Broward Fact Files

SPEAK **UP** BROWARD

Transportation Choices. Your Voice Counts.

March 2014

broward **MPO**
metropolitan planning organization

move people • create jobs • strengthen communities

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Table of Contents

Table List of Exhibits

List of Acronyms

AAA	American Automobile Association
APTA	American Public Transportation Association
ATD	Advanced Transportation District
BCT	Broward County Transit
BRT	Bus Rapid Transit
CNT	Center for Neighborhood Technology
DDOT	Detroit Department of Transportation
FAA	Federal Aviation Administration
FDOT	Florida Department of Transportation
FEC	Florida East Coast Railway
FHA	Federal Housing Administration
FHWA	Federal Highway Administration
FLL	Fort Lauderdale-Hollywood International Airport
FTA	Federal Transit Administration
FTP	Florida Transportation Plan
GCRTA	Greater Cleveland Regional Transit Authority
HART	Hillsborough Area Regional Transit
HOT	High Occupancy Toll Lane
HOV	High Occupancy Vehicle Lane
LRT	Light Rail Transit
LRTP	Long Range Transportation Plan
MAP-21	Moving Ahead for Progress in the 21st Century
MBUF	Mileage-Based User Fee
MDT	Miami-Dade Transit
METRO	Metropolitan Transportation Authority of Harris County, Houston, Texas
MPO	Metropolitan Planning Organization
MSA	Metropolitan Statistical Area
MTC	Metropolitan Transit Commission
PSTA	Pinellas Suncoast Transit Authority
SEFTC	Southeast Florida Transportation Council
SFRPC	South Florida Regional Planning Council
SFRTA	South Florida Regional Transportation Authority
SIS	Strategic Intermodal System

SMART	Suburban Mobility Authority for Regional Transportation
TBARTA	Tampa Bay Area Regional Transportation Authority
TDP	Transit Development Plan
TRIMET	Tri-County Metropolitan Transportation District of Oregon
TSM&O	Transportation Systems Management and Operations
UMTA	Urban Mass Transit Administration
UZA	Urbanized Area
VIA	VIA Metropolitan Transit, San Antonio
VMT	Vehicle Miles Traveled

Introduction

The Speak Up Broward Fact Files are a collection of socioeconomic and transportation data and resources that are meant to provide contextual information about Broward for use in developing communications and as a resource in planning for comparative possible futures. One of our resources provides a perspective from three different types of rail transit cities – *established, new, and aspiring*. This historical recap of how other places developed transit includes our exploration of how their experiences might inform Broward's transit aspirations. This report is rounded out with a collection of resource materials from media reports and special studies on a variety of relevant subjects. The Fact Files are comprised of five major components:

1. **Socioeconomic Facts and Trends:** Describes the characteristics of Broward's population in terms of density, age group distribution, income, and housing.

2. **Transportation System Facts and Trends:** Describes the movement of people and goods.

3. **Public Transportation – How It Happened Somewhere Else:** Brief histories of established, new, and aspiring transit systems throughout the U.S. are provided with an assessment of lessons learned that may be pertinent to Broward.

4. **Local, Regional, and Statewide Plans and Studies:** Provides an overview of major planning efforts and studies underway for future transportation initiatives.

5. **Media and Research Reports:** Describes major transportation news, trends, and developments from local opinion pieces to national reports from foundations like the Transportation Research Board and the Urban Land Institute, among others.

Data resources used for compiling the information in this report are listed in Appendix 1 along with hyperlinks to those resources.

1. Socioeconomic Facts and Trends

The socioeconomic characteristics of Broward's population provide snapshots of the living and working patterns of major groups of people. Over time, this information highlights major demographic trends that can be used in planning for Broward's future. A summary table of socioeconomic data can be found in Appendix 2.

Population

Broward's population has grown significantly over a relatively short period of time since the initial Census counts in 1920. The fast growth experienced in the 1960s that continued into the beginning of this century has leveled off in recent years as a result of the housing bubble and the Great Recession. As of 2011, Broward is the 18th most populous county in the United States. It is located in the heart of the larger South Florida region that is the 4th most populous Urbanized Area (UZA) and 8th most populous Metropolitan Statistical Area (MSA) in the United States. Exhibit 1-1 shows Broward's population history and projections. Exhibit 1-2 includes population projections for the entire South Florida region.
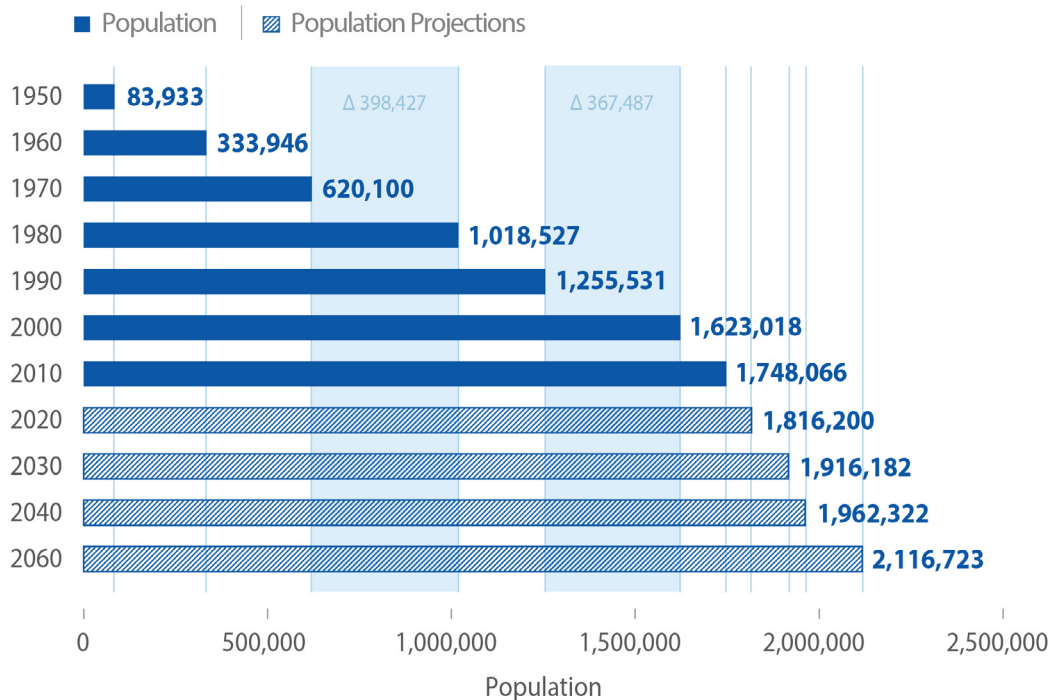
Exhibit 1-1: Broward's Population Change by Decade

Source: U.S. Census Bureau, Broward County Planning, and Seven50, note: projections for year 2050 are not available

Palm Beach | Broward | Miami - Dade

2012

2040

2060

5.8M Total Population

7.0M Total Population

7.9M Total Population

24%	1,356,545	
31%	1,815,137	
45%	2,591,035	

24%	1,682,442	
28%	1,962,322	
48%	3,307,600	

24%	1,937,316	
27%	2,116,723	
49%	3,864,100	
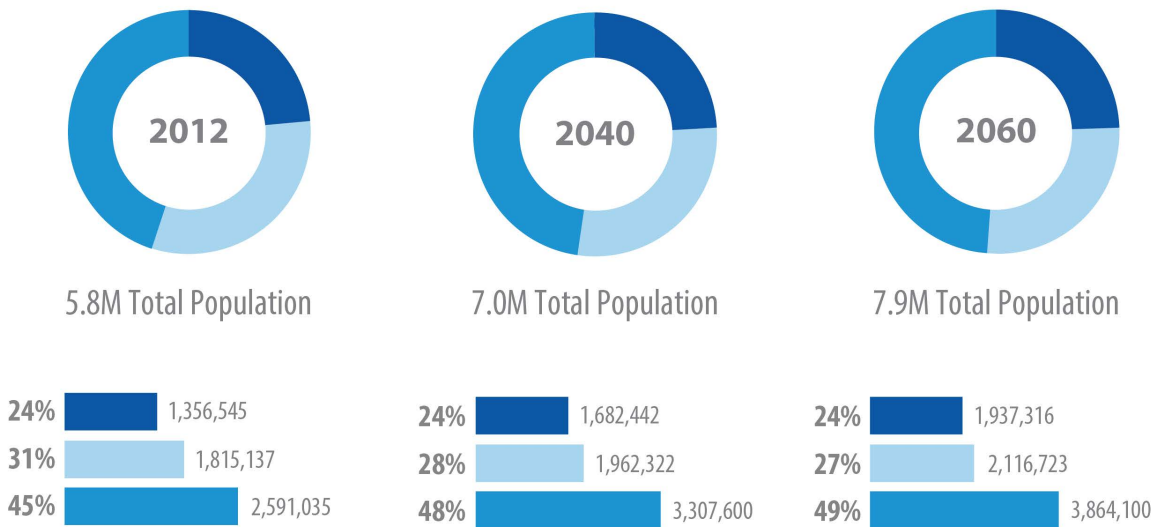
Exhibit 1-2: Population Projections for Broward, Palm Beach, and Miami-Dade Counties

Source: U.S. Census Bureau, Broward County Planning, and Seven50

Density

Although population and employment growth in Broward have slowed, that growth will need to occur within already developed land use. The Florida Everglades makes up the majority of Broward's 1,210 square miles leaving only one third, or 410 square miles, of developable land area. Sandwiched between the Atlantic Ocean and Florida's Everglades, there is no room for development on new lands. To be sure, there is room for redevelopment and infill development within existing land uses, but there are no significant opportunities for new subdivisions spreading west. Similarly, the road network for Broward is already built and there is no more room for new roadways and very little room for widening existing roadways. With geographic limits on expansion opportunities for new subdivisions or new roadways, Broward's population density will continue to increase as growth will be absorbed within already developed areas.

In the last half of the 20th century, Broward's density has increased from just over 200 persons per square mile in 1950 to over 4,200 persons per square mile in 2010. By 2040, density is projected to reach 4,800 persons per square mile. As shown in Exhibit 1-3, the highest population densities within Broward are found along the coast and in downtown Fort Lauderdale. In Central Broward, higher population densities are found around the cities of Lauderhill and Lauderdale Lakes.

Legend:
- < 10
- 10 - 19
- 20 and Above
- No Population

Palm Beach County

Everglades Conservation Area

Miami-Dade County
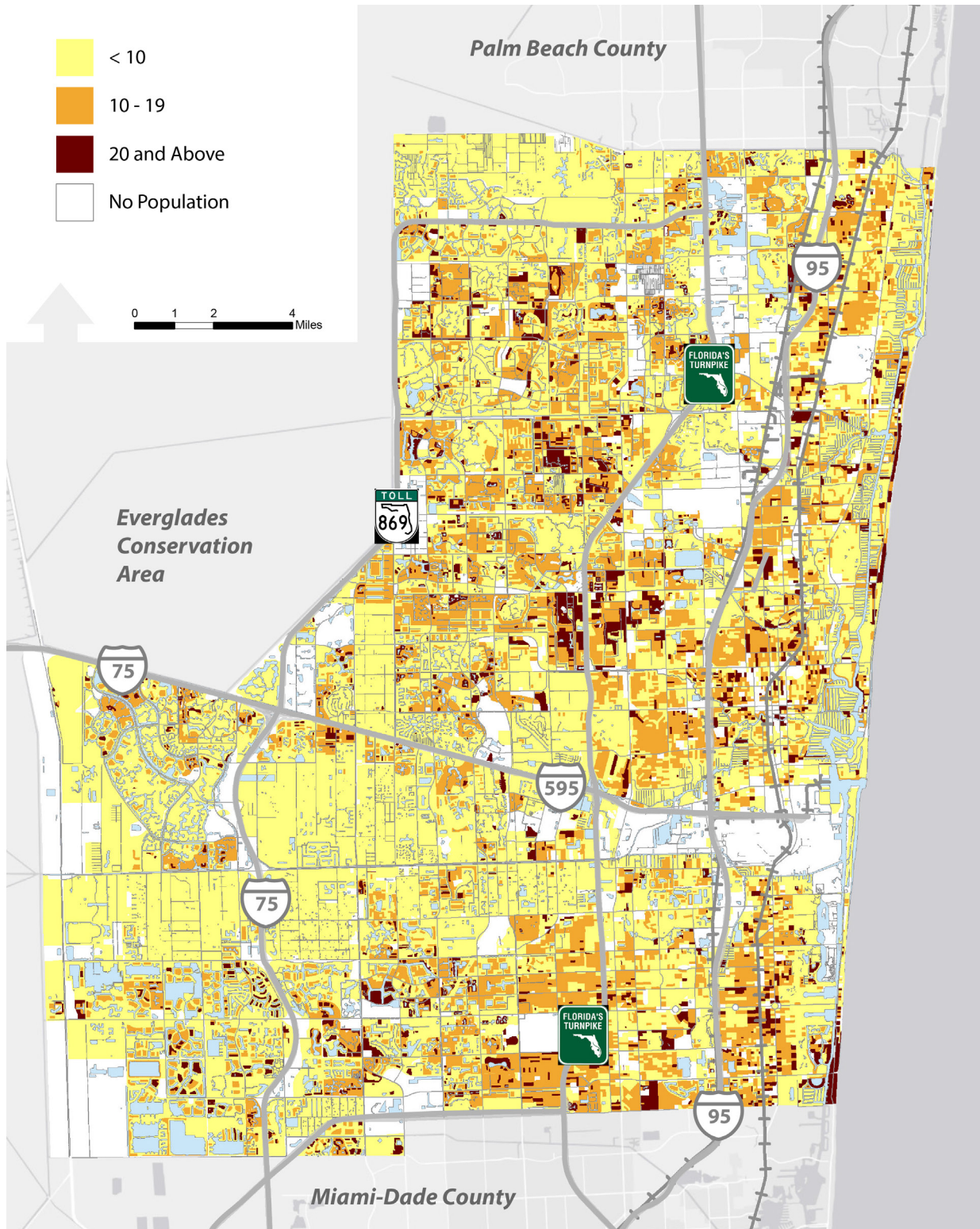
Exhibit 1-3: Population Density (Persons/Acre) in 2010 by Census Block

Source: U.S. Census Bureau, Census Blocks, 2010

Race and Ethnicity

Broward's population consists of three predominant racial/ethnic groups: White (non-Hispanic), Black (non-Hispanic), and Hispanic of any race. Combined, these three groups represent more than 95 percent of the total population.

Although White (non-Hispanic) persons are the largest single racial/ethnic group found in Broward, trends show that their numbers are in decline as a percentage of the total population. In fact, the percentage of Hispanic and Black (non-Hispanic) persons has been increasing significantly since the 1970s, while the percentage of White (non-Hispanic) persons has declined. Representing only 2.5 percent of the total population in 1970, the Hispanic population tripled from 1990 to 2010, and has increased another 61 percent since 2000. Today, Hispanic populations comprise 25 percent of the total population, roughly equivalent with Black (non-Hispanic) populations. Projections show Hispanic population increasing at a faster rate than either White or Black (non-Hispanic). Exhibit 1-4 shows recent and projected trends for Broward's population.

Total Population
Hispanic Population
Non-Hispanic Black Population
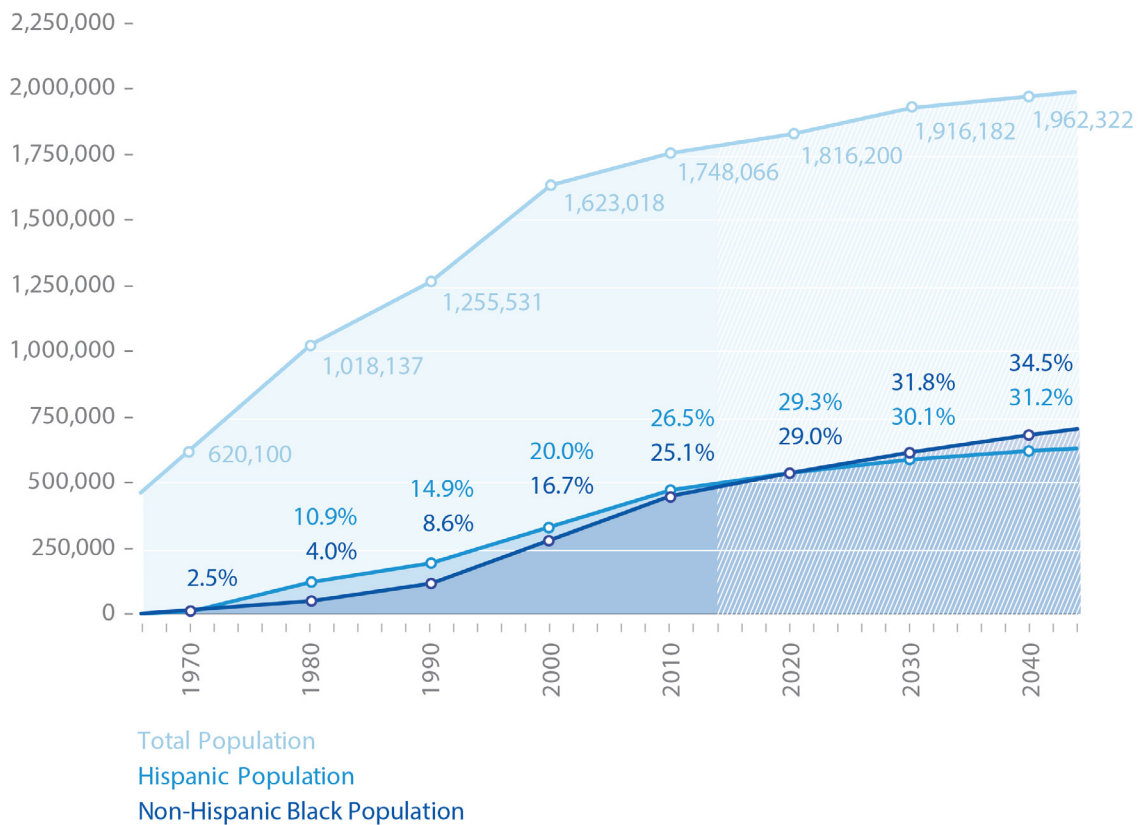
Exhibit 1-4: Broward's Minority Populations Over Time
Source: U.S. Census Bureau and BEBR

The 2010 Census reports that 32 percent of Broward's residents are foreign-born compared with 25 percent in the 2000 Census. This is considerably higher than the national average of 13 percent. The heightened interest in Broward and South Florida by persons born in South American and Caribbean countries is changing the make-up of our population. International trade and the region's role as a global market will be positively influenced by this influx of Hispanic residents.

Minority populations reside throughout Broward. Locations of Black (non-Hispanic) minority residents are mapped in Exhibit 1-5, showing population concentrations in three main areas:

- North Broward along the I-95 corridor in Pompano Beach and Deerfield Beach
- Central Broward between I-95 and Florida's Turnpike, mostly in Lauderhill, Lauderdale Lakes, and parts of Fort Lauderdale; and
- South Broward along the I-95 corridor in Hollywood and Hallandale Beach, extending west into Miramar.

Hispanic populations, mapped in Exhibit 1-6, generally reside in southwest Broward west of Florida's Turnpike and south of I-595 in Weston, Southwest Ranches, Pembroke Pines, and Miramar.

Less than 25%

25% - 49%

50% - 74%

Greater than 75%

No Population

0 1 2 4 Miles

Everglades Conservation Area

Palm Beach County

Miami-Dade County
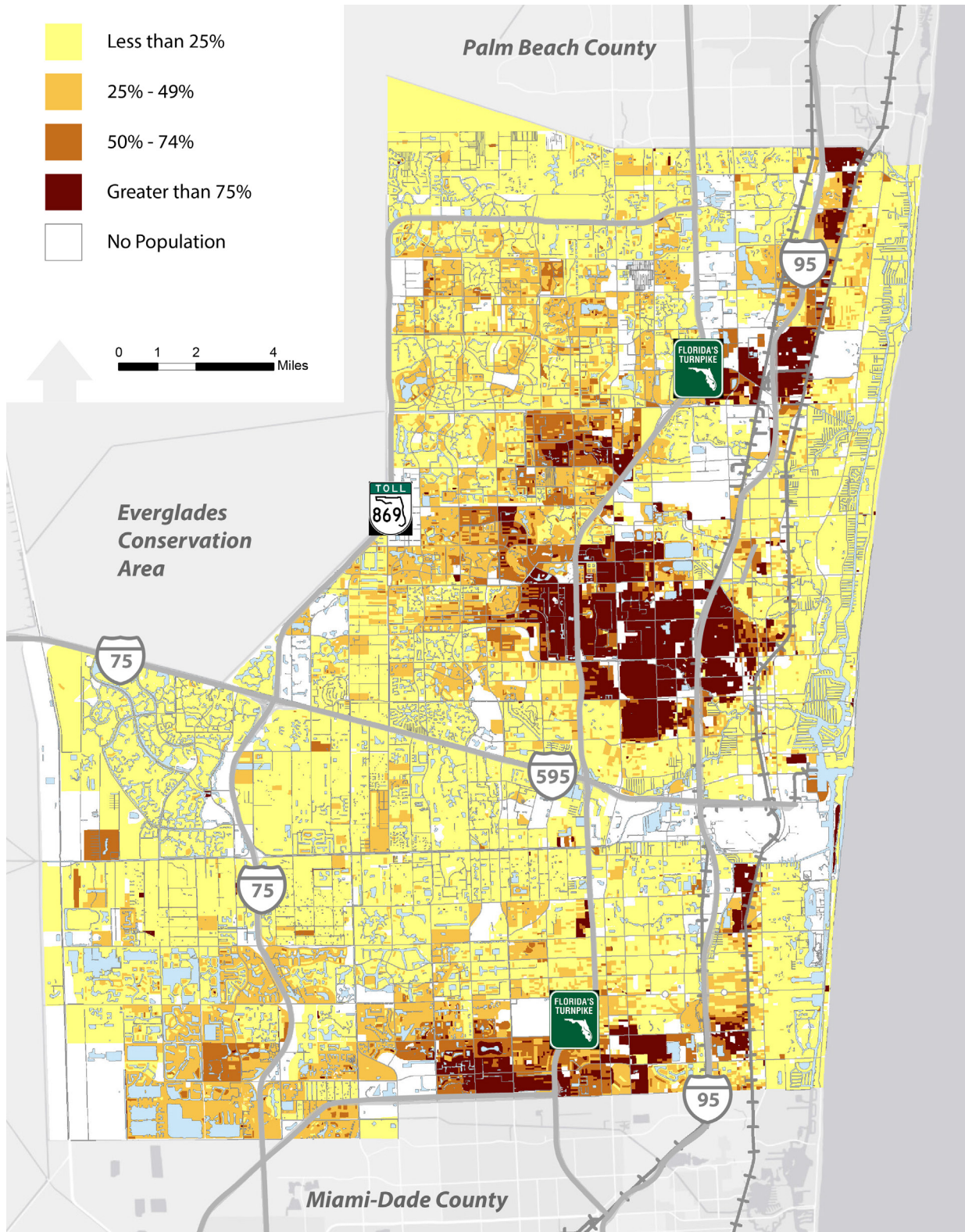
Exhibit 1-5: Non-Hispanic Minority Population in 2010 by Census Block
Source: U.S. Census Bureau, Census Blocks, 2010

Less than 25%

25% - 49%

50% - 74%

Greater than 75%

No Population

0 1 2 4 Miles

Palm Beach County

Everglades Conservation Area

Miami-Dade County
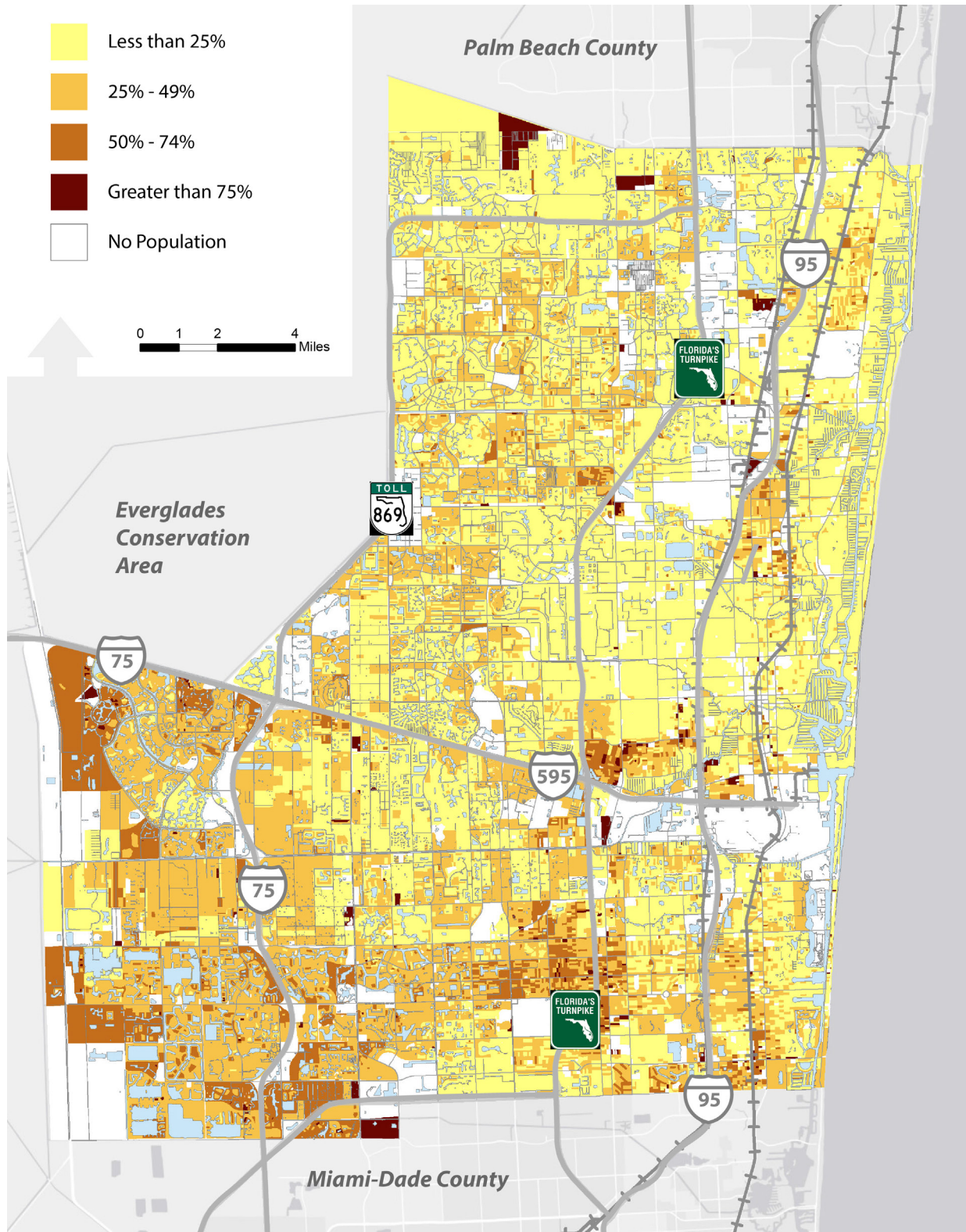
Exhibit 1-6: Hispanic Population in 2010 by Census Block
Source: U.S. Census Bureau, Census Blocks, 2010

Age Groups

Based on median age, Broward's population is slightly older than the U.S. as a whole (by 2.5 years) and slightly younger than the rest of Florida (by 1 year). Exhibit 1-7 compares the age cohorts as a percentage of the total populations of Broward, the State of Florida, and the entire country. When compared to U.S. averages, Broward has a higher percentage of persons aged 35 and older. However, when compared to Florida averages, Broward has a 3.6% fewer persons aged 55 and older.
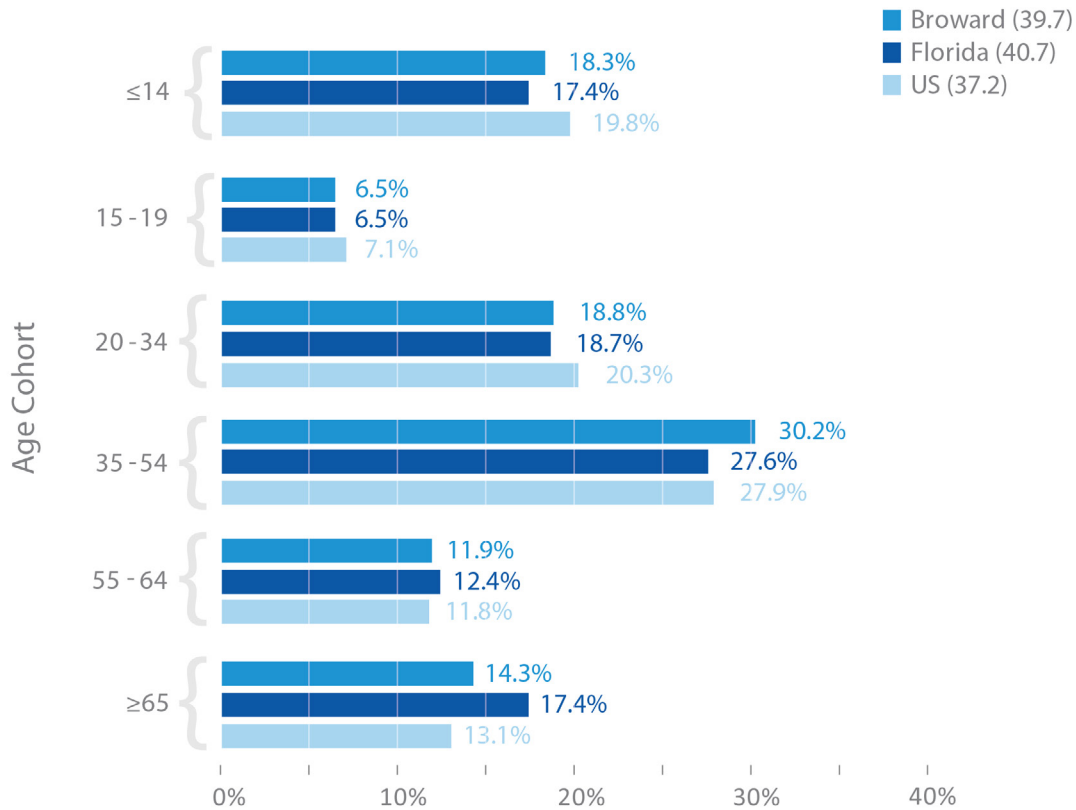
Exhibit 1-7: Age Cohort Percentage and Median Age Comparisons

Source: U.S. Census Bureau

Broward has traditionally been seen as a retirement and tourist mecca. Population projections into 2040 indicate an overall aging of the population which is consistent with the national trend for the aging of the Baby Boomers (born 1946 through 1964). By 2040, 88 percent more people will be over 65 compared to 2010 for this age cohort and represent 24 percent of the total population. People between the ages of 35 and 65 will drop in numbers 14 percent by 2040, although there will be an 11 percent increase in number of persons between the ages of 20 to 34 years of age. Exhibit 1-8 shows the age of Broward's population over time including projections to 2040.

