Miami-Dade County Compendium of Transportation

# FACTS & TRENDS REPORT

**Global**  **National**  **Statewide**  **Regional**

MIAMI-DADE
*Metropolitan Planning Organization*

*July 2014*

MIAMI-DADE
METROPOLITAN
PLANNING
ORGANIZATION

JACOBS

# I. TABLE OF CONTENTS

# I. LIST OF EXHIBITS

# I. INTRODUCTION

Miami-Dade County is at the nexus of both domestic and international economic activity and it has significant influence in the metropolitan region that bears its name, the entire state of Florida, the United States as a whole, and most of the Western Hemisphere. Indeed, its well-known depiction as the "Gateway to the Americas" describes Miami-Dade's geographic position and its key commercial and diverse cultural contributions in trade, tourism, music, languages, food, and financial services just to name a few. Miami-Dade County's fortuitous location, and the connections that it supports, allows Miami-Dade to remain a uniquely diverse and economically significant mega hub with strong indications for further growth into the 21st Century and beyond.

To say Miami-Dade's economic impact is significant is likely an understatement. The Gross Domestic Product (GDP) for the Miami-Dade metropolitan area approached $275 billion in 2012. During that same year, the GDP for the entire state of Florida was just over $775 billion ranking 4th among all states in the nation for total GDP.[1]  Miami-Dade contributes over one-third of the GDP of the state of Florida which is one of the largest economies in the United States.

One important thing to keep in mind is that all of this is made possible by transportation. Economic and social prosperity for any urbanized area depends on the efficient movement of goods and people from place to place. As such, the infrastructure and moving parts of the transportation network in Miami-Dade can be thought of as the backbone of this vital and thriving community. This compendium examines Miami-Dade's transportation network as it interacts with, compares to, and contributes to other places. Because Miami-Dade has such a far-reaching influence, it is necessary to consider its impacts at different geographic perspectives or scale of comparison to truly understand the broad range of connections associated with its transportation system. The data collected for this compendium will include facts and trends presented at the global scale, the national scale, the statewide scale, and the regional scale to effectively show Miami-Dade's contribution.

[1] U.S. Bureau of Economic Analysis (Link)

## II. METHODOLOGY AND DATA IDENTIFICATION

Information for the Miami-Dade County Compendium of Transportation Facts and Trends was compiled from a variety of sources ranging from the U.S. Census Bureau to the Center for Transit Oriented Development. No data collection was carried out for this effort as this compendium is a compilation of the most recent existing data available from each relevant agency or organization.

Data categories for the facts relating to each scale were selected based on which data, rankings, trends, and statistics were most logical and meaningful for comparison. Some data categories apply to multiple visualization scenarios, while others are only described at one scale. For example, where international passengers to Miami International Airport come from is important at the global scale whereas fixed route transit service is more of a local issue. At the same time, we can compare performance and size of the Miami-Dade Transit service to other parts of the U.S. and the state of Florida. Similarly, PortMiami's economic and cargo connectivity with other countries and major cities in the U.S. takes place on a large scale and is best analyzed and visualized at the global or national level. PortMiami also plays a role as an employer of area residents which fits appropriately at the local scale. Data was generally considered applicable to a specific scale if either the movement of people or goods takes place at that scale, or if Miami-Dade is being compared to other similar areas at the same scale.

Decisions on the types of data and data sources for analysis and visualization at these different scales were informed by the members of the Study Advisory Committee (SAC), which included representatives from Miami-Dade Transit, PortMiami, Miami-Dade Aviation Department, Florida Department of Transportation, Miami-Dade Public Works and Waste Management, and Miami-Dade Regulatory and Economic Resources. The SAC provided input and suggestions on which transportation elements were most illustrative of and important to Miami-Dade County's economy.

## III. VISUALIZATION SCENARIOS

Beginning at the global perspective and becoming more localized with each successive level, the following four visualization scenarios provide a logical way to organize and present the information.
- Global Scale
- National Scale
- Statewide Scale
- Regional Scale

# A. MIAMI-DADE AT THE GLOBAL SCALE

How does Miami interact with and compare to the rest of the world?

Two major economic engines call Miami-Dade home - in Miami International Airport (MIA) and PortMiami. The trade and tourism these two ports contribute are significant against any standard and yet the population of 2.6 million residents in the County ranks 50th compared to cities across the globe.[2]

2 United Nations World Urbanization Prospects Report, 2011 Revision (Link)

## 1. MOVING PEOPLE

MIA has over 80 airlines serving nearly 150 destinations around the world.[3] In 2012 alone, 19.4 million international passengers passed through the gates at MIA. This is over 7.5 times the entire population of Miami-Dade County. Compared to other worldwide airports in 2012, MIA ranked 28th in terms of total passengers and 26th in terms of international passengers.[4]  Exhibit 1 shows the flow of MIA's international air traffic in terms of the number of passengers by country and region.

3 Miami-Dade Aviation Department, 2013 – Airport Statistics (Link)
4  Miami-Dade Aviation Department, 2013 – Webpage (Link)



| ① South America | 6,049,761 | |
|---|---|---|
| 1 | Brazil | 1,665,491 |
| 3 | Colombia | 1,181,476 |
| 6 | Venezuela | 957,893 |
| 9 | Argentina | 654,187 |
| 11 | Peru | 631,546 |
| 14 | Ecuador | 580,567 |
| 20 | Chile | 378,601 |

| ② The Caribbean | 4,431,063 | |
|---|---|---|
| 4 | Dominican Republic | 1,006,188 |
| 8 | Cuba | 674,295 |
| 12 | Bahamas | 594,045 |
| 13 | Jamaica | 584,571 |
| 15 | Haiti | 562,026 |
| 23 | Curacao | 340,158 |
| 24 | Trinidad & Tobago | 338,055 |
| 25 | Cayman Islands | 331,725 |

| ③ Europe | 2,448,913 | |
|---|---|---|
| 5 | United Kingdom | 997,518 |
| 17 | Germany | 517,543 |
| 18 | Spain | 503,397 |
| 19 | France | 430,455 |

| ④ North America | 1,971,670 | |
|---|---|---|
| 2 | Mexico | 1,205,667 |
| 7 | Canada | 766,003 |

| ⑤ Central America | 1,889,785 | |
|---|---|---|
| 10 | Panama | 647,356 |
| 16 | Costa Rica | 541,391 |
| 21 | Nicaragua | 357,131 |
| 22 | Honduras | 343,907 |

**Exhibit 1: Miami International Airport's Total International Passengers in 2012**
Source: Miami-Dade Aviation Department – Miami International Airport: Passenger Hub, 2013-2014 (Link)

Complementing MIA is PortMiami's Cruise Capital of the World which is the most significant cruise ship hub on the planet. In 2012, over 4 million cruise passengers visited the *Cruise Capital of the World*.[5]  Indeed, many of these cruise passengers traveled by air to PortMiami to embark on their dream vacation. Visitors to PortMiami spent over $600 million in Miami-Dade during their transfer to their cruise.[6]

5 Miami-Dade County, 2013 – PortMiami Cruise Facts (Link)
6 Cruise Market Watch – 2013 Top 10 Ports (Link)

To understand just how significant PortMiami's cruise port is, let's look at how Miami-Dade's cruise port compares internationally. In 2012, 20.3 million people went on a cruise somewhere in the world. Of this total, 17.2 million, or roughly 85 percent, departed from a port in North America with 4 million of those, or 23 percent, setting sail from PortMiami. Living up to its designation as the *Cruise Capital of the World*.[7]  Miami-Dade tops the North American cruise industry that by far leads the world in cruise activity. Cruise activity for North America's top ports is shown in Exhibit 2.

7 U.S. Department of Transportation, Maritime Administration – 2012 Cruise Summary Tables (Link) and The Florida-Caribbean Cruise Association – Cruise Industry Overview, 2013 (Link)
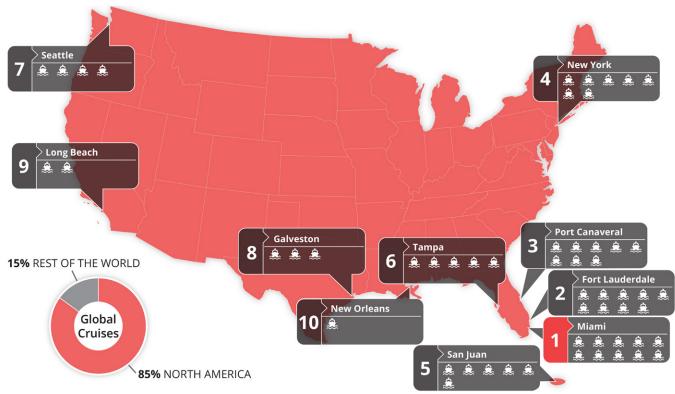


**Exhibit 2: Cruise Volumes by Top North American Ports**
Source: U.S. Department of Transportation, Maritime Administration – 2012 Cruise Summary Tables and The Florida-Caribbean Cruise Association – Cruise Industry Overview, 2013 (Link) and (Link)

SPOTLIGHT ON
## PORTMIAMI POST-PANAMAX ERA

The past few years have been especially busy for PortMiami as it prepares for the increase in trade activity that will result from the expansion of the Panama Canal by 2015. Two new sets of locks still under construction adjacent to the existing Panama Canal will accommodate Post-Panamax vessels that can carry up to 12,000 Twenty-foot Equivalent Units (TEUs). This capacity is considerably larger than the capacity for current vessels carrying up to 5,000 TEUs. These larger ships require a deeper draft of 55 feet. Smaller ships will continue to travel through the three locks that make up the Panama Canal today.

Larger vessels will increase efficiencies for exports as well making U.S. exports more competitive. As the closest major U.S. cargo port to the Canal on the east coast, PortMiami stands to benefit substantially. In fact, the Port expects to double its cargo throughput by the end of this decade. All of PortMiami's improvements will be in place by 2015 when the new Canal is expected to open for operations, ahead of neighboring East Coast ports of call to the north. Infrastructure investments total more than $2 billion with many nearing completion.

