MIAMI-DADE COUNTY TRAIL BENEFITS STUDY

Ludlam Trail Case Study

MIAMI-DADE COUNTY PARK AND RECREATION DEPARTMENT

JANUARY 2011

AECOM

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EXECUTIVE *Summary*

TRAIL BENEFITS STUDY:
Ludlam Trail Case Study

PURPOSE

Residences of many cities and counties around the country have experienced benefits associated with shared-use paths and linear park spaces. From Portland, Oregon to Pinellas County, Florida, the benefits of trails and open spaces on social, environmental and economic conditions for all residents can be profound.

While many of the benefits of shared-use trails and linear parks are intuitive, most can be difficult to quantify without extensive baseline assessments prior to trail development. Building upon work completed for the Ludlam Trail Design Guidelines and Standards, the Miami-Dade County Trail Benefits Study uses Ludlam Trail as a case study to identify benefits associated with the development of shared-use non-motorized paths and trails which can be transferable to other similar corridors within Miami-Dade County.

The Miami-Dade County Trail Benefits Study will achieve this task by combining key methodologies for quantifying benefits associated with the development of shared-use paths with research completed throughout the United States and specifically for Miami-Dade County. These benefits have been compiled into one document for application throughout the County.

West Orange Trail near Winter Garden, FL within adjacent residential areas next to and facing out onto the trail

METHODOLOGY

Shared-use trails and linear parks can have significant positive impacts to the social, environmental and economic conditions of surrounding neighborhoods. While there is not a standard methodology to documenting these positive impacts, several quantitative techniques exist which have been utilized and documented for this study and include the following:

1.1 Existing Conditions Analysis

In order to conduct a comprehensive benefits study, the AECOM team completed a review of various regional planning and other guiding documents to ensure a coordinated effort to analyze stated goals of the community. The team then completed an analysis of physical conditions found near the Ludlam Trail corridor and conducted a demographic overview and baseline economic assessment to provide a comprehensive overview of the corridor.

Location Map of Ludlam Trail, shown in red. Courtesy of Microsoft Corporation

2.1 Scenario Development

Using the results of Section One, the AECOM team identified opportunities and constraints associated with the development of Ludlam Trail. This step included preparing a potential future scenario plan for the overall Ludlam Trail corridor which identifies form, scale, street connectivity, open space, and relationship to adjacent developments which are transferable to similar trail corridors throughout Miami-Dade County. The team then identified three types of changes which may occur from the development of a trail. Each type of change was quantified and the correlating goals as stated by the guiding documents reviewed in Section One were identified.

3.1 Benefits Analysis

For the final step, the AECOM team developed a methodology to estimate quantifiable potential social, environmental and economic benefits that could occur from the development of shared-use trails within Miami-Dade County using Ludlam Trail as a case study. The benefits analyzed included, vehicle trips reduction, increase in accessibility, reduction in pollution, affects on property values and job creation.

Above image: Highlighting improvement to mobility and redevelopment of an underutilized parcel, the Bird Road Industrial Sites offer an example of trail related benefits

Above image: Showing a combination of vacant and underutilized lands, the Coral Way and SW 71 Ave. site offers an example of trail connectivity and accessibility leading to healthier and more beneficial lives for area residents

KEY FINDINGS

Development of shared-use non-motorized trails offer extensive opportunities to bring significant positive change to communities. The following social, environmental and economic aspects have been identified as having positive improvements through research based on the development of Ludlam Trail as a case study. Many of the benefits documented below are interconnected and lead to positive change throughout the community. An example of this can be shown by the reduction of vehicle trips which leads to positive environmental benefits, such as the reduction of vehicle emissions, and the economic benefit of area residents spending less on fuel. A summary of important findings follows:

SOCIAL BENEFITS

DESTINATION ACCESSIBILITY

The development of Ludlam Trail will enhance overall accessibility to schools, parks, transit stations, and bus stops for as many as 30,550 people living within two (2) miles of Ludlam Trail.

Analysis of existing and post Ludlam Trail destination accessibility has identify the following key findings:

- 261 students will gain access to area schools
- 6,389 residents will gain access to parks
- 186 residents will gain access to bus stops
- 23,900 residents will gain access to transit stations

Commuters at the Dadeland North Metrorail Station adjacent to the Ludlam Trail corridor

HEALTH AND WELLNESS

The development of Ludlam Trail will save the community between $1.68 million and $2.25 million annually in direct medical costs related to lack of physical exercise while leading to approximately 4,931 to 6,579 area residents becoming new exercisers. Residents within the Ludlam Trail Study Area can expect to lose or keep off between 32,664 and 109,939 pounds of weight annually by burning between 2.19 million and 7.39 million calories (kilocalories) per week while exercising on Ludlam Trail.

Cyclists on the West Orange Trail, Winter Garden, FL

ENVIRONMENTAL BENEFITS

VEHICLE TRIP REDUCTION

Through the development of Ludlam Trail, improvement will be made in mobility for walking and biking to schools, parks, transit stations, and miscellaneous errands leading to reduced vehicle trips (VDTs) within the Ludlam Trail Study Area by the following amounts per category, per year:

- 262,929 trips to transit stations
- 136,080 trips to area schools
- 2.773 trips to parks
- 458,918 trips for miscellaneous errands

A total reduction of approximately 860,700 vehicle trips (VDTs) from enhanced mobility and connectivity may be realized by the community from the development of Ludlam Trail.

VEHICLE EMISSIONS

With the reduction of approximately 860,700 vehicle trips the following vehicle emissions will be reduced annually:

- 5,308 fewer lb. of hydrocarbons
- 39,622 fewer lb. of carbon monoxide
- 2,635 fewer lb. of oxides of nitrogen
- 394 fewer tons of carbon dioxide

Demographic research identified that the Ludlam Trail Study Area contains a higher than county average elderly population which is more vulnerable to air pollution due to sensitive respiratory systems. The reduction in vehicle trips translates into an annual savings in fuel consumption of approximately 36,625 gallons or the equivalent of four (4) tanker trucks. Community-wide fuel savings equals approximately $101,450 a year.

TREE CANOPY

New tree canopy plantings associated with Ludlam Trail amenities will provide the surrounding community with over $170 million in pollution control savings over the life span of a typical urban tree (fifty years). This breaks-down into the following pollution control savings:

- $32.8 million in fresh oxygen
- $65.1 million in air pollution control
- $39.4 million in recycled water
- $32.8 million in soil erosion control

In addition, the planting of approximately 1,050 new canopy trees associated with Ludlam Trail amenities will create clean oxygen for over 2,100 humans.

Increased tree canopy and shade along the Fred E. Marquis Pinellas Trail, Pinellas Co., FL

CARBON SEQUESTRATION

Based on a University of Georgia Warnell School of Forestry and Natural Resource carbon sequestration calculator, Ludlam Trail will provide for the sequestration of between 3,120 and 4,200 tons of carbon within twenty-five years. In addition, the planting of approximately 1,050 canopy trees associated with trail amenities will provide the sequestration of 5,250 tons of carbon over a fifty (50) year life span.

ECONOMIC BENEFITS

PROPERTY VALUES

Based on an analysis of comparable trails from across the country, the presence of Ludlam Trail will increase properties value within the Walkable Area, or properties within 1/2 mile of a proposed public access point, at an annual pace of 0.32% to 0.73% faster than other properties throughout Miami-Dade County. This translates into a total property value increase over a twenty-five (25) period of between $121 million and $282 million.

PROPERTY TAXES

Based on increased property values within the Ludlam Trail Walkable Area, Miami-Dade County and surround jurisdictions will receive between $98,000 and $229,000 annually in additional property tax revenues. When compiled over a twenty-five (25) year period, between $2.47 million and $5.74 million in additional property tax revenue will be realized.

RETAIL SALES

Retail expenditures related to the Ludlam Trail are expected to be between $3.19 million and $8 million annually based on research of trail related expenditures from fourteen comparable suburban and urban trails conducted by Rails-to-Trails Conservancy in 2009. Retail expenditures related to Ludlam Trail will support between 10,500 and 26,500 additional square feet of retail space.

Trail related retail sales, West Orange Trail, Winter Garden, FL

RETAIL SALES TAX

Miami-Dade County will receive between $31,900 and $80,000 in sales tax from trail related expenditures while the State of Florida will receive between $191,400 and $480,000 annually in sales tax.

RETAIL EMPLOYMENT

Ludlam Trail related retail expenditures will support between 27 and 68 new jobs within Miami-Dade County.

Trail related employment at a bicycle storage and accessory store. The McDonald Cycle Center, Chicago, Illinois

Section One:

EXISTING CONDITIONS ANALYSIS

"Increased access to open space and scenic resources, and increased participation in outdoor recreation activities have been linked to better physical fitness leading to decreased public health care costs; reduced social service and police/justice costs; as well as reduced self-destructive and anti-social behavior"

UNITED STATES DEPARTMENT OF THE INTERIOR: NATIONAL PARK SERVICE, Economic Impacts of Protecting Rivers, Trails, and Greenway Corridors, 1995

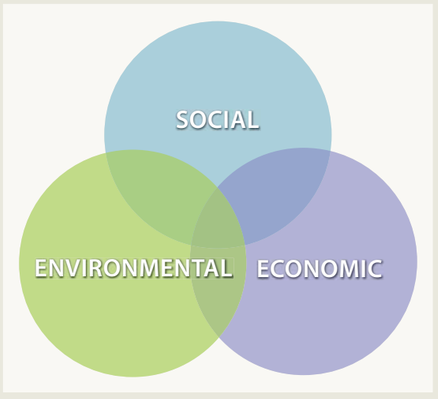
Ludlam Trail at Flagler Street

Section One EXISTING CONDITIONS ANALYSIS

PILLARS OF A SUSTAINABLE COMMUNITY

In the summer of 2002, the United Nations held a world summit on sustainable development. During this summit world leaders expanded the Brundtland Commission of the United Nations previous definition of sustainable development, which was that development should meets the needs of the present without compromising the ability of future generations to meet their own needs. World leaders drafted, and in 2005 adopted, the three pillars of sustainable development in the Johannesburg Declaration. This declaration created "a collective responsibility to advance and strengthen the interdependent and mutually reinforcing pillars of sustainable development; economic development, social development and environment protection at local, national, regional and global levels."

These three pillars of sustainable development will be applied throughout this document. Community goals and guiding principles will be grouped into the following three frameworks; social, environmental and economic as shown in the matrix to the right. This framework is also shown in the diagram below which identifies the overlapping characteristic of each pillar. Sustainable development is the intersection of the three pillars, or circles.



1.1 RESEARCH OF DOCUMENTS SUMMARY

In order to ensure a coordinated effort to document potential benefits related to the construction of Ludlam Trail, several guiding documents were reviewed by the AECOM team. These guiding documents include governing codes and regional planning studies and include the following:

1.1.1 DOCUMENTS REVIEWED

- Miami-Dade County Parks and Open Space System Master Plan (2008)
- City of Miami 21 Code (2009)
- Miami-Dade Transportation Plan (to the year 2030) with 2009 updates
- City of Miami Bicycle Master Plan (2009)
- Miami-Dade County Bike and Pedestrian Plan Update (2009)
- Miami Parks and Public Spaces Master Plan (2008)
- Existing land uses in the Ludlam Trail study area
- Existing zoning in the Ludlam Trail study area
- Miami-Dade County Comprehensive Development Master Plan
- Miami-Dade County Red Fields to Green Fields (2010)

These documents, together with multiple resources pertaining to the best methodologies for estimating benefits of shared-use paths, along with the HUD-DOT-EPA Partnership for Sustainable Communities Livable Principles, serve as the basis for the Miami-Dade County Trail Benefits Study. Following is a summary of key elements from each reviewed document.

1.1.2 DOCUMENT SUMMARIES

MIAMI-DADE COUNTY PARKS AND OPEN SPACE SYSTEM MASTER PLAN

Greenways, Trails and Water Trails Vision

The Miami-Dade County Parks and Open Space System Master Plan is a 50 year unifying vision for a livable, sustainable Miami-Dade County. An integral part of that vision is the development of a seamless system of greenways, trails and water trails. This vision builds upon the corridors described in the North Dade Greenways Master Plan and South Dade Greenway Network Master Plan, and goes further in linking these into a holistic, interconnected system. Its corridors weave through new parks, tie into bike lanes, and act as verdant channels that draw people into natural resource areas. This network of trails and greenways is envisioned as an:

- Interconnected system that provides transportation alternatives and reduces traffic congestion
- Creates new recreational opportunities
- Increases property values
- Protects natural resources
- Encourages tourism and business development
- Strengthens connections to adjacent counties

Ludlam Trail is a vital component of this network, linking open spaces and civic institutions to neighborhoods, while offering a reliable transportation alternative.

Summary of Planning Documents Goals

Goals:	Miami-Dade County Parks and Open Spaces System Master Plan	Miami-Dade County Comprehensive Development Master Plan	City of Miami 21 Code	Miami-Dade Transportation Plan (to the Year 2030)	Miami-Dade County Bike and Ped. Plan Update	City of Miami Bicycle Master Plan	City of Miami Parks and Public Spaces Master Plan	Miami-Dade County Red Fields to Green Fields Study
Social Healthy Lifestyle	✓	✓	✓		✓	✓		✓
Public Safety	✓	✓	✓		✓	✓		
Affordable Housing	✓	✓	✓					✓
Education	✓							
Accessibility	✓		✓		✓	✓	✓	✓
Cultural/ Historical Preservation	✓	✓	✓				✓	
Environmental Reduced Vehicle Trips/ Miles	✓		✓	✓	✓	✓	✓	✓
Decrease Use of Fossil Fuels			✓					
Clean Air and Water	✓		✓	✓	✓	✓		✓
Enhances Biodiversity	✓		✓				✓	
Reduction in Greenhouse Gasses, Climate Changes	✓		✓	✓	✓	✓		✓
Economic Improve Mobility/ Connectivity	✓	✓	✓	✓	✓	✓	✓	
Stabilize/ Increase Property Values	✓	✓	✓				✓	✓
Increase Tax Revenue	✓		✓					✓
Redevelopment of Existing Properties	✓	✓	✓					✓
New Jobs	✓		✓					✓

The above matrix indicates the stated goals of each planning documented reviewed. This study will identify potential benefits which would occur from the development of shared-use paths and trails which achieve these goals

Section One EXISTING CONDITIONS ANALYSIS

CITY OF MIAMI 21 CODE

The Ludlam Trail corridor is a 6.2 mile non-motorized shared-use trail primarily located in unincorporated Miami-Dade County but its northern 1.1 miles are located in the City of Miami. The City of Miami 21 Code promotes public health, safety, convenience, comfort, amenities, prosperity, and general welfare of the City and aims to provide a wholesome, serviceable, and attractive community, including protection of the environment; conservation of land, energy and natural resources; improved mobility; more efficient use of public funds; greater health benefits of the environment; historic preservation; provision of recreational and open spaces; reduction of sprawl; and improvement of the built environment and human habitat.

Guiding Principles of Miami 21 Include:

- Growth strategies should encourage infill and redevelopment
- Green Corridors should be encouraged and developed to enhance and connect the urbanized areas
- The City should include a framework of transit, pedestrian, and bicycle systems to provide alternatives to automobiles
- Neighborhoods and urban centers should be compact, pedestrian-oriented and mixed-use
- Neighborhoods and urban centers should be the preferred pattern of development and transect zones emphasizing single use should be the exception
- The ordinary activities of daily living should occur within walking distance of most dwellings, allowing independence to those who do not drive
- Interconnected networks of thoroughfares should be designed to disperse and reduce the length of automobile trips and to encourage walking and bicycling
- Designs of thoroughfares and buildings should incorporate principles of Crime Prevention Through Environmental Design (CPTED)

Conservation goals:

- Preserving neighborhoods, historical resources and the natural environment
- Improving the relationship between low-density residential neighborhoods and adjacent commercial corridors with appropriate transitions of density and height following the theory of the Transect
- Increasing access to the natural environment through the development of north-south greenways and new parks
- Conserving energy and reducing carbon dioxide emissions through improved thoroughfare connectedness to encourage walkability, bicycling and transit use
- Increasing tree canopy

Development goals:

- Maintaining future growth capacity of the city core with a transit-oriented, pedestrian-friendly focus
- Rebuilding the City's commercial corridors to function as mixed-use, transit-oriented, walkable centers for adjacent residential neighborhoods
- A pedestrian-friendly public realm of the highest ambient quality

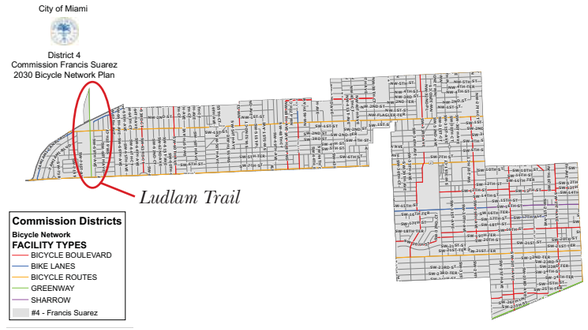
MIAMI-DADE TRANSPORTATION PLAN (TO THE YEAR 2030)

The purpose of the Miami-Dade Transportation 2030 Plan was to develop a plan for a multimodal transportation system that complied with state and federal requirements, optimized the movement of people and goods, and met the goals and objectives adopted by the Miami-Dade MPO Board. Most important for the development of trails and greenways are the following goals:

- Improve transportation systems and travel
- Support economic vitality
- Enhance social benefits
- Mitigate environmental and energy impacts
- Integrate transportation with land use and development considerations
- Optimize sound investment strategies

CITY OF MIAMI BICYCLE MASTER PLAN

The Miami Bicycle Master Plan was developed with the guidance of previous bicycle study and is intended to work in collaboration with the Miami 21 Zoning Ordinance and the Complete Street ordinance. The study is a comprehensive review of existing conditions in the City of Miami and engaged the public to establish the city-wide bikeway network plan, bicycle parking plan, safety and awareness actions, and evaluation tools to measure future performance of the network and suggest improvements to the existing bicycle infrastructure. The study serves as a guide for the development of the bikeway network over a twenty year period and identifies Ludlam Trail specifically as a shared-use path/greenway.



City of Miami Bicycle Master Plan: Commission District 4 shows the Ludlam Trail as one of two Greenways within Commission District 4 with the M-Path located along U.S. 1 (South Dixie Hwy.) as the other.

MIAMI-DADE COUNTY BIKE AND PEDESTRIAN PLAN UPDATE

The Miami-Dade County Bike and Pedestrian Plan Update has a stated goal to making the County a model bicycle and pedestrian friendly region where cycling and pedestrian activity is safe, attractive, easy, and a convenient mode of transportation and recreation for people of all ages and abilities. The development of trails and greenways such as Ludlam Trail achieves this goal through safe and accessible design as a non-motorized shared-use, off-road bicycle facility. Through the vision of the Miami-Dade County Bike and Pedestrian Plan Update, Ludlam Trail would enhance the environment and improve public health and quality of life, all the while making Miami-Dade County an attractive, healthy and safe place to live, work and play.

The Miami-Dade County Bike and Pedestrian Plan Update has identified a very high need for non-motorized shared-use, off-road bicycle facilities in the Ludlam Trail corridor area. The development of Ludlam Trail would allow for the connection to six additional trails and greenways, three of which share either a very high need or high need for non-motorized shared-use, off-road bicycle facility development.

MIAMI PARKS AND PUBLIC SPACES MASTER PLAN

The purpose of the Miami Parks and Public Space Master Plan was to create a connected system of parks and public spaces to meet the needs of the City's diverse citizenry, with more ways to experience water, more places to play, greener and safer routes

SUMMARY OF PARKS AND OPEN SPACES MASTER PLANS

The Miami-Dade County Parks and Open Space System Master Plan and Miami Parks and Public Space Masterplan are guiding documents which have identified goals of providing recreation and transportation mode options for area residents. The Miami-Dade County Parks and Open Spaces System Master Plan is the most comprehensive with stated goals of increasing property values and protecting natural resources. All of these stated goals can be achieved through the construction of the Ludlam Trail. This report will quantify how much of an impact the development of Ludlam Trail will have on the surrounding community.

Section One EXISTING CONDITIONS ANALYSIS

SUMMARY BICYCLE AND PEDESTRIAN MASTER PLANS

Bicycle and pedestrian plans have been prepared for areas which include the entire length of the Ludlam Trail corridor. Two plans have direct implications on the planning and design of Ludlam Trail; the Miami-Dade County Bike and Pedestrian Plan Update; and the City of Miami Bicycle Master Plan. Both plans identify Ludlam Trail as future greenway of an interconnected network of trails and greenways.

SUMMARY EXISTING AND FUTURE LAND USES

Land use around the Ludlam Trail corridor is not identified primarily as single family or estate residential with pockets of commercial and industrial land uses located at or near major arterial road crossings. The development of Ludlam Trail would promote connections of neighborhoods and potential redevelopment of select commercial or industrial areas over time by offering safe connections to the trail.

for pedestrians and bicyclists. The Master Plan states that every resident should be able to walk safely and comfortably to a park. Ludlam Trail would provide opportunities for safely biking or walking to area parks, and help reach the goal of better connectivity and more opportunities for play and recreation.

EXISTING LAND USES

The Ludlam Trail corridor passes through the City of Miami and is adjacent to the City of South Miami, however, most of the corridor lays within Miami-Dade County. Within 1/2 mile of the trail primary land-uses include single family detached and attached residential, commercial/shopping centers, institutional, light industrial/warehouse. North of SW 48th St. the corridor is surrounded by approximately fifty (50%) percent single family residential and fifty (50%) percent non-residential land uses, such as warehouse or commercial. South of SW 48th St., the corridor is almost exclusively surrounded by single family and estate residential land uses. In all cases, adjacent non-residential land uses such as commercial and warehouse/ light industrial, are located in clusters of parcels near major thoroughfares.

In five (5) locations, institutional land use is immediately adjacent to the corridor and includes the Miami-Dade County Public Schools Maintenance facility, church facilities, Bird Road Post Office, South Miami Senior High School and the South Miami Elementary and Middle School campus. Analysis of land use can be found in Section 1.2

EXISTING ZONING

The existing zoning surrounding the Ludlam Trail corridor is primarily single family residential and estate residential. Several jurisdictional zoning regulations existing immediately adjacent to or within 1/2 mile of the corridor and include Miami-Dade County, City of Miami, City of West Miami, City of South Miami and City of Pinecrest.

Commercial and industrial zoning is located in three main areas along the corridor: at Dadeland Mall; SW 40th Street (Bird Road); and SW 24th Street (Coral Way), and include areas of shopping, an art district, and vacant properties.

Through the development of the Ludlam Trail, many of the single family residential areas would gain access to the trail via neighborhood connections while medium to high density residential areas and commercial areas could redevelop over time with an emphasis towards providing connections to Ludlam Trail. Additional discussion of zoning can be found in Section 1.2.

MIAMI-DADE COUNTY COMPREHENSIVE DEVELOPMENT MASTER PLAN

The Miami-Dade County Comprehensive Development Master Plan strongly correlates with the existing zoning for the Ludlam Trail corridor. There are a few areas of notable exception such as the corner of SW 67th Avenue (Ludlam Road) and SW 40th St. (Bird Road). This area is currently zoned for commercial; however, the Comprehensive Development Master Plan identifies a preferred change of land use to medium density residential. With this exception, most areas along the corridor are not identified for change in land use. This must be taken into consideration when evaluating whether the construction of the Ludlam Trail could have an impact on existing properties.

MIAMI-DADE RED FIELDS TO GREEN FIELDS

The Miami-Dade Red Fields to Green Fields study identifies strategic actions to 'jump start' economic development, recalibrate local property values and create walkable neighborhoods to support public and environmental health. Transit-oriented connectors such as Ludlam Trail are a part of this vision.

Ludlam Trail is identified as a North/South Transit-Oriented Connector due to its potential direct connections to two Metrorail stations and business/commercial centers. Approximately 750 acres of commercial real estate has been identified along these transit-oriented corridors connectors with 130 acres available for purchase and development as a contiguous string of parks and connectors to provide residents and visitors with recreation opportunities near work and home.

OTHER SOURCES OF INFORMATION:

HUD-DOT-EPA PARTNERSHIP FOR SUSTAINABLE COMMUNITIES

In addition to the planning documents specific to Miami-Dade County, the project team reviewed the U.S. Department of Housing and Urban Development, U.S. Department of Transportation and U.S. Environmental Protection Agency's Partnership for Sustainable Communities Livability Principles for a comprehensive of smart growth and sustainable community goals. Six principles are highlighted by this initiative, most overlapping existing stated goals of Miami-Dade County planning documents. These principles include:

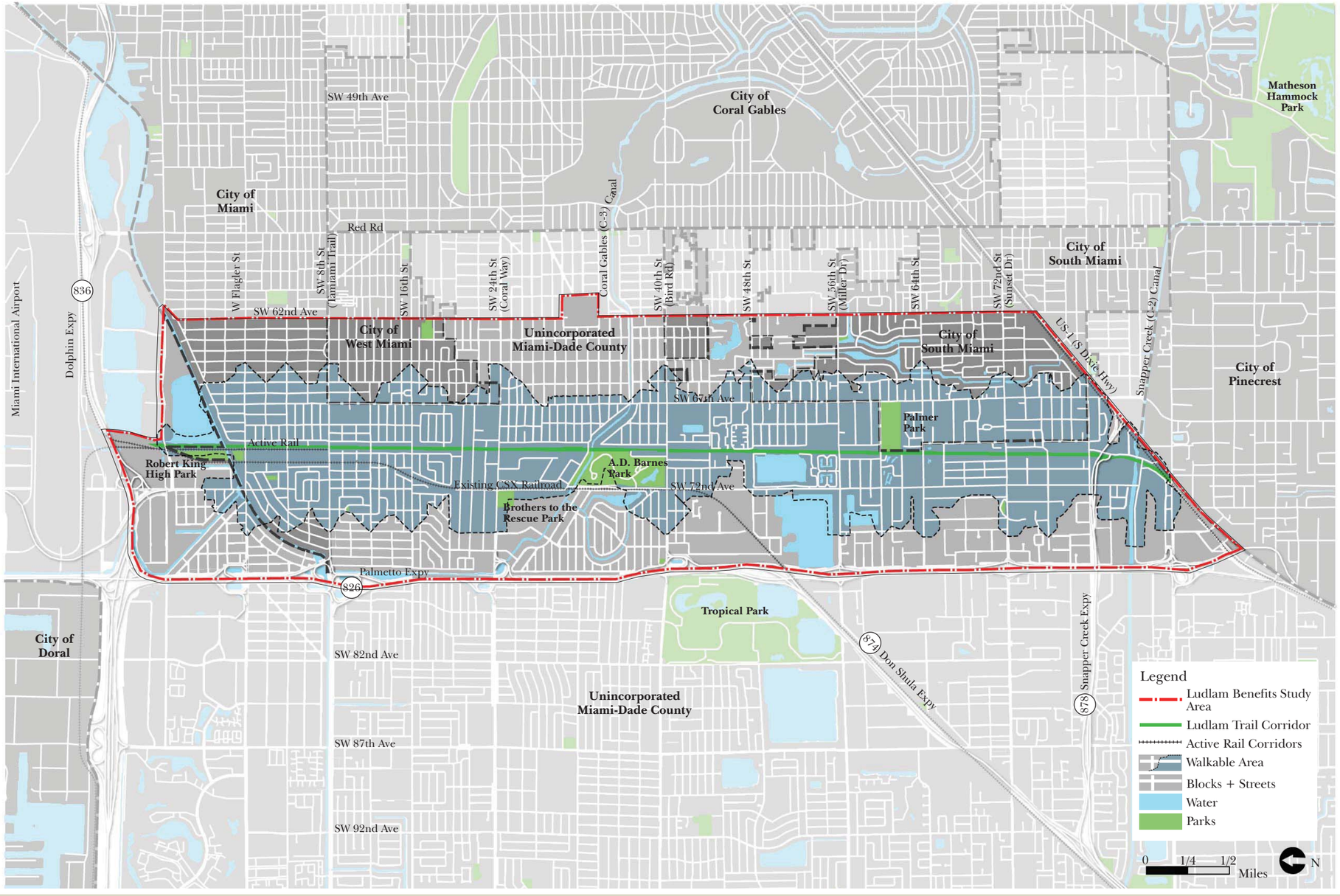
- Provide more transportation choices.
- Promote equitable, affordable housing
- Enhance economic competitiveness
- Support existing communities
- Coordinate and leverage federal policies and investment
- Value communities and neighborhoods

Several principles will be covered by overlapping community-wide goals such as transportation choices and value communities with better accessibility and health, and economic competitiveness with economic growth, however others are harder to quantify with estimates. These, more difficult principles, such as promoting equitable, affordable housing and coordinate and leverage federal policies and investment touch on areas which trails and linear parks many have little or no impact other than better mobility and positive impacts on economic and environmental measures of a sustainable community.
A goal of this document is to align funding with federal, state and local policies to remove barriers to collaboration, leverage funding, and increase the accountability and effectiveness of all levels of government to plan for future growth and a more livable community.

SUMMARY OF FINDINGS

The development of Ludlam Trail would be consistent with the goals of both County and City bikeways and trail plans. Not only would the trail represent a step forward in building a County-wide bicycle and pedestrian network, it would be a major step to realizing many of the County's and City's goals of creating a more socially, environmentally, and economically sustainable community.

1.2 STUDY BOUNDARIES MAP



STUDY BOUNDARIES MAP

To understand the existing conditions surrounding Ludlam Trail, two areas were defined: the Study Area and the Walkable Area. **The Ludlam Benefits Study Area is a non-jurisdictional area with boundaries generally defined by primary roadways which form barriers to safe pedestrian routes to the Ludlam Trail corridor.** These barriers are generally located within one (1) mile of the corridor and include the Palmetto Expressway (S.R. 826), South Dixie Highway (U.S. 1), SW 62nd Ave., Dolphin Expressway (S.R. 836), and NW 7th Ave. Most of these barriers are one mile or a twenty minute walk from the Ludlam Trail.

The Study Area boundary will be used in this analysis to provide a comprehensive view into the surrounding community. Demographic information for this area will be used throughout the document to provide baseline information and estimates.

The second geographical area used for this study is the Walkable Area. This area is identified by the blue shading on the map to the left. **The Walkable Area is defined as the area within 1/2 mile or ten (10) minutes walking or biking access of a proposed public access point to the trail, either a bisecting roadway or street end which abuts the Ludlam Trail corridor.** The ten (10) minutes walking distance is based on a 1995 study by the Federal Transit Administration which identified research completed by Richard Untermann. Untermann's research showed that Americans on average will walk 2,300 feet (roughly 1/2 miles) or ten (10) minutes to a destination. After a distance greater than 1/2 mile, the willingness to walk drops below ten percent. This amount varies based on accessibility to transit with more transit oriented areas experiencing a greater willingness by residents to walk longer distances.

The Walkable Area will be used in identifying property assessment information and in the quantification of trail benefits. The following existing conditions analysis section will use a series of maps which illustrate existing physical conditions of the Study Area and Walkable Area.

1.3 PHYSICAL CONDITIONS

The existing conditions analysis for the Ludlam Trail Case Study is a thorough understanding of the Study Area's current land use patterns, transportation patterns, built environment, parks and recreation venues, and cultural venues. A complete physical conditions summary is located on page 19.

1.3.1 EXISTING LAND USE

The existing land use pattern represents the actual use and development on the ground today. Key observations include:

- A majority of land use within the study area is single-family (80+%)
- There are four main east-west corridors that have a high concentration of non-residential land uses. These corridors are:
  - US Highway 1 (South Dixie Hwy.)
  - SW 40th St. (Bird Road)
  - SW 24th St. (Coral Way)
  - SW 8th St. (Tamiami Trail)
- Active industrial land uses are focused around the CSX corridor along SW 40th St. (Bird Rd.) and SW 72nd Ave.
- SW 67th Ave. between SW 8th St. (Tamiami Trail) and SW 24th St. (Coral Way) has a concentration of commercial and multi-family uses.

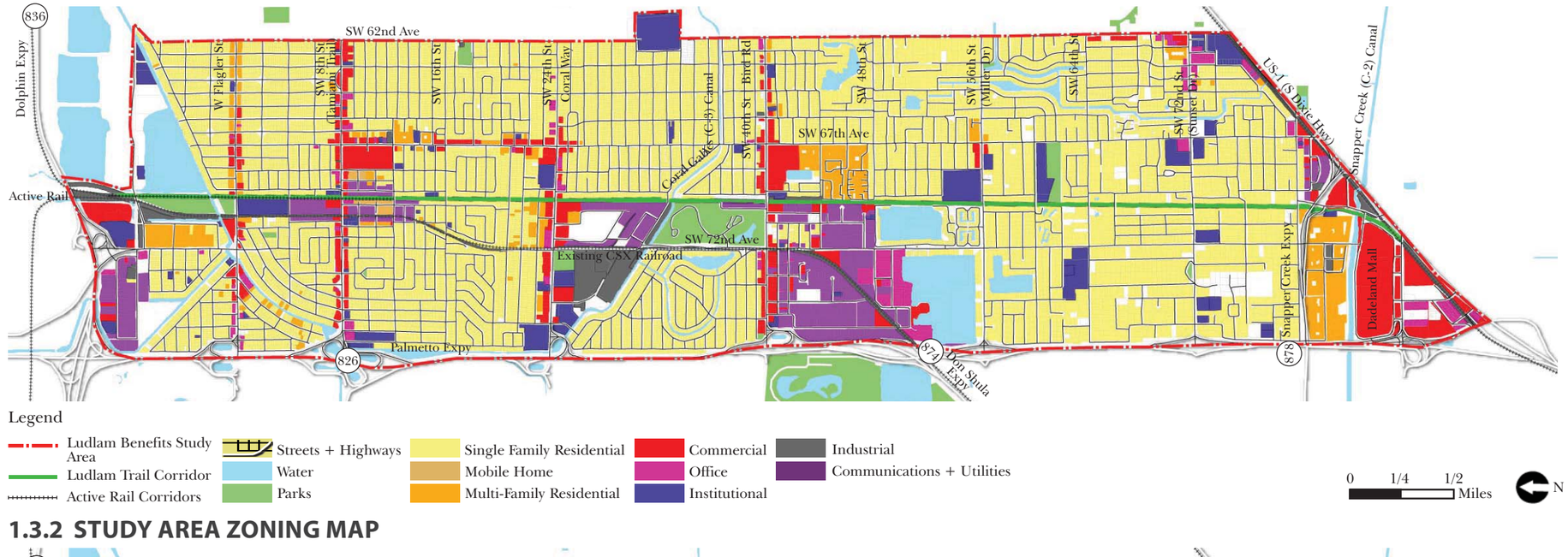
1.3.2 ZONING

The proposed Ludlam Trail includes two municipalities and zoning districts; the City of Miami and Miami-Dade County.

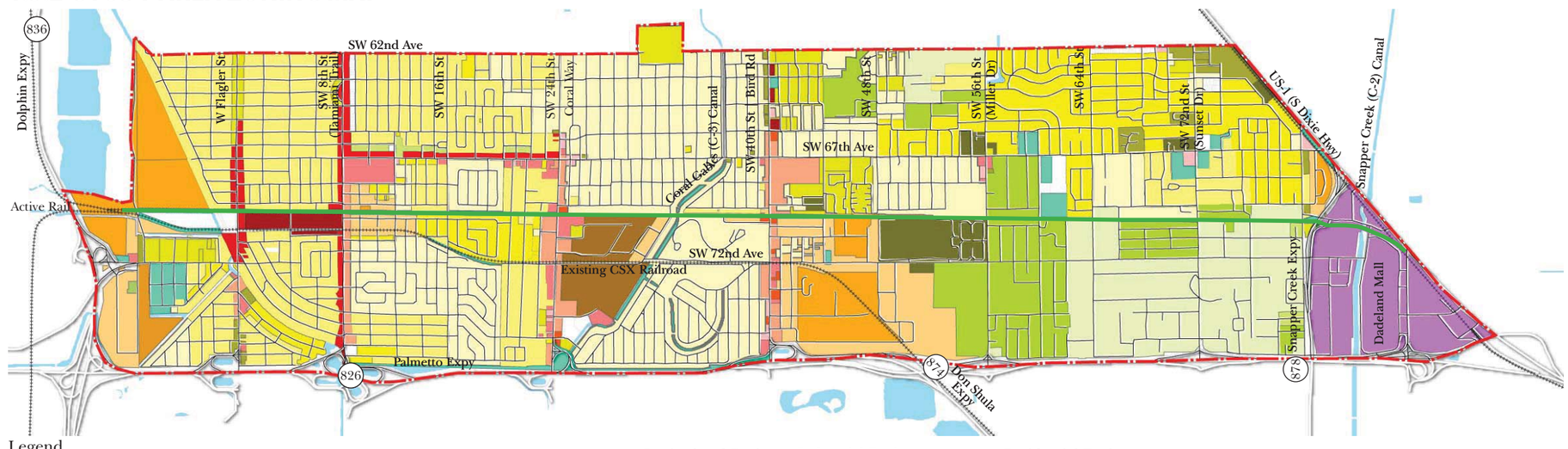
Key Observations

- A majority of properties are zoned residential
- Zoning north of SW 40th St. (Bird Rd.) is generally more intense
- There are two main areas identified as industrial
  - SW 24th St. (Coral Way) at SW 72nd Ave.
  - SW 40th St. (Bird Rd.) at SW 72nd Ave.

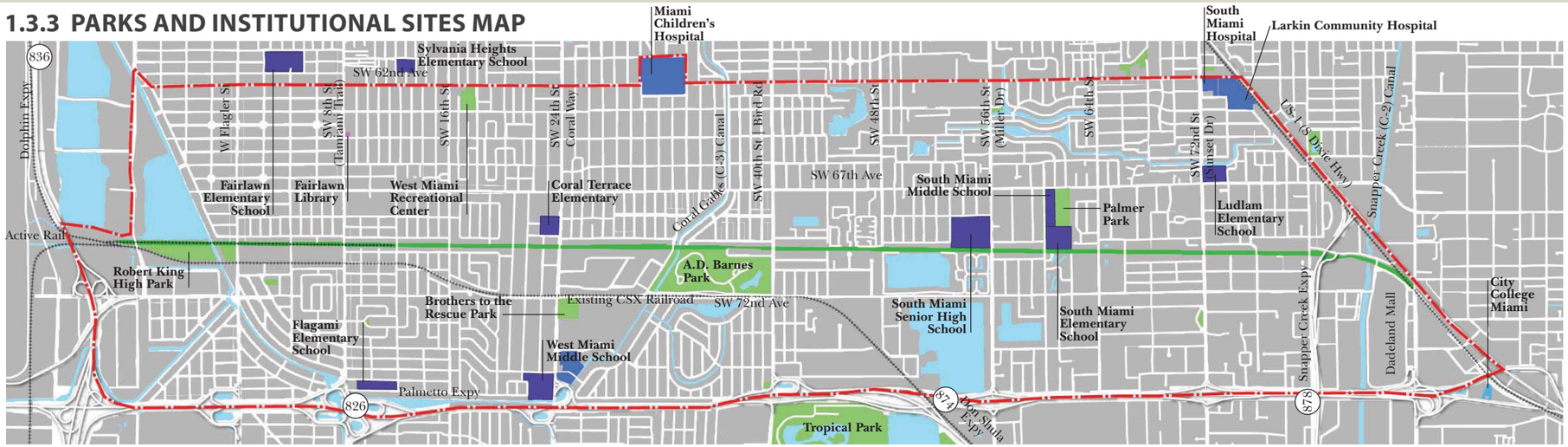
1.3.1 STUDY AREA LAND USE MAP



1.3.2 STUDY AREA ZONING MAP



1.3.3 PARKS AND INSTITUTIONAL SITES MAP



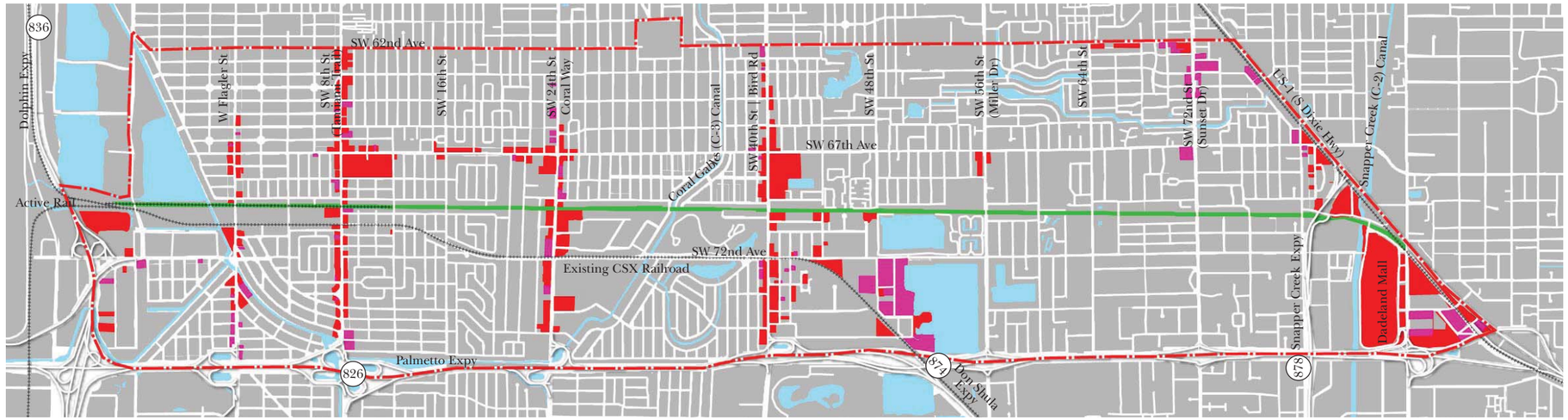
Legend

- Ludlam Benefits Study Area
- Ludlam Trail Corridor
- Active Rail Corridors
- Blocks + Streets
- Water
- Parks
- Schools
- Hospital
- College
- Library

0 1/4 1/2 Miles

N

1.3.4 COMMERCIAL PROPERTIES MAP



Legend

- Ludlam Benefits Study Area
- Ludlam Trail Corridor
- Active Rail Corridors
- Blocks + Streets
- Water
- Commercial
- Office

0 1/4 1/2 Miles

N

1.3.3 PARKS AND INSTITUTIONAL SITES

Ludlam Trail has an opportunity to provide a critical link between many institutional land uses and existing parks. There are a number of institutional land uses adjacent to the trail including two elementary schools and two regional serving parks. Improving access to these uses with the proposed trail could reduce vehicle trips along the major arterials.

1.3.4 COMMERCIAL PROPERTIES

Commercial properties are primarily located along arterial roads which bisect the corridor. Of particular significance are the commercial properties located along West Flagler Street, SW 8th St. (Tamiami Trail), SW 24th St. (Coral Way), SW 40th St. (Bird Road), and around the Dadeland Mall. Commercial properties adjacent the Ludlam Trail corridor have the potential to see significant gains in retail sales and or property values due the presence of traffic associated with trail users.

1.3.5 EXISTING STREET NETWORK

The existing street network diagram to the right the illustrates the public roadway system for the Study Area. Arterials/major collectors are spaced approximately every mile and connect to the Palmetto Expressway. In general, the arterials/major collectors are the only roadways that cross the Ludlam Trail corridor. The remaining street pattern is composed of locally serving two-lane streets that primarily access residential neighborhoods.

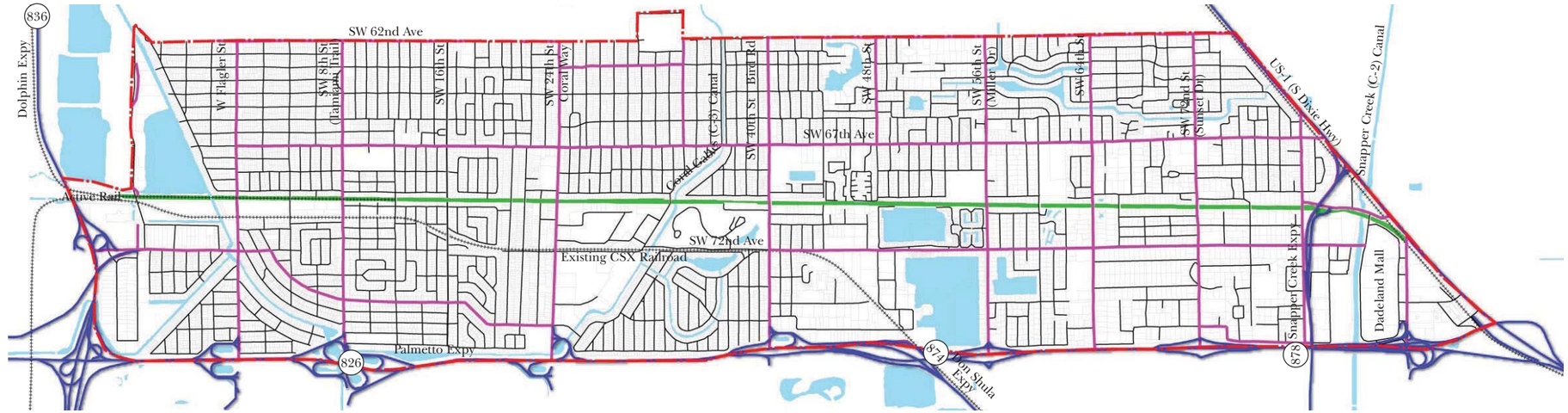
Historically the Ludlam rail corridor was a barrier to area connectivity and caused traffic to concentrate on the arterial roadways. The best, least-congested roadway networks are those where dead ends and cul-de-sacs are minimal, and every street contributes to the area's connectivity. By measuring the streets that actually help move traffic, it can provide insight into the system's strengths.

1.3.6 BLOCK PATTERN AND EFFECTIVE STREET NETWORK

The overall block pattern in the Study Area varies and includes a typical first tier suburban residential pattern north of SW 40th Street (Bird Road) and larger industrial blocks along the existing CSX railroad freight corridor. Consistent with its historic land use as a rail line, the Ludlam Trail corridor is lined with a super-block pattern.

Superblocks can be defined as blocks with an edge length greater than 1,000 feet or area greater than 20 acres. Larger block sizes favor larger building footprints on contiguous portions of land; however, this is done at the expense of disrupted vehicular traffic flow and more cumbersome pedestrian and bicycle activity which is shown on the map to the right. Superblocks (shown in red) form barriers to accessing the Ludlam Trail corridor. These blocks generally consist of industrial, institutional or open space and have the ability over time to contribute to the overall connectivity of the area by increasing access to the trail and extending benefits to properties not currently associated with the trail.

1.3.5 EXISTING STREET NETWORK MAP



Legend

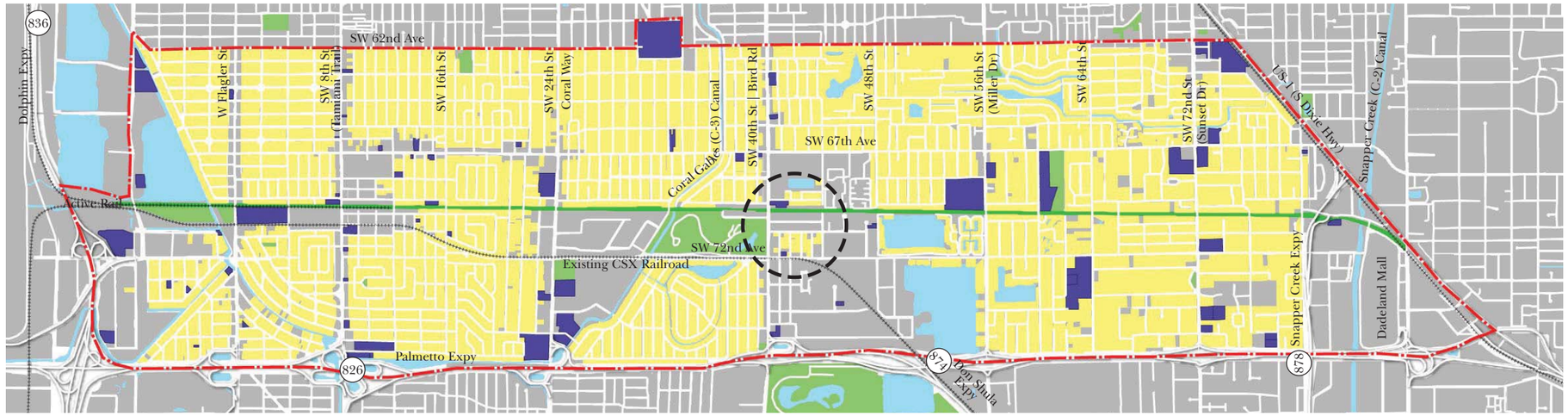
- Ludlam Benefits Study Area
- Ludlam Trail Corridor
- Active Rail Corridors
- Local Streets
- Arterial / Major Collectors
- Expressways
- Water

1.3.6 BLOCK PATTERNS AND EFFECTIVE STREET NETWORK MAP

Legend

- Ludlam Benefits Study Area
- Ludlam Trail Corridor
- Active Rail Corridors
- Blocks + Effective Street Network
- Blocks + Ineffective Street Network
- Corridor Super Blocks

1.3.7 SINGLE FAMILY RESIDENTIAL AND INSTITUTIONAL AREAS MAP



Legend

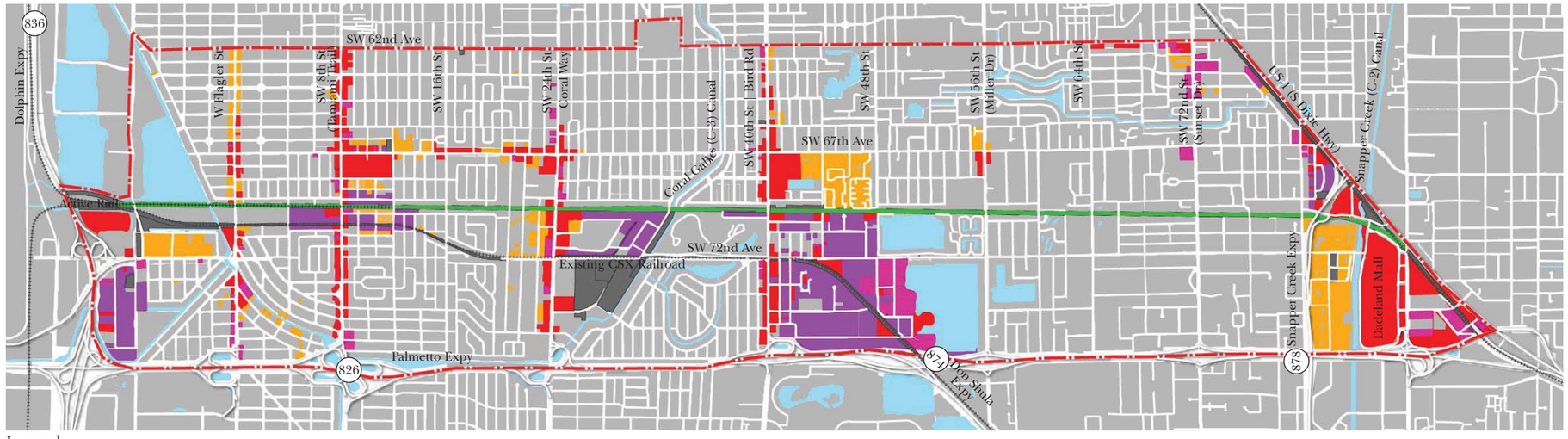
- Ludlam Benefits Study Area
- Ludlam Trail Corridor
- Active Rail Corridors
- Water
- Parks
- Single-Family Residential
- Institutional
- Disconnected Residential Area

0 1/4 1/2 Miles N

1.3.7 SINGLE FAMILY RESIDENTIAL AND INSTITUTIONAL AREAS

Land uses classified as single family residential, institutional or open space should be preserved and enhanced through the development of the Ludlam Trail. Several pockets of single-family residential uses, particularly those highlighted to the left between SW 71st and 72nd Ave., are isolated within non-residential land uses. These single family residential parcels are currently surrounded by conflicting land uses but connections provided by the proposed Ludlam Trail would give these residents improved access to schools, parks and employment.

