW 7 Street	Resurfacing	2019/2022	$1,783
DT4326391	FDOT	SR 826/Palmetto Expressway	US-1/S Dixie Hwy	SR 83	Transportation Planning	2018-2019	$20

TIP Project Number	Responsible Agency	Project Name	From	To	Type of Work	FY	5-Year Funding ($000s)
DT4326871	FDOT	SR 826	NW 154 St. & I-75	SR 826 & NW 170 Street	Add Special Use Lane	2018	$586
DT4347691	FDOT	SR 953/Lejeune Road	SW 2 Street	NW 11 Street	Intersection Improvement	2018	$2,022
DT4377821	FDOT	SR 968/Flagler Street	SR 821/HEFT	SR 5/ Biscayne Boulevard	PD&E/EMO Study	2018-2019	$4,819
DT4379201	FDOT	SR 973/NW 87 Avenue	S. of NW 7 Street	NW 800 Block	Intersection Improvement	2019	$894
DT4380761	FDOT	SR 9/NW 27 Avenue	MIA Intermodal Center (MIC)	NW 215 Street/ Unity Street	PD&E/EMO Study	2018-2019	$4,819
DT4401821	FDOT	SR 90/SW 8 Street Inter. Lighting	SW 137 Avenue	SW 72 Avenue	Lighting	2019	$1,036
PW0001002	Miami-Dade DOT, Public Works (PW)	NW 7 Street	SR 826	NW 76 Avenue	New 2 lanes	-	-
PW000851	Miami-Dade DOT, PW	NW 107 Avenue	NW 12 Street	NW 25 Street	Resurfacing	-	-
PW000870	Miami-Dade DOT, PW	NW South River Drive	NW 31 Street	Tamiami Swing Bridge	Widen from 2 to 3 lanes	2018	$4,044
PW000912	Miami-Dade DOT, PW	W Flagler Street	W 117 Avenue	W 107 Avenue	Resurfacing	-	-
PW000977	Miami-Dade DOT, PW	SW 117 Avenue	SW 40 Street	SW 8 Street	Resurfacing	-	-

TIP Project Number	Responsible Agency	Project Name	From	To	Type of Work	FY	5-Year Funding ($000s)
TP4150514	Florida's Turnpike	Widen Bird Rd - SR 836 (6 - 10 Lanes)	-	-	Add Lanes & Reconstruct	-	-
TP4355451	Florida's Turnpike	Widen Heft	SR 836 (MP 26)	NW 74th Street (MP 31)	Add Lanes & Reconstruct	-	-
AP4371431	Miami-Dade Aviation	Dolphin Station	At HEFT and NW 12TH Street	-	Park and Ride Lots	2019	$10,000
AP4387491	Miami-Dade Aviation	DTPW/MDT Transit Connector	Miami	Miami Beach	PTO Studies	2018	$2,500
TA14	Miami-Dade DOT, PW	Flagler MAX RTE 51 Operating Assistance	West Miami-Dade	Downtown	Urban Corridor Improvements	2018-2021	$2,347
TA2496431	Miami-Dade DOT, PW	MIC Management Consultant	-	-	Intermodal Hub Capacity	2018-2021	$680
TA4309531	Miami-Dade DOT, PW	MDT Operating Assistance	W Miami-Dade	Downtown	Urban Corridor Improvements	2018-2020	$1,837
TA4335251	Miami-Dade DOT, PW	MDT/(Bus Purchase)	-	-	CAPITAL FOR FIXED ROUTE	2018	$904
TR0000019	SFRTA	MIC Capacity Study	-	-	Rail Capacity Project	2018, 2021-2022	$27,204
DT4354811	FDOT	Safe Routes to School	-	-	Pedestrian Safety Improvement	2018	$157
PW000963, PW00964	Miami-Dade DOT, PW	Ludlam Bikepath	Dadeland North	NW 12 Street	Bikepath	-	-

TIP Project Number	Responsible Agency	Project Name	From	To	Type of Work	FY	5-Year Funding ($000s)
AP4292711	MDAD	MIA Perimeter Road Widening	-	-	Aviation Capacity Project	2018-2019	$21,072
AP4295332, AP4295333	MDAD	MIA Taxiway Rehab	-	-	Aviation Preservation	2021	$1,000 each
AP4295342	MDAD	MIA E Taxiway and Apron Rehab	-	-	Aviation Preservation Project	2020	$50
AP4366941	MDAD	MIA Taxi Lot Replacement	-	-	Aviation Revenue/ Operational	2020-2021	$1,322
AP4367741	MDAD	Opa Locka Airport Internal Per. Road	-	-	Aviation Capacity Project	2020	$2,400
AP4367781	MDAD	Miami Executive Airport (TMB) Internal Per. Road	-	-	Aviation Capacity Project	2020	$24,000
APP253A	MDAD	MIA Central Base Apron and Utilities	MIA	-	Rehabilitate Taxiway	2020-2021	$18,000
APP267A	MDAD	MIA Wayfinding and Signage	MIA	Cen. Blvd. and Terminal	Improve Airport Miscellaneous	-	-
APV006A	MDAD	MIA Taxi Lot	-	-	Relocation and/or Land Acquisition	2020-2021	$1,322

Table 2-8 LRTP Projects

LRTP Project #	Facility	From	To	Description	Priority Project
MDT301	North Corridor (NW 27 Ave) Enhanced Bus**	MIC	NW 215 Street Terminal	Enhanced bus service	Priority 1
MDT302	SR-836 (Dolphin) Enhanced Bus**	MIC	SW 8 Street Park-and-Ride	Enhanced bus service	-
CMP34	Intersection at NW 29th St and NW 42nd Ave	-	-	Intersection improvements at NW 29th Street and NW 42nd Avenue	-
FP1	Le Jeune Road	CD5	-	Make SB left-turn protected only. Close sidewalk gaps.	Priority 1
DT2502347	MIC Connection to NW 37 Avenue	MIC	NW 37 Avenue	New 2 lane road construction	Priority 1
SFRTA110	MIC Capacity Improvement Study	-	-	Double track remaining single track of Tri-Rail near Miami River	Priority 1
MDT285	East-West (SR 836) Corridor (SMART Plan)	FIU	MIC	SMART Plan East-West (SR 836) Corridor Study	Priority 1
CMP13	NW 21st Street/MIA access/circulation road	-	-	Advanced Parking System	-
MDT151	Douglas Road Corridor (37 Ave) Enhanced Bus	US-1	MIC	Incremental improvement on PTP corridor	Priority 2
XA83628	SR-836 (Dolphin) Improvements	NW 57 Avenue	NW 17 Avenue	Mainline widening and interchange improvements	Priority 1
MDX102	SR-836 (Dolphin) Managed Lanes	SR-826/SR-836	Just West of 27 Avenue	Two new managed lanes within the right-of-way of SR-836 (Dolphin)	Priority 3
PW126	Perimeter Rd	NW 42 Avenue	NW 57 Avenue	Widen from 2- to 4-lanes	Priority 2

