



## Responsible Land Use & Smart Transportation

America benefits from great quantities of land, which is reflected in suburban land development patterns across our country. Our population continues to grow, but so does our understanding of sustainable development. As a nation, we are trying to shift from unsustainable sprawl to a more compact, efficient, and urban paradigm that increases our individual and collective quality of life while reducing greenhouse gas emissions. Transit and other alternative modes of transportation such as walking or biking, must support these land-use patterns. Miami-Dade County is no different than fellow cities and counties struggling with how to transform existing land development and transportation infrastructure to meet a more sustainable standard of design. Along with the rest of the nation, we are struggling with how to creatively fund mass-transit improvements. This goal area acknowledges new federal livability priorities and lays forth a plan to address local challenges both internal to County operations and external for municipalities and our development industry. It lays out a vision but understands the realities that we face, taking gradual steps to move us in the right direction. Change is difficult, but progress is necessary if we are to provide for quality of life through walkable communities, long-term housing solutions, affordable housing and transportation costs, and preservation of open lands that provide water, natural resources and resistance to climate change.

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### Goals

- **Use our land wisely, creating and connecting strong sustainable neighborhoods**

*Develop 15 urban center area plans and six multi-modal corridor master plans. Create four transit-oriented developments (TODs) on heavy rail and bus corridors. Develop level of service metrics to identify resident accessibility to parks and open space areas. Improve access through an interconnected network of shaded and safe bikeways and trails connected to neighborhoods, schools, employment centers, civic buildings, and other community destinations*

- **Provide more transportation options, reducing the time we spend in our cars.**

*Add 10 million boardings to our public transportation system through increased services, and enhancing convenience, comfort, and timely service. Increase the percentage of total trips taken by walking or bicycling from 10 percent to 16 percent of all travel trips. Increase resident satisfaction with the availability of sidewalks for pedestrians to 65 percent or more and add 40 miles of bicycle trails and lanes.*





## RESPONSIBLE LAND USE & SMART TRANSPORTATION

"Historically, we have rebuilt our nation every 50 to 60 years...The choice is ours: either a society of homogeneous pieces isolated from one another in often fortified enclaves, or a society of diverse and memorable neighborhoods organized into mutually supportive towns, cities and regions"

- *Suburban Nation*, Andres Duany, Elizabeth Plater-Zyberk and Jeff Speck

## Strengths & Accomplishments...Opportunities & Actions

### It is up to us to use our land wisely

Recent studies have analyzed the direct relationship between land use practices and greenhouse gas emissions, estimating that the five "Ds" of compact development— density, diversity, design, destination, and distance to transit—can lead to 12 to 18 percent reductions in vehicle miles travelled by 2050. (Urban Land Institute 20)

Miami-Dade County encompasses more than 2,000 square miles of land, including 418 square miles of urban development, cradled between two national treasures: Biscayne National Park and Everglades National Park. The County establishes, through its Comprehensive Development Master Plan (CDMP), general objectives and policies addressing where and how land development and conservation should occur during the next 10 to 20 years. The CDMP provides a framework for sustainable development by providing land capacity to meet projected needs while preserving wetlands and agricultural areas, and protecting wellfields for drinkable water.

The CDMP calls for the establishment of a more compact and efficient urban form within the County's Urban Development Boundary (UDB). More specifically, the CDMP states that "the location and configuration of Miami-Dade County's urban growth through the year 2025 shall emphasize concentration and intensification of development around centers of activity, development of well-designed communities containing a variety of uses, housing types and public services, renewal and rehabilitation of blighted areas, and contiguous urban expansion when warranted, rather than sprawl."

*"The suburban model is not sustainable"*

- *Marc LaFerrier, Director, Miami-Dade Department of Planning and Zoning*

Successful implementation of this and other visionary objectives of the CDMP require a heightened level of coordination between all County agencies. The CDMP also calls for a better integration of land use development and the transportation system, recognizing the need to effectively link neighborhoods, urban centers, employment centers and other major destinations.

### How are the Comprehensive Development Master Plan and *GreenPrint* connected?

Miami-Dade County is in the process of adopting its Evaluation and Appraisal Report (EAR) for the CDMP. The EAR adoption process is expected to be completed in early 2011. It contains an analysis of goals, objectives, policies and major issues, as well as, recommendations to amend the CDMP. Many of these amendments, such as those related to climate change, increasing transit ridership and directing infrastructure to urban centers, will establish new policies or modify existing polices to further initiatives in *GreenPrint*.

