

UNIVERSITY DRIVE MOBILITY IMPROVEMENTS PLANNING STUDY

PROBLEM STATEMENT / PURPOSE AND NEED

11.15.13

Prepared for:

broward **MPO**
metropolitan planning organization

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The University Drive corridor was identified in the Broward MPO 2035 Long Range Transportation Plan as a premium transit corridor and the Broward County Transit (BCT) 2009 Comprehensive Operational Analysis (COA) as one of the critical north-south transportation corridors in the county. The purpose of the study is to identify and evaluate short- (approximately 5 years) and long-term (approximately 10 or more years) mobility, congestion management, livability and premium transit options for the study area. This study merges the transit planning and the congestion management/livability planning processes into one study. Likewise, this Study will optimize public involvement in developing multi-modal transportation solutions that complement the movement of people and goods and foster livability. As shown in Figure 1 below, the study area is located along University Drive, from Westview Drive in Broward County to just south of the Broward/Miami-Dade County line at NW 215th Street where Miami-Dade County is implementing a transit terminal.

Study Corridor

University Drive is a regionally significant arterial roadway. It spans the full length of Broward County, from County Line Road in Parkland to the County Line Road in Miramar. As University Drive crosses the county line, it becomes NW 27th Avenue and continues south to the shore of Biscayne Bay. The combined length of University Drive/NW 27th Avenue is approximately 42 miles, with University Drive proper accounting for about 26 miles. Three interchanges—at Sawgrass Expressway, I-595, and the Homestead Extension of the Florida Turnpike—connect the two ends and the midpoint of University Drive to highways with direct access to I-75, I-95, and the Florida Turnpike, and subsequently to almost any part of the South Florida urbanized region.



Figure 1 – Study Area

Quick Facts

University Drive Study Area

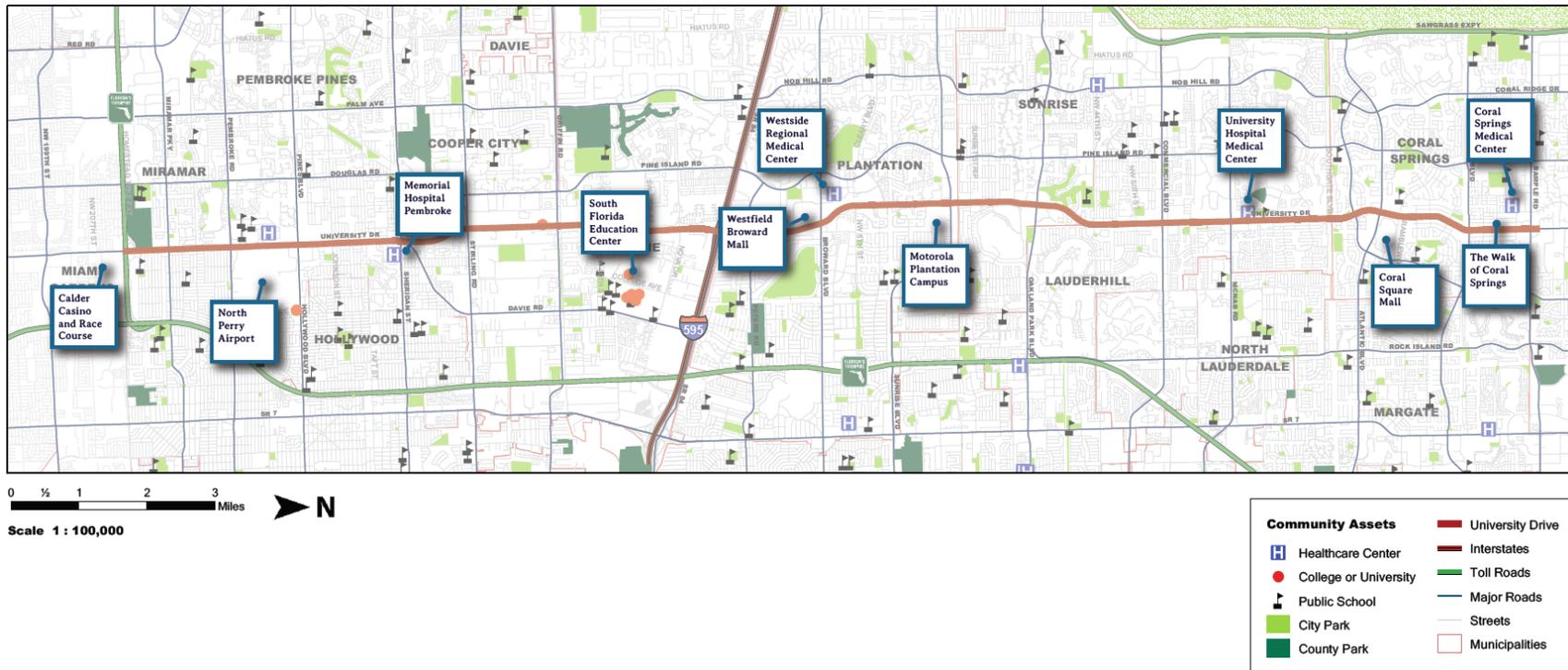
- 2.7 million trips generated daily
- 547,000 trips use University Drive
- 30 percent begin **and** end within 1 mile of University Drive
- Average trip is less than 5 miles