1.3.8 HIGH DENSITY RESIDENTIAL AND COMMERCIAL AREAS MAP



Legend

- Ludlam Benefits Study Area
- Ludlam Trail Corridor
- Active Rail Corridors
- Blocks + Streets
- Water
- High - Medium Density Residential
- Commercial
- Office
- Industrial
- Communications + Utilities

0 1/4 1/2 Miles N

1.3.8 HIGH DENSITY RESIDENTIAL AND COMMERCIAL AREAS

A number of high density residential and commercial areas form a unique system along the Ludlam Trail corridor, characterized mostly by narrow bands running perpendicular to the corridor along arterial/major collector streets. Notable exceptions are clusters of these types of land uses found at SW 24th St. (Coral Way), SW 40th St. (Bird Road), and between SW 80th St. and the Dadeland Mall. Many of these areas form super blocks which do not currently share connections to the Ludlam Trail and have limited potential for future connections without the establishment of an interconnected street network.

1.3.9 VACANT AND UNDERUTILIZED LANDS

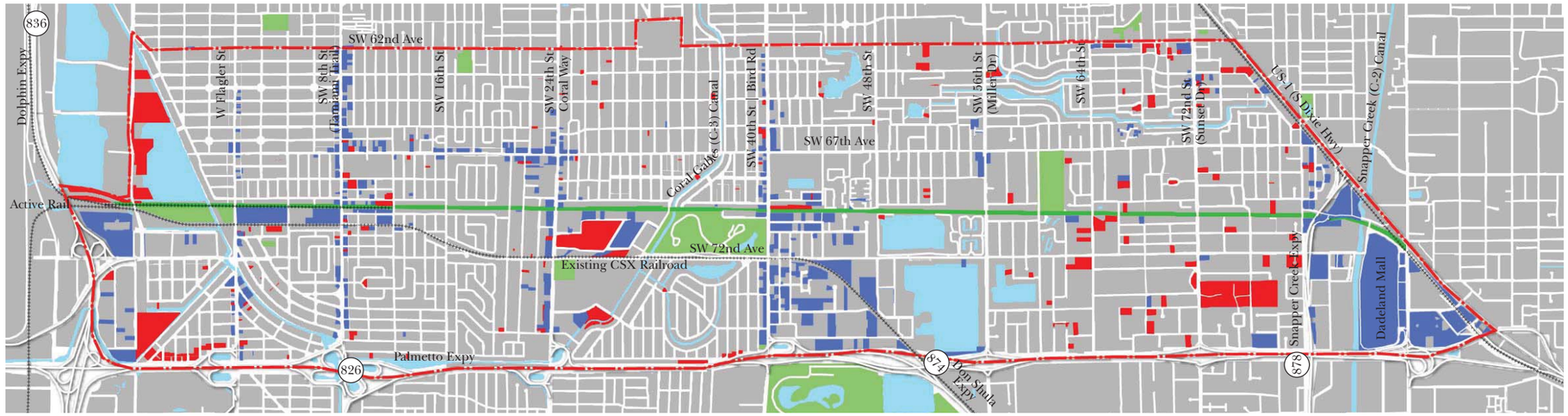
There are several large parcels along the Ludlam Trail corridor that are classified as vacant or are underutilized. **Underutilized parcels are classified as non-residential parcels where the improved value of land is less than 40% of the total value of the property.** A majority of the properties identified as either vacant or underutilized are industrial or commercial.

- There are approximately 200 acres vacant parcels within 1/2 mile of the Ludlam Trail corridor
- There are approximately 350 acres of underutilized parcels within 1/2 mile of the Ludlam Trail corridor
- The Dadeland Mall is currently the largest single group of properties which are underutilized due to its current assessment of $0 in improvements to the land value
- The intersection of SW 24th Street (Coral Way) and SW 72nd Avenue and the intersection of West Flagler Street and SW 69th Avenue both have a high concentration of vacant and underutilized land

1.3.10 AREAS OF POTENTIAL CHANGE

Areas of potential change are areas which are either vacant, underutilized, commercial or industrial land uses, do not contain an interconnected street network, or are all the above. The parcels highlighted on the map to the right are those which have a potential to change either through development or redevelopment with an emphasis on providing access to the Ludlam Trail. Large parcels may not experience change solely due the presence of the trail, however, each site has the ability to provide an interconnected network of streets and pedestrian circulation, open space, affordable housing and employment opportunities. Theses areas of potential change will be addressed in greater detail in Section Two of this report.

1.3.9 VACANT AND UNDERUTILIZED LANDS



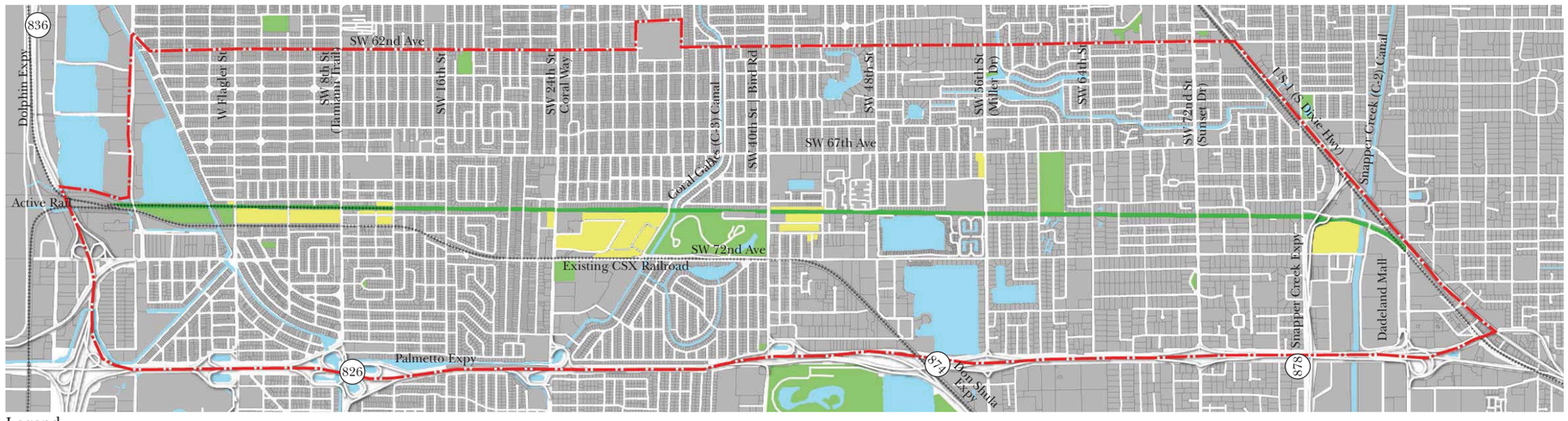
Legend

- Ludlam Benefits Study Area
- Ludlam Trail Corridor
- Active Rail Corridors
- Blocks + Streets
- Parks
- Water
- Vacant Lands
- Underutilized Lands

0 1/4 1/2 Miles

N

1.3.10 AREAS OF POTENTIAL CHANGE



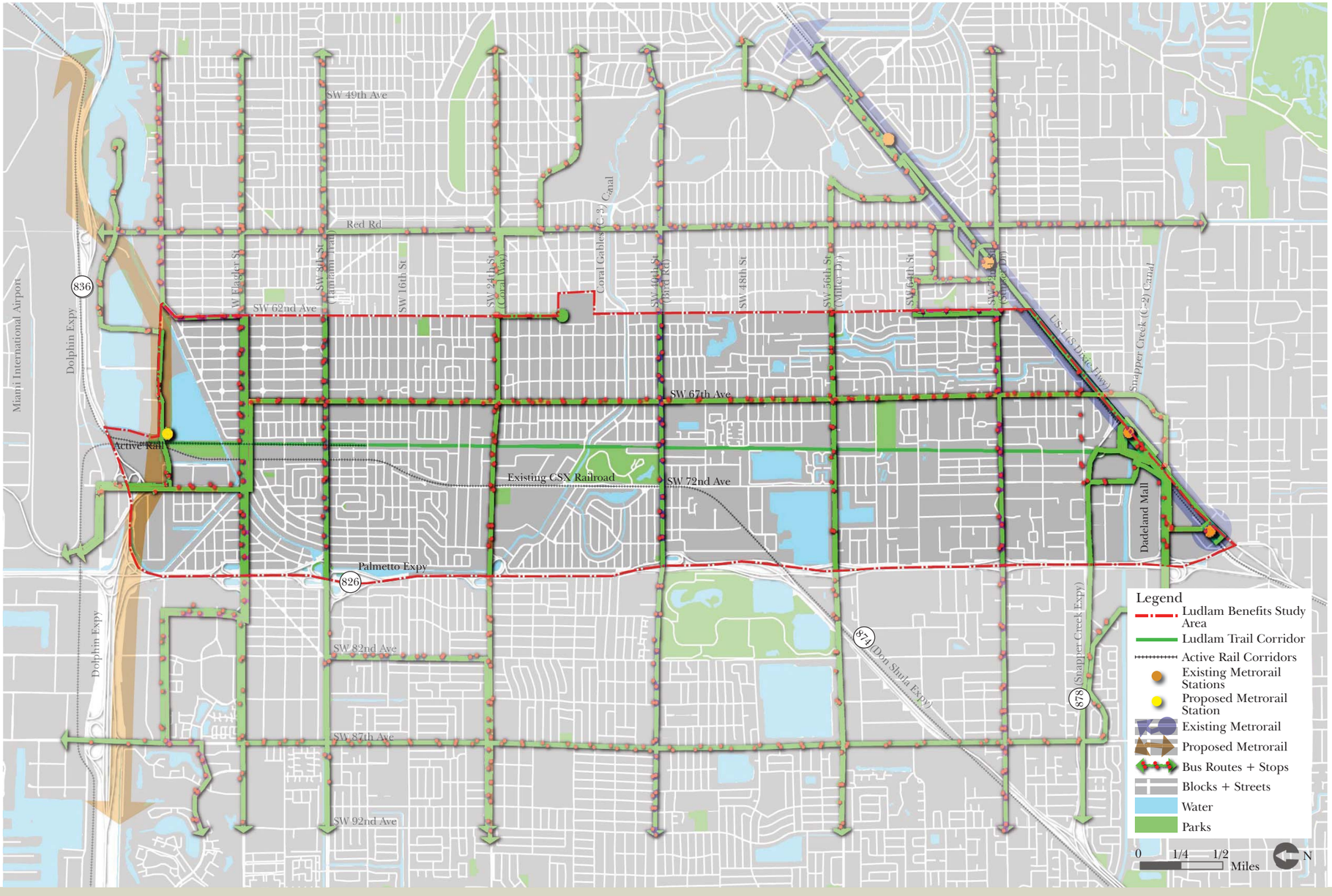
Legend

- Ludlam Benefits Study Area
- Ludlam Trail Corridor
- Active Rail Corridors
- Blocks + Streets
- Parks
- Water
- Area of Potential Change

0 1/4 1/2 Miles

N

1.3.11 TRANSIT SYSTEM MAP



1.3.11 TRANSIT NETWORK

The map to the left highlights the existing and proposed transit network within the Study Area. This includes all mapped Miami-Dade County Transit bus routes and bus stop locations, along with all existing and proposed Metrorail routes and stations.

A total of ten (10) bus routes, denoted by colored arrows, bisect the Study Area east to west while only one route, along SW 67th Ave. (Ludlam Road) provides north to south service. The Dadeland South Bus Station is the terminal for most busses serving Southwest Miami-Dade County via the Busway, while the Dadeland North Bus Station is the terminal for several routes serving western Miami-Dade County. The two Metrorail routes, either existing or proposed, are located at the extreme northern and southern areas of the Ludlam Trail corridor with the trail providing direct access to both routes. Ludlam Trail will be a critical route choice for residents traveling either north or south within the Study Area.

A person's decision regarding whether to utilize transit or some other single occupant vehicle mode of transportation to work is usually driven by three primary factors:

- Convenience – Is the transit option accessible and reliable? Most people are willing to walk 5 to 10 minutes to reliable and frequent transit service, as discussed on page nine (9). Anything that can be done to expand the number of people within walking parameters (or, sometimes, within biking distance) will increase ridership.
- Travel Time – More time competitive transit modes (rail, rapid bus, etc.) tend to be more attractive. For bus service, the frequency and reliability of service at a given stop is a significant factor.
- Cost – The price of an automobile, motor fuel and parking is a major element in people's decision making. Those who cannot afford an automobile are, of course, largely transit and walk dependent. Among those who have an automobile, transit ridership rises significantly as motor fuel costs and parking costs rise.

Ludlam Trail can improve the convenience to and travel time from mass transit, therefore increasing the likelihood that a person will decide to use mass transit.

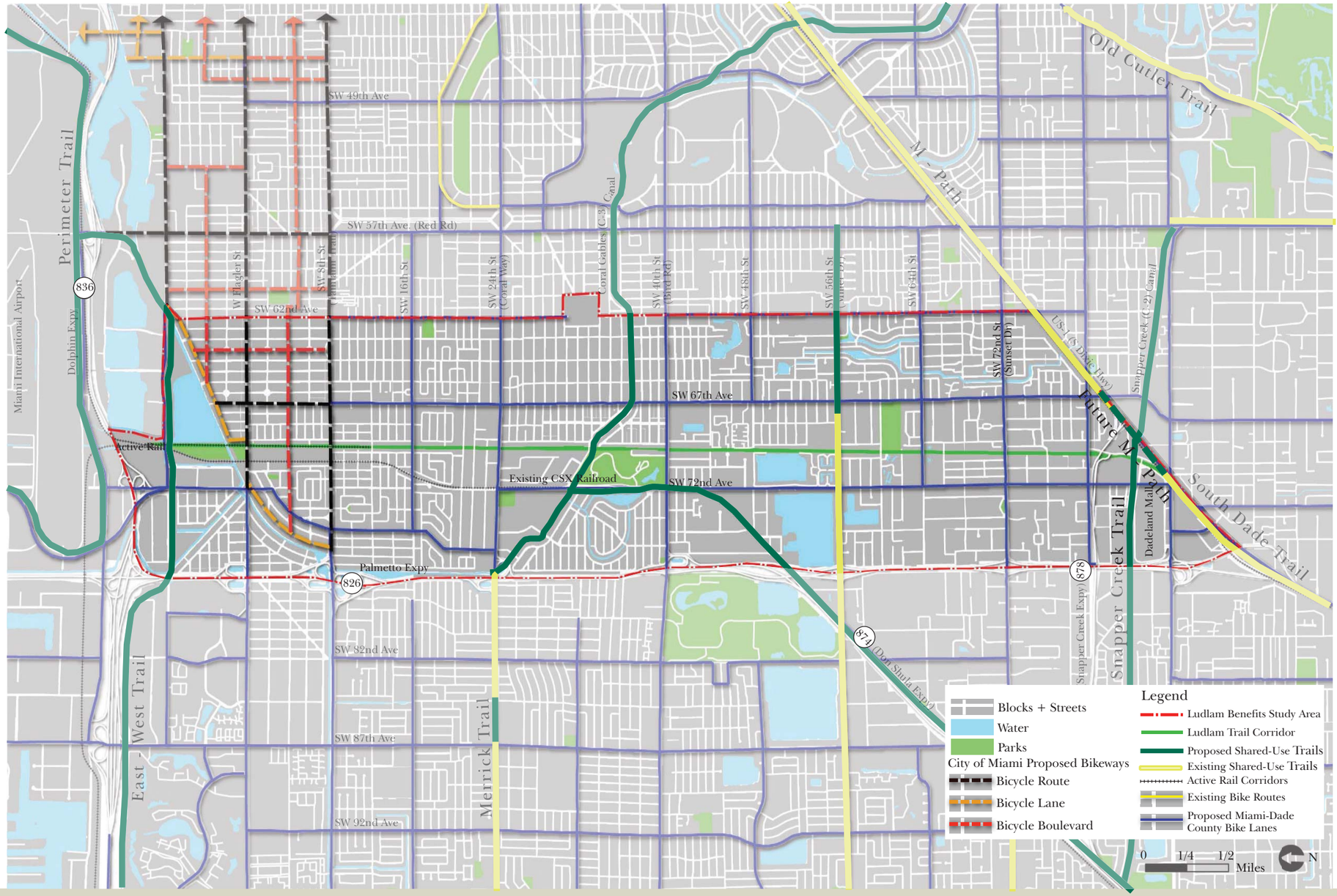
1.3.12 BIKEWAY SYSTEM

The map to the right highlights the existing and proposed bikeway systems within the Ludlam Trail Study Area. This includes all existing and proposed on- and off-street shared-use bicycle routes per the Miami-Dade County Bike and Pedestrian Plan Update and the City of Miami Bicycle Master Plan. This network of existing and proposed bicycle routes will be used in later sections of this report to determine accessibility and service areas.

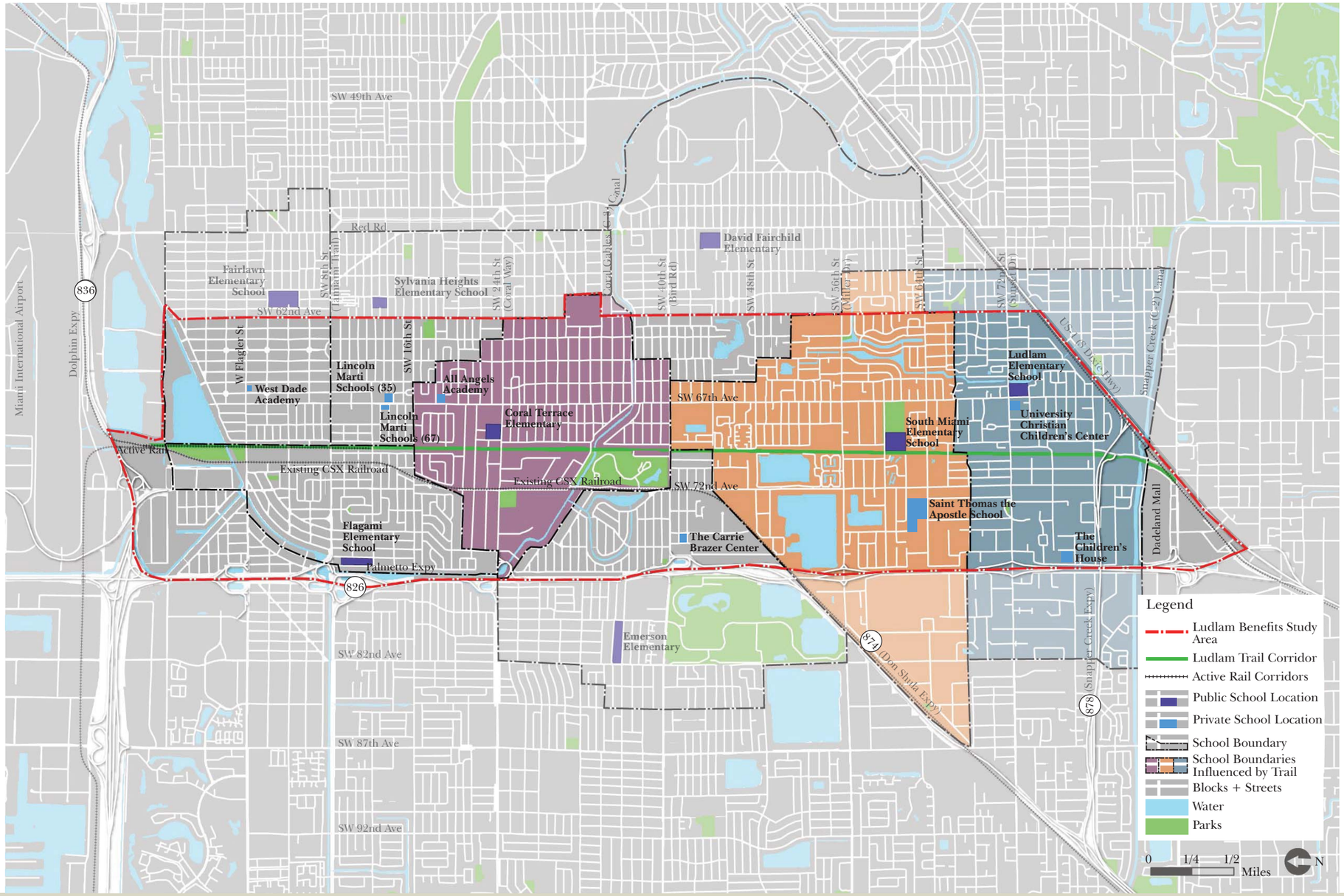
Both master plans identify Ludlam Trail as a greenway or non-motorized shared-use bicycle facility. The Miami Bicycle Master Plan includes the development of bicycle boulevards and on-street bicycle lanes while the Miami-Dade County Bike and Pedestrian Plan Update consists primarily of on-street bicycle lanes. In both cases, Ludlam Trail would be the only north/south bicycle route between SW 57th Ave. (Red Road) and SW 97th Ave.

This bikeway system data will be used in later sections of this study to identify the benefits to area cyclists from the development of Ludlam Trail.

1.3.12 BIKEWAY SYSTEM



1.3.13 ELEMENTARY SCHOOLS + ATTENDANCE AREAS



1.3.13 ELEMENTARY SCHOOL BOUNDARIES

Three schools; Coral Terrace Elementary School; South Miami Elementary School; and Ludlam Elementary School all have attendance areas that span across Ludlam Trail. Attendance areas which span the Ludlam Trail corridor require students to cross the corridor using the existing street network highlighted in map 1.3.5.

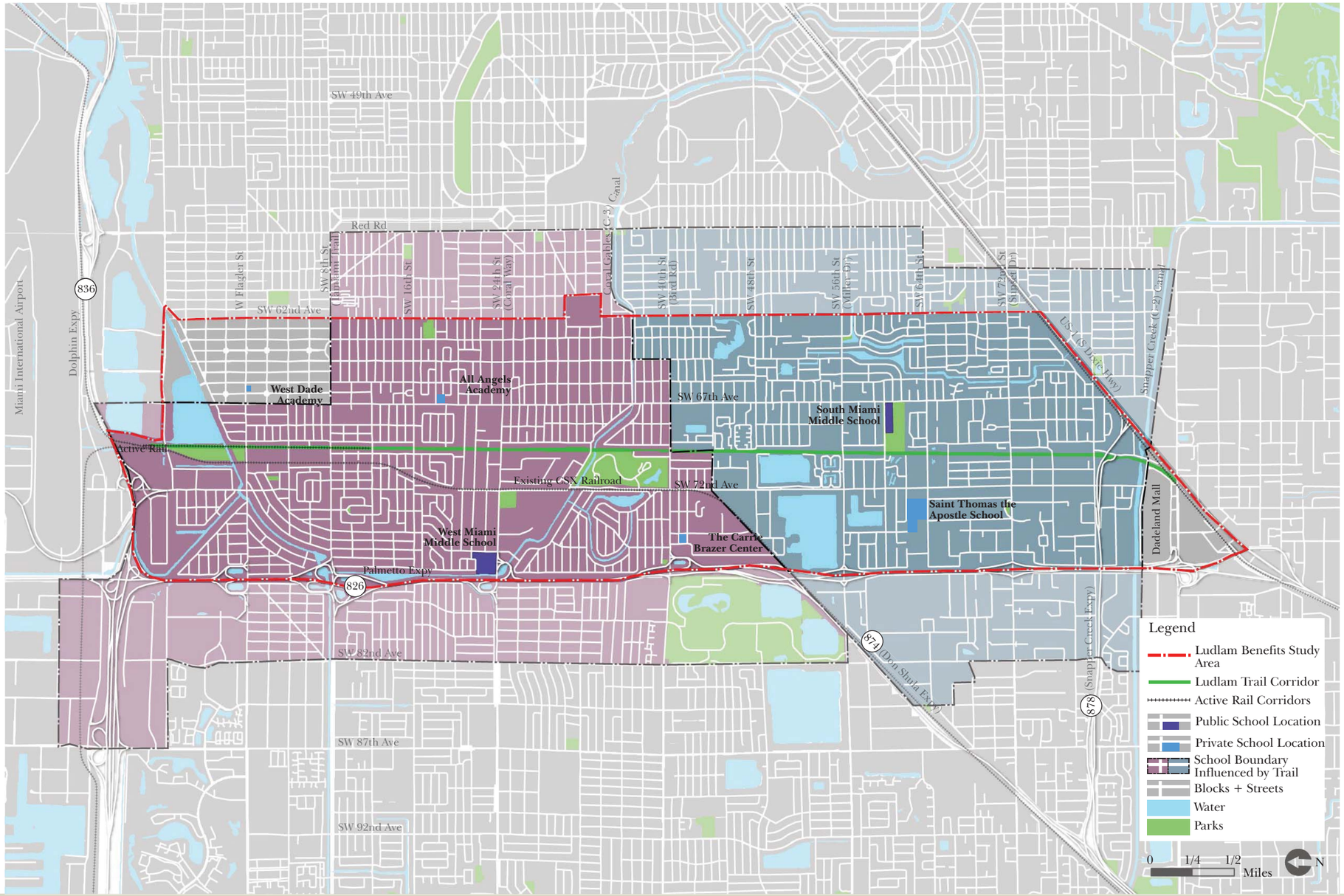
The development of Ludlam Trail could provide a safe route to school corridor for all three elementary schools, see map to the left. Additionally, the presence of Ludlam Trail as a safe route to school would allow existing schools to move boundaries due to attendance shifts. The Ludlam Trail Design Guidelines and Standards Study identifies the need for increased safety and traffic techniques to encourage the use of the trail as a route to school. The attendance areas shown on this map will be used in later sections of the study to identify the number of children who will benefit from the Ludlam Trail as a safe alternative transportation route to school.

Private schools are shown on the following page, however, most private attendance boundaries are not defined using the same methods as Miami-Dade County Public Schools. In addition, individual private school enrollments are not significant within the Ludlam Study Area. In all cases, private schools should be identified as all students stand to benefit from the presence of a trail.

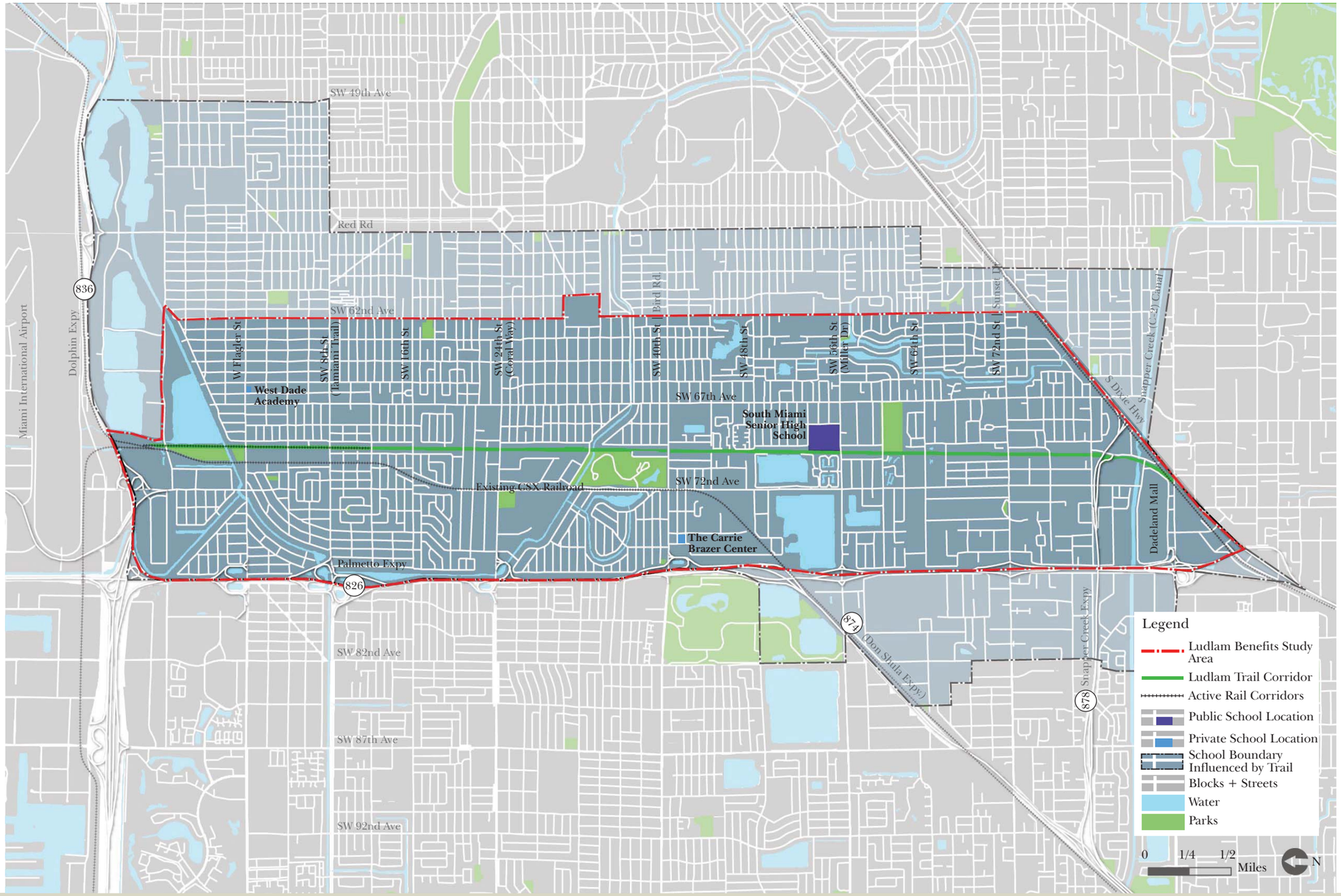
1.3.14 MIDDLE SCHOOL BOUNDARIES

The map to the right identifies the location of middle schools and their attendance areas within the Ludlam Trail Study Area. Both South Miami Middle School and West Miami Middle School serve populations on both sides of the corridor. As stated for the elementary schools, the development of Ludlam Trail could provide a safe route for students to walk or bicycle to school.

1.3.14 MIDDLE SCHOOLS + ATTENDANCE AREAS



1.3.15 HIGH SCHOOL + CATCHMENT AREA MAP



1.3.15 HIGH SCHOOL BOUNDARY

The map to the left identifies one existing high school with an attendance boundary which covers the entire Study Area. Located immediately adjacent to the Ludlam Trail corridor, South Miami Senior High School severs as the typical school connection example for the Ludlam Trail Design Guidelines and Standards Study. An increase in students either walking or biking to school would relieve traffic congestion in the vicinity.

This data will be used to identify the potential social, environmental, and economic benefits area residents would experience from the development of Ludlam Trail as a safe route to school.

1.3 PHYSICAL CONDITIONS SUMMARY:

Through a thorough understanding of current land use patterns, transportation patterns, built environment, parks and recreation venues, and cultural venues the following items have been identified:

- Areas of commercial activity are primarily located perpendicular to the corridor and are located along arterial or collector streets
- Large areas of single family residential land uses exist adjacent to the corridor
- Block patterns adjacent to the corridor consist primarily of 'super blocks' which limit access to the corridor
- Two large areas consisting of commercial and medium to high density residential land uses with large vacant or underutilized parcel exist near SW 24th St. (Coral Way) and SW 40th St.) Bird Road
- Ludlam Trail will serve as a major north/south route connection for multiple bus routes and pedestrian access route to two major Metrorail Stations
- Existing and proposed bike master plans identify Ludlam as a key off-road/ greenway route.

Multiple school boundaries extend to either side of the Ludlam Trail corridor and could benefit from a safe route for students to travel to school

1.4 DEMOGRAPHIC SUMMARY

The demographic overview is intended to place the Ludlam Trail Walkable Area and Study Area in a comparative context to see how these areas are performing against both a county-wide and national average. The demographic overview indicates the following important aspects of the population of the Ludlam Trail Study Area and Walkable Area:

- The slight population decline for the Walkable Area and Study Area indicates the need for an intervention to improve overall livability of the area and economic competitiveness.
- The slight decline in household growth within the Walkable Area and the Study Area indicates a shrinking household size
- The lack of extreme growth or decline indicts that the projected population estimates used will provided current information and will not contain extreme variables.
- The Study Area and Walkable Area contain an older population with potentially an increased need for social services or health-related care.
- The Study Area and Walkable Area have a higher than County average for Hispanic population
- Enhanced walkability and area amenities could assist groups already in the area as well as potentially attract a greater number of families and young professionals

1.4 DEMOGRAPHIC OVERVIEW

In order to better understand the competitive context of the area around Ludlam Trail, AECOM conducted a demographic analysis overview by gathering and examining data and information on the existing conditions of the population within the Walkable Area, or the area within a half-mile (1/2) access of the trail as shown on page 9, and how this area intersects and compares with the surrounding region. This assessment includes both quantitative and qualitative information, from pictures and observations made during the tour of the Walkable Area to extensive demographic data from multiple sources.

AECOM gathered quantitative data from various public and private sources, including GIS shapefiles and parcel data from Miami-Dade County and data from third-party data providers including private sources such as ESRI, Woods & Poole, and CoStar Property and public sources such as the U.S. Census Bureau, and the U.S. Bureau of Labor Statistics. A full set of tables with all data reviewed is located in Appendix A.

POPULATION AND HOUSEHOLDS

Population and household growth are analyzed in market analyses, economic impact studies, and other land use economics studies for a few reasons. First, the growth or decline in population can indicate an area's relative economic condition. If an area is losing population rapidly, it can signal other economic forces at work that need to be identified. A small population decline can indicate the need for particular interventions to improve overall livability of an area. On the other hand, population growth can be the mark of a successful, growing community. Growth in households mean growing users of government services, but also as a "purchasing unit," can mean the need for additional retail and services in an area as supply follows demand.

For the initial demographic overview, AECOM examined the half-mile Ludlam Trail Walkable Area (users within a half-mile walking distance), the Study Area (which is slightly larger), Miami-Dade County, and the United States. The Miami-Dade County and United States data can place the Ludlam Trail Walkable Area and Study Area in a comparative context to see how they are performing against both a county-wide and national average.

Population in the Ludlam Trail and Comparative Areas, 2000-2014

	Population				
	2000	2009	2014	00-'09 CAGR /1	09-'14 CAGR /1
Walkable Area	32,288	32,152	32,089	-0.05%	-0.04%
Study Area	52,680	52,240	52,116	-0.09%	-0.05%
Miami-Dade	2,232,351	2,442,161	2,522,409	1.00%	0.65%
USA	278,049,507	306,109,789	320,322,004	1.07%	0.91%

1/ Compound Annual Growth Rate--A way of expressing the average annual growth, if the same growth were to happen every year in the time period.
Source: ESRI Business Analyst, 2009; AECOM 2010.

Population in the Ludlam Trail Walkable Area and the Study Area are staying steady; there has been a slight decrease between 2000 and 2009 of approximately five-tenths of a percent, a trend expected to continue in the coming five years, according to projections by ESRI. By comparison, Miami-Dade County grew by approximately one percent annually from 2000 to 2009. This is comparable to the U.S. population growth during the same period (1.07 percent growth in population annually). The lack of growth and extreme decline indicates that the projected population estimates used will provide current information and will not contain extreme variables.

Household growth occurred in a pattern similar to population, though in the 2000 to 2009 period, the number of households in the Ludlam Trail Walkable Area and Study Area shrank more slowly than population. This could indicate a shrinking household size. Average household size (as determined by dividing population by number of households) in the Ludlam Trail Walkable Area is 2.66, which is the same as the U.S. average. The Study Area and Miami-Dade County's household sizes are larger than average, at 2.83 and 2.93 respectively.

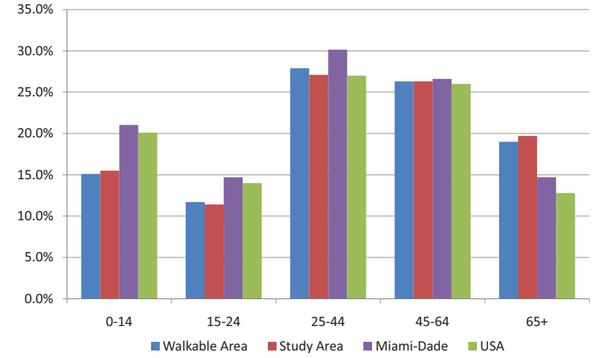
AGE

Age is an important characteristic to determine the types of services needed, both in terms of retail services and government services. However, the age profile of an area can also potentially determine the future characteristics of an area and the types of housing and other real estate products needed to meet the future demand. For example, a large number of young children will necessitate schools, businesses catering to families, day care, and homes to accommodate families, while a large elderly population will likely need new healthcare options, retirement housing, and related social services.

The Ludlam Trail Walkable Area and Study Area's age profiles are significantly older than Miami-Dade County and the U.S. The median age in 2009 was 41.6 in the Ludlam Trail Walkable Area and 42.2 in the Study Area, compared to 36.8 in Miami-Dade County and 36.9 in the U.S.

The Influence and Study areas have a larger proportion of population in the 65+ age range, and fewer children under the age of 14 than Miami-Dade County and the U.S. This could indicate the need for additional retirement options so that these residents may remain in the area as they age. Additionally, it is possible that the housing product types in some of the area are not appropriate for families with small children and appeal more to those with smaller household sizes; singles and couples of working age, empty nesters, and those of retirement age. Enhanced walkability and area amenities could assist groups already in the area as well as potentially attract a greater number of families and young professionals.

Share of Population by Age, 2009



Source: ESRI, AECOM 2010

RACE AND ETHNICITY

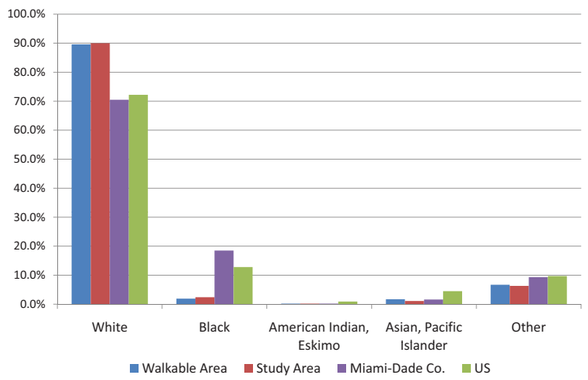
Race and ethnicity data characterize how areas are changing, and businesses who cater to particular populations are very interested in this characteristic as a component of the area's overall suitability for their businesses. Furthermore, diversity is increasingly being used to measure an area's ability to embrace new ideas and be interesting places to live, attracting additional new residents with its vibrancy.

Miami-Dade County is of course known to be a very diverse place, with residents of a Hispanic origin contributing widely to the culture. It should be noted that Hispanic origin is a separate characteristic to race; those identifying as being of Hispanic origin can belong to any race.

The Walkable Area and Study Areas are mostly white, with approximately ninety (90%) percent of the population in that category. This is higher than in the U.S. or Miami-Dade as a whole, which have a 70 and 72 percent white population respectively.

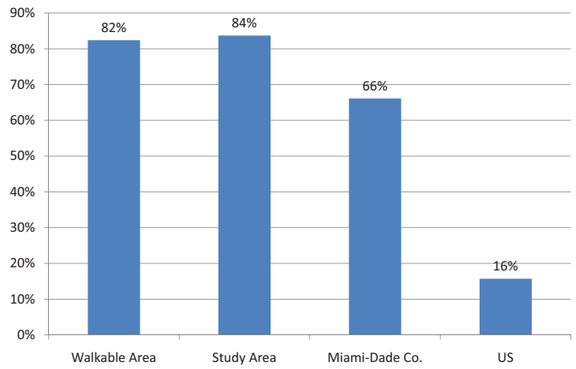
While the Ludlam Trail Walkable Area and Study Area have a mostly-white population, this belies its diversity. As in Miami-Dade County, those identified as being of Hispanic origin play a prominent role in the population of the two areas, with 82 and 84 percent of persons in the Ludlam Trail Walkable and Study Areas claiming Hispanic heritage, respectively. This is higher than Miami-Dade which has 66 percent of its population identifying as such. Therefore, although the Walkable Area and Study Area are diverse in race and ethnicity, these areas are not as diverse as Miami-Dade County overall. This may make the area less attractive to businesses which are looking for diverse and vibrant communities. This lack of diversity as compared to the County overall may be contributed to the lack of housing product options which are appropriate for families.

Racial Composition of Population, 2009



Source: ESRI, AECOM 2010

Percent of Population of Hispanic Origin, 2009



Source: ESRI, AECOM 2010

SUMMARY OF FINDINGS

Demographically, the population surrounding Ludlam Trail is stable in terms of growth, however businesses are more attracted to growing communities. Residents within the Walkable Area and the Study Area are older than state and County averages, and there are fewer children per capita. Enhanced walkability and area amenities could assist groups already in the area as well as potentially attract a greater number of families and young professionals. In terms of racial and ethnic diversity, the corridor's population is less diverse than Miami-Dade County and may lead to a lack of interest from businesses looking for diverse, vibrant communities.

Population and household figures developed during the demographic overview will be used for estimating potential benefits associated with the construction of Ludlam Trail. Earlier studies on of the corridor have provided population figures, however, for all purposes associated with this report, the population and household estimates stated during this demographic overview will be used for estimating benefits.

1.5 BASELINE ECONOMIC ASSESSMENT OVERALL SUMMARY

The Baseline Assessment identified the following important aspects of the population of the Ludlam Trail Study Area and Walkable Area:

- The southern and eastern portions of the corridor includes areas of high household income which supports more services and retail activities.
- Income is growing across the Study Area which translates into additional need for retail and services
- A high proportion of employment in retail indicates a need to introduce diversity in employment with an increased need in flexible office space.
- The area has a higher than County average of 55% owner-occupied households creating a more stable retail and residential market
- Extremely low vacancy rates for industrial and retail spaces within the Study Area may suggest either stagnation or under-supply of the market

1.5 BASELINE ECONOMIC ASSESSMENT

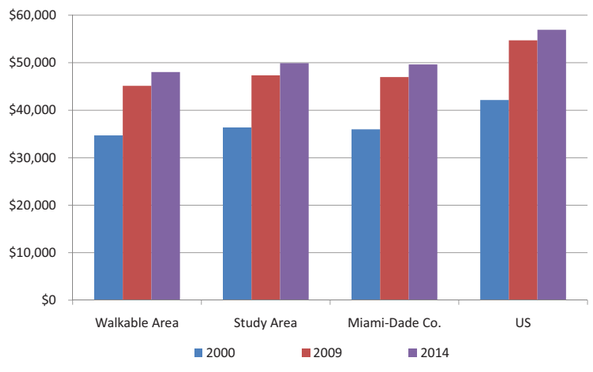
AECOM researched multiple sources of economic and real estate data to assess the existing economic conditions within the Ludlam Trail Study Area and Walkable Area. A baseline assessment will be conducted for two reasons; first to establish a baseline report of existing economic conditions which can be referenced in future studies of the economic impact from the development of the Ludlam Trail; and secondly, to provide baseline information to estimate the future economic impacts from the development of Ludlam Trail.

AECOM gathered quantitative data from various public and private sources, including GIS shapefiles and parcel data from Miami-Dade County and data from third-party data providers including private sources such as ESRI, Woods & Poole, and CoStar Property and public sources such as the U.S. Census Bureau, and the U.S. Bureau of Labor Statistics. A full set of tables with all data reviewed is located in Appendix B.

HOUSEHOLD INCOME CHARACTERISTICS

In addition to the number of residents and households in an area, household income is one of the most important characteristics businesses (particularly retail businesses) use in identifying sites because it indicates the ability of the population to buy services. The Ludlam Trail Walkable Area and Study Area's median household incomes ($45,000 and $47,000 respectively in 2009) are on par with Miami-Dade ($46,500) but lower than the U.S ($55,000).

Median Household Income Comparison, 2000-2014



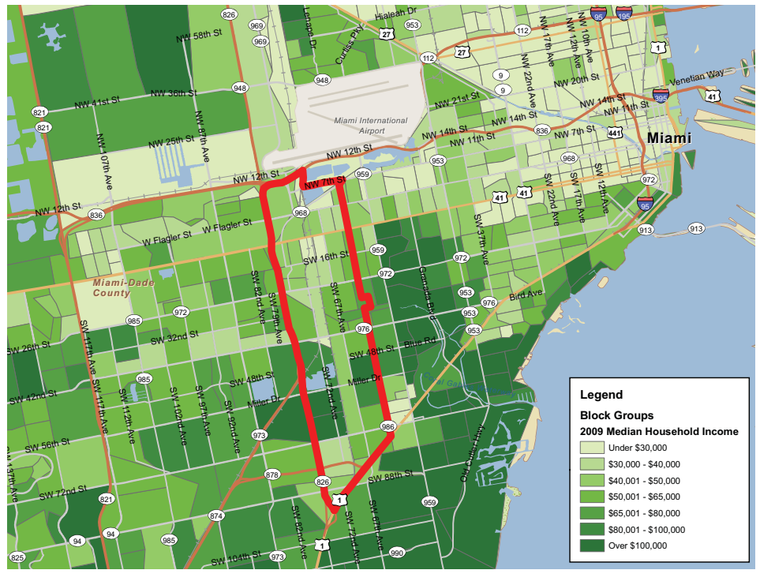
Source: ESRI, AECOM 2010

The Study Area has experienced an approximate 30 percent increase in income from 2000 to 2009, at an average annual rate of just over 3 percent. This suggests that each area had approximately a 0.6 annual percentage increase in real income (over and above the estimated 2.78 percent inflation over the same period).

Overall, the area around Ludlam Trail is middle income. It is evident from mapping income by Census block group that incomes vary widely throughout the study areas (see map below). There are block groups in the southern part of the Study Area with a median household income of over $100,000 per year, while there are adjacent block groups with median household incomes of under $30,000. The proximity of the southern part of the Study Area to additional areas of high median household incomes near Coral Gables and Pinecrest, is also likely to support greater retail and services in that part, and land use patterns seem to suggest this has manifested itself already (for example, Dadeland Mall).

AECOM also examined the distribution of households by household income. The approximate 12,000 households in the Ludlam Trail Walkable Area have been becoming more affluent.

Median Household Income by Census Block Group, 2009



Source: ESRI, AECOM 2010

From 2000 to 2009, the number of households earning under $50,000 decreased while the number earning more than $50,000 increased. This suggests that in the future, households in the area will have greater purchasing power and will therefore be better able to support additional retail and services.

EMPLOYMENT

Incomes, of course, are clearly tied to employment. In the Study Area, 63 percent of employed persons over the age of 16 are white collar employees, 18 percent employed in services, and 19 percent blue collar employees. Just under half of all employed persons in the Study Area are employed in services industries. These industries include everything from education to accommodations and food services. The next largest category is retail, with 11 percent of all employed persons working in retail establishments.

The employment of residents in retail correlates to the same percentage of retail businesses. This is twice the share of jobs that Miami-Dade County had in retail in 2009 (10 percent), according to data from Woods and Poole, and is a result of the presence of Dadeland Mall.

The current employment profile of the area indicates that the area is not a primary employment center. While it does have substantial commercial real estate, which was observed in the field as well as in the data, it is mostly retail or services. Retail jobs do not have the same amount of impact that office employment might have with higher wage jobs and additional economic linkages. Further diversification of the area can occur over time as uses convert or additional density occurs in the existing commercial areas. An increase in population diversity may help the area become more diverse through employment.

REAL ESTATE OVERVIEW

To gauge the Study Area's relative position in the regional real estate markets, AECOM evaluated published data on historic performance and other factors as available. This preliminary data provided a contextual framework to color and inform later data collection and analysis on the

Ludlam Trail Walkable Area and the benefits analysis that followed. The full data on the commercial markets are located in Appendix B. Following are summary points about each land use.

Residential:

Study area residents live in 19,385 housing units, 55 percent of which are owner-occupied, 40 percent renter-occupied, and 5 percent of which are vacant. The Study Area has 2.07 percent of Miami-Dade County housing units. The Study Area has a higher percentage of owner-occupied housing units (55 percent) versus Miami-Dade County (51 percent). The share of owner-occupied housing is expected to increase in both areas through 2014, according to ESRI's projections.

Office:

Though not a core office location like Miami's financial district, the Study Area has nearly 2 million square feet of office space. The majority of space in the Study Area (64 percent) is considered "Class B" meaning that it is not a premium office location with high end finishes.

Space in the Study Area rents for an average of approximately $30 per square foot, which is similar to Miami-Dade County as a whole, but higher than the submarkets in which it resides. (The trail corridor runs through three of CoStar's office submarkets: Kendall, West Miami, and Miami Airport. Data from these areas are used as points of comparison to compare to the Study Area in the data tables.)

- Kendall submarket has 11 million square feet of office space that rents for an average of $27 per square foot. There are just under 4,000 square feet under construction in this submarket, and they are to be located in the part of this submarket located in the Ludlam Trail Study Area.
- West Miami submarket has a total of 3.5 million square feet of office space. With under 3 percent vacancy, it has the lowest direct vacancy rate of any area examined. Space rents for approximately $26 per square foot.
- Miami Airport submarket is the largest of any examined. It has 17.4 million square feet of office space and has a high vacancy rate of approximately 16 percent. A and B Class space has the higher vacancy rates approaching 20 percent. About one-third of all the submarket's space is class A.

Overall, Miami-Dade County has seen increasing vacancy rates, which has essentially followed economic conditions across the nation. Analysis: Office space development is not seen as a driving force for the Ludlam Trail Study Area's redevelopment due to its sub-standard market size.

Industrial:

Though many areas along the Ludlam Trail corridor appear industrial, the Study Area contains 4.6 million square feet of industrial space which accounts for only 2 percent of Miami-Dade County's overall market. In addition, the Study Area's vacancy rate is extremely low, under 1 percent. Extremely low vacancy rates can actually be problematic from an economic development perspective, if space is not available to recruit new workplaces.

Industrial space in the Study Area currently has an average rental rate of $16 per square foot, which is approximately twice that of Miami-Dade County. The difference in rental rates may be a reflection of industrial space being used for flexible office space which typically rents for a higher price than large warehouse space.

Industrial space/flexible office space development could be a catalyst for redevelopment of the Ludlam Trail Study Area due to its extremely low vacancy rate.

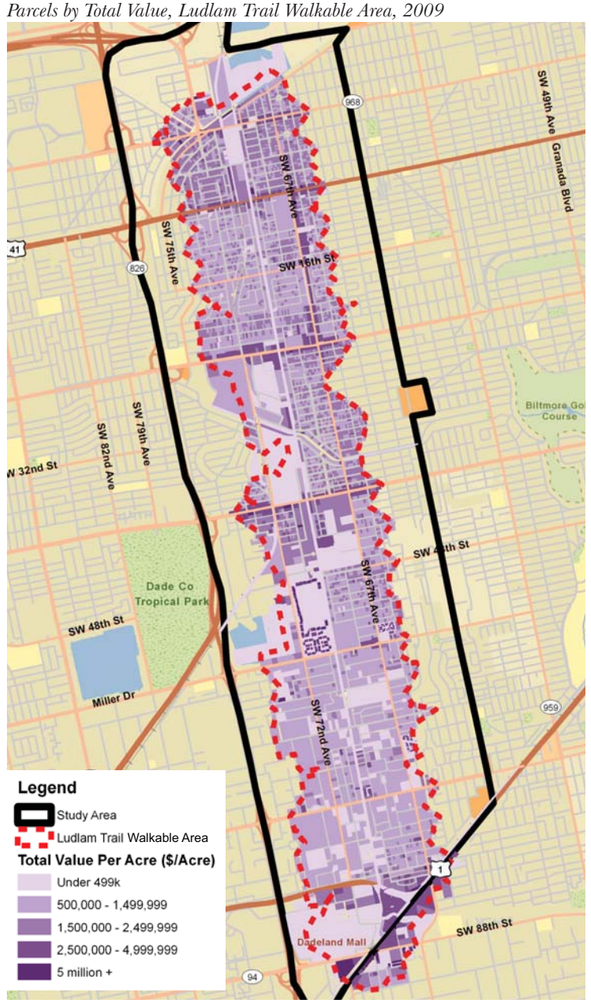
Retail:

As documented in the employment section, retail is a dominant use in the Study Area, however most of these properties do not directly abut the trail corridor. There is 3.6 million square feet of retail space in the Study Area, with an average rental price of $25.75 per square foot. This rate is likely driven higher by the presence of the Dadeland Mall and surrounding retail. Other smaller centers along the corridor likely rent for much lower rates.