LRTP Project #	Facility	From	To	Description	Priority Project
CMP26	NW 7th Street	NW 72nd Avenue	NW 7th Avenue	Signal timing optimization	Priority 1
MDT131	East-West Corridor (Flagler Enhanced Bus)	Miami Downtown Terminal	FIU-MMC (SW 112th Avenue)	Incremental improvement on PTP corridor	-
NM76	Tamiami Canal Road	W Flagler St.	NW 7th Street	Bicycle Facility Improvements	Priority 3
NM81	SW 72nd Avenue	SW 4th Street	W Flagler Street	Bicycle Facility Improvements	Priority 3
NM88	Tamiami Canal Road	SW 8th Street	W Flagler Street	Bicycle Facility Improvements	Priority 3
CMP31	SW 8th St (Tamiami Trail)	SR 826	I-95	Signal timing optimization	Priority 1
FDOT136	SW 8 St (Tamiami)	SW 87 Avenue	SW 107 Avenue	Grade separations	Priority 2
PW182	SW 102 Avenue	Tamiami Canal	-	New bridge over Tamiami Canal	Priority 4
DT4124793	SW 107 Avenue	SW 1100 Block	SW 3 Street	Add lanes and rehabilitate pavement	Priority 1
DT4124792	SW 107 Avenue	SW 3 Street	W Flagler Street	Add lanes and rehabilitate pavement	Priority 1
PW119	NW 82 Avenue	NW 7 Street	NW 12 Street	Widening to 3 lanes to NW 10th Street, new 4 lane road to NW 12 Street	Priority 1
NM143	SW 16th Street	SW 82nd Avenue	SW 107th Avenue	Bicycle Facility Improvements	Priority 4
NM91	SW 117th Avenue	SW 17th Street	SW 8th Street	Pedestrian Facility Improvements	Priority 3
NM52	Snapper Creek Trail "A"	SW 72nd Street	SW 8th Street / FIU	Trail Improvements	Priority 2
TP108	SR-821 (HEFT)	SW 40 Street	SW 8th Street	TSM&O	Priority 4
TP4150514	SR-821 (HEFT)	SW 40 Street	SR 836	Add lanes and reconstruct	Priority 1

LRTP Project #	Facility	From	To	Description	Priority Project
FP1028	NW 12 Street	NW 107 Avenue	SR 826	Widening	Priority 1
FP1024	NW 107 Avenue	NW 12 Street	NW 74 Street	Operational and capacity improvements where feasible	Priority 2
MDX110	SR-836 (Dolphin) Managed Lanes	SR 821 (HEFT)	SR-826/836 Interchange	Two new managed lanes within the ROW of SR 836 (Dolphin)	Priority 2
TP4355451	SR-821 (HEFT)	SR 836	NW 74 Street	Interchange improvement	Priority 1
FP18	Truck Parking Improvement	NW 12 Street/SR 821 (HEFT)	-	Truck staging/parking area in northwest quadrant of the interchange associated with a freight facility development	-
MDT243	Direct Ramps to Dolphin Station Intermodal Terminal (DSIT)	SR 821 (HEFT) Managed Lanes	DSIT	Direct access ramps for transit and trucks	Priority 2
MDT103	Dolphin Station Intermodal Terminal	-	-	Park-and-ride facility with kiss-and-ride, 12 bus bays, and 1000 parking spaces	Priority 1
MDT192	Direct Ramps to Dolphin Station Intermodal Terminal	SR 836 Managed Lanes	DSIT	Direct access ramps	Priority 3
TP109	SR 821 (HEFT)	NW 12 Street	NW 74 Street	TSM&O	Priority 4
XA83625	SR 836 Access Ramp	NW 107 Avenue	SR 836	Construction of access ramp	Priority 1
DT4326391	SR 826 (Palmetto)	US-1/S Dixie Highway	SR 836	Managed lanes	-
DT4326871	SR 826 and I-75	NW 170 St	NW 154 Street	Managed lanes	Priority 1
DT4184236	SR 826 (Palmetto)	W. Flagler Street	NW 154 Street	-	-

2.10. Zoning and Existing Land Use

The study area spans five municipalities, each with their own set of zoning districts. The five municipalities are: unincorporated Miami-Dade County, the City of Doral, the City of Miami, the City of Miami Springs, and the City of Sweetwater. For the purpose of comparison, the zoning districts and land uses have been grouped into general categories. To summarize, two-thirds of the project area is either classified as General Use, Industrial, or Commercial. The remaining is either residential or mixed-use. There is little Office or Agricultural land use or zoning within the corridor.

2.10.1. Generalized Zoning

The generalized zoning districts within the corridor displayed in **Figure 2-19** on the following page, and summarized in **Table 2-9** Generalized Zoning Districts below. Approximately one third of the project area is comprised of General Use zoning districts, which mostly includes MIA, the MIC, and FIU campus. An additional third of the project area is either Industrial (22.4%) or Commercial zoning (9.2%). Standalone residential uses comprise approximately 22% of the study area (Multi-family, 14.2%; Single Family 7.9%), whereas mixed-use residential comprises 4.5%. There is little Agriculture (0.2%) or Office (0.3%) zoning.