University Drive is primarily served with two (2) transit routes, the local Broward County Transit (BCT) Route 2 and the express BCT Route 102 (known locally as “the Breeze”). Route 2 is one of the best performing transit routes in Broward County. Daily ridership on these two routes is approximately 8,000 today.

A number of facilities in close proximity to University Drive are important community assets for their role as large job centers, public service providers, regional attractions, and revenue generators. They include six major medical

complexes, the South Florida Education Center, North Perry Airport, Calder Casino and Race Course, Sheraton Suites Plantation, and more than a dozen shopping malls and districts. Each of these has a regional reach, drawing users from across South Florida. University Drive also features smaller assets with more local reach, such as public schools, municipal and administrative offices, libraries, health clinics, and emergency response centers.

Figure 2 – Major Community Assets



CORRIDOR PROBLEM STATEMENT/PURPOSE AND NEED

The purpose of making multi-modal transportation investments in the University Drive corridor is to enhance the transit passenger, cyclist, pedestrian, and driver experience; increase transit service reliability and improve travel time; encourage transit-oriented development; and emphasize integrated planning and investment for sustainable economic growth.

The needs in the corridor are to:

- Improve North-South mobility for transit, bicycle, pedestrian and automobile users
- Improve safety for all users
- Improve livability and walkability in and adjacent to the University Drive corridor
- Invest in transportation solutions that are cost effective

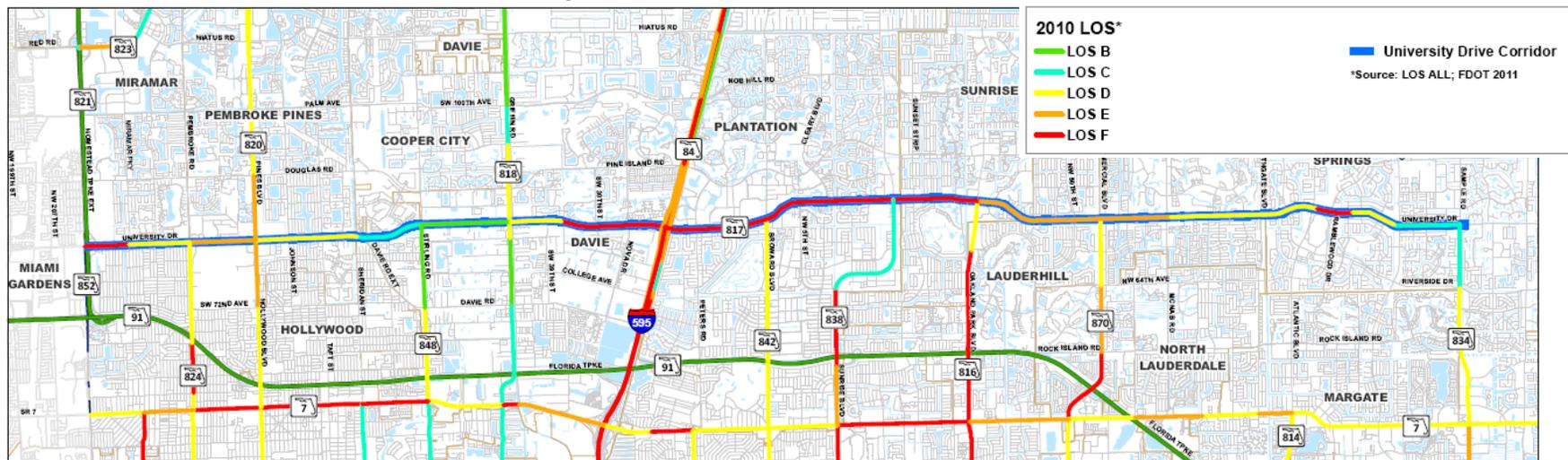
Improve North-South Mobility for all Users