Legend: ≤14 | 15 - 19 | 20 - 34 | 35 - 54 | 55 - 64 | ≥65

Year	≤14	15 - 19	20 - 34	35 - 54	55 - 64	≥65
1950	25.7%	5.6%	22.7%	29.5%	9.0%	7.6%
1960	28.5%	5.8%	17.2%	25.8%	11.3%	11.4%
1970	23.4%	7.2%	16.4%	22.4%	12.5%	18.0%
1980	16.6%	7.0%	21.8%	20.1%	12.2%	22.4%
1990	17.3%	5.3%	23.2%	24.8%	8.8%	20.7%
2000	19.9%	5.9%	19.3%	30.4%	8.5%	16.1%
2010	18.3%	6.5%	18.9%	30.2%	11.9%	14.3%
2040	16.8%	5.7%	19.1%	25.5%	9.6%	23.3%
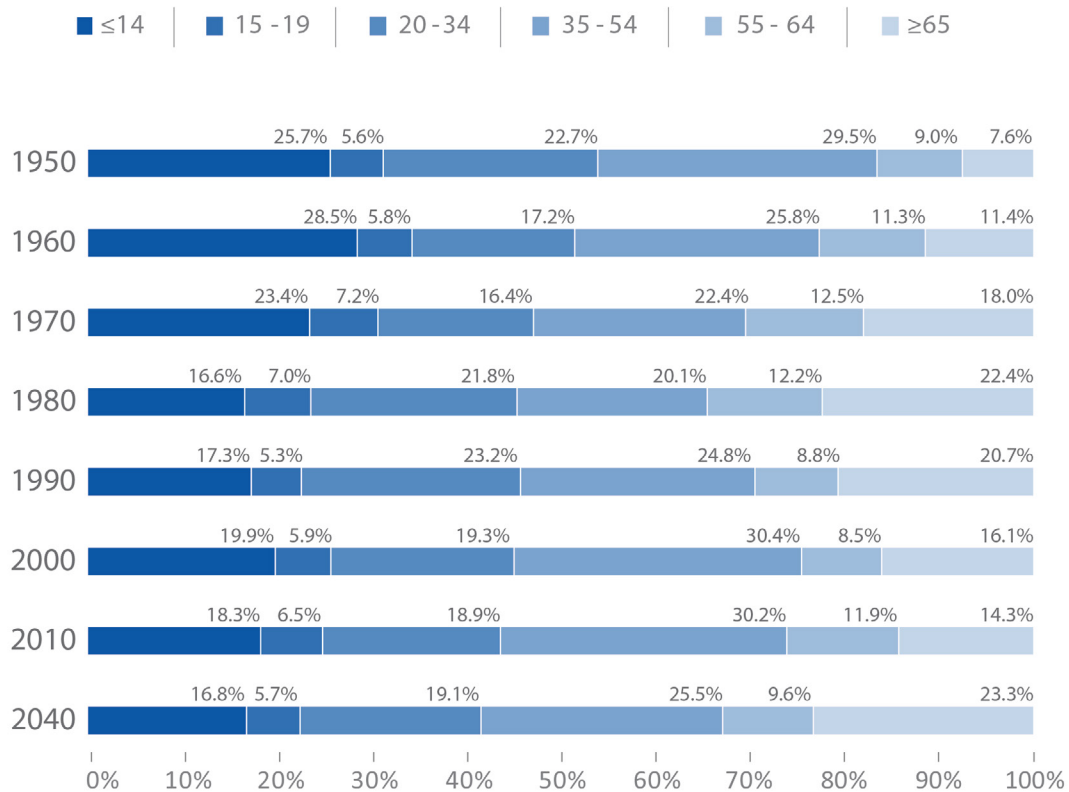
Exhibit 1-8: Broward's Age Groups Over Time

Source: U.S. Census Bureau and Broward County Planning

Employment

Broward's economy has historically been driven by tourism since the Flagler Railroad first brought visitors to the New River in Fort Lauderdale in 1896. But Broward was originally an agricultural center. After World War II a massive building boom hit Broward as servicemen exposed to Port Everglades and Broward's military training bases (where Southeast Florida Education Center is now) returned with their families. By the 1970s, concern over explosive growth led to management of that growth with the 1977 Land Use Plan that was designed to curb urban sprawl.

Today, the number of workers in Broward continues to grow along with its population. According to projections prepared by Seven50, Broward's estimated employment total of 867,647 as of 2010 is projected to grow by:

- 25.4 percent between 2010 and 2040 (196,08 additional jobs)
- 18.7 percent between 2040 and 2060, (158,659 additional jobs)

Commuting Patterns

Two of the biggest factors in describing commuting patterns are the mode of travel and direction of travel to work and back each day. Exhibit 1-9 shows travel by mode as compiled by the U.S. Census over the past few decades. The percentage of workers driving alone is consistently reported at around 80 percent. The share of workers taking public transit to work has also remained relatively constant at about 3 percent overall although transit usage has increased in recent years. Commuting trends show a decrease in the workers who carpool and an increase in workers using other modes of travel such as walking, biking, and telecommuting.

Drive Alone
79.7%
80.0%
79.9%

Carpooled
12.8%
12.0%
9.9%

Public Transit
2.1%
2.3%
2.7%

Other (Biking, Walking, Telecommuting, etc.)
5.4%
5.7%
7.4%

■ 1990　■ 2000　■ 2010
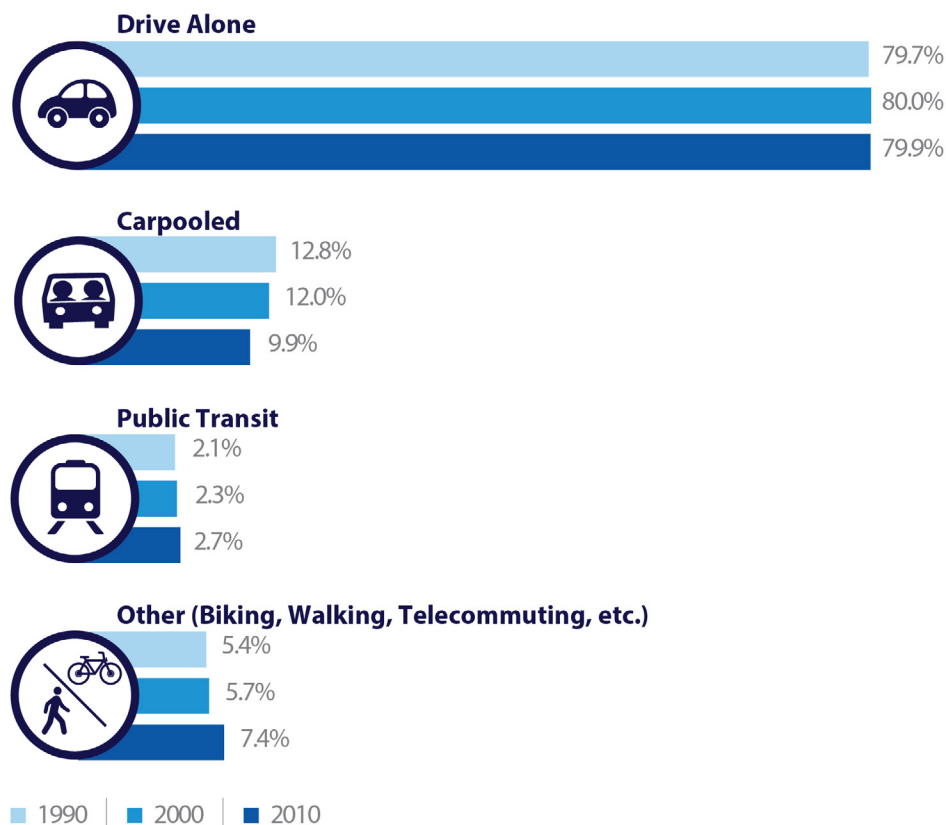
Exhibit 1-9: Broward's Commuting Patterns Over Time

Source: U.S. Census Bureau

Of the three counties in South Florida, Broward is the only net exporter of employees. The 2010 Census shows a net decrease in Broward's daytime population of 64,838 people. After total daytime gains and losses are accounted for, Broward experiences a net loss of 8 percent of its employees to neighboring counties. Comparatively, Palm Beach and Miami-Dade counties experience a net gain of 3 percent and 6 percent, respectively.

Commuters who live and work in Broward generally travel from the western residential neighborhoods east to work in the cities of Pompano Beach and Fort Lauderdale. Fort Lauderdale alone experiences an almost 53 percent population increase during weekday business hours. On the other hand, most commuters are traveling away from their home cities in the northwestern and southwestern corners of Broward from places like Coral Springs, Margate, Weston, Pembroke Pines, and Miramar.

Industries or Occupations

Today, tourism continues to be a dominant force in our economy with 13 million people visiting Broward in 2013 and 14 million expected to visit this year. As shown in Exhibit 1-10, Professional/Business Services and Retail Activity are the two largest industries in terms of employment. Combined, they comprise nearly 40 percent of Broward's total employment. The next largest classifications are Restaurant/Bars and Health Services which employ 17 percent of the total employment. According to regional socioeconomic forecasts, the share of employment by each industry is expected to remain constant with each growing by roughly 10 percent to 2040. (Broward County Planning)

2%	Hotels and Motels
2%	Post-Secondary Education
2%	Transportation
3%	Amusement Services
5%	Elementary Education (K-12)
5%	Federal, State, and Local Government
6%	Manufacturing
6%	Wholesale Trade and Warehousing
7%	Construction
7%	Personal Services
9%	Health Services
9%	Restaurants and Bars
15%	Retail Activity
23%	Professional and Business Services
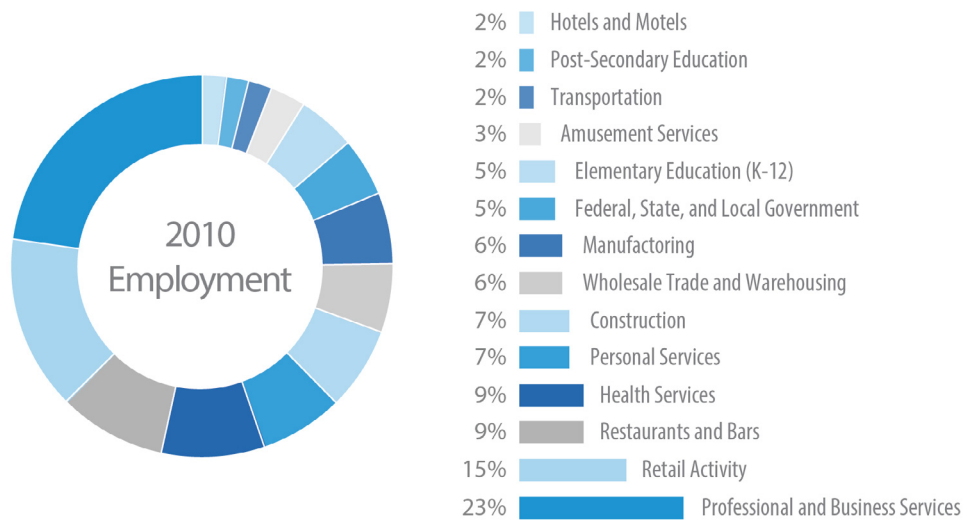
2010 Employment

Exhibit 1-10: Broward's Employment by Industry

Source: Broward County Planning

Income

Median household income has risen from $26,465 in 1970 to $47,917 in 2010. Between 2000 and 2010 alone the percentage of households earning less than $60,000 per year dropped from 67 percent to 57 percent, while the number of households earning $100,000 or more per year increased from 13 percent to 19 percent. During this same time, purchasing power has declined, but at a more rapid pace. When adjusted for inflation and converted to 2010 dollars, the value of median household income has dropped sharply over the last four decades, as shown in Exhibit 1-11. One dollar in 1970 would be $5.62 in 2010. Said another way, today's buying power is 18 percent of the buying power we had in 1970. As with the rest of the country, Broward's average household is clearly earning more over the years, but their incomes are not keeping pace with rising cost-of-living expenses such as housing and transportation.

The Center for Neighborhood Technology tracks how much households pay for housing and transportation expenses. Broward's average household spends 36 percent of their income on housing and another 26 percent on transportation – a total of 62 percent before they put food on the table. This compares with a benchmark of 30 percent for housing and 15 percent for transportation, or a total of 45 percent. There are often trade-offs for many places. In some cases, housing cost is lower while transportation cost is higher, or vice versa. However, in Broward, both are high. Clearly, Broward's average household suffers from a disproportionately high cost of living, much of it attributable to limited travel options and high cost of insurance for both housing and automobile liability. Exhibit 1-11 shows how Broward compares to other places.

$160,000

$148,733

$140,000

$120,000

$100,000

$80,000

$73,522

$60,000

$51,004 $52,793

$47,917

$40,000

$41,691

$30,571

$20,000

$26,465 $27,783

$0

1970   1980   1990   2000   2010
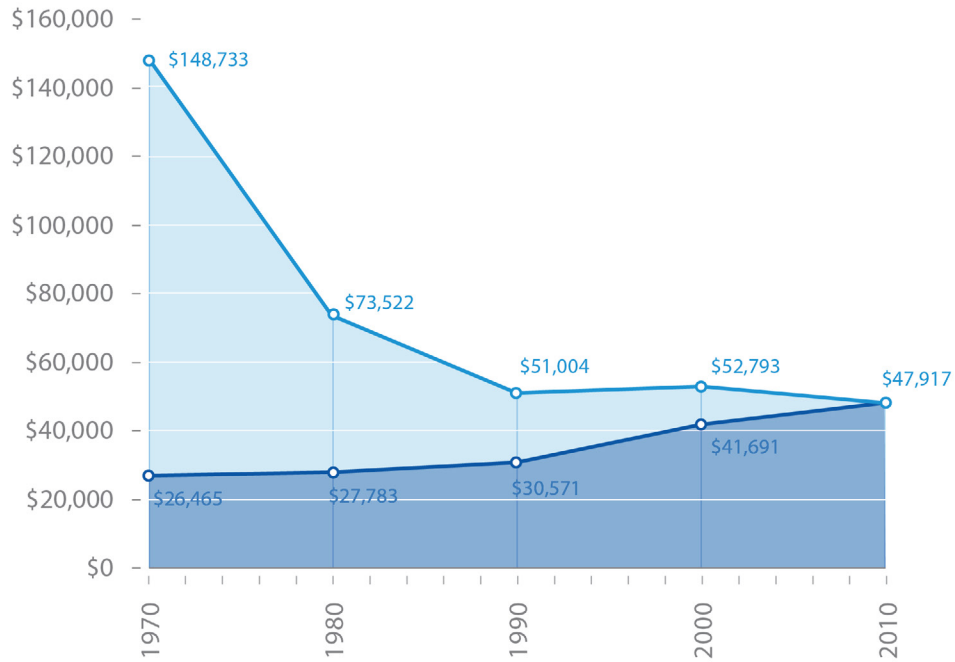
Median Household Income (in 2010 dollars)
Median Household Income (in year of Census dollars)

	Amount of Income Spent on Transportation	Amount of Income Spent on Housing	
Broward County (Fort Lauderdale, FL)	26%	35%	61%
Hillsborough County (Tampa, FL)	28%	31%	59%
Miami Dade County (Miami, FL)	25%	33%	58%
Mecklenburg County (Charlotte, NC)	26%	27%	53%
Fulton County (Atlanta, GA)	23%	30%	53%
Maricopa County (Phoenix, AZ)	26%	27%	53%
Bexar County (San Antonio, TX)	28%	24%	52%
Cuyahoga County (Cleveland, OH)	25%	25%	50%
Harris County (Houston, TX)	25%	25%	50%
Dallas County (Dallas, TX)	24%	25%	49%
U.S. National Average (25 Largest Metro Areas)	21%	27%	48%
Multnomah (Portland, OR)	22%	26%	48%
Wayne County (Detroit, MI)	24%	23%	47%
Hennepin County (Minneapolis, MN)	20%	25%	45%
CNT Affordability Benchmark	15%	30%	45%

0%   10%   20%   30%   40%   50%   60%   70%

Exhibit 1-11: Broward's Median Household Income Over Time along with Housing/Transportation Expenses

Source: U.S. Census Bureau and the Center for Neighborhood Technology

Housing

The roughly 700,000 households in Broward have steadily increased over time to accommodate a growing population. Broward's average household size increased from 2.35 persons per household in 1990 to 2.52 by 2010. Future projections of households by 2040 indicate that the number of households will increase more than the total population will grow, resulting in fewer persons per household. Population growth shows a larger percentage of people in Broward will be over 65, an 88 percent increase over 2010 in the age cohort. A smaller household size of 2.36 persons per household is expected in Broward by 2040. This is consistent with national trends in which families are having fewer children, the population is getting older, and many people are living alone. Exhibit 1-13 summarizes these housing trends.

Number of Households

- 528,442
- 654,445
- 686,047
- 831,491

Average Household Size

- 2.35
- 2.45
- 2.52
- 2.36

■ 1990 | ■ 2000 | ■ 2010 | ▨ 2040
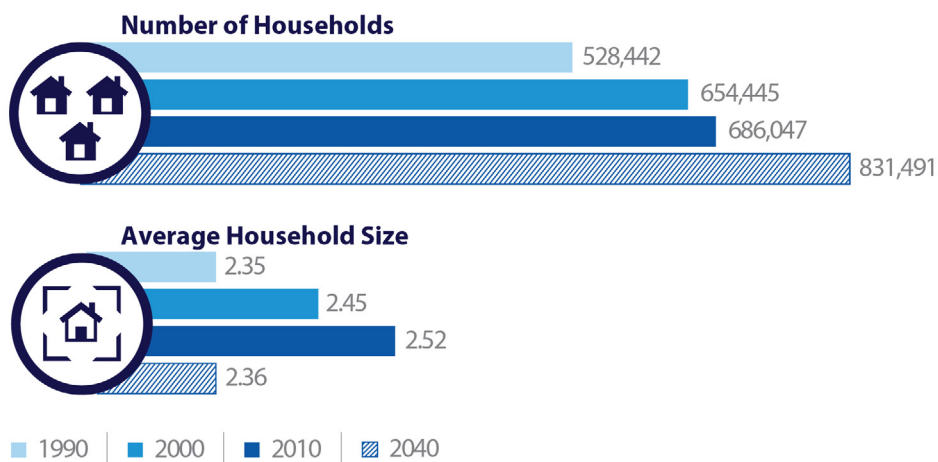
Exhibit 1-12: Broward's Number of Households and Average Household Size Over Time

Source: U.S. Census and Broward County Planning

The single-family home is expected to remain the most prevalent household type in Broward over the next 30 years. As shown in Exhibit 1-13, multi-family units are projected to grow by 23.2 percent between 2010 and 2040, while single-family units are only projected to grow by 19.5 percent during that same time period. New housing anticipated consists of 145,300 total units, of which 72,700 are expected to be single family homes, 68,600 multi-family homes, and 4,000 mobile homes/other.

Single Family

19.5%

372,337

445,013

Multi-Family

23.2%

295,365

363,957

Mobile Home and Other

22.8%

18,345

22,521

■ 2010 ▨ 2040
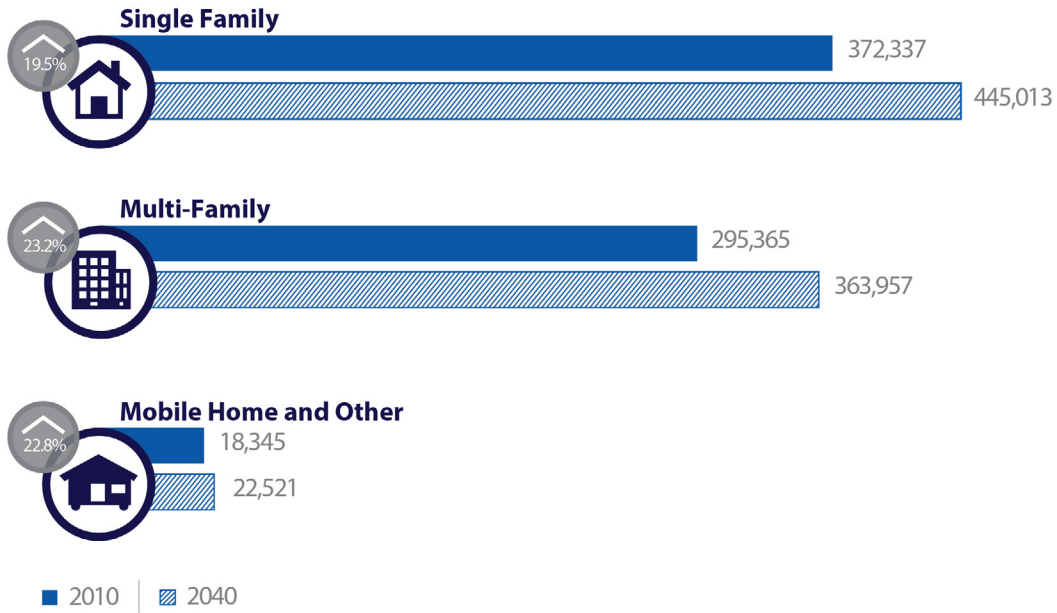
Exhibit 1-13: Broward's Household Type Projections

Source: U.S. Census and Broward County Planning

Transportation Disadvantaged

Broward's transportation disadvantaged population is in many cases reliant on others for mobility and are challenged with a lack of transportation options. Factors considered in determining transportation disadvantage include land use and access to public transportation or socio-economic characteristics such as age, income-level, or disability status. According to Broward County Transit's current Transit Development Plan, approximately 40 percent of Broward's population is considered to be transportation disadvantaged by virtue of one or more of these factors. The most recent Transit Development Plan by Broward County Transit completed in September 2013 surveyed bus riders. Of those surveyed, 22 percent say were it not for the transit service, they would not be able to get where they need to go.

Persons who are dependent upon transit include workers or households who do not own a vehicle and are therefore dependent on some form of public transportation for mobility. Those with no vehicles are just part of the population who may be transportation disadvantaged. These populations are much more likely to live in zero-car households than the general population. According to the 2010 U.S. Census estimates, roughly 3 percent of Broward's workers and 8 percent of Broward's households live in zero-car households. Exhibit 1-14 shows the locations within Broward that contain high percentages of workers with no vehicles.

Who are the Transportation Disadvantaged?

The ability to access transportation is vital to our quality of life. Those persons who are unable to transport themselves or purchase transportation due to physical or mental disability, income status, or age are considered transportation disadvantaged. These members of the community are therefore dependent upon others to obtain access to health care and social services, education, employment, shopping and other life sustaining activities.

No Population

High Transit Dependency*

Areas of 'high' transit dependency were defined as Census Tracts containing a higher percentage of workers with no vehicles than the Broward average of 3 percent.

0 1 2 4
Miles

Palm Beach County

95

FLORIDA'S
TURNPIKE

TOLL
869

*Everglades
Conservation
Area*

75

595

75

FLORIDA'S
TURNPIKE

95

Miami-Dade County
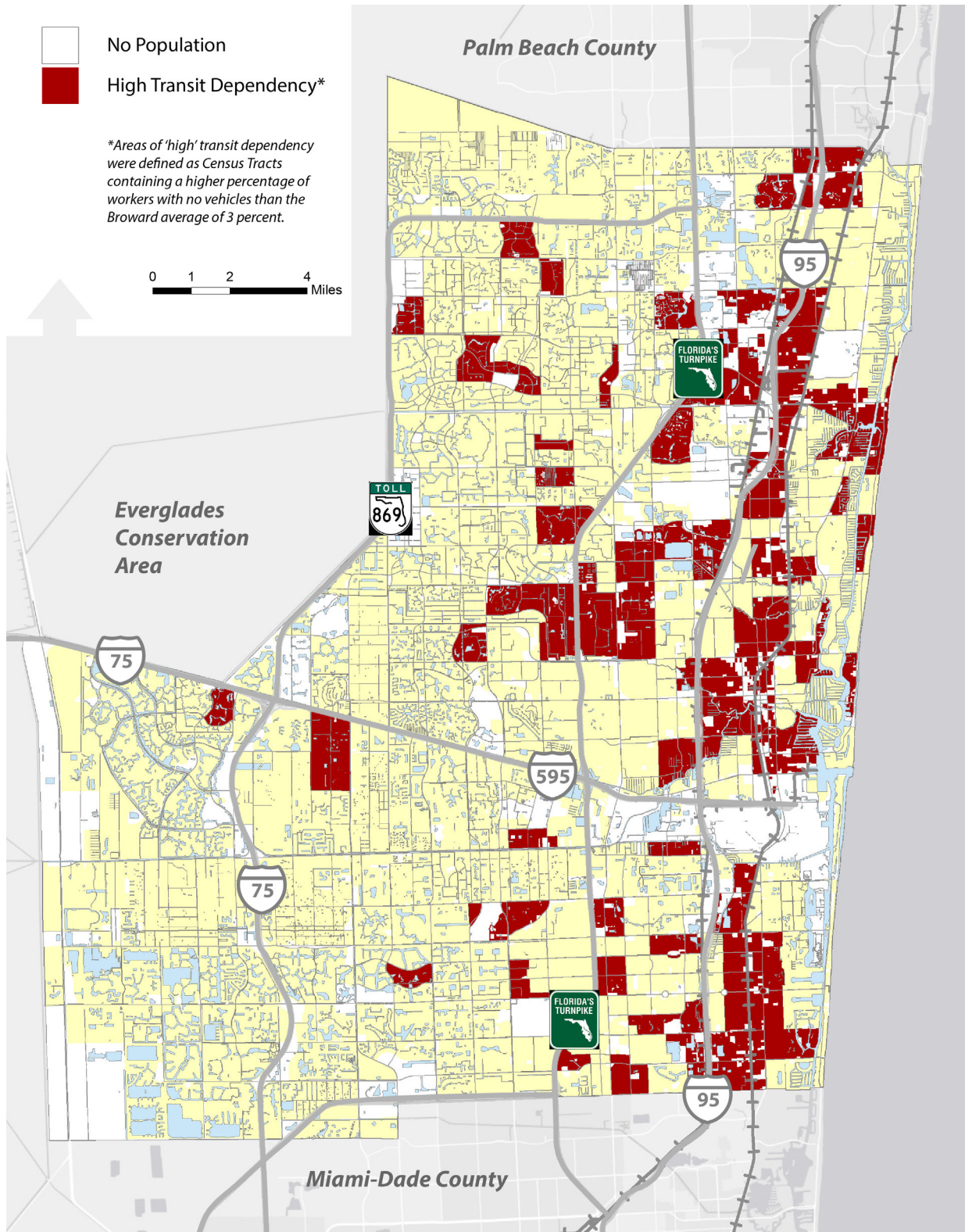
Exhibit 1-14: Transit Dependent Population in 2010 by Census Tract
Source: U.S. Census Bureau, Census Tract, 2010

2. Transportation System Facts and Trends

Broward's existing multimodal transportation system consists of roadways of all sizes (neighborhood streets, major arterials, toll roads and expressways), passenger and freight rail, airports (one major international and smaller regional airports), a major seaport; bus transit services (express, fixed-route, and community bus), and bicycle and pedestrian facilities. This transportation system has grown over time with early development spurred by rail connectivity in the eastern part of Broward in the first decades of the 20th Century. As the population grew over the second half of the last century, more new cities and residential subdivisions were established in the western part of Broward causing its roadway network to eventually expand to its current development boundary on the edge of the Everglades. A map of Broward's existing transportation system is shown in Exhibit 2-1. Mobility and public transportation data is summarized in Appendix 3.