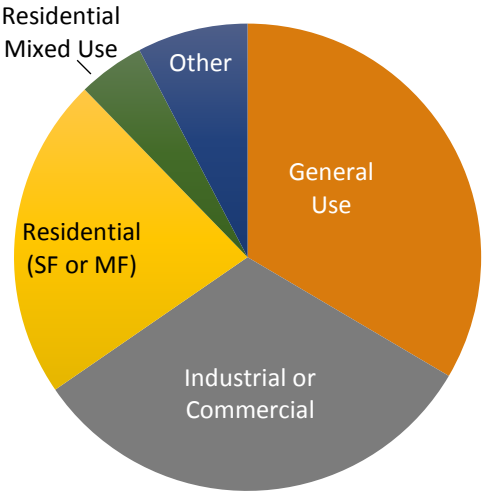
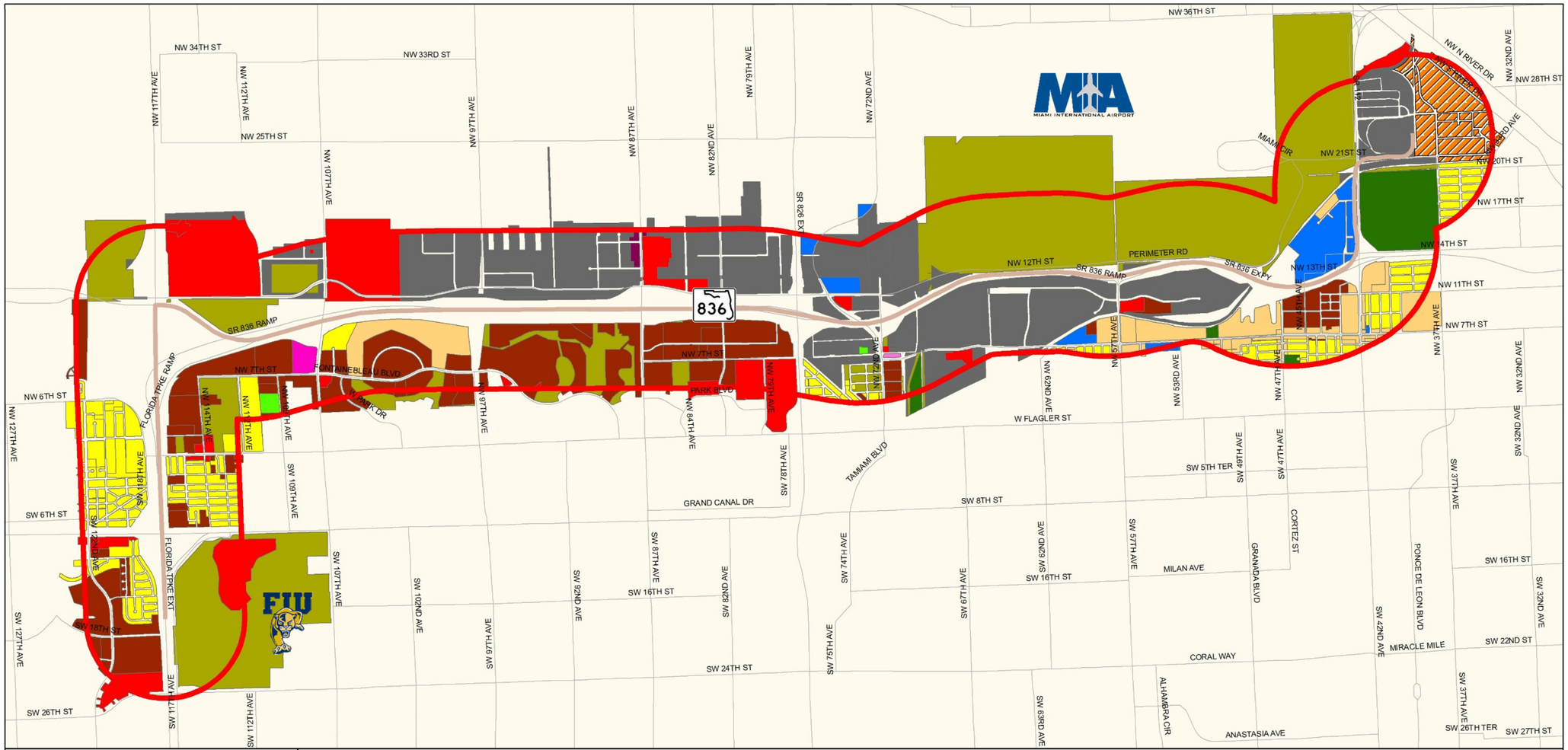


Table 2-9 Generalized Zoning Districts

Zoning Description	Acreage	% Acreage	Zone(s) Included
General Use	2,216.4	33.1%	GU, IU
Industrial	1,496.6	22.4%	IU-1 to IU-3, IU-C, I, I-1 to I-3
Residential Multi-Family	947.6	14.2%	RU, T4-R, T5-R, RM-15, RM-24
Commercial	616.5	9.2%	BU-1, BU-1A, BU-2, BU-3, CC, C-1 to C-3, AT
Residential Single Family	530.8	7.9%	EU-1, EU-M, RU-1, RU-2, RU-TH, T3-L, T3-O, T3-R, RD, RTW, T-1
Residential-Commercial	304.2	4.5%	PAD, T4-L, T5-L, T5-O, T6-8-L, T6-8-O
Public	175.1	2.6%	CS
Urban Centers	152.2	2.3%	PLMC
Institutional/Public Admin.	142.3	2.1%	GP, CI
None	72.1	1.1%	No zoning designated
Office	17.2	0.3%	OPD
Agriculture	11.4	0.2%	AG
Industrial Commercial	8.3	0.1%	IC
Residential-Office	1.7	0.0%	RU-5
Total	**6,692.5**	**100.0%**	-

Figure 2-19 Generalized Zoning Map



Miami-Dade SMART Plan

East-West Corridor

Zoning

Source: Miami-Dade County

Date: 9/22/2017

Miami-Dade Transportation Planning Organization

N

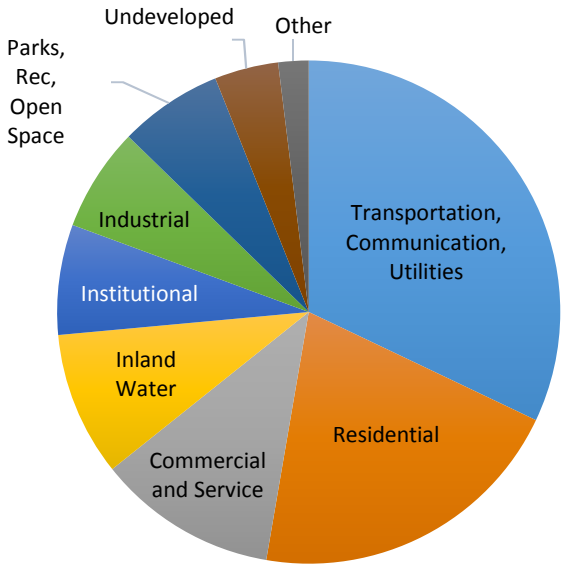
0 0.25 0.5 Miles

Legend

- Corridor Centerline
- East-West Corridor 0.5 Mile Buffer
- Major Roads
- Miami-Dade County
- AGRICULTURE
- COMMERCIAL
- ENVIRONMENTAL
- GENERAL USE
- INDUSTRIAL
- INDUSTRIAL- COMMERCIAL
- INSTITUTIONAL AND PUBLIC ADMINISTRATION
- OFFICE
- PARKS
- RESIDENTIAL - COMMERCIAL
- RESIDENTIAL MULTI - FAMILY
- RESIDENTIAL - OFFICE
- RESIDENTIAL SINGLE FAMILY
- URBAN CENTERS

2.10.2. Existing Land Use

The existing land use data reflects all current land uses data updates that could be traced back to 1994, and is updated weekly based on the most current aerial photography, property appraiser data, thematic layers, development, and environmental information. The existing land use data was produced by the Research Section of the Planning Division, Department of Regulatory and Economic Resources Department (RER) for Miami-Dade County. The existing land uses is displayed in the map in **Figure 2-20** on the following page, and summarized in **Table 2-10**. Generally, the non-residential land use categories (Transportation, Communication Utilities; Commercial and Service; Industrial) are located north of SR 836, whereas the Residential categories are distributed south of SR 836.