- Florida East Coast (FEC) and CSX railways are making improvements to intermodal connections along the Eastern Seaboard to allow for the more efficient transfer of goods using rail facilities.

- The PortMiami Tunnel will open for traffic by the spring of 2014, and will allow traffic going to and from the Port direct access to Miami-Dade's major freeway system without having to use minor roadways in the process. This will increase shipping efficiency and capacity and also reduce congestion in the downtown area where Port traffic is currently directed. The new tunnel will provide a direct connection with I-395 for these vehicles, allowing them to bypass downtown Miami altogether.

- Deeper dredging of the Government Cut Channel in Biscayne Bay from 42 to over 50 feet deep and the addition of four larger overhead cranes to the Port's existing facilities began in December of 2013, and are expected to be completed by the end of 2014.

## 2. MOVING GOODS

Miami-Dade's total international trade value was $96.5 billion for 2012, a growth of 11 percent over the 2011 trade value of $87 billion. In fact, trends show that Miami-Dade's trade value is growing significantly as the post-recession, global economy strengthens. From the final quarter of 2009 to the final quarter of 2012, Miami-Dade's international imports and exports increased by 78 percent and 39 percent, respectively.[8]

8 Miami-Dade County Department of Regulatory & Economic Resources – Analysis of International Trade, Fourth Quarter 2012 and Annual Summary (Link)

MIA is much more than a passenger hub. Its freight activity is truly remarkable ranking 9th in worldwide freight tonnage and is the only U.S. airport in the top 10 listed in Exhibit 3. International freight is a vital part of air trade in Miami-Dade comprising 87 percent of MIA's total annual air freight throughput valued at $69.9 billion.[9] The majority of MIA's air trade tonnage is with Latin American countries as shown in Exhibit 4. Indeed, MIA's top ten tonnage by principal trade partners is from a Latin American country (in the top part of exhibit 4). In terms of value, Brazil makes up the bulk of the trade value ($13 billion or 19 percent) with Switzerland 2nd and China 9th being the only non-Latin American countries in the Top 10.

9 Miami-Dade Aviation Department – Miami International Airport: Cargo Hub, 2013-2014



| | Millions of U.S. Tons | | | Millions of U.S. Tons |
|---|---|---|---|---|
| Hong Kong International (HKG) ① | 4.44 | Frankfurt (FRA) ⑥ | 2.14 |
| Seoul Incheon International (ICN) ② | 2.64 | Paris Charles de Gaulle (CDG) ⑦ | 2.1 |
| Dubai International (DXB) ③ | 2.51 | Singapore Changi (SIN) ⑧ | 1.99 |
| Shanghai Pudong International (PVG) ④ | 2.41 | Miami International (MIA) ⑨ | 1.82 |
| Tokyo Narita (NRT) ⑤ | 2.15 | Taipei Chaiang Kai Shek International (TPE) ⑩ | 1.67 |
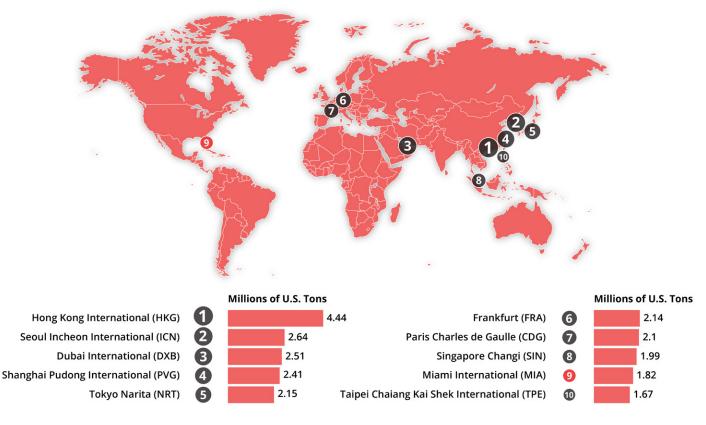
**Exhibit 3: Major World Airports Ranked by International Freight Tonnage in 2012**
Source: Miami-Dade Aviation Department – Miami International Airport: Cargo Hub, 2013-2014 (Link)

## Thousands of US Tons

| Country | % | Value |
|---|---|---|
| Colombia | 22% | 234 |
| Chile | 15% | 160 |
| Brazil | 11% | 124 |
| Peru | 11% | 117 |
| Ecuador | 6% | 60 |
| Venezuela | 4% | 45 |
| Argentina | 4% | 41 |
| Costa Rica | 4% | 39 |
| Guatemala | 2% | 19 |
| Mexico | 1% | 16 |

Map callouts: Mexico 10, Costa Rica 8, Guatemala 9, Venezuela 6, Colombia 1, Ecuador 5, Peru 4, Brazil 3, Chile 2, Argentina 7

Other Countries **20%**

Middle and South American Countries **80%**

*all percentages are a share of total trade

29% Other
19% Brazil
12% Switzerland
11% Colombia
9% Costa Rica
5% Chile
4% Venezuela
3% Peru
3% Argentina
3% China
2% Bolivia

**29%/71%**

### Millions of US Dollars

| Country | Value |
|---|---|
| Brazil | $13,206 |
| Switzerland | $8,602 |
| Colombia | $7,883 |
| Costa Rica | $6,471 |
| Chile | $3,182 |

| Country | Value |
|---|---|
| Venezuela | $2,766 |
| Peru | $2,304 |
| Argentina | $2,142 |
| China | $1,746 |
| Bolivia | $1,505 |

**Exhibit 4: Miami International Airport's Top Trade Partners in 2012 by Total Weight and Value**
Source: Miami-Dade Aviation Department – Facts-At-A-Glance, revised November 2013 (Link)

In 2012, over 8 million tons of cargo passed through PortMiami. This number is widely expected to increase in the future as a result of local infrastructure improvements and the widening of the Panama Canal by 2015. Accordingly, PortMiami hopes to double its cargo throughput by the end of this decade. Similar to the geography of MIA's trade partners, nearly 55 percent of PortMiami's trade is with countries of the Americas or Caribbean region. China remains Miami-Dade's number one trade partner in terms of port tonnage, importing 13 percent and exporting 28 percent of all trade tonnage. China combined with Taiwan and other Asia Pacific countries represent 35 percent of all tonnage trade in 2012. Exhibit 5 shows PortMiami's export and import trade activity by region and country.



| Top Ten Export Countries | Tonnage | Percentage of Total |
|---|---|---|
| China | 534,100 | 12.9% |
| Dominican Republic | 368,635 | 8.9% |
| Honduras | 366,351 | 8.8% |
| Taiwan | 343,833 | 8.3% |
| Panama | 244,490 | 5.9% |
| Venezuela | 214,877 | 5.2% |
| Jamaica | 157,443 | 3.8% |
| Guatemala | 150,231 | 3.6% |
| Colombia | 141,284 | 3.4% |
| El Salvador | 133,596 | 3.2% |

| Top Import Country | Tonnage | Percentage of Total |
|---|---|---|
| China | 1,070,256 | 27.5% |
| Honduras | 315,911 | 8.1% |
| Guatemala | 219,542 | 5.6% |
| Dominican Republic | 206,084 | 5.3% |
| Brazil | 132,632 | 3.4% |
| Germany | 127,923 | 3.3% |
| Netherlands | 116,840 | 3% |
| Costa Rica | 110,582 | 2.8% |
| Nicaragua | 89,355 | 2.3% |
| Colombia | 87,857 | 2.2% |

**Pie chart:**
54.3% AMERICAS & CARIBBEAN
9.3% EUROPE
34.8% ASIA PACIFIC
1.6% OTHER

**Exhibit 5: PortMiami's Total Trade by Region and Country in 2012**
Source: Miami-Dade County – PortMiami Cargo Facts, 2013 (Link)

National

# B. MIAMI-DADE AT THE NATIONAL SCALE
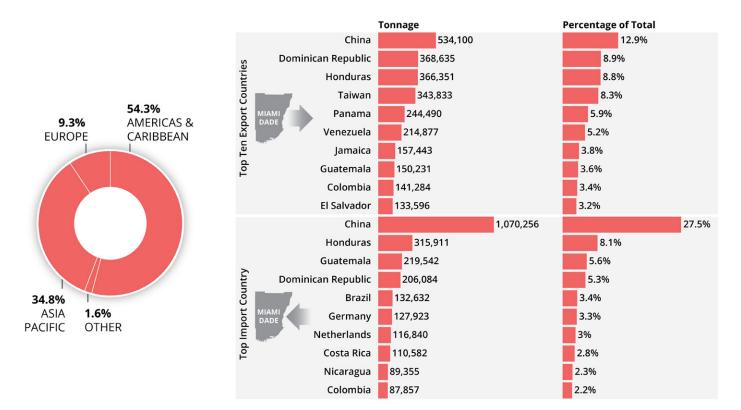
How does Miami interact with and compare to the rest of the U.S.?

When analyzing Miami-Dade at the national scale it becomes easier to make direct comparisons to other places. Measures of transit service, interstate highways, rail and truck freight, and vehicle miles traveled provide consistent measures for comparison. National movement of people and goods through MIA and PortMiami will also be compared to other sea and airports.