Turnpike System
- ━ Toll Roads

Bus Transit System
- ━ Express Bus Service
- ━ Local Bus Service
- — Community Shuttles

Passenger Rail System
- ━ Rail Corridor
- — Tri-Rail Shuttles

Intermodal System
- ━ Freight Rail
- ▪ Airports
- ▪ Port Everglades
- BCT Transfer Centers
- Passenger Rail Stations

0   1   2   4
                  Miles

Palm Beach County

95

TOLL
869

Everglades Conservation Area

75

595

75

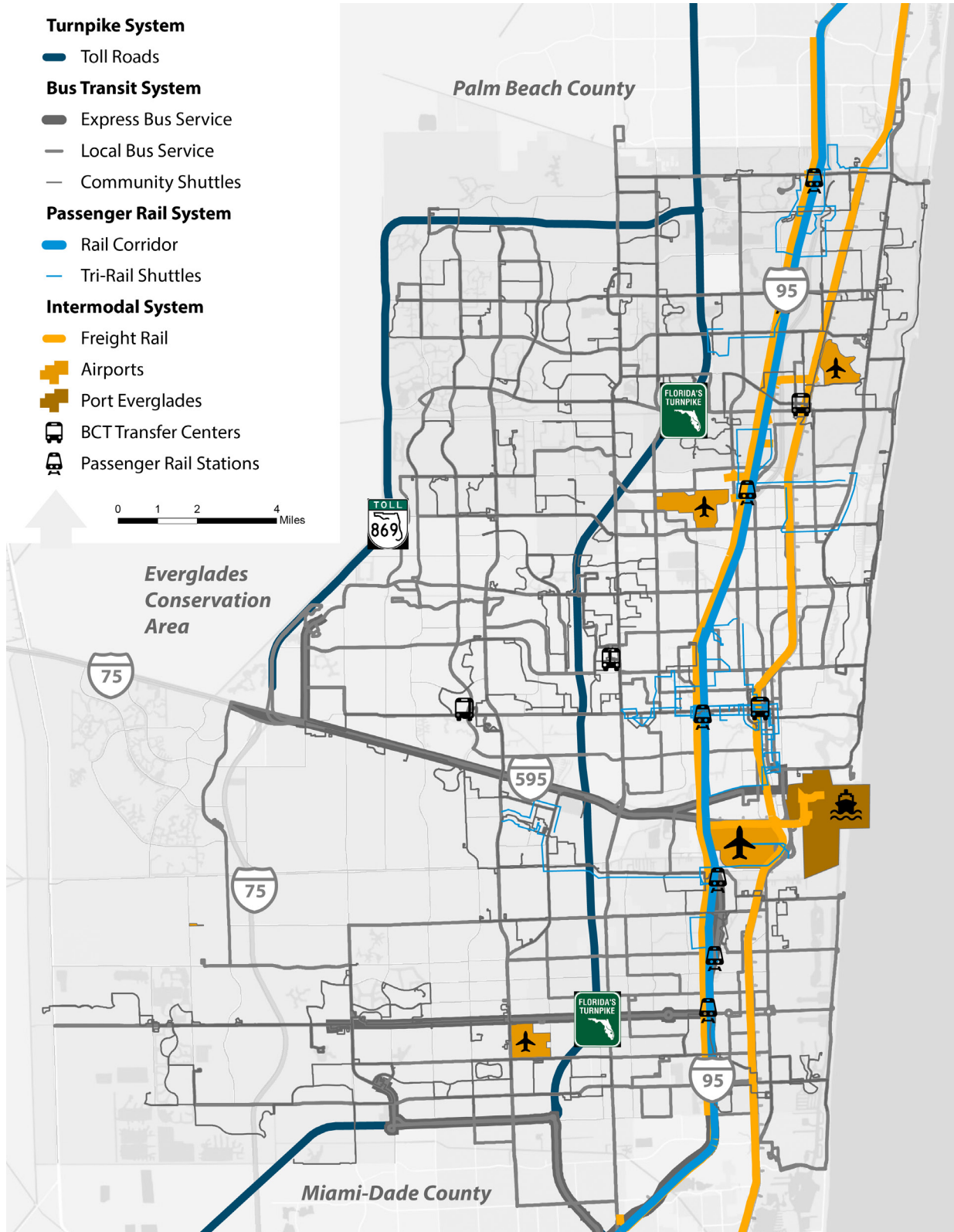FLORIDA'S TURNPIKE

FLORIDA'S TURNPIKE

95

Miami-Dade County

Exhibt 2-1: Broward's Existing Transportation System

Transit

Public transportation in Broward is provided by two primary agencies: Broward County Transit (BCT) and the South Florida Regional Transportation Authority (SFRTA). In addition, South Florida Commuter Services, a program funded and operated by the Florida Department of Transportation (FDOT) provides vanpooling and carpooling programs.

Broward County Transit (BCT)

BCT operates various types of bus service from regional express and limited-stop service to smaller-scale community shuttles and paratransit services. Every weekday, over 130,000 people board transit service provided BCT. In 2012, nearly 39 million passengers traveled a total of 187 million miles on its fleet of almost 452 buses.

In January 2010, BCT and the FDOT introduced the popular Express Bus service that travels from western Broward into Downtown Miami carrying close to 2,000 persons each day. This is one of several Express Bus options that are available to the citizens of Broward. The 595 Express routes connect the cities of Sunrise and Weston to major destinations in both Broward and Miami-Dade such as Downtown Fort Lauderdale, Downtown Miami, and the Miami Health District. The 95 Express routes provide additional connectivity between those destinations in Miami and parts of southern and eastern Broward with morning routes leaving from Hollywood, Miramar, Pembroke Pines, and Park and Ride lots along I-95 at Broward Boulevard and Sheridan Street.

South Florida Regional Transportation Authority (SFRTA)

SFRTA operates a 72-mile regional commuter rail service known as Tri-Rail. Operating on the CSX rail corridor since 1989, Tri-Rail currently has seven stations in Broward, and also offers a bus shuttle service to connect its stations with nearby activity centers. Tri-Rail's service area, service frequency, and fleet size have increased over the past two decades in response to a growing ridership demand. In fact, system wide annual ridership nearly doubled between 2000 and 2010 during which time total passenger trips increased from 2.2 million to just over 4 million.

South Florida Commuter Services

Founded in 1988 by the FDOT to serve as a public information office for the I-95 expansion, this program has been expanded into a one-stop shop for commuter information for programs extending from Miami-Dade to St. Lucie counties. The purpose of this program is to improve traffic conditions by promoting alternatives to driving alone. Commuter options supported include carpooling, vanpooling, transit, bicycling, park and ride, and express bus service.

Roadways

Broward has a variety of roadway types and sizes ranging from two-lane neighborhood streets to high-capacity expressways. Over 43 million miles are traveled each day on these roads by people who live in and travel through Broward. Each year, commuters spend 38 hours sitting in traffic, and their average travel time to work has increased from 23 minutes in 1990 to 27 minutes in 2010. The Florida Department of Transportation (FDOT), Broward County, and its 31 municipalities work together to provide the roadway network and traffic signalization system designed to move traffic throughout Broward in the most efficient manner possible.

Facilities

Broward has over 5,000 miles of public roadway the largest being the three interstate highways that facilitate traffic flow within and beyond its borders. Express lane projects on I-75, I-95, and I-595 are currently under construction, and in the near future will all have tolled express lanes to better manage traffic congestion. In addition to public expressways, Broward also contains nearly 50 miles of toll roads which include the entire Sawgrass Expressway and a segment of Florida's Turnpike.

Drivers

The number of licensed drivers and the total vehicle miles traveled (VMT) in Broward have increased over the last two decades with the population. The number of drivers and the amount they are driving, however, have not increased at the same rate. From 1990 to 2010, the number of drivers in Broward increased by about 17 percent, from roughly 1.2 million to 1.4 million. During that same time period the daily VMT in Broward increased by about 74 percent, from just fewer than 25 million to just over 43 million.

VMT in Broward has been slowly declining over the last few years. This is largely consistent with statewide and national trends in which steadily rising VMT peaked around 2007 and began to decline. More recently, Broward's VMT is again on the rise with 2011 and 2012 totals slightly. Driving behavior is an important factor in planning for future transportation system needs and expenditures and will be watched closely for confirmation and a better understanding of these trends. Exhibit 2-2 shows these VMT trends over time.

Broward

24,831,980

38,597,618

43,259,153

Florida

301,362,612

410,567,985

536,315,479

U.S.

3,069,391,781
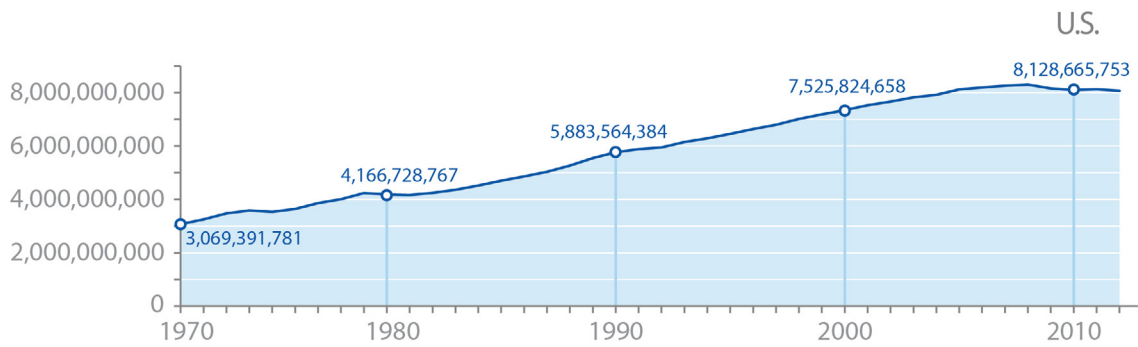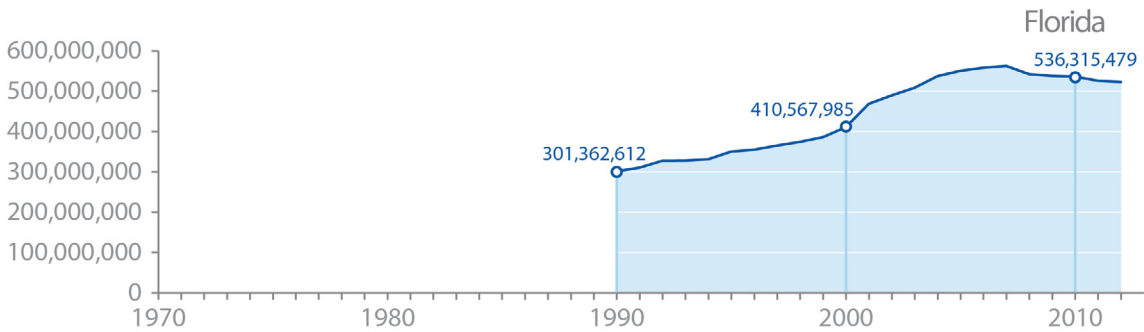
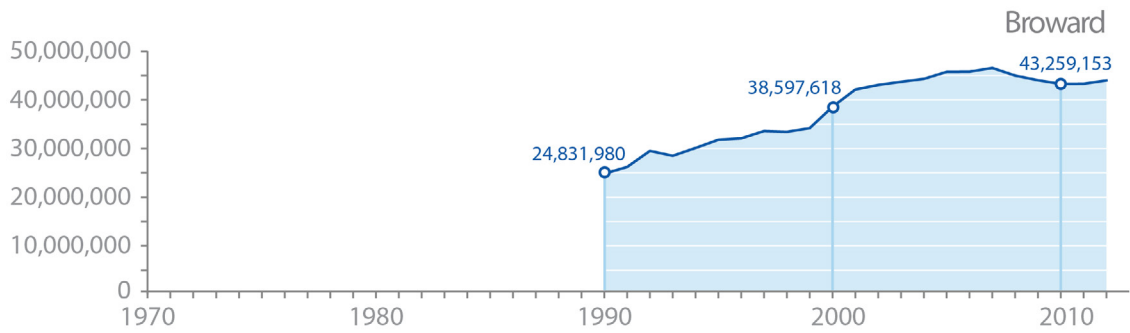4,166,728,767

5,883,564,384

7,525,824,658

8,128,665,753

Exhibt 2-2: Average Daily Vehicle Miles Traveled Over Time

Source: FDOT and FHWA

Driving Costs and Driving Consumption

One of the biggest costs of driving a vehicle on congested roadways is how much time it takes. Delay is the measure of time that drivers spend stuck in traffic. From 1990 to 2010 the average amount of time South Florida commuters spent stuck in traffic each year rose from 22 hours to 38 hours. During this same time period, the average travel time to work went from 23 minutes to nearly 30 minutes.

In addition to time wasted, Exhibit 2-3 shows trends for other measures of the costs of roadway congestion, such as CO_2 emissions, gallons of excess fuel consumed, and lost productivity. Despite small amounts of fluctuation, all of these indicators exhibit a similar pattern of steady increase during the last three decades.

What is Congestion Management?

The Federal Highway Administration (FHWA) defines congestion management as the application of strategies to improve transportation system performance and reliability by reducing the adverse impacts of congestion on the movement of people and goods. A congestion management process (CMP) is a systematic and regionally-accepted approach for managing congestion that provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet state and local needs.

Excess Fuel Consumed

Total Fuel (thousands of gallons)

81,201 gallons

start	12,662
end	93,863
high	101,781
low	12,662

Per Auto Consumer (gallons)

20 gallons

start	5
end	25
high	29
low	5

Annual Hours of Delay

Total Delay (thousands of hours)

147,438 hours

start	27,174
end	174,612
high	190,617
low	27,174

per Auto Commuter (hours)

35 hours

start	12
end	47
high	55
low	12

Excess CO2 Emissions

Total CO2 (millions of pounds)

1,790 pounds

start	254
end	1,885
high	2,044
low	254

per Peak Auto Commuter (pounds)

398 pounds

start	109
end	498
high	571
low	109

Annual Congestion Cost

Total Cost (millions of dollars)

$3,486

start	$263
end	$3,749
high	$3,755
low	$263

per Auto Commuter (dollars)

$3,486

start	$263
end	$3,749
high	$3,755
low	$263

Exhibt 2-3: Roadway Congestion Costs Over Time

Source: Texas Transportation Institute

While congestion and delay contribute significantly to increased costs in many forms, the monetary costs of driving in general can also be quite high even under ideal traffic conditions. Gas prices make up a large part of automobile operating expenses. Exhibit 2-4 shows how the average price of a gallon of gas has increased over the past century from a $0.27 in 1950 to $0.86 in 1980, and as of early December, $3.50 for 2013. Even when adjusted for inflation, gas prices are still higher than they've ever been. While it's true that cars are getting better gas mileage and per capita gasoline sales have been declining, the trend of rising gas prices is likely to continue. After factoring in congestion and the recent uptick in Broward's VMT, gas prices can be a considerable expense for the average driver. On the other hand, today's drivers do not cover the cost of maintaining our roads and bridges. The gas tax of 18.4 cents is levied on a per gallon basis. The rate has not increased in the last 20 years. So, while individual cost to own and operate a car is going up, revenues generated from the gas tax is creating other costs to the taxpayer in terms of lower investment and maintenance in the transportation system. When g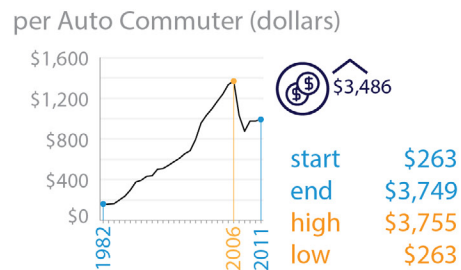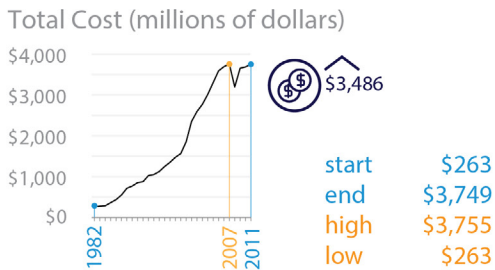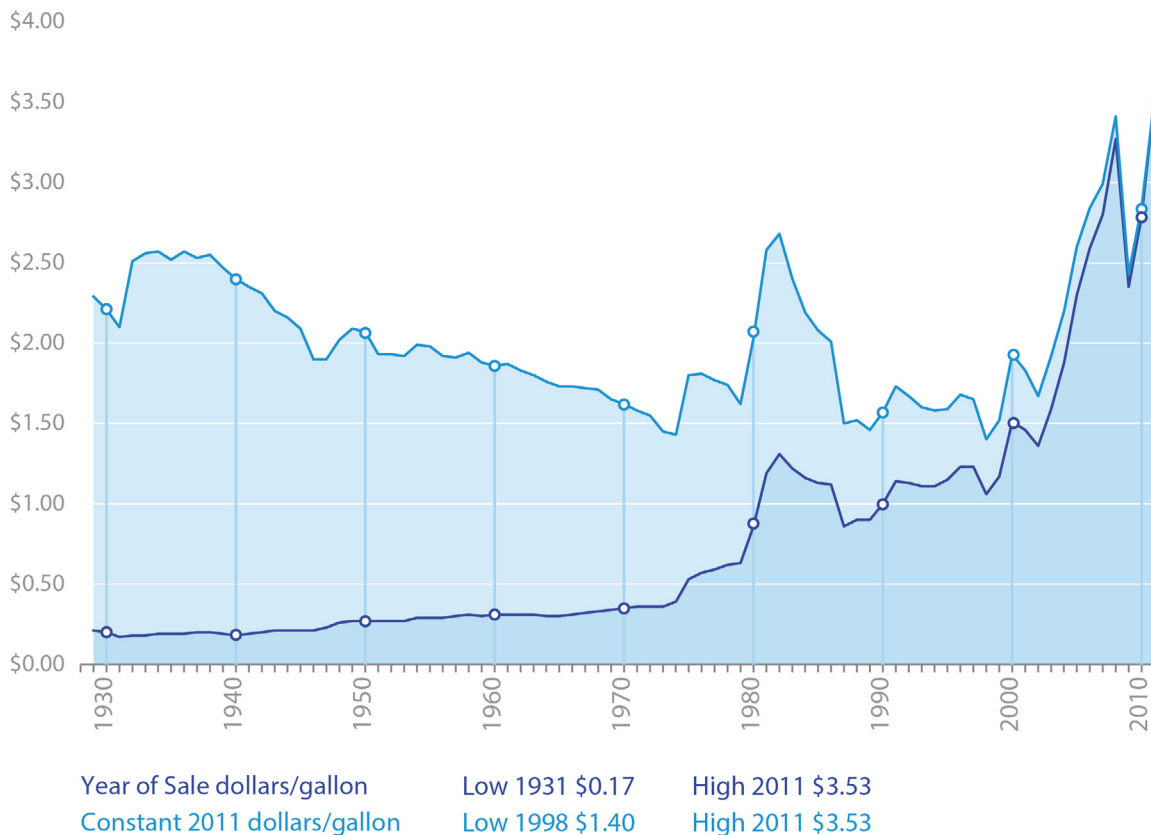as tax revenues collected at the federal level are compared to the cost to maintain these facilities, we pay only 20% of those costs through gas taxes.[1] (See also Section 3, Historical Perspective of Transportation and Land Use in the United States.)

	Low	High
Year of Sale dollars/gallon	Low 1931 $0.17	High 2011 $3.53
Constant 2011 dollars/gallon	Low 1998 $1.40	High 2011 $3.53

Exhibt 2-4: Average U.S. Gas Prices Over Time

Source: U.S. Energy Information Administration

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1 Alternative Approaches to Funding Highways, March 2011, Congressional Budget Office. http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/121xx/doc12101/03-23-highwayfunding.pdf

In addition to gas prices, there are other expenses associated with owning and operating a personal vehicle such as maintenance, insurance, registration requirements, and depreciation. The American Automobile Association (AAA) estimates the total cost of driving which includes all of these factors. The average annual cost of driving a personal vehicle has more than double since 1990 from just over $4,000 to now well over $9,000, as transportation costs in general have become a greater portion of the average person's cost-of-living expenses. According to recent estimates by the Center for Neighborhood Technology (CNT), transportation costs make up roughly 26 percent of a typical household's income in Broward, with moderate-income households paying a much greater share of their income towards transportation expenses. That percentage continues to rise. In fact, between 2000 and 2010 average transportation costs in the U.S. rose by 33 percent, while household income only rose by 25 percent.

Trade and Ports

Broward's freight network is an intermodal system. Goods are transferred from cargo ships and airplanes and distributed by rail and truck throughout the County and beyond using a combination of airport, seaport, rail, and roadway facilities. In addition to cargo activities, Fort Lauderdale-Hollywood International Airport (FLL) and Port Everglades also serve as major passenger hubs. These facilities provide airline passengers and cruise ship passengers with multiple travel options and connection opportunities. With 13 million overnight visitors coming to Broward in 2013, the experience tourists have traveling about the greater Broward area will be important to their decisions to return.

Fort Lauderdale- Hollywood International Airport

FLL is a large-hub core airport in the U.S. with over 11.3 million enplanements in 2012. It is expected to more than double to 23.7 million by 2040 according to Federal Aviation Administration (FAA) projections. On a typical day, over 60,000 people travel through FLL on 30 airlines operating more than 600 flights. Heavy traffic holidays can serve over 400,000 passengers. Exhibit 2-5 shows the increases in the total number of airport passengers over the past 50 years. The economic impact of FLL is roughly $2.4 billion each year, with the airport supporting 37,000 jobs.
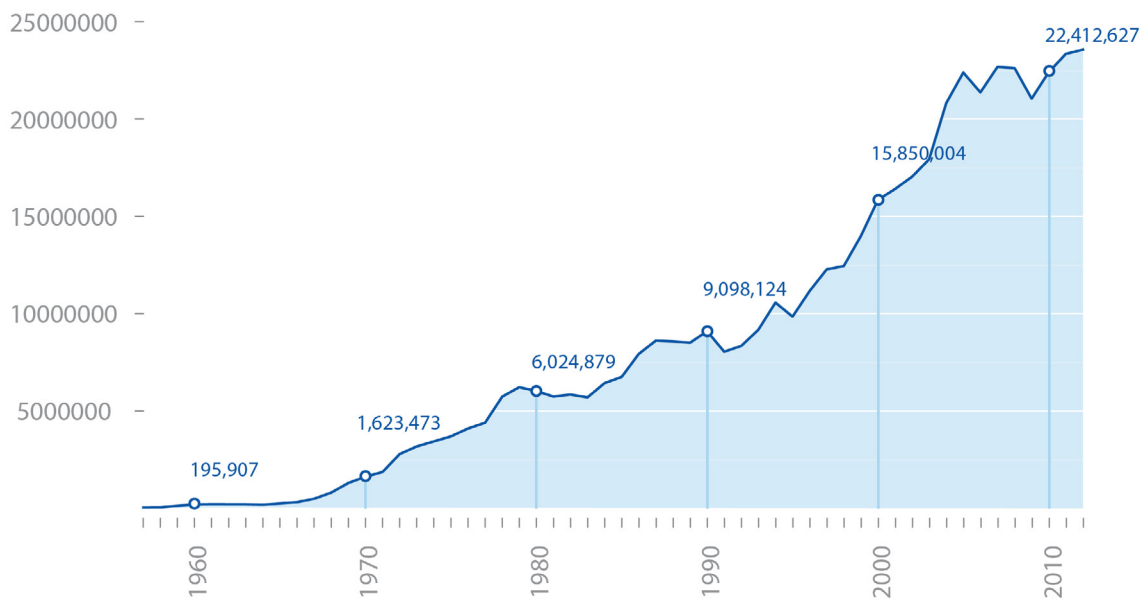
Exhibt 2-5: FLL Passenger Totals Over Time

Source: Broward County Aviation Department

Port Everglades

Port Everglades is called South Florida's Powerhouse Port for many reasons. It serves as a port of call for international cargo ships and some of the largest cruise ships in the world. Port Everglades is also an Enterprise Zone which means it is a self-supporting seaport. As such, it leases land and space to private sector partners, including Foreign-Trade Zone users who generate about 9 percent of total Port revenue. Approximately 3.7 million cruise passengers said 'bon voyage' from Port Everglades in 2012 alone. In fiscal year 2012, Port Everglades contributed roughly $26 billion in economic activity to the region with close to six million tons of containerized cargo (923.6 twenty-foot equivalent units) and over 105.4 million barrels of petroleum fuels passing through its facilities. Petroleum activity is the third largest source of revenue and a vital part of the regional economy. Port Everglades transports gasoline to 12 neighboring counties and distributes jet fuel destined for South Florida's three international airports.

Intermodal Freight

Fort Lauderdale-Hollywood International Airport and Port Everglades are Broward's most significant cargo hubs. Freight going to and from these facilities on trucks or trains is then shipped to destinations both domestic and international. Florida East Coast Railway has a partnership with Port Everglades and is currently constructing an Intermodal Container Transfer Facility that allows for more efficient train connectivity with shipping clients to increase the Port's competitive advantage and reduce truck traffic on local roadways. It's a win-win for business and the environment. CSX Transportation also operates freight service on the South Florida Rail Corridor, the same corridor that runs Amtrak and Tri-Rail passenger rail service.

3. Public Transportation – How It Happened Somewhere Else

Many cities have faced the challenge of providing transportation alternatives to the automobile for growing populations. Many of our more densely populated areas like New York and Chicago built their mass transit systems well over a century ago. Car-burdened Los Angeles only began to operate their rapid transit service in 1990, but the planning for it began much earlier in the 1970s. Growing populations, air pollution, urban sprawl and shrinking farmlands, all have led major cities across the U.S. to look to mass transit for solutions. The mode can vary from heavy rail (as we have in Miami-Dade) to light rail (Dallas, Houston, Los Angeles, Charlotte) to modern streetcar (Portland, Washington DC, Charlotte) to historic replica streetcars (Tampa, Little Rock), and most recently to Bus Rapid Transit (Eugene, Cleveland, San Antonio). Rail transit development in the south and west has been slower than the northeast and Midwest. But today, San Antonio is the only major city that moves their people with bus alone, and they have plans for modern streetcar by 2017.

There are many transit properties that serve similar-sized populations compared to Broward, but they are very different in other important aspects. Given Broward's relatively recent post-World War II development, it is a relatively new metropolitan area which consists of a collection of 31 cities, all unique in their own right. Rather than try to find another place just like Broward, which is unlikely, we have selected transit properties for this review according to the stage of development of their mass transit systems - established, new or recently implemented, or those that aspire to bring premium transit to their service area. Broward falls into the latter category of an aspiring premium transit system as it is implementing the area's first modern streetcar system in downtown Fort Lauderdale.

What is Premium Transit?

Premium transit is defined as a transit service (bus or rail) that operates either in a dedicated lane or with transit signal priority and offers modern and comfortable vehicles, frequent service, streamlined ticketing, passenger information systems, and large weather-protected station areas with pedestrian and bicycle connectivity.
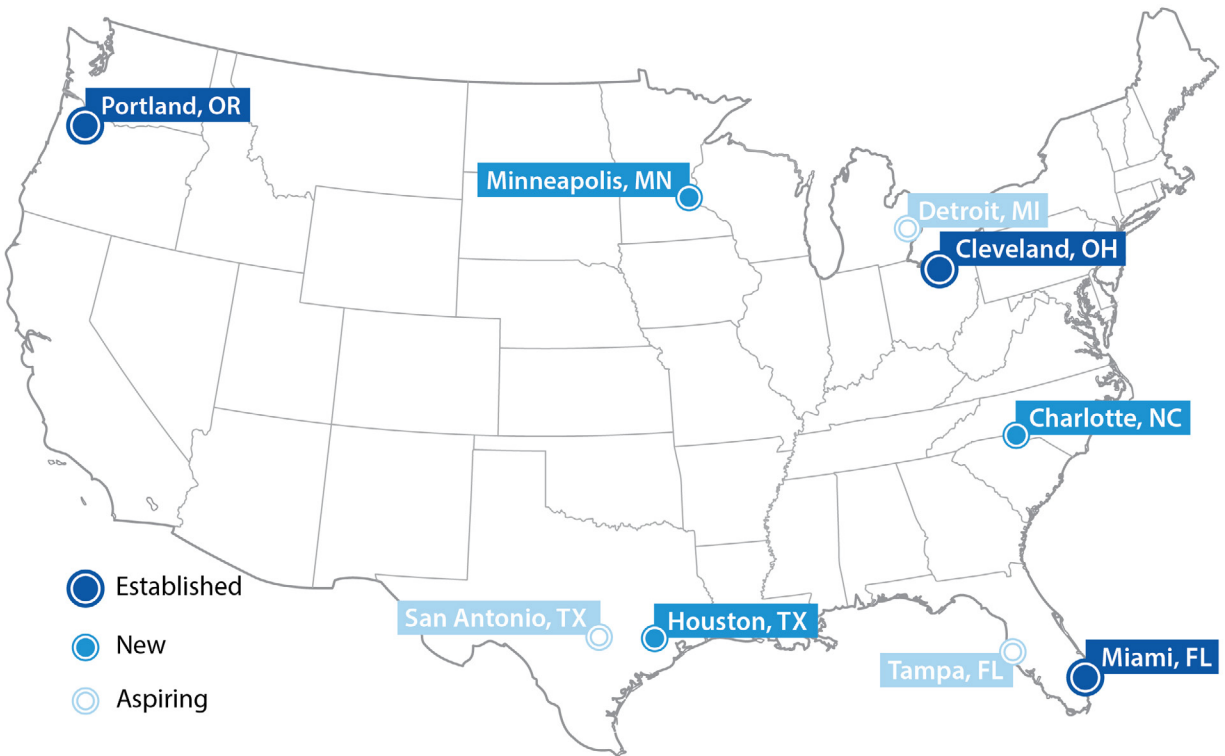
Exhibit 3-1: Comparison Areas by Stage of Transit Development

Before we discuss specific systems, let us first take a look at how transportation systems and land use have evolved in the last century here in the U.S. How we get around and where we live has changed dramatically during this period of time in ways that affect our lifestyles and pocketbooks. The decisions we make about land use and transportation systems have long-lasting consequences.

Historical Perspective of Transportation and Land Use in the United States

Jorge Santayana is credited with saying "Those who cannot remember the past are condemned to repeat it."[2] His sage advice is worth repeating here as we also remind ourselves just how quickly change can come about in the grand scheme of things. Less than 100 years ago during the Roaring 20's, 90 percent of all trips were taken using a tram, or cable car, powered by electricity. In fact, at that time only one in ten Americans owned an automobile. In the 1920s, 1,200 individual electric-powered in-street and interurban railways that employed over 300,000 people operated systems on 44,000 miles of track in most cities and towns over 2,500 people.

Over a very short period from 1922 through the 1950s we saw drastic changes in transportation. Well before the stock market crash of 1929, General Motors (GM) set about to change the face of transportation across the U.S. through an elaborate business strategy involving multiple subsidiaries, holding companies and investors. Their strategy was to purchase, dismantle and replace streetcars with buses. By the late 1940s, an anti-trust lawsuit was filed in federal court against GM on counts of "conspiring to acquire control of a number of transit companies…to monopolize sales of buses and supplies to companies owned by National City Lines."[3] Although the charges of violating the Sherman Antitrust Act of 1890 were upheld, GM paid $5,000 in sanctions and their treasurer was fined $1. By the mid-1950s, GM and their agents had motorized more than 900 streetcar systems which represented approximately 90 percent of the systems that existed prior to their "motorization campaign."

As confounding as this story of what happened to the streetcars is, there were multiple factors that led to the dramatic changes in how people travel and where they live. The Federal Aid Highway Act of 1956 was authorized to build the Interstate Highway System with $25 billion appropriated for the construction of 41,000 miles of a national interstate system. That same year, federal fuel taxes were introduced to support a Highway Trust Fund to fund the ongoing development and maintenance of this system. Also known as the National Interstate and Defense Highways Act, President Dwight D. Eisenhower saw the need for highways crossing the country to ensure national defense in the event of a ground invasion by foreign troops. Taxes generated from purchases of fuel, automobiles, trucks and tires would provide 90 percent of the cost to construct with states paying the remaining 10 percent.