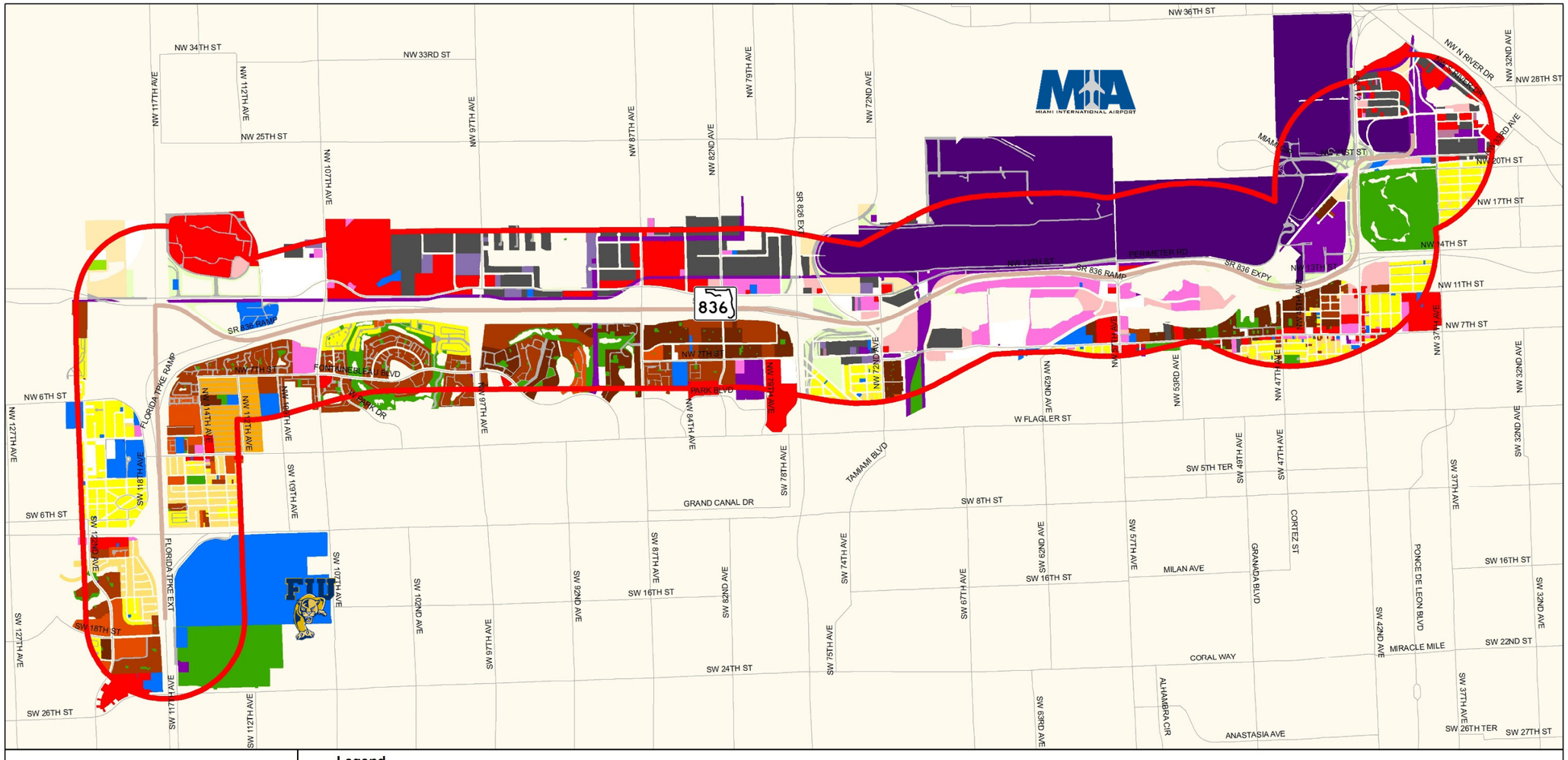


To summarize, the land use category with the most acreage is Transportation, Communication, Utilities with 2,146 acres, comprising approximately 32% of the total land area, which mostly includes MIA and the MIC. The second highest category is Residential with 1,381 acres, covering approximately 21% of the land area. Industrial and Parks, Recreation, and Open Space contain about 445 acres each (6.7%). Approximately 4.1% of the land area is undeveloped (275 acres). Less than 2% of the project area has a Hotel/Motel use, and less than 1% is used for Agriculture.

Table 2-10 Existing Land Use

Existing Land Use Category	Acres	% Acreage
Transportation, Communication, Utilities	2,145.50	32.1%
Residential	1,381.23	20.6%
Commercial and Service	774.45	11.6%
Inland Water	621.00	9.3%
Institutional	474.33	7.1%
Industrial	445.66	6.7%
Parks, Rec, Open Space	445.40	6.7%
Undeveloped	274.89	4.1%
Hotel/Motel	125.02	1.9%
Agriculture	4.99	0.1%
Total	6,692.47	100.0%

Figure 2-20 Existing Land Use Map



Miami-Dade SMART Plan
East-West Corridor
Land Use

Source: Miami-Dade County
Date: 9/22/2017

Miami-Dade Transportation Planning Organization

N

0 0.25 0.5 Miles

Legend

- Corridor Centerline
- East-West Corridor 0.5 Mile Buffer
- Major Roads
- Miami-Dade County
- Single-Family
- Two-Family Duplexes
- Mobile Home Parks
- Townhouses
- Low-Density Multi-Family
- High-Density Multi-Family
- Residential-Government Owned Housing
- Transient-Residential (Hotels, Motels)
- Commercial
- Office
- Mixed Use-Business/Residential
- Institutional
- Industrial Extraction
- Industrial
- Industrial Intensive, Office
- Industrial intensive, Commercial Condo.
- Airports, Ports
- Communications, Utilities, Terminals
- Streets, Roads, Expressways, Ramps
- Streets, Expressway R/W
- Agriculture
- Parks, Preserves, Conservation Areas
- Water Conservation Areas
- Vacant Government Owned, Unprotected
- Vacant, Protected, Privately Owned
- Vacant, Protected, Government Owned
- Vacant Privately Owned, Unprotected
- Canal right-of-way

2.11. Property Values and Built Environment

The property values and built environment information was derived using the Department of Revenue Property (DOR) Classification Codes that identify land use. The DOR codes are a combination of the State Land Use Code (SLUC) and the County Land Use Code (CLUC). Summarized information in this section includes amount of parcels, total area of parcels, building size, land value, building value, market property value, and assessed property value for land use types within the study area per the Property Appraiser Parcel Database, 2016.

To summarize, within the project area there are 4,258 parcels encompassing 6,473 acres. The total square footage of existing building area is approximately 51.8 million square feet, with an estimated property value of $5.4 billion. Government parcels (MIA, FIU, FDOT) comprise the most area with 2,725.5 acres covering 42% of the project area. Residential uses comprise the second highest land area, with 1,465 acres covering 23% of the project area.

Additionally, Residential uses comprise the most building area, with approximately 12.8 million square feet. Government uses have the second highest building area (11 million square feet), and Industrial has the third highest building area (8.8 million square feet).