### Transportation must support our land use patterns

An effective transportation network is a cornerstone of a livable and sustainable community. It determines the mobility of the community and is one of the main considerations when choosing a place to live. Access to public transportation and the ability to bike and walk as a transportation option have been identified by many public surveys as indicators residents use to assess the quality of life within a community. Because passenger cars are one of the greatest contributors to air pollution and greenhouse gas (GHG) emissions in Miami-Dade County, the overall health of our community is intimately linked to the movement of people and goods throughout the network. In addition, all indicators regarding congestion and the amount of time we spend in our cars continue to climb.

According to the 2009 Urban Mobility Report, Miami-Dade is the fifth most congested metropolitan area in the nation in terms of travel time. In 2007 the financial cost of congestion experienced by County residents amounted to approximately \$3.0 billion, and resulted in excess fuel consumption of 102 million gallons. As the population of Miami-Dade County continues to grow, so does the demand on the existing transportation system, which requires innovative investments and collaborative strategies to curtail the rising cost of congestion (MPO, "Near Term Transportation" 1).



Currently, the primary tool for implementing these development strategies is through the adoption of transit oriented development (TOD) plans and rezonings in areas designated as urban centers. Miami-Dade County's TOD process has been in place for only 11 years and has already had considerable success. Over 7,600 dwelling units and 1.3 million square feet of commercial development have been approved in urban centers that were part of this planning effort.

Another critical piece of the formula, the efficiency of vehicles operating on our roads, is set by federal fuel efficiency standards. While these standards set the minimum allowable fuel efficiency, opportunities remain to encourage the purchase of more efficient vehicles for both government and private use. Other elements of a strong network, such as the structure and functioning of our roadways and public transportation, are directly addressed by the County through the institution of policies, goals, objectives, and measures set forth in several County plans.

## Our Transportation System and Priorities

Miami-Dade Transit (MDT) is the largest transit agency in Florida, providing 40 percent of the trips taken on public transit in Florida last year. The system consists of a 22-mile heavy rail rapid transit system, a downtown people mover system, a South Dade Busway, which is the longest Bus Rapid Transit system in Florida, an extensive bus system with more than 900 buses operating on 90 routes, and a Special Transportation System. Together these modes comprise an integrated system that carries more than 326,000 daily passenger boardings.

### Connecting People to Transportation Options

#### Corridors

With limited funding for new capital projects and increasing operation and maintenance costs, the current transit priority is improving services and developing ridership within major corridors so that premium transit service such as bus rapid transit or a rail transit system can be implemented successfully when feasible. An example of this incremental approach to premium transit is in the recent improvements on the Kendall Corridor. In June 2010 MDT implemented enhanced bus service with articulated hybrid buses, improved transit stops, Wi-Fi, Traffic Signal Priority, future park and ride lots and improved headways. Major corridors targeted for improvements are presented in the map at the end of this section.

#### Focusing on Centers

The CDMP calls for development and redevelopment to occur along transit corridors and designated urban centers. Urban centers are designed to contain businesses, employment, civic, and/or high-or moderate-density residential uses within walking distance from transit stations. Roadways and other structures within the centers are designed to encourage pedestrian activity, safety and comfort. The proximity of housing and retail allows residents to walk or bike for some daily trips and encourages transit use for commuting. Ultimately, these centers are hubs for development intensification in Miami-Dade County, around which a more compact and efficient urban structure will evolve. Designated urban centers are illustrated by map at the end of this section.

Rapid transit station sites and their vicinity are developed as urban centers. The developments in these areas are termed transit-oriented development (TOD). Types of TOD projects include large commercial and market-rate residential projects, such as at Dadeland South and Dadeland North Metrorail stations, government office buildings at four Metrorail stations,

and residential, mixed-use developments (affordable, workforce, or elderly housing units with retail spaces). Current and future housing TOD projects are identified by a star in the map at the end of this section.

### Connecting our economic engines

The efficient movement of goods and people into and out of our ports, both airports and seaports, is critical to our economic growth and to reducing our local GHG emissions. Miami International Airport (MIA) is the largest U.S. gateway for Latin America and the Caribbean and is one of the leading international passenger and freight airports in the world. The Port of Miami (POM) is geographically the first major Atlantic port in the U.S. for shippers using the Panama Canal and is expected to be a preferred port of call for larger New Panamax vessels following the widening of the canal by 2014. The projects below will improve freight movement thereby reducing freight congestion and GHG emissions from local roads.