The Study Area has an extremely low vacancy rate of just over one (1) percent. A typical frictional vacancy rate allows tenants to move in and out can range from 5 to 7 percent in a healthy market (as seen in the Miami-Dade market overall and in the Kendall submarket). Lower vacancy rates can indicate market stagnation or an under supply of space. According to CoStar data, there have been no new deliveries in the Study Area of retail space.

Seventy-seven (77) percent of the Study Area retail space is contained in shopping centers. By comparison, Miami-Dade retail space is approximately split equally between shopping center space and other retail space (which can include freestanding "box" stores, downtown retail in buildings, and other types of retail buildings). The Ludlam Trail Study Area could see development of "Big Box" retail space, generally associated with low density areas, as large vacant properties exist adjacent to the corridor.

Parcels by Total Value, Ludlam Trail Walkable Area, 2009



Source: ESRI, AECOM 2010

1.5 BASELINE ECONOMIC ASSESSMENT

The Baseline Assessment for the Ludlam Trail Study Area identified the following important characteristics of the market:

- The Study Area has twice the number of person employed in Retail as the rest of Miami-Dade County due to the presence of the Dadeland Mall
- There is a higher than County average of owner-occupied households (55% versus 51% respectively)
- Highest office vacancy rate is located within the Miami Airport market with near the north terminus of the corridor and has a 20% vacancy rate.
- The Study Area is primarily a Class B office space market
- Industrial space within the Study Area currently enjoys a 1% vacancy rate which can be problematic in encouraging near business to locate within the area
- Retail vacancy rate is just over 1% which may suggest stagnation or an under-supply of space (5-7% vacancy is encouraged)

1.5 BASELINE ECONOMIC ASSESSMENT (CONTINUED)

The Baseline Assessment for the Ludlam Trail Study Area identified the following important characteristics of the market:

- The Study Area has a total assessed value of $6.34 billion
- The average per parcel assessed value is $455,000
- Within the Walkable Area, average per parcel assessed values increase to $539,000 per parcel due to larger lots and a higher percentage of commercial properties.
- 14% of properties within the Walkable Area are commercial versus 10% for the Study Area
- Improvements to property values will have a larger dollar total for Miami-Dade County versus other jurisdictions due to 75% of all assessed property value being within unincorporated areas.

The following baseline assessment information will be utilized in formulating economic and social benefits based on the development of Ludlam Trail.

According to property tax records from Miami-Dade County, the Study Area as a whole has 13,934 parcels, valued at $7.5 billion, with an assessed value for property tax purposes of $6.34 billion. This gives an average per parcel assessed value for tax purposes of $455,000

Property values in the Ludlam Trail Walkable Area are valued slightly higher with a per parcel assessed value of $539,000. This may be due to larger overall parcel sizes or types of uses within the Walkable Area (i.e. commercial rather than residential).

The total values (including land plus improvements and not necessarily taxable value) are mapped by parcel for the Ludlam Trail Walkable Area in the map on the previous page.

The Study Area and Ludlam Trail Walkable Area contain five different taxing jurisdictions: the Cities of Miami, West Miami, and South Miami; the Village of Pinecrest; and Unincorporated Miami-Dade County. Each jurisdiction has different property tax millage rates, which will be taken into consideration when estimating potential tax revenue increases in Section Three of this report. The following are breakdowns of property value totals by jurisdiction:

City of Miami: 1,316 of the Ludlam Trail Walkable Area parcels and 795 of the remaining Study Area parcels are in the City of Miami, with a total value of $437 million and $237 million respectively. The assessed values on these same parcels total $480 million. The parcels encompass a total of 392 acres of land.

Village of Pinecrest: 101 of the Ludlam Trail Walkable Area parcels are in the Village of Pinecrest, with a total value of $150 million and an assessed value of $143 million. There are no parcels in the remainder of the Study Area in this jurisdiction. The total acreage represented by these parcels is 56 acres.

City of South Miami: 822 of the Ludlam Trail Walkable Area parcels and 1,055 of the remaining Study Area parcels are in the City of South Miami, with a total value of $322 million and $533 million respectively and assessed values of .$232 and $439 million, respectively.

City of West Miami: 459 of the Ludlam Trail Walkable Area parcels and 580 of the remaining Study Area parcels are in the City of West Miami, on a total of 201 acres, with a total value of $169.5 million and $149.9 million, respectively, and an assessed value of $147 and $109 million, respectively.

Unincorporated Miami-Dade County: Outside of the above jurisdictions are the remaining 8,806 parcels, 4,960 in the Ludlam Trail Walkable Area and 3,846 in the remaining Study Area. These parcels have a total value of $5.5 billion, with most of this value ($3.6 billion) in the Ludlam Trail Walkable Area and $1.8 billion in the remainder of the Study Area. The total assessed value of these parcels is $4.8 billion.

Overall Profile of Ludlam Trail Walkable Area and Study Area Parcels, Acres, Total Value, and Assessed Value by Jurisdiction, 2009. Net Study Area is the Study Area less the Walkable Area

Miami	Parcels	Acres	Total Value	Assessed Value
Walkable Area	1,316	247	$437,345,369	$321,603,376
Net Study Area	795	145	$236,996,997	$158,096,472
Total	**2,111**	**392**	**$674,342,366**	**$479,699,848**
Pinecrest				
Walkable Area	101	56	$150,049,620	$142,803,230
Net Study Area	-	-	$0	$0
Total	**101**	**56**	**$150,049,620**	**$142,803,230**
South Miami				
Walkable Area	822	306	$321,952,267	$232,386,727
Net Study Area	1,055	275	$533,010,134	$438,941,884
Total	**1,877**	**581**	**$854,962,401**	**$671,328,611**
West Miami				
Walkable Area	459	91	$169,451,287	$146,794,918
Net Study Area	580	110	$149,864,299	$109,448,052
Total	**1,039**	**201**	**$319,315,586**	**$256,242,970**
Unincorp.				
Walkable Area	4,960	1,801	$3,630,961,094	$3,281,965,116
Net Study Area	3,846	1,143	$1,822,253,942	$1,512,764,442
Total	**8,806**	**2,943**	**$5,453,215,036**	**$4,794,729,558**
TOTAL				
Walkable Area	7,658	2,500	$4,709,759,637	$4,125,553,367
Net Study Area	6,276	1,673	$2,742,125,372	$2,219,250,850
TOTAL	**13,934**	**4,172**	**$7,451,885,009**	**$6,344,804,217**

Source: Miami-Dade County; AECOM, 2010.

Assessed Value of Parcels in the Ludlam Trail Walkable Area by Jurisdiction and Use

	Miami	Pinecrest	South Miami	West Miami	Unincorp.	Total
SF Residential	$187,095,375	$16,342,983	$184,563,958	$52,030,017	$692,282,739	**$1,132,315,072**
MF Residential	$27,668,179	$45,950,065	$21,601,967	$44,377,871	$321,049,518	**$460,647,600**
Mobile Home					$1,416,929	**$1,416,929**
Retail	$47,390,238	$24,103,526	$5,091,198	$14,639,438	$236,382,150	**$327,606,550**
Office	$4,084,951	$46,606,147	$2,469,992	$8,282,289	$56,343,538	**$117,786,917**
Industrial	$19,577,403	$3,146,969		$1,665,486	$156,158,944	**$180,548,802**
Other Taxable	$20,322,197	$5,200,764	$582,941	$18,255,344	$1,473,898,759	**$1,518,260,005**
Land	$3,530,767	$1,452,776	$2,056,825	$2,524,821	$145,456,933	**$155,022,122**
Institutional	$10,937,502		$16,019,846	$3,934,478	$180,065,276	**$210,957,102**
Transportation	$996,764			$1,085,174	$18,910,330	**$20,992,268**
	$321,603,376	**$142,803,230**	**$232,386,727**	**$146,794,918**	**$3,281,965,116**	**$4,125,553,367**

Source: Miami-Dade County GIS; AECOM, 2010

1.6 EXISTING CONDITIONS ANALYSIS SUMMARY

In order to estimate the potential benefits of Ludlam Trail, it is essential to understand the area's existing conditions. AECOM reviewed pertinent planning documents; analyzed the physical conditions of the Study Area; examined the area's demographics; and conducted an economic assessment to provide a baseline for future analysis. Following are important findings for each task completed:

REVIEW OF PLANNING DOCUMENTS

The construction of Ludlam Trail is not only consistent with Miami-Dade County and City of Miami Park Master Plan and Bicycle Master Plan, but it would be a major step to realizing many of the community's stated goals of creating a more connected and sustainable place to live, work, and play.

Multiple planning documents were reviewed in order to ensure a coordinated effort to document potential benefits related to the construction of Ludlam Trail. These planning documents share the common theme of making Miami-Dade County a more socially, environmentally, and economically sustainable place. The development of Ludlam Trail is a direct implementation of these goals, summarized by Miami-Dade County Parks and Open Spaces System Master Plan's goals for bikeways, greenways and trails:

- An interconnected system that provides transportation alternatives and reduces traffic congestion
- Creation of new recreational opportunities
- Increased property values
- Protection of natural resources
- Encouragement of tourism and business development

PHYSICAL CONDITIONS

The AECOM team analyzed current land use patterns, transportation patterns, the built environment, parks and recreation venues, and cultural venues. The Study Area is primarily residential, but has a notable presence of commercial and industrial properties located in parallel bands in perpendicular orientation to the trail. Due to the trail's history as an active railway, the corridor still has a number of broken links in the surrounding roadway network.

This has also affected land uses near the trail, particularly in the presence of superblocks, and some large tracks of vacant or underutilized land. As such, the construction of Ludlam Trail could be a powerful redevelopment tool to reconnect the transportation networks and attract investment into nearby vacant parcels. Over a period of time, the trail will also provide opportunities to strengthen linkages between residents and their schools, parks, and local commercial corridors.

DEMOGRAPHIC OVERVIEW

Demographic overviews allow for a understanding of where the direction the current population trends are headed. Important aspects of the population of the Ludlam Trail Study Area and Walkable Area include to following:

- The slight population decline for the Walkable Area and Study Area indicates the need for an intervention to improve overall livability of the area.
- The slight decline in household growth within the Walkable Area and the Study Area indicates a shrinking household size.
- The Study Area and Walkable Area contain an older population with potentially an increase need for social services or health-related care.
- The Study Area and Walkable Area have a higher than County average for Hispanic population
- Enhanced walkability and area amenities could assist groups already in the area as well as potentially attract a greater number of families and young professionals.

The population surrounding Ludlam Trail is largely stable in terms of growth. Residents within the Walkable Area and the Study Area are slightly older than state and County averages, and there are fewer children per capita. In terms of racial and ethnic diversity, the corridor's population is predominantly white and many identify themselves as Hispanic.

ECONOMIC CONDITIONS

A baseline economic assessment of current conditions was conducted by the AECOM team. The baseline economic assessment identified the following important aspects of the population of the Ludlam Trail Study Area and Walkable Area:

- The southern and eastern portions of the corridor includes areas of high household income which supports more services and retail activities.
- Income is growing across the Study Area which translates into additional need for retail and services
- A high proportion of employment in retail indicates a need to introduce diversity in employment with an increased need in flexible office space.
- The area has a higher than County average of 55% owner-occupied households creating a more stable retail and residential market
- Extremely low vacancy rates for industrial and retail spaces within the Study Area may suggest either stagnation or under-supply of the market

In the next section, the research data and analysis completed for the existing conditions will be used to identify potential opportunities for Ludlam Trail to incorporate the guiding documents stated goals, shown on page 6.

Winter Garden, Florida (West Orange Trail)

Dunedin, Florida (Fred E. Marquis Pinellas Trail)

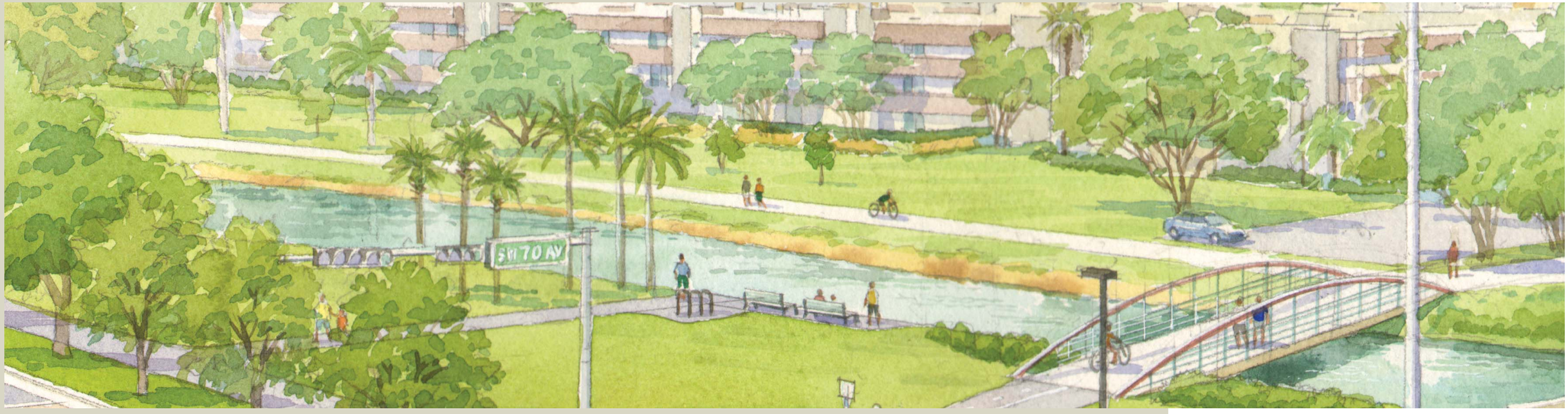
Killarney Station, West Orange Trail

Section Two:

SCENARIO DEVELOPMENT

"Greenways and trails offer a new way of looking at how a community's cultural, historic, recreational and conservation needs fit into an overall picture that also includes economic growth. With their emphasis on connections, greenways and trails allow community leaders to consider how existing parks and open spaces can become part of a network of green that supports wildlife, pleases people, and attracts tourists and clean industry."

OFFICE of GREENWAYS and TRAILS, FLORIDA DEPT of ENVIRONMENTAL PROTECTION, Thinking Green: A Guide to the Benefits and Costs of Greenways and Trails, 1998



Ludlam Trail at Snapper Creek (C-2) Canal looking northwest

2.1 OPPORTUNITIES AND CONSTRAINTS SUMMARY

Through the vision of Ludlam Trail as a non-motorized, shared-use trail and linear park, many opportunities exist for positive impacts to the surrounding neighborhoods. These opportunities fall under three broad categories and include social, environmental, and economic opportunities. Each opportunity for positive impact from the development of Ludlam Trail can be traced back to a guiding document as shown in the Goals Matrix found in section 1.1 of the study.

2.1.1 SOCIAL GOALS OPPORTUNITIES

Social goals are wide ranging and include topics from healthy lifestyles to accessibility and education. Based on the development of Ludlam Trail, the surrounding neighborhoods stand to achieve several community based goals by having better access to recreation opportunities, preservation of cultural and historically significant areas, and better access to the community at large without the need of a vehicle. Quantifiable social benefits, which will be addressed in Section Three of this study, include increases in access to area amenities, number of people engaged in regular physical activity, and the amount of calories burned from greater levels of physical activity.

2.1 OPPORTUNITIES AND CONSTRAINTS

The vision for Ludlam Trail is a 6.2 mile long non-motorized, shared-use trail that serves local residents as well as visitors, commuters, and a wide variety of users throughout the County. It is anticipated that the trail will be used to walk, bike, run and skate for fun and exercise; to access transit; to go shopping; and to commute to and from home, school and work.

In addition to providing new recreation and transportation opportunities, it is also anticipated that development of the Ludlam Trail will generate opportunities to provide a wide variety of social, environmental and economic benefits for County residents. Many of these benefits are community based goals outlined by guiding documents as shown in Section 1.1 of this study. These benefits include the following:

Social Benefits

- Healthy Lifestyles
- Public Safety
- Affordable Housing
- Education
- Accessibility
- Cultural/ Historical Resource Preservation

Environmental Benefits

- Reduced Vehicle Trips/ Miles
- Decrease Use of Fossil Fuels
- Clean Air and Water
- Reduction in Greenhouse Gases, Climate Changes
- Enhance Biodiversity

Economic Benefits

- Improve Mobility/ Connectivity
- Stabilize/ Increase Property Values
- Increase Tax Revenue
- Redevelopment of Existing Properties
- New Jobs

Several potential constraints exist along the Ludlam Trail corridor which could limit benefits typically associated with the development of trails and greenways. The primary constraint is the existing street network and block pattern. Access is planned from every public right-of-way adjacent to the corridor, however, additional access points would necessitate the redevelopment of private property which may not occur or be directly linked to the presence of the trail. Benefits identified with the development of Ludlam Trail will identify only those which would occur directly from the development of the trail.

This section identifies and illustrates opportunities to achieve each goal and demonstrates that the development Ludlam Trail is an important step in the County's sustainability goals to be a more livable community. Following are detailed descriptions of social, environmental, and economic opportunities.

2.1.1 SOCIAL OPPORTUNITIES

HEALTHY LIFESTYLES

Construction of the Ludlam Trail will help Miami-Dade County advance many of its social goals. Currently the existing, abandoned railroad corridor acts as a barrier and deterrent to social interaction along the corridor. Fences and walls have been constructed for security, and many areas are overgrown and strewn with trash. Due to the presence of the fences and walls, the corridor lacks natural surveillance by adjacent residences, which is commonly referred to as "eyes on the trail." Having a lack of natural surveillance creates a greater opportunity for crime, vandalism and other undesirable behavior.

Experience from other similar trails throughout the country, such as the Fred E. Marquis Pinellas Trail, indicates that development of Ludlam Trail would reverse this condition. Residents and business-owners will remove walls and fences to gain access gates to the trail. The corridor will become regularly monitored and maintained, and the trail will serve as the social center of the community. Residents will use the trail for daily exercise, often with friends or relatives, which will significantly advance the County's goal of promoting healthy lifestyles.

Activity along the Fred Marquis Pinellas Trail increases the community's physical activity levels and promotes a healthy lifestyle

Potential quantifiable benefits associated with healthy lifestyles would be an increase in the number of people receiving regular physical activity and additional calories burned.

PUBLIC SAFETY

Development of Ludlam Trail will also advance the goal to increase public safety. First, construction and maintenance of the trail will activate the corridor, serving as a deterrent to crime and illicit activities. Second, residents will be able to walk and bike along the trail rather than along busy streets. Where there is adequate space, the trail could also provide safe locations for recreational activities and facilities such as picnic areas, exercise stations, community gardens and playgrounds, all of which contribute to the goals of public safety, neighborhood stabilization and sociability. Paths can make a community more social interactive by those who bike, walking and roller-blade whereas people in cars are insulated from the outside world by distance, speed and windows.

AFFORDABLE HOUSING

Although typically not a direct impact from the development of trail, nonetheless, the construction of Ludlam Trail may be the catalyst for the development or redevelopment of vacant and/or underutilized properties along the corridor. These sites may provide needed new types of housing for a growing senior population and help attract families with the development of multiple housing types with direct access to the trail.

EDUCATION

The Ludlam Trail will provide tremendous opportunities to advance educational goals as well; South Miami Senior High School, South Miami Middle School and South Miami Elementary School are all located within the "heart" of the corridor north and south of Miller Road, and could use the trail to enhance their curriculum; Coral Terrace Elementary School is also near the corridor. An interactive "Trail Curriculum" could focus on fitness, math, science, history, reading and the environment. Mile markers, exercise stations, reading clues, math puzzles, history lessons, wildlife stations and other features or points of interest could be integrated into the pavement, signs and exhibits along the corridor. Community gardens which could be maintained by the schools or other institutions are additional opportunities. Virtual experiences such as pod casts, on-line lessons and fitness programs could add another dimension to the corridor experience.

2.1.2 ENVIRONMENTAL OPPORTUNITIES

ACCESSIBILITY

Perhaps the greatest social opportunity along the trail corridor is to advance Miami-Dade County's goal of increased "accessibility". At the local level, the Trail will provide access to schools, parks (such as Palmer Park, A.D. Barnes Park and Robert King High Park), jobs and shopping for the thousands of residents who live near the corridor. The presence of the trail might increase school participation in the Safe Routes to Schools program. From a regional perspective, the Ludlam Trail corridor is a vital link in the County's overall transportation network, connecting to the Metrorail Dadeland North Station to the south; the proposed Orange Line Metrorail NW 7th Station to the north; and to other planned trails including the M-Path Extension, South Dade Trail, Snapper Creek Trail, East/West Trail, and Merrick Trail as shown in the previous section of this study. Development of the Ludlam Trail link could eventually enhance accessibility opportunities for hundreds of thousands of Miami-Dade residents and visitors.

The study will identify an increased service area and estimate for the number of residents that gain access to transit, school and parks throughout the Ludlam Trail Study Area.

CULTURAL / HISTORIC PRESERVATION

The Ludlam Trail corridor also provides a unique opportunity to create a sense of place for the community by "telling the story" of different cultures, historical events, civic leaders, natural and historic sites and other significant events, people and places in Miami-Dade County. Public art and exhibits, including integrated trail design (pavement, furnishings, shelters and other trail elements), can be used to interpret the stories. Similar to the educational initiative, on-line and virtual interpretation can further enrich the corridor experience.

Examples of Educational Signs approved for Miami-Dade County trails

2.1.2 ENVIRONMENTAL OPPORTUNITIES

REDUCE VEHICLE TRIPS / DECREASE USE OF FOSSIL FUELS

The Ludlam Trail corridor provides numerous opportunities to advance the County's environmental goals. The most obvious opportunity is to reduce the number of vehicle miles traveled (VMTs), vehicle daily trips (VDTs), and the use of fossil fuels; the more people walk, bike or skate to school and work, the fewer vehicles will be on the roads. This also helps to advance the goal of cleaner air. Once the trail is developed, the County may wish to conduct a "leave your car behind" campaign to encourage community residents to try alternative modes of transportation, and to keep track of reductions in VMTs and fuel use. This study will estimate the anticipated reduction in VDTs and associated VMTs in the Study Area as a result of the development of Ludlam Trail.

CLEAN AIR & WATER

Of the approximately seventy-two (72) acres within the trail right-of-way, only twelve (12) acres will be used for trail amenities; this leaves approximately sixty (60) acres that can be used to increase air quality, biodiversity, shade, and stormwater treatment.

Cleaning up the corridor and planting native vegetation will also contribute to the goal of cleaner water. Nutrient-rich stormwater run-off from adjacent properties will be filtered by the vegetation, helping to remove pollutants from the water before it filters down into the aquifer. Environmental benefits such as air pollution reductions will be estimated as part of the study.

REDUCTION IN GREENHOUSE GASES, CLIMATE CHANGES

Reduction in greenhouse gases may be realized through the reduction of VDTs within the Study Area. The number of miles saved will grow as people utilize the trail to commute to work or school, run errands, travel to Dadeland Mall, or visit others along the trail corridor. This will lead to a significant reduction in greenhouse gases from the Study Area. In addition, through the development of Ludlam Trail, over a thousand canopy trees will be planted. These trees will sequester tons of greenhouse gases that would have otherwise remained in the atmosphere contributing to global warming.

ENHANCE BIODIVERSITY

Biodiversity can be increased by replanting the corridor with native plants. Historically the majority of the Ludlam Trail corridor was part of the Pine Rockland and Tropical Hardwood Hammock ecological communities once common to south Florida, but significantly reduced through conversion to housing and agriculture. The Pine Rockland ecological community, consisting of predominantly slash pine and native grasses and shrubs, is considered endangered and has been assigned the highest ranking of globally imperiled by the Florida Natural Areas Inventory. The Tropical Hardwood Hammock ecological community is also present in the area and is monitored by the Florida Natural Areas Inventory. It is considered by the Florida Fish and Wildlife Commission (FWC) as a rare and 'declining' habitat and consists of predominantly live oak, wild-tamarind, and a wide variety of native shrubs and groundcovers.

Many of these plant species could be re-introduced to the corridor, increasing wildlife habitat and biodiversity. Native plantings will create shade and absorb carbon, helping to slow the rate of climate change. The use of native plants will also reduce the need for irrigation and mowing, furthering the County's environmental goals to reduce the use of potable water and fossil fuels. Although the environmental conditions have been degraded by development and mimicking the natural fire cycle with prescribed burning may not be utilized in such an urban area, native plantings and select non-native species can be combined to form a holistic and biologically diverse landscape.

A.D. Barnes Park, which is located adjacent to the corridor north of SW 40th St. (Bird Road), contains natural areas that are utilized by many species of tropical migrant birds. The park is listed on the South Florida section of the Great Florida Birding Trail by the Florida Fish and Wildlife Commission and is listed as a birding location by the local chapter of the National Audubon Society, Tropical Audubon on their website. Increased tree canopy within the approximately seventy-two (72) acre corridor could become an extension of the natural areas found within A.D. Barnes Park and increase access to thousands of new park users and visitors.

Invasive species with Ludlam Trail Corridor as seen from SW 64th St. looking south

2.1.2 ENVIRONMENTAL OPPORTUNITIES

Environmental goals, which can be achieved by the development of Ludlam Trail, are unique to open spaces and greenways. Ludlam Trail will provide the opportunity to reduce the use of fossil fuels and vehicle trips made while still providing enhanced biodiversity. While reducing vehicle trips, the over sixty acres of new open green space will also provide cleaner water, improve air quality, and create the opportunity for trail users to enjoy native plant species of the Pine Rockland and Tropical Hardwood Hammock ecological communities. Environmental benefits which will be addressed in Section Three of this report include reductions in vehicle trips, miles traveled, greenhouse gases, and estimated values of pollution control.

2.1.3 ECONOMIC GOALS

Economic goals have been well documented in such guiding planning documents as the Miami-Dade County Comprehensive Development Master Plan, Miami-Dade County Parks and Open Spaces System Master Plan and Miami 21 Code. Based on comparable research collected from within the state of Florida and from around the Country, positive economic impacts can be expected which can help stabilize or increase property values within a half (1/2) mile of the Ludlam Trail Corridor, create new jobs through the establishment of new trail oriented businesses and increase tax revenue for reinvestment into the community.

2.1.3 ECONOMIC OPPORTUNITIES

IMPROVE MOBILITY/ CONNECTIVITY

There are numerous opportunities throughout the corridor for Miami-Dade County to advance its economic goals. First and foremost, the corridor will increase mobility and connectivity as discussed in the 2.1.1 Social Opportunities section, which can have a significant impact on employers' access to Miami-Dade County's workforce. Major commercial activity centers such as the Dadeland Mall and Bird Ludlum Center on SW 40th St. (Bird Road) will benefit from improved access for both employees and shoppers. The increased connectivity and trail traffic associated with the Ludlam Trail will be quantified in section three of the study by estimating additional retail space and tax revenue generation supported by trail users.

STABILIZE/ INCREASE PROPERTY VALUES AND INCREASE TAX REVENUE

Second, there are numerous opportunities to meet the County's goal of stabilizing or increasing the values of adjacent residential properties. The values of single family homes adjacent to the trail will increase when the abandoned and neglected railroad corridor is replaced by an active, well-maintained and aesthetically pleasing linear park and trail. Residents of condominiums such as the Towers of Dadeland (by the Metrorail Dadeland North Station) and the Futura Gables (south of Coral Way/ SW 24th St) will benefit from access to the trail for both recreation and transportation, which will increase the re-sale and rental value of the units. Additionally, the trail may serve as a catalyst for the redevelopment of substandard housing, such as the declining mobile home park directly south of SW 8th St. (Tamiami Trail) and north of SW 12th St. By increasing property values, additional tax revenue will be available to the various jurisdictions. The study will estimate the potential property increase and associated tax revenue increase per jurisdiction for the Study Area linked to the development of Ludlam Trail. Currently, FEC is not paying property tax on the corridor, which means there would be no loss of tax revenue income from existing sources.

Mobile home park located at SW 12th St. and Ludlam Trail Corridor

REDEVELOPMENT OF EXISTING PROPERTIES

There are also opportunities for enhancement and/or redevelopment of commercial properties, which are underutilized. Many of these properties are located at the intersections of the trail and major commercial roads. For commercial properties not directly adjacent to the trail, signs and kiosks could direct trail users to nearby businesses for food, beverages, supplies, and shopping, such as the small sandwich shop in the commercial district on Miller Road east of the trail corridor.

Sandwich shop located on SW 56th St. (Miller Drive) within five hundred feet of the corridor

Section Two of the study identifies in greater detail the potential for properties either adjacent or within 1/2 mile of the corridor that could experience change associated with the construction of Ludlam Trail.

Under utilized commercial space located on SW 24th St. (Coral Way) and adjacent to the corridor

NEW JOBS

Commercial properties directly adjacent to the trail could be repositioned and revitalized to meet the specific needs of trail users. Trails in other similar communities, such as the West Orange Trail documented in the Ludlam Trail Design Guidelines and Standards report, have generated the need for outdoor cafes, coffee shops, restaurants, ice cream shops, bicycle and skate rental and repair shops, and other trail-related uses. The under-utilized shops directly adjacent to the corridor in the Coral Plaza on SW 24th St, for example, could be redeveloped to meet the needs of trail users. Trail users will spend money on trail related items, such as bike rental, creating the need for additional retail space and jobs.

The trail corridor could also be used as a special events and festival venue by the County, furthering its goals of new job creation and increased revenues. Fun runs, art shows, food and wine festivals and native plant sales are just a few of the special events that could be hosted along the corridor.

2.2 OVERALL SCENARIO PLAN

Scenario development is an anticipatory planning tool commonly used for complex problems. Although many of the elements for the case study have been researched and analyzed, some factors remain partially understood. The scenario plan developed as part of this case study takes into consideration all research and analysis data with a goal of improving present-day choices.

Legend

- Ludlam Trail Corridor
- Existing Railroad to Remain
- Walkable Area (1/2 Mile Service Area)
- Street Network
- Schools
- Parks
- Pedestrian Access Route
- Public Access
- Direct Benefit Parcel
- Indirect Benefit Multiple Parcel
- Indirect Benefit Vacant Parcel

CONTEXT MAP

Ludlam Trail in red

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2.3 TYPOLOGIES

As discussed in the previous section, the construction of the Ludlam Trail could potentially serve as a catalyst for the redevelopment of adjacent properties along the corridor. The Corridor Scenario Plan, shows three types of redevelopment that may occur as a result of trail development.

Type 1 parcels are those that may redevelop as a direct result of trail development. These are parcels such as the Coral Plaza shopping center on Coral Way (SW 24th St) that may redevelop to serve the specific needs of trail users. These are typically uses such as bicycle/ skate shops (sales, rentals, service); food and beverage services (cafes, restaurants, concessions); and sundries/ gift shops (bottled water, sodas, snacks, suntan lotion, disposable cameras, etc).

Type 2 parcels are those that may redevelop as an indirect result of trail development. These are parcels such as Bird Road Industrial Sites, where redevelopment will not occur to directly serve the trail users; but may occur because the parcel is more valuable due to trail development. Examples of improved value include:

- Improved visibility and perceived safety
- Increase in foot / bicycle traffic
- New address on the Trail
- New connection to the Trail corridor
- Improved aesthetics
- Improved property/investment values

Type 3 parcels are vacant parcels (as opposed to redevelopment parcels) that may also develop as an indirect result of trail development due to their increased value. The intersection of SW 24th St. (Coral Way) and SW 71st Ave. is an example of a large twenty (20) acre parcel where development may occur. The market will be the overall driver for large scale redevelopment or development of vacant areas; however, the trail could provide an increased level of connectivity and mobility.

2.3 TYPOLOGIES SUMMARY

The Corridor Scenario Plan shows three types of redevelopment that may occur as a result of the trail:

- **Type 1:** small scale redevelopment as a direct result of the trail
- **Type 2**: small-to-mid scale redevelopment as market dictates but in support of trail goals and principles
- **Type 3** : large scale redevelopment as market dictates but in support of trail goals and principles

2.3.1 TYPE 1 - SMALL SCALE REDEVELOPMENT TYPOLOGY SUMMARY

The scenario plan highlights the following:

- Provides opportunities for redevelopment of existing underutilized commercial properties
- Improves mobility through the development of a "trailhead" to serve the trail
- Enhances accessibility to shopping for area residents through the development of direct connections to the trail
- Creates new jobs through the development of new retail space and increased sales
- Increases tax revenue from additional retail sales and higher property values

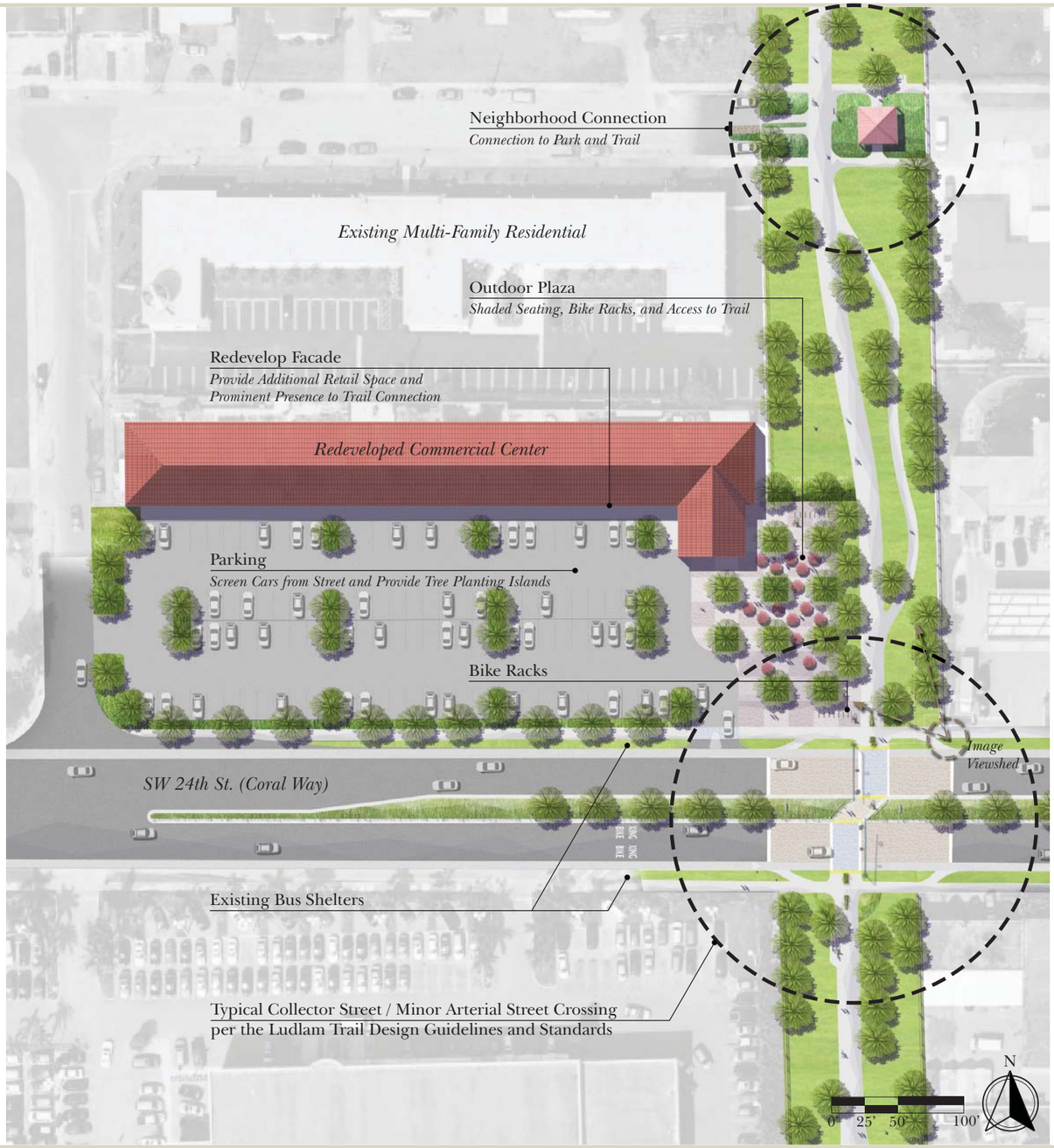
Example of a typical neighborhood connection per Ludlam Design Guidelines and Standards, 2010

2.3.1 TYPE 1 - SMALL SCALE REDEVELOPMENT TYPOLOGY

Type 1 parcels are identified as those parcels typically adjacent to the trail, are underutilized, of commercial land use, and are small in size (under three acres). The parcels categorized as Type 1 may redevelop as a direct result of their adjacency to the trail. A complete redevelopment of these sites is unlikely due to their limitations as small sites. There is potential, however, for façade improvements that could be encouraged through grants and public funding. Suggested retail uses include bicycle/skate shops, food and beverage services, and dry goods.

The Coral Plaza shopping center located at the northwest corner of Coral Way and the Ludlam Trail corridor is an example of a Type 1 parcel and is shown to the right. The existing shopping center includes approximately 23,000 square feet of retail, and appears to be gradually declining in value. The Miami-Dade County Property Appraiser's Office identifies a total value for Coral Plaza of $4.64 million with an improvement value of $491,000, suggesting an extremely underutilized parcel.

Due to it's direct adjacency to the trail, the shopping center has the potential to reposition itself as a commercial trailhead for the corridor. While the form of the shopping center, in terms of setback from Coral Way and surface parking, will likely remain in the long term, there is potential for the center to re-orientate to the Ludlam Trail. In addition to providing parking (potentially fee-based), the shopping center could provide a bike/skate shop, a convenience store, and an outdoor cafe serving both active trail users and passive observers. If marketed well, the shopping center has the potential to become a vibrant, trail-related activity center.



Ludlam Trail at SW 24th St. (Coral Way) looking northwest

2.3.1 TYPE 1 - SMALL SCALE REDEVELOPMENT TYPOLOGY RENDERING

AFTER IMAGE

The after image to the left highlights the redevelopment of existing commercial property adjacent to the Ludlam Trail corridor as shown in the corridor Scenario Plan on the previous page. The image shows enhanced façade features and a shaded area with seating, an outdoor café adjacent to the trail, and the removal of the existing billboard.

2.3.2 TYPE 2 - SMALL TO MID-SCALE REDEVELOPMENT TYPOLOGY SUMMARY

The following are opportunities highlighted by the scenario plan:

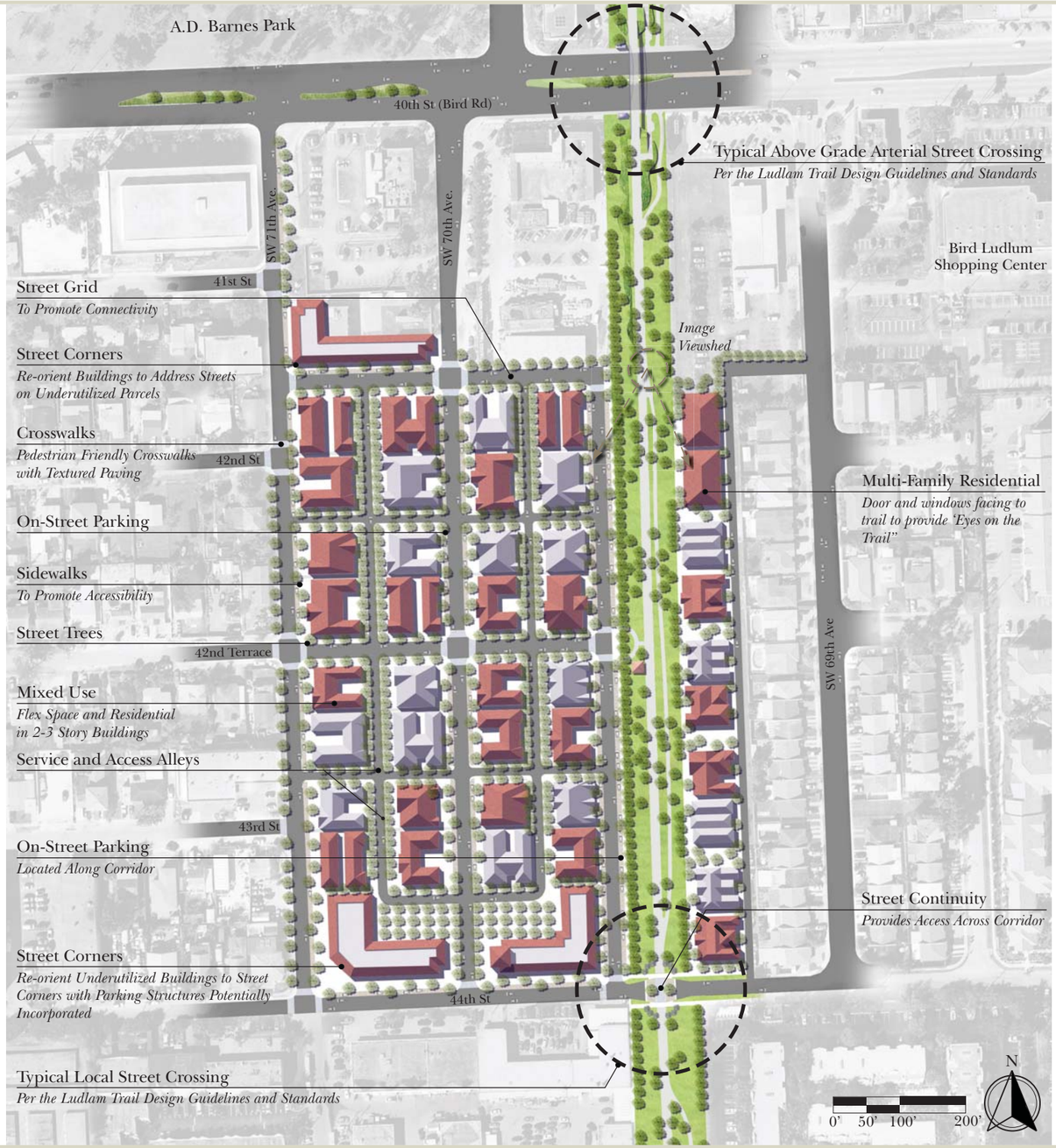
- Stabilizes or enhances existing single family residents with new town homes
- Improves mobility and connectivity through the development of new vehicular connections along Ludlam Trail with fronting development
- Encourages accessibility through new pedestrian and vehicle connections across the Trail
- Provides an opportunity for redevelopment of transitional uses adjacent to warehouse that could include flex office and additional new jobs
- Increases public safety through development fronting the trail corridor providing 'eyes on the trail'
- Reduces vehicle trips and miles traveled by providing direct public connection points to the trail corridor which area residents can use to access nearby parks and schools and run errands
- Increases property tax revenue through the development of new commercial space and residential units on formerly underutilized parcels
- Provides affordable housing near an employment area

2.3.2 TYPE 2 - SMALL TO MID-SCALE REDEVELOPMENT TYPOLOGY

The small-to-mid scale redevelopment of Type 2 parcels is primarily market driven. These type of parcels were identified based on their ability to redevelop existing underutilized properties and improve overall mobility and connectivity while adding access to the Ludlam Trail corridor.

The Bird Road Industrial Sites located along SW 71st Ave. and SW 70th Ct. is an example of a Type 2 parcel. Existing land uses in this area include warehouse, retail, vacant, and single family residential. The area's relationship to the corridor is limited to a potential at SW 44th St. Currently, the area includes approximately 135,000 square feet of primarily commercial/ industrial uses. The existing area also contains a small pocket of disconnected single-family uses.

The illustrated scenario to the right shows the potential redevelopment of the Bird Road Industrial Sites based on the increase of property values attributed to the development of the trail and depicts two and three story buildings with 110 residential units and approximately 135,000 square feet of flexible office space.



Ludlam Trail at SW 48th St. looking south

2.3.2 TYPE 2 - SMALL TO MID-SCALE REDEVELOPMENT TYPOLOGY RENDERING

AFTER IMAGE

The after image to the left shows a perspective rendering of the redevelopment potential as shown in the Overall Scenario Plan of the study of a Type 2 area on page 31. The rendering shows a potential scenario along SW 70th Ct. looking north and highlights the enhanced street network and redevelopment of existing underutilized properties adjacent to the Ludlam Trail corridor.

2.3.3 TYPE 3 - LARGE-SCALE DEVELOPMENT TYPOLOGY SUMMARY

Opportunities highlighted in the scenario plan for Type 3 development include the following:

- Promotes healthy lifestyles by providing residents access to the trail and nearby parks for regular exercise and a more walkable street network
- Promotes public safety by fronting the trail corridor with streets and development to provide 'eyes on the trail'
- Provides opportunities for affordable housing near employment opportunities
- Increases accessibility of nearby residents to Ludlam Trail, parks, bus routes, and shopping
- Reduces fossil fuel use and improves air quality by providing a walkable street network
- Improves air and water quality with increased tree canopy and vegetated stormwater management areas
- Reduces vehicle trips and miles traveled by providing direct connections to the trail corridor
- Increases property tax revenue through the development of new commercial spaces and residential units on existing underutilized parcels
- Creates jobs through development of new commercial spaces
- Improves mobility with an expanded street network
- Stabilizes and enhances area with the creation of new housing

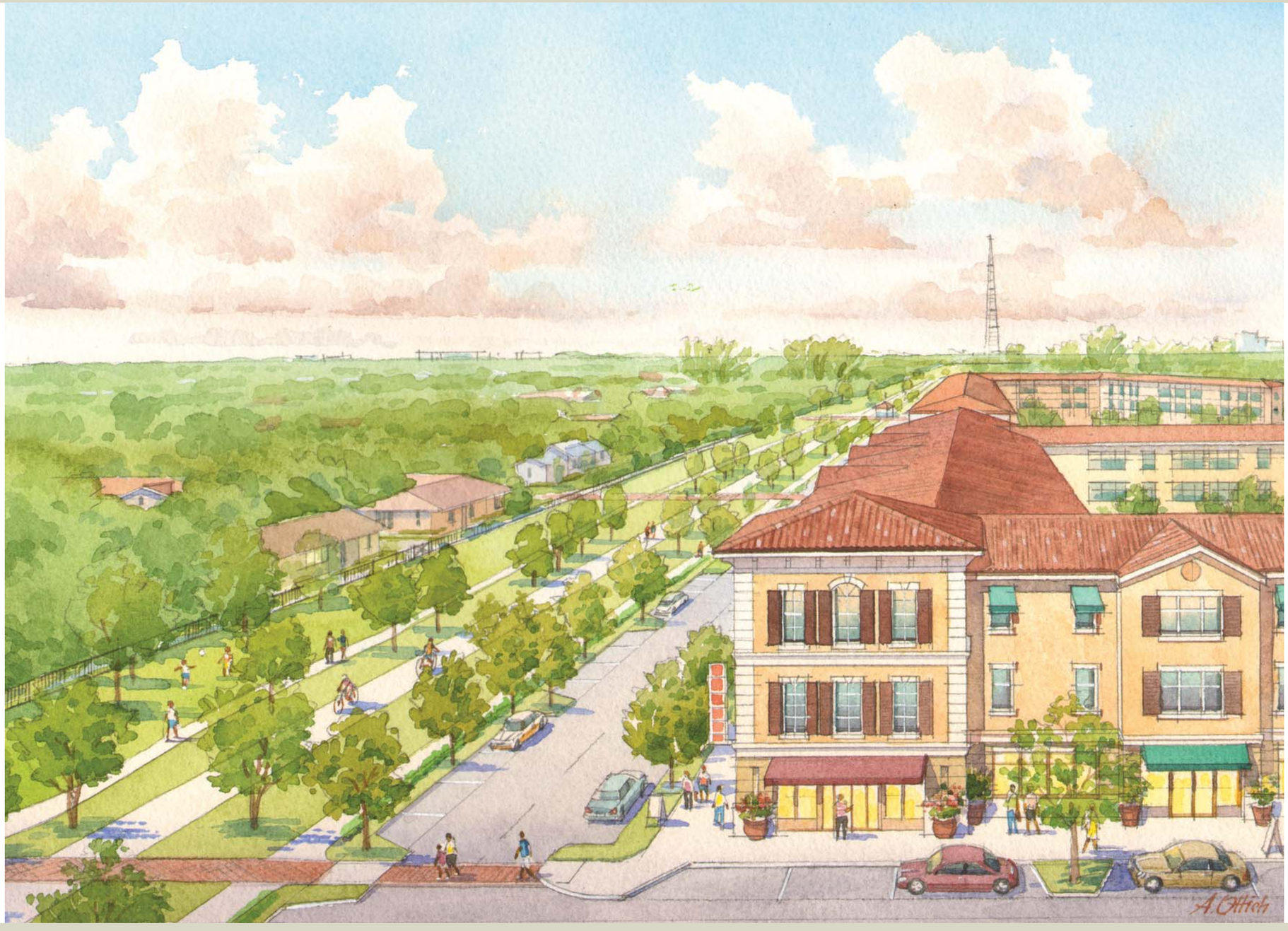
2.3.3 TYPE 3 - LARGE-SCALE DEVELOPMENT TYPOLOGY

Large, vacant or underutilized Type 3 parcels are identified as commercial parcels. These parcels will develop as the market warrants and have the potential to influence smaller adjacent parcels.

The vacant area located at the intersection of SW 71st Ave. and SW 24th St. (Coral Way) is an example of a Type 3 parcel. Existing land uses in this area include vacant, light manufacturing, and mixed-use commercial, and the current relationship to the trail corridor is the use of the corridor for temporary storage with limited private access points. The parcels have been identified as 'super blocks' which are parcels over twenty (20) acres in size or are over one thousand (1,000) feet in length. Currently the area contains approximately twenty (20) acres of vacant land and twenty-one (21) acres of underutilized and light industrial areas. The underutilized area contains approximately 275,000 square feet of primarily single story structures.

The intersection of SW 24th St. (Coral Way) and SW 71st Ave. provides a great example of how a large vacant parcel can begin to set the framework for overall redevelopment. Over time, the underutilized warehousing area located along N. Waterway Dr. could be redeveloped into mixed-use retail or flex office space with multifamily housing that fronts A.D. Barnes Park and Ludlam Trail.

The illustrated scenario to the right has 290 residential units, 420,000 square feet of retail or flex office space.



Ludlam Trail at SW 24th St. (Coral Way) looking south

2.3.3 TYPE 3 - LARGE-SCALE DEVELOPMENT TYPOLOGY RENDERING

AFTER IMAGE

The after image to the left identified a potential scenario for a Type 3 development of a vacant and/or underutilized parcel adjacent to the Ludlam trail corridor in accordance to the Overall Scenario Plan on page 31 of this study. Highlights of the after image include roadway frontage of the corridor and development of a pedestrian friendly mixed use area.

Section Three:

BENEFITS ANALYSIS

"Without question, bicycling is an efficient, economical and environmentally sound form of transportation and recreation. Bicycling is a great activity for families, recreational riders and commuters."

PRESIDENT BILL CLINTON, Bicycling magazine, 1992

Ludlam Trail at Bird Road (SW 40th St.) looking north

Section Three **BENEFITS ANALYSIS**

3.1 SOCIAL BENEFITS

Social benefits are those in which improve the daily quality of life for area residents. The development of Ludlam Trail has the potential to provide many social benefits for the community, however, not all are quantifiable by calculations. Three benefits which further the stated goals of community and are quantifiable based on readily available data include the following:

- Destination Accessibility
- Health and Wellness

Each of the above benefits will be estimated for the Ludlam Trail Study Area and will show the direct benefits to the community based on the development of the trail.

NETWORK A: BIKING BEFORE LUDLAM TRAIL

Network A is a model of the existing bicycle conditions around Ludlam Trail. When running the physical GIS analysis, the existing roadway network was used, excluding the arterial roadways that did not have bicycle lanes. These arterials were included in the network as barriers to bicycle travel unless they have a crosswalk in place. Sidewalks were also not considered appropriate for biking routes.