Furthermore, Government, Residential, and Industrial uses have the highest property values ($1.3 billion, $1.1 billion, and $1 billion, respectively). The average property value figure is the result of the appraised land value and building value of the use type.

Table 2-11 provides a summary of the property values and built environment analysis. Further details including a breakdown of the parcel summaries and property values are provided in this section.

Table 2-11 Property Values Summary

DOR Use Type	# Parcels	Parcel Area (acres)	% Parcel Area	Building Area (SqFt)	Avg. Property Value	% Property Value
Residential	3,392	1,465	22.6%	12.8 million	$1.1 billion	20.2%
Commercial	186	642.3	9.9%	6.7 million	$820 million	15.1%
Mixed Use	5	2.1	0.0%	61,000	$5.5 million	0.1%
Office	81	322.3	5.0%	7.1 million	$685 million	12.6%
Industrial	258	680.2	10.5%	8.8 million	$1 billion	18.4%
Government	196	2725.5	42.1%	11 million	$1.3 billion	23.9%
Other	140	635.8	9.8%	5.3 million	$528 million	9.7%
Total	4,258	6,473	100.0%	51.8 million	$5.4 billion	100%

2.11.1. Residential

PARCEL SUMMARY

As displayed in **Table 2-12**, residential uses comprise 1,465 acres within the study area, with over 12 million square feet in building size. More than half (52.3%) of the residential land use is made up of condominiums, totaling 766 acres. Approximately 24.7% of the residential land area is made up of single family uses, and 13.6% is multifamily units of 10 units or more. Less than 5% of the residential parcels are vacant.

Table 2-12 Residential Parcel Summary

Type	DOR Code(s)	# Parcels	Parcel Area (acres)	% Res. Area	Building Size (SqFt)
Vacant Residential	0005, 0066, 0081	53	61	4.2%	-
Single Family	0101, 0102, 0105	2,422	363	24.7%	4,500,442
Townhouse (total value)	410	205	10	0.7%	275,663
Condominium (total value)	0407	210	766	52.3%	-
Multifamily, 2-9 Units	0802, 0803	414	64	4.4%	925,971
Multifamily, 10 Units +	303	87	200	13.6%	7,117,432
Retirement Home	643	1	-	-	3,216
Total	-	3,392	1,465	100%	12,822,724

PROPERTY VALUES

As displayed in **Table 2-13**, the total residential property value is approximately $1.1 billion between market and assessed values. The land value is appraised at approximately $440 million, and the building value approximately $770 million.

Table 2-13 Residential Property Values

Type	Land Value	Building Value	Market Property Value	Assessed Property Value
Vacant Residential	$39,700,661	$36,253	$39,736,914	$30,981,164
Single Family	$213,988,574	$370,161,831	$584,150,405	$457,212,802
Townhouse (total value)	-	-	$33,539,244	$24,372,856
Multifamily, 2-9 Units	$45,172,825	$60,189,459	$105,362,284	$88,532,131
Multifamily, 10 Units +	$142,832,801	$342,345,887	$485,178,688	$473,763,639
Retirement Home	$98,000	$196,616	$294,616	$247,248
Total	$441,792,861	$772,930,046	$1,248,262,151	$1,075,109,840

2.11.2. Commercial

PARCEL SUMMARY

There are 186 parcels totaling 642.3 acres with a commercial classification. Nearly 40% of the commercial acreage is classified as Regional Shopping Center, which includes the Mall of Americas. Food or Service uses comprise approximately 25% of the commercial area. Approximately 8.4% of the commercial land is classified as vacant. A summary of the data is displayed in **Table 2-14**.

Table 2-14 Commercial Parcel Summary

Type	DOR Code(s)	# Parcels	Parcel Area (acres)	% Comm. Area	Building Size (SqFt)
Vacant	1066, 1081	40	53.8	8.4%	-
Food or Service	2111, 2211, 2611, 2719	85	162	25.2%	1,455,781
Store/Department Store	1111, 1311, 2914	46	98.6	15.3%	1,420,673
Regional Shopping Center	1511, 1517	8	246.17	38.3%	2,797,572
Community Shopping Center	1611, 1617	7	81.57	12.7%	1,096,904
Total	-	186	642.3	100.0%	6,770,930

PROPERTY VALUES

The approximate commercial property value is $820 million between market and assessed values. The land value is appraised at $30.5 million, and the building value is appraised at $44 million. The vacant land value is approximately $33.8 million. A summary of the commercial property values is displayed in **Table 2-15**.

Table 2-15 Commercial Property Values

Type	Land Value	Building Value	Market Property Value	Assessed Property Value
Vacant	$33,841,728	$90,368	$33,932,096	$30,142,827
Food or Service	$164,764,035	$79,435,723	$244,199,758	$211,085,837
Store/Department Store	$94,546,324	$61,181,100	$146,386,896	$140,075,177
Regional Shopping Center	$23,051,081	$286,948,919	$541,955,000	$534,775,000
Community Shopping Center	$39,889,423	$48,022,507	$126,911,930	$115,808,780
Total	$356,092,591	$475,678,617	$1,093,385,680	$1,031,887,621

2.11.3. Mixed Use

PARCEL SUMMARY

There are five Mixed Use parcels comprising 2.1 acres within the study area. Approximately 0.76 acres are classified as Mixed Use – Residential, and 1.30 acres is classified as Mixed Used – Commercial. The total Mixed Use building size is approximately 61,000 square feet.

Table 2-16 Mixed Use Parcel Summary

Type	DOR Code(s)	# Parcels	Parcel Area (acres)	% MU Area	Building Size (SqFt)
Mixed Use - Residential	1209	2	0.76	36.9%	18,438
Mixed Use - Commercial	1229	2	1.30	63.1%	42,531
Total	-	5	2.1	100%	60,969

PROPERTY VALUES

The approximate Mixed Use property value is $5.5 million between market and assessed values. The land value is appraised at $2.9 million, and the building value is appraised at $2.8 million.

Table 2-17 Mixed Use Property Values

Type	Land Value	Building Value	Market Property Value	Assessed Property Value
Mixed Use - Residential	$649,277	$865,566	$1,514,843	$1,351,298
Mixed Use - Commercial	$2,222,542	$1,920,062	$4,142,604	$3,968,994
Total	$2,871,819	$2,785,628	$5,657,447	$5,320,292

2.11.4. Office

PARCEL SUMMARY

There are 81 Office parcels comprising 322.3 acres within the study area. The majority of the Office parcel area is classified as Multistory. The Office building square footage is approximately 7 million square feet.

Table 2-18 Office Parcel Summary

Type	DOR Code(s)	# Parcels	Parcel Area (acres)	Building Size (SqFt)
Office - One Story	1713	16	15.2	196,297
All Other Office	1813, 1829, 1913, 2313	65	307.1	6,947,939
Total	-	81	322.3	7,144,236

PROPERTY VALUES

The approximate Office property value is $685 million between market and assessed values. The land value is appraised at an estimated $183 million, and the building value at $519 million.