#### Connecting Port and Rail

Federal funding was recently awarded that will allow for movement of freight by rail. The project has a total estimated cost of \$47 million. It includes reconstructing the existing underutilized rail line from the POM to the main Florida East Coast (FEC) Railway line, and the construction of an on-port intermodal yard. The new rail link will provide access to the Hialeah intermodal rail yard terminal, which connects to rail yards in Jacksonville, providing a tie-in to the national rail system. This project is expected to be completed in 2014 contributing to several sustainability goals :

- Avoiding 34 million gallons of fuel and 200,000 tons CO2 over the next 20 years
- Increasing container traffic by 15 percent through improved access
- Adding 822 construction jobs to the local economy
- Improving local redevelopment through increased pedestrian traffic and overall activity
- Increasing transportation choices with the potential future passenger rail service on the FEC corridor and linkage to the Metrorail

#### The Port Tunnel

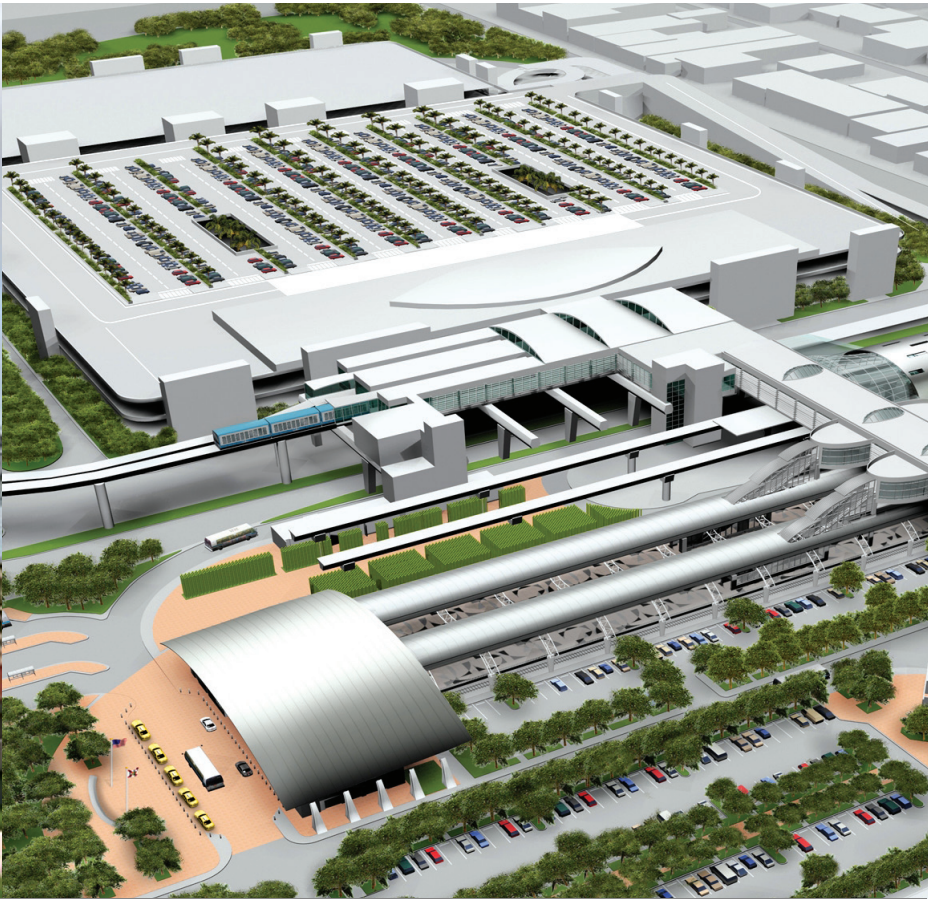
The Port Tunnel between the POM and the MacArthur Causeway will remove much of the truck traffic from downtown streets, and will provide direct freeway access to and from the POM, improving its competitive advantage among other ports. The tunnel will serve as a dedicated roadway connector linking the seaport with the MacArthur Causeway and Interstates 395 and 95. Twin tubes, each 3,900 feet long and 41 feet in diameter, will reach a depth of 120 feet below the water. Construction on the project, which began in 2010, includes roadway work on Dodge and Watson Islands and widening the MacArthur Causeway Bridge. The project is expected to be completed by spring 2014 at a cost of \$610 million.