## 1. POPULATION

Miami-Dade, as part of the South Florida mega-region, is one of the largest urban areas in the United States by several different measures. Miami-Dade County is the 7th most populous county in the U.S. The South Florida Metropolitan Statistical Area (MSA), which includes the entire population in Miami-Dade, Broward, and Palm Beach counties, is the 8th most populous in the U.S. And finally, the Miami Urbanized Area (UZA), which consists of the core contiguous urban portions of Miami-Dade, Broward, and Palm Beach counties, is the 4th most populous in the U.S. Exhibit 6 shows Miami-Dade's respective population as it ranks in each category.
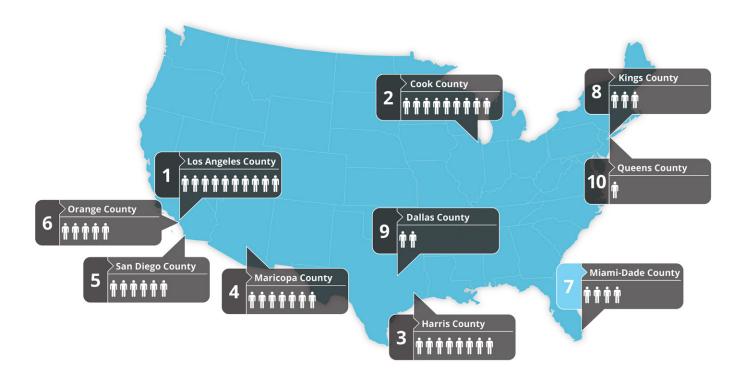


**Exhibit 6: Miami-Dade's Population Compared to Other Parts of the US**
Source: US Census Bureau and American Community Survey, 2013 (Link)

## SPOTLIGHT ON
## MIAMI INTERMODAL CENTER JOINT DEVELOPMENT CAMPAIGN

This $2 billion transportation hub near Miami International Airport (MIA) includes major roadway improvements, a new Rental Car Center, and Miami Central Station. It will provide connections for Metrorail, Metrobus, Tri-Rail, Amtrak, and the MIA Mover, which runs directly to and from the airport's terminals. The Miami Intermodal Center (MIC) is a nexus of different transportation services that will allow for convenient access between MIA and its surrounding areas. Many of the MIC improvements are already in place with full completion planned for summer 2014.

In addition to these major capital investments, the County is pursuing an ambitious joint development strategy to capture the economic potential of land adjacent to the airport for commercial and retail businesses that thrive on proximity to the airport and connectivity with PortMiami. Ground lease opportunities exist for up to 1.4 million square feet of mixed-use development for offices, hotels and meeting space, parking, retail and restaurants. The plan for a privately-funded development known as Airport City is one such example of a mixed-use economic hub that will transform the area surrounding the MIC. The potential contribution of these future development opportunities are expected to offset long-term operating costs of the MIC. Other benefits include more ridership for the myriad transportation choices now located in this mega-hub. It is expected that 75,000 passengers will make use of the MIC each day of which 60 percent or 45,000 will be traveling to/from the airport.

The MIC and adjacent development it will spur are a significant boost for the local economy. Private property to the east of the Miami Central Station (an additional 4.5 million square feet) is prime real estate for mixed use redevelopment or expansion associated with MIA and the station area. These properties adjacent to MIA are included in a federal government Empowerment Zone, a State Enterprise Zone, and a local Miami-Dade County Enterprise Zone. Economic growth and incentives are offered in conjunction with these programs to encourage and stimulate economic development in the vicinity of the MIC.

## 2. AIR TRAVEL

MIA is a major hub for passenger traffic to and from Latin America. Among U.S. airports, MIA handles nearly 50 percent of the South American passenger market and accounts for nearly 30 percent of the passenger market for both the Central American and Caribbean regions. Total passengers including those from domestic and international origins was 39.5 million, just slightly under Houston Intercontinental traffic of 39.9 million and just above Orlando International at 35.3 million. Highest traffic was for Hartsfield Atlanta International at 95.5 total passengers, mostly domestic passengers.

Traffic at MIA continues to rise with a jump in total passengers of 3 percent in 2012 and 6.8 percent in 2011. The international market has grown the

most with an increase of 5.2 percent in 2012 and over 8 percent in 2011. MIA has the second highest international passengers at 19.4 million in 2012 second to New York Kennedy with 25.1 million passengers. [10]

MIA has the 12th highest passenger traffic for the domestic market in the U.S. and for total passengers regardless of their origination. In 2012, MIA, an American Airlines hub, served over 20 million domestic passengers with non-stop service between more than 50 metro areas in the United States and its territories. MIA's domestic passenger connectivity, shown in Exhibit 7, is strongest with large metro areas on the east coast such as New York, Atlanta, and Washington D.C.[11]

10 Miami-Dade Aviation Department, 2013 – Webpage (Link)
11 Miami-Dade Aviation Department – Miami International Airport: Passenger Hub, 2013-2014



| | |
|---|---|
| New York | 3,084,631 |
| Atlanta | 1,416,856 |
| Dallas/Ft. Worth | 1,134,887 |
| Washington DC | 1,134,357 |
| Chicago | 1,120,048 |
| Los Angeles | 1,083,486 |
| Orlando | 1,027,049 |
| San Juan | 887,672 |
| Boston | 806,437 |
| Houston | 648,271 |
| Charlotte | 644,708 |
| Tampa | 511,347 |
| Philadelphia | 501,439 |
| San Fransisco | 377,347 |
| St. Thomas | 329,388 |
| Las Vegas | 327,799 |
| Detroit | 321,309 |
| Raleigh/Durham | 287,440 |
| Baltimore | 273,915 |
| New Orleans | 259,036 |
| Denver | 236,645 |
| Minneapolis | 230,859 |
| St. Louis | 202,463 |
| Key West | 187,868 |
| St. Croix | 153,862 |

**Exhibit 7: Miami International Airport's Total Domestic Passengers in 2012**
Source: Miami-Dade Aviation Department – Miami International Airport: Passenger Hub, 2013-2014 (Link)

## 3. ALTERNATE TRAVEL MODES AND QUALITY OF LIFE MEASURES

Americans are seeking lifestyles that are more conducive to walking, biking, and transit with safer streets and street-level activity at the neighborhood level. The Miami-Dade Metropolitan Statistical Area ranks 4th for growth of housing supply near transit facilities and 5th for areas with the most working-age residents living near transit facilities when compared to other U.S. metro areas.[12]  A recent study by Reconnecting America entitled "Are We There Yet?" examined opportunity areas for complete communities with alternative travel modes and better access to jobs and leisure without being dependent on a personal automobile. A recent poll conducted

by Urban Land Institute found that 70 percent of Americans place a high value on walkability when choosing a new community.[13] Walk Score rates cities according to transit-friendly and bike-friendly indicators on a scale of 0-100 taking into account transit and bike accessibility factors as well as distances to nearby restaurants, grocery stores, and other amenities as well as pedestrian friendliness. The City of Miami is rated as very walkable with the 5th highest overall Walk Score for U.S. cities with over 350,000 people.[14] This tool is a popular search tool for people seeking homes or traveling to other cities and the site is used as a marketing tool for real estate advertisers. The top ten rankings for overall walkability, transit, and bike scores are shown in Exhibit 8.

12 Reconnecting America, 2013 – Are We There Yet?: Creating Complete Communities for 21st Century America, Page 15 (Link) and the American Society of Civil Engineers – 2013 Report Card for America's Infrastructure (Link)

13 America in 2013, Urban Land Institute 5/15/13 (Link)
14 Walkscore.com, 2013 – City and Neighborhood Rankings for Walkability, Transit, and Biking (Link)



Portland  🚶 -  🚈 10  🚲 1

Boston  🚶 3  🚈 3  🚲 5

San Francisco  🚶 2  🚈 2  🚲 2

Denver  🚶 -  🚈 -  🚲 3

New York  🚶 1  🚈 1  🚲 9

Miami  🚶 5  🚈 8  🚲 16

🚶 Walk Score Ranking

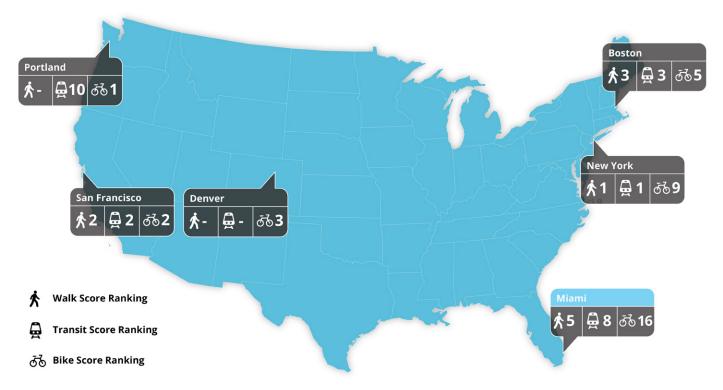🚈 Transit Score Ranking

🚲 Bike Score Ranking

**Exhibit 8: Top Walk, Transit, and Bike Scores for US Cities with Populations Greater than 350,000**
Source: WalkScore.com, 2013 – Walk, Transit, and Bike Score Rankings (Link)

Three of the top ten bike scores are for cities that did not make the grade for walk scores, but are known for bicycle facilities and use. It is evident in review of the scores that Miami-Dade's destinations and amenities play a big role in the high walk score ranking relative to other cities. Miami-Dade's bike score of 56.5 at 16th place is just below Oakland, CA.

Miami-Dade transit use is higher than both the U.S. and Florida averages giving further evidence of the important role MDT's growing transit system plays in the transportation network. Auto use is still the predominant means of travel in Miami-Dade County with 75 percent of commuters driving alone to work. Exhibit 9 compares the commuting behavior of workers in Miami-Dade County, the state of Florida, and the entire United States. Another well-regarded rating system is Livability which ranks America's best places to live and visit.

Car, Truck, or Van (Drove alone): United States 76%, Florida 79%, Miami-Dade 76%

Car, Truck, or Van (Carpooled): United States 10%, Florida 10%, Miami-Dade 9%

Public transportation (excluding taxicab): United States 5%, Florida 2%, Miami-Dade 6%

Bicycle: United States 1%, Florida 1%, Miami-Dade 1%

Walked: United States 3%, Florida 2%, Miami-Dade 2%

Taxicab, motorcycle, or other means: United States 1%, Florida 2%, Miami-Dade 1%

Worked at home: United States 4%, Florida 5%, Miami-Dade 4%

**Exhibit 9: Share of Commuters by Travel Mode in 2012**
Source: American Community Survey, 2013 (Link)

National

Miami-Dade ranks high in measures of quality of life. The City of Miami Beach is considered the 5th most livable small to mid-sized U.S. city (population between 25,000 and 350,000). The LivScore of each city is determined based on a variety of public and private sector data sources, and incorporates eight measures of livability: amenities, demographics, economy, education, health care, housing, infrastructure and transportation, and social and civic capital.[15] Exhibit 10 shows the top 20 mid-sized cities for livability on the combined measures. Tampa is the only other Florida city in this ranking at number 20.