Improving mobility for all users – automobile, transit, pedestrian, and cyclist – is a need based on existing and future conditions.

Automobile Users

University Drive is a regionally significant arterial roadway and is among the busiest roads in Broward County, with annual average daily traffic (AADT) volumes ranging from 40,000 to over 70,000 vehicles per day. Vehicle demand in the University Drive corridor causes congestion from the morning peak through the late afternoon. Certain segments are more congested than others, including the segment from Peters Road south to Nova Drive, which carries up to 70,000 vehicles per day. This section of University Drive provides access to I-595/SR 84, which creates added demand in the area. The figure below summarizes the level of service for State facilities along the corridor and within the study area.

Figure 3 – Year 2010 Level of Service (LOS)



The table below gives a snapshot of the level-of-service and travel time rankings along the University Drive by a high, medium and low ranking as also described below.

Table 1 – Rankings Definitions

Sources	Evaluation Measures	Ratings	Segment Analysis
Historical Traffic Models	Level-of-Service (LOS)	High	LOS E/F with AADT \geq 60K
		Medium	LOS E/F with AADT $<$ 60K
		Low	LOS D or better
Travel Time Study	Travel Speed	High	speed \leq 20 mph
		Medium	20 mph $<$ speed \leq 22 mph
		Low	speed $>$ 22 mph

Table 2 – University Drive Mobility Rankings by Segment

University Drive Segments	Length (mi)	LOS	Travel Time
Wiles Road to Royal Palm Boulevard	1.9	Low	Low
Royal Palm Boulevard to McNab Road	3.6	Low	Low
McNab Road to Oakland Park Boulevard	2.9	Medium	Low
Oakland Park Boulevard to Broward Boulevard	3.2	Medium	Low
Broward Boulevard to Peters Road	1.1	High	High
Peters Road to SW 30 th Street	1.5	High	High
SW 30 th Street to Griffin Road	1.3	Medium	High
Griffin Road to Sheridan Street	2.3	Low	Low
Sheridan Street to Pembroke Road	2.5	Low	Low
Pembroke Road to Florida's Turnpike	1.5	Low	Medium

Transit Users

Transit Route 2 is one of the best performing transit routes in Broward County. It has a ridership of approximately 7,100 passengers per day. Based on 2012-2013 origin-destination survey data and BCT collected automatic passenger from January to May 2012, boardings and alightings for Route 2 are relatively evenly distributed across the route, with increased activity at or near regional attractors (e.g., Broward Health Coral Springs at Sample Road, Coral Square Mall at Atlantic Boulevard, University Hospital at McNab Road, the various shopping and medical centers at Oakland Park Boulevard, Sunrise Boulevard, and Pines Boulevard, etc.). The busiest locations for boardings and alightings, however, are at BCT's West Regional Terminal, where transfers to other BCT routes are possible, and at NW 207th Avenue, where inter-county transfers are made. Route 102 (the Breeze express route) carries approximately 1,000 people per day. The following two maps illustrate the regional transit network provided by BCT and the community shuttle systems.