Table 2-19 Office Property Values

Type	Land Value	Building Value	Market Property Value	Assessed Property Value
Office - One Story	$17,656,761	$14,839,579	$32,496,340	$26,393,120
All Other Office	$165,322,945	$504,253,435	$669,576,380	$641,709,041
Total	$182,979,706	$519,093,014	$702,072,720	$668,102,161

2.11.5. Industrial

PARCEL SUMMARY

There are 258 Industrial parcels totaling 680.2 acres within the study area. A large amount of the land is classified as Vacant Industrial (42.8%). Most of the non-vacant parcels are for Warehousing or Storage Uses (42.3%). Approximately 9.2% of the remaining land is for Light Industrial uses, and 5.7% of the land is for Heavy Industrial. There is 8.8 million square feet of developed building area.

Table 2-20 Industrial Parcel Summary

Type	DOR Code(s)	# Parcels	Parcel Area (acres)	% Ind. Area	Building Size (SqFt)
Vacant	4066, 4081	85	290.8	42.8%	-
Warehousing/Storage	4837, 4937	121	288.0	42.3%	6,431,449
Light Industrial	4132, 4311, 4632	42	62.7	9.2%	1,536,703
Heavy Industrial	4236	10	38.8	5.7%	861,427
Total	-	258	680.2	100.0%	8,829,579

PROPERTY VALUES

The approximate Industrial property value is approximately $1 billion between market and assessed values. The land value is appraised at an estimated $610 million, and the building value at $432 million.

Table 2-21 Industrial Property Values

Type	Land Value	Building Value	Market Property Value	Assessed Property Value
Vacant	$122,312,596	$346,180	$122,658,776	$98,188,153
Warehousing/Storage	$219,618,443	$198,057,652	$417,676,095	$389,819,275
Light Industrial	$56,407,372	$36,205,968	$92,613,340	$80,033,713
Heavy Industrial	$211,739,293	$197,824,921	$409,564,214	$387,599,512
Total	$610,077,704	$432,434,721	$1,042,512,425	$955,640,653

2.11.6. Government

PARCEL SUMMARY

There are 193 Government parcels totaling 2,725.65 acres within the study area. A majority of the parcels are non-vacant (87%), leaving 13% of the parcels vacant. There is 11 million square feet of building area.

Table 2-22 Government Parcel Summary

Type	DOR Code(s)	# Parcels	Parcel Area (acres)	% Gov't Area	Building Size (SqFt)
Vacant	8040, 8063, 8065, 8066, 8080, 8081, 8099, 9980	193	359.8	13.2%	-
Non-Vacant	8348, 8637, 8647, 8663, 8786, 8799, 8940	49	2,365.7	86.8%	11,043,554
Total	-	196	2,725.5	100%	11,043,554

PROPERTY VALUES

The approximate Government property value is $1.3 billion between market and assessed values. The land value is appraised at an estimated $419 million, and the building value at $870 million.

Table 2-23 Government Property Values

Type	Land Value	Building Value	Market Prop. Value	Assessed Prop. Value
Vacant	$154,347,176	$1,524,632	$155,871,808	$150,906,378
Non-Vacant	$266,717,974	$869,885,301	$1,136,603,275	$1,131,731,136
Total	$421,065,150	$871,409,933	$1,292,475,083	$1,282,637,514

2.11.7. Other

The Other property use category contains uses that do not clearly fall into the residential, commercial, mixed use, office, industrial, or government use categories.

PARCEL SUMMARY

There are 140 Other parcels totaling 635.8 acres within the study area. Transportation-related parcels comprise nearly 40% of this category, followed by Other (25%) and Healthcare/Religious/Education parcels. Less than 1% of the parcels were classified as Entertainment. There is 5.3 million square feet of building area in this category.

Table 2-24 Other Parcel Summary

Type	DOR Code(s)	# Parcels	Parcel Area (acres)	% Area	Building Size (SqFt)
Transportation	2061, 9464, 9751, 9862	70	249.30	39.2%	3,254
Entertainment	3315, 3415, 3515	3	3.8	0.6%	49,666
Hotel/Motel	3917, 3921, 3922	21	128.8	20.3%	4,065,050
Healthcare/Religious /Education	7144, 7241, 7343, 7443, 7503, 7612, 7654, 7742	27	60.8	9.6%	653,659
Utility	9113, 9163	5	33.15	5.2%	542,014
Other	7950, 8240, 9591, 9592, 9981	14	159.8	25.1%	4,506
Total	-	140	635.8	100.0%	5,318,149

PROPERTY VALUES

The approximate Other property value is approximately $528 million between market and assessed values. The land value is appraised at an estimated $163 million, and the building value at $358 million.

Table 2-25 Other Property Values

Type	Land Value	Building Value	Market Property Value	Assessed Property Value
Transportation	$645,110	$143,986	$789,096	$703,766
Entertainment	$3,868,792	$3,064,143	$6,932,935	$6,159,968
Hotel/Motel	$94,129,498	$285,517,470	$408,646,968	$381,948,148
Healthcare/Religious/ Education	$37,199,862	$34,549,842	$71,749,704	$60,590,261
Utility	$14,976,616	$34,762,985	$49,739,601	$47,369,104
Other	$12,380,900	$382,883	$12,763,783	$8,591,855
Total	$163,200,778	$358,421,309	$550,622,087	$505,363,102

3. Needs Analysis

Using the results of the Corridor Profile and previously developed Transit-Oriented Development (TOD) guidelines, the Needs Analysis identifies areas that would be appropriate for TOD that will support a rapid transit system through the East-West Corridor.

3.1. Baseline Conditions Analysis

As a result of the Corridor Profile, the following baseline conditions were identified:

- All three major roadways traversing the corridor are heavily congested, operating at LOS F.
- The corridor is generally auto-centric. A variety of parking options are available to serve the needs of vehicles, ranging from parking at the MIC, parking garages at FIU, and other surface and on-street parking lots.
- Land uses are divided by SR 836/Dolphin Expressway. Uses north of the Dolphin Expressway are predominately industrial and commercial, and made up of industrial warehouse districts and two regional shopping malls. Uses south of the Dolphin Expressway are generally residential with single-family homes and low-rise multi-family units and condominiums.
- Most of the employment is either Wholesale and Warehousing within the Warehouse District, Retail concentrated at the two regional malls, and Professional and Business Services at the office complexes located within the corridor. Other employment centers to note are FIU and MIA.
- There is a large minority population (96%), and nearly one third of the population does not speak English at all or well.
- Most of the housing is multi-family or condominiums (85%).
- Nearly 25% of the population is below the poverty level.
- The transit-dependent population is largely located in the southwest portion of the corridor.