**“If you build near it, they will ride.”**  
-Debbie Griner, GreenPrint planning team

Passenger boardings at the Santa Clara Metrorail Station increased in excess of 90 percent following the full occupancy of housing units completed in 2006. The project included a nine-story and a 17-story building with a total of 412 affordable rental apartments.



Florida East Coast Railway rail line entering the Port of Miami



Miami-Intermodal Center



Viaduct

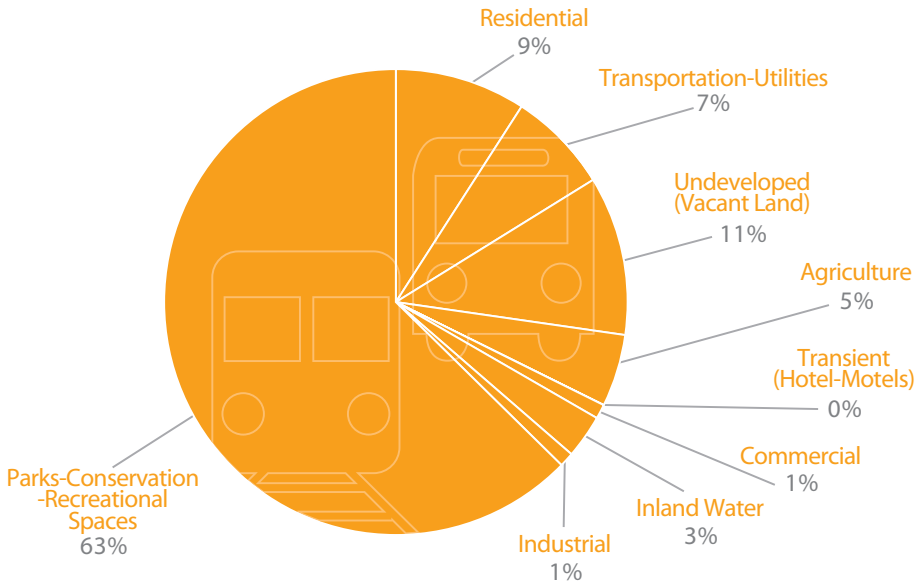
The NW 25th Street Viaduct project will improve the movement of trucks carrying freight between MIA West Cargo Area (WCA) and off-airport freight distribution and consolidation facilities, such as warehouses, bonded warehouses, and truck transfer stations. The two main project components along an approximately two-mile corridor are (1) reconstructing and widening the NW 25th Street roadway, including intersection and signalization improvements and (2) constructing a new viaduct (an elevated bridge) for dedicated air cargo transport. The first (eastern) phase of the project is under construction and includes the roadway improvements and viaduct construction from MIA’s WCA to the Palmetto Expressway (SR-826). The second phase extends the roadway improvements to NW 87th Avenue and completes the viaduct construction west from the Palmetto Expressway to NW 82nd Avenue. Phase 1 is expected to be completed in 2011 at a cost of \$117.7 million. Phase 2 is expected to be completed by 2016 at an estimated cost of \$85 million. The project is expected to achieve an overall reduction of more than 19,000 tons of carbon emissions and a fuel cost savings to the freight industry of \$630,000 annually, rising to 21,400 tons of carbon emissions and a fuel cost savings to the freight industry of \$705,000 by 2035.

The Miami-Intermodal Center

The Miami Intermodal Center (MIC) is a massive transportation hub being developed across from MIA by the Florida Department of Transportation (FDOT) and upon completion will be the largest surface transportation investment made by the federal government. It will provide connectivity among all forms of ground transportation available in the County, while decongesting the streets in and around the airport. The MIC Program consists of major roadway improvements which were completed in May 2008, the Rental Car Center (RCC) which opened for business on July 13, 2010, the MIA Mover, set to be operational in the fall of 2011, and the Miami Central Station, scheduled to be completed by 2013. The Miami Central Station, Miami’s version of the Grand Central Station, will provide choices and connections for transportation customers between: Amtrak and regional rail systems; Greyhound and city buses; and shuttles and taxis. The facility will also provide seamless transfers for travelers in private passenger vehicles, bicycles and for pedestrians. A key element in the MIC Program is its Joint Development strategy. The Joint Development component of the MIC Program consists of public and private ground lease development opportunities for offices, hotel and meeting space, parking, ancillary retail, and restaurants.