Figure 4 – Study Area BCT and MDT Bus Routes

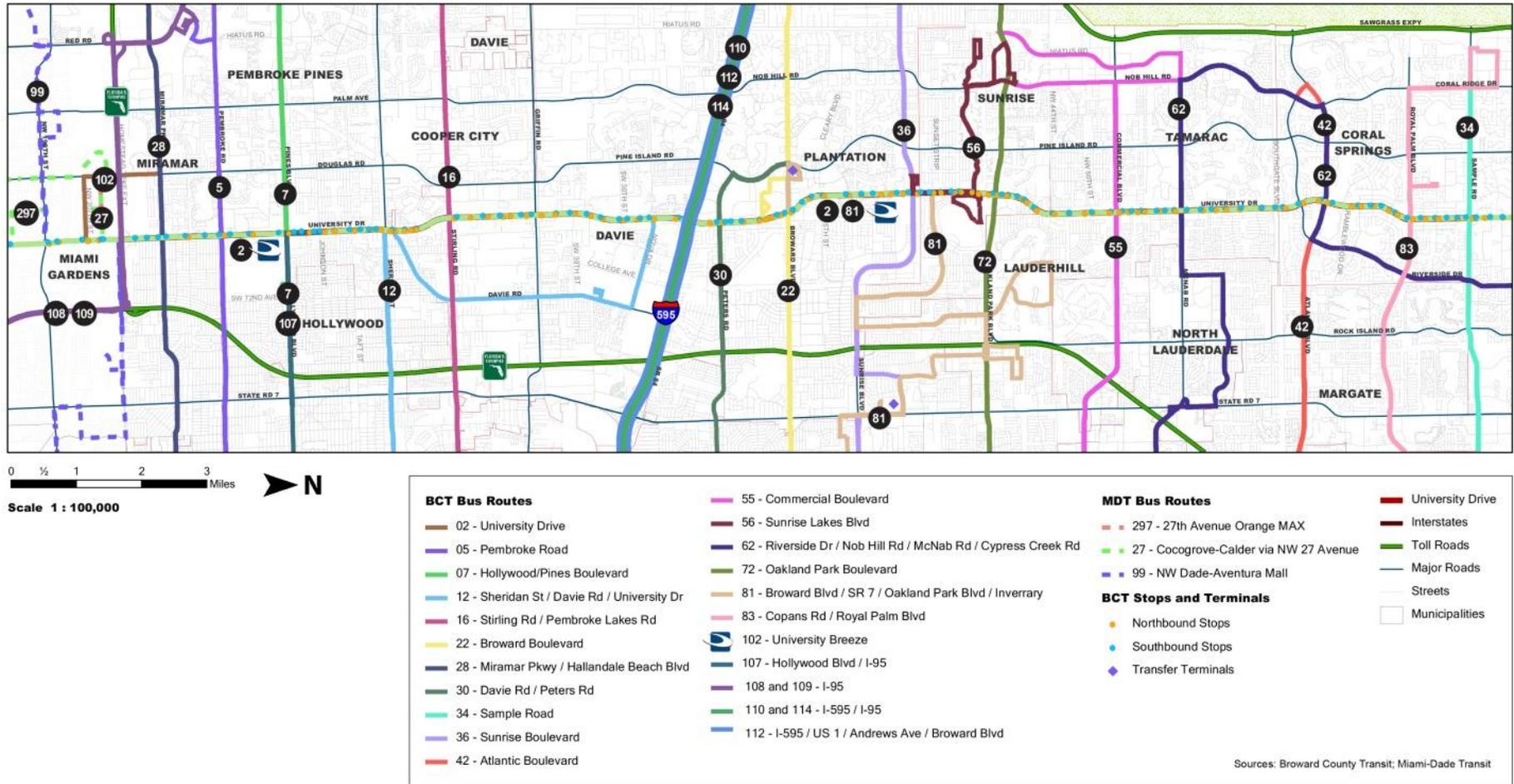
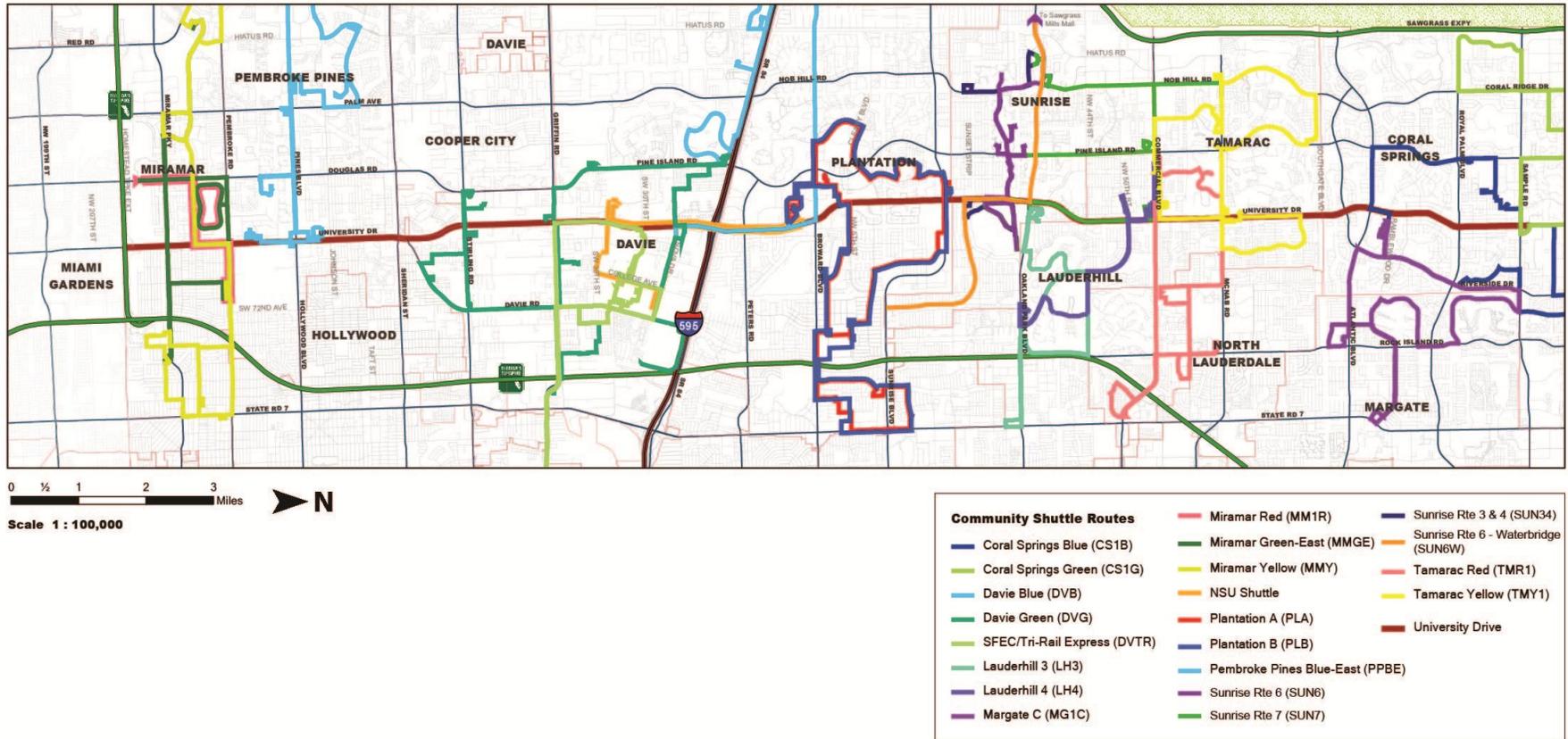