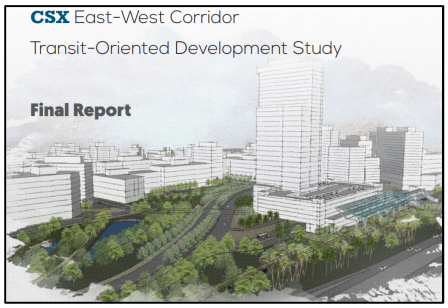
3.2. Local TOD Guidelines

In addition to the Literature Review summarized in Section 1.5, four existing TOD guidelines developed for the area were reviewed, and are summarized in this section. The four documents reviewed were:

- CSX East-West Corridor TOD Study (2016): Identified land use measures necessary to promote TOD and recommended transit station locations.
- Palmer Lake Charrette Area Plan (2012): An Area Plan developed as a result of a charrette process with residents and stakeholders within the corridor, highlighting TOD opportunities.
- Miami 21 (2016): The City of Miami's zoning code, which includes several TOD provisions.
- FIU Campus Master Plan (2010-2020): Includes parking, design, and TOD-supportive policies.

As a result of the review, it is evident that a policy foundation has been set for the corridor to move forward with TOD within the corridor.

3.2.1. CSX East-West Corridor TOD Study (2016)



The purpose of this report was to identify the land use measures necessary to promote TOD at identified station areas along the East-West Corridor in an effort to advance a viable premium transit corridor. Building upon previous studies' efforts, this study identified TOD opportunities that will improve the link between existing transit demand and land use development throughout the corridor. The following TOD opportunities and constraints were recognized in this study:

- Limited pedestrian connectivity from existing neighborhoods. Many of the residential developments were constructed around man-made lakes and golf courses, disconnecting them from the overall roadway network. This limits the pedestrian activity and concentrates vehicle flows to major arterials.
- Transit continuity is present to warehouse districts and employment centers. The corridor provides access and links to large employment centers in the region (MIA, Doral, Blue Lagoon, Downtown Miami, Health District), tied together by the MIC.
- Key success factors for TOD. Key success factors include: land use, political support, supporting anchor institutions, locally adopted plans and policies, and developer interest or capability.

- Land use patterns have hindered transit planning efforts to date. The corridor has TOD potential due to its significant job and employment concentrations, but land use patterns have served as a hindrance causing relatively little transit coverage for the area.
- Initial station locations. The following four station locations were identified as having high ridership potential and the strongest opportunity to sustain TOD:
    - NW 82nd Avenue: identified as the best location for short term development (5 years) due its pedestrian-friendly environment.
    - NW 107th Avenue: identified for its long and short term development potential. It is near two regional attractors (Dolphin and International Malls), and has over 40 acres of adjacent land adjacent to the station location. However, the existing auto-oriented urban form is a challenge for this station.
    - Dolphin Station: Park-and-ride and transit terminal is scheduled for this location, located at the northwest corner of HEFT and the Dolphin Expressway. Has close proximity to two major highways providing for accessibility for north-south commuters.
    - NW 137th Avenue: this will serve primarily as a park-and-ride station for local neighborhoods.
- Secondary station locations: NW 57th Avenue, NW 72nd Avenue, NW 97th Avenue

3.2.2. Palmer Lake Charrette Area Plan (2012)

The Palmer Lake Charrette Area Plan presents recommendations developed from the Palmer Lake Charrette, which was series of meetings for property owners, area residents, business owners, and other stakeholders to share their vision for the future of the Palmer Lake area. The following TOD opportunities were identified in this plan:

- Pedestrian-oriented and mixed-use development of the MIC Core area. The approximately 35 acres east of MIC was identified as the 'Core' in this plan, and includes the MIC joint development area and extends east to about NW 35th Avenue. It is recommended that since this area adjoins the most pedestrian-oriented portions of the MIC, future development that occurs here should be pedestrian-oriented as well. Specific design standards recommended for the MIC Core include:
    - Lower floors of buildings should fill their entire lot, or be placed along the perimeter of the property
    - Ground floors should be occupied by uses that provide interest for passing pedestrians
    - Primary building entrances should be located near the property line, facing the primary adjoining street
    - Parking and service areas should be internalized and screened from surrounding streets
    - Sidewalks should be at least 15 feet in width
    - The minimum floor area ration (FAR) should be greater than 3.0
    - A network of elevated walkways extending from the Central Station throughout the Core area should be developed
- Redevelopment of the Bertram property potential. Continued use and expansion of the property as a boat manufacturing or other industrial facility should be allowed. However, if some or all of the industrial activity is relocated from this property, it would serve as an excellent opportunity for redevelopment due to its exceptional location, access size, and proximity to the MIC.
- Redevelopment of the Gumberg and Hertz properties. These properties located between NW 22nd and 24th Streets and 36th and 37th Avenues total approximately 7 acres are currently used as for surface parking. These properties would be more suitable for hotel and street facing retail uses.

- Other redevelopment properties. The following list of properties were also recognized for their redevelopment potential:
    - Alamo property (former Alamo Rent-a-Car, approximately 7 acres)
    - National property (former National Car Rental)
    - MDT or Miami-Dade DTPW property (approximately 3 acres)

3.2.3. Miami 21 (2016)

Miami 21 is the City of Miami's zoning code, which was most recently amended in May 2016. The code includes building design criteria, parking standards, site design criteria, and bicycle and pedestrian elements that promote TOD. The following provisions of the code support TOD:

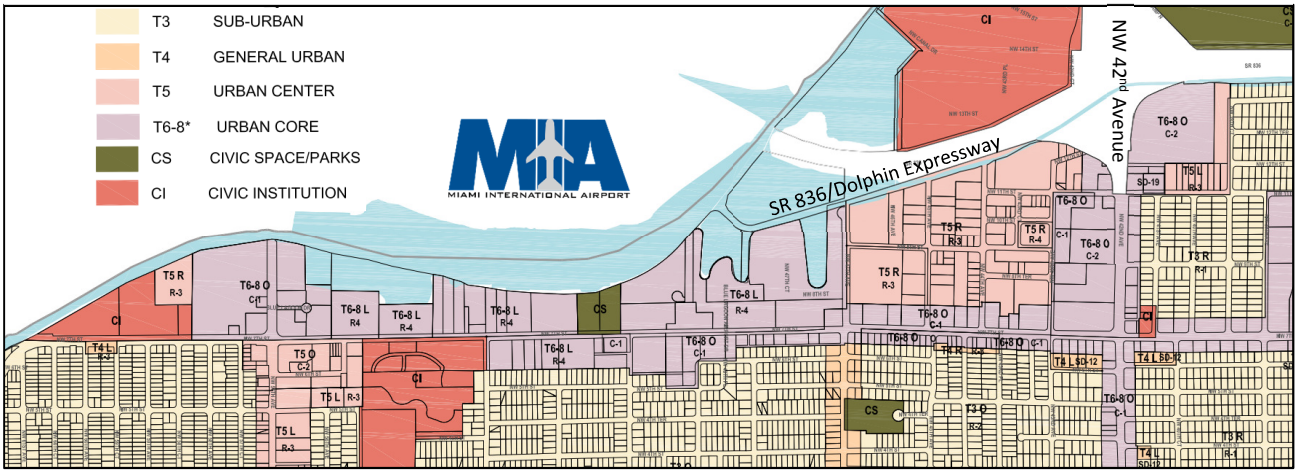
- 2.1.3.1 The City – Guiding Principles
    - b. Growth strategies should encourage infill and redevelopment.
    - c. New Development should be structured to reinforce a pattern of Neighborhoods and urban centers, focusing growth at transit nodes rather than along Corridors.
    - f. The City should include a framework of transit, pedestrian, and bicycle systems that provide alternatives to automobile use.
- Article 4, Table 5. Shared Parking Standards. Provides a method for calculating shared parking for buildings with more than one Use type.
- Article 4, Diagram 11 Transit Oriented Development. Portrays the Official Miami 21 TOD diagram depicting future transit sheds, ½ mile transit sheds, and ¼ mile pedestrian sheds. The MIC Station is identified on this diagram.
- Article 4, Table 12 Design Review Criteria.
    - Articulate Building Façade at street level to recognize pedestrian continuity and interest
    - Design Facades that respond primarily to human scale and promote pedestrian interaction
    - Minimize the impact of automobile parking and driveways on the pedestrian environment and adjacent properties, especially T3 areas
    - For pedestrian and vehicular safety, minimize conflict points such as the number and width of driveway curb cuts
    - Minimize off-street parking adjacent to a thoroughfare front, and where possible locate parking behind the building