15 Livability.com, 2013 – Top 100 Best Places to Live (Link)



| | LivScore |
|---|---|
| Palo Alto ① | 646 |
| Boulder ② | 643 |
| Berkeley ③ | 643 |
| Durham ④ | 640 |
| Miami Beach ⑤ | 639 |
| Madison ⑥ | 639 |
| Rochester ⑦ | 636 |
| Salt Lake City ⑧ | 635 |
| Eugene ⑨ | 633 |
| Reno ⑩ | 631 |
| Rockville ⑪ | 631 |
| Boise ⑫ | 630 |
| Bellevue ⑬ | 630 |
| Ann Arbor ⑭ | 627 |
| Salem ⑮ | 626 |
| Santa Clara ⑯ | 622 |
| Provo ⑰ | 622 |
| Overland Park ⑱ | 621 |
| Greensboro ⑲ | 620 |
| Tampa ⑳ | 620 |

**Exhibit 10: Livability Scores for Mid-Sized U.S. Cities**
Source: Livability.com, 2013 – Top 100 Best Places to Live (Link)

## 4. ROADWAYS

Miami-Dade has an extensive roadway network of tollways, expressways, and major arterials with 7.3 million centerline miles that handle considerable traffic throughput of 51.1 million miles each weekday in 2012. This represents approximately 10 percent of the statewide travel on any given day and an average of less than 20 daily miles per capita in Miami-Dade County.[16]   The Miami-Dade Metropolitan Statistical Area has the 3rd lowest annual average vehicle miles traveled per household compared to other U.S. metro areas. These rankings are shown in Exhibit 11.

16 Public Road Mileage and Miles Traveled, 2012, Florida Department of Transportation

**Average Annual VMT per Household**

| | MSA | Average Annual VMT per Household |
|---|---|---|
| 1 | New York, Northern, New Jersey, Long Island, etc. | 15,717 |
| 2 | San Francisco, Oakland, Fremont, etc. | 16,031 |
| 3 | Miami, Fort Lauderdale, Pompano Beach, etc. | 17,350 |
| 4 | Los Angeles, Long Beach, Santa Ana, etc. | 17,463 |
| 5 | Philadelphia, Camden, Wilmington, etc. | 18,121 |
| 6 | Chicago, Joliet Naperville, etc. | 18,272 |
| 7 | Detroit, Warren, Livonia, etc. | 18,910 |
| 8 | Boston, Cambridge, Quincy, etc. | 19,210 |
| 9 | Phoenix, Mesa, Scottsdale, etc. | 19,399 |
| 10 | San Diego, Carlsbad, San Marcos, etc. | 19,946 |

**Exhibit 11: Metropolitan Statistical Areas (MSA's) with the Fewest Vehicle Miles Traveled (VMT) in 2012**
Source: Center for Neighborhood Technology Housing + Transportation Affordability Index (Link)

## 5. FREIGHT AND TRADE

In 2012, over 2 million tons of cargo with a value of over $60 billion passed through MIA. Among U.S. Airports, MIA ranks 1st in terms of international freight.[17]  Over 70 percent or 480 tons of all perishable goods imported to the U.S. come through MIA as shown in Exhibit 12. JFK and LAX are the next largest importers of perishable goods with a combined market share of about 20%. PortMiami ranks 11th for total cargo value among

17 Miami-Dade Aviation Department – Miami International Airport: Cargo Hub, 2013-2014

## U.S. AIRPORTS RANKED BY INTERNATIONAL FREIGHT (IN MILLIONS OF TONS)

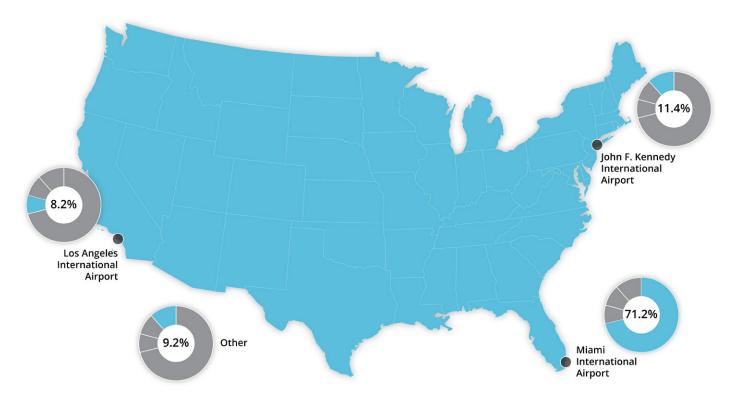| Miami International (MIA) | 1.82 |
| --- | --- |
| Los Angeles International (LAX) | 1.10 |
| New York Kennedy (JFK) | 1.06 |
| Chicago O'Hare International (ORD) | 0.93 |
| Hartsfield Atlanta International (ATL) | 0.41 |
| Dallas-Ft. Worth International (DFW) | 0.33 |
| Memphis International/FedEx (MEM) | 0.29 |
| Newark International (EWR) | 0.25 |
| Houston Intercontinental (IAH) | 0.24 |
| San Franciso International (SFO) | 0.23 |



**Exhibit 12: US Perishable Imports by Airport in 2012**
Source: Miami-Dade Aviation Department – Miami International Airport: Cargo Hub, 2013-2014 (Link)

U.S. seaports. It handled over $50 billion imports and exports in 2012 as shown in Exhibit 13.[18]

_____

18 American Association of Port Authorities – U.S. Waterborne Foreign Trade, 2012 (Link)



| | Millions of US Dollars |
|---|---|
| Los Angeles, CA ① | $399,656 |
| Houston-Galveston, TX ② | $249,840 |
| New York City, NY ③ | $210,568 |
| New Orleans, LA ④ | $155,147 |
| Seattle, WA ⑤ | $95,638 |
| Savannah, GA ⑥ | $92,990 |
| San Francisco, CA ⑦ | $69,888 |
| Charleston, SC ⑧ | $63,645 |
| Norfolk, VA ⑨ | $63,247 |
| Baltimore, MD ⑩ | $53,960 |
| Miami, FL ⑪ | $51,762 |
| Philadelphia, PA ⑫ | $49,361 |
| Port Arthur, TX ⑬ | $45,759 |
| Tampa, FL ⑭ | $33,792 |
| Mobile, AL ⑮ | $30,650 |
| Columbia-Snake ⑯ | $23,741 |
| San Juan, PR ⑰ | $15,861 |
| Boston, MA ⑱ | $13,484 |
| Wilmington, NC ⑲ | $10,241 |
| Providence, RI ⑳ | $7,972 |

**Exhibit 13: Value of Cargo for Top US Ports in 2012**
Source: American Association of Port Authorities – U.S. Waterborne Foreign Trade, 2012 (Link)

# C. MIAMI-DADE AT THE STATEWIDE SCALE

How does Miami-Dade interact with and compare to the rest of the State?

In many ways Miami-Dade is the economic epicenter of Florida for trade and industry as a financial powerhouse, a cultural standout, and a trendsetter. Miami-Dade stands out from the other parts of Florida by most measures of size, economic contribution, and urban development.

## 1. POPULATION

The Miami Metropolitan Statistical Area is the largest in the state of Florida as shown in Exhibit 14. The region's population is more than twice that of Tampa, the next most populous metro area in the State, and it is more than twice the size of Tampa and Orlando combined. Miami-Dade also has the most diverse population in Florida. In fact, the metro area welcomed over 66,000 immigrants in 2012 alone, further contributing to its international cultural diversity. This is 7.5 times the 2012 immigration total for the Tampa MSA of 8,700.[19]
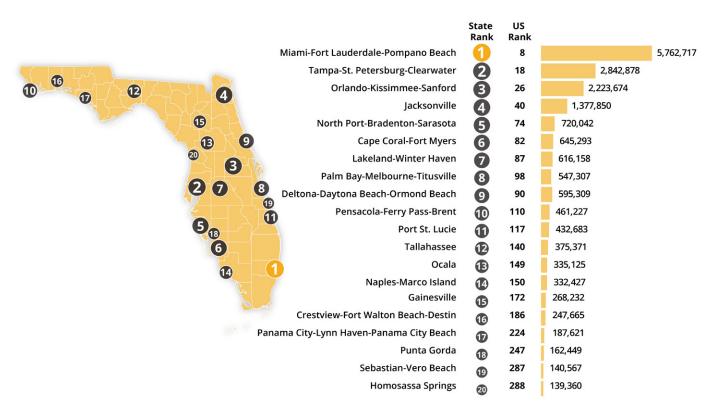
19 American Community Survey, 2013 (Link)



| | State Rank | US Rank | Population |
|---|---|---|---|
| Miami-Fort Lauderdale-Pompano Beach | 1 | 8 | 5,762,717 |
| Tampa-St. Petersburg-Clearwater | 2 | 18 | 2,842,878 |
| Orlando-Kissimmee-Sanford | 3 | 26 | 2,223,674 |
| Jacksonville | 4 | 40 | 1,377,850 |
| North Port-Bradenton-Sarasota | 5 | 74 | 720,042 |
| Cape Coral-Fort Myers | 6 | 82 | 645,293 |
| Lakeland-Winter Haven | 7 | 87 | 616,158 |
| Palm Bay-Melbourne-Titusville | 8 | 98 | 547,307 |
| Deltona-Daytona Beach-Ormond Beach | 9 | 90 | 595,309 |
| Pensacola-Ferry Pass-Brent | 10 | 110 | 461,227 |
| Port St. Lucie | 11 | 117 | 432,683 |
| Tallahassee | 12 | 140 | 375,371 |
| Ocala | 13 | 149 | 335,125 |
| Naples-Marco Island | 14 | 150 | 332,427 |
| Gainesville | 15 | 172 | 268,232 |
| Crestview-Fort Walton Beach-Destin | 16 | 186 | 247,665 |
| Panama City-Lynn Haven-Panama City Beach | 17 | 224 | 187,621 |
| Punta Gorda | 18 | 247 | 162,449 |
| Sebastian-Vero Beach | 19 | 287 | 140,567 |
| Homosassa Springs | 20 | 288 | 139,360 |

**Exhibit 14: Population of Florida's Metropolitan Statistical Areas (MSAs) in 2012**
Source: American Community Survey, 2013 (Link)

## 2. TRANSIT SYSTEM

Miami-Dade Transit's (MDT) Metrorail is the only heavy rail passenger train system in the state of Florida. MDT operates Metromover, a Downtown Miami circulator that is Florida's only automated fixed guideway system. Additionally, Miami International Airport operates a circulator service between its terminals and the nearly completed Miami Intermodal Center, which houses rental car companies and transit connections. Known as the MIA Mover, this service carries an average of 16,000 airport customers daily.[20]

A portion of the South Florida Regional Transportation Authority's 72-mile Tri-Rail commuter rail line extends into Miami-Dade County along the South Florida Rail Corridor as far

south as the Miami International Airport. Although Orlando's SunRail is scheduled to open in 2014 and will provide similar service, Tri-Rail is currently Florida's only commuter rail system. It provides tri-county transit connectivity from Miami-Dade County, into Broward and Palm Beach counties. In fact, Florida currently has only two fixed-guideway rail systems that aren't located in Miami-Dade County:  Tampa's TECO Historic Streetcar line and Jacksonville's downtown Skyway people mover.