3.1 SOCIAL BENEFITS

Social sustainability is related to the long-term social health of a community particularly in terms of equality, connectivity, and improvements to daily quality of life for residents. Although the development of Ludlam Trail will promote healthy lifestyles, improve public safety, enhance educational opportunities, improve accessibility and help preserve the area's history and culture as shown in the previous section, not all of these benefits can be quantified. The two that can be most readily measured are improvements in accessibility and healthy lifestyles. AECOM quantified the social benefits of Ludlam Trail with the following analyses:

- Destination Accessibility - Increase in accessibility to schools and parks.
- Health and Wellness - Measurement of increased physical activity expressed in calories burned and community-wide savings in direct medical costs.

3.1.1 DESTINATION ACCESSIBILITY

Improving access to community facilities for area residents is a primary goal of Ludlam Trail. This sections assesses the improved access to such facilities that will result from constructing the trail.

METHODOLOGY

The first step in determining accessibility benefits was to model existing and future transportation networks. A total of five networks were developed. Maps of each network can be found on pages 42 through 44 of the study.

Bicycle Analysis Networks - Networks A, B, and C

These networks were developed to measure the impact from the development of the trail on residents living within two (2) miles or a ten (10) minute bike ride of specific destinations, such; transit stations; parks or schools.

- Network A: Biking before Ludlam Trail is developed
- Network B: Biking after Ludlam Trail is developed
- Network C: Biking after Ludlam Trail and proposed bike facilities has been fully implemented

To quantify any improvements to area accessibility for cyclist as a direct result from the development of Ludlam Trail, AECOM calculated the difference between the results of Network A and Network B. The third network (Network C) is shown to document regional accessibility improvements once a full bicycle and pedestrian network is implemented per the Miami-Dade County Bike and Pedestrian Plan Update and City of Miami Bicycle Plan. Each network is based on GIS data for existing roadways within Miami-Dade County.

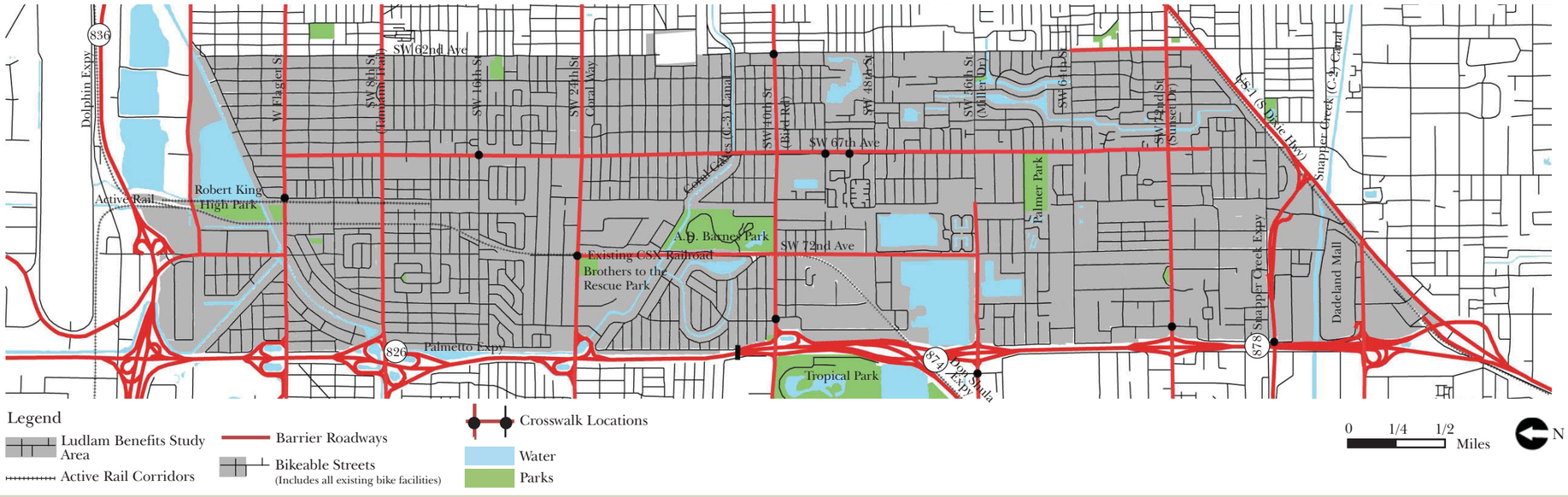
Walking Analysis Networks - Networks D and E

These two networks were developed to measure the impact of the trail on residents living with a ten (10) minute walk (1/2 mile) of specific destinations.

- Network D: Walking before Ludlam Trail is developed
- Network E: Walking after Ludlam Trail is developed

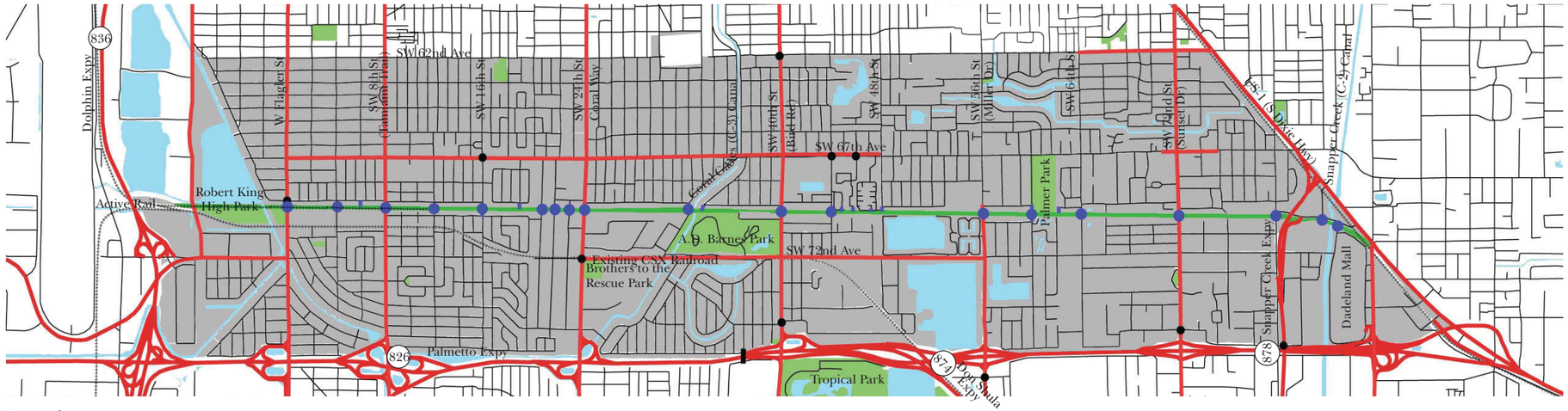
To quantify improvements to area accessibility for walking as a direct result from the development of Ludlam Trail, AECOM calculated the difference between the results of Network D and Network E.

NETWORK A: BIKING BEFORE LUDLAM TRAIL

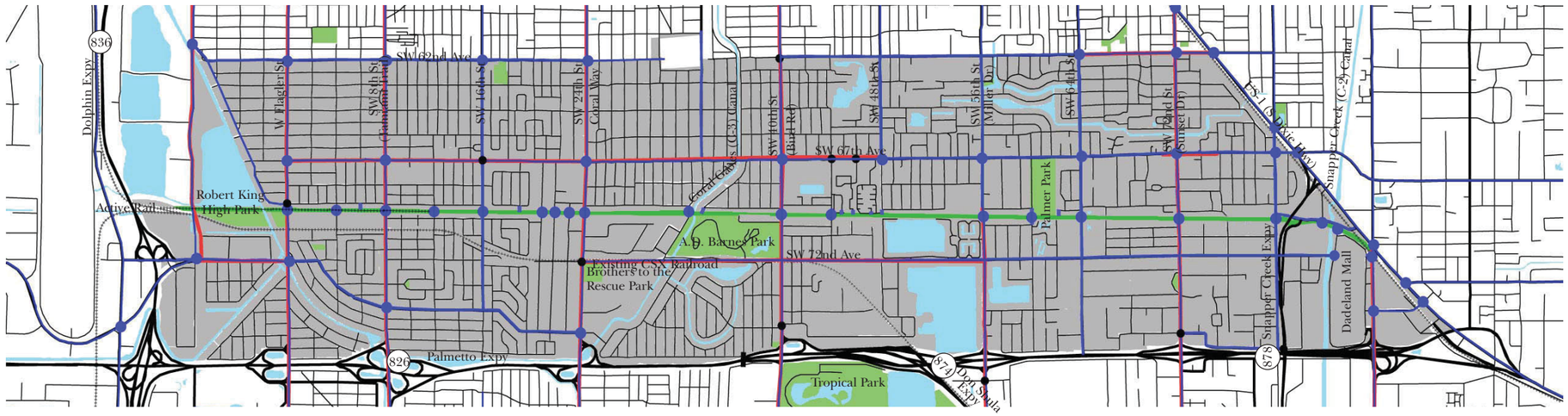


Section Three **BENEFITS ANALYSIS**

NETWORK B: BIKING AFTER LUDLAM TRAIL



NETWORK C: AFTER LUDLAM TRAIL + PROPOSED BIKE FACILITIES



NETWORK B: BIKING AFTER LUDLAM TRAIL

Network B examines anticipated conditions after Ludlam Trail is constructed. When completing the GIS analysis, the roadway network is the same as in Network A except that Ludlam Trail now provides a north-south connection and additional east-west connections at what are now dead-ends. These proposed completed connections are located at: SW 6th Avenue, SW 19th Street, SW 22nd Street, SW 23rd Street, A.D. "Doug" Barnes Park, SW 44th Street, SW 48th Street, SW 53rd Street, SW 66th Street, and SW 76th Street.

NETWORK C: AFTER LUDLAM TRAIL + PROPOSED BIKE FACILITIES`

Network C represents the ultimate implementation of the Miami-Dade County Bike and Pedestrian Plan and the City of Miami Bike Plan. The roadway network used in the analysis is identical to that of Networks A and B, but now has bicycle lanes along W. Flagler Street, SW 8th Street (Tamiami Trail), SW 16th Street, SW 24th Street (Coral Way), SW 40th Street (Bird Road), SW 56th Street (Miller Drive), SW 64th Street, SW 72nd Street (Sunset Drive), and SW 80th Street.

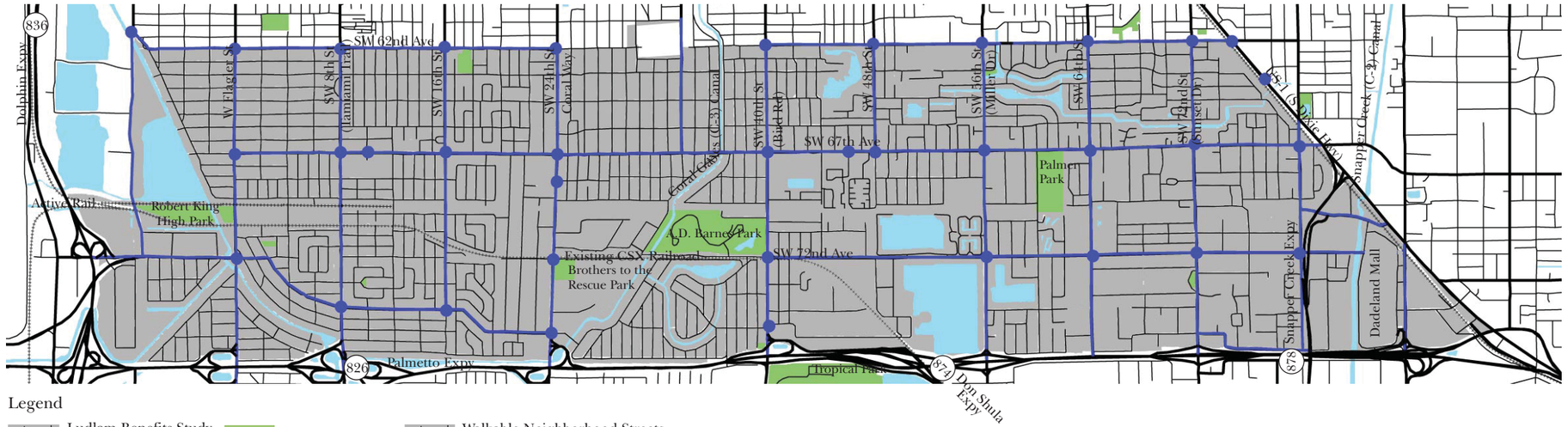
NETWORK D: WALKING BEFORE LUDLAM TRAIL

Network D models the existing sidewalk network around Ludlam Trail. This Network counts arterial roadways as barriers that cannot be crossed unless there is a crosswalk in place.

NETWORK E: WALKING AFTER LUDLAM TRAIL

Network E models anticipated walking conditions after Ludlam Trail is constructed. When running the GIS analysis, the sidewalk network is the same as in Network D except Ludlam Trail now provides a north-south connection and additional east-west connections where dead-ends currently exist.

NETWORK D: BEFORE LUDLAM TRAIL

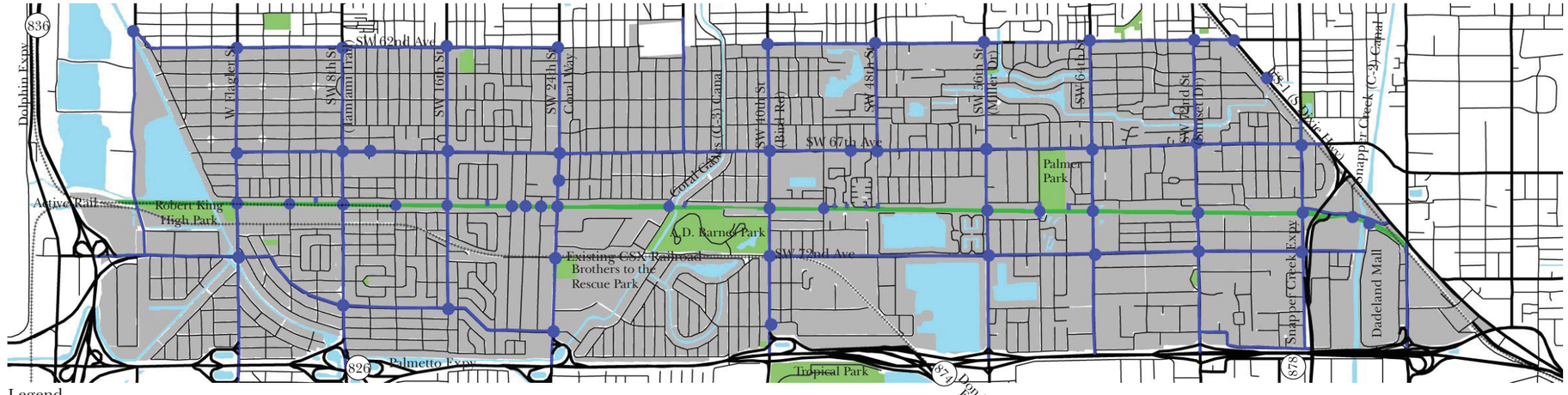


Legend

- Ludlam Benefits Study Area
- Active Rail Corridors
- Highways
- Parks
- Water
- Major Roads with Sidewalks
- Walkable Neighborhood Streets (With Existing Shared-Use Facilities)
- Crosswalk Locations

0 1/4 1/2 Miles N

NETWORK E: AFTER LUDLAM TRAIL



Legend

- Ludlam Benefits Study Area
- Active Rail Corridors
- Highways
- Parks
- Water
- Major Roads with Sidewalks
- Walkable Neighborhood Streets (With Existing Shared-Use Facilities)
- Crosswalk Locations
- Ludlam Trail + New Crosswalks + New Trail Access Points

0 1/4 1/2 Miles N

DESTINATION ACCESSIBILITY (CONTINUED)

SCHOOLS

Ludlam Trail has the potential to help students reach public and private schools more easily and safer by walking or biking on the Ludlam Trail. Ultimately this will reduce vehicle trips. There are six schools within the Ludlam Trail Study Area that will potentially benefit from the development of the Ludlam Trail by providing a safe route to school for student. Attendance figures for each school follows and are based attendance

- Coral Terrace Elementary School. Current enrollment is 549 students.
- South Miami Elementary School (K-8). Current enrollment is 859 students.
- Ludlam Elementary School. Current enrollment is 448 students.
- West Miami Middle School. Current enrollment is 1,113 students.
- South Miami Middle School. Current enrollment is 1,027 students.
- South Miami Senior High School. Current enrollment is 2,308 students.

Detailed information for mode share was not available for each school within the Study Area, however, comparable schools were identified within Miami-Dade County with safe routes to schools applications with estimated mode share data. The travel characteristics for each of these types of schools are different (some students can drive, some cannot), so the analytical methodology accounted for these differences.

METHODOLOGY – BICYCLING AND WALKING (2 MILES)

The first step was to determine the number of children who will benefit from new access to a safe route to school. Using the boundary of each school's attendance area, the population of kids 5-17 that live within the attendance area was calculated using Census Block data from 2000.

The Miami-Dade Public School Districts requires all students within two (2) miles of their respective school to provide their own mode of transportation. This two mile requirement will be used for each school to compute in GIS Network Analyst using the networks for Networks A, B, and C. Once each service area was established for each network, the population of children 5-17 that lived both within the attendance area and within a two (2) mile bike or walking trip of each school was calculated (Table A).

When these populations were calculated based on GIS information, it was discovered that far more children live within the attendance area than are actually enrolled in the schools. This is attributed to children attending private school outside of the Ludlam Trail Study Area or being home schooled. To account for this discrepancy in the analysis, the team calculated the difference of children within the total attendance area versus those within the attendance area and within 2 mile as a percentage. This percentage was then applied to actual enrollment numbers to determine the number of currently enrolled students who live within two miles of the school.

Table A: Students Within a Two-Mile Trip to School

Network	A	B	# Students who gained access by Ludlam Trail	C	# Students who gained access from network
Coral Terrace ES	428	451	23	451	0
South Miami ES	659	702	43	702	0
Ludlam ES	118	134	16	134	0
West Miami MS	412	472	60	497	25
South Miami MS	593	637	44	637	0
South Miami HS	485	560	75	560	0
Total	**2,695**	**2,956**	**261**	**2,981**	**25**

Source: Miami-Dade County and US Census (2000)

SUMMARY OF FINDINGS

With the construction of Ludlam Trail, approximately 261 additional students will be able to access their school via a safe bicycle or walking route. With the completion of all bicycle lanes associated with the Miami-Dade County bike and Pedestrian Plan Update, approximately twenty-five (25) additional students will gain access.

PARKS

The Ludlam Trail Study Area is rich in park resources. With the construction of the trail, there is the potential for improved access to both community and neighborhood-level park facilities.

METHODOLOGY – BICYCLING (2 MILES)

There are four community-level parks within the Study Area, A.D. "Doug" Barnes Park, Brothers to the Rescue Park, Palmer Park (City of South Miami) and Robert King High Park (City of Miami). These parks are meant to serve a broad community of residents and are regionally significant either for their natural resources or single use sports recreation programming. Residents are expected to travel up to two (2) miles by bicycle or one half (1/2) mile by foot to access each park.

First, the population within a two-mile trip of either A.D. "Doug" Barnes Park, Brothers to the Rescue Park, Palmer Park (City of South Miami) and Robert King High Park (City of Miami) was calculated using Networks A, B, and C to determine the benefit of access for cyclists. The number of people who gain access to these four parks based on the development of Ludlam Trail was calculated as the difference in the population between Network A and Network B.

Table B: Residents Within a Two-Mile Bicycle Ride to a Community Park

Network	A	B	# Residents who gained access by Ludlam Trail	C	# Residents who gained access by network
Residents within a 2-Mile Bicycle Ride	29,873	36,262	6,389	37,545	1,283

Source: Miami-Dade County and US Census (2000)

SUMMARY OF FINDINGS

With the construction of Ludlam Trail, an estimated 6,389 residents will gain bicycle access to A.D. "Doug" Barnes Park, Brothers to the Rescue Park, Palmer Park (City of South Miami) and Robert King High Park (City of Miami).

METHODOLOGY – WALKING (1/2 MILE)

The population within a 1/2 mile of the parks in the Ludlam Trail Study Area was calculated using the two different walking networks (D and E) in GIS. The number of people who gain access to these parks within a mile of their homes was calculated as the difference in the population between Networks D and E.

Table C: Residents Within a 1/2 Mile Walk of a Park

Network	D	E	# Residents who gained access
Residents within 1/2 mile walk	5,669	6,361	692

Source: Miami-Dade County and US Census (2000)

SUMMARY OF FINDINGS

With the development of Ludlam Trail, an estimated 692 residents will gain walking access to parks located along and near the trail.

3.1.1 DESTINATION ACCESSIBILITY SUMMARY OF FINDINGS

Based on the methodology discussed at left, it is estimated that the development of Ludlam Trail would enhance overall accessibility to schools, parks, transit stations, and bus stops for as many as 30,550 people living within two (2) miles of Ludlam Trail.

The table below identifies increased accessibility for cyclist per destination based on the development of Ludlam Trail:

Destinations	Additional Residents with Access
Schools – (2 miles)	261
Parks – (1 mile)	6,389
Transit Stations – (1 mile)	23,900
Total Residents Gaining Access	**30,550**

The following table identifies increased accessibility for walking to the following destinations:

Destinations	Additional Residents with Access
Schools – (2 mile)	261
Parks – (1/2 mile)	692
Transit Stations – (1/2 mile)	0
Bus Stops – (1/2 mile)	186
Total Residents Gaining Access	**1,139**

The North Dadeland Metrorail Station, by connecting with the Ludlam Trail, will provide area residents with the opportunity to use mass transit, therefore reducing the need for vehicles

A.D. Barnes Park will be directly connected to the Ludlam Trail, offering area residents access to the park by walking, cycling or skating.

TRANSIT STATIONS

There are two transit stations within the Ludlam Trail Walkable Area. These include the existing Dadeland North Metrorail station located at SW 85 St. and SW 70th Ave. and the proposed Orange Line Metrorail station planned near NW 7th St. At the time of this study, the anticipated construction date for the new transit station is 2016, with operations beginning in 2018.

METHODOLOGY – BICYCLING (2 MILES)

Using the three networks in GIS, two mile service areas were computed from both transit stations. The difference between Network A and Network B is the number of residents who gained bicycle access to the Dadeland North Metrorail and the proposed Orange Line Metrorail transit stations via the Ludlam Trail.

Table D: Residents Within a Two Mile Bike Ride of a Transit Station

Network	A	B	# residents who gained access by Ludlam Trail	C	# residents who gained access by Network
Residents within 2 mile bicycle trip	14	23,914	23,900	34,538	10,638

Source: Miami-Dade County and US Census (2000)

SUMMARY OF FINDINGS

With the development of Ludlam Trail approximately 23,900 area residents will gain access to transit stations. With the implementation of the Miami-Dade County Bike and Pedestrian Plan Update, 10,638 additional residents gain bicycle access to the Dadeland North Metrorail and the proposed Orange Line Metrorail transit stations.

METHODOLOGY – WALKING (1/2 MILE)

Using the two walking networks in GIS Network Analyst, 1/2 mile or ten (10) minute walking service areas were computed for both transit stations. The difference between Network D and Network E is the number of residents who gained bicycle access to the Dadeland North Metrorail and the proposed Orange Line Metrorail transit stations.

Table E: Residents Within a 1/2 Mile Walk of a Transit Station

Network	D	E	# residents who gained access by Ludlam Trail
Residents within 1/2 mile walk	43	43	0

Source: Miami-Dade County and US Census (2000)

SUMMARY OF FINDINGS

Through the development of Ludlam Trail no residents would gain walking access to the Dadeland North Metrorail and the proposed Orange Line Metrorail transit stations. This is likely due to the large block sizes located around the transit stations and the distance of the transit stations from the nearest residential areas. The important finding, however, is that 23,900 people will now be able to cycle to either of the transit stations.

BUS STOPS

Convenience is a key element in encouraging mass transit use as stated earlier in the study. Most people will not use bus transit if a stop is more than a half (1/2) mile for a 10 minute walk from their home. For this estimate a half 1/2 mile service area was mapped for each bus stop.

METHODOLOGY – WALKING (1/2 MILE)

Using the two walk networks in GIS, 1/2 mile service areas were computed from all the bus stop within the Ludlam Trail Walkable Area. The difference between Network D and Network E is the number of residents who gained walking access to bus stops.

Table F: Residents Within a 1/2 Mile Walk of a Bus Stop

Network	D	E	# residents who gained access by Ludlam Trail
Residents within 1/2 mile walk	48,412	48,598	186

Source: Miami-Dade County and US Census (2000)

SUMMARY OF FINDINGS

With the development of Ludlam Trail, 186 residents gain walking access to bus stops within the 1/2 mile Walkable Area.

DESTINATION ACCESSIBILITY SUMMARY

The development of Ludlam Trail will have a significant impact on area accessibility and improving the daily lives of thousands of area residents. When all destination types are combined, the Ludlam Trail will provide a safe route to bike two (2) miles or ten (10) minutes to work, school or a park for approximately 30,5500 residents while approximately 1,139 residents will be able to walk a half mile (1/2) or ten (10) minutes to the same destinations.

3.1.2 HEALTH & WELLNESS

DIRECT MEDICAL CARE SAVINGS

METHODOLOGY

For the health and wellness analysis, AECOM used a low scenario and a high scenario. The low scenario is based on data from the 2006 Community Health Survey which states that 40.7% of residents in the study area will use the trail in a given year. The high scenario is based on data from the 2006 Community Health Survey which states that 54.3% of County residents use parks and open spaces in a given year. The high scenario is based on this data because the presence of the Ludlam Trail and open space associated with the trail and parks connected by it may in fact increase the amount of area residents using a trail in a given year.

The first step in this process is to estimate the number of residents who will use the trail. There are approximately 52,680 residents within the Study Area as stated in section 1.4 of the study. For the low scenario the population was multiplied by 40.7% while for the high scenario the population figure is calculated by 54.3%. This estimate will not attempt to calculate potential trail users from outside the Walkable Area that may receive direct medical care savings by exercising on Ludlam Trail.

Next, the planning team sought ways to exact the fitness benefits that stem directly from the development of Ludlam Trail. Very few studies have looked at the exact fitness benefits in a community before a trail existed and after. In order to determine the fitness benefits directly associated from the Ludlam Trail a study conducted by West Virginia University School of Medicine, Department of Human Performance and Exercise Science in 2004. The study documented that 23% of trail users were "new exercisers". Therefore, based on the previous study approximately 23% of Ludlam Trail users are likely to be "new exercisers."

The next measure will take into account the percent increase in physical activity since using the trail. All trail users' exercise levels will not increase by 100% because of Ludlam Trail. The same study conducted in West Virginia took this into account, and asked the following question:

"Since using the trail, approximately how much has your exercise level increased?"

Table G: Response

	0-25%	26-50%	51-75%	76-100%	> 100%
Exerciser	9.5	20.2	17.9	42.9	9.5
Active	56.8	30.1	8.7	3.1	1.3

Source: West Virginia University School of Medicine, Department of Human Performance and Exercise Science (2004)

These percentages were then applied to the estimated number of new exercisers and habitually active or regular exercisers users on Ludlam Trail.

The Center for Disease Control (CDC) estimates that lack of physical activity costs approximately $615 per year in direct medical expenses per person. This average annual cost was then applied to both categories of exerciser.

LOW SCENARIO

There are approximately 52,680 residents in the Study Area, of which approximately 21,440 use trails annually based on the 2006 Community Health Survey. Of the 21,440 trail uses approximately 23% are new exercisers or 4,931 people. Habitual exercisers or regular exercisers account for 16,509 trail users.

Table H: Increased Level of Exercise Due to Ludlam Trail by Exerciser Type

	0-25% increase		26-50% increase		51-75% increase		76-100% increase		>100% increase	
	% type	total	% type	total	% type	total	% type	total	% type	total
New Exerciser	9.50%	468	20.20%	996	17.90%	883	42.90%	2,115	9.50%	468
Habitually Active	56.80%	9,377	30.10%	4,969	8.70%	1,436	3.10%	512	1.30%	215

Source: West Virginia University School of Medicine, Department of Human Performance and Exercise Science (2004) and US Census Data (2000)

Table I: Savings from Increased Level of Exercise Due to Ludlam Trail

Level of Increase	0% - 24%	25% - 49%	50% - 74%	75% - 99%	>100%
Prorated Cost	$0.00	$153.75	$307.50	$461.25	$615.00
Total by Level of Exercise	$0	$153,145	$271,415	$975,728	$288,094
TOTAL Low Scenario Direct Medical Cost Savings					**$1,688,381**

Source: West Virginia University School of Medicine, Department of Human Performance and Exercise Science (2004) and US Census Data (2000)

HIGH SCENARIO

There are approximately 52,680 residents in the Study Area, of which approximately 28,605 use parks annually based on the 2006 Community Health Survey. Of the 28,605 trail uses approximately 23% are new exercisers or 6,579 people. Habitual exercisers or regular exercisers account for 22,026 trail users. This scenario takes into account an increase in area residents exercise because of the presence of Ludlam Trail and the open spaces and parks which are accessible through the trail.

Table J: Increased Level of Exercise Due to Ludlam Trail by Exerciser Type

	0-25% increase		26-50% increase		51-75% increase		76-100% increase		>100% increase	
	% type	total	% type	total	% type	total	% type	total	% type	total
New Exerciser	9.50%	625	20.20%	1329	17.90%	1178	42.90%	2822	9.50%	625
Habitually Active	56.80%	12,511	30.10%	6,630	8.70%	1,916	3.10%	682.8	1.30%	286

Source: West Virginia University School of Medicine, Department of Human Performance and Exercise Science (2004) and US Census Data (2000)

Table K: Savings from Increased Level of Exercise Due to Ludlam Trail

Level of Increase	0% - 24%	25% - 49%	50% - 74%	75% - 99%	>100%
Prorated Cost	$0.00	$153.75	$307.50	$461.25	$615.00
Total by Level of Exercise	$0	$204,327	$362,125	$1,301,828	$384,378
TOTAL Low Scenario Direct Medical Cost Savings					**$2,252,658**

Source: West Virginia University School of Medicine, Department of Human Performance and Exercise Science (2004) and US Census Data (2000)

SUMMARY OF FINDINGS

The estimated direct personal medical expenses that will be saved due to new exercisers using Ludlam Trail based on the low scenario is $1.68 million annually while the high scenario provides savings of $2.25 million annually. These estimates do not include any direct medical expenses that will be potentially saved by those who are already active and use the existing trails and parks for exercise.

CALORIES BURNED

METHODOLOGY:

In order to calculate an estimate of calories (kilocalories) burned by residents exercising on Ludlam Trail, two factors needed to first be quantified: the average amount of time spent exercising on Ludlam Trail and the type of exercise.

A study of six urban trail completed by the Eppley Institute of Parks and Public Land at the University of Indiana was referenced to estimate the frequency of trail use. Users reported on average spending between one hundred (100) and two hundred (200) minutes exercising on the trail per week. The trail in the most urban area of the study, Monon Trail, had an average time of 180 minutes per week. For Ludlam Trail, two durations of trail use scenarios: low duration of one hundred (100) minutes and a high duration of two hundred (200) minutes per week and a per week spent exercising on the trail.

Common methods of exercise on trails do not burn the same amount of calories. In order to address this the same study completed by the University of Indiana was referenced to estimate how much of each types of exercise will occur on Ludlam Trail. The Monon Trail, as documented in the trail exercise study serves as a comparable to Ludlam Trail do to its similar length, urban context, and climatic constraints (both have three-four months of extreme climate that will likely deter some trail usage). Based on the types of exercise recorded on Monon Trail, the estimated exercise types and their comparable frequency on Ludlam Trail are:

- Walking – 51% of all exercise on Ludlam Trail
- Bicycling – 21% of all exercise on Ludlam Trail
- Jogging – 18% of all exercise on Ludlam Trail
- Skating/other – 10% of all exercise on Ludlam Trail

A Department of Health and Family Services study from the State of Wisconsin reported the following number of calories burned per these four exercise methods; at the low end of the range is the calories per hour burned by a 130 pound-person, while the high end of the range is calories burned by a 190 pound-person. Numbers in parentheses indicate the average of these two amounts of calories burned:

Type of Exercise	Calories per hour
Walking	207 - 302 (255)
Bike Riding (less than 10 mph)	236 - 345 (291)
Jogging	413 - 604 (509)
Skating	403 - 604 (503)

3.1.2 HEALTH AND FITNESS - DIRECT MEDICAL COST SAVINGS SUMMARY OF FINDINGS

The estimated direct personal medical expenses that will be saved due to new exercisers using Ludlam Trail is between $1.68 million and $2.25 million annually. These estimates do not include any direct medical expenses that will be potentially saved by those who are already active and use the existing trails and parks for exercise.

The Seminole-Wekiva trail, shown above,allows area residents to exercise, leading to healthier lifestyle with reduced medical costs.

3.1.3 HEALTH AND FITNESS - CALORIES BURNED SUMMARY OF FINDINGS

Based on the analyses to the left, residents within the Ludlam Trail Study Area can expect to lose or keep off between 32,664 and 109,939 pounds of weight annually by burning between 2.19 million and 7.39 million calories (kilocalories) weekly while exercising on Ludlam Trail.

The Seminole-Wekiva trail, shown above, offers a safe choice for area residents to exercise.

For the purposes of this analysis, skating and "other exercise" are grouped together. Because "other exercise" is not defined, 300 calories per hour is assigned to this exercise type. These estimates were then applied to the two duration scenarios to provide an average amount of calories each user would burn. This estimate does not assume that every user will spend 51% of their time walking, and 21% bicycling. Instead the estimates are for the entire population of trail users these percentages would reflect the proportion of time all users as a composite would spend on the trail.

Table L: Calories Burned Per Week by Exercise Type

Average Time on trail/week	100 min (Low Duration)	200 min (High Duration)
Walking Time	51 min	102 min
Walking Calories (255/hr)	217	434
Bicycling Time	21 min	42 min
Bicycling Time Calories (291/hr)	102	204
Jogging Time	18 min	36 min
Jogging Time Calories (509/hr)	153	306
Skating/ Other Time	10 min	20 min
Skating/ Other Time Calories (300/hr)	50	100
TOTAL CALORIES BURNED	522	1044

Source: University of Indiana, Eppley Institute of Parks and Public Land (2007) and the State of Wisconsin Department of Health and Family Services

METHODOLOGY

High and low population figures from the previous section (3.1.3) are used for both scenarios to determine a range of calories burned by exercising on Ludlam Trail. The four calculations include the following:

1. Low Population (21,440) – High Duration (200 min.)
2. Low Population (21,440) – Low Duration (100 min.)
2. High Population (28,005) – High Duration (200 min.)
4. High Population (28,005) – Low Duration (100 min.)

The next step applied the population figures used for the previous section (3.1.3) to the calories burned for each duration of exercise Based on the level of exercise for each person the total calories burned by increased exercise and duration on Ludlam Trail is as follows:

Table M: Calories burned by increased exercise and duration of exercise on Ludlam Trail

	0%	25%	50%	75%	100%
Calories for LOW DURATION (100 Min)	0	131	261	392	522
Calories for HIGH DURATION (200 Min)	0	262	522	784	1044

Source: West Virginia University School of Medicine, Department of Human Performance and Exercise Science (2004) and US Census Data (2000)

To translate the amount of calories burned into pounds of fat lost, these numbers were then divided by 3,500, the amount of calories it takes to burn one pound. This number is then multiplied by 52 to get the annual amount of pounds lost or kept off per year per scenario.

LOW USER POPULATION SCENARIO

Table N: Trail User Increase in Exercise Due to Ludlam Trail

	0-25% increase		26-50% increase		51-75% increase		76-100% increase		>100% increase	
	% type	total	% type	total	% type	total	% type	total	% type	total
New Exerciser	9.50%	468	20.20%	996	17.90%	883	42.90%	2,115	9.50%	468
Habitually Active	56.80%	9,377	30.10%	4,969	8.70%	1,436	3.10%	512	1.30%	215
Total Users		**9,846**		**5,965**		**2,319**		**2,627**		**683**

Source: West Virginia University School of Medicine, Department of Human Performance and Exercise Science (2004) and US Census Data (2000)

Table O: Scenario 1 (low user/high duration): Calories Burned and Weight Loss Directly Attributed to Ludlam Trail

	0%	25%	50%	75%	100%	TOTAL
Users	9,846	5,965	2,319	2,627	683	21,440
Calories burned per person/ week	0	262	522	784	1,044	2,612
Calories burned per week	0	1,562,901	1,210,483	2,059,708	713,117	5,546,208
Pounds per week	0	447	346	588	204	1585
Pounds per year	0	23,220	17,984	30,601	10,595	**82,401**

Source: West Virginia University School of Medicine, Department of Human Performance and Exercise Science (2004) and US Census Data (2000)

Table P: Scenario 2 (low user/low duration): Calories Burned and Weight Loss Directly Attributed to Ludlam Trail

	0%	25%	50%	75%	100%	TOTAL
Users	9,846	5,965	2,319	2,627	683	21,440
Calories burned per person/ week	0	131	261	392	522	1,306
Calories burned per week	0	781,451	605,241	1,029,854	356,558	2,198,510
Pounds per week	0	223	173	294	102	628
Pounds per year	0	11,610	8,992	15,301	5,297	**32,664**

Source: West Virginia University School of Medicine, Department of Human Performance and Exercise Science (2004) and US Census Data (2000)

The low population scenario estimates that between 5.5 million and 2.19 million calories per week or between 82,401 and 32,664 pounds of weight per year could be lost or kept off by exercisers using Ludlam Trail.

HIGH USER POPULATION SCENARIOS

Table Q: Trail User Increase in Exercise Due to Ludlam Trail

	0-25% increase		26-50% increase		51-75% increase		76-100% increase		>100% increase	
	% type	total	% type	total	% type	total	% type	total	% type	total
New Exerciser	9.50%	625	20.20%	1329	17.90%	1178	42.90%	2822	9.50%	625
Habitually Active	56.80%	12,511	30.10%	6,630	8.70%	1,916	3.10%	683	1.30%	286
Total Users		**13,136**		**7,959**		**3,094**		**3,505**		**911**

Source: West Virginia University School of Medicine, Department of Human Performance and Exercise Science (2004) and US Census Data (2000)

Table R: Scenario 3 (high user/high duration): Calories Burned and Weight Loss Directly Attributed to Ludlam Trail

	0%	25%	50%	75%	100%	TOTAL
Users	13,136	7,959	3,094	3,505	911	28,605
Calories burned per person/ week	0	262	522	784	1,044	2,612
Calories burned per week	0	2,085,201	1,615,017	2,748,074	951,442	7,399,735
Pounds per week	0	596	461	785	272	2114
Pounds per year	0	30,980	23,995	40,829	14,136	**109,939**

Source: West Virginia University School of Medicine, Department of Human Performance and Exercise Science (2004) and US Census Data (2000)

Table S: Scenario 4 (high user/low duration): Calories Burned and Weight Loss Directly Attributed to Ludlam Trail

	0%	25%	50%	75%	100%	TOTAL
Users	13,136	7,959	3,094	3,505	911	28,605
Calories burned per person/ week	0	131	261	392	522	1,306
Calories burned per week	0	1,042,601	807,509	1,374,037	475,721	3,699,868
Pounds per week	0	298	231	393	136	1057
Pounds per year	0	15,490	11,997	20,414	7,068	**54,969**

Source: West Virginia University School of Medicine, Department of Human Performance and Exercise Science (2004) and US Census Data (2000)

SUMMARY OF FINDINGS

Residents within the Ludlam Trail Study Area stand to lose or keep off between 32,664 and 109,939 pounds of weight annually by burning between 2.19 million and 7.39 million calories each week while exercising on the Ludlam Trail. This estimate includes regular exercisers that may use Ludlam Trail because of its convenience and connections to various parks and open spaces and new exercisers that may begin to exercise due to the convenience of the Ludlam Trail.

3.2 ENVIRONMENTAL BENEFITS

GENERAL ENVIRONMENTAL BENEFITS

The landscape within the Ludlam Trail corridor has been completely altered from its historical condition, and virtually all native plants in the corridor have been displaced by exotic species. The community structure that would have existed in natural communities such as pine Rockland, tropical hardwood hammock, wet prairie, or forested wetland slough no longer exist. Nevertheless the potential for use of the site by some highly mobile and urban-adapted species of birds remains high. A focused, native species landscape plan could restore some of the plant diversity to the upland communities that were historically present in the corridor.

Currently, habitat and development types adjacent to the corridor generally vary from canopied in parks and older, less dense residential areas to treeless urban areas associated with commercial, industrial, and dense residential. The potential for restoration of native plants, and the ability to attract a more diverse array of native wildlife is significant. The value of this restoration could be further enhanced by encompassing similar approaches on the adjacent to parks and open water bodies that occur in various locations along the corridor. Suggested native plants to consider (based on availability and price) within these two historical communities include:

Tropical Hardwood Hammock
Gumbo limbo (*Bursera simaruba*)
Pigeon plum (*Coccoloba diversifolia*)
Wild tamarind (*Lysiloma latisiliqua*)
Live oak (*Quercus virginiana*) (a significant species in historical hammocks)
Mastic (*Mastichodendron foetidissimum*)
Willow bustic (*Bumelia salicifolia*)
Cabbage palm (*Sabal palmetto*)
Lancewood (*Necandra coriacea*)
Inkwood (*Exothea paniculata*)
White stopper (*Eugenia axillaris*)
Marlberry (*Ardisia escallonoides*)
Red mulberry (*Morus rubra*)
Satinleaf (*Chrysophyllum oliviforme*)
Myrsine (*Myrsine guianensis*)
Wild coffee (*Psychotria nervosa, P. sulzneri*)
Rough velvetseed (*Guettarda scabra*)
Snowberry (*Chiococca alba*)
Boston fern (*Nephrolepis exaltata*)
Sword fern (*N. biserrata*)
Thelypteris kunthii

Pine Rockland (a system reliant on fire)
South Florida slash pine (Pinus elliottii var. densa)
Willow bustic
Coco plum (*Chrysobalanus icaco*)
Wax myrtle (*Myrica cerifera*)
Cabbage palm
Coontie
Saw palmetto (*Serenoa repens*)
Red bay (*Persea borbonia*)
Locust berry (*Byrsonima lucida*)
Pineland croton (*Croton linearis*)
Wild sage (*Lantana involucrata*)
And a large number of herbaceous understory species

With a focus on native canopy and understory restoration, there is the potential for attracting numerous native species of birds that breed in south Florida, and dozens of birds that migrate through each year. The vision, established by the Ludlam Trail Design Guidelines and Standards report, calls for a landscape that ultimately represents a mature native upland of at least two historical communities, with native species of birds, butterflies and other invertebrates in the linear corridor and the adjacent open spaces of parks and canopied residential.

The seventy-two (72) acre corridor could set the framework framework for restoration on hundreds of acres of previously disturbed lands in south Florida. Ancillary benefits of this restoration are water quality improvement through upland overflow treatment of runoff; reducing heat island effects through shading over the seventy-two (72) acre corridor; and air quality benefits of a stable, low maintenance native landscape.

QUANTIFYING ENVIRONMENTAL BENEFITS

Because Ludlam Trail is located in a highly urbanized, developed region of Miami-Dade County, environmental benefits are limited and full restoration of the historical ecological communities may not be appropriate given the level of disturbance within the corridor and limitation of surrounding developments such as the need to conduct prescribed burns within Pine Rockland communities. With a focus on providing tree canopy and native or select non-native plant species many positive impacts may be realized by the community. Following are four environmental benefits which are community wide in impact and are directly linked to the development of Ludlam Trail.

3.2 ENVIRONMENTAL BENEFITS

Environmental benefits are those in which reduce human impacts upon the natural world while improving the daily quality of life for area residents. The development of Ludlam Trail has the potential to provide many environmental benefits for the community, however, not all are quantifiable by calculations. Three benefits which further the stated goals of the community and are quantifiable based on readily available data include the following:

- Reduced Vehicle Daily Trips (VDTs)
- Emissions Reduction
- Tree Canopy Benefits
- Carbon Sequestration

Each of the above benefits will be estimated for the Ludlam Trail Study Area and will show the direct benefits to the community based on the development of the trail.

Section Three **BENEFITS ANALYSIS**

- **Vehicle Daily Trip Reduction:** The reduction vehicle daily trips (VDTs) by residents using the trail instead of private motorized vehicles will lead to a reduction in miles driven and motorized vehicle emissions.
- **Emissions Reduction:** The reduction of hydrocarbons, carbon monoxide, oxides of nitrogen, and carbon dioxide due to decreased vehicle trips
- **Tree Canopy Benefits:** The amount of oxygen generated, additional carbon dioxide stored, and noise reduction from the additional trees planted along Ludlam Trail
- **Carbon Sequestration:** The potential for carbon storage within the trail corridor

The above four benefits will be quantified in the following sections and will include only direct impacts from the Ludlam Trail. Additional environmental and social benefits can be obtained by involving the surrounding communities in planting trees and shrubs along the trail. Benefits associated with this would be lower cost of landscape and most importantly, greater community support of the project.

Open space along the Ludlam Trail corridor full of educational and environmental opportunities

3.2.1 VEHICLE TRIP REDUCTION

Anytime new bicycle and pedestrian infrastructure is added to a city, it is hoped that the convenience of these facilities will reduce the number of vehicle trips taken by area residents. Not only does driving harm public health through denigrated air quality, driving trips may represent missed opportunities for more active transportation trips that can improve the health of individuals. The growth of vehicle miles in our cities has also contributed to an unsustainable model of continual road widening and construction of parking facilities that has eroded the urban fabric and, in many ways, harmed our quality of life. To measure the reduction of vehicle trips linked to the development of Ludlam Trail, four destination types were tested: transit stations, schools, parks, and miscellaneous errands. These four types of destinations represent most of the daily vehicle trips taken.

TRANSIT STATIONS

One of the ways Ludlam Trail will take vehicle trips off the road is by making Miami-Dade County's past investments in transit more accessible. By bringing more people within a convenient walking and biking distance of rail transit, the choice to use transit becomes practical for more people. Data from across the U.S. has clearly demonstrated that when viable, convenient transit options are provided, many people will utilize these options.

METHODOLOGY - BICYCLING (2 MILES)

Ludlam Trail will bring more residents within a two (2) mile or ten (10) minute bicycle ride of transit. According to the United States Census in 2000, 5.3% of the population who live within two miles of the Dadeland North Metrorail Station and the proposed Orange Line NW 7th St. Metrorail Station use transit. To capture this potential increase in ridership with Ludlam Trail, AECOM looked at two comparables within Miami-Dade County; Miami Beach with a transit mode share of 8.3% and the Coconut Grove area of Miami with a 12.2% transit mode share. These two comparable areas will serve as the medium and high range for improvements while the current mode share of 5.3% will serve as the baseline level.

All commuters that bike or walk to transit will not use Ludlam Trail as their route. To account for this, the number of transit users within two miles of each transit station will be applied to the average percent of Miami-Dade County residents that use trails in a given year as stated in the 2006 Community Health Survey. This survey, prepared by Professional Research Consultants on behalf of the Miami-Dade County Health Department, identifies that on average 40.7% of all County residents use a trail in a given year. This number may increase once Ludlam Trail is completed, however, it serves as a baseline for the Study Area for existing conditions. Formulas for each calculation are as follows:

Formulas:

Population that Uses Transit Pre-Trail
[Population within 2 miles of transit] x [percent of population that used transit per 2000 Census data]

Population that will use Transit Post-Trail (Low)
[Population within 2 miles of transit] x [percent of population that uses transit in baseline (5.3%)] x [2006 Community Survey data of trail users (40.7%)]

Population that will use Transit Post-Trail (Medium)
[Population within 2 miles of transit] x [percent of population that uses transit in medium (8.3%) comparable] x [2006 Community Survey data of trail users (40.7%)]

Population that will use Transit Post-Trail (High)
[Population within 2 miles of transit] x [percent of population that uses transit in high (12.2%) comparable] x [2006 Community Survey data of trail users (40.7%)]

Vehicle Trips Reduced Post Trail Development
[[[Population that Uses Transit Post-Trail (for each scenario)] – [Population that Uses Transit Pre-Trail]] x [2(Trip to and from transit station)]] x [255 (workdays per year)]

SUMMARY OF FINDINGS

Table T: Vehicle Trip Reduction To Transit for Networks A and B

Network	A	B - Low	B - Med	B - High
Pop. Within 2 mi. Bike Ride of Transit Stations	14	23,900	23,900	23,900
% Pop. that Uses Transit	5.30%	5.30%	8.30%	12.20%
Pop. that Uses Transit	0	1,267	1,984	2,916
Pop. that Uses Trails 40.7%	0	516	807	1,187
Vehicle Trips Reduced per Year	0	262,929	411,757	605,233

Source: Miami-Dade County and US Census (2000)

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Access to transit stations gained through the development of Ludlam Trail has been estimated at 23,900 in the previous section. Out of that population, 516 people on the low end and 1,187 people on the high end, would potentially use Ludlam Trail to access a transit station instead of drive a personal vehicle. A baseline reduction to vehicle trips (VDTs), when applied to an entire year, is an estimated 262,929 trips. If comparable conditions are applied and an increase in population uses transit to commute to work as many as 605,253 vehicles trips could be reduced by using Ludlam Trail.

METHODOLOGY - WALKING (1/2 MILE)

The methodology used to identify the number of vehicles trips that would be reduced due to increased access to the two transit stations for residents living within a half (1/2) mile walking distance from the stations is similar to that used for the two (2) mile biking distance. Formulas for each calculation are as follows:

Formulas:

Population that Uses Transit Pre-Trail -
[Population within 1/2 mile of transit] X [percent of population that used transit per 2000 Census data]

Population that will use Transit Post-Trail (Low)
[Population within 1/2 miles of transit] x [percent of population that uses transit in baseline (5.3%)] x [2006 Community Survey data of trail users (40.7%)]

Population that will use Transit Post-Trail (Medium)
[Population within 1/2 miles of transit] x [percent of population that uses transit in medium (8.3%) comparable] x [2006 Community Survey data of trail users (40.7%)]

Population that will use Transit Post-Trail (High)
[Population within 1/2 miles of transit] x [percent of population that uses transit in high (12.2%) comparable] x [2006 Community Survey data of trail users (40.7%)]

Vehicle Trips Reduced Post Trail Development [[[Population that Uses Transit Post-Trail (for each scenario)] – [Population that Uses Transit Pre-Trail]] x [2(Trip to and from transit station)]] x [255 (workdays per year)]

SUMMARY OF FINDINGS

Table U: Vehicle Trip Reduction to Transit: Networks D, E

Network	D	E - Low	E - Med	E - High
Pop. Within 1/2 mi. of Transit Stations	43	43	43	43
% Pop. that Uses Transit	5.3%	5.3%	8.3%	12.2%
Pop. that Uses Transit	2	2	3	5
Vehicle Trips Reduced per Year	1,020	1,020	1,530	2,550

Source: Miami-Dade County and US Census (2000)

The population within a half (1/2) mile access of the transit stations pre-trail and post-trail development remains at 43. This low number is contributed to the large block sizes located around each transit station and that each transit station is located a considerable distance from the nearest residential areas.

The convenience of the trail however, may encourage a modal shift from vehicular use to transit use, raising the percentage of the population that uses transit from 5.3% to somewhere in between 8.3% and 12.2 % as identified in the pervious calculations for estimating vehicle trip reductions for transit based on bicycle use. Vehicle trips reduced for residents living within a half (1/2) mile walk from a transit station by using Ludlam Trail were calculated using these percentages.

Out of the 43 residents that are within a half (1/2) mile walking distance of the transit stations, between three (3) and five (5) people would potentially ride transit which would be an increase of between one (1) and three (3) persons. These estimates suggest that if the number of people using transit increase due to the convenience of Ludlam Trail, between 510 and 1,530 vehicle trips would be reduced.

SCHOOLS

Currently, Miami-Dade County School Board policy mandates that only children who live more than two miles from their respective school will receive school bus service. Within two miles students are responsible for providing their own mode of transportation to school. More times than not, the mode of transportation selected is by private vehicle. With the development of Ludlam Trail, many students will gain access to their schools via a safe and direct route on the Ludlam Trail. There may also be an increase in the amount of students who typically walk or bike to school because of the convenience factor of the Ludlam Trail. This section will estimate the vehicles trips reduced.