Figure 5 – Study Area Community Shuttle Routes



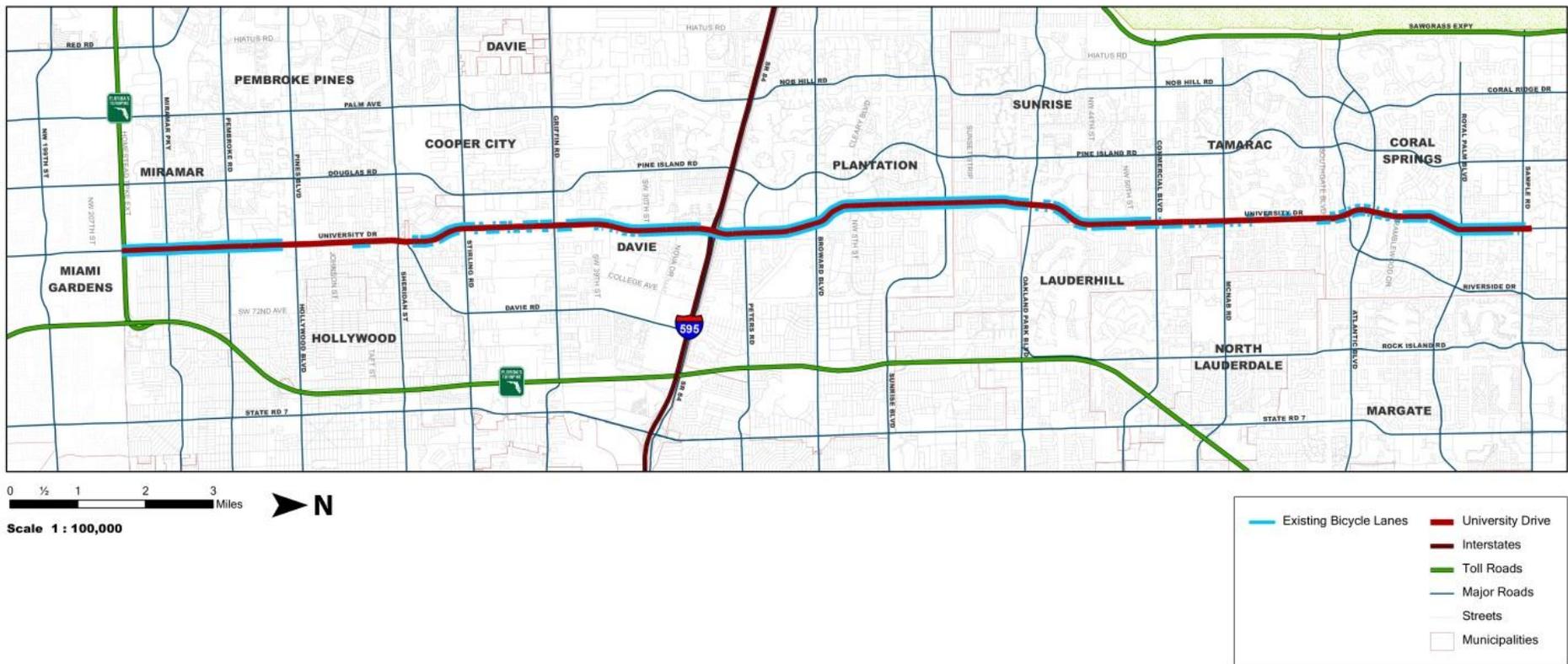
Sources: Broward County Transit; Nova Southeastern University

The existing BCT system along the corridor suffers from on-time performance. Currently, one-way travel time on Route 2 is two hours and it has 62% on time performance. Few, if any, passengers ride Route 2 from end-to-end, but it suffers from long travel times and frequent stops as a result of extensive passenger activities (cash payments, transfers, bicycle placement, among other activities) and congestion along the corridor. Further, observed and documented delays at major transfer locations coincide with the high activity roadway intersections within the corridor. One way travel time on Route 102 is 1 hour and 20 minutes while on-time performance is at 40%.