MDT's system is larger and more heavily used than any other system in Florida. MDT has nearly 700 more route miles of service than Orlando does. With more than 107 million passenger trips in 2012, MDT serves more than all four major transit providers in Florida combined. Summary characteristics for Florida's top transit operators are shown in Exhibit 15.
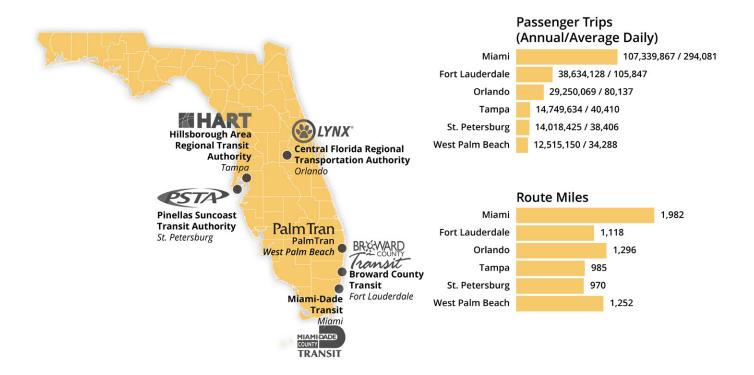
20 Miami-Dade Aviation Department, 2013 – Webpage (Link)



**Passenger Trips (Annual/Average Daily)**

| | |
|---|---|
| Miami | 107,339,867 / 294,081 |
| Fort Lauderdale | 38,634,128 / 105,847 |
| Orlando | 29,250,069 / 80,137 |
| Tampa | 14,749,634 / 40,410 |
| St. Petersburg | 14,018,425 / 38,406 |
| West Palm Beach | 12,515,150 / 34,288 |

**Route Miles**

| | |
|---|---|
| Miami | 1,982 |
| Fort Lauderdale | 1,118 |
| Orlando | 1,296 |
| Tampa | 985 |
| St. Petersburg | 970 |
| West Palm Beach | 1,252 |

**Exhibit 15: System Characteristics of Florida's Largest Transit Agencies in 2012**
*Includes demand response service
Source: National Transit Database, 2012 Data, Table TS2.2 (Link)

## 3. ROADWAYS

Miami-Dade has the most extensive roadway network in the state of Florida with 7.3 million centerline miles carrying 51.1 million vehicle miles each day, or roughly 10 percent of Florida's total. Exhibit 16 compares the roadway centerline miles and its usage for the top-ranking counties. VMT per capita of 19.7 miles is the lowest among the major counties and considerably lower than the statewide average of 27.1 miles. This is further evidence of the higher transit use experienced in Miami-Dade County.
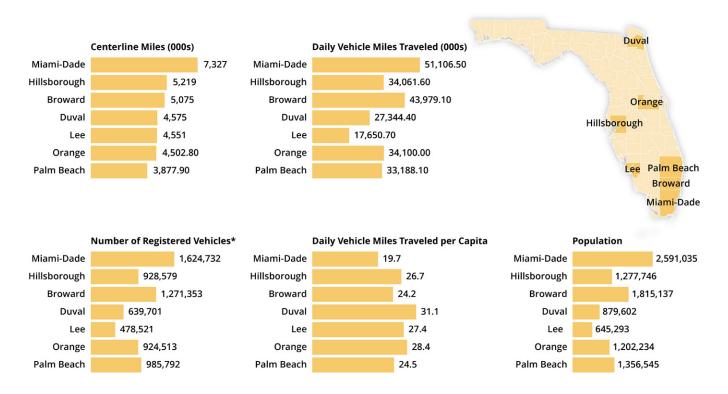


**Centerline Miles (000s)**

| County | Value |
|---|---|
| Miami-Dade | 7,327 |
| Hillsborough | 5,219 |
| Broward | 5,075 |
| Duval | 4,575 |
| Lee | 4,551 |
| Orange | 4,502.80 |
| Palm Beach | 3,877.90 |

**Daily Vehicle Miles Traveled (000s)**

| County | Value |
|---|---|
| Miami-Dade | 51,106.50 |
| Hillsborough | 34,061.60 |
| Broward | 43,979.10 |
| Duval | 27,344.40 |
| Lee | 17,650.70 |
| Orange | 34,100.00 |
| Palm Beach | 33,188.10 |

**Number of Registered Vehicles***

| County | Value |
|---|---|
| Miami-Dade | 1,624,732 |
| Hillsborough | 928,579 |
| Broward | 1,271,353 |
| Duval | 639,701 |
| Lee | 478,521 |
| Orange | 924,513 |
| Palm Beach | 985,792 |

**Daily Vehicle Miles Traveled per Capita**

| County | Value |
|---|---|
| Miami-Dade | 19.7 |
| Hillsborough | 26.7 |
| Broward | 24.2 |
| Duval | 31.1 |
| Lee | 27.4 |
| Orange | 28.4 |
| Palm Beach | 24.5 |

**Population**

| County | Value |
|---|---|
| Miami-Dade | 2,591,035 |
| Hillsborough | 1,277,746 |
| Broward | 1,815,137 |
| Duval | 879,602 |
| Lee | 645,293 |
| Orange | 1,202,234 |
| Palm Beach | 1,356,545 |

**Exhibit 16: Roadway Characteristics of Florida's Largest Counties in 2012**
Florida Department of Transportation, Transportation Statistics Office – Florida Highway Mileage Reports – Public Roads (Link)
*University of Florida, Bureau of Economic and Business Research – (Link)

## 4. TOURISM AND THE ECONOMY

Miami-Dade County welcomed 13.9 million overnight visitors in 2012, of which 6.8 million were international and 7.1 million were domestic visitors. These visitors combined are more than 5 times Miami-Dade's residential population and 16 percent of Florida's total of 89.3 million tourists. In 2012 alone, tourists spent a record $21.8 billion in Miami-Dade County.[21]

21 Greater Miami Convention & Visitors Bureau – Greater Miami and the Beaches 2012 Visitor Industry Overview, Page 4

South Florida leads the State in international visitors by far. As Exhibit 17 shows, the region (including the Fort Lauderdale/Hollywood International Airport) attracts 82 percent of Florida's international visitors, with MIA alone welcoming 69 percent of the total.



Orlando International Airport — 13.3%

Other Airports in Florida — 4.6%

Fort Lauderdale-Hollywood International Airport — 12.7%

Miami International Airport — 69.3%
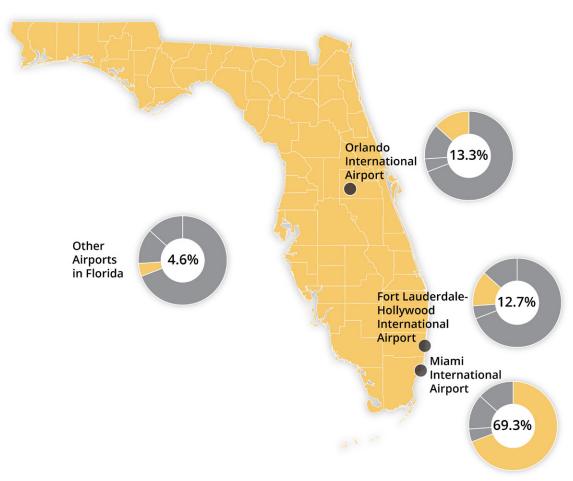
**Exhibit 17: Florida's International Passengers by Airport in 2012**
Source: Miami-Dade Aviation Department – Miami International Airport: Passenger Hub, 2013-2014 (Link)

South Florida also attracts nearly 20 percent of the State's domestic visitors, which is second only to the internationally-renown theme parks of Orlando. These visitors, both domestic and international, spend the majority of their money on lodging and retail, which creates a boost to jobs in the hotel and restaurant industries. Exhibits 18 and 19 show which parts of Florida are most visited by domestic visitors and which industries benefit the most from tourism revenues.
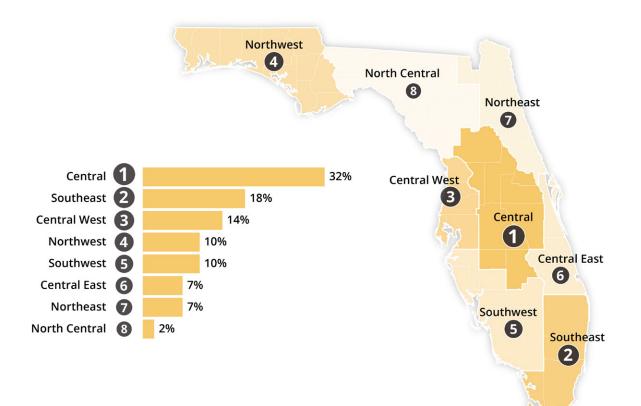


| Region | % |
|--------|-----|
| Central ① | 32% |
| Southeast ② | 18% |
| Central West ③ | 14% |
| Northwest ④ | 10% |
| Southwest ⑤ | 10% |
| Central East ⑥ | 7% |
| Northeast ⑦ | 7% |
| North Central ⑧ | 2% |