Housing is another area where the effects of national policy have shaped where we live. The Federal Housing Administration (FHA) was created with the National Housing Act of 1934 to bolster the banking system and mortgage relief to many homeowners who had lost their homes after the Great Recession of 1929. These programs were further extended after World War II with President Harry Truman's Fair Deal. By 1965, FHA became part of the Department of Housing and Urban Development. Americans flocked to the more affordable suburbs where they found more value for their money. And, because everyone could also afford to own a car by that time, construction of single-family homes began to spread across the greenfields of America connected by ribbons of highways.[4]

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2 George Santayana, 1905. Reason in Common Sense, Volume 1 of the Life of Reason
3 Snell, Bradford, 1995. "The Streetcar Conspiracy: How General Motors Deliberately Destroyed Public Transit"
4 Snell, Bradford, 1995. "The Streetcar Conspiracy: How General Motors Deliberately Destroyed Public Transit"

In 1962, President John F. Kennedy called for federal capital assistance for mass transportation to "promote economic efficiency and livability in areas of future development…and balance private vehicles and modern mass transport to help shape as well as serve urban growth." The Federal Transit Administration (known as the Urban Mass Transit Administration until 1991) was formed in 1964 by President Lyndon Johnson with an initial $375 million in capital assistance over three years. In 1983, President Ronald Reagan created the Mass Transit Account funded by a dedicated one cent of a total 9-cent federal gas tax for public transport. A history of transportation funding is summarized in Exhibit 3-2.
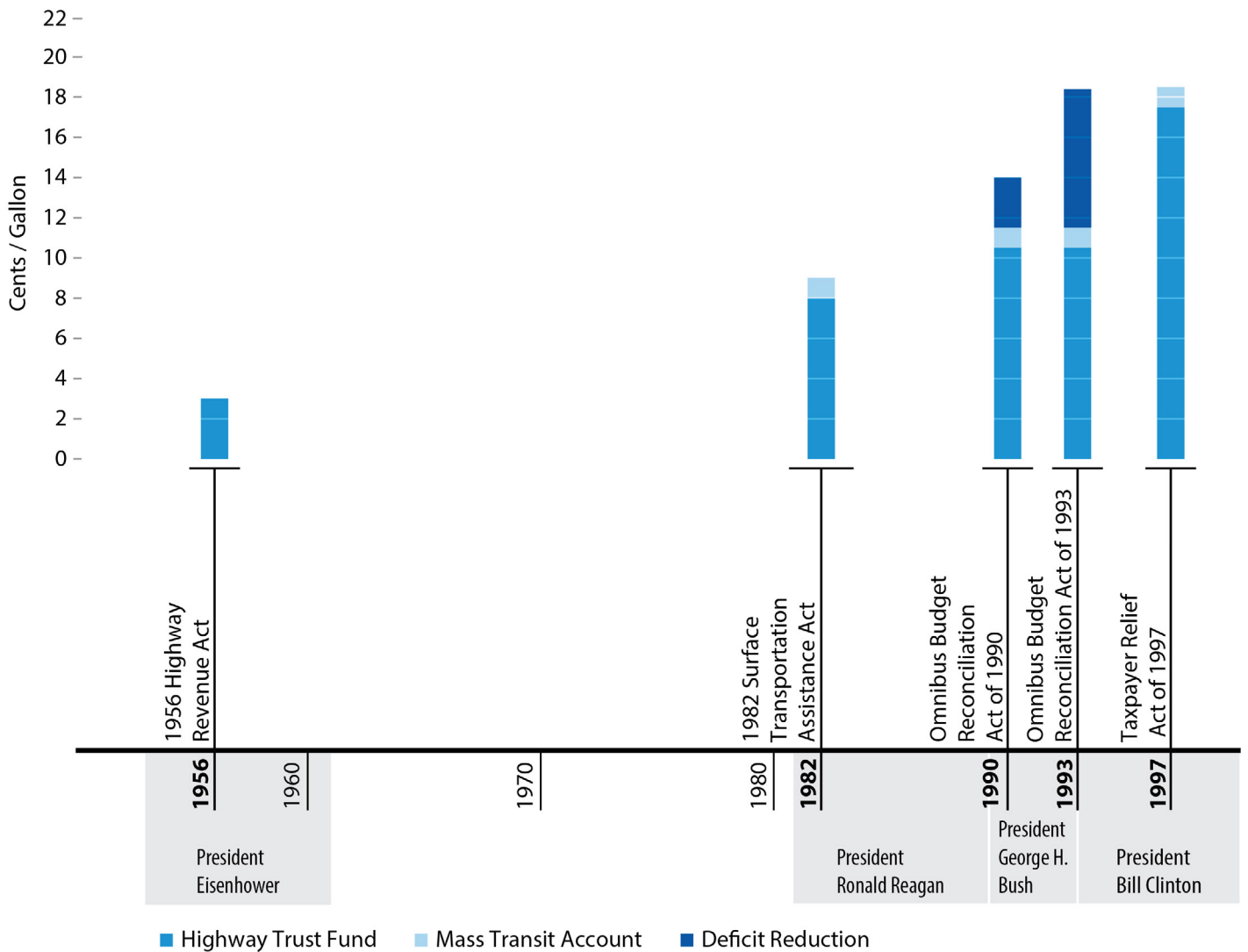

■ Highway Trust Fund   ■ Mass Transit Account   ■ Deficit Reduction

Exhibit 3-2: Gas Tax History in the US

Source: FHWA

The per-gallon tax has not been increased in 20 years, yet consumption has dropped with increasingly more fuel-efficient vehicles and a sagging economy faced with higher fuel prices. In all these years of the federal gas tax, it has never been indexed to inflation. Since 2009, the Highway Trust Fund has not supported our transportation needs and the annual transportation budget appropriations have been made whole with contributions from the General Fund of between $10-18 billion per year. Indeed, the Highway Trust Fund is expected to be insolvent by as early as 2015 and the Mass Transit Account will soon fall to a zero balance as well. This is not a new crisis. Congress has transferred a total of $41 billion into the Highway Trust Fund since fiscal 2008, with $13 billion required in fiscal 2014 and $15 billion in fiscal 2015. Insolvency could mean draconian cuts in spending authority from an expected $51 billion to $4 billion, a gas tax increase of 10 cents per gallon, or a combination of the cuts and tax increases. (Congressional Budget Office, April 2013)

Public transit in the United States has been slower to develop than in other parts of the world, but it is growing. Since the creation of the Mass Transit Account in 1964, roughly 20 percent of gas tax revenues have been invested in transit capital and operations. Fixed guideway transit systems have more than tripled since 1970 and ridership has grown faster than vehicle miles traveled or population growth. Since the U.S. began making investments in mass transit the average transit trip taken has steadily risen from 4 miles per trip in 1970 to 5.4 miles per trip in 2011. This change in trip length could reflect the emphasis of the federal evaluation criteria for competing applications under the previous surface transportation funding rules that favored long-haul passenger miles traveled. The Moving Ahead for Progress in the 21st Century Act (MAP-21) has changed the evaluation criteria for the Major Capital Investment Program to focus on passenger trips and land use.

Exhibit 3-3 illustrates trends (percent changes) for transit trips and miles traveled compared to vehicle miles traveled by automobile in total, and then normalized for population. The trend per person (or per capita) has dropped sharply since 2005 whereas the total vehicle miles traveled dropped with the Great Recession, possibly because of the downturn in the economy and fewer people employed. Considerable debate is occurring as to the reasons for the decline in vehicle miles traveled with a keen focus on predicting how driving behavior may change in the future.
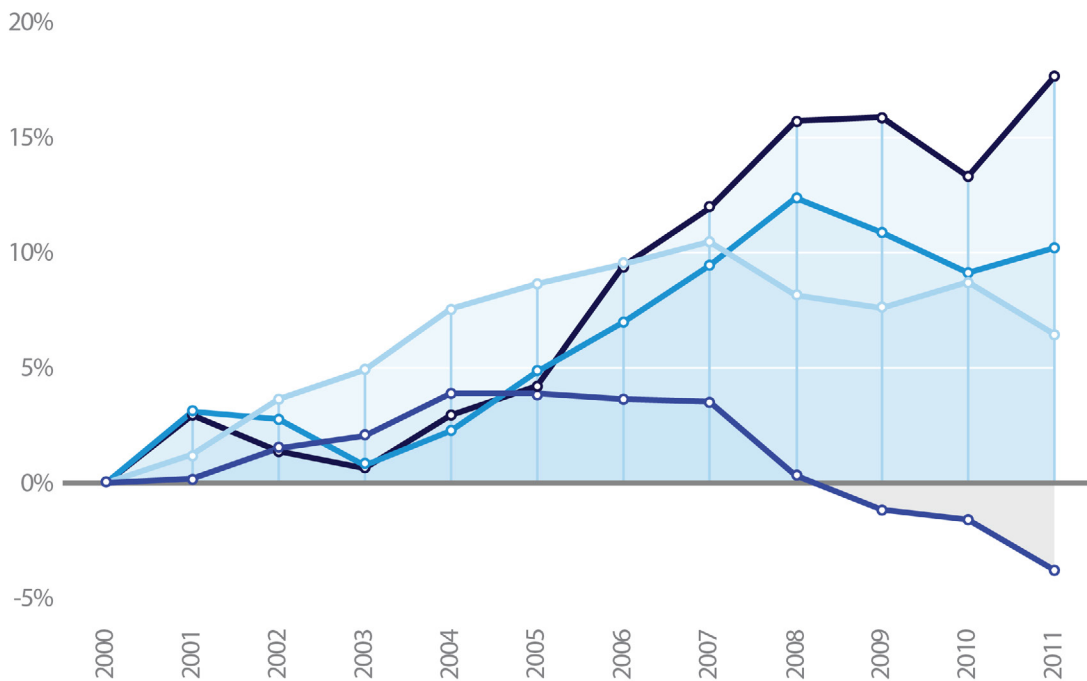
	start	end	high	low
Transit Miles Traveled	0%	17.65%	17.65%	0%
Transit Trips	0%	10.21%	12.37%	0%
Vehicle Miles Travled	0%	6.44%	10.47%	0%
Per Capita Vehicle Miles Traveled	0%	-3.79%	3.89%	-3.79%

Exhibit 3-3: Changes in U.S. Travel Trends Since 2000

Source: APTA and FHWA

Some may say that because most people drive, mass transit doesn't make enough of a contribution. Tell that to anyone who has lived through a transit strike. Whether you use it or not, you certainly feel the difference when it isn't operating. In spite of the fact that the majority of our population drives as the mode of choice, the fact that there is a choice makes a big difference to those cities that have it. Increasingly, it's about more than the ride. Cities like Washington DC, Denver, Dallas, Salt Lake City, Phoenix, Houston, and Charlotte have all seen transit oriented development and improved economies surrounding station areas.

The number of employees working in transit is approaching 400,000. The current level of transit use equates to energy savings of 4.2 billion gallons of gasoline and 37 million fewer metric tons of carbon dioxide emissions pumped into the air. Were it not for transit, traffic congestion would be much greater with drivers stuck in traffic another 796 million hours, burning 303 million more gallons of fuel, and costing an estimated $16.8 billion in lost productivity each year.

What Does Mass Transit Look Like?

First and foremost, a mass transit system functions to move more people than can be accomplished with individual automobiles. Mass transit has traditionally meant some form of rail transit, or "fixed guideway" transit operating on tracks with steel wheels; however, bus rapid transit is seen as a way to gain many of the benefits of rail with a lower price tag.

As noted earlier, what happens near the transit stations is another strong motivator for cities introducing mass transit. Many underdeveloped areas have been revitalized contributing to higher property taxes and increased sales.

Attitudes towards transit affect ridership. Our love affair with our cars is far from over and an overwhelming majority of people in Broward, and many other urban areas in the U.S., almost always drive. This is particularly true of seniors with three out of four seniors over 75 preferring to drive. More than half of seniors have never used transit. (APTA, 2005) Fear of isolation or being stranded and unable to get around is a fear that is shared by 89 percent of those polled. Young Americans between the ages of 16-34 drove 23 percent less in 2009 than the same age group did in 2001. Referred to as Millennials born in 1982-2003, their preferred travel mode includes transit, biking, carsharing, or walking. Let's never discount the importance of walking. Every trip begins and ends with a connection on foot. The preferences of the Millennials are based on a desire to connect more directly with their communities and the desire to socialize digitally while they travel. (U.S. Public Interest Research Group, 2013)

Attitudinal surveys consistently assert a perception that bus transit is a last resort for people who can't drive or who can't afford a car. Rail riders are more typically characterized as those who have the ability to drive if they wanted to, sometimes referred to as "choice" riders. Recently, many transit providers are making decisions that prefer bus over rail based on an interest in lower-cost Bus Rapid Transit service that mimics Light Rail Transit service and station amenities.

The real truth is that in most cities bus and rail function as an integrated system. Take a look at our own Tri-Rail system. Bus shuttle connections are critical to the "last mile" for many Tri-Rail riders. Not every rider can live next door to the station, so how the system functions for multimodal access is an important factor in planning for a successful system. Even if you use the park and ride to get to the station, your destination may not be within walking distance.

A Review of Other Transit Systems

Basic information about service and operational characteristics for these transit systems and the areas they serve is provided at the beginning of each of the three types of transit areas – established, new or aspiring. Service and operational data from the 2012 National Transit Database are provided for each group. Each transit operation is listed by the headquarter city for each transit operator as a recognizable reference point, although the area often covers more than the individual city. Coverage of transit service and MPO area varies but in most cases includes more than the incorporated city itself. Appendix 4 provides an array of capital and operating spending and performance data about the transit properties operating in the cities that are a subject of this review.[5] A comparative recap for each of the rail city groups is provided within each section that follows. Multiple sources are used for this review ranging from the transit property website to independent references and personal experience and knowledge of the author. Refer to Section 5 and Appendix 1 for other bibliographic resources.

Areas with Established Premium Transit Systems

Many of the early mass transit systems in New York City and Chicago were built in the 1920s as heavy rail and funded as Public Works Administration projects. Heavy rail is often associated with subways found in San Francisco, Atlanta, Washington Metro, etc. The Urban Mass Transportation Administration (UMTA), the predecessor to the Federal Transit Administration, was established as an initiative begun by President John Kennedy and signed into law by President Lyndon Johnson. Initial funds were limited at $375 million over a three year period. Many of the early projects funded by UMTA were heavy rail. By 1972, UMTA coined the term light rail transit which was "intended for light loads and fast movement" rather than a description of vehicle weight. Many of the heavy rail cities are characterized by high population densities. Three established rail cities in Miami, Cleveland, and Portland are explored here with summary information in Exhibit 3-4 and more detailed information in Appendix 5.

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5 National Transit Database 2012 released December 2013.

Exhibit 3-4: Established Premium Transit Systems
Source: National Transit Database and Individual Transit Agencies

TRI MET

Portland, OR

RTA

Cleveland, OH

MIAMI-DADE COUNTY

Miami, FL

Miami-Dade Transit	Greater Cleveland RTA	TriMet

Employees 🚶 = 100 people

4,000+ employees

2,200 employees

2,400 employees

Service Area Population

🚶 2,496,435 people

🚶 1,412,140 people

🚶 1,489,796 people

Service Area Density

MIAMI-DADE COUNTY — 8,158 persons/ sq mi

RTA — 3,083 persons/ sq mi

TRIMET — 2,614 persons/ sq mi

Core City Density

MIAMI-DADE COUNTY — 12,140 persons/ sq mi

RTA — 5,107 persons/ sq mi

TRIMET — 4,375 persons/ sq mi
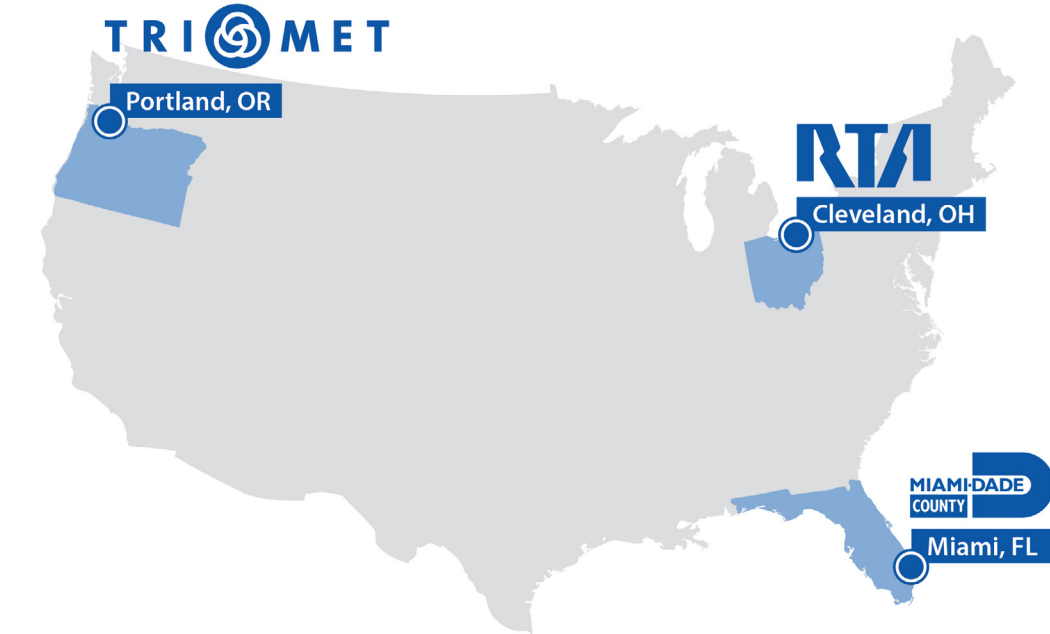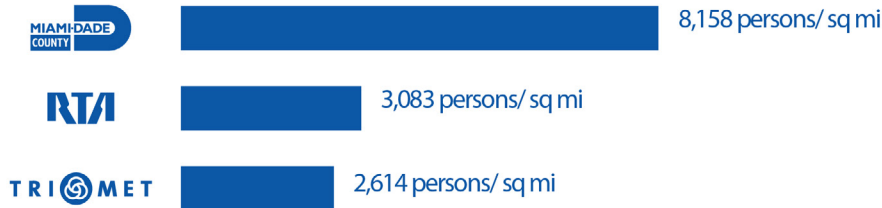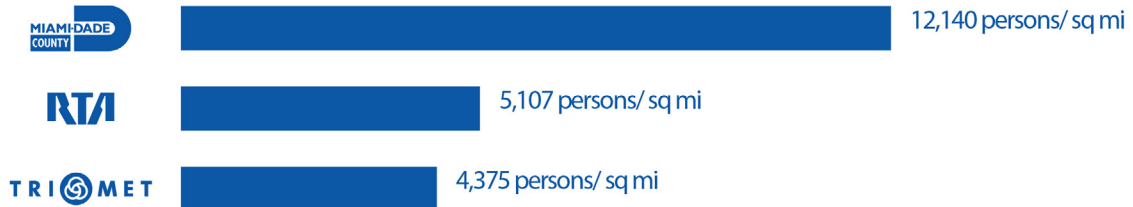
Signature Projects

Miami-Dade Transit	Greater Cleveland RTA	TriMet
METROMOVER	HealthLine	TRIMET MAX
Metrorail-Metromover	Healthline BRT (Euclid Corridor)	MAX LRT
		Portland Street Car

Trends (in ridership)

MIAMI-DADE COUNTY	RTA		TRIMET		
From Prior Year FY2011-12	Since 2010	Rail	Since 2010	Rail	Bus
⌃ 3%	⌃ 4.8%	⌃ 7.4%	⌃ 3%	⌃ 10%	⌄ 2%
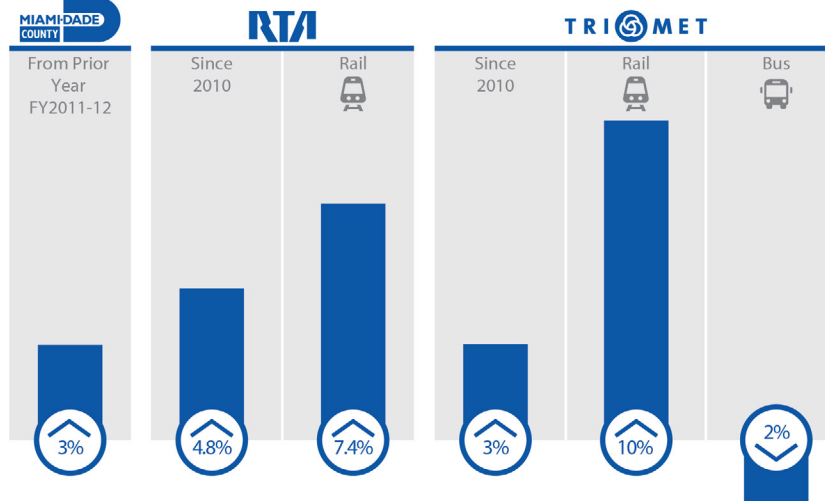
Fleet	Miami-Dade Transit	Greater Cleveland RTA	TriMet
Rail Systems			
Heavy Rail	●	●	
Commuter Rail			●
Light Rail		●	●
Bus Systems			
Bus Rapid Transit	●	●	
Bus	●	●	●
Other Systems			
Streetcar			●
Trolley	●	●	
People Mover	●		

Miami, FL

Miami-Dade Transit (MDT) is a department of Miami-Dade County. It is the only county in South Florida that has established a sales tax dedicated to transit, namely, the ½-cent People's Transportation Plan Surtax.

Shortly after Henry Flagler brought people to South Florida on his railroad in 1896, the first rail franchise was purchased by the Tatum family in 1905 and the Miami Electric Railway Company began a brief run, but closed shortly after opening. The Miami Traction Company laid new track and by 1920, the Miami Beach Railway Company began operating a line in 1921 between Miami and south Miami Beach across the County Causeway. It closed a year later after a fire destroyed its fleet and the City of Miami bought the franchise and purchased eight single-truck Birney streetcars. The City promptly leased the Miami Beach Railway Company to George Dunn, who also ran a motorbus service. Streetcars running to Coral Gables lasted nine years. After a succession of mergers and sales of various bus and streetcar transit companies, the transit system was finally unified in 1960 under the then relatively new Dade County Commission. Miami began its plans for rail in early 1964 with public support for a unified countywide transit system. By 1971, an $800 million rapid transit system was proposed and by 1972 Dade County approved a $132.5 million "Decade of Progress" bond issue by a two to one margin. By the late 1970s, UMTA was involved in the people mover development for Metromover and invested an 80 percent share in Stage I for today's Metrorail heavy rail system. Metrorail's first riders boarded at the South Miami Station on May 2, 1983. The Metromover people mover began revenue operations in April 1986. In 2012, three decades after opening the first heavy rail line, MDT opened the Orange Line extending heavy rail to the Miami Intermodal Center and MetroLink to the Miami International Airport. After almost 50 years of transit planning and implementation, Miami-Dade County has an established multimodal rail system with two heavy rail lines – the Green and the Orange lines, in addition to Metrobus and Metromover. Funding for additional rail extensions has fallen short and MDT is working to improve bus service and facilities on high-use corridors with enhanced bus service until funding is available for more rail extensions. Miami-Dade has the most diverse multimodal transit system in all of Florida with heavy rail, people mover, bus, and Tri-Rail commuter rail. The private sector entity of All Aboard Florida (Henry Flagler's legacy company Florida East Coast Railway) is building an intercity quasi high speed rail connection from downtown Miami to Orlando, with stops in Fort Lauderdale and West Palm Beach scheduled for operation in 2017. South Florida Regional Transportation Authority who operates in the tri-county area of Miami-Dade, Broward, and Palm Beach is planning to integrate their passenger rail service onto the FEC lines in addition to the alignment on the South Florida Rail Corridor used by CSX and Amtrak. Known as the Tri-Rail Coastal Link, this major project is being planned in partnership with the Florida Department of Transportation and the three MPOs. The Miami-Dade MPO has also reinitiated a transit study to evaluate rail connections from Miami to South Beach, possibly modern streetcar. It is believed that the land use in the core of Miami and South Beach has matured with high density to the point that modern streetcar will be a highly competitive candidate for federal funding.

Cleveland, OH

The Greater Cleveland Regional Transit Authority (RTA) is a political subdivision of the State of Ohio led by a 10-member Board of Trustees. The 1-cent sales tax was approved in 1975 by 71 percent of the region's voters in the largest ever majority for a referendum in the U.S.

Transit in Cleveland has a long history with stagecoach origins in the early 19th century. By the late 1800s, Cleveland had 425 miles of streetcar lines with growing ridership that reached 446 million riders per year during World War II. The bus era began in 1925 during the time that streetcar service was converted to a motor coach system. Heavy rail began operating in 1955 with the Red Line which was later extended to the airport in 1968. The RTA was created in 1972-74 when five counties came together to conduct a mass transit study that culminated in $1 billion in recommended transit improvements. Today, the RTA operates a mature multimodal system of heavy rail, light rail, bus rapid transit (BRT), and bus, and trolley. The metropolitan area has developed in a radial manner from the downtown area of Cleveland on the southern shore of Lake Erie. Cleveland is well-known for implementing one of the earliest Bus Rapid Transit systems, now known as the Healthline BRT, along the Euclid Corridor. Naming rights were sold to Cleveland State University to brand the Cleveland Clinic near the eastern terminus. Now touted as a model system worldwide, this 9.2 mile BRT system runs 24/7 in dedicated right-of-way

from the Public Square in downtown to the Louis Stokes Station in East Cleveland with many of the features of a light rail line and stations. Originally built as heavy rail in the 1950s, the Red Line tracks were upgraded and used for both heavy rail and light rail by the early 1980s, followed by light rail extensions of the Blue and Green light rail lines. Today the RTA Rapid Transit light rail consists of three lines – Red, Blue and Green, and the Waterfront Line which is an extension of the Blue and Green lines. Planning initiated in January 2013 is underway to extend the Red Line rail service and/or HealthLine BRT further east of the current terminus in East Cleveland.

Portland, OR

TriMet is a municipal corporation of the State of Oregon that provides bus, light rail and commuter rail service to metropolitan Portland. They are governed by a seven-member Board of Directors all of whom are appointed by the Governor of Oregon to represent a district in which they must live. The majority of funding (55%) is supported by payroll taxes. Although the multimodal system in Portland is seamless to the public, a separate non-profit corporation operates the Portland Streetcar, Inc. under a separate Board of Directors.

Portland's transit began with horse-drawn trolleys later converted to steam-powered streetcar lines, and then converted to electric streetcars. Transit ridership was at its highest by World War II. Like many cities, Portland's streetcar service was converted to buses and trolley buses in the 1950s which were operated by Rose City Transit and fueled by gasoline. Ridership in the next two decades dropped significantly and the newly formed Tri-County Metropolitan Transportation District of Oregon (TriMet) assumed the bus operations. Continued deterioration of the downtown of Portland was marked by vacant structures and population shifts to the suburbs, like many cities in the U.S. during the 1960s. In 1971, a "Transportation Plan for 1990" was completed which proposed 54 major new freeways and expressways, predicting continued weak transit demand and increased auto use. In 1973, TriMet developed a transit plan entitled "1990 Master Plan" designed to reverse declining transit use trends. The origins of today's multimodal system began in the midst of this push for more highways in 1974 when a grassroots movement rejected the proposed $400 million eight-lane Mt. Hood Freeway. Shortly after, voters approved creation of an elected regional government known as Metro who adopted the urban growth boundary in 1979.

As the area embraced transit and land use planning to manage growth, the city replaced a four-lane freeway with the Tom McCall Waterfront Park, opened a 12-block Portland Transit Mall to provide transit to downtown Portland (free at the time) to stimulate downtown redevelopment, and shelved a parking garage in favor of the Pioneer Courthouse Square. In 1986, the first 15 miles of a new light rail line named the Metropolitan Area Express, or MAX, opened between suburban Gresham and downtown Portland. In 1995, Metro adopted the regional vision entitled "2040 Growth Concept" to focus density along major transit corridors, stem urban sprawl into the area farmlands, and spur urban revitalization. The next decade saw extensions of the MAX on the Blue Line, Red Line to the airport, Yellow Line, and the implementation of modern Portland Streetcar. By 2009, the WES (Westside Express Service) Commuter Rail line opened as a suburb-to-suburb commuter rail line connecting to the MAX Light Rail and the 8.2 mile MAX Green Line opened connecting to downtown Portland's Transit Mall and Portland State University. Today, MAX is a 52-mile regional light rail system. The 7.3-mile Portland-Milwaukie Light Rail is expected to open in 2015. And the original Blue Line is undergoing revitalization.

Streetcars returned to Portland in 2007 with the initial 8-mile continuous loop going (4 miles in each direction) from the Pearl District in downtown to the South Waterfront District. The second line extends across the Willamette River to the east side extending in a continuous loop 9.3 miles (4.65 miles in each direction) from the Lloyd District south to the Oregon Museum of Science and Industry. Future plans call for completion of the larger loop crossing over the Willamette River on a new bridge near the OHSU (Oregon Health & Science University) Schnitzer Campus. Portland is well-known for its streetcar system and the use of modern streetcar vehicles. The first 10 streetcars were manufactured in the Czech Republic by Skoda-Inekon which was purchased by United Streetcar, a Portland-based manufacturer in neighboring Clacakmas County. An additional seven American-made vehicles were added to the fleet in recent years.

Forty years since the controversy that changed Portland from an auto-centric region that was planning for more travel lanes, Portland is seen as one of the most transit-friendly areas in the U.S. As their transit system grows, so does the need for operating funds. Local revenues during the Great Recession declined and federal funding opportunities are much more limited. With the bulk of sources for TriMet operations and expansion coming from payroll taxes, budgets have shrunk with jobs delaying planned investment commitments. Also, considerable maintenance comes with a large established premium transit system. TriMet is addressing financial requirements to keep their system in a state of good repair and maintain their accountability to the public for a well-run and maintained system. TriMet is taking a hard look at their financial challenges and has established a framework for a financial 'roadmap' to ensure they can meet expectations.