Pedestrian and Cyclist Users

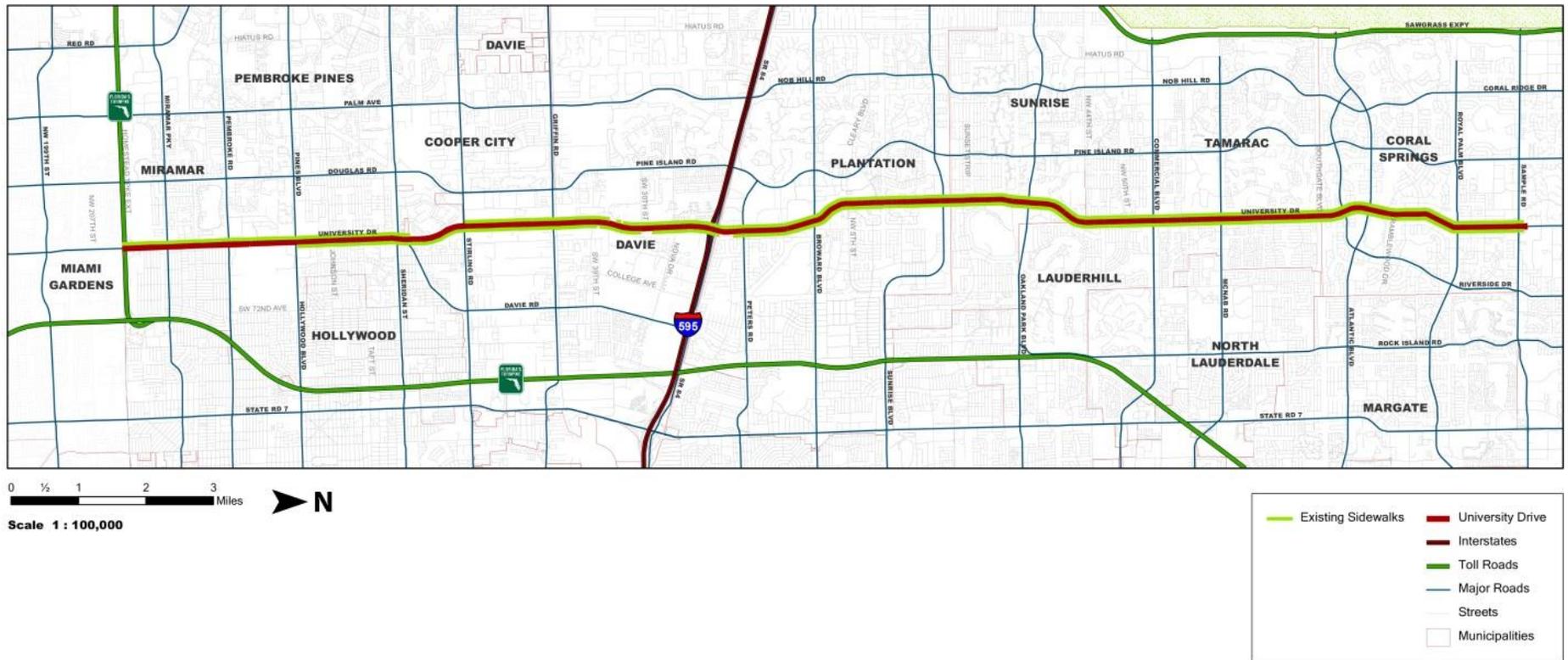
The University Drive corridor is generally not comfortable or inviting for walking or cycling. Although sidewalks and bicycle lanes run adjacent to the roadway for much of its length (as shown in the following figures), their design is inadequate to attract significant numbers of pedestrians and cyclists given the high traffic volumes and travel speeds of the corridor in addition to numerous driveways. Concurrency requirements for sidewalks were fulfilled for the most part as the corridor developed in the 1980s and 1990s, but a physical arrangement of land uses on either side of corridor that favors automobile traffic, coupled with large intersections and wide, frequent curb cuts, contributes to a degraded pedestrian environment.

Figure 6 – Location of Existing Bicycle Lanes along University Drive



Source: FDOT

Figure 7 – Location of Existing Sidewalks along University Drive



Source: FDOT

Improve Safety for All Users

In recent years, University Drive has experienced year-over-year increases in the number of collisions involving vehicles, pedestrians, and cyclists. From a 2007 collision total of 1,215, the number of crashes increased 42 percent by 2011, when 1,723 collisions were reported. In total, 6,955 collisions occurred on University Drive in the five years up to and including 2011. Rear-ends comprised the greatest share of this total (51.3 percent). Collisions involving pedestrians made up only 1.6 percent of the figure, but still represented 109 incidents between 2007 and 2011. Collisions involving cyclists were a similarly low fraction (1.5 percent), accounting for 107 incidents.

Collisions involving pedestrians and bicyclists within the University Drive corridor are an important traffic collision subset, since such events are indicators of potentially unsafe conditions for non-vehicular users of the corridor. The following two figures show the locations for collisions and fatalities involving pedestrians and bicycles, respectively, between 2007 and 2011.