**Exhibit 18: Domestic Visitor Trips by Region in 2010**
Source: VISIT FLORIDA, Florida Visitor Study, 2010 (Link)

**32.1%** SHOPPING

**29.6%** LODGING

**TOTAL VISITOR EXPENDITURES= $21.8 BILLION**

**20.2%** MEALS

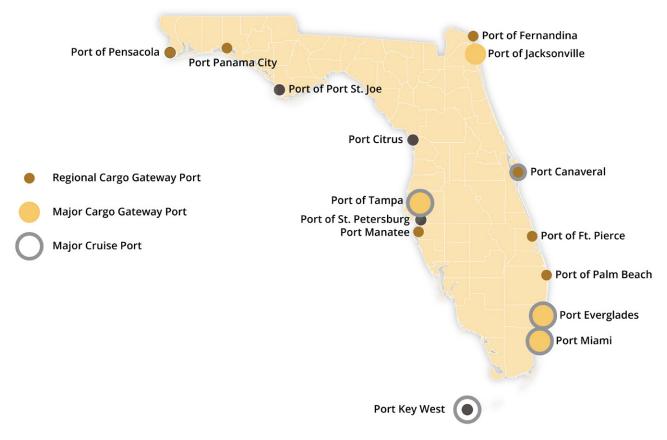**12%** ENTERTAINMENT

**6.1%** TRANSPORTATION
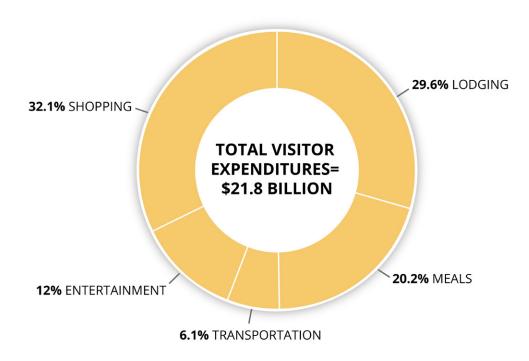
**Exhibit 19:  Miami-Dade's Visitor Expenditures by Type in 2012**
Source: Greater Miami Convention & Visitors Bureau – Greater Miami and the Beaches 2012 Visitor Industry Overview, Page 25

## 5. FREIGHT AND TRADE

Miami-Dade's airport and seaport cargo activity at MIA and PortMiami lead the rest in in our State for freight throughput. MIA's annual air trade value of $61.5 billion in 2011 is equivalent to 96 percent of the dollar value for the entire state of Florida's total air imports and exports for that same year.[22] PortMiami leads Florida's seaports in terms of trade significance, and when combined with Port Everglades in nearby Fort Lauderdale, the two South Florida ports in the Miami-Dade MSA constitute over half of Florida total seaport trade value. Exhibit 20 maps the locations of Florida's ports.  Exhibit 21 provides waterborne cargo value for each of Florida's major seaports for 2011 and 2012.

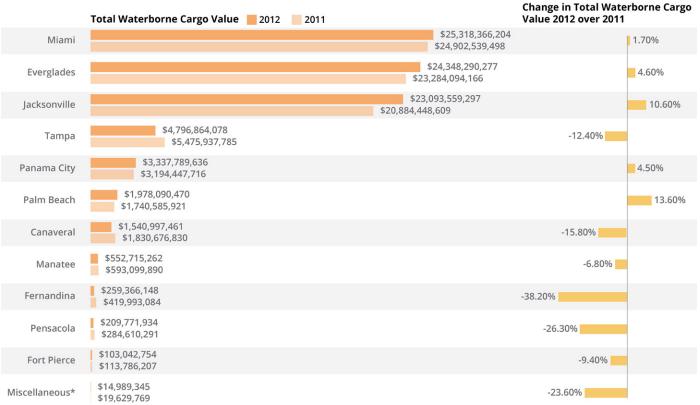22 Miami-Dade Aviation Department – Miami International Airport: Cargo Hub, 2012-2013 (Link)



Port of Fernandina
Port of Jacksonville
Port of Pensacola
Port Panama City
Port of Port St. Joe
Port Citrus
Port Canaveral
Port of Tampa
Port of St. Petersburg
Port Manatee
Port of Ft. Pierce
Port of Palm Beach
Port Everglades
Port Miami
Port Key West

● Regional Cargo Gateway Port

● Major Cargo Gateway Port

○ Major Cruise Port

**Exhibit 20: Location and Function of Florida's Seaports**
Source: Florida Seaport Transportation and Economic Development Council (Link)

**Total Waterborne Cargo Value** ■ 2012 ■ 2011

**Change in Total Waterborne Cargo Value 2012 over 2011**

| Port | 2012 | 2011 | Change |
|------|------|------|--------|
| Miami | $25,318,366,204 | $24,902,539,498 | 1.70% |
| Everglades | $24,348,290,277 | $23,284,094,166 | 4.60% |
| Jacksonville | $23,093,559,297 | $20,884,448,609 | 10.60% |
| Tampa | $4,796,864,078 | $5,475,937,785 | -12.40% |
| Panama City | $3,337,789,636 | $3,194,447,716 | 4.50% |
| Palm Beach | $1,978,090,470 | $1,740,585,921 | 13.60% |
| Canaveral | $1,540,997,461 | $1,830,676,830 | -15.80% |
| Manatee | $552,715,262 | $593,099,890 | -6.80% |
| Fernandina | $259,366,148 | $419,993,084 | -38.20% |
| Pensacola | $209,771,934 | $284,610,291 | -26.30% |
| Fort Pierce | $103,042,754 | $113,786,207 | -9.40% |
| Miscellaneous* | $14,989,345 | $19,629,769 | -23.60% |

**Exhibit 21: Value of Containerized Waterborne Trade by Florida Seaport**
Source: Florida Seaport Transportation and Economic Development Council – The Five-Year Florida Seaport Mission Plan: 2013-2017, Page 37 (Link)

Statewide

## SPOTLIGHT ON
## FREIGHT LOGISTICS

Miami-Dade is a vital cargo hub for the Americas because of its location and important air, sea, and rail connections. Goods arriving at Miami International Airport (MIA) and PortMiami are distributed quickly and efficiently to their final destinations by both truck and rail.

A new South Florida Logistics Center is now being constructed through a partnership with the Florida Department of Transportation and Florida East Coast Industries on 400 acres directly adjacent to the MIA cargo operations. The center consists of an Intermodal Operation center connecting with freight rail on CSX and Florida East Coast Railways and an Industrial and Distribution Facility connecting with trucks on the interstate system. Future development is planned directly adjacent to the MIA.

Florida East Coast Railways will provide on-dock rail service along a 12-mile direct connection between MIA and PortMiami. These railway connections extend all the way to Port Everglades' new International Container Transfer Facility to the north where an intermodal transfer facility is being constructed for operation by 2014. Trucks will cross under the Government Cut harbor entrance through the new Port of Miami Tunnel moving freight traffic around downtown by the spring of 2014. Tunnel access will also be available for cruise passenger traffic. South Florida will be ready to move more goods across Florida and to the rest of the nation when the Panama Canal is completed in 2015.

Miami-Dade's Foreign Trade Zone program increases competitiveness of trading partners by eliminating the duty requirement. These benefits of duty-free trade areas benefit both exporters and importers and help U.S. companies improve their competitive edge over foreign firms.

The movement of goods into and out of Miami-Dade doesn't stop at the port facilities. CSX and FEC rail lines extend connections for intermodal trade. Florida's railway freight network consists of over 2,700 miles of rail lines moving over 98 million tons of freight annually.[23] Exhibit 22 shows the coverage area of the rail lines that form this freight network.

23 Florida Department of Transportation – 2013 Miami-Dade County Freight & Logistics Overview (Link)



**Florida Freight Rail System**
—— CSX Transportation (Class I)
········ Norfolk Southern Corporation (Class I)
········ Florida East Coast Railway (Class II)

—— Class III Railroads

| | |
|---|---|
| **AGR** | Alabama and Gulf Coast Railway |
| **AN** | AN Railway |
| **BAYL** | Bay Line Railroad |
| **FCEN** | Florida Central Railroad |
| **SFRC** | South Florida Rail Corridor |
| **FMID** | Florida Midland Railroad |
| **FNOR** | Florida Northern Railroad |
| **GFRR** | Georgia and Florida Railnet |
| **SGLR** | Seminole Gulf Railway |
| **SCFE** | South Central Florida Express |
| **FCRD** | First Coast Railroad |
| **FWCR** | Florida West Coast Railroad |

**Exhibit 22: Florida's Freight Rail System**
Source: Florida Department of Transportation Office of Freight, Logistics and Passenger Operations (Link)

Florida's interstate highways carry goods to and from Miami-Dade. Most of the truck trade volume is close to home with the bulk occurring to Broward and Palm Beach counties to the north. as shown in Exhibit 23. All top five trade partners for imports and exports are located in Florida.



**Truck Tonnage**

| MIAMI DADE ← | | |
|---|---|---|
| Broward County, FL | | 4,044,260 tons |
| Palm Beach County, Fl | | 2,457,294 tons |
| Hillsborough County, FL | | 2,078,980 tons |
| Orange County, FL | | 1,488,532 tons |
| Polk County, FL | | 1,135,102 tons |

| MIAMI DADE → | | |
|---|---|---|
| Broward County, FL | | 6,904,915 tons |
| Palm Beach County, Fl | | 3,085,191 tons |
| Hillsborough County, FL | | 1,904,954 tons |
| Orange County, FL | | 1,705,876 tons |
| Duval County,  FL | | 1,509,438 tons |

**Exhibit 23: Miami-Dade's Top Trading Partners by Truck Tonnage in 2011**
Source: Florida Department of Transportation – 2013 Miami-Dade County Freight & Logistics Overview  (Link)

# D. MIAMI-DADE AT THE REGIONAL SCALE

How does Miami-Dade interact with and compare to the rest of the South Florida region?