Tri-Met's website has some notable features: an Accountability Center on performance and an App Center where users can download real-time transit tool applications (55 at this writing) from third-party developers using TriMet's open data. TriMet is one of the first transit properties to use mobile phone ticketing. The Performance Dashboard is found on the "About Us" page and is updated monthly to increase transparency and accountability to the public.

Observations about Established Systems

Two of the established systems began modern-day rail implementation with heavy rail. All served their cities with streetcar at the turn of the last century. Cleveland (GCRTA) has added light rail to the mix whereas Miami-Dade (MDT) is moving to bus-based solutions for expansion. Portland's TriMet is the newest rail implementer having begun their planning when LRT was becoming the vogue in the 1980s, but it has developed more service faster than the older systems reviewed. Portland is also a standout in that the bulk of their funding is supported by payroll tax as opposed to the sales tax used by MDT and GCRTA. TriMet's fare recovery is highest at 28 percent versus 18 percent for MDT and GCRTA. MDT by far has the most service area population and the highest service area density. All transit properties are experiencing upward trends in ridership, but in the case of GCRTA and TriMet, rail is outperforming bus. In 2012, MDT and TriMet had comparable ridership levels (107 and 102, respectively) on all forms of fixed route services whereas GCCRTA has less than half the riders (48.2 million).

Areas with Newly Implemented Premium Transit Systems

Three new light rail lines have been lauded as successful in terms of both ridership and economic development attributed to its implementation. Summary information about transit properties operating in Charlotte, Minneapolis, and Houston is presented in Exhibit 3-5, with more detailed information available in Appendix 5.

Exhibit 3-5: Newly Implemented Premium Transit Systems

Source: National Transit Database and Individual Transit Agencies

Charlotte Area Transit System	Metro Transit	Metropolitan Transit Authority of Harris County
Employees 👤 = 100 people		
350 employees	2,687 employees	3,550 employees
Service Area Population		
758,927 people	1,805,940 people	3,527,625 people

Service Area Density

CATS	1,705 persons/ sq mi
Metro Transit	2,975 persons/ sq mi
New METRO	2,745 persons/ sq mi

Core City Density

CATS	2,457 persons/ sq mi
Metro Transit	7,020 persons/ sq mi
New METRO	3,623 persons/ sq mi
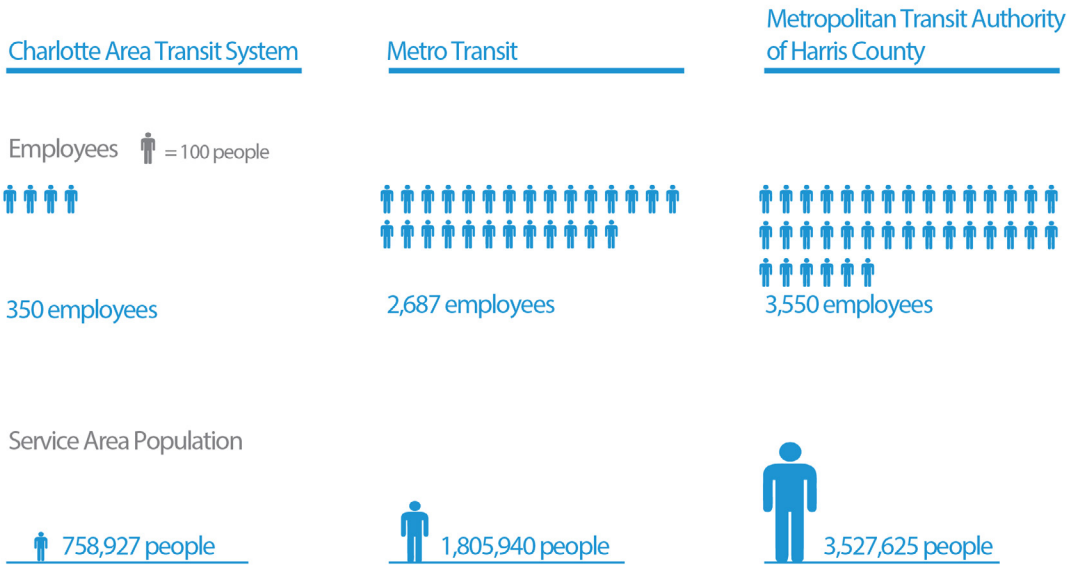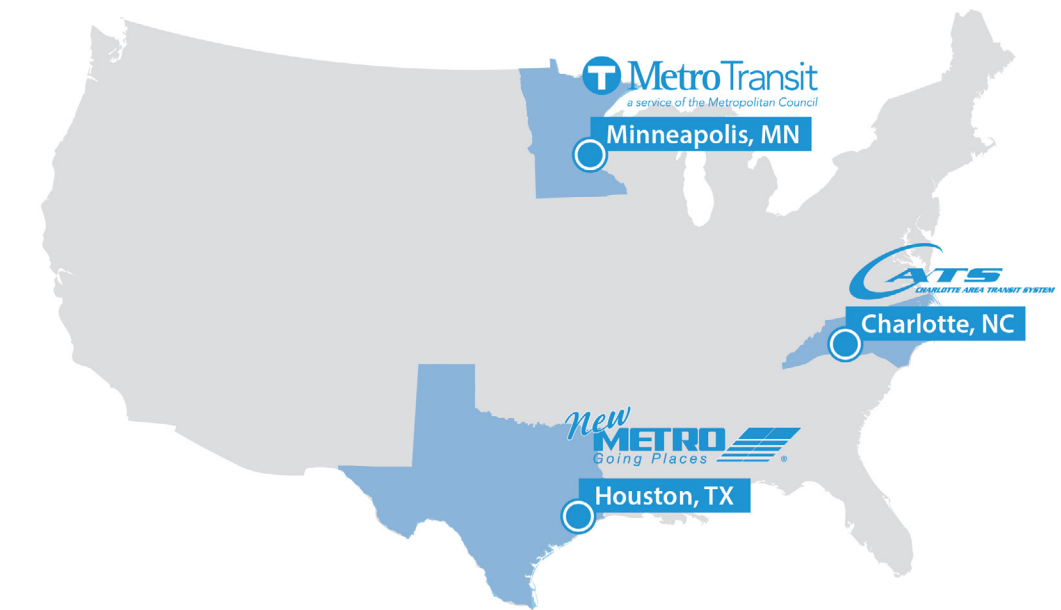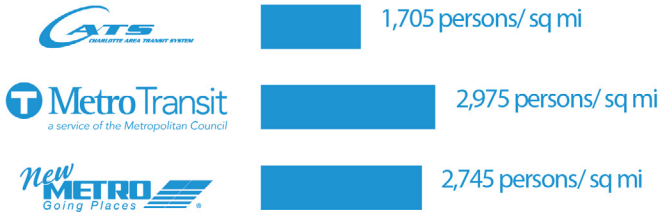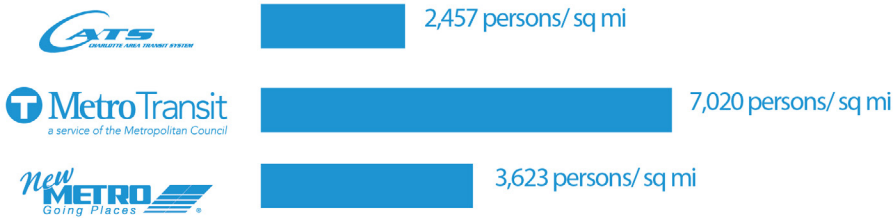
Signature Projects

Charlotte Area Transit System	Metro Transit	Metropolitan Transit Authority of Harris County
CATS	Metro Transit	New METRO
LYNX Blue Line	Blue Line LRT	METRORail

Trends (in ridership)

APTA data
through
June 2013

APTA data
through
June 2013

APTA data
through
June 2013

2.5%

0.58%

4%
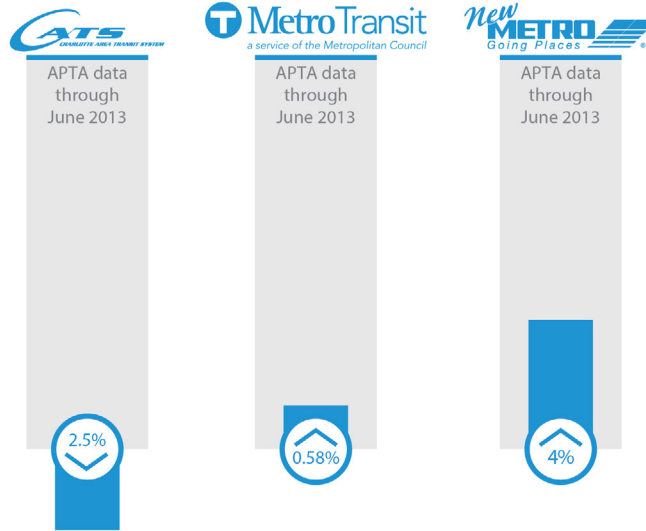
Fleet	Charlotte Area Transit System	Metro Transit	Metropolitan Transit Authority of Harris County
Rail Systems			
Heavy Rail			
Commuter Rail		✓	
Light Rail	✓	✓	✓
Bus Systems			
Bus Rapid Transit		✓	
Bus	✓	✓	✓
Other Systems			
Paratransit Services			✓

Charlotte, NC

The Charlotte Area Transit System is managed by the City of Charlotte Public Transit Department. It is governed by the policy board of the Metropolitan Transit Commission which is also the Metropolitan Planning Organization for Mecklenburg County. In November 1998, the voters of Mecklenburg County approved a ½-cent sales tax to finance public transportation systems. The Transit Governance Interlocal Agreement was then negotiated forming CATS in February 1999 with the County, Charlotte and six towns. An attempt to repeal the tax in 2007 was rejected by voters. A new push to add an additional ½-cent tax is under study.

As with many cities, streetcars provided the main transit service for the region at the turn of the 20th century and provided the framework for much of the early development. In the mid-1990s, leaders and citizens alike understood the need for transportation choices to address future growth. A plan was developed with extensive public outreach in 1998 entitled, "2025 Integrated Transit/Land Use Plan" just prior to the successful sales tax initiative. After years of public controversy over whether transit would produce enough ridership, the 9.6-mile LYNX Blue Line bested initial projections by 80 percent in the early months after its November 2007 opening. Development attributable to the Blue Line of 10 million square feet is exceptional, even when compared to experiences in Minneapolis and Denver. In 2012, Mayor Anthony Foxx proposed a 2.5 mile Center City Corridor extension, now known as the Gold Line. This proposal was rejected by Charlotte's City Council. In May 2013, a compromise was passed Council to set aside $63 million from the City surplus funds which provided the local match for a New Starts application to the Federal Transit Administration. Construction is currently underway for the 9.3-mile extension of the Blue Line and capacity expansion is expected to start construction in 2014 which will allow for three-car train sets on the existing Blue Line. The ultimate length of the Blue Line will be 18.9 miles total. Construction is also underway for the 1.5-mile Gold Line which is the first phase of an ultimate 10-mile line; Phase 2 is an additional 2.5-mile segment. Other extensions are anticipated for the Silver Line and Red Lines, including a Red Line Regional Rail. Sales tax receipts declined significantly during the Great Recession resulting in lower revenues for construction.

Minneapolis, MN

Metro Transit has operated as a division of the Metropolitan Council, the area MPO, since 1994. Originally established as the Metropolitan Transit Commission (MTC) by the Minnesota State Legislature in 1967, the transit function was transferred to the Metropolitan Council after a long politicized dispute over how to implement regional premium transit. Today, Metro Transit provides commuter rail, light rail, bus rapid transit, local bus, and commuter services. A number of cities also operate transit service in addition to private-sector suburban transit providers that carried over five million riders in 2012. Fares support roughly a third of the operating and maintenance funds and 48 percent is from motor vehicle sales tax.

The beginnings of transit in Minneapolis began with a 19th Century streetcar system that operated until June 19, 1954. In the 1920s, every house was within 400 yards of a streetcar that cost a dime to ride. In the 1950s, its operator known as Twin Cities Rapid Transit Company transitioned to buses. They operated 635 buses at the time they were acquired by MTC with many buses in a deteriorating or inoperable condition. By the 1980s, individual counties within the seven-county region were given an option to run their own bus service. Today, six other transit systems are operating in addition to Metro Transit. This history is very familiar; however, the return to rail transit took 50 years to come about. A Regional Fixed Guideway Study prepared in 1972 by MTC proposed an extensive heavy rail rapid transit system. The Metropolitan Council supported bus rapid transit. The St. Paul City Council supported people movers. The differences of opinion over the best solution to transportation problems in the region prompted decades of debate and review of alternative plans and proposals that examined subway, monorail, streetcar, buses people movers, carpools, etc. On the dawn of the 1980s, light rail was proposed and in 1982 a draft environmental impact statement was completed for the Hiawatha LRT Line (today known as the Blue Line LRT) linking St. Paul and the suburbs to the west.

More than two decades after planning began for the first LRT service in Minneapolis, the Blue Line LRT began operating in mid-2004 with ridership levels that exceeded predictions. Ironically, because of better than expected performance on this first "starter" line, the Federal Transit Administration delayed the implementation of the Green Line LRT (formerly known

as the Central Line Extension) which is now being tested for opening by mid-2014. Metro Transit also operates a Northstar Commuter Rail, a 40-mile service from Big Lake in Sherburne County to downtown Minneapolis in operation since late 2009. The Red Line Bus Rapid Transit is operated by the Minnesota Valley Transit Authority on behalf of the Metropolitan Council since opening June 22, 2013. In addition to transit service, high-occupancy toll (HOT) lanes are provided on two major interstates (I-394 and I35W). Bus rapid transit and LRT extensions are envisioned for a network of "transitways" with a goal to double 2004 ridership levels by 2030. It is not funded today. Governor Mark Dayton is active in the search for long-term, dedicated transit funding to build and operate a significantly larger transportation system in the State of Minnesota.

A 2012 study known as the Itasca Project supported by area business leaders found that an investment of $4.4 billion to build out a system of transitways by 2030 would yield a $6.6 to $10 billion return on that investment, including travel time savings for people and goods. Economic development is following the LRT lines with over $1.2 billion already occurring along the soon to open Green Line LRT.

Houston, TX

The Metropolitan Transit Authority of Harris County (METRO) is a creature of the State of Texas by virtue of a state statute that authorizes local transit authorities. METRO was created by Houston-area voters in January 1979 who also funded it with a 1-cent sales tax at the outset.

Houston served its core urban areas connecting to its early suburban communities with streetcar starting with mule-drawn streetcars in the late 1800s. Electric streetcars were introduced in 1891. Serving Houston Heights, Bellaire, Harrisburg, and an intercity line to Galveston, the system was run by Houston City Street Railway and then Houston Electric Company.in the early 1900s. In its prime, there were 24 routes operating on 90 miles of track. Motorbuses began to displace streetcars in 1924 with the first bus route on Austin Street. By 1940, the last of the streetcars was discontinued. In the early motorbus days, HouTran ran the system; however, deficiencies in service and equipment soon became a serious problem for Houston's growing population over an expanded area with new suburbs farther from the downtown core. METRO was an early advocate for High Occupant Vehicles (HOV) Lanes beginning implementation with Contraflow Lanes on I-45 in the early 1980s.

Over the years, the HOV system has grown to over 120 miles of a bi-directional multi-lane system. By 2011, the HOV system had matured putting pressure on throughput and requiring increases in occupancy to 3+ persons per vehicle from the typical 2+ person occupancy. By 2011, the agency began converting the HOVs to High Occupancy Toll (HOT) lanes. With HOT lanes, vehicles with more than one occupant can use the lanes for free and single-person occupants can pay a toll to use the lanes.

METRO began development of rail plans in the 1980s. The first effort for rail transit began with the Priority Corridor from downtown Houston to the southwestern suburbs. Monorail was the selected mode and the project was approved for federal funding in 1990 and preliminary engineering began on the $1 billion project. Following a change in leadership at the City of Houston, the selected project was rescinded in favor of a Regional Bus Plan, which was then constructed with the same program budget of $1 billion. Just prior to the turn of the century, new leadership with Mayor Lee Brown pushed for a lower-cost rail system in the core of the city. The first light rail line was a 7.5-mile in-street system extending from north of downtown to the Astrodome to the south for $300 million, all built with local funds. Downtown development was a driving factor behind the purpose and need for the project. Houston's first LRT line opened on January 1, 2004 in time for the Superbowl in Houston's new stadium adjacent to the Astrodome. Since that time, considerable development has been attributed to the influence of MetroRail, now known as the Red Line.

Before Metrorail opened, planning began for the overall transit system and a Regional Transit Plan was developed in 2001. The plan was vetted with the public through an extensive outreach process and was adopted by the board in July 2003 and approved for a bond referendum in November 2003. Construction on three lines began in 2008 extending north, southeast, and east of the initial 7.5-mile starter line which is now referred to as the Red Line. The North Line (the 5.6-mile extension of

the Red Line) began operations on December 23, 2013, days before the 10-year anniversary of the initial Metrorail opening. The Purple Line (6.6 miles to the southeast) and the Green Line (3.3 miles to the East End) are currently in construction with plans for operations by the fall of 2014.

Three additional lines are planned – University Blue Line (east and southeast crossing midway at Wheeler in midtown), the Uptown Gold Line (Westpark to Northwest Transit Center), and the Southwest Rail Line (from the southern terminus of the maintenance facility for the Red Line to Missouri City to the west). Progress on these extensions is stalled due to funding limitations. In the fall of 2013, a referendum was required to continue the 1-cent sales tax that includes a 25 percent assignment of funds to the cities for transit-related improvements, including roadway improvements. METRO was unsuccessful in gaining support to redirect some of the sales tax to implementation of the full transit system envisioned and voters continued the existing 1-cent sales tax with the existing assignments to its cities. Plans for these additional extensions will occur further into the future unless other funds are identified.

Observations about New Systems

All three selected properties started with streetcar in the early days of their development. All three had long and arduous struggles "getting to yes" for rail systems. And, all three are funded through a dedicated sales tax. Their form of governance varies. Metro Transit in Minneapolis and CATS in Charlotte are operated by departments of their MPOs while Houston METRO is operated by a separate, state-enabled entity. Service for rail in Charlotte and Minneapolis started in the mid-2000s as FTA-funded "new starts" projects. Houston METRO's system was the only one funded entirely by local funding, an artifact of political objections to rail in general by congressional leadership. The rail extensions were a very different story for Houston METRO. Three LRT lines were supported by federal funding simultaneously and were supported by both the public and elected leadership following the much lauded opening of the first rail line. Economic development was a prime motivating factor for these rail projects. In all three cases, transit oriented development adjacent to the stations is attributed to the implementation of these projects. Charlotte has the lowest population densities, but none of the cities have substantial densities compared to Miami-Dade, for example. CATS has about a tenth of the employees and a third of the service area coverage in square miles compared to Houston METRO who runs more than twice the revenue miles compared to both CATS and Metro Transit. Ridership for Houston METRO is however comparable to Metro Transit in Minneapolis at 81 million riders/year. CATS ridership is growing, but is considerably less at 28 million per year. Many transit proponents in Florida often assert that Florida is a "donor" state for federal transit funding. For example, after HART in Tampa withdrew from the FTA New Starts process for their proposed light rail line in 2005, many felt that the funding secured by CATS would have gone to Tampa's project had it not been stopped.

Areas with Aspiring Premium Transit Systems

Three major urban areas are aspiring to add more choices to their public transportation system with premium transit projects. Summary information about transit properties operating in Tampa, San Antonio, and Detroit is presented in Exhibit 3-6. More detailed information is available in Appendix 5.

Exhibit 3-6: Aspiring Premium Transit Systems

Source: National Transit Database and Individual Transit Agencies
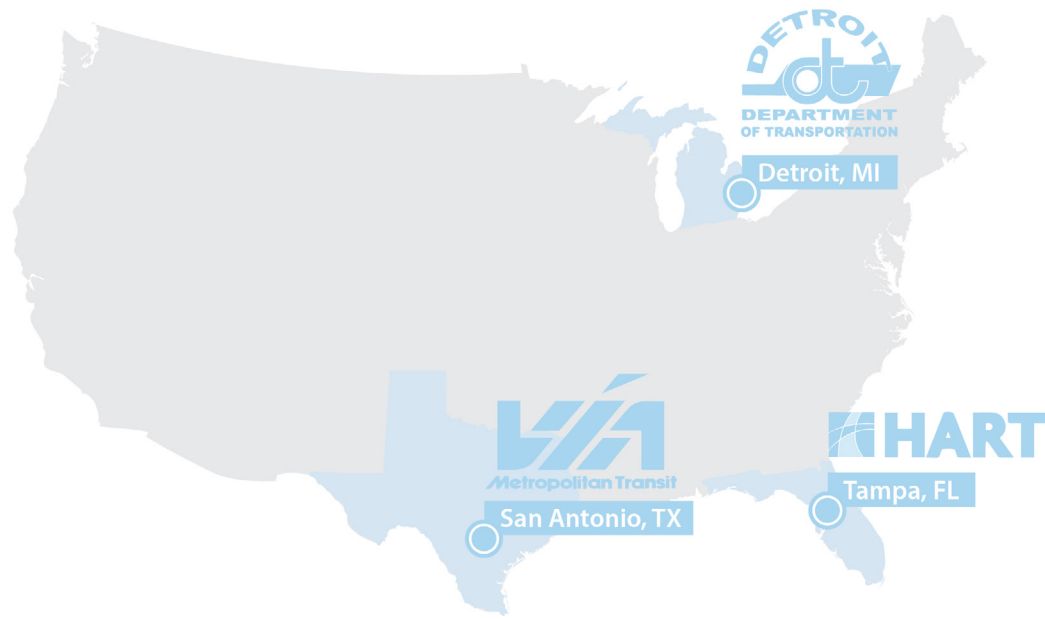
Hillsborough Area Transit Authority (HART)	VIA Metropolitan Transit	Detroit Department of Transportation (DDOT)
Employees 🚹 = 100 people		
739 employees	1,941 employees	917 employees
Service Area Population		
822,404 people	1,714,773 people	713,777 people

Service Area Density

HART   822 persons/ sq mi

VIA Metropolitan Transit   1,414 persons/ sq mi

DETROIT DEPARTMENT OF TRANSPORTATION   4,957 persons/ sq mi

Core City Density

HART   2,970 persons/ sq mi

VIA Metropolitan Transit   3,000 persons/ sq mi

DETROIT DEPARTMENT OF TRANSPORTATION   5,142 persons/ sq mi
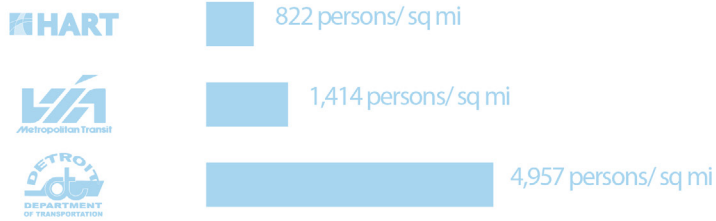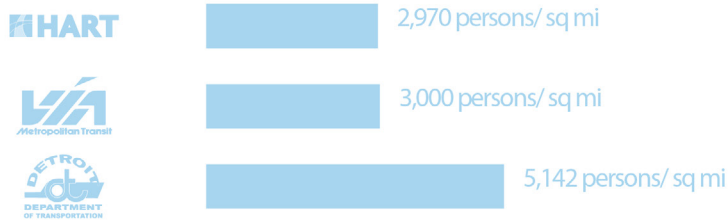
Signature Projects

	Hillsborough Area Transit Authority (HART)	VIA Metropolitan Transit	Detroit Department of Transportation (DDOT)
	HART	VIA Metropolitan Transit	DETROIT DEPARTMENT OF TRANSPORTATION
	TECO Line	primo	People Mover
	MetroRapid	VIA Primo BRT	
	MetroRapid		

Trends (in ridership)

HART
in FY2012
over 2011

VIA
Metropolitan Transit
APTA data
through
June 2013

DETROIT
DEPARTMENT
OF TRANSPORTATION
APTA data
through
June 2013

3.8%

3%

9%

Fleet	Hillsborough Area Transit Authority (HART)	VIA Metropolitan Transit	Detroit Department of Transportation (DDOT)
Bus Systems			
Bus Rapid Transit	🚌	🚌	
Express Bus	🚌	🚌	
Local Bus	🚌		🚌
Other Systems			
Paratransit Services	♿		
Streetcar	🚎	🚎	

Tampa, FL

Hillsborough Area Regional Transit Authority (HART) was chartered by the State of Florida in 1979 and is led by a 13-member Board of Directors. The TECO Line Streetcar is managed by a not-for-profit corporation known as the Tampa Historic Streetcar, Inc. which was created by an interlocal agreement between the City of Tampa and HART to manage operations and maintenance of the system. HART is contracted by this separate entity to perform day-to-day operations and maintenance under its Streetcar Division of the Operations Department. HART is dependent on a millage levy generated from property taxes for its operating and maintenance funds. The TECO Line Streetcar is supported by a special assessment district.

Tampa operated streetcars back in the 1920s as did so many other American cities. The historic streetcars that operate today are replicas of the Birney Safety streetcars that were discontinued in 1946. What followed after conversion to motorbus service was a deterioration of the transit service. HART entered the federal New Starts process at the turn of this century for a passenger rail project that used Diesel Multiple Units on an operating CSX rail corridor. HART completed the federal environmental process and entered into preliminary engineering for a north corridor light rail project known 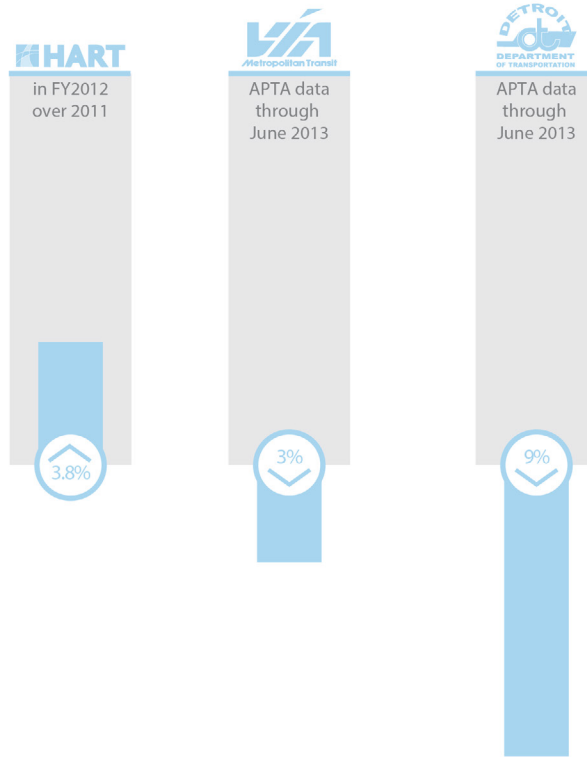as Tampa Rail. HART withdrew the project from the federal New Starts process in February 2005 due to lack support from the Hillsborough Board of County Commissioners for a local match and issues with the travel demand modeling for the project. In the early to mid-2000s, the agency was forced to make severe budget cuts involving service cutbacks and elimination of service. In 2007, management cancelled a planned HARTflex service after contract award due to a tempered outlook for its financial sustainability. Following a 20% decline in property taxes since 2007, HART decided to increase the millage rate to the legal maximum of 0.50 in 2012. A county-led task force was formed in 2006 to assess transportation deficiencies and recommend a range of improvements including transit. The task force recommended a county bond issue that supported HART's implementation of BRT in mixed traffic on Nebraska Avenue on a route north of downtown Tampa just west of the north-south corridor proposed for Tampa Rail (known today as MetroRapid). The task force recommendations also led to an effort to restart the Tampa Rail project. The new examination of light rail in Tampa was short-lived when the 2010 sales tax referendum to secure the local match failed. Corridors and alignments were not defined prior to the vote and the HART Board of Directors approved the light rail as the preferred mode only weeks before the election. The timing of the referendum was also problematic given public concerns for the weak economy and fiscal responsibility at the height of unemployment and property value drops resulting from the Great Recession. In spite of the loss delivered by Hillsborough County voters, those voting in the City of Tampa favored the transit initiative. After this second disappointment, HART refocused their efforts on the BRT project then in the planning phase and on improving bus service. The alternatives analysis for the Tampa Rail project was never completed.

The seven-county Tampa Bay Area Regional Transportation Authority (TBARTA) was formed in 2007. Their first multimodal master plan was adopted in 2009. Priorities were established for implementation of premium transit, including Tampa Rail on the north corridor in Tampa. TBARTA's role is that of regional transportation planning, commuter services, and it could lead potential implementation and operation of transit lines that cross county boundaries. The master plan has been updated several times since initial adopting in 2009 and the regional focus has been a positive influence for transportation and transit planning. On the west side of Tampa Bay, Pinellas County agencies partnered to conduct an alternatives analysis completed in 2012 which led to a locally preferred alternative for light rail extending from downtown St. Petersburg to Clearwater. Pinellas is preparing for a 1-cent sales tax transit initiative that will replace close to a ¾-mill ad valorem tax. In the meantime, the State Legislature has initiated a new study of consolidation of HART and Pinellas Suncoast Transit Authority (PSTA) to eliminate functions, streamline services, and cut cost. The dedicated sales tax would fund bus and related improvements in addition to a passenger rail line identified in the 2012 transit study. Bus ridership is growing for both HART and PSTA. Ridership has increased to over 14 million riders at the end of 2013 for HART. HART's MetroRapid, a branded limited-stop service operating in mixed traffic with transit signal priority and premium transit stations, opened on June 10, 2013.

The TECO Line Streetcar System first operated a 2.4-mile stretch from the Convention Center through Channelside and to Ybor City since opening on October 2002. It has since been extended to the southern end of downtown Tampa with a new end-of-line station for a total of 2.7 miles. At the outset of the service, a special assessment district was established

by the City of Tampa on property within the area in which the streetcar operates or was planned. Areas within the district that do not yet have streetcar service are being served by rubber-tired trolley bus vehicles painted with the same yellow and red colors of the historic replica streetcars. In recent years, the endowment fund established for the streetcar service was depleted by value drops in investments made during the market downturn of the Great Recession. The system has also been burdened since opening day by an annual insurance charge of approximately $400,000. Insurance is required by CSX Transportation for a crossing of the CSX railroad tracks near the entrance of Ybor City south of the streetcar operating and maintenance facility. Attempts to reduce this burden have all been unsuccessful and the requirement and annual cost continues. Measures such as service cuts and fare adjustments have been made to abate the fiscal challenges, but the system is struggling to attain a sustainable financial strategy.