METHODOLOGY

Using the same student population figures determined in the Destination Accessibility analysis, AECOM has estimated the number of vehicle trips as follows:

Network A: Represents the current conditions without Ludlam Trail. Based on previous Safe Routes to Schools applications completed in the Miami-Dade County area, an estimated forty (40%) percent of students within two (2) miles of each school arrive by personal vehicle.

Network B: With Ludlam Trail completed, a Safe Route to School program can be administered for each school near the corridor. Based on previous Safe Routes to Schools applications completed in the Miami-Dade County area, after a Safe Route to school was implemented there was an estimated fifty (50%) percent drop in the amount of students within two (2) miles of each school arriving by personal vehicle. This means a potential twenty (20%) percent mode share shift to either biking or walking to school. This estimate will be applied to each school's attendance figures.

Network C: This model uses the same estimates as Network B, but now contains proposed on-street bicycle lanes per the Miami-Dade County Bike and Pedestrian Plan Update. However, in calculating the difference between Networks B and C, the elementary schools' vehicle trips remain unchanged. This is because Elementary School students are highly unlikely to reach schools via on-street bicycle lanes due to safety concerns.

The number of vehicle trips calculated above were then refined in two ways. The first refinement accounts for the fact that not all of the students traveling to school by private vehicle would arrive separately and that some students would be part of carpools or would most likely be from the same household. Based on previous Safe Routes to Schools applications , carpools/family trips would reduce the vehicle trips to 75% of the total. The second refinement is to multiply by two to account for each trip to and from school and then multiplied by 189, or the number of school days in a typical year for the total vehicle trip count. The tables for each network follow.

SUMMARY OF FINDINGS

The estimated vehicles trip reduction linked to the development of Ludlam Trail is 136,080 trips while the complete implementation of the Miami-Dade County Bike and Pedestrian Plan Update would reduce an additional 1,890 trips within the Ludlam Trail Study Area.

The above image is an example of a common way greenways and trails reduce vehicle trips. Many people become new cyclist to recreation, errand running, or commuting.

The Seminole-Wekiva Trail provides direct connections to area retail and dining businesses.

Section Three **BENEFITS ANALYSIS**

The West Orange Trail provides area residents with access to schools and in the above picture, direct access to a library.

Offering easy and accessible choices for residents to travel to area amenities is key to a successful trail.

Table V: Network A - Vehicle Trip Baseline Estimate

School	A. Est. 2000 pop aged 5-17 within catchment	B. Est. 2000 pop aged 5-17 within catchment and 2 mi.	C. Est. % of students within catchment and 2 mi. (B/A)	D. Actual enrollment	E. Est. # enrolled students within 2 mi. (C*D)	F. Est.# of students in private vehicle (E*.4)*.75	G. Est # of vehicle trips (F*2)*189
Coral Terrace ES	1,658	1,293	78.00%	549	428	128	48,551
S. Miami ES	1.473	1,130	76.70%	859	659	198	74,728
Ludlam ES	1,773	468	26.40%	448	118	35	13,410
W. Miami MS	8,492	3,087	36.40%	1,133	412	124	46,706
S. Miami MS	4,421	2,553	57.70%	1,027	593	178	67,253
S. Miami HS	12,657	2,662	21.00%	2,308	485	146	55,046
					TOTAL Baseline of Current Vehicle Trips to Schools		**305,694**

Source: Miami-Dade County and US Census (2000)

Table W: Network B - Vehicle Trip Reduction by Ludlam Trail

School	A. Est. 2000 pop aged 5-17 within catchment	B. Est. 2000 pop aged 5-17 within catchment AND 2 mi.	C. Est. % of kids within catchment AND 2 mile (B/A)	D. Actual enrollment	E. Est. # students within 2 miles (C*D)	F. Est.# of students in private vehicle (E*.2)*.75	G. Est # of vehicle trips reduced (F*2)*189
Coral Terrace ES	1,658	1,361	82%	549	451	68	22,680
S. Miami ES	1.473	1,204	82%	859	702	105	35,154
Ludlam ES	1,773	532	30%	448	134	20	5,670
W. Miami MS	8,492	3,536	41.60%	1,133	472	75	18,522
S. Miami MS	4,421	2,743	62.00%	1,027	637	96	30,996
S. Miami HS	12,657	3,073	24.30%	2,308	560	85	23,058
					TOTAL Vehicle Trip Reduced by Ludlam Trail		**136,080**

Source: Miami-Dade County and US Census (2000)

Table X: Network C - Vehicle Trip Reduction by Network

School	A. Est. 2000 pop aged 5-17 within catchment	B. Est. 2000 pop aged 5-17 within catchment AND 2 mi.	C. Est. % of kids within catchment AND 2 mile (B/A)	D. Actual enrollment	E. Est. # students within 2 miles (C*D)	F. Est.# of students in private vehicle (E*.2)*.75	G. Est # of vehicle trips reduced beyond Ludlam Trail(F*2)*189
Coral Terrace ES	1,658	1,361	82%	549	451	68	0
S. Miami ES	1.473	1,204	82%	859	702	105	0
Ludlam ES	1,773	532	30%	448	134	20	0
W. Miami MS	8,492	3,728	43.90%	1,133	497	71	1,512
S. Miami MS	4,421	2,741	62.00%	1,027	637	96	0
S. Miami HS	12,657	3,073	24.30%	2,308	560	84	378
					TOTAL Vehicle Trips Reduced by full network beyond Ludlam Trail		**1,890**

Source: Miami-Dade County and US Census (2000)

Formulas:

Student Population that uses Private Vehicles to access Schools Pre-Trail
[[Student Population within 2 miles of transit] x [percent of population that uses private vehicles (40%)] x [Carpools and family trips refinement (75%)] x [2 trips per day] x [189 school days]]

Student Population that uses Private Vehicles to access Schools Post-Trail
[[Student Population within 2 miles of transit] x [percent of population that uses private vehicles (20%)] x [Carpools and family trips refinement (75%)] x [2 trips per day] x [189 school days]]

Vehicle Trips Reduced Post Trail Development [[Student Population that uses Private Vehicles Post-Trail] – [Population that use Private Vehicles Pre-Trail]]

PARKS

The 2006 Community Health Survey, prepared by Professional Research Consultants on behalf of the Miami-Dade County Health Department, found that 54.3% of all Miami-Dade County residents visited a park, community center or recreation center in the last year, with mean number of annual visits of 25. The Ludlam Trail corridor directly connects to three parks and a fourth park is with a few hundred feet of the corridor. If a greater number of these trips were accomplished by walking or bicycle, significant vehicle reductions would be realized. The following formula will estimate the reduction in vehicle trips associated with the presence of Ludlam Trail.

METHODOLOGY - BICYCLING (2 MILES)

The population within a two (2) mile or ten (10) minute bike ride of A.D. "Doug" Barnes Park, Brothers to the Rescue Park, Palmer Park (City of South Miami), and Robert King High Park (City of Miami) was calculated in Destination Accessibility in section 3.1.1 of the study. For Networks A, B, and C, the population was then multiplied by 54.3%, which is the percentage of Miami-Dade County residents who reported using parks in 2006. These figures were then multiplied by 25 (the mean number of visits to a park annually according to the same survey). United States Census data from 2000 documents an 1.6% bicycle and walking modal split for adults traveling to work within the Ludlam Trail Study Area. This modal split estimate is the most comprehensive for travel within the Study Area and will be used in estimating vehicle trip reductions in this section.

Formulas:

Vehicle Trips Reduced Pre and Post Trail Development
[Population within 2 miles of parks] x [percent of population that used parks per 2006 Community Health Survey] x [percent of population who bike or walk based on 2000 Census data] x [mean annual visit per year (25 visits) x 2 trips (to and from park)]

Vehicle Trips Reduced Post Trail Development
[Network B vehicle trips reduced post development - Network A vehicle trips reduced pre-development]

Vehicle Trips Reduced Post Network Implementation
[Network C vehicle trips reduced post network implementation - Network B vehicle trips post trail development]

SUMMARY OF FINDINGS

With the development of Ludlam Trail approximately 2,773 vehicles trips would be reduced based on an increase in accessibility for area residents. With the complete implementation of the Miami-Dade County Bike and Pedestrian Plan Update an additional 557 vehicle trips would be reduced.

Table Y: Vehicle Trip Reduction by Biking on Ludlam Trail

Network	A	B	Vehicle Trips Reduced by Ludlam Trail	C	Vehicle Trips Reduced by Network
A. Population within 2 Mile Bike Ride	29,873	36,262	6,389	37,545	1,283
B. Estimated users within Population (A*54.3%)	16,224	19,690	3,466	20,387	697
C. Estimated users who walk or bike (B*1.6%)	260	315	55	326	11
D. Estimated vehicle trips reduced per year (C*2*25)	12,979	15,752	2,773	16,310	557

Source: Miami-Dade County and US Census (2000)

METHODOLOGY - WALKING (1/2 MILE)

In order to determine potential vehicle trip reductions the surrounding community could expect from people walking on Ludlam Trail to access A.D. "Doug" Barnes Park, Brothers to the Rescue Park, Palmer Park (City of South Miami), and Robert King High Park (City of Miami) a similar approach to estimating trips reduced by biking on Ludlam was used.

Formulas:

Vehicle Trips Reduced Pre and Post Trail Development
[Population within 1/2 mile of parks] x [percent of population that used parks per 2006 Community Health Survey] x [percent of population who walk based on 2000 Census data] x [mean annual visit per year (25 visits) x 2 trips (to and from park)]

Vehicle Trips Reduced Post Trail Development
[Network E vehicle trips reduced post development - Network D vehicle trips reduced pre-development]

SUMMARY OF FINDINGS

With the development of Ludlam Trail approximately 554 vehicles trips would be reduced based on an increase in accessibility for area residents to walk to nearby parks.

Table Z: Vehicle Trips Reduced by Walking on Ludlam Trail

Network	A. Pop. within ½ mile walk	B. Estimated users within Pop. (A*54.3%)	C. Estimated users who walk (B*1.6%)	D. Estimated vehicle trips reduced per year (C*2*25)
Network A (Before Ludlam)	10,441	5,669	91	4,536
Network B (After Ludlam)	11,716	6,362	102	5,089
			Total Vehicle Trips Reduced	554

Source: Miami-Dade County and US Census (2000)

MISCELLANEOUS ERRANDS

While transportation systems are often designed with commute trips occurring in the peak hour as a focus, these trips represent only a fraction of the travel that most of people engage in each day. A National Household Travel Survey (NHTS) conducted in 1995 in collaboration with the Federal Highway Administration and the New York Times found that approximately 70% of all household trips occur within three (3) miles of one's residence. The study grouped these trips into eight categories and identified the percentage of trips by trip type that occur within these three (3) miles. The categories included; work (18.0%); work related (2.6%); shopping (20.2%); doctor and dentist (1.5%); family and personal (24.2%); church and school (8.8%); social and recreational (24.5%); and other (0.2%).

The development of the Ludlam Trail will provide residents with an alternative mode by which to complete some of these trips. For example, the presence of the shared-use trail may encourage neighborhood youth to use the trail to bike or walk to a friend's house as opposed to having a parent drive them. Similarly, the presence of the trail may encourage a family member to bike or walk to the neighborhood convenience store for water or milk as opposed to driving.

METHODOLOGY

Trip types that were identified as miscellaneous errands include doctor and dentist, family and personal and social recreational trips. Work, work related and school trips were quantified previously using an alternate methodology while trips under the shopping, church and other trip categories were not considered in this methodology due to the low probability that the trail would reduce vehicle trips associated with these categories.

The vehicle trips (VTDs) for the Ludlam Trail Walkable Area is estimated to be 192,305 trips based on Institute for Transportation Engineering (ITE) standards for residential units and square footage totals for office, retail and industrial uses obtained during the Baseline Economic Assessment in section 1.5 of this study. The percentages identified in the NHTS survey were applied to VTD estimate to quantify the number of daily trips that would be produced by each category. Next, the percentage of trips that the trail would capture were identified and applied to the number of daily trips generated per the pertinent categories.

Formulas:

Vehicle Trips Reduced Post Trail Development
[vehicle trips by type] x [percent of population who bike or walk based on 2000 Census data] x [percent of population that used trails per 2006 Community Health Survey] x [365 days per year x 2 trips (to and from destination)]

SUMMARY OF FINDINGS

An estimated 458,918 vehicle trips for miscellaneous errands would be reduced per year by people either walking or biking on the Ludlam Trail to their destination.

Table AA: Vehicle Trips Reduced for Miscellaneous Errands

Trip Type	% By Trip Type	VTD By Trip Type	% Trips by Walking or Biking	VTD Reduced	% who use trails (40.7%)	Vehicle Trips Reduced Per Year
Work	18.00%	34,615	-	-	-	-
Work Related	2.60%	5,000	-	-	-	-
Shopping	20.20%	38,846	-	-	-	-
Doctors & Dentist	1.50%	2,885	1.60%	46	19	13,715
Family & Personal	24.20%	46,538	1.60%	745	303	221,230
Church & School	8.80%	16,923	-	-	-	-
Social & Rec.	24.50%	47,115	1.60%	754	307	223,973
Other	0.20%	385	-	-	-	-
				Total Vehicle Trips Reduced		**458,918**

Source: Miami-Dade County and US Census (2000)

3.2.1 VEHICLE TRIP REDUCTION SUMMARY OF FINDINGS

Based on the methodology discussed at in section 3.1.2 of the study, it is estimated that the development of Ludlam Trail would improve mobility for walking and biking to schools, parks, transit stations, and miscellaneous errands and reduce vehicle trips (VDTs) within the Ludlam Trail Study Area by the following amounts per category:

Destinations	VDTs Reduced
Transit Stations – (2 mile)	262,929
Schools – (2 miles)	136,080
Parks – (2 mile)	2,773
Miscellaneous Errands	458,918
Total Vehicle Trips (VDTs) Reduced	**860,700**

3.2 ENVIRONMENTAL BENEFITS SUMMARY OF FINDINGS

Based on the analyses to the left, residents within the Ludlam Trail Study Area can expect to see the following environmental benefits:

- Reduction of 860,700 vehicle miles driven resulting in 394 fewer tons of carbon dioxide annually
- Consumption of 36,625 fewer gallons of fuel or the equivalent of over four tanker trucks annually
- Savings of over $101,450 in fuel costs annually
- Over $170 million in pollution control savings over a fifty year period
- Carbon sequestration of over 5,250 tons from new canopy tress and between 3,120 and 4,200 tons from newly vegetated spaces

The Seminole-Wekiva Trail located in Seminole County, Florida offers many environmental benefits such as additional tree canopy, above picture, carbon sequestration and vehicle trip reduction.

3.2.1 VEHICLE TRIP REDUCTION

The reduction of vehicle daily trips (VDTs) was analyzed in section 3.1.2 of the study and will be used for calculating the emissions reduction expected from the development of Ludlam Trail. If each trip reduced represents on average one vehicle mile to a destination and back within the Walkable Area, then over a one year period, 860,700 vehicle miles would be reduced. For the average passenger car this represents the reduction in emission pollutions for the following components:

- Hydrocarbons: ((2.8g/mi x 860,700 mi) / 454g) = 5,308 lb. of hydrocarbons reduced annually
- Carbon Monoxide: ((20.9g/mi x 860,700 mi.) / 454g) = 39,622 lb. of carbon monoxide reduced annually
- Oxides of Nitrogen: ((1.39g/mi x 860,700 mi.) / 454g) = 2,635 lb. of oxides of nitrogen reduced annually
- Carbon Dioxide: (0.916 lb./mi. x 860,700) = 788,401 lb. of carbon dioxide or 394 tons reduced annually

All figures are based on averages only. Source: US Environmental Protection Agency, April, 2000; Emission Facts

Using the same 860,700 VTD figure an estimated fuel savings can be calculated. Using the Cafe (Corporate Average Fuel Economy) figure from 2010 of an average vehicle fuel economy rate of 23.5 MPG, the development of Ludlam Trail would save the consumption of over 36,625 gallons or the equivalent of approximately four (4) tanker trucks of fuel annually.

Applying the average fuel price for the first half of 2010 (U.S. Energy Information Administration) of $2.77 per gallon, the Miami-Dade community would save over $101,450 in fuel costs annually.

SUMMARY OF FINDINGS

Through the decrease of vehicle miles traveled by improving mobility and connectivity, Ludlam Trail will reduce thousands of pounds of hydrocarbons, carbon monoxide, and oxides of nitrogen, and 394 tons of carbon dioxide annually. It will also save 36,625 gallons or four (4) tanker trucks of fuel annually representing a savings of over $101,000 each year.

3.2.2 TREE CANOPY BENEFITS

The Ludlam Trail Design Guidelines and Standards Study calls for the planting of approximately 1,050 shade trees. The United States Forest Service has estimated that over a 50-year lifespan, a typical shade tree can generate $31,250 worth of oxygen, $62,000 worth of air pollution control, recycles $37,500 worth of water, and controls $31,250 worth of soil erosion. Applied to the 1,050 new shade trees this represents a total impact of:

- Oxygen Value = $32,812,500
- Air Pollution Control Value = $65,100,000
- Recycled Water Value = $39,375,000
- Soil Erosion Control Value = $32,812,500

Total economic value of new tree canopy = $170.1 million

Additionally, the Trust for Public Land documented in 1993 that a single mature tree can produce enough oxygen to support two humans. This would translate into the trees along Ludlam Trail providing enough oxygen for 2,100 people.

The United States Forest Service states that a single shade tree can store over 10,000 lb.. of carbon dioxide over an average lifespan. When applied to Ludlam Trail, this means:

Formula:

1050 trees x 10,000 lb.. each = 10.5 million lb.. or 5,250 tons of carbon dioxide sequestered

The tree canopy also provides a reduction in urban noise. A United States Department of Energy study reported that a 100' buffer of trees can absorb 7dlb of urban noise or approximately fifty (50%) percent as much as a solid wall.

SUMMARY OF FINDINGS

The additional tree canopy provided by the development of Ludlam Trail will provide the community over $170 million worth of environmental benefits over the next fifty (50) years. Oxygen for 2,100 persons will be provided by the increase in tree canopy and over 5,250 tons of carbon dioxide will be sequestered by canopy trees while providing a quieter environment for adjacent residents.

3.2.3 CARBON SEQUESTRATION

In addition to the 5,250 tons of carbon sequestration provide by the new tree canopy as estimated in the previous section, the open spaces within the Ludlam Trail corridor and adjacent to corridor in parks provide additional sequestration. In order to estimate the potential for sequestering carbon in open spaces, the carbon calculator on the "Carbon Trading: A primer for landowners" web page of the University of Georgia Warnell School of Forestry and Natural Resource's website. This online calculator is a collaborative effort between the school and the National Commission on Science for Sustainable Forestry (NCSSF).

The online calculator provides data for each region of the country with specific calculations for various 'stand types.' Two types of stand apply to the Ludlam Trail corridor; Longleaf Slash Pine of the Pine Rockland community; and the Oak, Gum and Cypress stand of the Tropical Hardwood Hammock community. Because two stand types could be used throughout the corridor two separate scenarios will be developed.

The next step is to identify whether the project is reforestation or regrowth of a forest stand following a clearcut harvest; or afforestation which is growth of a forest on land that was not presently forest and has not for over ten (10) years. The Ludlam Trail corridor falls into the afforestation category, which will be used in this estimation. Management type is determined next by selecting either high intensity which requires genetically improved stock, fertilization and thinning, or low intensity which requires no additional inputs. For Ludlam Trail low intensity management was selected for both scenarios.

The last step is to select the age of the stand. For Ludlam Trail a twenty-five year old stand was selected to estimate the carbon sequestration of the corridor twenty-five years after development.

Soil organic carbon would exist under almost any alternative, and while the carbon sequestered in the understory and in living or dead trees might not be available on an urban site. The carbon that could be sequestered in a 25 year old forest for slash pine would be 52 tons per acre (127.5 tonnes/ha), or seventy (70) tons per acre (174 tonnes/ha). These estimates are then applied to the overall corridor open space which totals approximately sixty acres.

SUMMARY OF FINDINGS

Once the native habitat is restored as appropriate, the Ludlam Trail corridor will potentially have the capacity to sequester between 3,120 and 4,200 tons of carbon dioxide.

Section Three BENEFITS ANALYSIS

3.3 ECONOMIC BENEFITS

Economic sustainability can be measured in a number of ways, but generally is defined as the ability of an economy to maintain a healthy level of activity and development for many generations.

QUANTIFYING ECONOMIC BENEFITS

Of the three types of benefits discussed, economic benefits are perhaps the easiest to quantify. In order to focus the analysis, the following benefits were selected to be quantified through readily available data:

- Potential property value benefit
- Potential net new property taxes
- Potential retail sales from the spending of trail users
- Potential retail space, sales taxes, and employees supported by this spending

The methodology for determining each of these benefits, and their corresponding results are in the sections below. The short-term benefits from the construction period were also evaluated and are as follows:

CONSTRUCTION PERIOD

The Ludlam Trail could be expected to generate and support employment, both in its construction, and from the uses around it. AECOM first analyzed the impacts of the construction of the trail.

Construction employment is directly related to the cost of construction, which according to the Miami-Dade County Park and Recreation Department, is estimated to be $54.7 million. This total includes both labor, materials, hard costs, and soft costs for construction of the trail. Industry averages suggest that approximately 40 percent of a project's total construction cost can be attributable to labor. Using this estimate, labor costs for the Ludlam Trail would total approximately $21.9 million.

- Estimated construction cost: $54,656,000
- Estimated material costs: $32,794,000 or 60% of construction cost
- Estimated wages: $21,862,000 or 40% of construction cost

In order to determine the number of employees this would support, AECOM divided the total wages by the average annual wage for Construction employment in Miami-Dade County, which is approximately $45,000. This results in 485.83 "person years" of employment. This means that if the project took one year, the project would support approximately 486 jobs. If it takes ten years, it would support 48 jobs per year.

- Estimated construction wages: $21,862,000
- Average Miami-Dade Construction Wage: $45,000
- Person years of Construction Employment: 486

Miami-Dade construction wage is based on the average quarterly wages by industry, Quarter Census of Employment and Wages, Third Quarter 2009, Labor Market Statistics, Florida Agency for Workforce Innovation, 2009.

The construction of Ludlam Trail would not generate sales tax revenue for materials as public works projects are exempted from tax. The contractor must receive a purchase order and a copy of an exemption certificate from Miami-Dade County before shipment or delivery in order to be tax exempted. If the contractor fails to obtain an exemption certificate, then Miami-Dade County and the State of Florida would receive tax revenue from the construction of Ludlam Trail.

3.3.1 PROPERTY VALUES

METHODOLOGY

AECOM's methodology for analyzing the economic benefits to property values resulting from the development of the Ludlam Trail was primarily based upon the analysis of two comparables: the Fred Marquis Pinellas Trail in Pinellas County, Florida and the Springwater Trail in Portland, Oregon. Both trails are located in generally urban areas and have well documented baseline information to assess the impact the development of each trail has had on various economic indicators within 1/2 miles of the trail.

The analysis in this study was limited to quantitative data that was readily available from Miami-Dade County, Pinellas County and Portland METRO. AECOM relied on property tax assessor parcel and value data, demographic data from the U.S. Census and ESRI, and commercial real estate performance data from Costar Property.

COMPARABLES

The half-mile Walkable Area around the proposed Ludlam Trail corridor has approximately 32,152 residents in 12,106 households. The Pinellas and Springwater Trails' Areas of Influence cover more land area, twenty-nine (29) and eighteen (18) square miles respectively, versus five (5) square miles in the Ludlam Trail Walkable Area. Therefore, the Ludlam Trail Walkable Area is actually much denser, with nearly 6,700 persons per square mile. Both of the comparables' Areas of Influence are nearly half as dense. It is important to note, however, that there are likely pockets of denser areas along the length of these comparable trails. Both comparable trail Areas of Influence have become denser with time. In contrast, the Ludlam Trail Walkable Area has grown slightly less dense.

FRED E. MARQUIS PINELLAS TRAIL

The Fred E. Marquis Pinellas County trail was first opened in 1990 with an initial five (5) mile section, developed on a former railroad right-of-way by Pinellas County. The trail was partially funded by a voter-approved referendum called the "Penny-for-Pinellas" sales tax. The trail connects many populated areas of the County, including St. Petersburg, Seminole City, Largo, and Tarpon Springs. The most recent section to be developed is the downtown St. Petersburg extension, sponsored by Progress Energy. In all, the trail covers approximately thirty-five (35) miles, and receives approximately 1.1 million users annually. The trail travels through commercial, industrial, and residential areas.

The Pinellas Trail Walkable Area had parcels worth $3.52 billion in 1989, comprising 10.7 percent of Pinellas County's total property value. This increased to $10.09 billion by 2010. The compound annual growth rate (CAGR) of the Trail Walkable Area was 5.14 percent from 1989 to 2010, 0.32 percent higher than that of the County. In general, the Pinellas Trail Walkable Area has had a higher growth rate and has steadily increased its share of the value of the County.

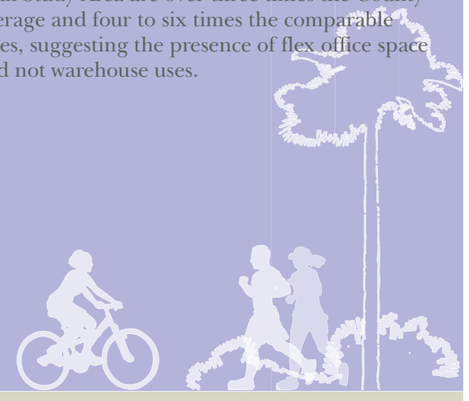
SPRINGWATER TRAIL

The land that comprises the multi-use Springwater Trail originally held a rail line that carried passenger trains from 1903 to 1958. The City of Portland acquired the majority of the right of way for the trail in 1990, and the first section was originally completed in 1996. The most recent section completed, which is closest to downtown Portland and called "Springwater on the Willamette," was developed in 2005. At completion, the trail will

3.3.1 PROPERTY VALUES - COMPARABLE RESEARCH SUMMARY OF FINDINGS

Based on the analyses to the right, key finding from the comparables trail research include the following:

- The Ludlam Trail Walkable Area contains on average twice the density of the comparable trails
- The comparable trail Walkable Areas household income levels grew at a faster rate than the Ludlam Trail Walkable Area (between 20 - 42% faster)
- Household incomes above $75,000 annually grew at a faster rate for the Walkable Area of each comparable than surrounding areas
- Property values for the two comparables experienced an annual premium of between 0.32 and 0.73 percent more than surrounding parcels located greater than 1/2 mile from a public access point to the trail
- Rental rates, absorption, and vacancy appeared to fluctuate more erratically than in the comparative areas
- Retail square footage within the Ludlam Trail Study Area is a more dominate land use type than for the comparables
- Office land use is not a prominent type within the Ludlam Trail Study Area as opposed with the comparables
- Rates for industrial space within the Ludlam Trail Study Area are over three times the County average and four to six times the comparable rates, suggesting the presence of flex office space and not warehouse uses.



Section Three **BENEFITS ANALYSIS**

The Fred E. Marquis Pinellas Trail, above, has been the catalyst for millions in new downtown developments in Dundin, FL.

The Springwater Trail in Portland, Oregon, above, offers recreation actives for residents but has also increased property values for nearby parcels.

Table AA: Fred E. Marquis Pinellas Trail and Trail Walkable Area

cover 21 miles. It is mostly complete and currently extends from just outside the Portland downtown area to beyond the town of Gresham.

The trail both connects to a larger trail system throughout Portland as well as comprises a significant portion of the 40-mile loop, a greenway that extends around the City. It was inspired by the plan developed by Frederick Law Olmsted in 1903 of a greenway to connect a string of parks throughout the city. Portland is known for its general image or "brand" of being pedestrian and bicycle friendly and as a place for lovers of outdoor activities, and the trail reinforces that, weaving through both city streets and park areas. Though the trail's adjacent properties are of varying land use types, the trail is mostly separated from streets, aside from one small section.

AECOM used assessor's parcel data from the Portland METRO Area and Pinellas County and then used ArcView GIS to select those parcels within the Springwater and Pinellas Trail Areas of Influence, respectively. From there, to compare values, for the Portland METRO Data, AECOM used assessor's data from 1996, 2000, 2006, and 2010. After formatting the data to be compatible with the shapefile, this data was then joined to the Springwater Trail Walkable Area parcels to identify a change in value. For the Pinellas Trail Walkable Area, AECOM acquired data for 1989 and 2000-2010. The value data was presented separately from any geographic identifiers other than a parcel code (disaggregated into its components). The data was then formatted to be compatible with the shapefile's database, and each year's value was added to the Pinellas Trail Walkable Area parcels.

Table BB: Springwater Trail and Trail Walkable Area

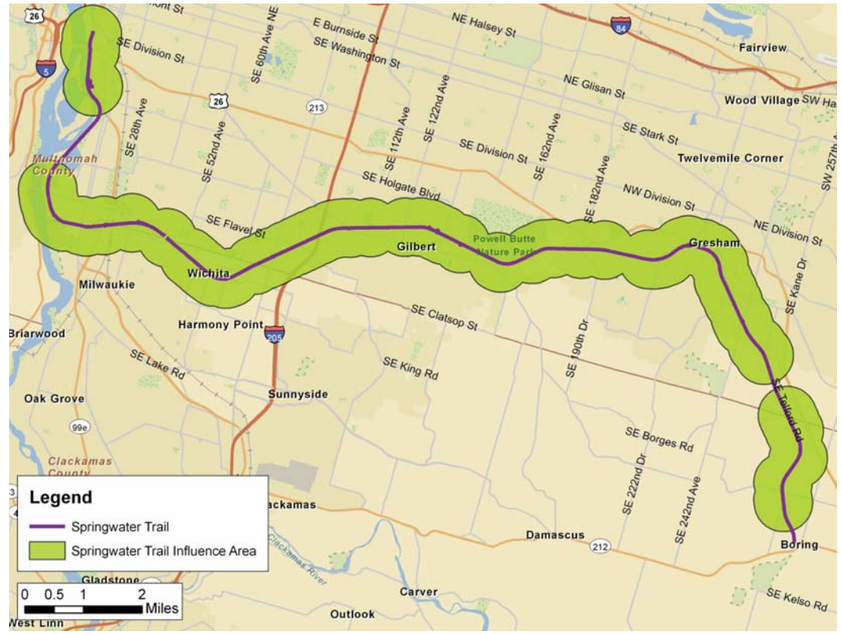


Table CC: Changes in Property Values of Pinellas Trail Area versus Pinellas County, FL

(In $Billions)	1989	2000	2005	2010	1989-2010 Change
Pinellas Trail Influence Area Total Value	$3.52	$5.39	$9.57	$10.09	$7
Pinellas County Total Value	$32.91	$47.86	$87.86	$88.49	$56
Trail Area Share of Value	**10.70%**	**11.27%**	**10.89%**	**11.40%**	**0.70%**
		CAGR (1989-2000)		**CAGR (2000-2010)**	**CAGR (1989-2010)**
Pinellas Trail Influence Area Total Value		3.96%		6.46%	5.14%
Pinellas County Total Value		3.46%		6.34%	4.82%
Difference in Annual Rate of Growth		**0.49%**		**0.12%**	**0.32%**

Source: Pinellas County Property Assessors Office, 1989, 2000, 2005, and 2010; AECOM, 2010.

Table DD: Changes in Property Values of Springwater Trail Area versus Portland 3-County METRO Area

(In $Billions)	1996	2000	2006	2010	1996-2010 Change
Springwater Trail Walkable Area Total Value	$2.99	$3.99	$5.85	$7.92	$5
Portland METRO Total Value	$84.96	$117.34	$165.55	$204.26	$119
Trail Area Share of Value	**3.52%**	**3.40%**	**3.53%**	**3.88%**	**0.35%**
			CAGR (1996-2006)	**CAGR (2000-2010)**	**CAGR (1996-2010)**
Springwater Trail Walkable Area Total Value			6.92%	7.08%	7.19%
Portland METRO Total Value			6.90%	5.70%	6.47%
Difference in Annual Rate of Growth			**0.02%**	**1.38%**	**0.73%**

Portland Metro RLIS taxlot data, 1996, 2000, 2006, 2010; AECOM, 2010.

In total, the parcels in the Springwater Trail Walkable Area were worth $2.99 billion in 1996, representing 3.52% of the comparative area's value of $84.96 billion. The value of the Trail's Walkable Area climbed to $7.92 billion in 2010, having an increased share of the three-county METRO area (3.88 percent). Overall, the Trail Walkable Area had a compound annual growth rate (CAGR) of 7.19% from 1996 to 2010, which was 0.73 percent higher than the METRO counties' rate. The majority of this change happened in the 2006 to 2010 period, when the CAGR was 7.87 %, which is 2.47% percent above that of the comparative area.

FINDINGS

From these two comparables, it would appear that properties in the Ludlam Trail Walkable Area could expect some increase in property values above and beyond what the surrounding area is experiencing. Because of the experience of the Springwater and Pinellas Trail Walkable Areas, AECOM will use an annual premium of between 0.32% and 0.73% as benchmarks for possible property value premiums.

LUDLAM TRAIL WALKABLE AREA PROPERTY VALUES

To determine the potential property value benefit, it was necessary to arrive at a factor to apply to existing values that represented a premium above and beyond the area's normal appreciation.

As stated in the comparable trails section, a half (1/2) mile or ten (10) minute walking distance is considered to be the area that would see any potential benefits. This is because it is these properties that have the greatest access to the trail. At the lowest possible scenario, the impact of the trail would be a zero net gain. It is reasonable to assume that the trail would not have a negative impact on the surrounding property values based on the existing conditions in the vacant rail corridor (in other words, a trail would be an improvement), and the reportedly positive reception by local homeowners. This potential "no-gain" scenario is not shown in the analysis tables.

For the possible benefits, AECOM applied a range of potential net new impacts in the form of an annual premium increase, derived from the overall premiums seen on the total property value of the comparable trail Walkable Area, which as presented in the comparable trail section above, ranged from 0.3 to 0.7 percent above the comparative area appreciation rate. Again, this is net new. In other words, it does not reflect the total appreciation of a given parcel but the potential impact the trail could have.

The increases in property values would manifest themselves in a variety of ways: increased sales prices on houses, increased density, increased productivity (i.e. higher rents) of rental commercial property, or intensification of use to a higher value use (from a storage yard, for example, to flex or office space). These are all dependent upon market conditions, however, in addition to the existence of the trail.

AECOM increased the existing values of property in the Ludlam Trail Walkable Area by these percentages for a 10-year time period, rather than for the entire 25-year time period being examined. This was done to aim to have a plausible and conservative estimate. It is inconclusive from the comparables research what the exact timing of any premiums would be, and because of the ongoing trail improvements and expansions the trail comparables were experiencing during the assessment periods examined in this study, using a 10-year time frame is most reasonable. Annual averages, however, are given assuming a 25-year time period (in other words, the premium is seen for a 10-year period, but the total benefit is divided by 25 years).

The annual premium in property values over the ten-year period would result in a total premium over existing values of between 3 and 7 percent, as shown in Table EE. Averaged out over a 25-year period, this changes the annual effective premium in property values to be between 0.12 and 0.27 percent.

SUMMARY OF FINDINGS

Over a period of 25 years, the presence of Ludlam Trail is expected to increase property values within the Walkable Area between $121 million and $282 million.

Table EE: Total 25-Year Incremental Value and Percent Change in Ludlam Trail Walkable Area

Total Incremental Value	0.32%	Median	0.73%
Miami	$10,053,332	$16,708,210	$23,636,089
Pinecrest	$4,588,908	$7,626,570	$10,664,232
South Miami	$6,957,523	$11,563,108	$16,168,694
West Miami	$4,520,731	$7,513,264	$10,505,796
Uninc. Miami-Dade County	$95,366,273	$158,494,699	$221,623,125
Total Incremental Value	**$121,486,767**	**$201,905,852**	**$282,324,937**
Total % Change			
Miami	3.13%	5.20%	7.26%
Pinecrest	3.21%	5.34%	7.47%
South Miami	2.99%	4.98%	6.96%
West Miami	3.08%	5.12%	7.16%
Uninc. Miami-Dade County	2.91%	4.83%	6.75%
Total Incremental Tax	**2.94%**	**4.89%**	**6.84%**
Nominal Annual % Change (Applied over a 10-year Period)			
Miami	0.32%	0.53%	0.73%
Pinecrest	0.32%	0.53%	0.73%
South Miami	0.32%	0.53%	0.73%
West Miami	0.32%	0.53%	0.73%
Uninc. Miami-Dade County	0.32%	0.53%	0.73%
Total	**0.32%**	**0.53%**	**0.73%**
Effective Annual % Change (At the End of 25 Years)			
Miami	0.12%	0.20%	0.28%
Pinecrest	0.13%	0.21%	0.29%
South Miami	0.12%	0.19%	0.27%
West Miami	0.12%	0.20%	0.28%
Uninc. Miami-Dade County	0.11%	0.19%	0.26%
Total	**0.12%**	**0.19%**	**0.27%**

Source: Miami-Dade County

3.3.1 PROPERTY VALUES SUMMARY OF FINDINGS

Based on the analysis of comparable trails from across the country, the presence of Ludlam Trail will increase properties value within the Walkable Area at a pace of 0.32% to 0.73% faster than other properties throughout Miami-Dade County. This translates into a total property value increase over a twenty-five (25) period of between $121 million and $282 million.

The Fred E. Marquis Pinellas Trail, above, has increased property values for nearby residential property owners by offering park-like amenities.

3.3.3 RETAIL SALES AND EMPLOYMENT SUMMARY OF FINDINGS

The development of Ludlam Trail will create between $3.19 million and $8 million annually in trail related expenditures leading to $223,300 to $560,000 in local and state sales tax revenue. This increase in trail related expenditures will support between 10,500 and 26,500 square feet of additional retail space and 27 to 68 new jobs.

Example of a new business being constructed adjacent to the Ludlam Trail corridor at SW 40th St. (Bird Road)

Example of a underutilized parcel adjacent to the Ludlam Trail corridor with potential to provide the area with new retail, office and residential opportunities and new tax revenues. Located at West Flagler St.

3.3.2 PROPERTY TAXES

The existing property values were separated by taxing jurisdiction to calculate tax, and the applicable millage rate was applied. This resulted in the following values and property tax. Because the values and tax millage rates differ by jurisdiction, the distribution of these taxes would be for various purposes. (Note: Full analysis is provided separate from the body of the report in the Appendix E.)

Currently, FEC is not being assessed property tax on the corridor due to the corridor's exemption status as a railroad, however, the abandonment of a segment of the corridor by FEC in 2005 may mean FEC will be assessed property taxes for only the abandoned segment in the future. The current tax assessment status is used for this report which provides $0 in property tax revenue to all taxing jurisdictions within the Study Area.

Table FF: Net New Property Values and Property Tax in Ludlam Trail Walkable Area

Total Incremental Value	0.32%	Median	0.73%
Miami	$402,133	$668,328	$934,524
Pinecrest	$183,556	$305,063	$426,569
South Miami	$278,301	$462,524	$646,748
West Miami	$180,829	$300,531	$420,232
Uninc. Miami-Dade County	$3,814,651	$6,339,788	$8,864,925
Total Incremental Value	**$4,859,470**	**$8,076,234**	**$11,292,998**
Total Incremental Tax			
Miami	$9,246	$15,366	$21,487
Pinecrest	$3,522	$5,853	$8,184
South Miami	$6,136	$10,198	$14,259
West Miami	$4,349	$7,228	$10,107
Uninc. Miami-Dade County	$75,643	$125,715	$175,788
Total Incremental Tax	**$98,896**	**$164,360**	**$229,825**
Total Incremental Value (25 years)			
Miami	$10,053,332	$16,708,210	$23,363,089
Pinecrest	$4,588,908	$7,626,570	$10,664,232
South Miami	$6,957,523	$11,563,108	$16,168,694
West Miami	$4,520,731	$7,513,264	$10,505,796
Uninc. Miami-Dade County	$95,366,273	$158,494,699	$221,623,125
Total	**$121,486,767**	**$201,905,851**	**$282,324,936**
Total Incremental Tax (25 years)			
Miami	$231,147	$384,157	$537,166
Pinecrest	$88,038	$146,315	$204,592
South Miami	$153,399	$254,942	$356,486
West Miami	$108,731	$180,706	$252,681
Uninc. Miami-Dade County	$1,891,072	$3,142,882	$4,394,691
Total	**$2,472,387**	**$4,109,002**	**$5,745,616**

Source: Miami-Dade County

SUMMARY OF FINDINGS

The analysis found that the trail could raise assessed property values annually on average by between $4.8 and $11.2 million in Miami-Dade County, bringing between $98,000 and $229,000 in net new property taxes annually. Jurisdictional millage rates are listed in Table 39 on page 91 of this report.

3.3.3 RETAIL SALES

The trail could have a positive ongoing impact on retail sales from the potential spending of trail users, on an ongoing basis buying things while using the trail. To determine the retail square footage supported by trail users, an estimate of 860,700 trail users based on the vehicle trip reduction estimates as part of section 3.1.2 of the study.

The Trail User Surveys and Economic Impact: A comparison of Trail User Expenditures report completed by Rails-to-Trails Conservancy in 2009 documented trail user's expenditures for fourteen suburban and urban trails in the Northeast. The lowest trail expenditure documented was $3.71 while the average per person expenditure document for urban trails with annual users counts above 350,000 was for $9.30. These two figures will serve as the low and high estimates for Ludlam Trail user expenditures.

Using these per user amounts, the total sales generated by trail users on Ludlam would be between $3.19 million and $8 million annually. Using an average retail productivity rate (expressed as sales per square foot) of $300, which is a nationwide average of competitive space, these sales would support between 10,500 and 26,500 square feet, as shown in the table below.

- Estimated retails range between $3.19 million and $8 million annually
- Increase in retail sales would support between 10,500 and 26,500 square feet of additional retail space

3.3.4 SALES TAXES

Miami-Dade County collects one (1%) percent local option sales tax from merchants. The remainder of the sales tax goes to the State of Florida. Some trail related retail spending may be already accounted for by local merchants or may be made outside of the Ludlam Trail Walkable Area. Trail related sales, however, will generate between $31,900 and $80,000 annually in sales tax for Miami-Dade County.

The state of Florida's sales tax rate is currently at six (6%) percent. When applied to the trail related retail sales the state of Florida will receive between $191,400 and $480,000 in sales tax revenue annually.

3.3.5 RETAIL EMPLOYMENT

To estimate the number of retail employees supported by these sales, the sales were divided by an average sales per employee of $118,000, derived from select store categories in the 2007 U.S. Economic Census. This suggests that retail sales made to trail users would support 27 to 68 retail employees.

Source information from U.S. Bureau of the Census, 2007 Economic Census for the following types of stores; clothing and accessories; electronics; food and beverage; health and personal care; sporting goods and hobbies; general merchandise; miscellaneous stores; full service restaurants; and limited service restaurants.

SUMMARY OF FINDINGS

The development of Ludlam Trail will create between $3.19 million and $8 million annually in trail related expenditures leading to $31,900 to $80,000 in sales tax revenue. This increase in trail related expenditures will support between 10,500 and 26,500 square feet of additional retail space and 27 to 68 new jobs.

3.4 SUMMARY OF BENEFITS

SOCIAL BENEFITS

DESTINATION ACCESSIBILITY

The development of Ludlam Trail will enhance overall accessibility to schools, parks, transit stations, and bus stops for as many as 30,550 people living within two (2) miles of Ludlam Trail.

Analysis of existing and post Ludlam Trail destination accessibility has identify the following key findings:

- 261 students will gain access to area schools
- 6,389 residents will gain access to parks
- 186 residents will gain access to bus stops
- 23,900 residents will gain access to transit stations

HEALTH AND WELLNESS

The development of Ludlam Trail will save the community between $1.68 million and $2.25 million annually in direct medical costs related to lack of physical exercise while leading to approximately 4,931 to 6,579 area residents becoming new exercisers. Residents within the Ludlam Trail Study Area can expect to lose or keep off between 32,664 and 109,939 pounds of weight annually by burning between 2.19 million and 7.39 million calories (kilocalories) per week while exercising on Ludlam Trail.

ENVIRONMENTAL BENEFITS

VEHICLE TRIP REDUCTION

Through the development of Ludlam Trail, improvement will be made in mobility for walking and biking to schools, parks, transit stations, and miscellaneous errands leading to reduced vehicle daily trips (VDTs) within the Ludlam Trail Study Area by the following amounts per category, per year:

- 262,929 trips to transit stations
- 136,080 trips to area schools
- 2.773 trips to parks
- 458,918 trips for miscellaneous errands

A total reduction of approximately 860,700 vehicle daily trips (VDTs) from enhanced mobility and connectivity may be realized by community from the development of Ludlam Trail.

VEHICLE EMISSIONS

With the reduction of approximately 860,700 vehicle trips the following vehicle emissions will be reduced annually:

- 5,308 fewer lb. of hydrocarbons
- 39,622 fewer lb. of carbon monoxide
- 2,635 fewer lb. of oxides of nitrogen
- 394 fewer tons of carbon dioxide

The reduction in vehicle trips translates into an annual savings in fuel consumption of approximately 36,625 gallons or the equivalent of four (4) tanker trucks. Community-wide fuel savings equals approximately $101,450 a year.

TREE CANOPY

New tree canopy plantings associated with Ludlam Trail amenities will provide the surrounding community with over $170 million in pollution control savings over the life span of a typical urban tree (fifty years). This breaks-down into the following pollution control savings:

- $32.8 million in fresh oxygen
- $65.1 million in air pollution control
- $39.4 million in recycled water
- $32.8 million in soil erosion control

In addition, the planting of approximately 1,050 new canopy trees associated with Ludlam Trail amenities will create clean oxygen for over 2,100 humans.

CARBON SEQUESTRATION

Based on a University of Georgia Warnell School of Forestry and Natural Resource carbon sequestration calculator, Ludlam Trail will provide for the sequestration of between 3,120 and 4,200 tons of carbon within twenty-five years. In addition, the planting of approximately 1,050 canopy trees associated with trail amenities will provide the sequestration of 5,250 tons of carbon over a fifty (50) year life span.

ECONOMIC BENEFITS

PROPERTY VALUES

Based on an analysis of comparable trails from across the country, the presence of Ludlam Trail will increase properties value within the Walkable Area, or properties within 1/2 mile of a proposed public access point to the trail, at an annual pace of 0.32% to 0.73% faster than other properties throughout Miami-Dade County. This translates into a total property value increase over a twenty-five (25) period of between $121 million and $282 million.

PROPERTY TAXES

Based on increased property values within the Ludlam Trail Walkable Area, Miami-Dade County and surrounding jurisdictions will receive between $98,000 and $229,000 annually in additional property tax revenues. When compiled over a twenty-five (25) year period, between $2.47 million and $5.74 million in additional property tax revenue will be realized.

RETAIL SALES

Retail expenditures related to the Ludlam Trail are expected to be between $3.19 million and $8 million annually based on research of trail related expenditures from fourteen comparable suburban and urban trails conducted by Rails-to-Trails Conservancy in 2009. Retail expenditures related to Ludlam Trail will support between 10,500 and 26,500 additional square feet of retail space.

RETAIL SALES TAX

Miami-Dade County will receive between $31,900 and $80,000 in sales tax from trail related expenditures while the State of Florida will receive between $191,400 and $480,000 annually in sales tax.

RETAIL EMPLOYMENT

Ludlam Trail related retail expenditures will support between 27 and 68 new jobs within Miami-Dade County.

Winter Garden, Florida (West Orange Trail)

Dunedin, Florida (Fred E. Marquis Pinellas Trail)

Dunedin, Florida (Fred E. Marquis Pinellas Trail)

APPENDICES

"[We have] a collective responsibility to advance and strengthen the interdependent and mutually reinforcing pillars of sustainable development - economic development, social development and environmental protection - at local, national, regional and global levels."

The Johannesburg Declaration, United Nations World Summit on Sustainable Development, 2002

Ludlam Trail at South Miami Senior High School looking north

Appendix A **FORMULAS**

Formulas Note:

The following formulas are provided as a resource in the estimation of social, environmental and economic benefits as outlined in this report. Source information, when not from AECOM is provided in Section Three of the report.

SOCIAL BENEFITS

DESTINATION ACCESSIBILITY

Accessibility for Students to Schools:

Step 1:
Student Population with access to Schools Pre-Trail
[[Student population within a school's catchment boundaries] - [Student population further than 2 miles from a school per school's catchment boundary using Pre-Trail network]]

Step 2:
Student Population with access to Schools Post-Trail
[[Student population within a school's catchment boundaries] - [Student population further than 2 miles from a school per school's catchment boundary using Post Trail network]]

Step 3:
Increase in Students Accessibility to Schools
[Student Population with Access to schools within 2 miles Post-Trail] - [Student Population with Access to schools within 2 miles Pre-Trail]]

End of Increase in Accessibility for Student to Schools formula

Accessibility for Residents to Parks:

Population with bicycling access to Parks
[[Population within 2 miles of a public access to a Park using Pre-Trail Network] - [Population within 2 miles of a public access to a Park using Post-Trail Network]]

Population with walking access to Parks
[[Population within 1/2 miles of a public access to a Park using Pre-Trail Network] - [Population within 1/2 miles of a public access to a Park using Post-Trail Network]]

End of Increase in Accessibility for Residents to Parks formula

Accessibility for Residents to Transit Stations:

Population with bicycling access to Transit Stations
[[Population within 2 miles of a Transit Station using Pre-Trail Network] - [Population within 2 miles of a Transit Station using Post-Trail Network]]

Population with walking access to Transit Station
[[Population within 1/2 miles of a Transit Station using Pre-Trail Network] - [Population within 1/2 miles of a Transit Station using Post-Trail Network]]

End of Increase in Accessibility for Residents to Transit Stations formula

Accessibility for Residents to Bus Stops:

Miami-Dade County Transit typically locates bus stops along routes at intervals of approximately 1/2 miles. This distance will be used to estimate an increase in residents walking/bicycling to bus stops.

Population with walking / bicycling access to Bus Stops
[[Population within 1/2 miles of a Bus Stop using Pre-Trail Network] - [Population within 1/2 miles of a Bus Stop using Post-Trail Network]]

End of Increase in Accessibility for Residents to Bus Stops formula

HEALTH AND WELLNESS

Direct Medical Costs Savings:

Step 1: Low Scenario Number of New Exercisers
[[Population of Study Area / Percent of Residents that use Trails annually (40.7%)] x [percent of new exercisers (23%)]]

Step 2: Low Scenario Direct Medical Cost Savings
[[Low scenario number of new exercisers] x (Percentage Increase in Physical Activity (Table A below)] x [Level of Increase prorated savings (Table B below)]]

Table A

	0-25%	26-50%	51-75%	76-100%	> 100%
Exerciser	9.5	20.2	17.9	42.9	9.5

Table B

Level of Increase	0% - 24%	25% - 49%	50% - 74%	75% - 99%	>100%
Prorated Cost	$0.00	$153.75	$307.50	$461.25	$615.00

Step 3: Total Low Scenario Direct Medical Costs Savings
[0 - 24% Savings] + [25 - 49% Savings] + [50 - 74% Savings] + [75 - 99% Savings] + [>100% Savings]

Step 1: High Scenario Number of New Exercisers
[[Population of Study Area / Percent of Residents that visit Parks annually (54.3%)] x [percent of new exercisers (23%)]]

Step 2: High Scenario Direct Medical Cost Savings
[[High scenario number of new exercisers] x (Percentage Increase in Physical Activity (Table A)] x [Level of Increase prorated savings (Table B)]]

Step 3: Total High Scenario Direct Medical Costs Savings
[[0 - 24% Savings] + [25 - 49% Savings] + [50 - 74% Savings] + [75 - 99% Savings] + [>100% Savings]]

End of Direct Medical Costs Savings formulas

Calories Burned

A range of four levels of calories burned will be determined using the following formulas:

- Low Scenario of New Exercisers with a Low Duration of Physical Exercise
- High Scenario of New Exercisers with a Low Duration of Physical Exercise

- Low Scenario of New Exercisers with a High Duration of Physical Exercise
- High Scenario of New Exercisers with a High Duration of Physical Exercise

The following table should be referenced for the proceeding formulas for the number of calories burned for each level of physical activity.