Sustainability benefits will be multiple. Vehicle trips will be avoided due to mass transit connections, and RCC will reduce pollution from the airport’s core. Rental car shuttles will be replaced by the MIA Mover, eliminating more than half a million shuttle bus trips to off-site rental car companies each year. With rental cars and their shuttles absent from the airport’s arrival deck, curbside traffic will be reduced by 30 percent.

Miami-Dade County Existing Land Uses



Source: Department of Planning and Zoning

Geographically, the County is constrained by the presence of the Everglades to the west, Biscayne National Park to the southeast, Big Cypress National Preserve to the north and the Atlantic Ocean to the east. While approximately 62 percent of the County land area is park land or conservation uses, today’s population is confined to less than 25 percent of the County’s 2,000 square mile land area. Considering projected population growth of 30,000 people per year, the County clearly needs to grow in a more sustainable and compact form as opposed to sprawl.

This goal area seeks to create and connect communities where residents live, work and play. The land-use initiatives focus on the best uses of land within the UDB with the aim of making our communities more walkable and connected by a variety of public transportation options. Smarter development will help us prepare for the projected depletion of single-family residential land by 2015. Given that 68 percent of our residents have never used mass transit according to our 2008 resident satisfaction survey, we have hard work ahead.

Strategies

- Better integrate planning and prioritize investments
- Support existing communities and value neighborhoods
- Increase bicycling & walking
- Increase transit ridership
- Improve connectivity and mobility on the existing system

Our land outside of the UDB also requires careful planning considering the importance of environmental and agriculture lands. We acknowledge that much, if not all, can be achieved through the CDMP; the challenge is to correct the disconnects in the overall process from planning to implementation.

There are several initiatives below that tackle the hurdles in the County’s internal development process in order to make the process consistent with the CDMP and the Board’s intent. Our challenge is to simplify the process, not to complicate it; to shift the practices to the urban model called for in the CDMP and not the traditional suburban model that has been the practice.

Responsible Land Use and Smart Transportation Initiatives:

1. Better integrate planning and prioritize investments

- Coordinate among the County departments and other agencies in implementing the CDMP and the County code
- Increase transit-oriented development
- Develop Corridor Master Plans modeled after the community based area planning process and designed to address the Federal Livability Principles
- Establish a uniform set of criteria for departments to follow in developing budget priorities as part of the County’s capital budget planning process - These criteria should include sustainability benefits and compliance with the CDMP
- Develop a map illustrating the location of capital improvement projects in comparison to areas designated in the CDMP for re-development, i.e. urban infill areas and urban centers for use by departments in planning and prioritizing infrastructure investments
- Better integrate land use and transportation planning modeling for the long-range transportation planning process
- Evaluate shifting current revenue streams to include funding of transit operations and maintenance and other sustainable modes
- Study innovative funding sources and mechanisms to support Miami-Dade Transit operations and maintenance costs and for capital improvements

2. Support existing communities and value neighborhoods

- Continue to promote infill development by exploring incentives and addressing costs of infrastructure
- Examine innovative options for infrastructure cost sharing mechanisms (consider public private partnerships, re-examine impact fees)
- Prioritize infrastructure and service delivery to infill and redevelopment areas consistent with the CDMP (water & sewer, parks, roadways, schools, etc.)
- Examine the potential barriers to living in urban centers and infill areas including public safety perceptions and access to schools and food, among others
- Provide for neighborhoods where residents can walk or bicycle to carry on their daily needs
- Update existing County and municipal regulatory criteria to provide for housing diversity
- Coordinate school locations with Miami-Dade County Public Schools and provide the regulatory criteria for all other schools to assure that these facilities are within reasonable walking or biking distance from the residential communities they serve
- Establish additional meaningful open space and recreation areas through cooperative land use and joint-development programs with schools, libraries, cultural areas, and other civic/institutional places
- Develop regulations and programs that promote connectivity, pedestrian movement and lower vehicular speeds
- Explore redfields to greenfields options (Red Fields to Green Fields seeks to convert vacant and financially distressed commercial property into urban parks.)