San Antonio, TX

VIA Metropolitan Transit was created as a political subdivision of the State of Texas in 1977 with voter confirmation to serve the majority of Bexar County and collect a ½-cent sales tax to fund it. VIA (the namesake of the Latin word for "road") is governed by an 11-member Board of Trustees. Voters also approved the formation of the Advanced Transportation District (ATD) authorized to collect an additional ¼-cent sales tax that funds projects implemented by VIA, the City of San Antonio, and the Texas Department of Transportation. VIA received half of this additional tax. Sales tax makes up over 70 percent of VIAs total operating funds.

Transit in San Antonio began with a mule-drawn streetcar later upgraded to electric-powered streetcars operating on rails. At its heyday in 1922, the over 90-mile streetcar system recorded over 1.5 million fares in one month at a time when just over 160 thousand people lived in San Antonio. The first bus route was from Fort Sam Houston to downtown in 1917. Streetcar operations were terminated in 1933 and a transition to bus provided higher speeds and more flexibility for the sprawling suburban growth fed by an extensive expressway system that currently includes 8,800 miles of roadways in the region.

Today, VIA operates 450 buses on 91 bus lines having eight park and rides, five transit centers, and over seven thousand bus stops. VIA currently operates a rubber-tired trolley service in downtown with 16 circulator vehicles. San Antonio is the largest city that provides a bus-only system in the U.S. That distinction is about to change. Since adopting SmartWay SA, VIA's 2035 Long Range Comprehensive Transportation Plan and Transit Vision in 2011, a five-year plan referred to as SmartMove, is being implemented. Since these plans were made, a number of paradigm shifts have occurred. VIA Primo Bus Rapid Transit was implemented on Fredericksburg Road opening as Route 100 on December 17, 2012. This was VIA's first premium transit project and is currently the third busiest route on its system with ridership exceeding 4,000 riders per day. SmartMove includes plans now in progress for three transit/multimodal centers, a park and ride, and a six-mile modern streetcar in downtown San Antonio. The locally preferred alternative was adopted on September 2013 and a phasing plan was approved on December 2013 for implementation of the first north-south and east-west 3.15-mile phase by 2017. Economic development in downtown is a big driver in support behind the streetcar project. Service will be integrated into existing transit services reducing bus volumes in the congested downtown area. Bexar County is also one of the last metropolitan areas without toll roads or managed lanes. That too will change soon. On January 13, 2014, the Texas Department of Transportation (TXDOT) announced $825 million in funds for a mix of expressways and managed lanes on I-10 and U.S. 281. Complete streets are also planned on 22 miles of major streets involving an ownership transfer from TXDOT to the City of San Antonio.

Detroit, MI

Bus service in Detroit is under a department of the City of Detroit, the Detroit Department of Transportation (DDOT). As of January 1, 2012, DDOT is managed by a private contractor. The City filed for bankruptcy on July 18, 2013 in the largest municipal filing in U.S. history. Detroit's modern streetcar project is being implemented and managed a public-private partnership known as M-1 RAIL established in 2008 with a separate Board of Directors.

Horse-drawn rail cars were a common sight on the streets of downtown Detroit in the 1860s. The Detroit City Railway took over and electrified the cars in the 1880s, including service on historic Woodward Avenue. Streetcars were profitable businesses in the late 1800s and a number of private franchises were granted for streetcar lines. In 1875, the Detroit City Railway Company carried 2.9 million passengers on four lines when the city's population was just over 116 thousand residents. Electrification of the streetcars came at the turn of the century. That was just the beginning. Detroit has a long and sordid history involving the Ford Motor Company, Detroit Street Railway Commission, and Detroit United Railway, known as DUR. (Detroit Transit History.info, multiple sources) DUR consolidated many of the private operations and began to offer suburban service on interurban streetcars that were larger and could reach speeds up to 40-50 miles per hour. Its 22 years of operation were marked by controversy and political strife, negative public perceptions, and the loss of its franchise to operate. Streetcars were plagued by overcrowding and traffic congestion. Nonetheless, by 1920 DUR operated 1,434 cars with service frequencies of less than a minute in peak hours, some making two-car train sets. DURs battle with the City intensified when new Detroit Mayor James Couzens (a former general manager of Ford Motor Company) set up the Department of Street Railways (DSR) to provide streetcar service in 1922. The automobile takes over the streets of Detroit and auto builders are setting up shop in the Motor City. After the Wall Street Crash of 1929, the interstate system was built and suburban sprawl led to more automobiles. America's and Detroit's love affair with the automobile began. Streetcars gave way to trolleybus and eventually by March 25, 1956, the last streetcar line on Woodward Avenue was replaced with motorbuses.

What followed was the creation by the State of Michigan of the Southeastern Michigan Transportation Authority (SEMTA) in 1967, known today as Suburban Mobility Authority for Regional Transportation (SMART) by 1989. The new transit authority acquired the DSR; however, they had neither a dedicated funding source nor the authority to levy taxes. By 1974, DSR was reorganized as a City department of Detroit and SEMTA was responsible for suburban services. In the early 1980s, SEMTA implemented the Detroit People Mover initially conceived as part of a larger plan to implement light rail transit and a downtown subway system. This project was transferred to the Detroit Transportation Corporation. In 2011, Detroit cut service by 22 percent. With declining property values, Detroit has not been able to sustain acceptable transit service and faces ongoing union struggles. On March 3, 2012, 24-hour bus service was discontinued, and other weekday and weekend routes and services were pared down, or eliminated entirely, in an attempt to produce savings for the department.

A bright spot on the horizon is the Woodward Avenue Streetcar Project, a 3.3 mile modern streetcar. With an on-again off-again history (at one point aspiring to be a BRT project), the M-1 RAIL is now proceeding as a public-private partnership involving private business, philanthropic organizations, local government, the State of Michigan and the U.S. Department of Transportation. The project is managed by a public-private partnership known as M-1 RAIL established in 2008 with a separate Board of Directors who will assume operations of the new system. The streetcar is seen as a new beginning for economic prosperity in the core business district of downtown Detroit, Midtown, New Center, and the North End. By December 2013, utility relocation work is underway. One day soon, streetcars will return to Woodward Avenue, but the vehicles will be modern streetcars bearing little resemblance to their predecessors of the last century.

Observations about Aspiring Systems

San Antonio is the seventh largest city in the U.S. and the only bus-based system for a city of its size. That distinction will change by 2017 with implementation of a modern streetcar system. Tampa has a historic replica streetcar system, but has long aspired for a larger rail system, as has Detroit. Both San Antonio and Tampa opened BRT lines recently. Detroit has operated a People Mover for the last three decades. Today, both San Antonio and Detroit are in early stages of implementing a modern streetcar system. Hillsborough County, having lost a sales tax initiative referendum for HART's light rail transit in 2010, is again rethinking how they can "get to yes" for premium transit and specifically for light rail. HART has stopped its passenger rail efforts twice – once in 2005 and 2010, both times because of a lack of local match. San Antonio is the only one of the three examples reviewed that has a dedicated sales tax for transit. Detroit has a long transit history and

has made multiple shifts of responsibilities for transit operations and decisionmaking. Today the implementation of modern streetcar is in the hands of the private sector while the City recovers from bankruptcy. Economic development and the desire for land use changes are driving the desire and aspirations for transit for all three selected cities.

What Can We Learn from Their Stories?

Every place is different and each place has a different story to tell. Broward may have similarities with each of these stories, but it has its own story and is making its own history – which will be different. But we all learn from experiences of others as well as our own. Here are a few observations from the histories of established, new and aspiring transit properties.

- Historically, almost every city in the U.S. had some form of streetcar. All of these modes were converted to motorbus by the 1960s.
- Heavy rail gave way to light rail transit in the 1970s as the preferred rail mode for new rail systems. Most recently, popularity of modern streetcar and BRT as lower-cost options for mass transit are gaining traction in more and more cities across the country.
- Transportation options for transit have been highly controversial politically and in public opinion in most areas where it is implemented. The path forward to higher capacity premium transit can take decades. Grassroots efforts and the business community can dramatically change the direction of transportation planning. Indeed, 73 percent of recent transit measures put to the voters in the U.S. from 2000-2013 passed.[6]
- System-level and regional planning are typically conducted prior to significant progress towards implementation of premium transit.
- Of the transit systems reviewed, those successful in implementing premium transit have identified a dedicated funding source, usually from a sales tax, but sometimes from payroll tax. District assessments can help, but do not usually make up the bulk of the operating budget and typically relate only to a specific project or segment of a fixed route transit line.
- Public sentiment can change after implementation of a "starter" line, referred to by the Federal Transit Administration as a "new start". As the public gains experience with a new mode of travel and its convenience, it becomes easier to gain support for extensions.
- Governance and the responsibilities for decisionmaking and operations were shifted in many locations to accommodate the transportation planning desired by local leadership.
- The objectives of economic development are paramount with many new LRT and BRT systems and in fact have occurred in many cities who have implemented premium rail transit.
- High capacity premium transit will never replace the automobile, but it can make a significant contribution towards reducing congestion and increasing throughput.

How Does Broward Compare?

Broward is strategically located between Miami-Dade County to the south and Palm Beach County to the north. It is geographically constrained by the Atlantic Ocean and the Everglades. Broward County Transit's service area is fixed. All the major roadways in Broward are built out with little or no room for expansion. The last remaining greenfields are now under construction as the housing market has regained its strength and the economy rebounds. Unlike many other metropolitan areas, Broward is not trying to decide where to expand and develop more land and roadways. All growth within Broward will consist of redevelopment and infill development. That is why many believe that increasing throughput of existing roadways and increasing more alternatives to the automobile are important objectives for Broward's future transportation system. This can be accomplished through a combination of managed lanes on existing roadways and transit improvements and the introduction of new travel modes.

Big changes are in store for Broward with the implementation of managed lanes on three major corridors, the introduction of modern streetcar in downtown Fort Lauderdale, and intercity passenger rail service by the private sector on the Florida East Coast Railway. None of these modes of service are operating in Broward today. And while this is big news and plenty to get excited about, BCT still struggles with a limited budget to operate adequate bus transit service. While Broward agency

6 Center for Transportation Excellence website http://www.cfte.org/#&panel1-4

partners led by FDOT/SFRTA aspire to do more by expanding Tri-Rail service onto the Florida East Coast Railway extending further north to Jupiter, and increasing our throughput on our major interstate highways through managed lanes, there is much more work to do.

There are many players with overlapping roles in Broward. The discussion below highlights the three key transportation providers in the area, namely, FDOT, BCT, and Tri-Rail. We recognize that others play a role in implementing transportation projects, including the Broward MPO, other Broward County departments, and the cities of Broward. Our focus here is to address the transportation implementers that have the most influence on moving people in and through Broward.

Florida Department of Transportation

Although FDOT is not a transit operator, District 4 in the Broward County area has played a big role in transit and intermodal planning. And, FDOT has contributed significantly to the operations of Tri-Rail passenger rail service financially with a local match for federally-funded improvements, ownership of the underlying property on which the CSX corridor operates, and in planning and funding operations for the service. State direction currently requires that a local source of operating funds be identified for the Tri-Rail operations to replace the $30 million annual operating subsidy. As the region plans for expansion of Tri-Rail onto the Florida East Coast Railway with Tri-Rail Coastal Link, options to State annual operating funding are being explored.

The Strategic Intermodal System (SIS) implemented by FDOT is a multi-billion program established in 2003 to address statewide infrastructure improvements for a wide range of transportation projects in all modes. The SIS program addresses the State's largest and most significant airports, spaceports, deepwater seaports, freight rail terminals, passenger rail and bus terminals, rail corridors, waterways, and highways. The SIS program is the largest funding source for transportation projects available and accounts for a large portion of spending throughout the State of Florida. In Broward, as part of the SIS program, FDOT is moving forward with planning for extensions of the managed lanes on I-95 into Palm Beach County and points north. The extension of the managed lanes project on I-95 is included in the cost-constrained SIS plan through 2040 with estimated funds in the amount of $755 million for the segments of I-95 within Broward alone. Funding is also available for the extension within Palm Beach County. The objective of the extension of managed lanes on I-95 north of Broward is to be ready for traffic congestion before it becomes a major challenge. The primary focus of this project is on capacity improvements and congestion relief.

The most recent 2040 Cost Feasible Plan has allocated roughly $2 billion to Broward (year of expenditure dollars) for projects that are still in development phase. Construction projects underway total $2.4 billion for I-75 managed lanes and completion of I-595. An additional $0.3 billion is allocated to Florida's Turnpike improvements in Broward. Unfunded needs are also identified and quantified by FDOT for the 22-year period of 2019 through 2040 of $12.3 billion. [7]

FDOT is also taking the lead on the Tri-Rail Coastal Link Transit Study now underway in partnership with SFRTA who is taking the lead on the financial planning. The three MPOs in Broward, Palm Beach and Miami-Dade and the Southeast Florida and Treasure Coast Regional Planning Councils are also involved through a Memorandum of Understanding that outlines roles and responsibilities for the planning of Tri-Rail Coastal Link. No funding is available for Tri-Rail Coastal Link at this time, either for capital or operating funds which poses a significant deterrent to moving the project forward. Another important objective for SFRTA at this point in time is securing perpetual easements and licenses to place infrastructure improvements, and an access agreement that governs shared responsibilities of maintenance of way, dispatch, and shared operations on the corridor.

Broward County Transit

BCT service, equipment and facilities have evolved considerably over a relatively short period of time. It has grown its livery from 100 buses in the late 1980s to a modern fleet of 452 vehicles. BCT includes a peer review based on 2011 performance statistics as part of its most recent 2013 Transit Development Plan (TDP). The purpose of the review was to compare its

7 Florida Department of Transportation Strategic Intermodal System Cost Constrained Plan issued August 2013. http://www.dot.state.fl.us/planning/sis/

bus operations to other similar systems to evaluate where it can achieve more efficiencies and better performance. Full comparison and analysis can be reviewed in the BCT TDP. A few observations include:

- On the whole, for bus-only operations, BCT compares on a par with the peer group averages for passenger trips. Yet for similar populations, BCT does not provide the same level of transit service. It traveled 13 percent fewer revenue miles made by 26 percent fewer vehicles in peak service.
- Vehicle miles traveled per capita is 22 percent below the peer group average, but those same vehicles carried 27 percent more passengers per hour, and 23 percent more passengers per mile traveled. In brief, the demand is there, but the service is limited.
- BCT had the best record for revenue miles between failures of 29,201 which bests the peer group by 258 percent.
- BCT operating expense is 36 percent lower than the group average, yet farebox recovery is 38 percent higher at over 30 percent.
- Capital investment per capita is second lowest at $16/person in 2012 with total spending including operating and maintenance cost is the lowest at $80/person.

South Florida Regional Transportation Authority

Tri-Rail operations began in the late 1990s as congestion mitigation alternative during the widening of I-95. As its popularity grew, the facility has since been improved with double-tracking and new equipment, and today Tri-Rail is a major mode of transport for people traveling in the tri-county area. In 2013, ridership reached record levels of over 43 million passengers. The South Florida Regional Transportation Authority (SFRTA) was created by the State of Florida on July 1, 2003 to create and operate a regional transportation system. It's difficult to compare Tri-Rail service to other commuter rail services because it operates much more like a heavy or light rail service. Rather than a long-haul morning and evening commuter service, Tri-Rail carries people throughout the day and for short trips as well as long trips. SFRTA also plays a larger role in planning for regional transportation solutions in addition to its role operating Tri-Rail. Approximately 95 percent of the operations and maintenance are privatized under contract with Veolia for operations and Bombardier for maintenance.

Before Tri-Rail was launched on the South Florida Rail Corridor adjacent to I-95, another corridor was considered. The more densely-populated Florida East Coast (FEC) Railway was recommended for the commuter rail service, but an agreement could not be reached with the FEC at that time. Today, that interest in developing the FEC for passenger rail remains largely because of the potential for economic development at the stations and high potential for ridership given the adjacent land use along the rail corridor. Having been under study for expansion since the turn of the century, there remains strong interest in expanding and integrating existing service onto the FEC corridor. SFRTA is partnered under a Memorandum of Understanding with FDOT and other planning agencies to advance the Tri-Rail Coastal Link, an expansion of Tri-Rail service onto the eastern FEC rail corridor. SFRTA is responsible for the financial plan to fund the integrated operations and fund the capital improvements for the service using the same locomotives and coaches they currently own.

The fact that All Aboard Florida is also implementing intercity rail service on the same corridor is an added plus for the project because much of the line will be upgraded and double-tracked for the intercity service. The rail carrier also owns eight acres of property adjacent to the Miami terminus and is planning to develop this property for transit oriented development. FEC is also motivated by the PortMiami expansion and the promise of the Post-Panamax trade opportunities. It is upgrading its tracks for both passenger rail and freight service at the same time.

Another major step forward for the Tri-Rail Coastal Link project is a recent award of federal funding for two crossovers connecting the South Florida Rail Corridor and the FEC lines in the southern terminus in Miami-Dade, and in the mid-section in Palm Beach County. These crossovers will serve both passenger and freight rail and will allow for operating flexibility to shift freight traffic off of the FEC line onto the CSX line. SFRTA is also planning a new expanded layover and light maintenance facility in the northern terminus in Palm Beach County to allow for improved operations and efficiencies in service and vehicle maintenance.

There are many issues to be resolved during the planning phase for the Tri-Rail Coastal Link, including negotiation of a lease agreement with the FEC freight operator and securing a dedicated funding source for operations. The State of Florida has required by statute that all passenger rail operations in Florida be locally funded within seven years of operations, or by 2019 for Tri-Rail.

By the end of 2014, SFRTA is preparing to take over operations, maintenance, and dispatch from CSX Transportation for the portion of the South Florida Rail Corridor where Tri-Rail runs, giving it more control over the service it provides including scheduling. SFRTA is also implementing The Wave Modern Streetcar project which completed preliminary engineering late 2013. This project is being developed with a broad partnership involving FDOT, the Broward MPO, the City of Fort Lauderdale, the Downtown Development Authority, and BCT who is slated to take over operations once constructed.

SFRTA also completed their 10-year Transit Development Plan. Full comparison and analysis can be reviewed in the SFRTA TDP.

The Promise of Premium Transit in Broward and South Florida

With three major transit players working together in Broward, there is tremendous promise for the future of transit. But there is a high hurdle to jump – finding a dedicated operating fund source. Each of the two major transit properties (SFRTA ad BCT) that operate through and within Broward have reported funding shortfalls within the next ten years, much of those shortages occurring in the near-term. Progress has been made and ridership is growing on existing services, but much more work is to be done to further premium transit in Broward. Located in the heart of the South Florida region, Broward has a lot going for it. But it will take more than studies and wishful thinking to make it happen. Now is the time to Speak Up Broward!

Exhibit 3-7: Broward County's Aspiring Premium Transit System

Source: National Transit Database and Individual Transit Agencies

Broward County Transit (BCT)

Employees ⋔ = 100 people

⋔⋔⋔⋔⋔⋔⋔⋔⋔⋔⋔

1,054 employees

Service Area Density
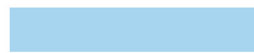
4,375 persons/ sq mi

Service Area Population

1,780,172 people

Service Area Density
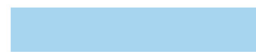
4,375 persons/ sq mi

Signature Projects

Broward County Transit (BCT)

the Breeze

Breeze Rapid Bus

Trends (in ridership)

BROWARD COUNTY Transit

APTA data
through
June 2013

0.3%
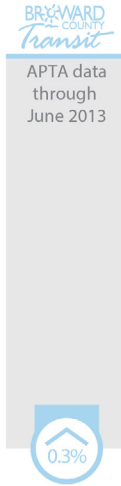
Fleet

Broward County Transit (BCT)

Bus Systems

Bus Rapid Transit

Express Bus

Local Bus

Other Systems

Paratransit Services

Streetcar

4. Local, Regional, and Statewide Plans and Studies

A transportation system for an urban area of any size does not exist in isolation within the boundaries of any single jurisdiction. Broward's is no exception. It is part of a larger transportation network that is constantly evolving as plans, studies, and major initiatives dictate progress and future change. Local and regional corridors under study and funded projects nearing construction will change the way Broward's transportation system operates in the future. A list of major plans and studies relating to Broward at the local, regional, and statewide levels is included as Appendix 6. Maps of projects now being implemented and corridors currently under study are mapped in Exhibits 4-1 and 4-2, respectively.

595 Express

75 Express

95 Express

All Aboard Florida

The Wave Streetcar

Existing System

0 1 2 4 Miles

Palm Beach County

Everglades Conservation Area

Miami-Dade County

Exhibit 4-1: Broward's Future Projects

Exhibit 4-2: Broward's Corridors Under Study

Broward

At the county level, there are several master plans, development plans, or other initiatives that help guide Broward's growth and progress. Most notably, the Long Range Transportation Plan (LRTP) now being updated by the MPO projecting to the year 2040, Transit Development Plans (TDP) for the next ten years recently updated in the fall of 2013 by both transit providers Broward County Transit and the South Florida Regional Transportation Authority, and the Master Plans developed by Port Everglades and the Fort Lauderdale-Hollywood International Airport establish priorities for expanding service and operations. These plans are based on projected growth and needs for the major components of Broward's multimodal transportation system. Broward's Complete Streets Initiative adopted by the County Commission in 2013 promotes active lifestyles by incorporating urban design standards that make streets more compatible with all modes of transportation. This includes making streets safer and more accessible for bicyclists, pedestrians, and those waiting for transit.
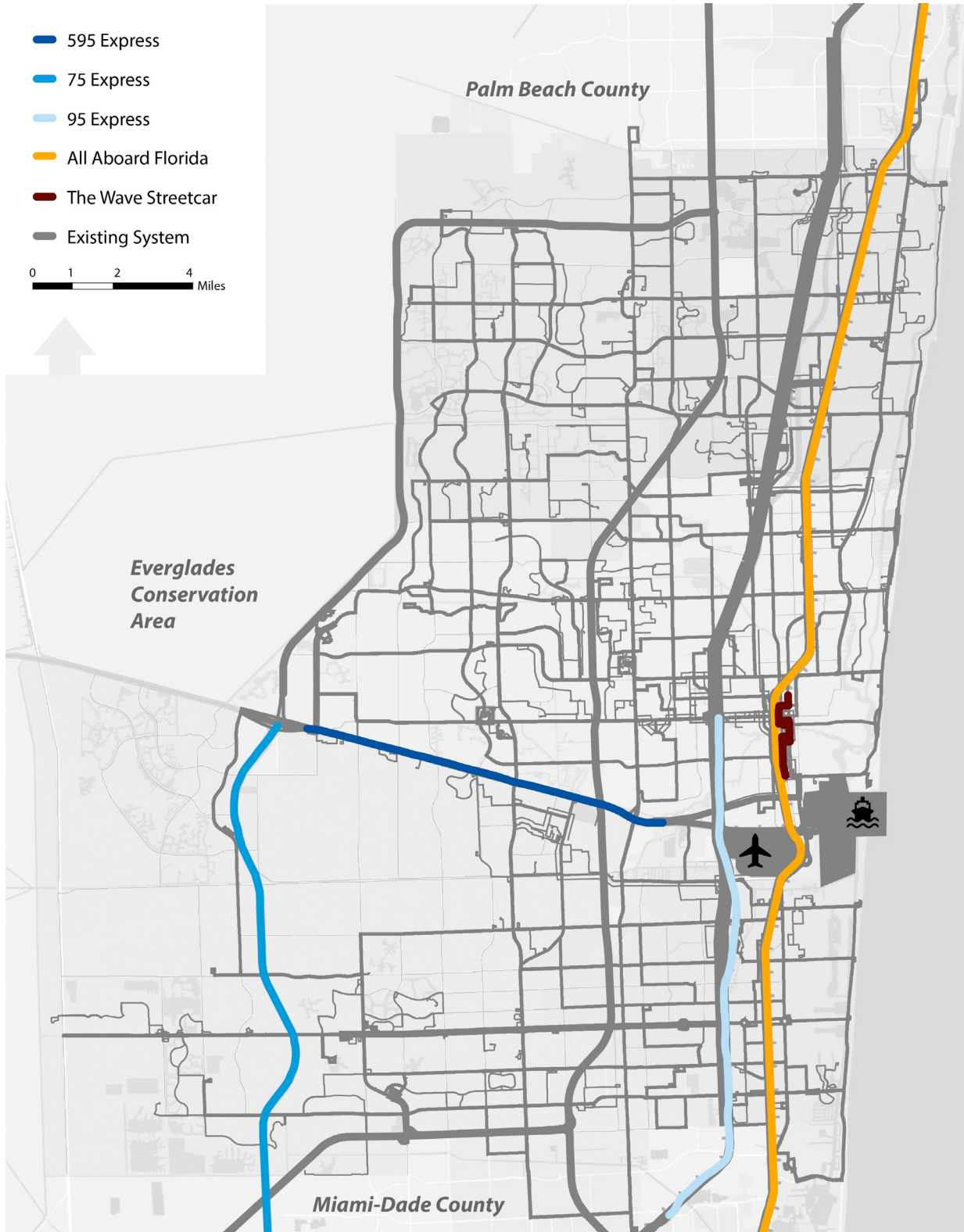
In addition to these countywide initiatives, corridor studies and recently funded projects are underway in specific parts of Broward to address mobility issues and deficiencies identified in previous Financially Feasible LRTPs. Major east-west roadway corridors under consideration for different levels of improvements include Oakland Park Boulevard, Broward Boulevard, and Hollywood/Pines Boulevard. Major north-south roadway corridors include University Drive, State Road 7, and US-1, all of which include a portion of the study corridor that extends into neighboring Palm Beach or Miami-Dade. A transit study has also been in the works for the central part of Broward extending from Sunrise to downtown Fort Lauderdale.

The Wave is a recently funded project that will bring modern streetcar service to Downtown Fort Lauderdale. A 2.7-mile system that will have 10 total stations extending from a point just south of 6th Street south along Andrews, crossing New River at 3rd Avenue is expected to be in operation by 2017. An extension to the Broward General Hospital is planned to follow shortly after. The Wave is a multi-agency partnership with SFRTA managing the project implementation and BCT slated as the ultimate operator for the service. Potential additions to The Wave could occur as part of the Central Broward East-West Transit Study, which could potentially extend modern streetcar service to the Broward Boulevard and Griffin Road Tri-Rail Stations, and even as far west as the South Florida Education Center in Davie.

South Florida

From a regional perspective, Broward is involved in a broad range of plans and studies about the movement of people and goods throughout all of South Florida. In addition to the regional equivalents of local long-range initiatives such as the LRTP or Freight Plan, other planning efforts and agencies including the South Florida Regional Planning Council (SFRPC), the Southeast Florida Transportation Council (SEFTC), and the Seven50 Prosperity Plan all incorporate Broward as integral to the greater South Florida metro region.

Being the densest part of the Florida Department of Transportation (FDOT) District 4, Broward has three major areas with planned improvements under the Transportation Systems Management and Operations (TSM&O) Program. These technology-based intelligent transportation strategies aim to enhance the efficiencies for existing transportation systems. Other regional roadway initiatives currently under or nearing construction include the addition of managed lanes with variable tolling in the southern parts of Broward. Over the next several years these express lanes will be added to two major expressways:

- I-595 from I-75 to I-95 – three reversible lanes opening in late March 2014, and
- I-95 from the Golden Glades Interchange in Miami-Dade north to Broward Boulevard – extending the current congestion managed lanes system of two lanes each direction by 2014, and
- I-75 in between I-595 and the Palmetto Expressway – adding congestion managed lanes, two in each direction similar to I-95 by 2017.

Florida East Coast Industries, Inc. is developing an intercity passenger rail service on the existing Florida East Coast (FEC) Rail Corridor between downtown Miami and the Orlando International Airport with stops in the downtowns of Fort Lauderdale and West Palm Beach. Known as All Aboard Florida, this is the first privately-owned, operated and maintained passenger rail project of its type in the U.S. The full trip between Miami and Orlando is estimated to take about three hours at a cost of $100 each way. The potential market for this service includes tourists and business travelers.

South Florida's passenger rail service known as Tri-Rail is now under study for planned expansions and integration on the FEC in addition to the existing service on the South Florida Rail Corridor (also used by CSX and Amtrak). Known as Tri-Rail Coastal Link, this proposed project is examining different alternatives for integrating new passenger rail service on the FEC Rail Corridor between Downtown Miami and Jupiter with existing service on the South Florida Rail Corridor between Miami International Airport and Mangonia Park. The upgrades and double-tracking now being implemented on the FEC Rail Corridor by FECI will help further additional commuter rail service envisioned and help to reduce some of the cost since portions of the double-tracking needed for both services will be implemented with All Aboard Florida. Operating alternatives for Tri-Rail Coastal Link include different combinations of routes linking Palm Beach, Broward, and Miami-Dade with two potential crossover connections between the two rail corridors - one just south of Pompano Beach and the other just north of West Palm Beach at a location called Northwood.

Statewide

Transportation plans at the State level are much broader by nature. They are focused primarily on major roadways and major economic generators such as airports and seaports that facilitate trade and freight logistics. Because of Florida's peninsular shape and strategic location, seaports are of particular importance to both the statewide transportation network and economy. This importance will only increase in the coming years once the Panama Canal expansion is completed in 2015 to allow for larger freight vessels from China and the Far East to transport more cargo to the eastern seaboard of the U.S.

Statewide planning initiatives aimed at expanding and improving multimodal and intermodal transportation modes include the Florida Transportation Plan (FTP) and the Strategic Intermodal System Plan. These long-range plans address passenger rail corridors, bus terminals, greenways, airports, and other strategic pieces of the State's multimodal transportation system.

5. Media and Research Reports

News articles and reports prepared by academia, government agencies, and non-profit organizations are released on a wide variety of transportation issues. These publications provide data sources and indications of opinion, behavior, historic trends and future projections. The types of information collected falls in three general categories with secondary categories to better organize information sources as shown in the table below. Some subcategories occur for more than one category, such as Planning and Trends. Articles about Broward or neighboring counties are identified in the Local all three categories.