Table C

	0%	25%	50%	75%	100%
Calories for LOW DURATION (100 Min)	0	131	261	392	522
Calories for HIGH DURATION (200 Min)	0	262	522	784	1044

Appendix A **FORMULAS**

Step 1: Low / High Scenario Number of New Exercisers
[[Population of Study Area / Percent of Residents that use Trails annually (40.7%)] x [percent of new exercisers (23%)] x [Percent Level of Physical Activity per Table A for Direct Medical Costs formula]]

Step 2: Number of Calories Burned per Week
[[Number of New Exercisers] x [Calories Burned per Level of Physical Activity per person for Type of Duration (Low or High Duration per Table C)]]

Step 3: Pounds Lost or Saved per Year
[[Calories Burned per Week] / [Calories per Pound (3500)] x [Week per Year (52)]]

Replicate steps one through three for each of the levels listed on pervious page in order to establish a range of calories burned or pounds lost / saved.

End of Calories Burned formulas

ENVIRONMENTAL BENEFITS

VEHICLE TRIP REDUCTION

Vehicle Daily Trip Reduction To Transit:

The following are formulas for the estimation of vehicle daily trips reduced for bicycling to transit. Three levels of projected transit mode share of all commuter trips by adults are used, 5.3% for low or current mode share, 8.3% for a comparable Miami Beach, and 12.2% for a high mode share which is based on the Coconut Grove area of Miami.

Step 1: Population that Uses Transit Pre-Trail
[Population within 2 miles of transit] x [percent of population that used transit per 2000 Census data]

Step 2:
Population that will use Transit Post-Trail (Low)
[Population within 2 miles of transit] x [percent of population that uses transit in baseline (5.3%)] x [2006 Community Survey data of trail users (40.7%)]

Population that will use Transit Post-Trail (Medium)
[Population within 2 miles of transit] x [percent of population that uses transit in medium (8.3%) comparable] x [2006 Community Survey data of trail users (40.7%)]

Population that will use Transit Post-Trail (High)
[Population within 2 miles of transit] x [percent of population that uses transit in high (12.2%) comparable] x [2006 Community Survey data of trail users (40.7%)]

Step 3:
Vehicle Trips Reduced Post Trail Development
[[[Population that Uses Transit Post-Trail (for each scenario)] – [Population that Uses Transit Pre-Trail]] x [2(Trip to and from transit station)]] x [255 (workdays per year)]

End of bicycling to transit formula

The following are formulas for the estimation of vehicle daily trips reduced for walking to transit. Three levels of projected transit mode share of all commuter trips by adults are used, 5.3% for low or current mode share, 8.3% for a comparable Miami Beach, and 12.2% for a high mode share which is based on the Coconut Grove area of Miami.

Step 1: Population that Uses Transit Pre-Trail -
[Population within 1/2 mile of transit] X [percent of population that used transit per 2000 Census data]

Step 2:
Population that will use Transit Post-Trail (Low)
[Population within 1/2 miles of transit] x [percent of population that uses transit in baseline (5.3%)] x [2006 Community Survey data of trail users (40.7%)]

Population that will use Transit Post-Trail (Medium)
[Population within 1/2 miles of transit] x [percent of population that uses transit in medium (8.3%) comparable] x [2006 Community Survey data of trail users (40.7%)]

Population that will use Transit Post-Trail (High)
[Population within 1/2 miles of transit] x [percent of population that uses transit in high (12.2%) comparable] x [2006 Community Survey data of trail users (40.7%)]

Step 3: Vehicle Trips Reduced Post Trail Development
[[[Population that Uses Transit Post-Trail (for each scenario)] – [Population that Uses Transit Pre-Trail]] x [2(Trip to and from transit station)]] x [255 (workdays per year)]

End of walking to transit formula

Vehicle Daily Trip Reduction to Schools:

The following are formulas for the estimation of vehicle daily trps reduced for walking or cycling to school. Pre-trail and post-trail development estimates are provided for and a total number of vehicle daily trips is the end result.

Step 1: Student Population that uses Private Vehicles to access Schools Pre-Trail
[[Student Population within 2 miles of transit] x [percent of population that uses private vehicles (40%)] x [Carpools and family trips refinement (75%)] x [2 trips per day] x [189 school days]]

Step 2: Student Population that uses Private Vehicles to access Schools Post-Trail
[[Student Population within 2 miles of transit] x [percent of population that uses private vehicles (20%)] x [Carpools and family trips refinement (75%)] x [2 trips per day] x [189 school days]]

Step 3: Vehicle Trips Reduced Post Trail Development
[[[Student Population that uses Private Vehicles Post-Trail] – [Population that use Private Vehicles Pre-Trail]]

End of Reduction in Vehicle Trips to Schools formula

Vehicle Daily Trip Reduction to Parks:

The following are formula is the estimation of vehicle daily trips reduced for bicycling to parks:

Vehicle Trips Reduced Pre and Post Trail Development
[Population within 2 miles of parks] x [percent of population that used parks per 2006 Community Health Survey (54.3%)] x [percent of population who bike or walk based on 2000 Census data] x [mean annual visit per year (25 visits) x 2 trips (to and from park)]

Appendix A **FORMULAS**

Vehicle Trips Reduced Post Trail Development
[Network B vehicle trips reduced post development - Network A vehicle trips reduced pre-development]

Vehicle Trips Reduced Post Network Implementation
[Network C vehicle trips reduced post network implementation - Network B vehicle trips post trail development]

End of Reduction in Vehicle Trips by Bicycling to Parks formula

The following are formula is the estimation of vehicle daily trips reduced for walking to parks:

Vehicle Trips Reduced Pre and Post Trail Development
[Population within 1/2 mile of parks] x [percent of population that used parks per 2006 Community Health Survey (54.3%)] x [percent of population who walk based on 2000 Census data] x [mean annual visit per year (25 visits) x 2 trips (to and from park)]

Vehicle Trips Reduced Post Trail Development
[Network E vehicle trips reduced post development - Network D vehicle trips reduced pre-development]

End of Reduction in Vehicle Trips by Walking to Park formula

Vehicle Daily Trip Reduction for Miscellaneous Errands:

Trip types that were identified as miscellaneous errands include doctor and dentist, family and personal and social recreational trips. Work, work related and school trips were quantified previously using an alternate methodology. Trips under the shopping, church and other trip categories were not considered in this methodology due to the low probability that a trail would reduce vehicle trips associated with these categories. Percentages for each categories are; work (18.0%); work related (2.6%); shopping (20.2%); doctor and dentist (1.5%); family and personal (24.2%); church and school (8.8%); social and recreational (24.5%); and other (0.2%).

Vehicle Trips are to be based on Institute for Transportation Engineering (ITE) standards for residential units and square footage totals for office, retail and industrial uses

Vehicle Trips by Type
[[Total Vehicles Trips for Trail Walkable Area based on ITE standards] x [Percent of individual type of trip]]

Vehicle Trips Reduced Post Trail Development
[vehicle trips by type] x [percent of population who bike or walk based on 2000 Census data (1.6%)] x [percent of population that used trails per 2006 Community Health Survey (40.7%)] x [365 days per year x 2 trips (to and from destination)]

End of Reduction in Vehicle Trips for Miscellaneous Errands formula

VEHICLE EMISSIONS

Vehicle Miles Reduced:

[[Vehicle Daily Trips (VDTs) Reduced] x [1 mile round trip]]

Motorized Vehicle Emissions Reduced:

Hydrocarbons
[[2.8g per mile] x [Vehicle Miles Reduced] / [454g]]

Carbon Monoxide
[[20.9g per mile] x [Vehicle Miles Reduced] / [454g]]

Oxides of Nitrogen
[[1.39g per mile] x [Vehicle Miles Reduced] / [454g]]

Carbon Dioxide
[[0.916 lb. per mile] x [Vehicle Miles Reduced]]

Fuel Use Decrease:

[[Total Vehicle Miles Reduced] x [23.5 MPG (2010 Corporate Average Fuel Economy average)]]

Fuel Savings:

[[Fuel Use Reduction (in gallons)] x [$2.77 (First half of 2010 average fuel price per U.S. Energy Information Adminstration)]]

End of Vehicle Emissions formulas

TREE CANOPY

Pollution Control:

Oxygen Value
[[Number of new canopy trees] x [$31,250]]

Air Pollution Value
[[Number of new canopy trees] x [$62,000]]

Recycled Water Value
[[Number of new canopy trees] x [$37,500]]

Soil Erosion Control Value
[[Number of new canopy trees] x [$31,250]]

Total pollution control value of new canopy trees
[[Oxygen Value] + [Air Pollution Value] + [Recycled Water Value] + [Soil Erosion Control Value]

Carbon Sequestration from New Canopy Trees:

[[Number of new canopy trees] x [10,000 lb.]

End of Tree Canopy formulas

CARBON SEQUESTRATION

Carbon Sequestration:

[[Acres of new Slash Pine Forest] x [52 tons]]

[[Acres of new Oak, Gum and Cypress Forest] x [70 tons]]

These estimates are for carbon sequestration over a 25 year period.

End of Carbon Sequestration formulas

Appendix A **FORMULAS**

ECONOMIC BENEFITS

PROPERTY VALUES

Averaged over a 25 year period, the annual effective premium in property values are between 0.12 and 0.27 percent.

Effective Annual Percentage Change:

Low Estimate
[[Total Walkable Area Property Value] x [Low Annual Effective Premium (0.12%)]]

Median Estimate
[[Total Walkable Area Property Value] x [Median Annual Effective Premium (0.19%)]]

High Estimate
[[Total Walkable Area Property Value] x [High Annual Effective Premium (0.27%)]]

The above formulas can be applied to overall Walkable Area property values or Walkable Area property values by taxing jurisdiction.

End of Property Values formulas

PROPERTY TAXES

Property taxes are to be estimated on a per jurisdiction basis to reflect varying millage rates for each taxing jurisdiction within a Trail's Walkable Area. A total millage rate is needed for each jurisdiction in order to proceed.

Property Tax Increase:

Low Estimate
[[Low Total Walkable Area Taxable Property Value Increase] / {1000] x [Jurisdictional millage rate]]

High Estimate
[[High Total Walkable Area Taxable Property Value Increase] / [1000] x [Jurisdictional millage rate]]

End of Property Tax Increase formulas

RETAIL SALES

Trail Retail Expenditures:

Low Estimate
[[Estimated Trail users (VDTs Reduced)] x [$3.71 per trip]]

High Estimate
[[Estimated Trail users (VDTs Reduced)] x [$9.30 per trip]]

Retail Square Footage Supported:

Low Estimate
[[Low Trail Retail Expenditures] / [$300 per square foot]]

High Estimate
[[High Trail Retail Expenditures / [$300 per square foot]]

End of Retail Sales formulas

RETAIL SALES TAX

Miami-Dade County Retail Sales Tax:

Low Estimate
[[Low Retail Trail Expenditures] x [1% Sales Tax]]

High Estimate
[[High Retail Trail Expenditures] x [1% Sales Tax]]

State of Florida Retail Sales Tax:

Low Estimate
[[Low Retail Trail Expenditures] x [6% Sales Tax]]

High Estimate
[[High Retail Trail Expenditures] x [6% Sales Tax]]

End of Retail Sales Tax formulas

RETAIL EMPLOYMENT

Retail Sales Employment Estimate:

Low Estimate
[[Low Retail Trail Expenditures] / [$118,000 average sales per employee]]

High Estimate
[[High Retail Trail Expenditures] / [$118,000 average sales per employee]]

End of Retail Employment formulas

Appendix B DEMOGRAPHIC OVERVIEW

Demographic Overview

The following tables were produced as research during the demographic overview. Information found in each table was used for benefit estimation and analysis.

Appendix Table 1: Population and Household Change

	Population				
	2000	2009	2014	00-'09 CAGR	09-'14 CAGR
Area of Influence	32,288	32,152	32,089	-0.05%	-0.04%
Study Area	52,680	52,240	52,116	-0.09%	-0.05%
Miami-Dade	2,232,351	2,442,161	2,522,409	1.00%	0.65%
USA	278,049,507	306,109,789	320,322,004	1.07%	0.91%

	Households				
	2000	2009	2014	00-'09 CAGR	09-'14 CAGR
Area of Influence	12,112	12,106	12,084	-0.01%	-0.04%
Study Area	18,538	18,483	18,437	-0.03%	-0.05%
Miami-Dade	766,989	833,926	859,115	0.93%	0.60%
USA	104,281,646	115,219,232	120,757,470	1.11%	0.94%

Source: ESRI Business Analyst, 2008; AECOM 2010.

Appendix Table 2: Population by Age

	Area of Influence				Study Area			
Age	2000	2009	2014	% Change '09-14	2000	2009	2014	% Change '09-14
0-14	5,036	4,856	4,812	-0.9%	8,271	8,097	5,368	-33.7%
15-24	3,875	3,762	3,658	-2.8%	5,953	5,956	5,837	-2.0%
25-44	9,751	8,971	8,631	-3.8%	15,488	14,157	13,603	-3.9%
45-64	7,620	8,457	8,535	0.9%	12,643	13,739	13,968	1.7%
65+	6,005	6,109	6,450	5.6%	10,273	10,292	10,632	3.3%
TOTAL:	**32,287**	**32,155**	**32,086**	**-0.2%**	**52,628**	**52,241**	**49,408**	**-5.4%**

	Miami-Dade				USA			
Age	2000	2009	2014	% Change '09-14	2000	2009	2014	% Change '09-14
0-14	462,097	478,663	1,634,520	241.5%	59,502,594	61,528,068	64,705,045	5.2%
15-24	296,903	334,576	327,913	-2.0%	38,648,881	42,855,370	43,563,793	1.7%
25-44	694,262	686,248	698,708	1.8%	83,970,951	82,649,643	84,565,009	2.3%
45-64	484,420	605,656	625,557	3.3%	61,170,892	79,588,545	82,643,077	3.8%
65+	296,902	334,575	370,794	10.8%	34,478,139	39,182,053	45,165,403	15.3%
TOTAL:	**2,089,481**	**2,276,093**	**2,353,407**	**3.4%**	**278,049,507**	**306,109,789**	**320,322,004**	**4.6%**

Note: Numbers may not add due to rounding

Source: ESRI Business Analyst; AECOM, 2010

Appendix B DEMOGRAPHIC OVERVIEW

Appendix Table 3: Demographic Overview

	Area of Influence					Study Area				
	2000	2009	2014	00-'08 CAGR	08-'13 CAGR	2000	2009	2014	00-'08 CAGR	08-'13 CAGR
Population	32,288	32,152	32,089	-0.05%	-0.04%	52,680	52,240	52,116	-0.09%	-0.05%
Households	12,112	12,106	12,084	-0.01%	-0.04%	18,538	18,483	18,437	-0.03%	-0.05%
Median Age	39.4	41.6	42.4	0.61%	0.38%	40.2	42.2	42.8	0.54%	0.28%
Race/Ethnicity										
White	89.9%	89.6%	89.6%	-0.04%	0.00%	90.2%	90.0%	90.1%	-0.02%	0.02%
Black	2.1%	1.9%	1.7%	-1.11%	-2.20%	2.7%	2.4%	2.2%	-1.30%	-1.73%
American Indian, Eskimo	0.2%	0.2%	0.2%	0.00%	0.00%	0.2%	0.2%	0.2%	0.00%	0.00%
Asian, Pacific Islander	1.6%	1.7%	1.7%	0.68%	0.00%	1.1%	1.1%	1.1%	0.00%	0.00%
Other	6.2%	6.7%	6.8%	0.87%	0.30%	5.9%	6.3%	6.4%	0.73%	0.32%
Hispanic 1/	74.2%	82.4%	85.8%	1.17%	0.81%	75.9%	83.7%	87.0%	1.09%	0.78%
Median HH Income	$34,695	$45,138	$48,030	2.97%	1.25%	$36,370	$47,347	$49,915	2.97%	1.06%
Average HH Income	$48,929	$62,088	$65,382	2.68%	1.04%	$48,916	$62,306	$64,962	2.72%	0.84%
Owner-Occupied HUs	6,375	6,394	6,468	0.03%	0.23%	10,811	10,709	10,816	-0.10%	0.20%
Renter-Occupied HUs	5,750	5,719	5,613	-0.06%	-0.37%	7,722	7,785	7,618	0.09%	-0.43%
Vacant Housing Units	375	637	676	6.06%	1.20%	534	891	950	5.85%	1.29%

	Miami-Dade					USA				
	2000	2009	2014	00-'08 CAGR	08-'13 CAGR	2000	2009	2014	00-'08 CAGR	08-'13 CAGR
Population	2,232,351	2,442,161	2,522,409	1.00%	0.65%	278,049,507	306,109,789	320,322,004	1.07%	0.91%
Households	766,989	833,926	859,115	0.93%	0.60%	104,281,646	115,219,232	120,757,470	1.11%	0.94%
Median Age	35.6	36.8	36.9	0.37%	0.05%	35.3	36.9	37.2	0.49%	0.16%
Race/Ethnicity										
White	69.5%	70.5%	71.2%	0.16%	0.20%	75.3%	72.2%	70.5%	-0.47%	-0.48%
Black	20.4%	18.5%	17.3%	-1.08%	-1.33%	12.4%	12.8%	12.9%	0.35%	0.16%
American Indian, Eskimo	0.2%	0.2%	0.2%	0.00%	0.00%	0.8%	0.9%	0.9%	1.32%	0.00%
Asian, Pacific Islander	1.4%	1.6%	1.6%	1.49%	0.00%	3.6%	4.5%	5.0%	2.51%	2.13%
Other	8.4%	9.3%	9.7%	1.14%	0.85%	7.8%	9.7%	10.7%	2.45%	1.98%
Hispanic 1/	57.4%	66.1%	70.1%	1.58%	1.18%	12.5%	15.7%	17.5%	2.56%	2.19%
Median HH Income	$35,979	$46,977	$49,639	3.01%	1.11%	$42,148	$54,710	$56,927	2.94%	0.80%
Average HH Income	$52,377	$65,701	$69,089	2.55%	1.01%	$56,645	$71,446	$74,485	2.61%	0.84%
Owner-Occupied HUs	444,609	479,443	500,222	0.84%	0.85%	69,050,962	76,285,206	80,925,041	1.11%	1.19%
Renter-Occupied HUs	322,741	354,656	358,960	1.05%	0.24%	35,269,811	38,921,024	39,781,333	1.10%	0.44%
Vacant Housing Units	73,121	104,145	108,365	4.01%	0.80%	10,191,601	14,530,515	15,531,069	4.02%	1.34%

1/ Hispanic origin is a subset of other race categories

Appendix Table 4: Household Income Characteristics

	Area of Influence								Study Area							
Household Income	2000	% of Total	2009	% of Total	2014	% of Total	00-'09 % Change	'09-'14 % Change	2000	% of Total	2009	% of Total	2014	% of Total	00-'09 % Change	'09-'14 % Change
<15,000	2,498	20.60%	1,864	15.40%	1,776	14.70%	-25.35%	-4.7%	3,503	19.00%	2,588	14.00%	2,452	13.30%	-26.14%	-5.3%
$15,000 - $24,999	1,952	16.10%	1,404	11.60%	1,305	10.80%	-28.05%	-7.1%	2,950	16.00%	2,052	11.10%	1,917	10.40%	-30.46%	-6.6%
$25,000 - $34,999	1,661	13.70%	1,586	13.10%	1,365	11.30%	-4.51%	-13.9%	2,434	13.20%	2,403	13.00%	2,083	11.30%	-1.27%	-13.3%
$35,000 - $49,999	2,000	16.50%	1,792	14.80%	1,885	15.60%	-10.43%	5.2%	2,969	16.10%	2,680	14.50%	2,802	15.20%	-9.72%	4.5%
$50,000 - $74,999	2,013	16.60%	2,470	20.40%	2,694	22.30%	22.72%	9.1%	3,245	17.60%	3,752	20.30%	4,111	22.30%	15.62%	9.6%
$75,000 - $99,999	873	7.20%	1,283	10.60%	1,220	10.10%	47.02%	-4.9%	1,586	8.60%	2,200	11.90%	2,083	11.30%	38.71%	-5.3%
$100,000 - $149,999	655	5.40%	1,005	8.30%	1,051	8.70%	53.49%	4.6%	1,125	6.10%	1,811	9.80%	1,880	10.20%	61.05%	3.8%
$150,000 - $199,999	230	1.90%	291	2.40%	326	2.70%	26.14%	12.3%	313	1.70%	536	2.90%	571	3.10%	71.00%	6.6%
$200,000+	267	2.20%	400	3.30%	459	3.80%	49.79%	14.9%	313	1.70%	481	2.60%	535	2.90%	53.31%	11.2%
Total Households	**12,124**	**100%**	**12,107**	**100%**	**12,082**	**100%**	**-0.14%**	**-0.2%**	**18,439**	**100%**	**18,484**	**100%**	**18,435**	**100%**	**0.24%**	**-0.3%**

	Miami-Dade								USA							
Household Income	2000	% of Total	2009	% of Total	2014	% of Total	00-'09 % Change	'09-'14 % Change	2000	% of Total	2009	% of Total	2014	% of Total	00-'09 % Change	'09-'14 % Change
<15,000	164,214	21.40%	136,762	16.40%	134,020	15.60%	-16.72%	-2.0%	16,590,042	15.90%	13,134,864	11.40%	13,041,685	10.80%	-20.83%	-0.7%
$15,000 - $24,999	110,499	14.40%	88,395	10.60%	84,192	9.80%	-20.00%	-4.8%	13,355,506	12.80%	10,945,720	9.50%	10,626,558	8.80%	-18.04%	-2.9%
$25,000 - $34,999	99,756	13.00%	96,734	11.60%	85,910	10.00%	-3.03%	-11.2%	13,355,506	12.80%	11,637,029	10.10%	10,868,071	9.00%	-12.87%	-6.6%
$35,000 - $49,999	120,475	15.70%	120,917	14.50%	129,724	15.10%	0.37%	7.3%	17,216,082	16.50%	16,591,407	14.40%	16,905,888	14.00%	-3.63%	1.9%
$50,000 - $74,999	128,149	16.70%	161,779	19.40%	183,848	21.40%	26.24%	13.6%	20,346,278	19.50%	24,541,456	21.30%	27,170,177	22.50%	20.62%	10.7%
$75,000 - $99,999	62,156	8.10%	92,564	11.10%	91,065	10.60%	48.92%	-1.6%	10,642,669	10.20%	16,245,753	14.10%	17,630,426	14.60%	52.65%	8.5%
$100,000 - $149,999	47,576	6.20%	78,388	9.40%	85,051	9.90%	64.76%	8.5%	8,034,171	7.70%	13,480,518	11.70%	14,611,518	12.10%	67.79%	8.4%
$150,000 - $199,999	14,580	1.90%	27,519	3.30%	30,069	3.50%	88.75%	9.3%	2,295,478	2.20%	4,378,288	3.80%	4,830,254	4.00%	90.74%	10.3%
$200,000+	19,951	2.60%	32,523	3.90%	36,082	4.20%	63.01%	10.9%	2,504,157	2.40%	4,263,070	3.70%	4,830,254	4.00%	70.24%	13.3%
Total Households	**767,357**	**100%**	**833,912**	**100%**	**859,101**	**100%**	**8.67%**	**3.0%**	**104,339,889**	**100%**	**115,218,105**	**100%**	**120,756,343**	**100%**	**10.43%**	**4.8%**

Note: Numbers may not add due to rounding

Source: ESRI Business Analyst; AECOM, 201(

Appendix Table 5: Employed Population 16+ by Occupation and Industry

	Area of Influence		Study Area		Miami-Dade		USA	
By Occupation	#	%	#	%	#	%	#	%
White Collar	8,954	63.6%	14,380	63.3%	609,480	61.0%	83,025,926	61.5%
Management/Business/Financial	1,647	11.7%	2,681	11.8%	137,882	13.8%	18,900,211	14.0%
Professional	2,816	20.0%	4,384	19.3%	181,845	18.2%	30,240,337	22.4%
Sales	1,999	14.2%	3,271	14.4%	137,882	13.8%	15,390,172	11.4%
Administrative Support	2,492	17.7%	4,044	17.8%	150,871	15.1%	18,495,206	13.7%
Services	2,506	17.8%	3,998	17.6%	196,832	19.7%	23,085,258	17.1%
Blue Collar	2,619	18.6%	4,339	19.1%	192,836	19.3%	28,890,322	21.4%
Farming/Forestry/Fishing	14	0.1%	23	0.1%	4,996	0.5%	810,009	0.6%
Construction/Extraction	788	5.6%	1,272	5.6%	58,950	5.9%	7,560,084	5.6%
Installation/Maintenance/Repair	535	3.8%	886	3.9%	37,968	3.8%	4,995,056	3.7%
Production	521	3.7%	863	3.8%	34,970	3.5%	7,695,086	5.7%
Transportation/Material Moving	746	5.3%	1,295	5.7%	54,953	5.5%	7,695,086	5.7%
Total	**14,079**		**22,717**		**999,148**		**135,001,506**	

	Area of Influence		Study Area		Miami-Dade		USA	
By Industry	#	%	#	%	#	%	#	%
Agriculture/Mining	28	0.2%	45	0.2%	6,994	0.7%	2,430,027	1.8%
Construction	1,042	7.4%	1,704	7.5%	75,935	7.6%	9,315,104	6.9%
Manufacturing	619	4.4%	1,022	4.5%	46,960	4.7%	13,095,146	9.7%
Wholesale Trade	774	5.5%	1,249	5.5%	48,958	4.9%	4,320,048	3.2%
Retail Trade	1,577	11.2%	2,567	11.3%	116,900	11.7%	15,390,172	11.4%
Transportation/Utilities	887	6.3%	1,590	7.0%	68,941	6.9%	6,615,074	4.9%
Information	324	2.3%	568	2.5%	22,980	2.3%	3,240,036	2.4%
Finance/Insurance/Real Estate	1,394	9.9%	2,135	9.4%	85,927	8.6%	9,855,110	7.3%
Services	6,927	49.2%	10,972	48.3%	481,589	48.2%	63,855,712	47.3%
Public Administration	507	3.6%	841	3.7%	42,963	4.3%	6,750,075	5.0%
Total	**14,076**		**22,716**		**999,148**		**135,001,506**	

Note: Numbers may not add due to rounding

Source: ESRI Business Analyst; AECOM, 2010

Appendix Table 6: Employment History and Projection, Miami-Dade County

	2000	2005	2009	2014	2019	2024
Farm	7,057	6,388	7,253	7,775	8,342	9,042
Forestry, Fishing, Related Activities And Other	5,490	4,598	4,427	4,448	4,455	4,451
Mining	714	905	1,046	999	950	890
Utilities	5,509	3,206	4,060	4,170	4,286	4,396
Construction	57,681	78,935	78,613	91,492	100,211	111,465
Manufacturing	68,260	53,957	50,652	50,546	49,066	47,223
Wholesale Trade	74,819	80,405	84,321	85,840	85,963	85,816
Retail Trade	143,109	141,008	143,208	150,321	154,195	158,563
Transportation And Warehousing	79,971	81,234	86,014	87,788	87,945	87,591
Information	36,266	28,568	25,807	25,259	24,233	22,923
Finance And Insurance	58,333	65,269	62,972	64,983	65,794	66,540
Real Estate And Rental And Lease	49,066	72,019	66,173	74,035	82,900	94,700
Professional And Technical Services	88,616	94,769	95,073	100,858	106,658	113,560
Management Of Companies And Enterprises	6,890	8,379	9,447	10,405	11,462	12,832
Administrative And Waste Services	107,291	120,138	92,699	101,864	109,861	119,640
Educational Services	24,110	31,491	37,805	40,112	42,670	45,808
Health Care And Social Assistance	115,487	131,906	163,491	182,053	201,567	227,119
Arts, Entertainment, And Recreation	20,182	22,144	29,078	31,498	33,772	36,594
Accommodation And Food Services	83,063	92,765	98,438	104,167	108,769	114,175
Other Services, Except Public Administration	93,015	112,512	126,984	137,776	149,709	165,020
Federal Civilian Government	19,115	20,485	21,177	22,372	23,729	25,406
Federal Military	7,299	7,028	7,337	7,376	7,411	7,444
State And Local Government	124,660	130,549	140,764	148,072	155,115	163,626

Note: Includes part-time and self employed.

Source: Woods and Poole; AECOM, 2010

Appendix Table 7: Estimated Businesses and Employment in Walkable Area and Net Study Area, 2009

	Area of Influence				Net Study Area				Total			
	Businesses		Employment		Businesses		Employment		Businesses		Employment	
	#	%	#	%	#	%	#	%	#	%	#	%
Agriculture	6	0.2%	38	0.2%	2	0.1%	2	0.0%	8	0.1%	40	0.1%
Mining	1	0.0%	5	0.0%	0	0.0%	0	0.0%	1	0.0%	5	0.0%
Utilities	3	0.1%	9	0.1%	3	0.1%	0	0.0%	6	0.1%	9	0.0%
Construction	193	7.3%	1,350	8.2%	202	7.6%	1,307	6.0%	395	7.2%	2,657	6.7%
Manufacturing	118	4.5%	915	5.6%	128	4.8%	957	4.4%	246	4.5%	1,872	4.8%
Wholesale Trade	169	6.4%	710	4.3%	260	9.8%	1,089	5.0%	429	7.8%	1,799	4.6%
Retail Trade	560	21.2%	5,385	32.7%	482	18.3%	2,393	11.0%	1,042	19.0%	7,778	19.8%
Transportation & Warehousing	45	1.7%	432	2.6%	36	1.4%	423	2.0%	81	1.5%	855	2.2%
Information	58	2.2%	97	0.6%	49	1.9%	394	1.8%	107	1.9%	491	1.2%
Finance & Insurance	152	5.8%	1,038	6.3%	158	6.0%	1,263	5.8%	310	5.6%	2,301	5.8%
Real Estate, Rental & Leasing	134	5.1%	553	3.4%	105	4.0%	613	2.8%	239	4.3%	1,166	3.0%
Professional, Scientific & Tech Services	270	10.2%	892	5.4%	384	14.5%	2,256	10.4%	654	11.9%	3,148	8.0%
Legal Services	60	2.3%	216	1.3%	154	5.8%	1,028	4.7%	214	3.9%	1,244	3.2%
Management of companies & Enterprises	0	0.0%	0	0.0%	3	0.1%	28	0.1%	3	0.1%	28	0.1%
Administrative & Support & Waste Management & Remediation Services	124	4.7%	371	2.3%	92	3.5%	1,190	5.5%	216	3.9%	1,561	4.0%
Educational Services	55	2.1%	853	5.2%	36	1.4%	363	1.7%	91	1.7%	1,216	3.1%
Health care & Social Assistance	220	8.3%	1,046	6.4%	296	11.2%	6,929	32.0%	516	9.4%	7,975	20.3%
Arts, Entertainment, and Recreation	32	1.2%	236	1.4%	21	0.8%	93	0.4%	53	1.0%	329	0.8%
Accommodation and Food Services	106	4.0%	1,440	8.8%	82	3.1%	1,484	6.8%	188	3.4%	2,924	7.4%
Other Services (except Public Administration	278	10.5%	933	5.7%	175	6.6%	493	2.3%	453	8.2%	1,426	3.6%
Public Administration	12	0.5%	47	0.3%	16	0.6%	300	1.4%	28	0.5%	347	0.9%
Unclassified Establishments	105	4.0%	107	0.7%	111	4.2%	101	0.5%	216	3.9%	208	0.5%
	2,701		16,673		2,795		22,706		5,496		39,379	

Source: ESRI Business Analyst; InfoUSA; AECOM, 2010.

Appendix Table 8: Per Household Retail Spending in Select Categories

	Area of Influence	Study Area	Miami-Dade	USA
Retail Goods	$21,446	$21,465	$22,712	$25,087
Apparel & Services	$1,589	$1,585	$1,688	$1,794
Computers and Accessories	$203	$203	$216	$231
Entertainment/Recreation	$2,786	$2,805	$2,945	$3,309
Food at Home	$4,100	$4,083	$4,326	$4,656
Food Away from Home	$2,958	$2,950	$3,138	$3,391
Household Furnishings & Equipment	$1,686	$1,693	$1,796	$1,946

Source: ESRI Business Analyst, 2008; AECOM 2010.

Appendix B DEMOGRAPHIC OVERVIEW

Appendix Table 8: Housing Units by Tenure

	Owner-Occupied Housing Units				
	2000	2009	2014	00-'09 CAGR	09-'14 CAGR
Area of Influence	6,375	6,394	6,468	0.03%	0.23%
Study Area	10,811	10,709	10,816	-0.10%	0.20%
Miami-Dade	444,609	479,443	500,222	0.84%	0.85%
USA	69,050,962	76,285,206	80,925,041	1.11%	1.19%

	Renter-Occupied Housing Units				
	2000	2009	2014	00-'09 CAGR	09-'14 CAGR
Area of Influence	5,750	5,719	5,613	-0.06%	-0.37%
Study Area	7,722	7,785	7,618	0.09%	-0.43%
Miami-Dade	322,741	354,656	358,960	1.05%	0.24%
USA	35,269,811	38,921,024	39,781,333	1.10%	0.44%

	Vacant Housing Units				
	2000	2009	2014	00-'09 CAGR	09-'14 CAGR
Area of Influence	375	637	676	6.06%	1.20%
Study Area	534	891	950	5.85%	1.29%
Miami-Dade	73,121	104,145	108,365	4.01%	0.80%
USA	10,191,601	14,530,515	15,531,069	4.02%	1.34%

	Total Housing Units				
	2000	2009	2014	00-'09 CAGR	09-'14 CAGR
Area of Influence	12,500	12,751	12,757	0.22%	0.01%
Study Area	19,067	19,385	19,383	0.18%	0.00%
Miami-Dade	840,471	938,244	967,547	1.23%	0.62%
USA	114,512,374	129,736,745	136,237,443	1.40%	0.98%

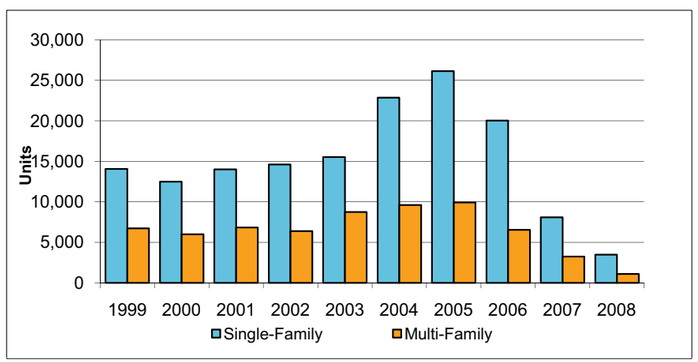
Source: ESRI Business Analyst, 2008; AECOM 2010.

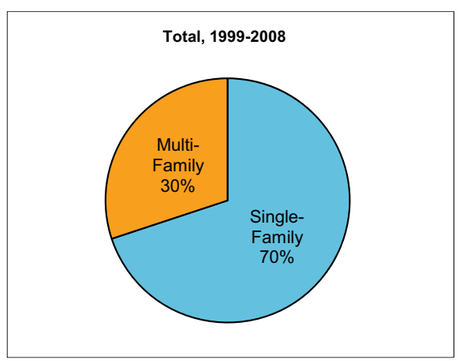
Appendix Table 9: Building Permits Data for Miami-Dade County, 1999-2008

	Miami-Dade	
	Single-Family	Multi-Family
1999	14,067	6,711
2000	12,475	5,998
2001	13,996	6,828
2002	14,606	6,374
2003	15,533	8,740
2004	22,856	9,603
2005	26,120	9,922
2006	20,017	6,548
2007	8,082	3,246
2008	3,474	1,086
Total	**151,226**	**65,056**
1999 - 2008 Avg Annl	**15,123**	**6,506**
1999-2003		
Total Permitted Units	70,677	34,651
Average Annual	14,135	6,930
2004-2008		
Total Permitted Units	80,549	30,405
Average Annual	16,110	6,081

Source: US Census Bureau; AECOM, 2010

Appendix Figure 1: Miami-Dade County Residential Building Permit by Type, 1999-2008





Source: Census Bureau, as reported on US Department of Housing and Urban Development, SOCDS; AECOM, 2010

Appendix C **BASELINE ASSESSMENT**

Appendix Table 10: Summary Profile of Office Market and Proximate Submarkets

Submarket / County	Summary Data - 1Q 2010 Number of Buildings	Total RBA (sf) /1	Share of Miami-Dade	Direct Vacancy Rate /2	Total Vacancy Incl. Sublet	Direct Average Rate (/sf, full service)	RBA Under Const (sf)
Study Area	152	1,962,265	1.9%	3.9%	3.9%	$29.82	3,789
Kendall Submarket	481	11,164,637	10.9%	11.1%	11.6%	$27.43	3,789
West Miami Submarket	309	3,498,825	3.4%	2.8%	2.8%	$25.78	0
Miami Airport Submarket	361	17,413,105	17.1%	15.1%	15.9%	$24.95	24,000
Miami-Dade County	4,380	102,061,265	100.0%	13.1%	14.1%	$29.00	70,509

	Rentable Building Area (sf)										Through 1Q	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2009	2010
Study Area	1,536,125	1,536,125	1,538,619	1,538,619	1,538,619	1,855,119	1,897,377	1,903,147	1,916,147	1,962,265	1,962,265	1,962,265
Kendall Submarket	7,847,627	8,015,650	8,224,234	8,276,159	8,552,241	9,207,789	9,363,947	9,959,704	10,765,197	11,164,637	10,801,466	11,164,637
West Miami Submarket	3,309,954	3,334,952	3,414,952	3,414,952	3,416,832	3,416,832	3,416,832	3,416,832	3,416,832	3,498,825	3,462,950	3,498,825
Miami Airport Submarket	14,677,853	15,624,741	15,859,408	15,908,554	15,986,224	16,152,378	16,435,665	16,696,504	16,933,929	17,413,105	16,933,929	17,413,105
Miami-Dade County	85,325,439	87,644,584	89,181,492	90,308,871	91,842,304	93,239,333	94,580,890	97,247,853	99,344,730	101,318,448	99,717,003	102,061,265

	Direct Net Absorption, Annual Totals (sf)											Through 1Q	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009	2009	2010
Study Area	(12,002)	11,649	10,239	4,570	18,160	289,093	63,015	(781)	(2,714)	(3,758)	37,747	16,419	8,618
Kendall Submarket	(131,604)	147,082	321,734	117,613	337,133	673,671	94,686	189,843	509,483	98,337	235,798	(132,392)	12,500
West Miami Submarket	(36,918)	43,471	57,141	44,047	34,338	(9,965)	(33,297)	14,305	(56,160)	40,754	9,772	55,628	45,038
Miami Airport Submarket	297,574	121,097	238,804	(50,606)	368,425	583,894	62,170	280,163	16,240	(293,906)	162,386	(120,457)	(57,467)
Miami-Dade County	404,539	134,054	1,189,595	904,765	2,406,884	3,340,660	1,008,069	1,129,439	126,609	(1,139,058)	950,556	(393,744)	367,427

	Deliveries (sf)											Through 1Q	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009	2009	2010
Study Area	0	0	0	0	0	0	0	0	0	0	0	46,118	3,789
Kendall Submarket	0	0	7,800	11,248	15,000	26,814	65,074	0	101,860	0	22,780	96,269	3,789
West Miami Submarket	0	0	60,000	0	0	0	0	0	0	0	6,000	46,118	0
Miami Airport Submarket	0	151,563	0	0	0	0	154,000	21,580	0	0	32,714	0	0
Miami-Dade County	570,525	283,426	207,685	271,896	110,435	26,814	381,797	660,542	428,554	124,970	306,664	447,015	163,789

	End of Year Direct Vacancy Rate											Through 1Q	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009	2009	2010
Study Area	3.18%	2.42%	1.92%	1.62%	0.44%	1.84%	0.71%	1.05%	1.86%	4.36%	1.94%	3.33%	3.92%
Kendall Submarket	5.42%	5.57%	4.05%	3.23%	2.40%	2.03%	2.65%	6.57%	8.83%	11.21%	5.19%	10.36%	11.10%
West Miami Submarket	4.08%	3.49%	2.73%	1.44%	0.49%	0.78%	1.76%	1.34%	2.98%	4.09%	2.32%	2.67%	2.80%
Miami Airport Submarket	7.98%	12.78%	12.56%	13.15%	11.27%	8.57%	9.76%	9.50%	10.67%	14.81%	11.10%	11.38%	15.14%
Miami-Dade County	7.28%	9.58%	9.74%	9.87%	8.75%	6.53%	6.79%	8.19%	10.00%	12.88%	8.96%	10.73%	13.15%

	End of Year Direct Full Service Rent											Through 1Q	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009	2009	2010
Study Area	$18.79 /sf	$22.27 /sf	$24.02 /sf	$23.15 /sf	$23.50 /sf	$22.77 /sf	$25.78 /sf	$30.49 /sf	$32.83 /sf	$29.03 /sf	$25.26 /sf	$35.04 /sf	$29.82 /sf
Kendall Submarket	$22.33 /sf	$21.52 /sf	$23.73 /sf	$24.07 /sf	$25.21 /sf	$24.35 /sf	$29.80 /sf	$27.19 /sf	$27.86 /sf	$27.48 /sf	$25.35 /sf	$27.35 /sf	$27.43 /sf
West Miami Submarket	$17.68 /sf	$18.63 /sf	$17.52 /sf	$17.59 /sf	$19.51 /sf	$19.78 /sf	$19.75 /sf	$25.11 /sf	$26.91 /sf	$26.04 /sf	$20.85 /sf	$27.20 /sf	$25.78 /sf
Miami Airport Submarket	$21.08 /sf	$21.50 /sf	$22.47 /sf	$21.46 /sf	$21.35 /sf	$22.99 /sf	$25.15 /sf	$27.07 /sf	$26.75 /sf	$25.26 /sf	$23.51 /sf	$26.33 /sf	$24.95 /sf
Miami-Dade County	$22.65 /sf	$23.74 /sf	$24.73 /sf	$24.10 /sf	$24.12 /sf	$24.65 /sf	$27.62 /sf	$30.17 /sf	$30.77 /sf	$29.31 /sf	$26.19 /sf	$30.05 /sf	$29.00 /sf

1/ Rentable Building Area
2/ Does not include Sublet Vacancy
Source: CoStar Property; AECOM, May 2010.

Baseline Assessment

The following tables were produced as research during the baseline assessment of existing conditions within the Ludlam Trail Study Area. Information found in each table was used for benefit estimation and analysis.

Appendix Table 11: Detailed Profiles of Office Market, Ludlam Trail Study Area

Summary Data - 1Q 2010

Building Class	Number of Buildings	Total RBA (sf) /1	Share of Submarket	Direct Vacancy Rate /2	Total Vacancy Incl. Sublet	Direct Average Rate (/sf, full service)	RBA Under Const (sf)
A	1	46,118	2.4%	21.6%	21.6%	$31.58	0
B	38	1,252,530	63.8%	2.6%	2.6%	$33.92	3,789
C	113	663,617	33.8%	5.2%	5.2%	$23.64	0
Total	**152**	**1,962,265**	**100.0%**	**3.9%**	**3.9%**	**$29.82**	**3,789**

Rentable Building Area (sf)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
A	0	0	0	0	0	0	0	0	0	46,118	4,612
B	875,002	875,002	875,002	875,002	875,002	1,191,502	1,233,760	1,239,530	1,252,530	1,252,530	1,054,486
C	661,123	661,123	663,617	663,617	663,617	663,617	663,617	663,617	663,617	663,617	663,118
Total	**1,536,125**	**1,536,125**	**1,538,619**	**1,538,619**	**1,538,619**	**1,855,119**	**1,897,377**	**1,903,147**	**1,916,147**	**1,962,265**	**1,722,216**

Direct Net Absorption, Annual Totals (sf)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
A	0	0	0	0	0	0	0	0	0	23,591	2,359
B	(15,508)	19,489	(2,739)	170	15,760	290,593	63,915	1,168	1,168	(7,785)	36,623
C	3,506	(7,840)	12,978	4,400	2,400	(1,500)	(900)	(1,949)	(3,882)	(19,564)	(1,235)
Total	**(12,002)**	**11,649**	**10,239**	**4,570**	**18,160**	**289,093**	**63,015**	**(781)**	**(2,714)**	**(3,758)**	**37,747**

End of Year Direct Vacancy Rate

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
A	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
B	4.33%	2.11%	2.42%	2.40%	0.60%	2.61%	0.77%	1.14%	2.07%	2.69%	2.11%
C	1.66%	2.84%	1.25%	0.59%	0.23%	0.45%	0.59%	0.88%	1.47%	4.41%	1.44%
Total	**3.18%**	**2.42%**	**1.92%**	**1.62%**	**0.44%**	**1.84%**	**0.71%**	**1.05%**	**1.86%**	**4.36%**	**1.94%**

End of Year Direct Full Service Rent

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
A	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	$29.00 /sf	$30.58 /sf	$29.79 /sf
B	$19.22 /sf	$21.95 /sf	$24.02 /sf	$23.15 /sf	$23.50 /sf	$22.77 /sf	$26.39 /sf	$30.54 /sf	$34.35 /sf	$30.77 /sf	$25.67 /sf
C	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total	**$18.79 /sf**	**$22.27 /sf**	**$24.02 /sf**	**$23.15 /sf**	**$23.50 /sf**	**$22.77 /sf**	**$25.78 /sf**	**$30.49 /sf**	**$32.83 /sf**	**$29.03 /sf**	**$25.26 /sf**

Note: Numbers may not total due to rounding and / or classification errors in the CoStar Property database
1/ Rentable Building Area
2/ Does not include Sublet Vacancy
Source: CoStar Property; AECOM, May 2010

Appendix Table 12: Detailed Profiles of Office Market, Kendall Submarket

Summary Data - 1Q 2010

Building Class	Number of Buildings	Total RBA (sf) /1	Share of Submarket	Direct Vacancy Rate /2	Total Vacancy Incl. Sublet	Direct Average Rate (/sf, full service)	RBA Under Const (sf)
A	13	1,435,913	12.9%	22.3%	24.0%	$36.51	0
B	208	6,258,154	56.2%	11.6%	12.0%	$24.59	3,789
C	259	3,434,070	30.9%	4.8%	4.9%	$24.80	0
Total	**480**	**11,128,137**	**100.0%**	**11.1%**	**11.6%**	**$27.43**	**3,789**

Rentable Building Area (sf)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
A	593,870	721,223	721,223	721,223	721,223	721,223	721,223	886,466	1,129,644	1,435,913	837,323
B	3,915,793	3,942,113	4,137,363	4,187,881	4,458,653	5,063,293	5,219,451	5,613,465	6,164,983	6,258,154	4,896,115
C	3,337,964	3,352,314	3,365,648	3,367,055	3,372,365	3,423,273	3,423,273	3,423,273	3,434,070	3,434,070	3,393,331
Total	**7,847,627**	**8,015,650**	**8,224,234**	**8,276,159**	**8,552,241**	**9,207,789**	**9,363,947**	**9,923,204**	**10,728,697**	**11,128,137**	**9,126,769**

Direct Net Absorption, Annual Totals (sf)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
A	5,158	56,446	54,770	(8,745)	3,917	28,697	3,163	12,031	279,793	90,252	52,548
B	(132,070)	85,289	277,676	60,667	304,116	584,303	117,703	160,025	290,671	79,592	182,797
C	(4,692)	5,347	(10,712)	65,691	29,100	60,671	(26,180)	(18,713)	(60,981)	(43,631)	(410)
Total	**(131,604)**	**147,082**	**321,734**	**117,613**	**337,133**	**673,671**	**94,686**	**153,343**	**509,483**	**126,213**	234,935

End of Year Direct Vacancy Rate

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
A	3.72%	12.90%	5.30%	6.51%	5.97%	1.99%	1.55%	18.55%	11.31%	23.94%	9.18%
B	8.49%	6.93%	4.62%	4.32%	3.27%	3.28%	3.92%	7.81%	11.35%	11.39%	6.54%
C	2.13%	2.39%	3.09%	1.18%	0.47%	0.18%	0.95%	1.49%	3.58%	4.85%	2.03%
Total	**5.42%**	**5.57%**	**4.05%**	**3.23%**	**2.40%**	**2.03%**	**2.65%**	**6.57%**	**8.83%**	**11.21%**	**5.19%**

End of Year Direct Full Service Rent

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
A	$24.82 /sf	$25.41 /sf	$24.85 /sf	$25.67 /sf	$26.33 /sf	$27.20 /sf	$33.45 /sf	$27.14 /sf	$34.97 /sf	$37.37 /sf	$28.72 /sf
B	$21.32 /sf	$20.02 /sf	$23.78 /sf	$23.72 /sf	$25.13 /sf	$24.10 /sf	$28.14 /sf	$27.63 /sf	$26.47 /sf	$24.44 /sf	$24.48 /sf
C	$18.35 /sf	$21.87 /sf	$23.11 /sf	$23.04 /sf	$22.01 /sf	$24.55 /sf	$25.88 /sf	$22.03 /sf	$26.63 /sf	$24.77 /sf	$23.22 /sf
Total	**$22.33 /sf**	**$21.52 /sf**	**$23.73 /sf**	**$24.07 /sf**	**$25.21 /sf**	**$24.35 /sf**	**$29.80 /sf**	**$27.19 /sf**	**$27.86 /sf**	**$27.48 /sf**	**$25.35 /sf**

Note: Numbers may not total due to rounding and / or classification errors in the CoStar Property database
1/ Rentable Building Area
2/ Does not include Sublet Vacancy
Source: CoStar Property; AECOM, May 2010

Appendix Table 13: Detailed Profiles of Office Market, West Miami Submarket

Summary Data - 1Q 2010

Building Class	Number of Buildings	Total RBA (sf) /1	Share of Submarket	Direct Vacancy Rate /2	Total Vacancy Incl. Sublet	Direct Average Rate (/sf, full service)	RBA Under Const (sf)
A	2	106,396	3.0%	9.4%	9.4%	$31.58	0
B	54	1,771,720	50.6%	2.5%	2.5%	$25.62	0
C	253	1,620,709	46.3%	2.7%	2.7%	$24.94	0
Total	**309**	**3,498,825**	**100.0%**	**2.8%**	**2.8%**	**$25.78**	**0**

Rentable Building Area (sf)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
A	60,278	60,278	60,278	60,278	60,278	60,278	60,278	60,278	60,278	106,396	64,890
B	1,630,847	1,655,845	1,735,845	1,735,845	1,735,845	1,735,845	1,735,845	1,735,845	1,735,845	1,771,720	1,720,933
C	1,618,829	1,618,829	1,618,829	1,618,829	1,620,709	1,620,709	1,620,709	1,620,709	1,620,709	1,620,709	1,619,957
Total	**3,309,954**	**3,334,952**	**3,414,952**	**3,414,952**	**3,416,832**	**3,416,832**	**3,416,832**	**3,416,832**	**3,416,832**	**3,498,825**	**3,405,780**

Direct Net Absorption, Annual Totals (sf)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
A	0	0	0	0	0	0	0	0	0	23,591	2,359
B	3,049	32,186	45,118	15,532	33,654	(9,992)	(34,716)	22,097	(55,769)	43,004	9,416
C	(39,967)	11,285	12,023	28,515	684	27	1,419	(7,792)	(391)	(25,841)	(2,004)
Total	**(36,918)**	**43,471**	**57,141**	**44,047**	**34,338**	**(9,965)**	**(33,297)**	**14,305**	**(56,160)**	**40,754**	**9,772**