*“The Kendall Cruiser offers commuters a convenient and greener alternative to driving on Kendall Drive. By taking the Kendall Cruiser, residents can enjoy a stress-free ride to work while reducing their carbon footprint.”*

**- Harpal S. Kapoor, Miami-Dade Transit Director**

**3. Increase bicycling & walking**

- Implement Complete Streets initiative – “Complete Streets” allow for safe, comfortable travel by all users, including pedestrians, bicyclists, public transportation riders and drivers, and people of all ages and abilities, including children, youth, families, older adults, and individuals with disabilities.
- Implement the Bicycle & Pedestrian Facilities Plan, prioritizing projects and securing funding
- Conduct non-motorized planning studies for corridors and urban centers
- Increase the number of safe walking and bicycling facilities as components of road improvement projects
- Fund and construct priority non-motorized multi-use trails
- Implement signage plans for multi-use trail and bike routes
- Establish criteria for the delivery of parks and recreational open spaces that are intended to encourage equitable access to neighborhood parks and open space as well as area-wide recreational activities for all County residents
- Provide or require bicycle parking and other end-of-trip facilities at public and private destinations
- Encourage municipalities to adopt the County’s bicycle parking ordinance
- Expand bicycle parking legislation to include showers and lockers for employees
- Increase integration of transit with pedestrian and bicycle trips
- Include designated bicycle space within Metrorail cars
- Improve bicycle parking at transit hubs
- Reduce the automobile parking requirements in the zoning code

**4. Increase transit ridership**

- Increase the number of enhanced bus corridors
- Increase the number of park and ride facilities
- Complete the Airport Link – connection of the Metrorail to Miami International Airport
- Improve the image of transit including social marketing campaigns to target different groups and make riding the bus and train ‘cool’- in particular, marketing efforts to non-transit dependent population
- Improve real or perceived problems with safety and cleanliness
- Increase technology features, including real time bus signage and Wi-Fi
- Establish and implement minimum standards to enhance routes within a quarter mile of public transit stops to create safe, convenient, comfortable, and aesthetically pleasing access for bicyclists and pedestrians including the elderly and disabled

**5. Improve connectivity and mobility on the existing system**

- Continue to implement projects that improve connectivity and mobility between major economic drivers and major activity hubs such as the Port of Miami, airports, sports venues, and convention centers
- Continue implementing traffic system management solutions including improved signal timing
- Continue to pursue traffic demand management solutions such as ridesharing, congestion pricing, and high occupancy toll lanes providing express transit service
- Work in partnership with the Metropolitan Planning Organization and South Florida Commuter Services to expand carpooling and vanpooling programs
- Expand the express bus service between Miami-Dade and Broward counties through extending the I-95 managed/ express lanes from Golden Glades Interchange to I-595
- Explore feasibility of “pay for miles travelled” insurance

Land use and transportation form the foundation of our communities. They are directly linked to our quality of life and have the potential to create and connect vibrant sustainable neighborhoods. While Miami-Dade County is large and complex, we must continue to evolve our development patterns to better serve our existing residents and generations to come.