The counties in South Florida are linked geographically by sea and land transportation networks. They are also linked economically through trade and regional employment with part of Miami-Dade's work force coming from neighboring counties. Residents and visitors alike cross county lines throughout the day for work and play with no regard for governmental boundaries. Although the counties in South Florida share many similarities, Miami-Dade stands apart with a unique and diverse culture, walkable communities, and a growing economy from a broad internationally connected business mix.

## 1.POPULATION

Miami-Dade has more people and housing units, is slightly younger, and is home for close to 70 percent of the region's Hispanic residents. In fact, nearly 40 percent of the entire state of Florida's Hispanic population lives in Miami-Dade County.[24] Exhibit 24 provides a summary comparison of demographic information for the three South Florida counties of Miami-Dade, Broward, and Palm Beach.

24 U.S. Census Bureau and American Community Survey, 2013



**PALM BEACH**

**BROWARD**

**MIAMI DADE**

| TOTAL POPULATION | |
|---|---|
| | 1,356,545 |
| | 1,815,137 |
| | 2,591,035 |

| MEDIAN AGE | |
|---|---|
| | 43.8 |
| | 39.9 |
| | 38.8 |

| NUMBER OF HOUSING UNITS | |
|---|---|
| | 666,667 |
| | 811,270 |
| | 991,372 |
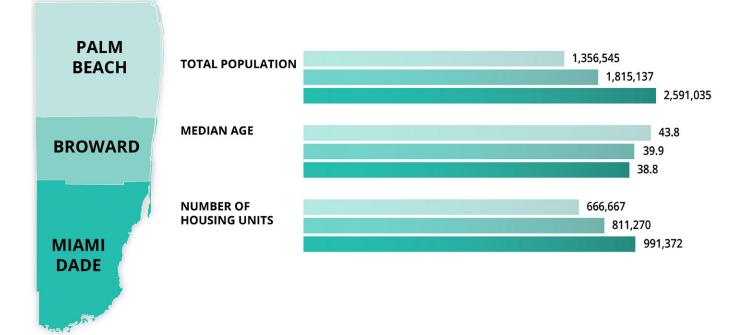
**Exhibit 24: Regional Demographic Characteristics in 2012**
Source: US Census Bureau and American Community Survey, 2013 (Link)

Nearly half of Miami-Dade's residents live in unincorporated parts of the County. The majority of this unincorporated area is located in the southwestern part of Miami-Dade's developable area, roughly bordered by the Everglades to the west, US 1 to the east, and the Tamiami Trail to the north. Miami-Dade's 35 incorporated municipalities are mostly clustered along the coastline, but are also found more inland to the north and west of Miami International Airport. Miami-Dade's most populous municipalities are mostly located in the denser, northeastern part of the County with the cities of Miami, Hialeah, Miami Gardens, and Miami Beach comprising nearly 33 percent of the total population. Population levels by municipality are shown in Exhibit 25.



**15%** OTHER MUNICIPALITIES

**2%** DORAL
**2%** CORAL CABLES
**2%** NORTH MIAMI
**2%** HOMESTEAD

**4%** MIAMI BEACH

**4%** MIAMI GARDENS

**9%** HIALEAH

**16%** MIAMI

TOTAL POPULATION 2.6 MILLION

**44%** UNINCORPORATED M-D COUNTY
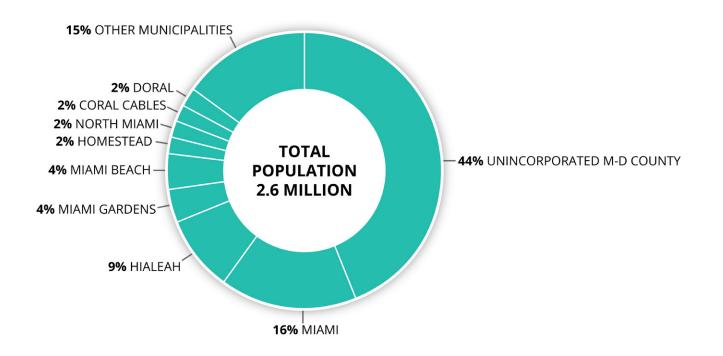
**Exhibit 25: Miami-Dade's Population by Municipality in 2012**
Source: American Community Survey, 2013 (Link)

## 2. ROADWAYS

Miami-Dade County contains a well-integrated system of public and private toll roads. The Homestead Extension of Florida's Turnpike (HEFT) provides north-south mobility along the western edge of the County from the Golden Glades Interchange south to Homestead, while the Miami-Dade Expressway Authority (MDX) operates five major east-west tollways:

-Airport Expressway (State Road 112)
-Dolphin Expressway (State Road 836)
-Don Shula Expressway (State Road 874)
-Snapper Creek Expressway (State Road 878)
-Gratigny Parkway (State Road 924)

Additionally, Miami-Dade's pilot project with managed lanes on I-95 has served as a proving ground for the concept. The South Florida region has little room for new roads or widening of existing roads. Building on the success of 95 Express, Miami-Dade is now in the process of planning for the integration of a network of managed lanes into its other existing roadways. These managed lanes will provide options for drivers whose choose to use them, and as a result, reduce congestion in the other lanes as well. The ability to continue to make the most of existing facilities has become critical to maximizing throughput and providing funding streams to build and maintain those facilities.[25]

As the construction of the 95 Express managed lanes expands northward into neighboring Broward County, their usage in Miami-Dade in terms of both Express Bus ridership and vehicle traffic volumes continues to grow. The number of vehicles using these lanes on an average weekday has increased by 23 percent since 2010. Exhibit 26 shows the average traffic volumes over time. In 2012 alone the 95 Express lanes provided 20.4 million vehicle trips and generated $16.8 million in toll revenues.

25 Florida Department of Transportation, District 6 – Intelligent Transportation Systems (Link)



**FY 2010** ↑ 25,000 VEHICLES / ↓ 26,100 VEHICLES
**FY 2011** ↑ 29,500 VEHICLES / ↓ 29,600 VEHICLES
**FY 2012** ↑ 31,000 VEHICLES / ↓ 31,700 VEHICLES

MIAMI DADE

↑ NORTH BOUND
↓ SOUTH BOUND

**Exhibit 26: Average Weekday Vehicle Traffic Using 95 Express Lanes**
Source: Florida Department of Transportation, District 6 – 95 Express Annual Report, FY 2012 (Link)

## SPOTLIGHT ON
## MIAMI INTERMODAL CENTER JOINT DEVELOPMENT CAMPAIGN

Miami-Dade has recently expanded its passenger rail connections, and has plans to further increase rail service in the near future. The two transit agencies that provide passenger rail service in the area, Miami-Dade Transit (MDT) and the South Florida Regional Transportation Authority (SFRTA), are working towards giving residents and visitors alike a reliable and efficient alternative to driving that offers access to major regional activity centers and destinations.

MDT completed the 2.4-mile Orange Line extension of its Metrorail service in mid-2012. Terminating in the newly opened Miami Intermodal Center at Miami International Airport (MIA), the Orange Line provides connectivity between MIA and the rest of Metrorail's service area throughout Miami-Dade. This allows visitors to easily travel downtown without having to rent a car and residents to take trips without having to drive to and park at the airport.

SFRTA's 72-mile Tri-Rail commuter rail line provides regional north-south service along the CSX South Florida Rail Corridor. In Miami-Dade, Tri-Rail runs parallel to I-95 until the Golden Glades Interchange, where it runs southwest to Opa-locka and then continues south to MIA. SFRTA, in partnership with the Florida Department of Transportation, South Florida Regional Planning Council, Treasure Coast Regional Planning Council, Miami-Dade MPO, Broward MPO, Palm Beach MPO, Miami-Dade County Transit, Broward County Transit, and Palm Tran, is currently planning for an expansion that will implement its passenger service on the Florida East Coast (FEC) Railway. The FEC Railway runs through the more-densely populated downtown areas and activity centers closer to South Florida's coastline, such as the Aventura Mall, North Miami Beach, and the Wynwood Arts District.
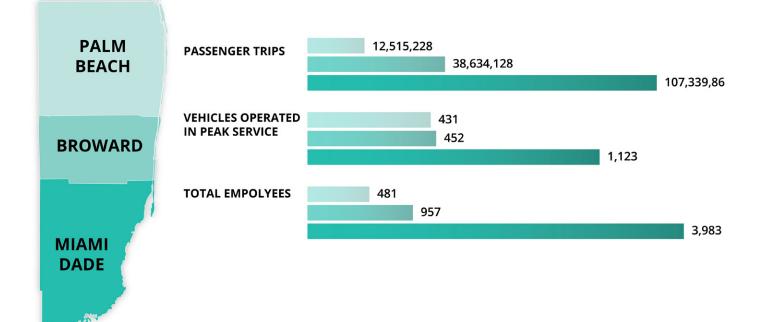
The proposed Tri-Rail Coastal Link would provide integrated passenger service from Palm Beach County through Broward County and directly to Downtown Miami on both the South Florida Rail Corridor and the Florida East Coast railways. Its southern terminus for the expanded service will be in a new station near the Miami Government Center that will also be used by trains from All Aboard Florida, a privately operated, semi-high speed rail service that will run from Miami to Orlando with intermediate stops in Fort Lauderdale and West Palm Beach.

# 3.TRANSIT SYSTEM

Miami-Dade Transit (MDT) provides the largest and most extensive transit system in the region and the state of Florida. Metrorail, Metromover, and Metrobus services feature 9,000 stations or stops on 100 different service routes.[26]  MDT employs nearly 4,000 people to operate its system. Exhibit 27 highlights some of MDT's annual service statistics compared to South Florida's other major transit agencies.

26 Miami-Dade Transit – Transit Development Plan FY 2014-2023, Page 2-1 (Link)



**PALM BEACH**

**BROWARD**

**MIAMI DADE**

| | |
|---|---|
| **PASSENGER TRIPS** | 12,515,228 |
| | 38,634,128 |
| | 107,339,86 |
| **VEHICLES OPERATED IN PEAK SERVICE** | 431 |
| | 452 |
| | 1,123 |
| **TOTAL EMPOLYEES** | 481 |
| | 957 |
| | 3,983 |

**Exhibit 27: Regional Transit Characteristics in 2012**
Source: National Transit Database, 2012 Data, Tables TS2.2 and 18 (Link)

Ridership in Miami-Dade has grown 45 percent in the past two decades as MDT has expanded and improved its service. This growth is faster than the population increase of 33 percent. Exhibit 28 shows the upward trend in the number of trips provided by MDT since 1991.