End of Year Direct Vacancy Rate

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
A	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	21.17%	2.12%
B	4.76%	4.25%	3.41%	2.52%	0.58%	1.16%	3.16%	1.88%	5.10%	4.59%	3.14%
C	3.54%	2.85%	2.10%	0.34%	0.41%	0.41%	0.33%	0.81%	0.83%	2.42%	1.40%
Total	**4.08%**	**3.49%**	**2.73%**	**1.44%**	**0.49%**	**0.78%**	**1.76%**	**1.34%**	**2.98%**	**4.09%**	**2.32%**

End of Year Direct Full Service Rent

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
A	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
B	$18.02 /sf	$18.64 /sf	$17.50 /sf	$17.59 /sf	$19.51 /sf	$19.78 /sf	$20.11 /sf	$25.02 /sf	$26.70 /sf	$25.68 /sf	$20.86 /sf
C	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total	**$17.68 /sf**	**$18.63 /sf**	**$17.52 /sf**	**$17.59 /sf**	**$19.51 /sf**	**$19.78 /sf**	**$19.75 /sf**	**$25.11 /sf**	**$26.91 /sf**	**$26.04 /sf**	**$20.85 /sf**

Note: Numbers may not total due to rounding and / or classification errors in the CoStar Property database
1/ Rentable Building Area
2/ Does not include Sublet Vacancy
Source: CoStar Property; AECOM, May 2010

Appendix Table 14: Detailed Profiles of Office Market, Miami International Airport Submarket

Summary Data - 1Q 2010

Building Class	Number of Buildings	Total RBA (sf) /1	Share of Submarket	Direct Vacancy Rate /2	Total Vacancy Incl. Sublet	Direct Average Rate (/sf, full service)	RBA Under Const (sf)
A	39	5,765,914	33.1%	18.0%	19.3%	$30.17	0
B	179	8,131,937	46.7%	18.1%	18.8%	$22.34	24,000
C	143	3,515,254	20.2%	3.6%	3.6%	$19.40	0
Total	**361**	**17,413,105**	**100.0%**	**15.1%**	**15.9%**	**$24.95**	**24,000**

Rentable Building Area (sf)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
A	3,843,170	4,743,239	4,955,858	4,955,858	4,955,858	4,955,858	5,085,858	5,085,858	5,286,738	5,765,914	4,963,421
B	7,370,902	7,398,861	7,398,861	7,448,007	7,525,677	7,687,866	7,841,153	8,095,392	8,131,937	8,131,937	7,703,059
C	3,463,781	3,482,641	3,504,689	3,504,689	3,504,689	3,508,654	3,508,654	3,515,254	3,515,254	3,515,254	3,502,356
Total	**14,677,853**	**15,624,741**	**15,859,408**	**15,908,554**	**15,986,224**	**16,152,378**	**16,435,665**	**16,696,504**	**16,933,929**	**17,413,105**	**16,168,836**

Direct Net Absorption, Annual Totals (sf)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
A	253,127	386,801	179,757	79,666	190,219	165,850	169,178	188,481	84,953	(8,443)	168,959
B	18,458	(159,044)	10,993	(137,090)	99,683	360,509	(104,981)	105,620	(7,312)	(286,311)	(9,948)
C	25,989	(106,660)	48,054	6,818	78,523	57,535	(2,027)	(13,938)	(61,401)	848	3,374
Total	**297,574**	**121,097**	**238,804**	**(50,606)**	**368,425**	**583,894**	**62,170**	**280,163**	**16,240**	**(293,906)**	**162,386**

End of Year Direct Vacancy Rate

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
A	13%	21%	21%	19%	15%	12%	11%	7%	9%	17%	15%
B	8%	10%	10%	13%	12%	9%	12%	14%	14%	18%	12%
C	3%	7%	6%	6%	3%	2%	2%	2%	4%	4%	4%
Total	**8%**	**13%**	**13%**	**13%**	**11%**	**9%**	**10%**	**9%**	**11%**	**15%**	**11%**

End of Year Direct Full Service Rent

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
A	$22.72 /sf	$23.60 /sf	$24.80 /sf	$23.89 /sf	$23.95 /sf	$25.29 /sf	$25.99 /sf	$30.34 /sf	$30.88 /sf	$30.40 /sf	$26.19 /sf
B	$18.85 /sf	$19.90 /sf	$20.70 /sf	$19.29 /sf	$19.35 /sf	$20.87 /sf	$24.84 /sf	$24.81 /sf	$24.32 /sf	$22.58 /sf	$21.55 /sf
C	$15.78 /sf	$16.92 /sf	$16.82 /sf	$16.24 /sf	$17.05 /sf	$19.08 /sf	$20.72 /sf	$22.41 /sf	$19.87 /sf	$19.37 /sf	$18.43 /sf
Total	**$21.08 /sf**	**$21.50 /sf**	**$22.47 /sf**	**$21.46 /sf**	**$21.35 /sf**	**$22.99 /sf**	**$25.15 /sf**	**$27.07 /sf**	**$26.75 /sf**	**$25.26 /sf**	$23.51 /sf

Note: Numbers may not total due to rounding and / or classification errors in the CoStar Property database
1/ Rentable Building Area
2/ Does not include Sublet Vacancy
Source: CoStar Property; AECOM, May 2010

Appendix Table 15: Detailed Profiles of Office Market, Miami-Dade County, FL

Summary Data - 1Q 2010

Building Class	Number of Buildings	Total RBA (sf) /1	Share of Submarket	Direct Vacancy Rate /2	Total Vacancy Incl. Sublet	Direct Average Rate (/sf, full service)	RBA Under Const (sf)
A	145	25,452,539	25.0%	18.7%	20.7%	$35.73	0
B	1,175	46,232,123	45.3%	14.9%	15.7%	$26.02	70,509
C	3,053	30,317,318	29.7%	5.7%	5.9%	$22.25	0
Total	**4,373**	**102,001,980**	**100.0%**	**13.1%**	**14.1%**	**$29.00**	**70,509**

Rentable Building Area (sf)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
A	16,948,475	18,328,705	19,051,607	19,882,446	20,756,632	20,986,632	21,374,595	22,256,025	23,254,331	24,709,722	20,754,917
B	38,440,633	39,314,781	39,993,249	40,254,119	40,861,337	41,952,333	42,883,589	44,626,022	45,713,796	46,232,123	42,027,198
C	29,913,546	29,978,313	30,113,851	30,149,521	30,201,550	30,277,583	30,299,921	30,306,521	30,317,318	30,317,318	30,187,544
Total	**85,302,654**	**87,621,799**	**89,158,707**	**90,286,086**	**91,819,519**	**93,216,548**	**94,558,105**	**97,188,568**	**99,285,445**	**101,259,163**	**92,969,659**

Direct Net Absorption, Annual Totals (sf)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
A	483,497	433,354	73,324	387,624	1,080,598	1,123,143	875,023	658,260	583,431	(8,377)	568,988
B	286,664	(147,392)	674,183	335,669	764,627	1,884,656	198,223	491,646	(201,613)	(635,008)	365,166
C	(365,622)	(151,908)	444,691	181,230	559,298	332,861	(65,177)	(56,967)	(255,209)	(467,797)	15,540
Total	**404,539**	**134,054**	**1,192,198**	**904,523**	**2,404,523**	**3,340,660**	**1,008,069**	**1,092,939**	**126,609**	**(1,111,182)**	**949,693**

End of Year Direct Vacancy Rate

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
A	9.09%	13.58%	16.43%	17.97%	16.22%	11.79%	9.29%	9.93%	11.29%	16.54%	13.21%
B	7.33%	9.76%	9.49%	9.25%	8.72%	6.60%	8.17%	10.65%	13.22%	15.56%	9.87%
C	6.19%	6.90%	5.84%	5.35%	3.66%	2.80%	3.09%	3.30%	4.18%	5.72%	4.70%
Total	**7.28%**	**9.58%**	**9.74%**	**9.87%**	**8.75%**	**6.53%**	**6.79%**	**8.19%**	**10.00%**	**12.88%**	**8.96%**

End of Year Direct Full Service Rent

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
A	$27.54 /sf	$29.23 /sf	$29.48 /sf	$27.50 /sf	$27.32 /sf	$27.82 /sf	$32.05 /sf	$35.44 /sf	$36.83 /sf	$36.26 /sf	$30.95 /sf
B	$19.55 /sf	$20.96 /sf	$21.73 /sf	$20.70 /sf	$21.36 /sf	$21.98 /sf	$24.66 /sf	$27.00 /sf	$27.77 /sf	$26.10 /sf	$23.18 /sf
C	$16.96 /sf	$18.01 /sf	$19.23 /sf	$19.82 /sf	$21.17 /sf	$22.17 /sf	$23.92 /sf	$24.54 /sf	$25.19 /sf	$22.52 /sf	$21.35 /sf
Total	**$22.65 /sf**	**$23.74 /sf**	**$24.73 /sf**	**$24.10 /sf**	**$24.12 /sf**	**$24.65 /sf**	**$27.62 /sf**	**$30.17 /sf**	**$30.77 /sf**	**$29.31 /sf**	**$26.19 /sf**

Note: Numbers may not total due to rounding and / or classification errors in the CoStar Property database
1/ Rentable Building Area
2/ Does not include Sublet Vacancy
Source: CoStar Property; AECOM, May 2010

Appendix C BASELINE ASSESSMENT

Appendix Table 16: Summary Profiles of Industrial Market and Proximate Submarket

Submarket / County	Summary Data - 1Q 2010 Number of Buildings	Total RBA (sf) /1	Share of Miami-Dade	Direct Vacancy Rate /2	Total Vacancy Incl. Sublet	Direct Average Rate (/sf, full service)	RBA Under Const (sf)
Study Area	152	1,962,265	1.9%	3.9%	3.9%	$29.82	3,789
West Miami/Coral Terrace	228	4,930,675	4.8%	1.0%	1.0%	$23.87	0
South Dixie Highway	654	10,041,556	9.8%	4.6%	4.6%	$16.35	0
Miami-Dade County	4,380	102,061,265	100.0%	13.1%	14.1%	$29.00	70,509

Rentable Building Area (sf)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Through 1Q 2009	Through 1Q 2010
Study Area	4,507,199	4,522,699	4,532,593	4,636,935	4,636,935	4,635,746	4,595,242	4,595,242	4,595,242	4,595,242	4,595,242	4,595,242
West Miami/Coral Terrace	4,757,342	4,757,342	4,757,342	4,905,675	4,905,675	4,915,675	4,930,675	4,930,675	4,930,675	4,930,675	4,930,675	4,930,675
South Dixie Highway	9,238,349	9,400,941	9,604,370	9,672,565	9,839,960	9,911,784	9,953,862	9,986,770	10,041,556	10,041,556	10,041,556	10,041,556
Miami-Dade County	211,440,736	215,367,345	217,729,159	219,934,996	222,751,348	224,737,735	226,843,254	230,153,349	232,092,973	233,303,462	232,509,524	233,303,462

Direct Net Absorption, Annual Totals (sf)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009	Through 1Q 2009	Through 1Q 2010
Study Area	(20,453)	47,423	41,494	70,684	50,247	9,609	(72,787)	33,550	(30,417)	10,744	14,009	8,200	18,258
West Miami/Coral Terrace	(38,678)	52,267	11,250	99,547	42,436	35,397	(10,748)	13,233	(90,278)	49,127	16,355	58,733	20,258
South Dixie Highway	(26,309)	351,212	277,465	98,853	233,428	111,372	99,897	(231,084)	110,753	(176,358)	84,923	(60,712)	(868)
Miami-Dade County	500,082	3,152,250	2,239,385	3,358,916	6,065,611	3,733,214	1,741,230	(1,197,623)	(2,817,439)	(4,299,292)	1,247,633	(1,656,687)	579,594

Deliveries (sf)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009	Through 1Q 2009	Through 1Q 2010
Study Area	0	0	0	0	0	0	0	0	0	0	0	0	0
West Miami/Coral Terrace	0	0	0	0	0	0	15,000	0	0	0	1,500	0	0
South Dixie Highway	0	0	0	0	0	0	0	0	44,736	0	4,474	0	0
Miami-Dade County	274,174	420,666	305,225	726,850	464,603	62,096	631,514	972,637	172,048	0	402,981	413,203	0

End of Year Direct Vacancy Rate	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009	Through 1Q 2009	Through 1Q 2010
Study Area	2.80%	2.08%	1.38%	2.08%	0.99%	0.76%	1.47%	0.74%	1.40%	1.17%	1.49%	1.22%	0.77%
West Miami/Coral Terrace	2.08%	0.98%	0.75%	1.72%	0.85%	0.33%	0.85%	0.59%	2.42%	1.42%	1.20%	1.22%	0.77%
South Dixie Highway	5.80%	3.70%	2.85%	2.51%	1.80%	1.38%	0.80%	3.44%	2.86%	4.62%	2.97%	3.47%	4.63%
Miami-Dade County	5.84%	6.09%	6.08%	5.50%	3.97%	3.16%	3.29%	5.20%	7.21%	9.53%	5.59%	8.09%	9.28%

End of Year Direct Full Service Rent	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2006-2009 /3	Through 1Q 2009	Through 1Q 2010
Study Area	$6.34 /sf	$7.28 /sf	n/a	$13.00 /sf	n/a	n/a	$14.66 /sf	$13.24 /sf	$12.00 /sf	$15.71 /sf	$13.90 /sf	$12.00 /sf	$15.71 /sf
West Miami/Coral Terrace	$5.88 /sf	n/a	$13.50 /sf	$13.00 /sf	$13.37 /sf	n/a	$14.92 /sf	$14.78 /sf	$10.99 /sf	$23.87 /sf	$16.14 /sf	$10.99 /sf	$23.87 /sf
South Dixie Highway	$5.08 /sf	$4.07 /sf	$6.00 /sf	$6.50 /sf	$13.95 /sf	$13.95 /sf	$10.99 /sf	$8.05 /sf	$9.21 /sf	$16.99 /sf	$11.31 /sf	$8.94 /sf	$16.35 /sf
Miami-Dade County	$6.07 /sf	$5.92 /sf	$6.38 /sf	$6.79 /sf	$7.54 /sf	$7.21 /sf	$7.91 /sf	$7.57 /sf	$7.91 /sf	$8.30 /sf	$7.92 /sf	$7.67 /sf	$7.49 /sf

1/ Rentable Building Area

2/ Does not include Sublet Vacancy

Appendix Table 17: Summary Profile of Retail Market and Proximate Submarkets

Submarket / County	Number of Buildings	Total RBA (sf) /1	Share of Miami-Dade	Direct Vacancy Rate /2	Total Vacancy Incl. Sublet	Direct Average Rate (per sf, NNN)	RBA Under Const (sf)
Summary Data - 1Q 2010							
Study Area	152	1,962,265	1.9%	3.9%	3.9%	$29.82	3,789
Kendall Submarket	481	11,164,637	10.9%	11.1%	11.6%	$27.43	3,789
West Miami Submarket	309	3,498,825	3.4%	2.8%	2.8%	$25.78	0
Miami Airport Submarket	361	17,413,105	17.1%	15.1%	15.9%	$24.95	24,000
Miami-Dade County	4,380	102,061,265	100.0%	13.1%	14.1%	$29.00	70,509

	Rentable Building Area (sf)										Through 1Q	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2009	2010
Study Area	3,559,612	3,559,612	3,587,887	3,587,887	3,587,887	3,604,709	3,604,709	3,612,159	3,612,159	3,612,159	3,612,159	3,612,159
Kendall Submarket	14,290,913	14,425,369	14,443,487	14,742,934	15,025,642	15,547,420	15,839,168	15,969,537	16,891,949	17,201,000	16,891,949	17,206,170
West Miami Submarket	6,344,581	6,347,819	6,376,094	6,376,094	6,376,094	6,376,094	6,376,094	6,393,752	6,418,983	6,510,283	6,418,983	6,510,283
Miami Airport Submarket	9,838,661	11,404,435	11,742,059	11,934,213	12,139,703	12,390,469	12,562,718	12,574,998	12,981,862	12,981,862	12,981,862	12,994,862
Miami-Dade County	105,783,661	107,963,907	109,969,903	111,044,750	112,288,054	114,324,967	116,300,797	119,116,682	121,871,951	123,006,794	122,062,824	123,137,885

	Direct Net Absorption, Annual Totals											Through 1Q	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual (2000-2009)	2009	2010
Study Area	13,684	(14,800)	23,275	(3,650)	(52,097)	9,763	17,434	47,049	(15,179)	13,894	3,937	9,962	(630)
Kendall Submarket	726,434	149,867	13,718	92,654	218,953	332,521	474,532	191,947	600,246	28,527	282,940	(203,330)	(37,126)
West Miami Submarket	30,091	(18,540)	16,665	7,487	(120,663)	(19,830)	(4,805)	72,030	(24,418)	74,023	1,204	6,441	(23,034)
Miami Airport Submarket	150,349	1,388,780	280,960	110,297	162,039	227,932	155,359	157,584	282,840	(98,423)	281,772	(58,747)	4,622
Miami-Dade County	2,825,372	1,636,119	2,009,676	(643,075)	171,013	1,224,127	1,836,065	4,460,262	1,608,683	(230,820)	1,489,742	(295,788)	(18,312)

	Deliveries											Through 1Q	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual (2000-2009)	2009	2010
Study Area	0	0	0	0	0	0	0	0	0	0	0	0	0
Kendall Submarket	0	0	0	0	0	0	7,280	0	134,997	309,051	45,133	0	5,170
West Miami Submarket	0	0	0	0	0	0	0	0	5,966	91,300	9,727	0	0
Miami Airport Submarket	73,236	0	56,086	0	16,168	40,270	115,000	0	0	0	30,076	0	13,000
Miami-Dade County	151,888	0	124,086	7,600	60,620	137,801	231,886	519,114	556,031	491,282	228,031	196,848	131,091

	End of Year Direct Vacancy Rate											Through 1Q	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual (2000-2009)	2009	2010
Study Area	0.3%	0.7%	0.9%	1.0%	2.4%	2.6%	2.1%	1.0%	1.5%	1.1%	1.4%	1.2%	1.1%
Kendall Submarket	0.2%	0.1%	0.1%	1.4%	1.8%	3.0%	1.8%	1.4%	3.2%	4.8%	1.8%	4.4%	5.0%
West Miami Submarket	0.3%	0.7%	0.8%	0.7%	2.6%	2.9%	3.0%	2.1%	2.9%	3.1%	1.9%	2.8%	3.5%
Miami Airport Submarket	0.8%	2.2%	2.6%	3.3%	3.6%	3.7%	3.8%	2.6%	3.2%	3.9%	3.0%	3.6%	4.0%
Miami-Dade County	0.8%	1.3%	1.3%	2.8%	3.7%	4.4%	4.4%	3.0%	3.8%	4.9%	3.0%	4.2%	5.0%

	End of Year Triple Net (NNN) Direct Rent											Through 1Q	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual (2004-2009) /3	2009	2010
Study Area	n/a	n/a	n/a	n/a	$18.00 /sf	$23.48 /sf	$30.00 /sf	$23.96 /sf	$26.50 /sf	$25.84 /sf	$24.63 /sf	$26.59 /sf	$25.75 /sf
Kendall Submarket	n/a	n/a	n/a	$31.48 /sf	$28.67 /sf	$27.62 /sf	$29.73 /sf	$33.06 /sf	$33.21 /sf	$27.85 /sf	$30.02 /sf	$30.67 /sf	$27.20 /sf
West Miami Submarket	n/a	n/a	n/a	n/a	$21.40 /sf	$23.47 /sf	$22.89 /sf	$26.51 /sf	$26.37 /sf	$26.30 /sf	$24.49 /sf	$29.30 /sf	$23.79 /sf
Miami Airport Submarket	$7.59 /sf	n/a	n/a	$21.62 /sf	$21.92 /sf	$27.62 /sf	$27.28 /sf	$26.28 /sf	$26.90 /sf	$27.62 /sf	$26.27 /sf	$29.30 /sf	$25.32 /sf
Miami-Dade County	$13.07 /sf	$21.16 /sf	$21.15 /sf	$16.85 /sf	$17.98 /sf	$23.38 /sf	$26.35 /sf	$28.63 /sf	$28.02 /sf	$25.49 /sf	$24.98 /sf	$28.06 /sf	$25.01 /sf

1/ Rentable Building Area

2/ Does not include Sublet Vacancy

3/ Because rental rate information is not available for all years for all submarkets (a rate of "$0.00 " indicates no data available), the average annual represents only the years 2004 to 2009.

Source: CoStar Property; AECOM, May 2010.

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Appendix Table 18: Detailed Profile of Retail Market, Ludlam Trail Study Area

	Summary Data - 1Q 2010						
Building Class	Number of Buildings	Total RBA 1/	RBA As % of Total Submarket	Direct Vacancy Rate/2	Vacancy Rate, Incl. Sublet	Average Rental Rate	RBA Under Const
SC	63	2,779,803	77.0%	0.6%	0.6%	$25.84	0
Other	186	832,356	23.0%	2.7%	3.2%	$24.00	0
All	**249**	**3,612,159**	**100.0%**	**3.9%**	**3.9%**	**$29.82**	**0**

	Rentable Building Area (sf)										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
SC	2,772,353	2,772,353	2,772,353	2,772,353	2,772,353	2,772,353	2,772,353	2,779,803	2,779,803	2,779,803	2,774,588
Other	787,259	787,259	815,534	815,534	815,534	832,356	832,356	832,356	832,356	832,356	818,290
All	**3,559,612**	**3,559,612**	**3,587,887**	**3,587,887**	**3,587,887**	**3,604,709**	**3,604,709**	**3,612,159**	**3,612,159**	**3,612,159**	3,592,878

	Direct Net Absorption, Annual Totals										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
SC	6,498	(15,300)	(3,500)	(5,150)	(22,687)	37,700	(3,277)	5,535	3,313	2,362	549
Other	7,186	500	26,775	1,500	(29,410)	(27,937)	20,711	41,514	(18,492)	11,532	3,388
All	**13,684**	**(14,800)**	**23,275**	**(3,650)**	**(52,097)**	**9,763**	**17,434**	**47,049**	**(15,179)**	**13,894**	**3,937**

	End of Year Direct Vacancy Rate										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
SC	0.30%	0.85%	0.97%	1.16%	1.98%	0.62%	0.74%	0.80%	0.68%	0.60%	0.87%
Other	0.44%	0.38%	0.55%	0.37%	3.97%	9.27%	6.78%	1.80%	4.02%	2.63%	3.02%
All	**0.33%**	**0.74%**	**0.88%**	**0.98%**	**2.43%**	**2.62%**	**2.13%**	**1.03%**	**1.45%**	**1.07%**	**1.37%**

	End of Year Triple Net (NNN) Direct Rent										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2005-2009 /3
SC	n/a	n/a	n/a	n/a	$18.00 /sf	$22.91 /sf	$22.91 /sf	$22.93 /sf	$28.44 /sf	$25.84 /sf	$24.61 /sf
Other	n/a	n/a	n/a	n/a	n/a	$25.71 /sf	$33.75 /sf	$26.84 /sf	$21.65 /sf	n/a	$26.99 /sf
All	**n/a**	**n/a**	**n/a**	**n/a**	**$18.00 /sf**	**$23.48 /sf**	**$30.00 /sf**	**$23.96 /sf**	**$26.50 /sf**	**$25.84 /sf**	**$25.96 /sf**

Note: Numbers may not total due to rounding and / or classification errors in the CoStar Property database

1/ Rentable Building Area

2/ Does not include Sublet Vacancy

3/ Because rental rate information is not available for all years, the average annual represents only the years 2005 to 2009.

Source: CoStar Property; AECOM, May 2010

Appendix Table 19: Detailed Profile of Retail Market, Kendall Submarket

Summary Data - 1Q 2010							
Building Class	Number of Buildings	Total RBA (sf) /1	Share of Submarket	Direct Vacancy Rate /2	Total Vacancy Incl. Sublet	Direct Average Rate (per sf, NNN)	RBA Under Const (sf)
SC	229	12,182,370	70.8%	5.7%	5.8%	$27.35	0
Other	450	5,023,800	29.2%	3.5%	3.5%	$26.18	0
Total	**679**	**17,206,170**	**100.0%**	**11.1%**	**11.6%**	**$27.43**	**0**

Rentable Building Area (sf)											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
SC	10,208,156	10,208,156	10,213,856	10,504,531	10,697,439	10,864,251	11,009,353	11,108,491	11,873,319	12,182,370	10,886,992
Other	4,082,757	4,217,213	4,229,631	4,238,403	4,328,203	4,683,169	4,829,815	4,861,046	5,018,630	5,018,630	4,550,750
Total	**14,290,913**	**14,425,369**	**14,443,487**	**14,742,934**	**15,025,642**	**15,547,420**	**15,839,168**	**15,969,537**	**16,891,949**	**17,201,000**	15,437,742

Direct Net Absorption, Annual Totals											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
SC	686,174	1,683	800	214,482	131,138	120,583	157,651	92,710	466,868	139,174	201,126
Other	40,260	148,184	12,918	(121,828)	87,815	211,938	316,881	99,237	133,378	(110,647)	81,814
Total	**726,434**	**149,867**	**13,718**	**92,654**	**218,953**	**332,521**	**474,532**	**191,947**	**600,246**	**28,527**	**282,940**

End of Year Direct Vacancy Rate											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
SC	0.11%	0.10%	0.14%	0.75%	1.32%	1.72%	1.59%	1.63%	4.03%	5.33%	1.67%
Other	0.41%	0.07%	0.06%	3.14%	3.12%	5.94%	2.23%	0.82%	1.28%	3.48%	2.06%
Total	**0.20%**	**0.09%**	**0.12%**	**1.44%**	**1.84%**	**2.99%**	**1.78%**	**1.38%**	**3.22%**	**4.79%**	**1.78%**

End of Year Triple Net (NNN) Direct Rent											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2005-2009 /3
SC	n/a	n/a	n/a	$32.12 /sf	$28.67 /sf	$28.37 /sf	$28.63 /sf	$34.81 /sf	$34.30 /sf	$28.04 /sf	$30.83 /sf
Other	n/a	n/a	n/a	$25.00 /sf	n/a	$12.00 /sf	$32.44 /sf	$21.08 /sf	$25.23 /sf	$26.72 /sf	$23.49 /sf
Total	**n/a**	**n/a**	**n/a**	**$31.48 /sf**	**$28.67 /sf**	**$27.62 /sf**	**$29.73 /sf**	**$33.06 /sf**	**$33.21 /sf**	**$27.85 /sf**	**$30.29 /sf**

Note: Numbers may not total due to rounding and / or classification errors in the CoStar Property database
1/ Rentable Building Area
2/ Does not include Sublet Vacancy
3/ Because rental rate information is not available for all years, the average annual represents only the years 2005 to 2009.
Source: CoStar Property; AECOM, May 2010

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Appendix Table 20: Detailed Profile of Retail Market, West Miami Submarket

Building Class	Number of Buildings	Total RBA (sf) /1	Share of Submarket	Direct Vacancy Rate /2	Total Vacancy Incl. Sublet	Direct Average Rate (per sf, NNN)	RBA Under Const (sf)
	Summary Data - 1Q 2010						
SC	158	3,901,005	59.9%	3.9%	3.9%	$24.72	0
Other	418	2,609,278	40.1%	2.9%	3.1%	$21.26	0
Total	**576**	**6,510,283**	**100.0%**	**2.8%**	**2.8%**	**$25.78**	**0**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
	Rentable Building Area (sf)										
SC	3,782,990	3,782,990	3,782,990	3,782,990	3,782,990	3,782,990	3,782,990	3,790,440	3,809,705	3,901,005	3,798,208
Other	2,561,591	2,564,829	2,593,104	2,593,104	2,593,104	2,593,104	2,593,104	2,603,312	2,609,278	2,609,278	2,591,381
Total	**6,344,581**	**6,347,819**	**6,376,094**	**6,376,094**	**6,376,094**	**6,376,094**	**6,376,094**	**6,393,752**	**6,418,983**	**6,510,283**	**6,389,589**
	Direct Net Absorption, Annual Totals										
SC	28,105	(17,178)	(8,110)	(5,913)	(39,853)	34,929	(23,916)	(23,221)	(8,282)	54,759	(868)
Other	1,986	(1,362)	24,775	13,400	(80,810)	(54,759)	19,111	95,251	(16,136)	19,264	2,072
Total	**30,091**	**(18,540)**	**16,665**	**7,487**	**(120,663)**	**(19,830)**	**(4,805)**	**72,030**	**(24,418)**	**74,023**	**1,204**
	End of Year Direct Vacancy Rate										
SC	0.27%	0.73%	0.94%	1.10%	2.15%	1.23%	1.86%	2.67%	3.37%	4.23%	1.85%
Other	0.38%	0.56%	0.69%	0.17%	3.29%	5.40%	4.66%	1.38%	2.22%	1.49%	2.03%
Total	**0.32%**	**0.66%**	**0.84%**	**0.72%**	**2.61%**	**2.93%**	**3.00%**	**2.14%**	**2.91%**	**3.13%**	**1.93%**
	End of Year Triple Net (NNN) Direct Rent										
SC	n/a	n/a	n/a	n/a	$21.40 /sf	$23.11 /sf	$21.80 /sf	$26.47 /sf	$26.88 /sf	$25.49 /sf	$24.75 /sf
Other	n/a	n/a	n/a	n/a	n/a	$25.71 /sf	$25.23 /sf	$26.82 /sf	$23.03 /sf	$30.56 /sf	$26.27 /sf
Total	**n/a**	**n/a**	**n/a**	**n/a**	**$21.40 /sf**	**$23.47 /sf**	**$22.89 /sf**	**$26.51 /sf**	**$26.37 /sf**	**$26.30 /sf**	**$25.11 /sf**

Note: Numbers may not total due to rounding and / or classification errors in the CoStar Property database

1/ Rentable Building Area

2/ Does not include Sublet Vacancy

3/ Because rental rate information is not available for all years, the average annual represents only the years 2005 to 2009.

Source: CoStar Property; AECOM, May 2010

Appendix Table 21: Detailed Profile of Retail Market, Miami International Airport Submarket

Summary Data - 1Q 2010							
Building Class	Number of Buildings	Total RBA (sf) /1	Share of Submarket	Direct Vacancy Rate /2	Total Vacancy Incl. Sublet	Direct Average Rate (per sf, NNN)	RBA Under Const (sf)
SC	193	9,776,361	75.2%	4.7%	5.1%	$24.21	2,393
Other	335	3,218,501	24.8%	1.9%	1.9%	$34.13	0
Total	**528**	**12,994,862**	**100.0%**	**15.1%**	**15.9%**	**$24.95**	**2,393**

Rentable Building Area (sf)											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
SC	7,134,098	8,657,024	8,879,868	9,034,670	9,237,955	9,409,906	9,552,227	9,564,507	9,776,361	9,776,361	9,102,298
Other	2,704,563	2,747,411	2,862,191	2,899,543	2,901,748	2,980,563	3,010,491	3,010,491	3,205,501	3,205,501	2,952,800
Total	**9,838,661**	**11,404,435**	**11,742,059**	**11,934,213**	**12,139,703**	**12,390,469**	**12,562,718**	**12,574,998**	**12,981,862**	**12,981,862**	**12,055,098**

Direct Net Absorption, Annual Totals											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
SC	113,593	1,378,632	168,647	79,773	258,275	252,162	20,533	58,038	119,567	(142,629)	230,659
Other	36,756	10,148	112,313	30,524	(96,236)	(24,230)	134,826	99,546	163,273	44,206	51,113
Total	**150,349**	**1,388,780**	**280,960**	**110,297**	**162,039**	**227,932**	**155,359**	**157,584**	**282,840**	**(98,423)**	**281,772**

End of Year Direct Vacancy Rate											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
SC	0.95%	2.45%	3.00%	3.74%	3.06%	2.15%	3.39%	2.91%	3.39%	4.84%	2.99%
Other	0.35%	1.53%	1.56%	1.77%	5.16%	8.48%	4.92%	1.61%	2.50%	1.12%	2.90%
Total	**0.79%**	**2.23%**	**2.65%**	**3.26%**	**3.56%**	**3.67%**	**3.76%**	**2.60%**	**3.17%**	**3.92%**	**2.96%**

End of Year Triple Net (NNN) Direct Rent											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2005-2009 /3
SC	$7.59 /sf	n/a	n/a	$21.82 /sf	$22.11 /sf	$28.43 /sf	$27.51 /sf	$26.28 /sf	$25.18 /sf	$26.69 /sf	$23.20 /sf
Other	n/a	n/a	n/a	$18.00 /sf	$18.00 /sf	$23.02 /sf	$22.15 /sf	n/a	$40.86 /sf	$35.05 /sf	$26.18 /sf
Total	**$7.59 /sf**	**n/a**	**n/a**	**$21.62 /sf**	**$21.92 /sf**	**$27.62 /sf**	**$27.28 /sf**	**$26.28 /sf**	**$26.90 /sf**	**$27.62 /sf**	**$23.35 /sf**

Note: Numbers may not total due to rounding and / or classification errors in the CoStar Property database

1/ Rentable Building Area

2/ Does not include Sublet Vacancy

3/ Because rental rate information is not available for all years, the average annual represents only the years 2005 to 2009.

Source: CoStar Property; AECOM, May 2010

Appendix C **BASELINE ASSESSMENT**

Appendix Table 22: Detailed Profile of Retail Market, Miami-Dade County, FL

Summary Data - 1Q 2010							
Building Class	Number of Buildings	Total RBA (sf) /1	Share of Submarket	Direct Vacancy Rate /2	Total Vacancy Incl. Sublet	Direct Average Rate (per sf, NNN)	RBA Under Const (sf)
SC	1,774	64,067,637	52.0%	5.8%	6.0%	$23.40	2,393
Other	7,285	59,070,248	48.0%	4.1%	4.1%	$28.02	0
Total	**9,059**	**123,137,885**	**100.0%**	**13.1%**	**14.1%**	**$29.00**	**2,393**

Rentable Building Area (sf)											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
SC	53,843,842	55,400,557	56,700,390	57,424,677	58,264,767	59,378,222	60,258,267	61,055,397	63,025,218	63,986,556	58,933,789
Other	51,939,819	52,563,350	53,269,513	53,620,073	54,023,287	54,946,745	56,042,530	58,061,285	58,846,733	59,020,238	55,233,357
Total	**105,783,661**	**107,963,907**	**109,969,903**	**111,044,750**	**112,288,054**	**114,324,967**	**116,300,797**	**119,116,682**	**121,871,951**	**123,006,794**	**114,167,147**

Direct Net Absorption, Annual Totals											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
SC	1,082,418	1,314,562	1,277,397	(328,681)	470,942	1,388,760	37,776	1,422,338	1,245,607	(996)	791,012
Other	1,742,954	321,557	732,279	(314,394)	(299,929)	(164,633)	1,798,289	3,037,924	363,076	(229,824)	698,730
Total	**2,825,372**	**1,636,119**	**2,009,676**	**(643,075)**	**171,013**	**1,224,127**	**1,836,065**	**4,460,262**	**1,608,683**	**(230,820)**	**1,489,742**

End of Year Direct Vacancy Rate											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
SC	0.78%	1.19%	1.20%	3.00%	3.58%	3.05%	4.40%	3.32%	4.31%	5.74%	3.06%
Other	0.85%	1.42%	1.36%	2.59%	3.86%	5.78%	4.41%	2.56%	3.25%	3.92%	3.00%
Total	**0.81%**	**1.30%**	**1.28%**	**2.80%**	**3.72%**	**4.36%**	**4.41%**	**2.95%**	**3.79%**	**4.87%**	**3.03%**

End of Year Triple Net (NNN) Direct Rent											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009
SC	$8.04 /sf	$10.00 /sf	$25.00 /sf	$21.21 /sf	$17.28 /sf	$21.82 /sf	$25.73 /sf	$27.96 /sf	$27.16 /sf	$23.95 /sf	$20.82 /sf
Other	$25.20 /sf	$24.32 /sf	$20.88 /sf	$10.39 /sf	$21.27 /sf	$27.69 /sf	$28.21 /sf	$30.42 /sf	$29.76 /sf	$28.38 /sf	$24.65 /sf
Total	**$13.07 /sf**	**$21.16 /sf**	**$21.15 /sf**	**$16.85 /sf**	**$17.98 /sf**	**$23.38 /sf**	**$26.35 /sf**	**$28.63 /sf**	**$28.02 /sf**	**$25.49 /sf**	**$22.21 /sf**

Note: Numbers may not total due to rounding and / or classification errors in the CoStar Property database
1/ Rentable Building Area
2/ Does not include Sublet Vacancy
Source: CoStar Property; AECOM, May 2010

Appendix C BASELINE ASSESSMENT

Appendix Table 23: Assessed Value by Acre and Major Land Type

	Assessed Value			Acres			Assessed Value/Acre		
Major Land Use Type	**Influence Area**	**Net Study Area**	**Total Study Area**	**Influence Area**	**Net Study Area**	**Total Study Area**	**Influence Area**	**Net Study Area**	**Total Study Area**
RESIDENTIAL									
Residential--SF	$1,132,315,072	$1,011,255,217	$2,143,570,289	1,340	1,120	2,460	$845,092	$902,627	$871,293
Residential--MF	$460,647,600	$162,735,588	$623,383,188	229	110	339	$2,013,005	$1,483,922	$1,841,595
Residential--Mobile Home	$1,416,929	$0	$1,416,929	2		2	$687,830	n/a	$687,830
Total Residential	**$1,594,379,601**	**$1,173,990,805**	**$2,768,370,406**	**1,571**	**1,230**	**2,801**	**$1,015,032**	**$954,454**	**$988,428**
COMMERCIAL									
Office	$117,786,917	$170,705,081	$288,491,998	36	38	74	$3,264,624	$4,537,939	$3,914,564
Mixed Use Commercial	$0	$4,942,549	$4,942,549		2	2	n/a	$2,033,967	$2,033,967
Industrial	$180,548,802	$115,220,447	$295,769,249	102	69	171	$1,772,360	$1,662,027	$1,727,680
Retail	$327,606,550	$54,964,201	$382,570,751	122	19	141	$2,676,987	$2,908,522	$2,707,958
Commercial Total Value	$1,375,970,935	$209,710,074	$1,585,681,009	-	-	-	n/a	n/a	n/a
Service	$5,988,370	$0	$5,988,370	2		2	$3,159,791	n/a	$3,159,791
Automotive/Marine	$120,943,024	$31,467,407	$152,410,431	51	13	64	$2,352,366	$2,454,522	$2,372,755
Wholesale Outlet	$597,535	$944,052	$1,541,587	0	1	1	$2,844,658	$1,039,402	$1,378,485
Transportation/Misc.	$20,992,268	$11,325,489	$32,317,757	20	15	35	$1,047,653	$778,358	$934,366
Accommodations	$14,274,377	$24,824,308	$39,098,685	4	5	9	$3,955,872	$4,831,263	$4,470,124
Entertainment	$485,764	$2,827,961	$3,313,725	0	1	1	$3,022,840	$2,534,482	$2,595,962
Total Commercial	**$2,165,194,542**	**$626,931,569**	**$2,792,126,111**	**338**	**163**	**500**	**$6,412,486**	**$3,850,855**	**$5,579,163**
OTHER									
Government/Institutional/Other	$210,957,102	$305,125,220	$516,082,322	317	97	414	$664,599	$3,159,711	$1,246,613
Other	$0	$1,478,438	$1,478,438	-	3	3	n/a	$549,126	$549,126
Land	$155,022,122	$111,724,818	$266,746,940	274	181	455	$565,851	$618,666	$586,834
Reference Only	$0	$0	$0	-	-	-	n/a	n/a	n/a
N/A	$0	$0	$0	-	-	-	n/a	n/a	n/a
Total Other	**$365,979,224**	**$418,328,476**	**$784,307,700**	**591**	**280**	**871**	$618,853	$1,494,832	$900,227
TOTAL	**$4,125,553,367**	**$2,219,250,850**	**$6,344,804,217**	**2,500**	**1,673**	**4,172**	**$1,650,351**	**$1,326,775**	**$1,520,635**

Source: Miami-Dade County, 2009; AECOM, 2010.

Appendix C BASELINE ASSESSMENT

Appendix Table 24: Assessed Value by Parcel and Major Land Type

	Parcels			Assessed Value			Assessed Value/Parcel		
Major Land Use Type	**Influence Area**	**Net Study Area**	**Total Study Area**	**Influence Area**	**Net Study Area**	**Total Study Area**	**Influence Area**	**Net Study Area**	**Total Study Area**
RESIDENTIAL									
Residential--SF	5,557	5,214	10,771	$1,132,315,072	$1,011,255,217	$2,143,570,289	$203,764	$193,950	$199,013
Residential--MF	1,076	479	1,555	$460,647,600	$162,735,588	$623,383,188	$428,111	$339,740	$400,890
Residential--Mobile Home	1		1	$1,416,929		$1,416,929	$1,416,929	n/a	$1,416,929
Total Residential	**6,634**	**5,693**	**12,327**	**$1,594,379,601**	**$1,173,990,805**	**$2,768,370,406**	**$240,335**	**$206,217**	**$224,578**
COMMERCIAL									
Office	86	55	141	$117,786,917	$170,705,081	$288,491,998	$1,369,615	$3,103,729	$2,046,043
Mixed Use Commercial		2	2		$4,942,549	$4,942,549	n/a	$2,471,275	$2,471,275
Industrial	132	79	211	$180,548,802	$115,220,447	$295,769,249	$1,367,794	$1,458,487	$1,401,750
Retail	170	33	203	$327,606,550	$54,964,201	$382,570,751	$1,927,097	$1,665,582	$1,884,585
Commercial Total Value	11	24	35	$1,375,970,935	$209,710,074	$1,585,681,009	$125,088,267	$8,737,920	$45,305,172
Service	9		9	$5,988,370		$5,988,370	$665,374	n/a	$665,374
Automotive/Marine	90	27	117	$120,943,024	$31,467,407	$152,410,431	$1,343,811	$1,165,460	$1,302,653
Wholesale Outlet	1	1	2	$597,535	$944,052	$1,541,587	$597,535	$944,052	$770,794
Transportation/Misc.	87	15	102	$20,992,268	$11,325,489	$32,317,757	$241,290	$755,033	$316,841
Accommodations	7	5	12	$14,274,377	$24,824,308	$39,098,685	$2,039,197	$4,964,862	$3,258,224
Entertainment	1	1	2	$485,764	$2,827,961	$3,313,725	$485,764	$2,827,961	$1,656,863
Total Commercial	**594**	**242**	**836**	**$2,165,194,542**	**$626,931,569**	**$2,792,126,111**	**$3,645,109**	**$2,590,626**	**$3,339,864**
OTHER									
Government/Institutional/Other	59	49	108	$210,957,102	$305,125,220	$516,082,322	$3,575,544	$6,227,045	$4,778,540
Other		3	3	$0	$1,478,438	$1,478,438	n/a	$492,813	$492,813
Land	224	236	460	$155,022,122	$111,724,818	$266,746,940	$692,063	$473,410	$579,885
Reference Only	139	49	188	$0	$0	$0	$0	$0	$0
N/A	8	4	12	$0	$0	$0	$0	$0	$0
Total Other	**422**	**337**	**754**	**$365,979,224**	**$418,328,476**	**$784,307,700**	**$867,249**	**$1,241,331**	**$1,040,196**
TOTAL	**7,658**	**6,276**	**13,934**	**$4,125,553,367**	**$2,219,250,850**	**$6,344,804,217**	**$538,725**	**$353,609**	**$455,347**

Source: Miami-Dade County, 2009; AECOM, 2010.

Appendix Table 25: Property Values and Assessed Values in Walkable Area (Influence Area) and Net Study Area by Jurisdiction

Miami	Parcels	Acres	Total Value	Assessed Value
Influence Area	1,316	247	$437,345,369	$321,603,376
Net Study Area	795	145	$236,996,997	$158,096,472
Total	**2,111**	**392**	**$674,342,366**	**$479,699,848**
Pinecrest				
Influence Area	101	56	$150,049,620	$142,803,230
Net Study Area	-	-	$0	$0
Total	**101**	**56**	**$150,049,620**	**$142,803,230**
South Miami				
Influence Area	822	306	$321,952,267	$232,386,727
Net Study Area	1,055	275	$533,010,134	$438,941,884
Total	**1,877**	**581**	**$854,962,401**	**$671,328,611**
West Miami				
Influence Area	459	91	$169,451,287	$146,794,918
Net Study Area	580	110	$149,864,299	$109,448,052
Total	**1,039**	**201**	**$319,315,586**	**$256,242,970**
Unincorp.				
Influence Area	4,960	1,801	$3,630,961,094	$3,281,965,116
Net Study Area	3,846	1,143	$1,822,253,942	$1,512,764,442
Total	**8,806**	**2,943**	**$5,453,215,036**	**$4,794,729,558**
TOTAL				
Influence Area	7,658	2,500	$4,709,759,637	$4,125,553,367
Net Study Area	6,276	1,673	$2,742,125,372	$2,219,250,850
TOTAL	**13,934**	**4,172**	**$7,451,885,009**	**$6,344,804,217**

Source: Miami-Dade County; AECOM, 2010.

Appendix Table 26: Total Walkable Area Assessed Values by Jurisdiction by Use

	Miami	Pinecrest	South Miami	West Miami	Unincorp.	Total
SF Residential	$187,095,375	$16,342,983	$184,563,958	$52,030,017	$692,282,739	**$1,132,315,072**
MF Residential	$27,668,179	$45,950,065	$21,601,967	$44,377,871	$321,049,518	**$460,647,600**
Mobile Home					$1,416,929	**$1,416,929**
Retail	$47,390,238	$24,103,526	$5,091,198	$14,639,438	$236,382,150	**$327,606,550**
Office	$4,084,951	$46,606,147	$2,469,992	$8,282,289	$56,343,538	**$117,786,917**
Industrial	$19,577,403	$3,146,969		$1,665,486	$156,158,944	**$180,548,802**
Other Taxable	$20,322,197	$5,200,764	$582,941	$18,255,344	$1,473,898,759	**$1,518,260,005**
Land	$3,530,767	$1,452,776	$2,056,825	$2,524,821	$145,456,933	**$155,022,122**
Institutional	$10,937,502		$16,019,846	$3,934,478	$180,065,276	**$210,957,102**
Transportation	$996,764			$1,085,174	$18,910,330	**$20,992,268**
	$321,603,376	**$142,803,230**	**$232,386,727**	**$146,794,918**	**$3,281,965,116**	**$4,125,553,367**

Source: Miami-Dade County GIS; AECOM, 2010

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Appendix Table 27: Total Assessed Values Per Acre by Jurisdiction by Use

	Miami			Pinecrest		
	Assessed Value	Acres	Value/Acre	Assessed Value	Acres	Value/Acre
SF Residential	$187,095,375	304	$614,757	$16,342,983	17	$987,200
MF Residential	$27,668,179	27	$1,042,265	$45,950,065	17	$2,737,362
Mobile Home	$0	-	n/a	$0	-	n/a
Retail	$47,390,238	18	$2,566,629	$24,103,526	5	$4,701,400
Office	$4,084,951	2	$2,631,399	$46,606,147	12	$3,737,247
Industrial	$19,577,403	10	$1,887,656	$3,146,969	1	$4,495,670
Other Taxable	$20,322,197	7	$2,736,937	$5,200,764	1	$3,939,986
Land	$3,530,767	4	$839,652	$1,452,776	3	$555,815
Institutional	$10,937,502	18	$610,984	$0	-	n/a
Transportation	$996,764	1	$1,360,672	$0	-	n/a
	$321,603,376	**392**	**$14,290,951**	**$142,803,230**	**56**	**$21,154,681**

	South Miami			West Miami		
	Assessed Value	Acres	Value/Acre	Assessed Value	Acres	Value/Acre
SF Residential	$184,563,958	456	$404,850	$52,030,017	153	$340,612
MF Residential	$21,601,967	25	$854,745	$44,377,871	19	$2,321,369
Mobile Home	$0	-	n/a	$0	-	n/a
Retail	$5,091,198	3	$1,542,208	$14,639,438	8	$1,839,288
Office	$2,469,992	11	$215,869	$8,282,289	3	$3,143,173
Industrial	$0	1	$0	$1,665,486	0	$3,454,694
Other Taxable	$582,941	1	$801,013	$18,255,344	7	$2,470,310
Land	$2,056,825	20	$100,544	$2,524,821	4	$565,505
Institutional	$16,019,846	62	$257,591	$3,934,478	4	$1,086,350
Transportation	$0	1	$0	$1,085,174	2	$452,471
	$232,386,727	**581**	**$4,176,820**	**$146,794,918**	**201**	**$15,673,772**

	Unincorporated Miami-Dade Co.		
	Assessed Value	Acres	Value/Acre
SF Residential	$692,282,739	1,531	$452,270
MF Residential	$321,049,518	251	$1,280,208
Mobile Home	$1,416,929	2	$687,830
	$0		
Retail	$236,382,150	106	$2,221,113
Office	$56,343,538	46	$1,235,688
Industrial	$156,158,944	159	$981,784
Other Taxable	$1,473,898,759	63	$23,358,244
Land	$145,456,933	423	$344,022
	$0		
Institutional	$180,065,276	330	$545,201
Transportation	$18,910,330	30	$626,078
	$3,281,965,116	**2,941**	**$31,732,439**

Source: Miami-Dade County GIS; AECOM, 2010

Appendix Table 28: Total Assessed Values Per Parcel by Jurisdiction by Use

	Miami			Pinecrest		
	Assessed Value	Parcel	Value/Parcel	Assessed Value	Parcel	Value/Parcel
SF Residential	$187,095,375	1,847	$101,297	$16,342,983	25	$653,719
MF Residential	$27,668,179	122	$226,788	$45,950,065	50	$919,001
Mobile Home	$0	-	n/a	$0	-	n/a
Retail	$47,390,238	52	$911,351	$24,103,526	7	$3,443,361
Office	$4,084,951	10	$408,495	$46,606,147	7	$6,658,021
Industrial	$19,577,403	12	$1,631,450	$3,146,969	1	$3,146,969
Other Taxable	$20,322,197	19	$1,069,589	$5,200,764	1	$5,200,764
Land	$3,530,767	27	$130,769	$1,452,776	4	$363,194
Institutional	$10,937,502	5	$2,187,500	$0	-	n/a
Transportation	$996,764	10	$99,676	$0	-	n/a
	$321,603,376	**2,104**	**$6,766,917**	**$142,803,230**	**95**	**$20,385,029**

	South Miami			West Miami		
	Assessed Value	Parcel	Value/Parcel	Assessed Value	Parcel	Value/Parcel
SF Residential	$184,563,958	1,658	$111,317	$52,030,017	877	$59,327
MF Residential	$21,601,967	97	$222,701	$44,377,871	78	$568,947
Mobile Home	$0	-	n/a	$0	-	n/a
Retail	$5,091,198	8	$636,400	$14,639,438	21	$697,116
Office	$2,469,992	23	$107,391	$8,282,289	12	$690,191
Industrial	$0	2	$0	$1,665,486	2	$832,743
Other Taxable	$582,941	3	$194,314	$18,255,344	22	$829,788
Land	$2,056,825	56	$36,729	$2,524,821	12	$210,402
Institutional	$16,019,846	16	$1,001,240	$3,934,478	4	$983,620
Transportation	$0	3	$0	$1,085,174	6	$180,862
	$232,386,727	**1,866**	**$2,310,092**	**$146,794,918**	**1,034**	**$5,052,996**

	Unincorporated Miami-Dade Co.		
	Assessed Value	Parcel	Value/Parcel
SF Residential	$692,282,739	6,364	$108,781
MF Residential	$321,049,518	1,208	$265,769
Mobile Home	$1,416,929	1	$1,416,929
Retail	$236,382,150	115	$2,055,497
Office	$56,343,538	89	$633,073
Industrial	$156,158,944	194	$804,943
Other Taxable	$1,473,898,759	135	$10,917,769
Land	$145,456,933	361	$402,928
Institutional	$180,065,276	83	$2,169,461
Transportation	$18,910,330	83	$227,835
	$3,281,965,116	**8,633**	**$19,002,986**

Source: Miami-Dade County GIS; AECOM, 2010

Appendix Table 29: Summary of Office Market Statistics: Ludlam Trail and Miami-Dade County, FL

Submarket / County	Number of Buildings	Total RBA (sf) /1	Share of Miami Dade	Direct Vacancy Rate /2	Total Vacancy Incl. Sublet	Direct Average Rate (/sf, full service)	RBA Under Const (sf)
Summary Data - 1Q 2010							
Ludlam Trail Influence Area	59	465,130	0.5%	7.4%	7.4%	$21.99	0
Miami Dade County	4,380	102,061,265	100.0%	13.1%	14.1%	$29.00	70,509

	2003	2004	2005	2006	2007	2008	2009	Through 1Q 2009	Through 1Q 2010
Rentable Building Area (sf)									
Ludlam Trail Influence Area	446,360	446,360	446,360	446,360	452,130	465,130	465,130	465,130	465,130
Miami Dade County	90,308,871	91,842,304	93,239,333	94,580,890	97,247,853	99,344,730	101,318,448	99,717,003	102,061,265

	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2003-2009	Through 1Q 2009	Through 1Q 2010
Direct Net Absorption, Annual Totals (sf)										
Ludlam Trail Influence Area	2,500	600	(500)	(600)	(6,115)	13,797	(19,803)	(1,446)	(3,732)	(1,286)
Miami Dade County	904,765	2,406,884	3,340,660	1,008,069	1,129,439	126,609	(1,139,058)	1,111,053	(393,744)	367,427

	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2003-2009	Through 1Q 2009	Through 1Q 2010
Deliveries (sf)										
Ludlam Trail Influence Area	0	0	0	0	0	0	0	0	0	0
Miami Dade County	271,896	110,435	26,814	381,797	660,542	428,554	124,970	286,430	447,015	163,789

	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2003-2009	Through 1Q 2009	Through 1Q 2010
End of Year Direct Vacancy Rate										
Ludlam Trail Influence Area	0.36%	0.22%	0.34%	0.47%	3.09%	2.84%	7.09%	2.06%	3.64%	7.37%
Miami Dade County	9.87%	8.75%	6.53%	6.79%	8.19%	10.00%	12.88%	9.00%	10.73%	13.15%

	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2003-2009	Through 1Q 2009	Through 1Q 2010
End of Year Direct Full Service Rent										
Ludlam Trail Influence Area	n/a	n/a	n/a	$32.72 /sf	$32.50 /sf	$27.33 /sf	$21.06 /sf	$28.40 /sf	$26.45 /sf	$21.99 /sf
Miami Dade County	$24.10 /sf	$24.12 /sf	$24.65 /sf	$27.62 /sf	$30.17 /sf	$30.77 /sf	$29.31 /sf	$27.25 /sf	$30.05 /sf	$29.00 /sf

1/ Rentable Building Area
2/ Does not include Sublet Vacancy
Source: CoStar Property; AECOM, May 2010.