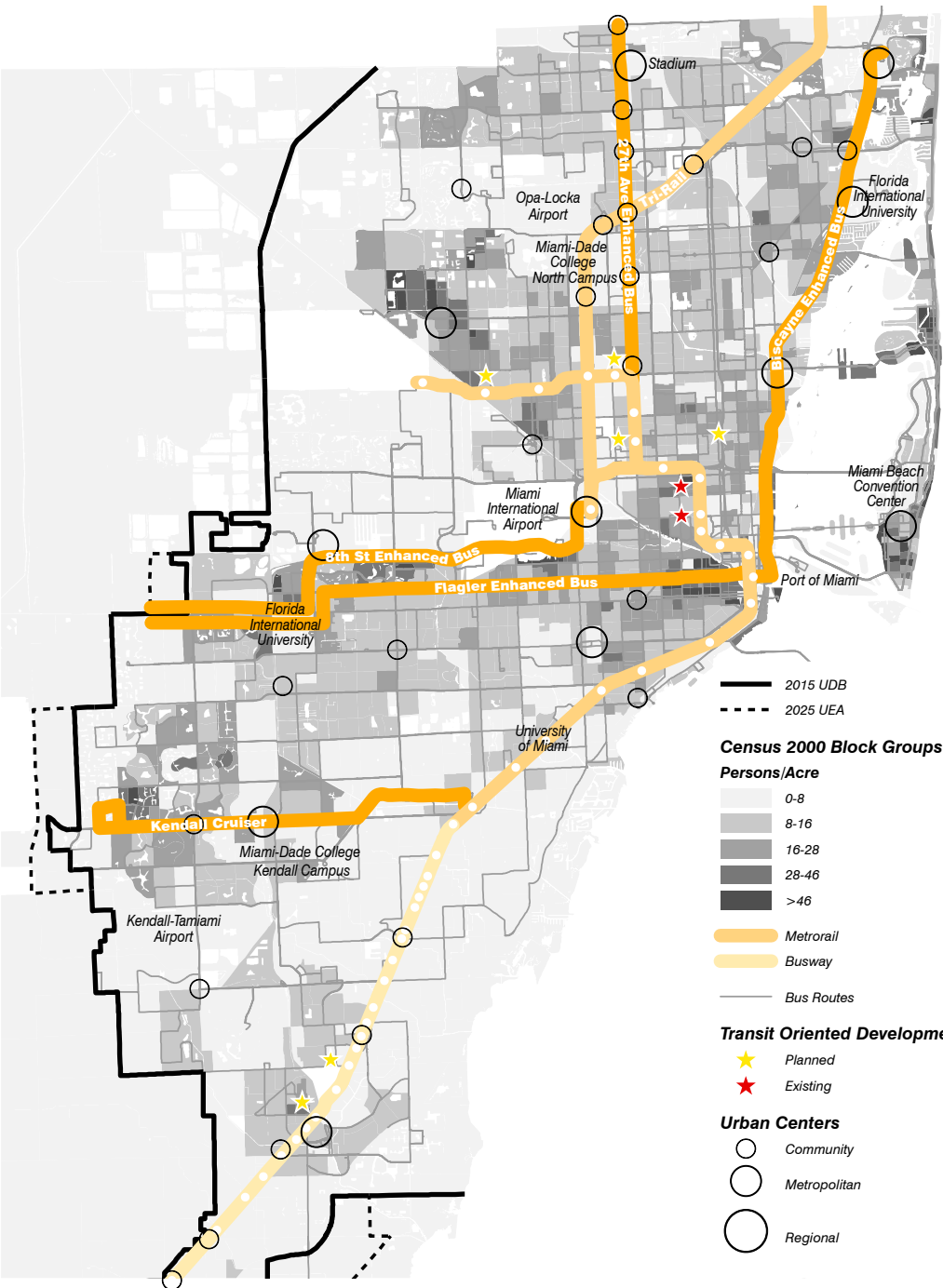
In June 2009, the Partnership for Sustainable Communities was formed by the U.S. Department of Housing and Urban Development, the U.S. Department of Transportation and the U.S. Environmental Protection Agency. These three agencies have pledged to ensure that housing and transportation goals are met while simultaneously protecting the environment, promoting equitable development, and helping to address the challenges of climate change. The following livability principles are guiding their work:



- Provide more transportation choices
- Promote equitable, affordable housing
- Enhance economic competitiveness
- Support existing communities
- Value communities and neighborhoods
- Coordinate policies and leverage investments

The Southeast Florida Regional Partnership was formed to work towards these livability principles on a local level and has added a principle to enhance community resiliency to the impacts of climate change. It is a growing partnership of more than 200 private and public stakeholders across a seven-county region led by the South Florida and Treasure Coast Regional Planning Councils.

The Partnership was awarded \$4.25 million on October 14, 2010, one of the highest amounts nationally. There is a clear and strong link between this regional effort and *GreenPrint* initiatives.



This map illustrates the County’s population density distribution and the Comprehensive Development Master Plan’s (CDMP) designated premium transit corridors and Urban Centers. The shaded areas of the map illustrate the current population density distribution, with the darker shades depicting the most dense areas of the County. The map serves as a tool to visualize where increased population could help to develop ridership to support investment in premium transit service such as bus rapid transit or a rail transit system. It also illustrates the CDMP’s Urban Centers strategy which seeks to establish self-sufficient and sustainable transit-oriented neighborhoods located along the premium transit corridors or transit hubs and that are connected to other parts of the county by effective public transportation options. In addition, the stars on the map represent the existing and planned transit-oriented development projects.