Tri-Rail also contributes considerably to regional connectivity between Miami-Dade County and the rest of South Florida. In 2012 it provided almost 5 million passenger trips throughout the region.[27] With connections to Metrorail and MIA, Tri-Rail moves passengers to and from Miami-Dade along its north-south corridor, and is an integral part of the area's regional transit service.

27 National Transit Database, 2012 Data, Tables TS2.2 (Link)
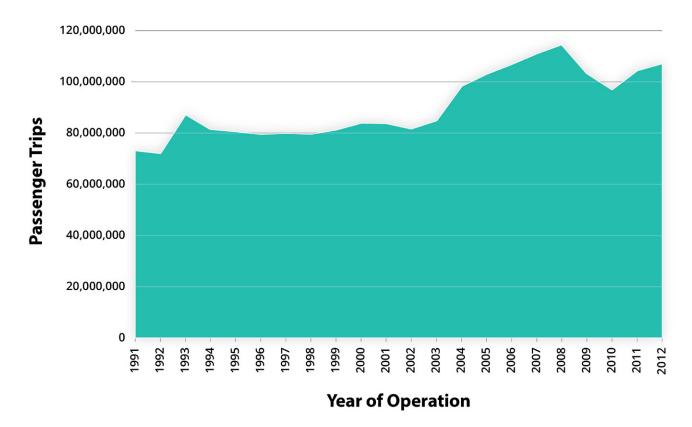


**Exhibit 28: Miami-Dade Transit's Annual Ridership Over Time**
Source: National Transit Database, 2012 Data Table TS2.2 (Link)

## 4. LOCAL ECONOMIC CONTRIBUTIONS OF MIAMI-DADE'S TRANSPORTATION SYSTEM

At the most basic level, Miami-Dade's transportation system keeps its businesses and employees moving. To a greater extent, transportation supports and stimulates the local economy in its entirety. Its local contributions are everywhere. From providing commuting options for workers and merchandise stock for local retailers to facilitating tourism and stimulating the housing market, the economic impacts of moving people and goods permeate from the macro-level all the way down to the individual worker, business, resident, or household.

With a Gross Domestic Product (GDP) of $275 billion in 2012, Miami-Dade County's economy contributes over one-third of the entire State of Florida's GDP.[28] The seaport and airport are the two largest economic engines in Miami-Dade. PortMiami contributes roughly $27 billion each year to the local economy and supports more than 207,000 jobs in South Florida.[29]  MIA and the other general aviation airports in Miami-Dade County contribute an estimated $32.8 billion to the economy along with 272,395 jobs.[30]

Additionally, Miami-Dade Transit employs nearly 4,000 people to operate and maintain its transit service. While these are the largest direct contributors locally, the operation of Miami-Dade's entire transportation system for all modes of travel and the capital for expansion also create significant secondary employment and economic contributions in other industries such as warehousing, construction, trucking, and retail activity.

Miami-Dade County's local economy is on rise. Supported by an expanding transportation infrastructure, it is steadily recovering from the recession. This is partially due to its high levels of foreign trade, investment, and tourism. In fact, the local private sector industries have already recovered 89 percent of the jobs lost during the recession, as shown in Exhibit 29. The real estate market also looks promising. Based on an annual survey of business leaders and real estate professionals, Miami-Dade is currently the best market in the U.S. for investing in industrial/distribution, retail, or hotel properties. It has shot up to 8th place for "buy/hold" investment recommendations overall for real estate markets in the U.S.[31]

28 U.S. Bureau of Economic Analysis (Link)
29 Miami-Dade County, 2013 – PortMiami Webpage (Link)
30 Miami-Dade Aviation Department, 2013 – Webpage (Link)

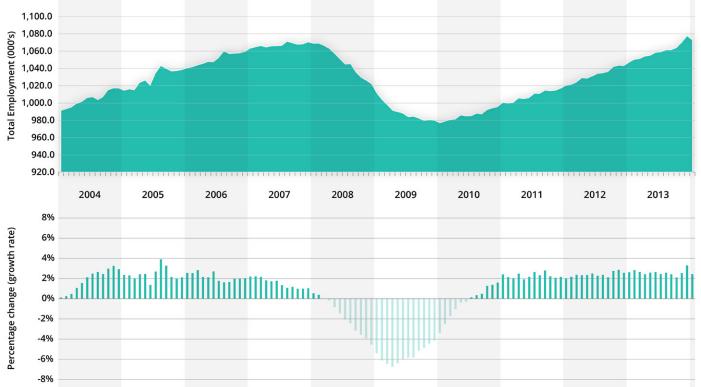31 Urban Land Institute – Emerging Trends in Real Estate 2014 (Link)

**Exhibit 29: Recent Employment Totals in Miami-Dade**
Miami-Dade County Regulatory & Economic Research Department – Analysis of Current Economic Trends, Fourth Quarter 2013 (Link)

# IV. VISUALIZATION TOOL

## A. WEB APPLICATION

The Miami-Dade Compendium of Transportation Facts and Trends website is designed to promote awareness about the county, its transportation system, and the impacts that it has. The website offers its visitors a compelling and easy to use interface through which they can explore a wide range of media. These different methods for conveying information provide the user a visual opportunity to explore transportation data from many different sources.

The website's layout, shown in Exhibit 30, is based on five sliding panels, starting with an introductory video in the first panel. The other four panels are arranged with information categorized by the four visualization scales: Global, National, Statewide, and Regional. Each scale of analysis contains both an overview video and more specific information about various components of Miami-Dade's transportation system.

The goal of the Facts and Trends web application is to take complex transportation-related data, and make is accessible to those who aren't familiar with the subject. It was designed for an audience with a wide range of ages and levels of technological proficiency. To guarantee that such a wide and diverse audience would find the navigation of the website and information it contains understandable and easy to use, all the information is presented with the use of rich media such as videos and info-graphics. This allows flat, statistical data to become easily visualized so that meanings, comparisons, and connections become immediately apparent to the user.



**Exhibit 30: The Facts and Trends Web Application User Interface**

## B. VIDEO SERIES

The Facts and Trends video series has the same purpose as the web application – to inform and educate the public. The videos serve as an additional audio and visual medium to convey the information at hand and make the user experience more entertaining.  There are currently five total videos as part of the Compendium: one for each of the four scales of analysis and a general overview or introductory video.

With an average runtime of about one minute, each of the five videos contains footage of Miami-Dade's scenery, lifestyles, and transportation networks in action. They also have professional voiceover narration that provides the viewer with short storylines of information.

A distinct advantage of these videos is they can be used for a variety of different purposes and settings. They are embedded in multiple locations throughout the web application to help supplement and enhance the infographic data.  They can also, however, be used by themselves individually or in combination on the MPO's or other Miami-Dade County agency's websites to accomplish the same goal. The links to the videos can be shared via email, or because they are hosted online, could be used during presentations to promote and highlight Miami-Dade in any venue with an internet connection.

# V. RECOMMENDATIONS FOR FUTURE COMPENDIUM UPDATES

## A. DATA EXPANSION AND UPDATES

In order for this Compendium to remain relevant and useful to the public, it needs to be updated on a periodic basis. Because it contains data from various sources which release updates at different times and on different frequencies, the update to the Compendium as a whole should ideally take place every two to five years. This schedule would achieve the balance of allowing the information to remain current, but not requiring the scale of effort to update it on an annual basis.

In addition to keeping the existing data sources and categories up to date, the Compendium should be expanded periodically to include additional information. As new sources or data types become available or especially relevant to Miami-Dade County, they should be added to this growing database so that it becomes more of a centralized location for accessing a larger variety of information.

Potential data expansion opportunities outside of the data types already in the Compendium include, but are not limited to:

-Safety data trends (crashes, fatalities, bike/ped, etc.)
-Real estate market analysis
-Measures of sprawl/density
-Environmental information (emissions, park lands, sustainability, etc.)
-Income distribution trends
-Diversity measures
-Travel time/congestion statistics

As the Compendium is expanded in the future, emphasis should be placed on the Regional scale of analysis. Data at this most detailed scale will be richer and more accurate in nature. It will also provide for more localized comparisons and spotlights on different parts of the South Florida Metro Area to further stress the significance of Miami-Dade County.

## B. OTHER AREAS TO BE CONSIDERED

An additional strategy for expanding the Compendium in the future is by adding functionality or new components to the web application. Options for doing this are steadily evolving as technology changes, but the goal is to always make the Compendium's visualization tool as easy and fun to use as possible.

One way to accomplish this is by making the infographics interactive. The Compendium currently contains static images that effectively convey the information, but allowing the user to interact with each one of the graphics by using the computer cursor would open up additional possibilities for data inclusion. Dynamic, interactive graphics would allow the user to access more information in the form of pop-up boxes or other media by clicking on or hovering over certain parts of the graphics. Interactive graphics would also provide a richer visual experience for the user by allowing for highlights, color changes, or motion within each graphic to help better convey its story.

Having a Links or Events section within the Compendium web application could also be a way to easily provide more content to users in the future. It would allow an interested user to dig deeper for more information on certain subjects by going to an agency or organization's website that would be independently updated on a regular basis. Potential websites that may be useful as links include:

- Transportation Partner Agencies
- Miami-Dade County Government Agencies
- Tourism or Visitor Bureaus
- Economic Research Organizations or Chambers of Commerce
- Any Other Groups that Provide Facts and Trends about Miami-Dade County

Links to specific project websites or transportation-related events and public meetings could also be promoted via the Compendium web application. However, caution should be taken not to replicate any information that is displayed in other parts of the Miami-Dade MPO's main website.

The Compendium videos are another area that could be expanded and enhanced in the future. The MPO could incorporate its other existing videos or videos from its transportation partner agencies so that they could all be accessed from the same location where the other Compendium data is housed. Additional videos could also be created to further promote Miami-Dade and the aspects of its transportation system.

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