Complete Communities	Funding	Transportation
• Complete Streets	• Federal	• Bus Rapid Transit
• Cost of Living	• Initiatives	• Congestion Management
• Economy	• Local	• Local
• Environment	• Mileage-Based User Fees	• Performance
• Health	• Priorities	• Roadways
• Jobs	• Public-Private Partnerships	• Safety
• Local		• Technology
• Planning		• Transit
• Socioeconomic		• Trends
• Transit Oriented Development		
• Trends		

Exhibit 5-1: Reports Reference Categories for Media and Research

The information collected provides reference material for development of communication materials in the form of presentations, reports, social media postings, etc. A discussion of recent writings on relevant topics that affect transportation follows for each major category. See Appendix 1 for a complete reference list of all reports and articles compiled for the Speak Up Broward Fact Files, including hyperlinks to the original resource where available. This list is continually updated and is included on the website.

Complete Communities

Broadly defined, the category of Complete Communities encompasses all elements that ensure opportunities and health for our people and the economies that support them. This category includes socioeconomic articles and reports, as well as economic and real estate trends. Cost of living and jobs continue to be top-of-mind for people and a number of recent reports focus on trends for our workforce. A number of studies and interactive websites address the relative burden of transportation and housing costs. Climate adaptation and sustainable planning work offers new insights for our coastal areas. More interest is noted in evaluating public health benefits of active transportation in addition to the more widely understood environmental benefits of lower vehicle emissions from reduced automobile use.

There are a number of studies that address economic development and valuations of property near transit stations. Case studies about home prices near public transit indicate that proximity results in properties that hold their value, even in times of recession. The downside to property value increases is the effect of the housing burden for moderate and low-income residents. Reliable transit can lead to significant savings by eliminating the need for more than one vehicle per household. Several references are flagged as Cost of Living in the reference list.

Recent trends show a shift in population and densities to urban areas (over 80 percent in the U.S.) and transit oriented development has generated more interest as an economic development tool. All trends point to bicyclists and pedestrians becoming a bigger part of the transportation picture. All across the U.S. more people are choosing to live closer to work and social destinations, and many consider access to transit a priority. Government and planning agencies are supporting more walkable urban designs and transportation improvements such as Complete Streets. Safety continues to be an important factor, especially in South Florida where we have seen recent increases in accidents and fatalities involving bicyclists and pedestrians.

Funding

Funding for transportation infrastructure and operations continue to challenge transportation departments and transit providers across the U.S. The Federal Highway Trust Fund has been declining for years and is approaching insolvency by 2015. Our gas tax revenue system is at the core of this issue. Last increased in 1993, the tax is established at a flat rate per gallon with no inflation index. The amount of gasoline we use has dropped significantly as regulations go into effect for cleaner, more efficient vehicles that burn less fuel. A number of articles and reports address the trends and implications of continuing funding shortfalls and what will happen when the fund reaches a zero balance at the beginning of fiscal year 2015 as reported by the Congressional Budget Office. Many states are looking at new approaches to the funding paradigm that historically has included a significant federal role, but today is proving less and less viable and reliable. Some of these ideas for new revenue sources involve new user fees, assessments, and taxes - others involve financing mechanisms such as public private partnerships.

Mileage-based user fees (MBUF) have been proposed as a potential funding solution at the national and state levels. Over the past decade MBUF has received both interest and objections. A system in which roadway users pay for the amount they drive and not the amount of fuel they consume would have the potential to be both equitable and sustainable. Pilot programs and studies have been undertaken in several parts of the country. The barriers involve tracking and privacy concerns, payment methods, jurisdictional boundary issues, and the possibility of de-incentivizing fuel efficient vehicles.

Funding priorities and public opinion about how to pay for transportation infrastructure have been polled and studied and selections are included in the reference. Of note on the local level is the July 9, 2013 property tax assessment by the Fort Lauderdale Council for The Wave modern streetcar project.

Transportation

References in this category are organized mainly by major transportation mode with the exception of bicycle and pedestrian resources which are listed under Complete Communities described early. Performance includes the annual mobility report prepared by Texas Transportation Institute as well as documents about development of performance measures now required by federal regulations.

Reports about driving trends highlight the fact that Americans as a whole have been driving less. The cause of this recent downturn in vehicle miles traveled (VMT) is the subject of recent debate. After years of steady increases in VMT that have largely tracked population increases, there is evidence of a change in driving behavior. While the decline in per capita VMT may be in part attributed to the economic recession and resulting unemployment, people are increasingly choosing other modes of transportation such as transit, walking, and bicycles. A number of surveys evidence a shift in attitudes about driving in general, especially among younger populations. The Millennial generation on the whole (persons 18-30 years of age) does not place as much importance in obtaining a driver's license or owning a personal vehicle as do previous generations. Further, attitudes seem to be changing about which locations are ideal for residential life. The American dream of a house in the suburbs seems to be shifting towards a desire to live in more urban, walkable areas where amenities are closer and driving is optional. Changes in tolerance for lengthy commutes on congested roadways is also shared by seniors who are downsizing and indicate a preference for living in urban settings closer to activity centers, even if it means sacrificing house size and yard space.

1. Transportation Facts and Trends Library

Primary Category	Secondary Category	Title	Source	Date	URL
Complete Communities	Complete Streets	Another Small Step Forward for South Florida	Sun Sentinel	07/28/13	Link
Complete Communities	Complete Streets	Maximizing Walkability, Diversity, and Educational Equity in U.S. Schools	Policy Link, Change Lab Solutions, and Safe Routes to School	06/01/13	Link
Complete Communities	Complete Streets	The Best Complete Streets Policies of 2012	Smart Growth America and the National Complete Streets Coalition	04/01/13	Link
Complete Communities	Cost of Living	3 Charts That Explain Why You Spend So Much on Transportation	The Atlantic Cities	03/04/13	Link
Complete Communities	Cost of Living	As Cities Prosper, Poor People Relocate to Suburbs	National Housing Institute	06/13/13	Link
Complete Communities	Cost of Living	Despite More Jobs, Number of Food Stamp Recipients Keeps Rising	Sun Sentinel	08/19/13	Link
Complete Communities	Cost of Living	Housing Costs Burdening South Florida Working Families	Sun Sentinel	05/02/13	Link
Complete Communities	Cost of Living	Losing Ground: The Struggle of Moderate-Income Households to Afford the Rising Costs of Housing and Transportation	Center for Housing Policy and Center for Neighborhood Technology	10/01/12	Link
Complete Communities	Cost of Living	Moving Forward: Reflections on a Decade of Research at the Center for Housing Policy	National Housing Conference	08/30/13	Link
Complete Communities	Economy	100 Top Cities for Business Growth in 2012	MarketWatch	04/15/13	Link
Complete Communities	Economy	A New Partnership: Rail Transit and Convention Growth	APTA	11/01/13	Link
Complete Communities	Economy	Bike Lanes and Property Values: Is There a Correlation?	Curbed	08/08/13	Link
Complete Communities	Economy	Cities Can Spur Economic Growth through More Efficient Transit	PR Newswire Services	12/18/13	Link
Complete Communities	Economy	DC: The Walk Up Wake-Up Call, The Nation's Capital as a National Model for Walkable Urban Places	The George Washington University School of Business, Center for Real Estate and Urban Analysis	05/01/12	Link
Complete Communities	Economy	Florida Chamber of Commerce Six Pillars	Florida COC	Current	Link
Complete Communities	Economy	Home Values Perform Better Near Public Transit During Recession	APTA	04/05/13	Link
Complete Communities	Economy	Homes Near Transit Are Less Likely to Go Into Default	The Atlantic Cities	06/27/13	Link
Complete Communities	Economy	More Development for Your Transit Dollar: An Analysis of 21 North American Transit Corridors	Institute for Transportation and Development Policy	09/23/13	Link
Complete Communities	Economy	NYC DOT Publishes First-Even Metric for Measuring Economic Benefits of Safer, More Sustainable Streets, Providing Innovative Planning and Outreach Toolkit for Cities Worldwide	NYC Department of Transportation Press Release	12/13/13	Link
Complete Communities	Economy	Public Transit is Worth Way More to a City than You Think	The Atlantic Cities	08/14/13	Link
Complete Communities	Economy	Smart Growth and Economic Success: The Business Case	US EPA	11/01/13	Link
Complete Communities	Economy	The Business of Bike Sharing	Washington Post	05/19/13	Link
Complete Communities	Economy	The Economic Benefits of Sustainable Streets	New York City Department of Transportation	12/13/13	Link
Complete Communities	Economy	The New Real Estate Mantra: Location Near Public Transportation	APTA	03/01/13	Link
Complete Communities	Economy	The Ultimate 'Car City' Seeks Change	Better! Cities & Towns	10/29/13	Link
Complete Communities	Economy	The World's Most Complete Cities: A Global Investor's Perspective on True City Competitiveness	Site Selection Magazine and IBM Global Business Services	12/21/13	Link
Complete Communities	Economy	Transit Service, Physical Agglomeration, and Productivity in US Metropolitan Areas	Transportation Research Board	11/12/12	Link
Complete Communities	Economy	Transportation and the Economic Health and Attractiveness of Metropolitan Regions	Free Congress Foundation	06/13/13	Link
Complete Communities	Environment	Alameda County Details How Transit Cuts Harm Health	The California Report	05/16/13	Link

Transportation Facts and Trends Library (Continued)

Primary Category	Secondary Category	Title	Source	Date	URL
Complete Communities	Environment	Goodbye, Miami	Rolling Stone	06/20/13	Link
Complete Communities	Environment	Metro Countywide Sustainability Planning Policy and Implementation Plan	LA Metro and Reconnecting America	12/01/12	Link
Complete Communities	Environment	Port Everglades Expansion Plans Underestimate Environmental Damage, Says Fisheries Service	Huffington Post	08/18/13	Link
Complete Communities	Environment	Rising Seas	National Geographic	09/01/13	Link
Complete Communities	Health	Analysis: Cities with More Walkers, Bike Commuters are Less Obese	Governing	06/14/12	Link
Complete Communities	Health	Evaluating Public Transportation Health Benefits	Victoria Transport Policy Institute	06/14/13	Link
Complete Communities	Health	Intersections: Health and the Built Environment	Urban Land Institute	12/01/13	Link
Complete Communities	Health	Promoting Active Transportation: An Opportunity for Public Health	American Public Health Association and Safe Routes to School National Partnership	07/01/13	Link
Complete Communities	Jobs	$2 Billion in Project Along Highway 101 Put Sonoma County to Work	Press Democrat	05/25/13	Link
Complete Communities	Jobs	Broward Unemployment Falls to 5.8 Percent	Sun Sentinel	09/20/13	Link
Complete Communities	Jobs	Broward, Palm Beach Unemployment Rises in July	Sun Sentinel	08/16/13	Link
Complete Communities	Jobs	Floridians Finding Jobs, But Often at Low Wages, Wages Droop While Prices Rise	Sun Sentinel	09/01/13	Link
Complete Communities	Jobs	Job Impacts of Spending on Public Transportation: An Update	APTA	04/29/09	Link
Complete Communities	Jobs	Missed Opportunity: Transit and Jobs in Metropolitan America	Brookings Institution	05/01/11	Link
Complete Communities	Jobs	More Jobs, Better Transit Envisioned for South Florida	Sun Sentinel	01/15/14	Link
Complete Communities	Jobs	Public Says a Secure Job is the Ticket to the Middle Class	The Pew Research Center	08/31/13	Link
Complete Communities	Jobs	State of Working Florida, 2013	Research Institute on Social & Economic Policy	09/02/13	Link
Complete Communities	Jobs	Unemployment Problem Includes Public Transportation That Separates Poor from Jobs	Huffington Post	07/11/12	Link
Complete Communities	Local	50th New Condo Tower Launches Construction in Latest South Florida Boom	Miami Herald	02/27/14	Link
Complete Communities	Local	Battling for Brazilians: Broward Challenges Dade for Latin American Tourist	WLRN	11/04/13	Link
Complete Communities	Local	Broward Expects 13M Tourists This Year	Sun Sentinel	04/09/13	Link
Complete Communities	Local	Broward Looks to Make University Drive Safer	Sun Sentinel	08/07/13	Link
Complete Communities	Local	Condo Developer Intrigued by All Aboard Florida's Transit-Oriented Appeal	Tampa Bay Business Journal	10/31/13	Link
Complete Communities	Local	Coral Springs downtown plan gains traction	Sun Sentinel	12/24/13	Link
Complete Communities	Local	Elly du Pre: Lighthouse of Broward Celebrates 40 Years of Helping the Visually Impaired	Sun Sentinel	10/02/13	Link
Complete Communities	Local	Fort Lauderdale-Hollywood International Airport overhauls terminal to add more international travel	Sun Sentinel	12/10/13	Link
Complete Communities	Local	Jobs Report brings better news for Miami-Dade	Miami Herald	12/20/13	Link
Complete Communities	Local	Nicki Grossman: President and CEO of the Greater Fort Lauderdale Convention & Visitors Bureau	Sun Sentinel	08/21/13	Link
Complete Communities	Local	Nicki Grossman: Without a Convention Center Hotel, We Lose	Sun Sentinel	01/25/14	Link
Complete Communities	Local	South Florida Roads May Get More Room for Cyclists	Sun Sentinel	09/02/13	Link
Complete Communities	Planning	A Guide to Regional Visioning: Mapping the Course for Successful Community Engaged Scenario Planning	Envision Utah	09/01/13	-
Complete Communities	Planning	Are We There Yet?	Reconnecting America	10/01/12	Link
Complete Communities	Planning	Bob Graham: Growth Management Didn't Cause State's Economic Woes	Sun Sentinel	01/12/14	Link

Transportation Facts and Trends Library (Continued)

Primary Category	Secondary Category	Title	Source	Date	URL
Complete Communities	Planning	Hillsborough Leadership Policy Group	Tampa Tribune	12/11/13	Link
Complete Communities	Planning	Measuring the Performance of Livability Programs	Mineta Transportation Institute	07/01/13	Link
Complete Communities	Planning	Metropolitan Planning Organization (MPO) Database Search Tool	FHWA	Current	Link
Complete Communities	Planning	New NACo Publication: Spotlight on Large Urban Counties	National Association of Counties	12/11/13	Link
Complete Communities	Planning	Our Built and Natural Environments: A Technical Review of the Interactions Among Land Use, Transportation, and Environmental Quality	US EPA	06/01/13	Link
Complete Communities	Planning	Public Involvement Techniques, Using Special Techniques to Enhance Participation	FHWA	08/01/02	Link
Complete Communities	Planning	Scenario Planning Guidebook	FHWA	02/01/11	Link
Complete Communities	Planning	The Future of Mobility: Scenarios for the United States in 2030	Rand Institute	11/01/13	Link
Complete Communities	Planning	Transit winning fans, survey says (Hillsborough 2040 LRTP Survey)	Tampa Tribune	12/08/13	Link
Complete Communities	Planning	Understanding How to Motivate Communities to Support and Ride Public Transportation	Transit Cooperative Research Program	01/01/08	Link
Complete Communities	Socioeconomic	2050 Regional Transportation Plan, Chapter 4 - Social Equity: Title VI and Environmental Justice	San Diego Association of Governments (SANDAG)	10/28/11	Link
Complete Communities	Socioeconomic	A New Census App Tells You Where You Should Be Living	The Atlantic Cities	11/27/13	Link
Complete Communities	Socioeconomic	Broward-by-the-Numbers, No. 60: Daytime Populations	Broward County Environmental Protection & Growth Management Dept.	03/01/13	Link
Complete Communities	Socioeconomic	Broward's Foreign-Born Population Soars	Sun Sentinel	05/11/12	Link
Complete Communities	Socioeconomic	Cities and Aging	Global City Indicators Facility	09/01/13	Link
Complete Communities	Socioeconomic	Experts urge feds to measure, pursue our happiness	Miami Herald	12/07/13	Link
Complete Communities	Socioeconomic	Florida to pass New York State's population	Business Week	01/03/14	Link
Complete Communities	Socioeconomic	Four Surprising Things About Civics and Politics in America	TechPresident	04/25/13	Link
Complete Communities	Socioeconomic	How Can We Be So Dense? Anti-Sprawl Policies Threaten America's Future	Forbes	08/08/13	Link
Complete Communities	Socioeconomic	How Republicans and Democrats Ended Up Living Apart	NPR	11/27/13	Link
Complete Communities	Socioeconomic	Leading Population Metropolitan Statistical Areas (MSAs)	Wikipedia	Current	Link
Complete Communities	Socioeconomic	Pssst! Here's Why People Move to Florida, Speaker Weatherford	Miami Herald	04/06/13	Link
Complete Communities	Socioeconomic	Town and Cities Prepare for Aging Populations	AARP Bulletin	03/14/11	Link
Complete Communities	Socioeconomic	With the Kids Gone, Aging Baby Boomers Opt for City Life	Washington Post	08/09/13	Link
Complete Communities	Transit Oriented Development	Hennepin County, Twins Seek Deal for Transit, Cultural Hub	Minneapolis Star Tribune	05/28/13	Link
Complete Communities	Transit Oriented Development	Mixed-Income Transit-Oriented Development Action Guide	Reconnecting America	03/01/12	Link
Complete Communities	Transit Oriented Development	Rail Planners Aim to Re-'Train' L.A.'s Car Culture	NPR	04/30/13	Link
Complete Communities	Transit Oriented Development	Spotlight on Sustainability: Puget Sound Building Communities Around Transit	Smart Growth America	07/02/13	Link
Complete Communities	Transit Oriented Development	The Surprising Key to Making Transit-Oriented Development Work	The Atlantic Cities	09/24/13	Link
Complete Communities	Transit Oriented Development	ULX: Just Add Transit	Urban Land Institute	05/02/13	Link
Complete Communities	Trends	Companies Say Goodbye to the Burbs	Wall Street Journal	12/06/13	Link
Complete Communities	Trends	Fewer Cars in LA Culture Shift: Transit Use Rises; Bike Lanes, Light Rail Are Expanded	The Boston Globe	06/21/13	Link
Complete Communities	Trends	Peter Walker Emerging Trends in Real Estate 2014	Urban Land Institute	11/07/13	Link

Transportation Facts and Trends Library (Continued)

Primary Category	Secondary Category	Title	Source	Date	URL
Complete Communities	Trends	Spotlight on Large Urban Counties: Leadership in Action	National Association of Counties	12/01/13	Link
Complete Communities	Trends	The End of the Suburbs	Time	07/31/13	Link
Complete Communities	Trends	Where Americans Want to Live: New ULI Report, America in 2013, Explores Housing, Transportation, Community Preferences	Urban Land Institute	05/15/13	Link
Funding	Federal	A $750 Billon Infrastructure Bank - With No Federal Funds	Transportation Issues Daily	05/19/13	Link
Funding	Federal	An Unhappy Anniversary for the Gas Tax	US News and World Report	10/11/13	Link
Funding	Federal	Are Good Roads and Transit Worth as Much to You as Household Electricity or Cable Service?	American Road and Transportation Builders Association	05/28/13	Link
Funding	Federal	Budget and Taxes Remain Front and Center on the Congressional Agenda; New Transportation Legislation Introduced	APTA	11/21/13	Link
Funding	Federal	Environmental Justice Small Grants, FY 2013 Summaries by Region	US EPA	09/11/13	Link
Funding	Federal	Gasoline Taxes and User Fees Only Pay for Half of State & Local Road Spending	Tax Foundation	01/06/14	Link
Funding	Federal	Outlook 2014: Transportation Funding Decisions Must Be Made	The Bond Buyer	12/24/13	Link
Funding	Federal	Recent Lessons Learned from the Stimulus: Transportation Funding and Job Creation	Smart Growth America	02/01/11	Link
Funding	Federal	Road Builders Unveil Highway Trust Fund Calculator	The Hill	10/01/13	Link
Funding	Federal	Sequester Cooling Florida's Revenue Growth	Orlando Sentinel	08/09/13	Link
Funding	Federal	Status of the Highway Trust Fund	Congressional Budget Office	07/23/13	Link
Funding	Federal	Study: Gas and User Taxes Don't Fund Most Transportation Projects	Accounting Web	01/07/14	Link
Funding	Federal	The Innovative DOT: A Handbook of Policy and Practice	State Smart Transportation Initiative & Smart Growth América	09/11/12	Link
Funding	Federal	The Innovative DOT: A Handbook of Policy and Practice	State Smart Transportation Initiative & Smart Growth America	01/01/14	Link
Funding	Federal	The State of State Transit Funding	D.C. Streets Blog	06/20/13	Link
Funding	Federal	Transportation Trust Fund is Going Broke	Sun Sentinel	05/16/13	Link
Funding	Federal	What a Depleted Highway Trust Fund Means for States	Governing	07/29/13	Link
Funding	Initiatives	Campaigns Already Gearing Up for 2014 Pinellas Vote	Tampa Tribune	05/12/13	Link
Funding	Initiatives	Can the Metrolinx Investment Strategy Succeed?	Torontoist	05/28/13	Link
Funding	Initiatives	Election Initiatives Results and Resources by States - Interactive Map	Center for Transportation Excellence	Current	Link
Funding	Initiatives	Investing in Our Region, Investing in Our Future	Metrolinx	05/27/13	Link
Funding	Initiatives	Minneapolis Light Rail Line Given Green Light	Global Rail News	05/13/13	Link
Funding	Initiatives	Palm Beach County agrees to pursue sales tax increase	Sun Sentinel	12/17/13	Link
Funding	Initiatives	Pennsylvania Governor Signs Bipartisan Transportation Bill	Passenger Transport	11/29/13	Link
Funding	Initiatives	Polk County Readies a Tax-Swap Proposal for Transit	Political Animal	01/07/14	Link
Funding	Initiatives	Transit Campaign Planning: A Strategy Template for Organizers	Smart Growth America	10/01/11	Link
Funding	Local	Broward Reaps Record Bed Taxes in March	Sun Sentinel	05/03/13	Link
Funding	Local	Broward Transit's Future: Crowded, Underfunded?	Sun Sentinel	10/01/13	Link
Funding	Local	Crowding and Delays Plague Broward Buses: Ridership Rising, But No Money for More Buses and Routes, County Says	Sun Sentinel	07/27/13	Link

Transportation Facts and Trends Library (Continued)

Primary Category	Secondary Category	Title	Source	Date	URL
Funding	Local	Fort Lauderdale Broaches Tax Referendum	Sun Sentinel	09/01/13	Link
Funding	Local	Fort Lauderdale Commissioners Consider Downtown Tax to Help Pay for Wave Streetcar System	Sun Sentinel	06/03/13	Link
Funding	Local	Fort Lauderdale Streetcar Funding Plan OK'd	Railway Age	06/06/13	Link
Funding	Local	Fort Lauderdale to Assess Downtown Property Owners for Wave Streetcar	Sun Sentinel	04/06/13	Link
Funding	Local	Fort Lauderdale tops list of lowest travel taxes	Miami Herald	12/10/13	Link
Funding	Local	Gregory Stuart, Executive Director, Broward Metropolitan Planning Organization (Op Ed #1)	Sun Sentinel	08/05/13	Link
Funding	Local	Lost Vision? Miami-Dade Transit 40 Years On…	Transit Miami	05/14/13	Link
Funding	Local	Palm Beach County Considering Sales Tax Increase	Sun Sentinel	10/01/13	Link
Funding	Local	Port Everglades awarded $16.5 million for expansion	Sun Sentinel	10/04/13	Link
Funding	Local	Wanted: Smarter Way to Pay for Rail	Sun Sentinel	01/28/13	Link
Funding	Mileage-Based User Fees	Alternative Approaches to Funding Highways	Congressional Budget Office	03/01/11	Link
Funding	Mileage-Based User Fees	Could This Be a Solution to VMT Privacy Concerns?	Transportation Issues Daily	05/17/13	Link
Funding	Mileage-Based User Fees	High-Mileage Cars Mean Motorists Should Pay for Miles Driven	Sun Sentinel	03/30/13	Link
Funding	Mileage-Based User Fees	Mileage-Based Tax System Just Might Work	Sun Sentinel	04/07/13	Link
Funding	Mileage-Based User Fees	National Evaluation of Mileage-Based Charges for Drivers	University of Iowa	01/01/11	Link
Funding	Mileage-Based User Fees	NCHRP Report 689: Costs of Alternative Revenue-Generation Systems	Transportation Research Board	01/01/11	Link
Funding	Mileage-Based User Fees	The Era of Pay-Per-Mile Driving Has Begun	The Atlantic Cities	07/10/13	Link
Funding	Mileage-Based User Fees	Virginia Shies Away from Vehicle Miles Traveled Tax	NPR	01/29/13	Link
Funding	Priorities	Americans' Support for Public Transportation	APTA and MTI	05/01/13	Link
Funding	Priorities	Commuters Would Pay More for Better Public Transit Tech, Study Says	Wired	05/30/13	Link
Funding	Priorities	Funding Important Transportation Infrastructure in a Fiscally Constrained Environment	Reason Foundation	01/01/13	Link
Funding	Priorities	GBTA Reveals Best and Worst Travel Taxes Across Top 50 U.S. Destinations	Global Business Travel Association Press Release	12/10/13	Link
Funding	Priorities	Road Advocate Says Car Dependence is an Argument for More	Greater Greater Washington	07/17/13	Link
Funding	Priorities	States Seek to Become More Self-Reliant for Infrastructure	New Geography	04/02/13	Link
Funding	Priorities	Town and City Budgets Squeezed	Sun Chronicle	01/08/14	Link
Funding	Priorities	Transit Funding Mechanisms - A Primer	Smart Growth America	No Date	Link
Funding	Priorities	What Do Americans Think About Federal Tax Options to Support Public Transit, Highways, and Local Streets and Roads? Results from Year 3 of a National Survey	Minnesota Transportation Institute	06/01/12	Link
Funding	Priorities	Who Should Pay for Transportation Infrastructure? What is Fair?	Planetizen	04/29/13	Link
Funding	Public-Private Partnerships	Moving Forward on Public Private Partnerships: US and International Experience with PPP Units	Brookings-Rockefeller, Emilia Istrate and Robert Puentes	12/01/11	Link
Funding	Public-Private Partnerships	New Jersey's Urban Transit Hub Tax Credit Is a Big Handout	Next City	05/22/13	Link
Funding	Public-Private Partnerships	Presolicitation Report to the Maryland General Assembly	Maryland DOT	08/01/13	Link
Funding	Public-Private Partnerships	Public-Private Partnerships a Winning Strategy	Miami Herald	04/04/13	Link
Funding	Public-Private Partnerships	Using Public Private Partnerships to Carry out Highway Projects	Congressional Budget Office	01/01/12	Link

Transportation Facts and Trends Library (Continued)

Primary Category	Secondary Category	Title	Source	Date	URL
Transportation	Bus Rapid Transit	Albert Sosa: Bus Rapid Transit Concept Could Ease Congestion	Sun Sentinel	07/31/13	Link
Transportation	Bus Rapid Transit	Breaking Down the Economics of Bus vs MAX	Portland Transport	03/04/13	Link
Transportation	Bus Rapid Transit	BRT: Cities Get on Board with Better, Reliable Transportation	Planetizen	07/02/13	Link
Transportation	Bus Rapid Transit	Bus Rapid Transit Concept Could Ease Congestion	Sun Sentinel	07/31/13	Link
Transportation	Bus Rapid Transit	Ditching Cars for Bus Rapid Transit A Tough Sell	Bethesda Now	05/21/13	Link
Transportation	Bus Rapid Transit	Improving Bus Service - Not Building New Trains - Offers the Best Route to Better Mass Transit	Slate	08/07/13	Link
Transportation	Bus Rapid Transit	New, Faster Bus Route Debuts in Hillsborough County	Tampa Bay Times	05/27/13	Link
Transportation	Bus Rapid Transit	Recapturing Global Leadership in Bus Rapid Transit: A Survey of Select U.S. Cities	Institute for Transportation and Development Policy	05/01/11	Link
Transportation	Congestion Management	Interstate 2.0: Modernizing the Interstate Highway System via Toll Finance	Reason Foundation	09/01/13	Link
Transportation	Congestion Management	Toll Roads: The Route to Redevelopment?	Urban Land Institute	10/29/13	Link
Transportation	Congestion Management	When the Road Price is Right: Land Use, Tolls, and Congestion Pricing	Urban Land Institute	01/01/13	Link
Transportation	Local	Airport Tunnels to Make Navigating U.S. 1 Easier	Sun Sentinel	08/16/13	Link
Transportation	Local	All Aboard Florida Train Could Start Construction Next Year, Open in Late 2015	Orlando Sentinel	10/03/13	Link
Transportation	Local	Broward Leaders Push Port Plans in DC	Sun Sentinel	10/10/13	Link
Transportation	Local	Broward school busing improves	Sun Sentinel	11/28/13	Link
Transportation	Local	Broward Schools Expect Improved Bus Service for First Day	Sun Sentinel	08/16/13	Link
Transportation	Local	Clamp down on dangerous bus drivers	Sun Sentinel	12/17/13	Link
Transportation	Local	Deal to Ease Freight Train Backups, Expand Tri-Rail Service	Sun Sentinel	09/05/13	Link
Transportation	Local	Devilish Commute: How South Florida Lives with I-95	NPR	01/13/14	Link
Transportation	Local	Drivers, You're Being Tracked; Bluetooth Makes Road Trips Easier with Traffic Control	Sun Sentinel	04/06/13	Link
Transportation	Local	Express bus to Miami too popular, must relocate	Sun Sentinel	01/03/14	Link
Transportation	Local	Gregory Stuart, Executive Director, Broward Metropolitan Planning Organization (Op Ed #2)	Sun Sentinel	08/05/13	Link
Transportation	Local	Gregory Stuart: Innovative Transportation Solutions Needed	Sun Sentinel	08/02/13	Link
Transportation	Local	I-75 to Have Tolled Express Lanes	Sun Sentinel	08/22/13	Link
Transportation	Local	Miami-Dade: The Brain Drain and Transit	Miami Herald	02/06/14	Link
Transportation	Local	More bicyclists getting hurt in Broward, Palm Beach counties	Sun Sentinel	12/07/13	Link
Transportation	Local	More Dade, Broward Express Lanes Coming in January	Miami Herald	09/01/13	Link
Transportation	Local	New Chief of Broward School Buses: 'We Can Fix Things'	Sun Sentinel	07/06/13	Link
Transportation	Local	Port Everglades Joins Fruit Import Pilot Program	The Packer	08/21/13	Link
Transportation	Local	Rail Company Unveils Plans for Downtown Lauderdale Station	Sun Sentinel	11/22/13	Link
Transportation	Local	South Florida Traffic May Soon Be Run By A Wireless Command Center That Communicates With Cars	Huffington Post Miami	12/15/13	Link
Transportation	Local	Sun Sentinel Investigative Report on Bus Drivers	Sun Sentinel	12/15/13	Link
Transportation	Local	Tri-Rail on Track with Upgrades	Sun Sentinel	08/10/13	Link
Transportation	Local	Tri-Rail Ridership Shifts, Boca Raton Now Busiest on Line	Sun Sentinel	09/01/13	Link