In addition to zoning, Miami 21 includes Transects or Form-Based Zoning codes as a method of regulating development to achieve a specific urban form. Generally, the properties within the City of Miami within the corridor fall within Transects 3 through 6 ('T3', 'T4', 'T5', 'T6') and CI. An image of these transects along SR 836/Dolphin Expressway within the corridor is provided in

Figure 3-1. Transects 3 and 4 cover primarily the residential land cover of the corridor, and Transects 5, 6, and CI apply to the mixed-use, office, industrial, and commercial land cover of the corridor. The following selected provisions within these transects also serve as TOD guidelines for the corridor:

- Transect Zones T5, T6, CI buildable sites shall front a vehicular Thoroughfare or a Pedestrian Passage, with at least one Principal Frontage.
- Off-street bicycle parking shall be provided for all T4, T5, T6, and CI zones
- Design conflict between vehicular, bicycle, and pedestrian movement should be decided in favor of the pedestrian.
- T4 - T6: Surface parking lots, garages, loading space, and service areas shall be masked from the Frontage by a Linear Building or Streetscreen.
- T4 – T6: The Facades on Retail Frontages shall be detailed as storefronts and glazed with clear glass no less than 70% of the Sidewalk level Story.
- T5, T6: Buildings shall have their principal pedestrian entrances on a Frontage Line or from a Courtyard at the Second Layer.
- T5, T6: At the first Story, Facades along a Frontage Line shall have frequent doors and windows; pedestrian entrances shall occur at a maximum spacing of 75 feet
- T5, T6: For sites with 340 feet Frontage length or more, a cross-block passage shall be provided.

Figure 3-1 Miami 21 Atlas Reference



3.2.4. FIU Campus Master Plan (2010 – 2020)

The currently adopted FIU Campus Master Plan (CMP) was reviewed for existing TOD guidelines, with selected excerpts from the CMP summarized below. Overall, the CMP emphasizes locating automobile uses on the edges of campus, connecting to future transit hubs and opportunities, promoting bicycle and pedestrian connections, and utilizing landscape design and placemaking techniques to promote TOD. The CMP identifies Parking Garage 6 (PG6) as the transit hub, consistent with the Panther Station detailed in Section 2.9.3 of this report.

- 3.0 Urban Design Element
    - Goal: Focus on improving walkability by providing comfortable, shaded, and direct circulation opportunities. As FIU continues to grow, and parking is concentrated at the periphery of each campus, improving walkability will be a critical component.
    - Policy 1.1.4: Promote bicycle, pedestrian, and mass transit connectivity between the university community and recreational facilities.
    - Policy 1.2.14: Create an enhanced transit stop with one articulated and one regular bus stop with covered seating and landscape along SW 107th Avenue to allow for enhanced connectivity to public transportation.
    - Policy 1.7.1: Create effective and continuous pedestrian and visual linkages with strong axial orientations. Enhance these linkages with canopy trees, building placement and articulation, varying landscape features, and strategically located art pieces.
    - Policy 1.7.2: Create a system of interconnected covered walkways, both architectural and landscape, to link facilities.
    - Policy 1.7.4: Cluster academic and support functions with buildings and academic neighborhoods that are characterized by compactness, compatibility of use, continuous pedestrian corridors, and covered walkways.
    - Policy 1.7.5: Distribute campus parking outside the academic core to minimize pedestrian-vehicle conflicts, walking distances, and promote a pedestrian-oriented campus.
- 11.0 Transportation Element
    - Goal 1.1 Transit: FIU will continue to develop, operate, and maintain a multi-modal circulation system.

- Objective 1.1.1 Transit: FIU will coordinate with MDT and local/host communities to determine the best and highest use for the transit proposed to serve the campus.
- Policy 1.1.1.2: Maintain existing transit hub and evaluate relocation to PG6 pending support from MDT.
- Policy 1.1.1.4: Encourage MDT to continue increased frequency of service and provide express bus service, weather-proof shelters, and weather-proof access to transit terminals.
- Policy 2.1.1.1: Enhance pedestrian and bicycle facilities that improve connectivity to host communities and local/regional transit facilities.
- Policy 2.1.1.4: Realign current campus loop road to traverse between Panther Garage and Carlos Finlay Elementary School and connect to the improved SW 115th Avenue.
- Policy 3.1.1.4: Parking structures and surface lots shall be designed with internal walkways to be fully integrated with the campus pedestrian and traffic circulation system.
- Policy 3.1.2.3: Transit in Lieu of Parking – Provide annual or semester passes for public transit to students rather than a parking pass.
- Policy 3.1.2.4: Improving Transit Facilities - Provide user-friendly transit stop locations on campus that are inclement weather protected and encourage usage.
- Policy 3.1.2.9 Transit Oriented Development – Introduce TOD in the planning study areas to encourage transit ridership.

4. Conclusion and Next Steps

This SMART Plan Corridor Inventory provided a preliminary inventory of demographic, socioeconomic, land use, and existing policies for the East-West corridor. The findings in this report will be used in the further development of a rapid transit system that will provide multimodal solutions for severe traffic congestion along SR 836, and serve major activity centers including FIU, the MIC, the future Dolphin Station, and major employment areas within the corridor.

This report will serve as the baseline analysis for the development in the next step of the SMART Plan development, which is the East-West Corridor Land Use Scenario and Visioning Plan. The Land Use Scenario and Visioning Plan will provide the technical basis for the development of transit supportive land uses in the East-West Corridor.