Appendix Table 30: Summary of Industrial Market Statistics: Ludlam Trail and Miami-Dade County, FL

	Summary Data - 1Q 2010						
Submarket / County	**Number of Buildings**	**Total RBA (sf) /1**	**Share of Miami Dade**	**Direct Vacancy Rate /2**	**Total Vacancy Incl. Sublet**	**Direct Average Rate (per sf, NNN)**	**RBA Under Const (sf)**
Ludlam Trail Influence Area	153	2,574,644	1.1%	0.5%	0.5%	$23.87	0
Miami Dade County	8,690	233,303,462	100.0%	9.3%	9.7%	$7.49	0

	Rentable Building Area (sf)							Through 1Q	
	2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2009**	**2010**
Ludlam Trail Influence Area	2,574,644	2,574,644	2,574,644	2,574,644	2,574,644	2,574,644	2,574,644	2,574,644	2,574,644
Miami Dade County	219,934,996	222,751,348	224,737,735	226,843,254	230,153,349	232,092,973	233,303,462	232,509,524	233,303,462

	Direct Net Absorption, Annual Totals (sf)								Through 1Q	
	2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Avg Annual 2003-2009**	**2009**	**2010**
Ludlam Trail Influence Area	68,406	29,336	27,100	(31,596)	21,702	(23,812)	7,390	14,075	7,200	16,600
Miami Dade County	3,358,916	6,065,611	3,733,214	1,741,230	(1,197,623)	(2,817,439)	(4,299,292)	940,660	(1,656,687)	579,594

	Deliveries (sf)								Through 1Q	
	2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Avg Annual 2003-2009**	**2009**	**2010**
Ludlam Trail Influence Area	0	0	0	0	0	0	0	0	0	0
Miami Dade County	726,850	464,603	62,096	631,514	972,637	172,048	0	432,821	413,203	0

	End of Year Direct Vacancy Rate								Through 1Q	
	2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Avg Annual 2003-2009**	**2009**	**2010**
Ludlam Trail Influence Area	2.30%	1.16%	0.10%	1.33%	0.49%	1.41%	1.13%	1.13%	1.13%	0.48%
Miami Dade County	5.50%	3.97%	3.16%	3.29%	5.20%	7.21%	9.53%	5.41%	8.09%	9.28%

	End of Year Direct Triple Net (NNN) Rent								Through 1Q	
	2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Avg Annual 2003-2009**	**2009**	**2010**
Ludlam Trail Influence Area	$13.00 /sf	$0.00 /sf	$0.00 /sf	$15.00 /sf	$15.00 /sf	$0.00 /sf	$23.87 /sf	$9.55 /sf	$0.00 /sf	$23.87 /sf
Miami Dade County	$6.79 /sf	$7.54 /sf	$7.21 /sf	$7.91 /sf	$7.57 /sf	$7.91 /sf	$8.30 /sf	$7.60 /sf	$7.67 /sf	$7.49 /sf

1/ Rentable Building Area

2/ Does not include Sublet Vacancy

Source: CoStar Property; AECOM, May 2010.

Appendix Table 31: Summary of Retail Market Statistics: Ludlam Trail and Miami-Dade County, FL

	Summary Data - 1Q 2010						
Submarket / County	Number of Buildings	Total RBA (sf) /1	Share of Miami Dade	Direct Vacancy Rate /2	Total Vacancy Incl. Sublet	Direct Average Rate (per sf, NNN)	RBA Under Const (sf)
Ludlam Trail Influence Area	145	1,731,412	1.4%	3.7%	3.7%	$25.23	0
Miami Dade County	9,059	123,137,885	100.0%	5.0%	5.1%	$25.01	2,393

	Rentable Building Area (sf)							Through 1Q	
	2003	2004	2005	2006	2007	2008	2009	2009	2010
Ludlam Trail Influence Area	1,714,590	1,714,590	1,731,412	1,731,412	1,731,412	1,731,412	1,731,412	1,731,412	1,731,412
Miami Dade County	111,044,750	112,288,054	114,324,967	116,300,797	119,116,682	121,871,951	123,006,794	122,062,824	123,137,885

	Direct Net Absorption, Annual Totals								Through 1Q	
	2003	2004	2005	2006	2007	2008	2009	Avg Annual (2003-2009)	2009	2010
Ludlam Trail Influence Area	(7,950)	(32,847)	(4,837)	19,634	33,421	(50,645)	11,844	(4,483)	7,262	(750)
Miami Dade County	(643,075)	171,013	1,224,127	1,836,065	4,460,262	1,608,683	(230,820)	1,203,751	(295,788)	(18,312)

	Deliveries								Through 1Q	
	2003	2004	2005	2006	2007	2008	2009	Avg Annual (2003-2009)	2009	2010
Ludlam Trail Influence Area	0	0	0	0	0	0	0	0	0	0
Miami Dade County	7,600	60,620	137,801	231,886	519,114	556,031	491,282	286,333	196,848	131,091

	End of Year Direct Vacancy Rate								Through 1Q	
	2003	2004	2005	2006	2007	2008	2009	Avg Annual (2003-2009)	2009	2010
Ludlam Trail Influence Area	1.4%	3.3%	4.5%	3.4%	1.5%	4.4%	3.7%	3.2%	4.0%	3.7%
Miami Dade County	2.8%	3.7%	4.4%	4.4%	3.0%	3.8%	4.9%	3.8%	4.2%	5.0%

	End of Year Triple Net (NNN) Direct Rent								Through 1Q	
	2003	2004	2005	2006	2007	2008	2009	Avg Annual (2003-2009)	2009	2010
Ludlam Trail Influence Area	n/a	$18.00 /sf	$20.82 /sf	$30.00 /sf	$21.81 /sf	$38.81 /sf	$32.51 /sf	$26.99 /sf	$39.65 /sf	$25.23 /sf
Miami Dade County	$16.85 /sf	$17.98 /sf	$23.38 /sf	$26.35 /sf	$28.63 /sf	$28.02 /sf	$25.49 /sf	$23.81 /sf	$28.06 /sf	$25.01 /sf

1/ Rentable Building Area

2/ Does not include Sublet Vacancy

Source: CoStar Property; AECOM, May 2010.

Appendix C **BASELINE ASSESSMENT**

Appendix Table 32: Property Tax Milage Rates by Category and Jurisdiction, 2010

	City/ Unincorp. County	School	Regional	County-wide	Other	Total
Miami	8.3335	7.995	0.6585	5.5051	0.5	22.9921
West Miami	6.7376	7.995	0.6585	7.7322	0.5	23.6233
Pinecrest	2.104	7.995	0.6585	7.7322	0.5	18.9897
Unincorporated Miami-Dade County	2.0083	7.995	0.6585	7.7322	0.5	18.894
South Miami	4.9526	7.995	0.6585	7.7322	0.5	21.8383

Note: Tax is calculated by taking the taxable value divided by 1,000, times the millage rate

Source: Miami-Dade County; AECOM, 2010.

Appendix Table 33: Existing 2009 Property Values by Jurisdiction and Use

	Miami	Pinecrest	South Miami	West Miami	Unincorp.
SF Residential	$187,095,375	$16,342,983	$184,563,958	$52,030,017	$692,282,739
MF Residential	$27,668,179	$45,950,065	$21,601,967	$44,377,871	$321,049,518
Mobile Home					$1,416,929
Retail	$47,390,238	$24,103,526	$5,091,198	$14,639,438	$236,382,150
Office	$4,084,951	$46,606,147	$2,469,992	$8,282,289	$56,343,538
Industrial	$19,577,403	$3,146,969		$1,665,486	$156,158,944
Other Taxable	$20,322,197	$5,200,764	$582,941	$18,255,344	$1,473,898,759
Land	$3,530,767	$1,452,776	$2,056,825	$2,524,821	$145,456,933
Institutional	$10,937,502		$16,019,846	$3,934,478	$180,065,276
Transportation	$996,764			$1,085,174	$18,910,330
Total	**$321,603,376**	**$142,803,230**	**$232,386,727**	**$146,794,918**	**$3,281,965,116**

Source: Miami-Dade County GIS; AECOM, 2010.

Appendix D COMPARABLES RESEARCH

Comparable Research

The following tables were produced for analysis during comparable research. Information found in each table was used for benefit estimation and analysis.

Appendix Table 34: Summary of Office Market Statistics: Springwater Trail and Portland, OR Metro Counties

Submarket / County	Number of Buildings	Total RBA (sf) /1	Share of Metro Space	Direct Vacancy Rate /2	Total Vacancy Incl. Sublet	Direct Average Rate (/sf, full service)	RBA Under Const (sf)
Summary Data - 1Q 2010							
Springwater Trail Area	121	1,135,182	1.4%	7.2%	7.6%	$12.41	0
Portland Metro	3,806	79,695,622	100.0%	10.4%	11.1%	$19.51	438,820

	2003	2004	2005	2006	2007	2008	2009	Through 1Q 2009	Through 1Q 2010
Rentable Building Area (sf)									
Springwater Trail Area	1,103,194	1,118,596	1,118,596	1,123,241	1,136,389	1,136,389	1,135,182	1,135,182	1,135,182
Portland Metro	75,081,198	75,476,972	75,751,773	77,179,593	77,753,422	78,936,773	79,695,622	79,079,856	79,695,622

	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2003-2009	Through 1Q 2009	Through 1Q 2010
Direct Net Absorption, Annual Totals (sf)										
Springwater Trail Area	(12,749)	82,522	(15,872)	48,244	15,468	30,667	(15,697)	18,940	(23,120)	6,156
Portland Metro	31,261	1,301,396	1,113,058	1,564,880	1,560,515	908,924	(772,451)	815,369	(401,466)	(111,197)

	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2003-2009	Through 1Q 2009	Through 1Q 2010
Deliveries (sf)										
Springwater Trail Area	0	6,902	0	0	0	0	0	986	0	0
Portland Metro	315,283	174,367	9,000	139,305	105,108	362,338	27,000	161,772	143,083	0

	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2003-2009	Through 1Q 2009	Through 1Q 2010
End of Year Direct Vacancy Rate										
Springwater Trail Area	18.23%	11.98%	13.40%	9.47%	9.15%	6.45%	7.74%	10.92%	8.39%	7.19%
Portland Metro	12.32%	11.05%	9.91%	9.54%	8.21%	8.43%	10.26%	9.96%	9.10%	10.40%

	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2003-2009	Through 1Q 2009	Through 1Q 2010
End of Year Direct Full Service Rent										
Springwater Trail Area	$14.05 /sf	$14.49 /sf	$14.21 /sf	$15.40 /sf	$13.93 /sf	$13.16 /sf	$11.87 /sf	$13.87 /sf	$12.46 /sf	$12.41 /sf
Portland Metro	$17.61 /sf	$17.35 /sf	$17.22 /sf	$17.95 /sf	$19.67 /sf	$20.05 /sf	$19.78 /sf	$18.52 /sf	$19.96 /sf	$19.51 /sf

1/ Rentable Building Area
2/ Does not include Sublet Vacancy
Source: CoStar Property; AECOM, May 2010.

Appendix Table 34: Summary of Industrial Market Statistics: Springwater Trail and Portland, OR Metro Counties

	Summary Data - 1Q 2010						
Submarket / County	Number of Buildings	Total RBA (sf) /1	Share of Metro Space	Direct Vacancy Rate /2	Total Vacancy Incl. Sublet	Direct Average Rate (per sf, NNN)	RBA Under Const (sf)
Springwater Trail Area	288	7,043,376	4.4%	12.7%	12.7%	$3.53	0
Portland Metro	4,541	159,884,733	100.0%	7.9%	8.3%	$5.41	105,000

	Rentable Building Area (sf)							Through 1Q	
	2003	2004	2005	2006	2007	2008	2009	2009	2010
Springwater Trail Area	7,093,541	7,110,821	7,110,821	7,117,621	7,121,121	7,082,852	7,043,376	7,082,852	7,043,376
Portland Metro	148,910,071	149,872,772	150,934,909	153,365,820	156,407,929	159,035,464	159,877,033	159,533,379	159,884,733

	Direct Net Absorption, Annual Totals (sf)								Through 1Q	
	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2003-2009	2009	2010
Springwater Trail Area	(124,740)	451,259	392,613	(230,707)	198,107	42,300	(427,944)	42,984	6,819	9,743
Portland Metro	4,626,251	3,115,020	3,575,447	3,869,178	3,945,307	2,259,638	(2,099,921)	2,755,846	(845,372)	(106,736)

	Deliveries (sf)								Through 1Q	
	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2003-2009	2009	2010
Springwater Trail Area	0	17,280	0	0	0	0	0	2,469	0	0
Portland Metro	278,500	117,342	211,000	100,000	1,211,745	94,676	210,000	317,609	497,915	7,700

	End of Year Direct Vacancy Rate								Through 1Q	
	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2003-2009	2009	2010
Springwater Trail Area	19.49%	13.34%	7.81%	11.14%	8.41%	7.31%	12.87%	11.48%	7.22%	12.73%
Portland Metro	10.87%	9.36%	7.63%	6.57%	5.86%	6.00%	7.81%	7.73%	6.82%	7.88%

	End of Year Direct Triple Net (NNN) Rent								Through 1Q	
	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2003-2009	2009	2010
Springwater Trail Area	$3.40 /sf	$3.60 /sf	$3.67 /sf	$4.25 /sf	$4.63 /sf	$5.37 /sf	$4.33 /sf	$4.65 /sf	$4.69 /sf	$3.53 /sf
Portland Metro	$4.66 /sf	$4.61 /sf	$4.57 /sf	$5.03 /sf	$5.35 /sf	$5.88 /sf	$5.42 /sf	$5.42 /sf	$5.77 /sf	$5.41 /sf

1/ Rentable Building Area
2/ Does not include Sublet Vacancy

Appendix Table 35: Summary of Retail Market Statistics: Springwater Trail and Portland, OR Metro Counties

Submarket / County	Number of Buildings	Total RBA (sf) /1	Share of Metro Space	Direct Vacancy Rate /2	Total Vacancy Incl. Sublet	Direct Average Rate (per sf, NNN)	RBA Under Const (sf)
Summary Data - 1Q 2010							
Springwater Trail Area	232	1,755,600	2.0%	6.2%	6.2%	$12.29	0
Portland Metro	6,889	86,054,129	100.0%	5.2%	5.4%	$16.87	45,172

	2003	2004	2005	2006	2007	2008	2009	Through 1Q 2009	Through 1Q 2010
Rentable Building Area (sf)									
Springwater Trail Area	1,650,796	1,654,121	1,662,201	1,662,201	1,679,812	1,699,347	1,755,600	1,742,907	1,755,600
Portland Metro	79,469,663	80,578,276	82,208,994	83,052,789	84,694,372	85,677,463	86,027,950	85,736,175	86,054,129

	2003	2004	2005	2006	2007	2008	2009	Avg Annual (2003-2009)	Through 1Q 2009	Through 1Q 2010
Direct Net Absorption, Annual Totals										
Springwater Trail Area	16,424	(62,184)	9,673	69,544	5,132	(19,238)	88,880	15,462	39,285	2,022
Portland Metro	713,404	745,010	969,496	1,874,729	2,310,295	303,043	113,258	1,004,176	(24,272)	(72,315)

	2003	2004	2005	2006	2007	2008	2009	Avg Annual (2003-2009)	Through 1Q 2009	Through 1Q 2010
Deliveries										
Springwater Trail Area	0	0	10,000	0	0	11,489	0	3,070	43,560	0
Portland Metro	126,509	214,636	201,480	28,965	646,151	327,921	18,850	223,502	58,712	26,179

	2003	2004	2005	2006	2007	2008	2009	Avg Annual (2003-2009)	Through 1Q 2009	Through 1Q 2010
End of Year Direct Vacancy Rate										
Springwater Trail Area	5.9%	9.9%	9.7%	5.6%	6.2%	8.5%	6.3%	7.5%	8.5%	6.2%
Portland Metro	5.2%	5.6%	6.3%	5.0%	4.1%	4.8%	5.1%	5.1%	4.9%	5.2%

	2003	2004	2005	2006	2007	2008	2009	Avg Annual (2003-2009)	Through 1Q 2009	Through 1Q 2010
End of Year Triple Net (NNN) Direct Rent										
Springwater Trail Area	$9.02 /sf	$9.61 /sf	$11.31 /sf	$15.64 /sf	$13.49 /sf	$12.78 /sf	$12.17 /sf	$12.00 /sf	$12.76 /sf	$12.29 /sf
Portland Metro	$14.67 /sf	$14.96 /sf	$15.72 /sf	$16.31 /sf	$17.75 /sf	$18.02 /sf	$16.99 /sf	$16.35 /sf	$17.61 /sf	$16.87 /sf

1/ Rentable Building Area

2/ Does not include Sublet Vacancy

3/ Because rental rate information is not available for all years for all submarkets (a rate of "$0.00 " indicates no data available), the average annual represents only the years 2004 to 2009.

Source: CoStar Property; AECOM, May 2010.

Appendix Table 36: Summary of Office Market Statistics: Pinellas Trail and Pinellas County, FL

	Summary Data - 1Q 2010						
Submarket / County	Number of Buildings	Total RBA (sf) /1	Share of County	Direct Vacancy Rate /2	Total Vacancy Incl. Sublet	Direct Average Rate (/sf, full service)	RBA Under Const (sf)
Pinellas Trail Area	630	4,536,234	12.0%	15.6%	15.6%	$17.42	0
Pinellas County	3,314	37,837,008	100.0%	13.9%	14.4%	$17.91	0

	Rentable Building Area (sf)										Through 1Q	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2009	2010
Pinellas Trail Area	4,498,804	4,565,224	4,579,761	4,591,124	4,619,319	4,656,195	4,645,168	4,483,160	4,499,627	4,536,234	4,499,627	4,536,234
Pinellas County	33,259,063	33,819,143	34,062,236	35,009,818	36,001,592	36,311,787	36,864,597	37,393,362	37,664,682	37,837,008	37,664,682	37,837,008

	Direct Net Absorption, Annual Totals (sf)											Through 1Q	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009	2009	2010
Pinellas Trail Area	(38,422)	22,176	(10,150)	74,489	(93,340)	(15,942)	164,240	(184,301)	(208,876)	(33,644)	(32,377)	(16,529)	(12,927)
Pinellas County	(194,683)	218,772	497,597	1,042,542	517,547	236,475	568,346	(81,057)	(176,257)	(843,593)	178,569	(351,511)	(159,075)

	Deliveries (sf)											Through 1Q	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009	2009	2010
Pinellas Trail Area	0	6,000	5,000	0	0	0	0	0	0	22,407	3,341	0	0
Pinellas County	0	130,927	70,355	10,427	327,924	0	242,394	211,455	33,055	101,344	112,788	12,320	0

	End of Year Direct Vacancy Rate											Through 1Q	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009	2009	2010
Pinellas Trail Area	8.29%	9.14%	9.65%	8.25%	10.83%	11.88%	8.14%	8.93%	13.90%	15.34%	10.44%	14.27%	15.62%
Pinellas County	7.57%	8.46%	7.65%	7.17%	8.29%	8.42%	8.25%	9.77%	10.89%	13.52%	9.00%	11.82%	13.94%

	End of Year Direct Full Service Rent											Through 1Q	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009	2009	2010
Pinellas Trail Area	$14.54 /sf	$14.93 /sf	$14.86 /sf	$16.19 /sf	$15.75 /sf	$16.27 /sf	$17.16 /sf	$18.59 /sf	$18.87 /sf	$17.68 /sf	$16.48 /sf	$18.42 /sf	$17.42 /sf
Pinellas County	$15.79 /sf	$15.90 /sf	$15.82 /sf	$15.86 /sf	$16.86 /sf	$17.34 /sf	$19.78 /sf	$19.83 /sf	$19.77 /sf	$18.14 /sf	$17.51 /sf	$19.43 /sf	$17.91 /sf

1/ Rentable Building Area
2/ Does not include Sublet Vacancy
Source: CoStar Property; AECOM, May 2010.

Appendix Table 36: Summary of Industrial Market Statistics: Pinellas Trail and Pinellas County, FL

Submarket / County	Summary Data - 1Q 2010: Number of Buildings	Total RBA (sf) /1	Share of County	Direct Vacancy Rate /2	Total Vacancy Incl. Sublet	Direct Average Rate (per sf, NNN)	RBA Under Const (sf)
Pinellas Trail Area	315	5,050,958	7.8%	8.0%	8.4%	$3.93	0
Pinellas County	3,438	64,745,634	100.0%	8.5%	8.8%	$5.30	0

	Rentable Building Area (sf)										Through 1Q	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2009	2010
Pinellas Trail Area	4,965,681	4,972,681	5,002,731	5,011,955	5,029,505	5,029,505	5,029,505	5,057,205	5,050,958	5,050,958	5,050,958	5,050,958
Pinellas County	59,200,716	60,573,216	61,054,014	61,863,730	62,270,958	62,969,562	63,517,966	64,351,384	64,709,686	64,745,634	64,729,134	64,745,634

	Direct Net Absorption, Annual Totals (sf)											Through 1Q	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009	2009	2010
Pinellas Trail Area	49,765	141,951	(29,913)	(3,856)	33,289	(63,536)	33,680	8,876	(159,494)	(42,412)	(3,165)	450	(38,171)
Pinellas County	722,725	1,526,018	306,196	71,982	299,363	1,024,339	1,087,304	308,587	(827,082)	(1,111,668)	340,776	(310,124)	(593,933)

	Deliveries (sf)											Through 1Q	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009	2009	2010
Pinellas Trail Area	0	0	0	0	0	0	0	6,800	0	0	680	0	0
Pinellas County	219,397	273,926	46,238	63,400	65,000	0	0	6,800	61,000	16,500	75,226	19,448	0

	End of Year Direct Vacancy Rate											Through 1Q	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2000-2009	2009	2010
Pinellas Trail Area	3.99%	1.27%	2.46%	2.72%	2.39%	3.66%	2.99%	3.34%	6.38%	7.22%	3.64%	6.37%	7.98%
Pinellas County	3.50%	3.16%	3.43%	4.57%	4.72%	4.15%	3.26%	4.04%	5.85%	7.62%	4.43%	6.35%	8.53%

	End of Year Direct Triple Net (NNN) Rent											Through 1Q	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual 2006-2009 /3	2009	2010
Pinellas Trail Area	$4.28 /sf	$6.88 /sf	$3.72 /sf	$3.72 /sf	$5.50 /sf	$6.13 /sf	$6.60 /sf	$3.67 /sf	$4.69 /sf	$3.59 /sf	$4.64 /sf	$4.83 /sf	$3.93 /sf
Pinellas County	$4.83 /sf	$5.25 /sf	$5.29 /sf	$5.38 /sf	$5.11 /sf	$5.53 /sf	$6.12 /sf	$6.35 /sf	$6.06 /sf	$5.46 /sf	$6.00 /sf	$5.81 /sf	$5.30 /sf

1/ Rentable Building Area
2/ Does not include Sublet Vacancy

Appendix Table 36: Summary of Retail Market Statistics: Pinellas Trail and Pinellas County, FL

Submarket / County	Number of Buildings	Total RBA (sf) /1	Share of County	Direct Vacancy Rate /2	Total Vacancy Incl. Sublet	Direct Average Rate (per sf, NNN)	RBA Under Const (sf)
	Summary Data - 1Q 2010						
Pinellas Trail Area	568	7,873,044	14.8%	8.4%	9.3%	$16.32	155,250
Pinellas County	4,248	53,169,720	100.0%	7.4%	8.3%	$14.28	4,600

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Through 1Q 2009	Through 1Q 2010
	Rentable Building Area (sf)											
Pinellas Trail Area	7,218,661	7,304,506	7,369,905	7,394,996	7,431,669	7,418,293	7,449,508	7,625,241	7,740,258	7,873,044	7,747,458	7,873,044
Pinellas County	46,236,445	47,228,840	47,656,941	49,441,302	49,727,765	51,269,350	51,784,729	52,288,054	52,823,379	53,158,320	52,868,457	53,169,720

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual (2000-2009)	Through 1Q 2009	Through 1Q 2010
	Direct Net Absorption, Annual Totals												
Pinellas Trail Area	92,533	65,508	48,799	(80,982)	(8,234)	(184,781)	61,602	104,651	42,528	(35,151)	10,647	(101,036)	(601)
Pinellas County	685,774	867,447	230,917	1,069,626	(358,146)	1,230,685	313,980	383,493	(238,121)	(296,026)	388,963	(232,290)	(23,399)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual (2000-2009)	Through 1Q 2009	Through 1Q 2010
	Deliveries												
Pinellas Trail Area	0	0	0	0	0	0	0	0	11,000	67,354	7,835	9,312	0
Pinellas County	0	0	0	774,751	69,572	641,280	151,051	28,725	38,813	77,334	178,153	46,851	11,400

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual (2000-2009)	Through 1Q 2009	Through 1Q 2010
	End of Year Direct Vacancy Rate												
Pinellas Trail Area	0.2%	0.5%	0.7%	2.2%	2.8%	5.1%	4.6%	5.5%	6.3%	8.4%	3.6%	7.7%	8.4%
Pinellas County	0.4%	0.6%	1.1%	2.5%	3.7%	4.2%	4.6%	4.8%	6.2%	7.3%	3.5%	6.7%	7.4%

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg Annual (2004-2009) /3	Through 1Q 2009	Through 1Q 2010
	End of Year Triple Net (NNN) Direct Rent												
Pinellas Trail Area	n/a	n/a	n/a	$14.46 /sf	$12.02 /sf	$12.49 /sf	$14.50 /sf	$16.87 /sf	$19.56 /sf	$16.96 /sf	$15.40 /sf	$19.68 /sf	$16.32 /sf
Pinellas County	$5.82 /sf	$10.22 /sf	$15.54 /sf	$11.04 /sf	$12.36 /sf	$12.83 /sf	$16.40 /sf	$16.04 /sf	$16.90 /sf	$14.51 /sf	$14.84 /sf	$16.97 /sf	$14.28 /sf

1/ Rentable Building Area

2/ Does not include Sublet Vacancy

3/ Because rental rate information is not available for all years for all submarkets (a rate of "$0.00 " indicates no data available), the average annual represents only the years 2004 to 2009.

Source: CoStar Property; AECOM, May 2010.

Benefits Analysis Research

The following tables were produced as research for benefits estimation and analysis.

Appendix Table 37: Ludlam Trail Study Area Incremental Property Values with Trail, by Use and Jurisdiction

Miami	**2009**	**2035**		**2035 Net New**		**Annualized**	
	Existing	*0.32%*	*0.73%*	*0.32%*	*0.73%*	*0.32%*	*0.73%*
SF Residential	$187,095,375	$193,169,380	$201,210,848	$6,074,005	$14,115,473	$242,960	$564,619
MF Residential	$27,668,179	$28,566,420	$29,755,614	$898,241	$2,087,435	$35,930	$83,497
Mobile Home	$0	$0	$0	$0	$0	$0	$0
Retail	$47,390,238	$48,928,750	$50,965,610	$1,538,512	$3,575,372	$61,540	$143,015
Office	$4,084,951	$4,217,568	$4,393,141	$132,617	$308,190	$5,305	$12,328
Industrial	$19,577,403	$20,212,979	$21,054,427	$635,576	$1,477,024	$25,423	$59,081
Other Taxable	$20,322,197	$20,981,952	$21,855,412	$659,755	$1,533,215	$26,390	$61,329
Land	$3,530,767	$3,645,392	$3,797,147	$114,625	$266,380	$4,585	$10,655

Source: Miami-Dade County GIS; AECOM, 2010.

Pinecrest	**2009**	**2035**		**2035 Net New**		**Annualized**	
	Existing	*0.32%*	*0.73%*	*0.32%*	*0.73%*	*0.32%*	*0.73%*
SF Residential	$16,342,983	$16,873,554	$17,575,985	$530,571	$1,233,002	$21,223	$49,320
MF Residential	$45,950,065	$47,441,823	$49,416,783	$1,491,758	$3,466,718	$59,670	$138,669
Mobile Home	$0	$0	$0	$0	$0	$0	$0
Retail	$24,103,526	$24,886,041	$25,922,025	$782,515	$1,818,499	$31,301	$72,740
Office	$46,606,147	$48,119,204	$50,122,363	$1,513,057	$3,516,216	$60,522	$140,649
Industrial	$3,146,969	$3,249,135	$3,384,393	$102,166	$237,424	$4,087	$9,497
Other Taxable	$5,200,764	$5,369,606	$5,593,137	$168,842	$392,373	$6,754	$15,695
Land	$1,452,776	$1,499,940	$1,562,381	$47,164	$109,605	$1,887	$4,384

Source: Miami-Dade County GIS; AECOM, 2010.

S. Miami	**2009**	**2035**		**2035 Net New**		**Annualized**	
	Existing	*0.32%*	*0.73%*	*0.32%*	*0.73%*	*0.32%*	*0.73%*
SF Residential	$184,563,958	$190,555,782	$198,488,447	$5,991,824	$13,924,489	$239,673	$556,980
MF Residential	$21,601,967	$22,303,270	$23,231,735	$701,303	$1,629,768	$28,052	$65,191
Mobile Home	$0	$0	$0	$0	$0	$0	$0
Retail	$5,091,198	$5,256,482	$5,475,305	$165,284	$384,107	$6,611	$15,364
Office	$2,469,992	$2,550,180	$2,656,341	$80,188	$186,349	$3,208	$7,454
Industrial	$0	$0	$0	$0	$0	$0	$0
Other Taxable	$582,941	$601,866	$626,921	$18,925	$43,980	$757	$1,759
Land	$2,056,825	$2,123,599	$2,212,003	$66,774	$155,178	$2,671	$6,207

Source: Miami-Dade County GIS; AECOM, 2010.

West Miami	**2009**	**2035**		**2035 Net New**		**Annualized**	
	Existing	*0.32%*	*0.73%*	*0.32%*	*0.73%*	*0.32%*	*0.73%*
SF Residential	$52,030,017	$53,719,159	$55,955,439	$1,689,142	$3,925,422	$67,566	$157,017
MF Residential	$44,377,871	$45,818,588	$47,725,974	$1,440,717	$3,348,103	$57,629	$133,924
Mobile Home	$0	$0	$0	$0	$0	$0	$0
Retail	$14,639,438	$15,114,704	$15,743,915	$475,266	$1,104,477	$19,011	$44,179
Office	$8,282,289	$8,551,171	$8,907,149	$268,882	$624,860	$10,755	$24,994
Industrial	$1,665,486	$1,719,556	$1,791,139	$54,070	$125,653	$2,163	$5,026
Other Taxable	$18,255,344	$18,847,999	$19,632,625	$592,655	$1,377,281	$23,706	$55,091
Land	$2,524,821	$2,606,789	$2,715,307	$81,968	$190,486	$3,279	$7,619

Source: Miami-Dade County GIS; AECOM, 2010.

Unincorporated	**2009**	**2035**		**2035 Net New**		**Annualized**	
	Existing	*0.32%*	*0.73%*	*0.32%*	*0.73%*	*0.32%*	*0.73%*
SF Residential	$692,282,739	$714,757,528	$744,512,241	$22,474,789	$52,229,502	$898,992	$2,089,180
MF Residential	$321,049,518	$331,472,312	$345,271,206	$10,422,794	$24,221,688	$416,912	$968,868
Mobile Home	$1,416,929	$1,462,929	$1,523,830	$46,000	$106,901	$1,840	$4,276
Retail	$236,382,150	$244,056,238	$254,216,080	$7,674,088	$17,833,930	$306,964	$713,357
Office	$56,343,538	$58,172,717	$60,594,395	$1,829,179	$4,250,857	$73,167	$170,034
Industrial	$156,158,944	$161,228,606	$167,940,408	$5,069,662	$11,781,464	$202,786	$471,259
Other Taxable	$1,473,898,759	$1,521,748,520	$1,585,097,543	$47,849,761	$111,198,784	$1,913,990	$4,447,951
Land	$145,456,933	$150,179,157	$156,430,980	$4,722,224	$10,974,047	$188,889	$438,962

Source: Miami-Dade County GIS; AECOM, 2010.

Appendix Table 38: City of Miami Incremental Property Tax after Development of Ludlam Trail

Miami	0.32%						0.73%					
25-Year Total	City/ Unincorp.	School	Regional	Countywide	Other	Total	City/ Unincorp.	School	Regional	Countywide	Other	Total
SF Residential	$50,618	$48,562	$4,000	$33,438	$3,037	**$139,654**	$117,631	$112,853	$9,295	$77,707	$7,058	**$324,544**
MF Residential	$7,485	$7,181	$591	$4,945	$449	**$20,652**	$17,396	$16,689	$1,375	$11,492	$1,044	**$47,995**
Mobile Home	$0	$0	$0	$0	$0	**$0**	$0	$0	$0	$0	$0	**$0**
Retail	$12,821	$12,300	$1,013	$8,470	$769	**$35,374**	$29,795	$28,585	$2,354	$19,683	$1,788	**$82,205**
Office	$1,105	$1,060	$87	$730	$66	**$3,049**	$2,568	$2,464	$203	$1,697	$154	**$7,086**
Industrial	$5,297	$5,081	$419	$3,499	$318	**$14,613**	$12,309	$11,809	$973	$8,131	$739	**$33,960**
Other Taxable	$5,498	$5,275	$434	$3,632	$330	**$15,169**	$12,777	$12,258	$1,010	$8,441	$767	**$35,252**
Land	$955	$916	$75	$631	$57	**$2,635**	$2,220	$2,130	$175	$1,466	$133	**$6,125**
Total	**$83,779**	**$80,376**	**$6,620**	**$55,345**	**$5,027**	**$231,147**	**$194,696**	**$186,788**	**$15,385**	**$128,616**	**$11,682**	**$537,166**

	0.32%						0.73%					
Annualized	City/ Unincorp.	School	Regional	Countywide	Other	Total	City/ Unincorp.	School	Regional	Countywide	Other	Total
SF Residential	$2,025	$1,942	$160	$1,338	$121	**$5,586**	$4,705	$4,514	$372	$3,108	$282	**$12,982**
MF Residential	$299	$287	$24	$198	$18	**$826**	$696	$668	$55	$460	$42	**$1,920**
Mobile Home	$0	$0	$0	$0	$0	**$0**	$0	$0	$0	$0	$0	**$0**
Retail	$513	$492	$41	$339	$31	**$1,415**	$1,192	$1,143	$94	$787	$72	**$3,288**
Office	$44	$42	$3	$29	$3	**$122**	$103	$99	$8	$68	$6	**$283**
Industrial	$212	$203	$17	$140	$13	**$585**	$492	$472	$39	$325	$30	**$1,358**
Other Taxable	$220	$211	$17	$145	$13	**$607**	$511	$490	$40	$338	$31	**$1,410**
Land	$38	$37	$3	$25	$2	**$105**	$89	$85	$7	$59	$5	**$245**
Total	**$3,351**	**$3,215**	**$265**	**$2,214**	**$201**	**$9,246**	**$7,788**	**$7,472**	**$615**	**$5,145**	**$467**	**$21,487**

Source: Miami-Dade County GIS; AECOM, 2010.

Appendix Table 39: City of West Miami Incremental Property Tax after Development of Ludlam Trail

West Miami	0.32%						0.73%					
25-Year Total	City/ Unincorp.	School	Regional	Countywide	Other	Total	City/ Unincorp.	School	Regional	Countywide	Other	Total
SF Residential	$11,381	$13,505	$1,112	$13,061	$845	**$39,903**	$26,448	$31,384	$2,585	$30,352	$1,963	**$92,731**
MF Residential	$9,707	$11,519	$949	$11,140	$720	**$34,034**	$22,558	$26,768	$2,205	$25,888	$1,674	**$79,093**
Mobile Home	$0	$0	$0	$0	$0	**$0**	$0	$0	$0	$0	$0	**$0**
Retail	$3,202	$3,800	$313	$3,675	$238	**$11,227**	$7,442	$8,830	$727	$8,540	$552	**$26,091**
Office	$1,812	$2,150	$177	$2,079	$134	**$6,352**	$4,210	$4,996	$411	$4,832	$312	**$14,761**
Industrial	$364	$432	$36	$418	$27	**$1,277**	$847	$1,005	$83	$972	$63	**$2,968**
Other Taxable	$3,993	$4,738	$390	$4,583	$296	**$14,000**	$9,280	$11,011	$907	$10,649	$689	**$32,536**
Land	$552	$655	$54	$634	$41	**$1,936**	$1,283	$1,523	$125	$1,473	$95	**$4,500**
Total	**$31,011**	**$36,799**	**$3,031**	**$35,589**	**$2,301**	**$108,731**	**$72,067**	**$85,517**	**$7,044**	**$82,706**	**$5,348**	**$252,681**

	0.32%						0.73%					
Annualized	City/ Unincorp.	School	Regional	Countywide	Other	Total	City/ Unincorp.	School	Regional	Countywide	Other	Total
SF Residential	$455	$540	$44	$522	$34	**$1,596**	$1,058	$1,255	$103	$1,214	$79	**$3,709**
MF Residential	$388	$461	$38	$446	$29	**$1,361**	$902	$1,071	$88	$1,036	$67	**$3,164**
Mobile Home	$0	$0	$0	$0	$0	**$0**	$0	$0	$0	$0	$0	**$0**
Retail	$128	$152	$13	$147	$10	**$449**	$298	$353	$29	$342	$22	**$1,044**
Office	$72	$86	$7	$83	$5	**$254**	$168	$200	$16	$193	$12	**$590**
Industrial	$15	$17	$1	$17	$1	**$51**	$34	$40	$3	$39	$3	**$119**
Other Taxable	$160	$190	$16	$183	$12	**$560**	$371	$440	$36	$426	$28	**$1,301**
Land	$22	$26	$2	$25	$2	**$77**	$51	$61	$5	$59	$4	**$180**
Total	**$1,240**	**$1,472**	**$121**	**$1,424**	**$92**	**$4,349**	**$2,883**	**$3,421**	**$282**	**$3,308**	**$214**	**$10,107**

Source: Miami-Dade County GIS; AECOM, 2010.

Appendix Table 40: Town of Pinecrest Incremental Property Tax after Development of Ludlam Trail

Pinecrest	0.32%						0.73%					
25-Year Total	City/ Unincorp.	School	Regional	Countywide	Other	Total	City/ Unincorp.	School	Regional	Countywide	Other	Total
SF Residential	$1,116	$4,242	$349	$4,102	$265	**$10,075**	$2,594	$9,858	$812	$9,534	$617	**$23,414**
MF Residential	$3,139	$11,927	$982	$11,535	$746	**$28,328**	$7,294	$27,716	$2,283	$26,805	$1,733	**$65,832**
Mobile Home	$0	$0	$0	$0	$0	**$0**	$0	$0	$0	$0	$0	**$0**
Retail	$1,646	$6,256	$515	$6,051	$391	**$14,860**	$3,826	$14,539	$1,197	$14,061	$909	**$34,533**
Office	$3,183	$12,097	$996	$11,699	$757	**$28,733**	$7,398	$28,112	$2,315	$27,188	$1,758	**$66,772**
Industrial	$215	$817	$67	$790	$51	**$1,940**	$500	$1,898	$156	$1,836	$119	**$4,509**
Other Taxable	$355	$1,350	$111	$1,306	$84	**$3,206**	$826	$3,137	$258	$3,034	$196	**$7,451**
Land	$99	$377	$31	$365	$24	**$896**	$231	$876	$72	$847	$55	**$2,081**
Total	**$9,754**	**$37,065**	**$3,053**	**$35,847**	**$2,318**	$88,038	**$22,668**	**$86,137**	**$7,095**	**$83,305**	**$5,387**	$204,592
	0.32%						0.73%					
Annualized	City/ Unincorp.	School	Regional	Countywide	Other	Total	City/ Unincorp.	School	Regional	Countywide	Other	Total
SF Residential	$45	$170	$14	$164	$11	**$403**	$104	$394	$32	$381	$25	**$937**
MF Residential	$126	$477	$39	$461	$30	**$1,133**	$292	$1,109	$91	$1,072	$69	**$2,633**
Mobile Home	$0	$0	$0	$0	$0	**$0**	$0	$0	$0	$0	$0	**$0**
Retail	$66	$250	$21	$242	$16	**$594**	$153	$582	$48	$562	$36	**$1,381**
Office	$127	$484	$40	$468	$30	**$1,149**	$296	$1,124	$93	$1,088	$70	**$2,671**
Industrial	$9	$33	$3	$32	$2	**$78**	$20	$76	$6	$73	$5	**$180**
Other Taxable	$14	$54	$4	$52	$3	**$128**	$33	$125	$10	$121	$8	**$298**
Land	$4	$15	$1	$15	$1	**$36**	$9	$35	$3	$34	$2	**$83**
Total	**$390**	**$1,483**	**$122**	**$1,434**	**$93**	$3,522	**$907**	**$3,445**	**$284**	**$3,332**	**$215**	$8,184

Source: Miami-Dade County GIS; AECOM, 2010.

Appendix Table 41: City of South Miami Incremental Property Tax after Development of Ludlam Trail

South Miami	0.32%						0.73%					
25-Year Total	City/ Unincorp.	School	Regional	Countywide	Other	Total	City/ Unincorp.	School	Regional	Countywide	Other	Total
SF Residential	$29,675	$47,905	$3,946	$46,330	$2,996	**$130,851**	$68,962	$111,326	$9,169	$107,667	$6,962	**$304,087**
MF Residential	$3,473	$5,607	$462	$5,423	$351	**$15,315**	$8,072	$13,030	$1,073	$12,602	$815	**$35,591**
Mobile Home	$0	$0	$0	$0	$0	**$0**	$0	$0	$0	$0	$0	**$0**
Retail	$819	$1,321	$109	$1,278	$83	**$3,610**	$1,902	$3,071	$253	$2,970	$192	**$8,388**
Office	$397	$641	$53	$620	$40	**$1,751**	$923	$1,490	$123	$1,441	$93	**$4,070**
Industrial	$0	$0	$0	$0	$0	**$0**	$0	$0	$0	$0	$0	**$0**
Other Taxable	$94	$151	$12	$146	$9	**$413**	$218	$352	$29	$340	$22	**$960**
Land	$331	$534	$44	$516	$33	**$1,458**	$769	$1,241	$102	$1,200	$78	**$3,389**
Total	**$34,789**	**$56,159**	**$4,625**	**$54,313**	**$3,512**	$153,399	**$80,846**	**$130,509**	**$10,749**	**$126,219**	**$8,162**	$356,486
	0.32%						0.73%					
Annualized	City/ Unincorp.	School	Regional	Countywide	Other	Total	City/ Unincorp.	School	Regional	Countywide	Other	Total
SF Residential	$1,187	$1,916	$158	$1,853	$120	**$5,234**	$2,758	$4,453	$367	$4,307	$278	**$12,163**
MF Residential	$139	$224	$18	$217	$14	**$613**	$323	$521	$43	$504	$33	**$1,424**
Mobile Home	$0	$0	$0	$0	$0	**$0**	$0	$0	$0	$0	$0	**$0**
Retail	$33	$53	$4	$51	$3	**$144**	$76	$123	$10	$119	$8	**$336**
Office	$16	$26	$2	$25	$2	**$70**	$37	$60	$5	$58	$4	**$163**
Industrial	$0	$0	$0	$0	$0	**$0**	$0	$0	$0	$0	$0	**$0**
Other Taxable	$4	$6	$0	$6	$0	**$17**	$9	$14	$1	$14	$1	**$38**
Land	$13	$21	$2	$21	$1	**$58**	$31	$50	$4	$48	$3	**$136**
Total	**$1,392**	**$2,246**	**$185**	**$2,173**	**$140**	$6,136	**$3,234**	**$5,220**	**$430**	**$5,049**	**$326**	$14,259

Source: Miami-Dade County GIS; AECOM, 2010.

Appendix Table 41: Unincorporated Miami-Dade County Incremental Property Tax after Development of Ludlam Trail

Unincorporated Miami-Dade County	0.32%						0.73%					
25-Year Total	City/ Unincorp.	School	Regional	Countywide	Other	Total	City/ Unincorp.	School	Regional	Countywide	Other	Total
SF Residential	$45,136	$179,686	$14,800	$173,780	$11,237	**$424,639**	$104,893	$417,575	$34,393	$403,849	$26,115	**$986,824**
MF Residential	$20,932	$83,330	$6,863	$80,591	$5,211	**$196,928**	$48,644	$193,652	$15,950	$187,287	$12,111	**$457,645**
Mobile Home	$92	$368	$30	$356	$23	**$869**	$215	$855	$70	$827	$53	**$2,020**
Retail	$15,412	$61,354	$5,053	$59,338	$3,837	**$144,994**	$35,816	$142,582	$11,744	$137,896	$8,917	**$336,954**
Office	$3,674	$14,624	$1,205	$14,144	$915	**$34,561**	$8,537	$33,986	$2,799	$32,868	$2,125	**$80,316**
Industrial	$10,181	$40,532	$3,338	$39,200	$2,535	**$95,786**	$23,661	$94,193	$7,758	$91,097	$5,891	**$222,599**
Other Taxable	$96,097	$382,559	$31,509	$369,984	$23,925	**$904,073**	$223,321	$889,034	$73,224	$859,811	$55,599	**$2,100,990**
Land	$9,484	$37,754	$3,110	$36,513	$2,361	**$89,222**	$22,039	$87,738	$7,226	$84,854	$5,487	**$207,344**
Total	**$201,008**	**$800,208**	**$65,908**	**$773,904**	**$50,044**	**$1,891,072**	**$467,125**	**$1,859,614**	**$153,165**	**$1,798,488**	**$116,299**	**$4,394,691**

	0.32%						0.73%					
Annualized	City/ Unincorp.	School	Regional	Countywide	Other	Total	City/ Unincorp.	School	Regional	Countywide	Other	Total
SF Residential	$1,805	$7,187	$592	$6,951	$449	**$16,986**	$4,196	$16,703	$1,376	$16,154	$1,045	**$39,473**
MF Residential	$837	$3,333	$275	$3,224	$208	**$7,877**	$1,946	$7,746	$638	$7,491	$484	**$18,306**
Mobile Home	$4	$15	$1	$14	$1	**$35**	$9	$34	$3	$33	$2	**$81**
Retail	$616	$2,454	$202	$2,374	$153	**$5,800**	$1,433	$5,703	$470	$5,516	$357	**$13,478**
Office	$147	$585	$48	$566	$37	**$1,382**	$341	$1,359	$112	$1,315	$85	**$3,213**
Industrial	$407	$1,621	$134	$1,568	$101	**$3,831**	$946	$3,768	$310	$3,644	$236	**$8,904**
Other Taxable	$3,844	$15,302	$1,260	$14,799	$957	**$36,163**	$8,933	$35,561	$2,929	$34,392	$2,224	**$84,040**
Land	$379	$1,510	$124	$1,461	$94	**$3,569**	$882	$3,510	$289	$3,394	$219	**$8,294**
Total	**$8,040**	**$32,008**	**$2,636**	**$30,956**	**$2,002**	**$75,643**	**$18,685**	**$74,385**	**$6,127**	**$71,940**	**$4,652**	**$175,788**

Source: Miami-Dade County GIS; AECOM, 2010.

Source: Miami-Dade County GIS; AECOM, 2010.

Appendix F REPORT APPROVAL FORM

This benefits analysis for shared-used paths has been reviewed and accepted as presented.

Name/ Title	Department/ Division	Signature	Date
Jack Kardys *Director*	Park and Recreation		
W. Howard Gregg *Deputy Director*	Park and Recreation		
Maria Nardi *Chief*	Park and Recreation Planning and Research		
Joe Webb, ASLA, RLA *Section Supervisor*	Park and Recreation Park Systems Planning		
Mark Heinicke, CPRP, CLARB *Park Planner III*	Park and Recreation Park Systems Planning		

GENERAL LIMITING CONDITIONS

Every reasonable effort has been made to ensure that the data contained in this report is accurate as of the date of this study; however, factors exist that are outside the control of AECOM and that may affect the estimates and/or projections noted herein. This study is based on estimates and other information developed by AECOM from its independent research effort, general knowledge of the industry, and information provided by and consultations with the Miami-Dade County Park and Recreation Department and representatives. No responsibility is assumed for inaccuracies in reporting by the Miami-Dade County Park and Recreation Department, the it's agent and representatives, or any other data source used in preparing or presenting this study.

This report is based on information that was current as of June 2010 and AECOM has not undertaken any update of its research effort since such date. Because future events and circumstances, many of which are not known as of the date of this study, may affect the estimates contained therein, no warranty or representation is made by AECOM that any of the projected values or results contained in this study will actually be achieved.

No abstracting, excerpting or summarization of this study may be made without first obtaining the prior written consent of Miami-Dade County. Further, AECOM has served solely in the capacity of consultant and has not rendered any expert opinions. This report is not to be used in conjunction with any public or private offering of securities, debt, equity, or other similar purpose where it may be relied upon to any degree by any person other than the Miami-Dade County, nor is any third party entitled to rely upon this report, without first obtaining the prior written consent of Miami-Dade County.

This study may not be used for purposes other than that for which it is prepared or for which prior written consent has first been obtained from Miami-Dade. Any changes made to the study, or any use of the study not specifically prescribed under agreement between the parties or otherwise expressly approved by Miami-Dade County, shall be at the sole risk of the party making such changes or adopting such use.

MIAMI-DADE COUNTY TRAIL BENEFITS STUDY

Ludlam Trail Case Study

MIAMI-DADE COUNTY

PARK AND RECREATION DEPARTMENT

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