Transportation Facts and Trends Library (Continued)

Primary Category	Secondary Category	Title	Source	Date	URL
Transportation	Local	What does it take for bad bus drivers to get fired?	Sun Sentinel	12/18/13	Link
Transportation	Performance	FHWA Performance Measures Resources (various reports)	FHWA, et al	Current	Link
Transportation	Performance	MAP-21: 2013 Performance Report	FDOT	02/01/13	Link
Transportation	Performance	Southeast Florida Regional Transportation System Measures: Outcomes Assessment Annual Report	SEFTC	12/01/12	Link
Transportation	Performance	Texas A&M Transportation Institute 2012 Annual Mobility Report	Texas Transportation Institute	12/01/12	Link
Transportation	Roadways	Busy Times for Highways	Fleet Owner	08/23/13	Link
Transportation	Roadways	Interstate Brief: Summary of the Extent, Usage, and Condition of the U.S. Interstate System	FHWA, Office of Highway Policy Information	08/01/13	Link
Transportation	Roadways	The American Road and Transportation Builders Association Web Resources	ARTBA	Current	Link
Transportation	Safety	The Inequitable Toll of Pedestrian Deaths	D.C. Streets Blog	05/07/13	Link
Transportation	Safety	Traffic Safety Facts: 2011 Data	National Highway Traffic Safety Administration	08/01/13	Link
Transportation	Technology	Siemens Installing America's First Regenerative Energy Storage Unit	Cleantechnica.com	06/05/13	Link
Transportation	Technology	Technology Can Ease Congestion on Glades Road and State Road 7, State Says	Sun Sentinel	08/17/13	Link
Transportation	Technology	TX Report: Make Transportation Technology a Priority	The Texas Tribune	12/17/13	Link
Transportation	Technology	What Will the Impact of Automated Vehicle Technology Be on Public Transportation?	Metro Magazine	12/18/13	Link
Transportation	Transit	2012 Public Transportation Fact Book	APTA	09/01/12	Link
Transportation	Transit	2013 Public Transportation Fact Book	APTA	10/01/13	Link
Transportation	Transit	Case Studies in Regional Transit Systems	SFRTA/Jacobs	03/01/09	-
Transportation	Transit	Forecasting Paratransit Services Demand - Review and Recommendations	National Center for Transit Research	06/01/13	Link
Transportation	Transit	Former Grad Student's Proposed Transit Map Goes Viral: "The Point Isn't Really, 'Is This Feasible or Not?' The Point is to Start Conversations"	Pittsburgh City Paper	10/30/13	Link
Transportation	Transit	How Transit Benefits People Who Do Not Ride It: A Conservative Inquiry	APTA	10/01/03	Link
Transportation	Transit	Living Near Good Transit May Make You Happier	The Atlantic Cities	09/12/13	Link
Transportation	Transit	Pop-Up' Transit Station Featured in North Tulsa Community Event	KOTV Tulsa	05/13/13	Link
Transportation	Transit	Streetcars and Recovery: An Analysis of Post-Katrina Building Permits around New Orleans Streetcar Lines	Journal of Planning Education and Research	11/14/13	Link
Transportation	Transit	Where's the National Business Voice for Transit?	D.C. Streets Blog	05/30/13	Link
Transportation	Trends	A New Direction: Our Changing Relationship with Driving and the Implications for America's Future	U.S. PIRG Education Fund and Frontier Group	03/01/13	Link
Transportation	Trends	Americans are Racking Up Lower Driving Mileage	Tampa Tribune	08/29/13	Link
Transportation	Trends	Anticipating the Future: Travel Behavior Implications of Five Socio-Demographic Trends	Rand Institute	05/01/11	Link
Transportation	Trends	Driving Commuter Choice in America: Expanding Transportation Choices Can Reduce Congestion, Save Money and Cut Pollution	Natural Resources Defense Council	07/01/13	Link
Transportation	Trends	Effects of Socio-Demographics on Travel Demand	Transportation Research Board	08/08/13	Link
Transportation	Trends	More Evidence That Unemployment Doesn't Explain the Decline in Driving	D.C. Streets Blog	08/29/13	Link
Transportation	Trends	Moving Off the Road: A State-by-State Analysis of the National Decline in Driving	U.S. PIRG Education Fund	08/01/13	Link
Transportation	Trends	Surprising Trends in Transportation	Connect Savannah	07/03/13	Link

Transportation Facts and Trends Library (Continued)

Primary Category	Secondary Category	Title	Source	Date	URL
Transportation	Trends	The U.S. Transportation System Has $100 Billion Worth of Inefficiencies	The Atlantic Cities	10/01/13	Link
Transportation	Trends	There's a (Parking) Place for Us	D.C. Streets Blog	09/27/13	Link
Transportation	Trends	U.S. PIRG: The Driving Boom is Over But the Road-Building Binge Continues	D.C. Streets Blog	05/14/13	Link
Transportation	Trends	What the Rise of Technology Has to Do With the Decline of Driving	The Atlantic Cities	10/01/13	Link
Transportation	Trends	What Will Our Future Be Like If We Don't Change How We Get Around?	D.C. Streets Blog	12/05/13	Link
Transportation	Trends	Where is the Bottom? Americans Continue to Drive Less and Less	D.C. Streets Blog	04/23/13	Link
Transportation	Trends	With New Apps, D.C. Millennials Help Fuel an Evolution Away From Sitting Behind the Wheel	Washington Post	10/01/13	Link

2. Socioeconomic Data Summary Table

Data Elements	1950	1960	1970	1980	1990	2000	2010	2020	2030	2040	2060
POPULATION - AGE/ETHNICITY:											
Total Population	83,933	333,946	620,100	1,018,527	1,255,531	1,623,018	1,748,066	1,816,200	1,916,182	1,962,322	2,116,723
Median Age	-	-	37.7	38.8	37.6	37.7	39.7	-	41.3	-	-
<14 years old	21,528	95,213	145,314	170,354	216,955	322,315	319,534	-	-	335,061	-
15-19 years old	4,680	19,361	44,903	71,176	66,479	95,161	114,200	-	-	113,286	-
20-34 years old	19,036	57,468	101,912	222,744	290,467	313,698	329,262	-	-	365,863	-
35-54 years old	24,780	86,138	138,942	205,882	310,408	493,633	528,465	-	-	491,472	-
55-64 years old	7,576	37,569	77,474	124,362	110,439	137,102	207,181	-	-	190,814	-
65 and over	6,333	38,197	111,555	224,009	260,783	261,109	249,424	-	-	465,825	-
Hispanic Population	-	-	15,411	40,315	108,474	271,652	438,247	532,458	610,126	676,188	-
Hispanic Percent of Total	-	-	2.5%	4.0%	8.6%	16.7%	25.1%	29.3%	31.8%	34.5%	-
Non-Hispanic Black Population	-	-	-	111,258	186,670	325,305	463,372	527,050	577,667	613,207	-
Non-Hispanic Black Percent of Total	-	-	-	10.9%	14.9%	20.0%	26.5%	29.0%	30.1%	31.2%	-
HOUSEHOLDS AND INCOME:											
Total Households	36,284	128,559	253,320	418,464	528,442	654,445	686,047	-	-	831,491	866,530
Median Household Income	-	-	$26,465	$27,783	$30,571	$41,691	$47,917	-	-	-	-
Household Income Less than $30,000	-	-	-	-	-	231,580	205,022	-	-	-	-
Household Income $30,000 - $59,999	-	-	-	-	-	206,838	184,579	-	-	-	-
Household Income $60,000 - $99,999	-	-	-	-	-	132,584	138,545	-	-	-	-
Household Income $100,000 and above	-	-	-	-	-	83,785	129,879	-	-	-	-
Average Household Size	-	-	-	2.41	2.35	2.45	2.52	-	-	2.36	-
Zero-car Households	-	-	-	-	-	61,191	51,304	-	-	-	-
Workers in Zero-car Households	-	-	-	-	-	-	23,251	-	-	-	-
Total Employment	-	-	-	477,435	628,508	824,113	885,915	-	-	1,063,728	1,222,387
DENSITY:											
Density (persons/square miles)[1]	204.8	814.9	1,513.2	2,485.4	3,063.8	3,960.5	4,265.7	4,431.9	4,675.9	4,788.5	5,165.3
Density (persons/aces)[1]	0.3	1.3	2.4	3.9	4.8	6.2	6.7	6.9	7.3	7.5	8.1
VOTERS:											
Voting Age Population	-	-	-	835,943	997,360	1,240,089	1,356,717	-	1,519,060	1,556,441	-
Registered Voters	-	-	-	-	635,221	887,764	1,041,641	-	-	-	-

Legend

U.S. Census Bureau

Broward County Planning

Bureau of Economic and Business Research

Seven50

Land Area of Broward County

1,209.8	Square Mi	Total Land Area
409.8	Square Mi	Total Developable Land Area

Note: Data is not available for all years and is for Broward County unless otherwise noted

3. Transportation Data Summary Table

Data Elements	1990	2000	2010	2011	2012	Source
TRANSIT						
Broward County Transit						
Operating and Maintenance (BCT)	$41,468,332	$68,421,509	$119,494,436	$116,781,518	$115,227,508	National Transit Database
Operating and Maintenance (community bus)	-	-	$6,701,906	$6,460,811	$6,287,752	(began in '91)
Capital Expenditures	$7,402,309	$20,495,975	$26,552,548	$38,694,761	$28,521,523	
Total Expenses (Capital and O&M)	$48,870,641	$88,917,484	$152,748,890	$161,937,090	$150,036,783	
Federal	$11,521,610	$22,803,912	$27,145,644	$29,501,355	$17,328,679	
Percentage	24%	26%	18%	18%	12%	
State	$2,509,190	$9,823,853	$16,631,589	$16,922,284	$26,495,635	
Percentage	5%	11%	11%	10%	18%	
Local	$25,896,260	$38,389,559	$76,933,155	$77,013,289	$67,665,208	
Percentage	53%	43%	50%	48%	45%	
Other	$8,943,581	$17,900,160	$32,038,502	$38,500,162	$38,547,261	
Percentage	18%	20%	21%	24%	26%	
Fare Revenues Earned	-	-	$28,080,544	$32,101,023	$34,540,546	
Directional Route Miles	810	1,112	1,630	1,686	1,752	
Vehicle Revenue Miles	10,951,414	19,316,375	23,700,173	22,656,565	22,383,364	
Vehicle Revenue Hours	852,037	1,414,081	1,653,465	1,577,871	1,546,072	
Passenger Miles Traveled	85,131,419	129,671,522	187,008,557	185,304,659	196,609,285	
Number of Unlinked Passenger Trips	19,971,381	28,469,908	39,439,487	38,965,638	41,005,071	
Number of Vehicles Operated in Maximum Service	232	436	538	514	515	

Transportation Data Summary Table (Continued)

Data Elements	1990	2000	2010	2011	2012	Source
Tri-Rail						
Operating and Maintenance	$13,137,249	$20,572,469	$54,513,796	$54,746,746	$58,876,941	National Transit Database
Capital Expenditures	-	$33,354,427	$18,994,571	$18,608,996	$25,761,606	(began in '91)
Total Expenses (Capital and O&M)	$13,137,249	$53,926,896	$73,508,367	$73,355,742	$84,638,547	
Federal	$4,000,000	$37,856,173	$27,229,565	$27,267,248	$29,062,124	
Percentage	30%	70%	37%	37%	34%	
State	$9,137,249	$5,624,759	$24,192,188	$32,246,835	$30,221,064	
Percentage	70%	10%	33%	44%	36%	
Local	$0	$4,296,702	$14,827,405	$2,419,087	$12,978,491	
Percentage	0%	8%	20%	3%	15%	
Other	$0	$6,149,262	$7,259,209	$11,422,572	$12,376,868	
Percentage	0%	11%	10%	16%	15%	
Fare Revenues Earned	-	-	$10,294,670	$10,902,136	$11,940,427	
Directional Route Miles	133	142	247	309	306	
Vehicle Revenue Miles	1,503,050	1,819,317	3,368,257	3,508,836	3,689,247	
Vehicle Revenue Hours	38,296	51,887	140,992	157,602	166,355	
Passenger Miles Traveled	64,469,462	67,099,046	106,099,537	114,773,030	119,088,065	
Number of Unlinked Passenger Trips	1,870,671	2,232,497	4,050,353	4,416,727	4,941,886	
Number of Vehicles Operated in Maximum Service	20	20	52	63	65	
ROADWAY						
Daily Vehicle Miles Traveled on Public Roadways	24,831,980	38,597,618	43,259,153	43,295,870	43,979,109	Florida DOT (began in '91)
Registered Vehicles	-	1,225,361	1,269,187	1,233,407	1,271,353	BEBR (began in '02)
Number of Licensed Drivers	1,191,807	1,323,468	1,390,763	1,384,341	1,378,032	BEBR (began in '95)
Centerline Miles of Public Roadways	5,127	4,770	5,128	5,138	5,075	Florida DOT (began in '91)
Average Travel Time to Work (minutes)	23	27.4	26.7	27.5	27.6	U.S. Census
Annual Hours of Delay per Commuter for the South Florida MSA	22	38	38	47	-	TTI
Number of Crashes	-	27,814	26,233	23,197	31,151	BEBR
Driving Cost per Mile (U.S. Average)	$0.41	$0.59	$0.48	$0.49	$0.51	AAA
Driving Cost per Year (U.S. Average)	$4,100	$5,920	$9,520	$9,859	$10,141	AAA
Average U.S. Gasoline Cost (dollars/gallon)*	$1.00	$1.52	$2.84	$3.58	$3.68	U.S. EIA
Total Gasoline Tax Imposed	-	-	$0.346	$0.350	$0.355	BEBR
Gasoline Sales (gallons)	529,101,000	752,606,000	783,124,000	766,598,000	-	BEBR
Per Capita Gasoline Sales (gallons)	421	464	441	437	-	BEBR

Transportation Data Summary Table (Continued)

Data Elements	1990	2000	2010	2011	2012	Source
MULTIMODAL						
Ft. Lauderdale-Hollywood International Airport Air Cargo Total (tons)	-	-	98,088	96,187	97,059	FLL
Ft. Lauderdale-Hollywood International Airport Passenger Total	9,098,124	15,860,004	22,412,627	23,349,835	23,569,103	FLL
Port Everglades Cargo Total (tons)	-	~ 24,000,000	21,640,144	22,087,515	22,116,275	Port Everglades
Port Everglades Cruise Ship Passenger Total	-	2,732,369	3,674,226	3,952,843	3,757,320	Port Everglades

Note: Data is not available for all years and is for Broward County unless otherwise noted

4. Spending and Performance of Selected Transit Properties

Comparative Measure	Miami-Dade Transit (MDT)	Greater Cleveland (GCRTA)	TriMet
Headquarters	Miami, Florida	Cleveland, OH	Portland, OR
Chartered by	Miami-Dade County	Subdivision of the State of Ohio	State of Oregon (City runs Portland Streetcar)
Form of Governance	County Commission	10-member Board of Trustees	7-member Board of Directors
Date Created	August 2, 1960	December 30, 1974	December 1969
Rail Start-up Date	May 1983	Streetcar began late 1800s, replaced by bus in early 1950s; heavy rail 3/15/55; light rail 1980s; Healthline 10/24/08	1986 (MAX LRT); 2009 Clackamas Commuter; 2007 modern streetcar
Primary Revenue Source	People's Transportation Plan Surtax (32%), County General Funds (26%)	Sales & use tax (56%)	Payroll tax (55%)
Employees	4,000+	2,200	2,400
Service Area Coverage	306	458	570
Service Area Population	2,496,435	1,412,140	1,489,796
Service Area Density (persons/sq mi)	8,158	3,083	2,614
Core City Density (persons/sq mi)	12,140	5,107	4,375
Signature Project	Metrorail - Metromover	Healthline BRT (Euclid Corridor)	MAX LRT & Portland Streetcar
Sales Tax	1/2 cent	1 cent	None
Fare Recovery	18%	18%	28%
Modes of Service	Heavy Rail/BRT/Bus/ People Mover/Trolley	Heavy Rail/Light Rail/BRT/ Bus/Trolley	Commuter Rail/Light Rail/ Bus/Streetcar
Fixed Route Ridership (2012)	107 million in 2012 (340k avg weekday all modes; 5,400 Special Transportation Services)	48.2 million 2012	102.2 million 2012 (325 avg weekday)
Trend	Up 3% in FY2011-12 prior year	Up 4.8% since 2010; Up 7.4% for Rail	Up 3% since 2010 - bus down 2%/rail up 10%
System	Metrorail 24.8 mi; Metrobus - 90 routes/2,582 route miles; Metromover 4.4 mi	69 individual routes, 8,500+ stops, 8,800+ free parking spaces, free trolley	79 bus routes routes; Route Miles: LRT 52.6; Commuter 14.7; streetcar 14.7
Fleet (vehicles available for service)	825 buses; 136 Metrorail; 45 Metromover; 380 demand response	399 buses, 60 heavy rail, 48 LRT rapid transit, 21 BRT, 146 demand response	591 buses; 129 LRT rail cars; 6 commuter rail; 17 modern streetcars; 267 demand response
Stations	Metrorail 23; Metromover 22; South Dade Busway 28	34 LRT; 18 rapid transit	85 LRT; 5 commuter rail
Link to website	website	website	website
Link to System Map	map	map	map

Spending and Performance of Selected Transit Properties (Continued)

Comparative Measure	Charlotte Area Transit System (CATS)	Metro Transit	Metropolitan Transit Authority of Harris County
Headquarters	Charlotte, NC	Minneapolis, MN	Houston, TX
Chartered by	Charlotte-Mecklenburg (Charmeck)	Metropolitan Council	State of Texas
Form of Governance	Department within City of Charlotte governed by the Metropolitan Transit Commission (MPO for Charlotte and Mecklenburg counties)	A division of the Metropolitan Council, the 7-county area MPO; Red Line BRT is operated by Minnesota Valley Transit Authority	9-member board - 5 appointed by the City Mayor, 2 by the County Commissioners, and 2 by the small cities
Date Created	1999	1967 (MTC); 1994 moved to Metropolitan Council	1/1/1979
Rail Start-up	LYNX 11/24/2007	Blue Line 6/26/2004; Northstar 11/14/2009; Red Line 6/22/13	METRORail Red Line 1/1/2004; North Line Extension 12/23/13
Primary Revenue Source	Sales tax allocated 65% bus/35% LYNX LRT	Motor vehicle sales tax 48%	Penny sales tax: 25% to cities, remainder to capital/O&M
Number of Employees	350	2,687	3,550
Service Area Coverage	445	607	1,285
Service Area Population	758,927	1,805,940	3,527,625
Service Area Density (persons/sq mi)	1,705	2,975	2,745
Core City Density (persons/sq mi)	2,457	7,020	3,623
Signature Project	LYNX Blue Line - 1st in NC	Blue Line LRT	METRORail
Sales Tax	Half-cent 1998 (reaffired 2007)	Nearly 50% of O&M costs come from a motor vehicle sales tax	One-cent
Fare Recovery	25%	31%	16%
Modes of Service	Bus and Light Rail	Bus, Light Rail, Bus Rapid Transit, and Commuter Rail	Bus, Light Rail, and Paratransit Services
Fixed Route Ridership	System averages 92,134 daily riders (28.2 million bus/rail rides in 2012)	System averages 264,273 riders each weekday (81 million bus/rail rides in 2012)	System averages 274,736 each weekday (81 million bus/rail rides in 2012)
Trend	APTA data through June 2013 shows an drop of 2.5%	APTA data through June 2013 shows an increase of 0.58%	APTA data through June 2013 shows an increase of 4%
System	73 bus routes; Blue Line is 9.6 miles long	123 bus routes; 1 BRT line; Blue Line LRT 12.3 miles; Northstar commuter rail line	132 bus routes; LRT 13 mi of track on Red Line (7.5) and North Line (5.3)
Fleet (vehicles available for service)	323 buses; 20 LRT vehicles	885 buses; 28 LRT vehicles; 6 locomotives and 18 coaches	1,230 buses; 18 LRT vehicles
Stations	15 LYNX, 45 PNRs; 4 hubs; 3,600 stops	19 Blue Line; 7 Northstar; 12 Red Line; ?? Bus Stops	16 METRORail; 30 Park'n'Ride; 9,960 Bus Stops
Expansion Construction Underway	Blue Line Extension (northeast); Gold Line; Red Line commuter line; Silver Line BRT; West Corridor streetcar	Green Line LRT by 2014	Purple Line (Southeast), and Green Line (East) by Fall 2014
Link to Website	website	website	website
Link to System Map	map	map	map

Spending and Performance of Selected Transit Properties (Continued)

Comparative Measure	Hillsborough Area Transit Authority (HART)	VIA Metropolitan Transit	Detroit Department of Transportation (DDOT)	Broward County Transit (BCT)
Headquarters	Tampa, FL	San Antonio, TX	Detroit, MI	Pompano Beach, FL
Chartered by	State of Florida	State of Texas	The City of Detroit	Broward County
Form of Governance	13-Member Board of Directors	11-Member Board of Trustees	Municipally owned under Detroit City Charter	County Department
Date Created	October 3, 1979	November 8, 1977	1974 (DDOT)	Broward County, 1915
Primary Revenue Source	Property tax proceeds (50% of operating funds)	Sales tax 75% all revenues	General Funds from City	Property tax & general funds
Number of Employees	739	1,941	917	1,054
Service Area Coverage	1,000	1,213	144	410
Service Area Population	822,404	1,714,773	713,777	1,780,172
Service Area Density (persons/sq mi)	822	1,414	4,957	4,375
Core City Density (persons/sq mi)	2,970	3,000	5,142	4,761
Signature Project	TECO Line 2002: 2.7 miles; MetroRapid 2013: 17.5 miles	VIA Primo BRT startup 12/17/12	People Mover: 2.9-mile elevated downtown loop	Breeze Rapid Bus
Sales Tax	Main source of revenue is a Property Tax	1/2 cent (1977); additional 1/4 cent (2004)	Bus service separate from streetcar now under construction	County General Funds and Local Option Gas Taxes
Fare Recovery	23%	15%	14%	30%
Modes of Service	Paratransit, Fixed-Route Bus Service, Express Bus Service, BRT, and Historic Streetcar	Local Bus, Express Bus, BRT, and Downtown Circulator Service	Local Bus	Local Bus, Enhanced Breeze Bus, Express Bus
Fixed Route Ridership	49,186 (weekday average); 14,749,634 (FY12 total)	164,458 (weekday average); 50,804,540 (FY12 total)	104,522 (weekday average); 33,021,811 (FY12 total)	126,954 (weekday average); 38,634,128 (FY12 total)
Trend	Up 3.8% in FY2012 over 2011, up 84% over 2002 8M riders	APTA data through June 2013 shows a drop of 3%	APTA data through June 2013 shows a drop of 9%	APTA data through June 2013 shows an increase of 0.31%
System	29 local routes; 11 express; 1 enhanced bus route; 5 flex routes; 2.7 miles historic streetcars	91 Bus Routes	36 Bus Routes	48 Bus Routes
Fleet (vehicles available for service)	199 Buses; 12 articulated buses; 56 Vans; 10 Streetcars	436 Buses; 14 Streetcar Replicas for Circulator Service	449 Buses	262 Buses
Stations	3,267 Stops, 641 Shelters, 9 Transfer Stations, 2 Transit Centers	6,994 bus stops	6,000 bus stops	6,000 bus stops; 174 bus shelters
Construction Underway	East-West extension of MetroRapid	Modern Streetcar opening 2017	M-1 Rail - 3.3 mile modern streetcar	Wave Modern Streetcar by 2017
Link to Website	HART Streetcar	website	website	website
Link to System Map	map	map	map	map

5. Characteristics of Selected Transit Properties

	Transit Property	Operating and Maintenance Expenses	Capital Expenses	Total Expenses (Capital and O&M)	Fare Revenues Earned	Directional Route Miles	Vehicle Revenue Miles	Vehicle Revenue Hours	Passenger Miles Traveled	Ridership (Unlinked Passenger Trips)	Vehicles Operated in Maximum Service	Service Area Population	Capital Spending per Capita	O&M Spending per Capita	Total Spending per Capita
Established	Miami-Dade Transit (Miami, FL)	$456,571,134	$93,252,744	$549,823,878	$109,887,287	1,982	50,318,599	3,799,490	613,211,863	107,339,867	1,123	2,496,435	$37.35	$182.89	$220.24
Established	Greater Cleveland Rregional Transit Authority (Cleveland, OH)	$221,816,208	$40,491,623	$262,307,831	$50,160,075	3,063	20,423,099	1,581,799	221,179,837	48,234,103	486	1,412,140	$28.67	$157.08	$185.75
Established	TriMet (Portland, OR)	$371,819,061	$278,121,943	$649,941,004	$104,560,672	1,467	34,612,114	2,672,361	471,450,953	103,218,538	871	1,489,796	$186.68	$249.58	$436.26
New	Charlotte Area Transit System (Charlotte, NC)	$106,334,874	$61,758,528	$168,093,402	$24,878,955	1,311	16,086,876	1,023,598	142,709,851	28,243,662	423	758,927	$81.38	$140.11	$221.49
New	Metro Transit (Minneapolis, MN)	$292,821,197	$419,338,593	$712,159,790	$91,428,299	2,573	25,290,518	2,118,620	369,321,440	81,053,506	796	1,805,940	$232.20	$162.14	$394.34
New	Metropolitan Transit Authority of Harris County (Houston, TX)	$405,100,962	$501,900,064	$907,001,026	$73,691,186	4,652	67,855,954	4,120,555	534,552,036	80,891,292	2,189	3,527,625	$142.28	$114.84	$257.11
Aspiring	Hillsborough Area Regional Transit Authority (Tampa, FL)	$61,074,507	$9,263,960	$70,338,467	$14,193,470	985	8,771,947	677,380	74,524,583	14,749,634	186	822,404	$11.26	$74.26	$85.53
Aspiring	VIA Metropolitan Transit (San Antonio, TX)	$167,338,812	$39,970,772	$207,309,584	$25,700,840	2,213	32,783,763	2,094,402	237,547,302	50,804,540	723	1,714,773	$23.31	$97.59	$120.90
Aspiring	Detroit Department of Transportation (Detroit, MI)	$151,377,021	$45,026,814	$196,403,835	$23,852,985	1,056	13,249,685	1,566,357	147,142,115	33,021,811	575	1,780,172	$25.29	$85.04	$110.33
Aspiring	Broward County Transit (Fort Lauderdale, FL)	$115,227,508	$27,823,833	$143,051,341	$34,326,034	1,118	20,185,367	1,386,444	187,637,811	38,634,128	452	1,780,172	$15.63	$64.73	$80.36
	Averages											15,808,212	$94.20	$141.34	$235.53

Source: National Transit Database Reports for 2012

6. List of Local, Regional, and Statewide Plans and Studies

Name	Type	Link
BROWARD COUNTY		
Broward County Transit's Comprehensive Operational Analysis	Comprehensive Operational Analysis	website
Hollywood/Pines Corridor Congestion Management Process/Livability Planning Project	Corridor Study	website
University Drive Mobility Improvements Planning Study*	Corridor Study	website
Broward Boulevard Corridor Transit Study*	Corridor Study	website
Central Broward East-West Transit Study*	Corridor Study	website
Oakland Park Boulevard Transit Corridor Study*	Corridor Study	website
The Wave Streetcar*	Corridor Study	website
South US 1 Bus Rapid Transit Improvement Study*	Corridor Study	
Broward's Complete Streets Initiative	Initiative	website
Broward MPO's Commitment 2040 LRTP Update*	Long Range Transportation Plan	website
Port Everglades Master/Vision Plan Update 2011	Master Plan	website
Fort Lauderdale-Hollywood International Airport Master Plan Update and Implementation 2010	Master Plan	website
Broward County Transit's Transit Development Plan	Transit Development Plan	website
SOUTH FLORIDA		
Southeast Florida Regional Partnership - Seven50	Comprehensive Plan	website
Tri-Rail Coastal Link (formerly SFECC Study)*	Corridor Study	website
75 Express*	Corridor Study	website
95 Express*	Corridor Study	website
State Road 7 Mobility Study (Sample Road to Glades Road)*	Corridor Study	website
State Road 7 Mobility Study (Sample Road to Golden Glades)*	Corridor Study	
Transportation Systems Management & Operations Program from District 4*	Initiative	website
2040 Regional LRTP*	Long Range Transportation Plan	website
SFRTA Strategic Regional Transit Plan	Long Range Transportation Plan	website
Regional Freight Plan*	Master Plan	website
SFRTA Transit Development Plan*	Transit Development Plan	website
STATEWIDE		
All Aboard Florida*	Corridor Study	website
MAP-21 Statewide Performance Measure Targets*	Long Range Transportation Plan	website
SIS 2040 Multi-Modal Unfunded Needs Plan	Long Range Transportation Plan	website
2060 Florida Transportation Plan	Long Range Transportation Plan	website
Freight Mobility and Trade Plan	Master Plan	website
Statewide Seaport Mission Plan	Master Plan	website

*Denotes work in progress

Speak Up Broward Fact Files Report
March 2014

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For complaints, questions or concerns about civil rights or nondiscrimination, or for special requests under the
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(954) 876-0036 or ryanc@browardmpo.org.