Figure 8 – Locations of Pedestrian Fatality and Injury Collisions from 2007 to 2011 along University Drive



Source: FDOT Crash Analysis Reporting System

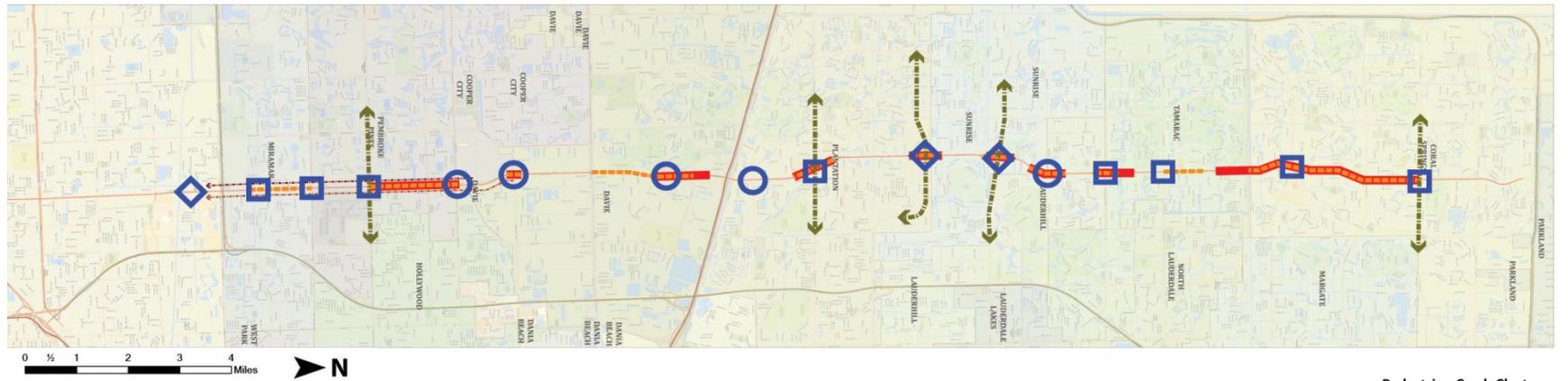
Figure 9 – Locations of Cyclist Fatality and Injury Collisions from 2007 to 2011 along University Drive



Source: FDOT Crash Analysis Reporting System

A total of 99 collisions involving pedestrians and 96 collisions involving bicycles were reported between 2007 and 2011. Areas of high collision incidence involving pedestrians include the segment between Pines Boulevard/Hollywood Boulevard and Johnson Street, the segment between Sunrise Boulevard and Sunset Strip, the segment just south of Oakland Park Boulevard to NW 39th Street, the vicinity of the University Drive/NW 44th Street intersection, the segment between McNab Road and NW 77th Street, the segment of University Drive alongside Coral Square Mall, and the segment between NW 16th Street and Royal Palm Boulevard. Common between all of these high-incidence locations is the presence of shopping plazas, restaurants, offices, and/or services. Beyond these corridor segments, collisions with pedestrians also occurred at large intersections (e.g., Miramar Parkway, Pembroke Road, Sheridan Street, Stirling Road, Peters Road, Broward Boulevard).

Figure 10 – Cyclist/Pedestrian/Transit Synthesis



High-incidence areas involving cyclists often overlap with those involving pedestrians. Generally speaking, segments between Pines Boulevard/Hollywood Boulevard and Pasadena Boulevard (just south of Sheridan Street), Commercial Boulevard and NW 61st Street, and along most of University Drive through Coral Springs experienced the largest number of collisions. As with areas of high pedestrian collision incidences, consumer-oriented businesses feature prominently where collisions with cyclists occur.

- - - - - Pedestrian Crash Cluster
- - - - - Missing Sidewalks
- - - - - Bike Crash Cluster
- - - - - Missing Bike Lanes
- - - - - Highest Bus Transfer Activity
- Community Hub
- Anchor Hub
- ◇ Gateway Hub

Twelve pedestrian fatalities occurred on University Drive between 2007 and 2011, with varying contributing causes. Four deaths were caused by an intoxicated driver, two were caused by drivers disregarding traffic controls, and four were the result of unidentified causes. The remaining two deaths, meanwhile, were not the result of driver error and may have been caused by improper pedestrian activity. In the same timeframe, two bicycle fatalities occurred, neither one the result of improper driver activity and both occurring while the cyclist was not using a bicycle lane. Locations of the fatalities were not concentrated in any particular corridor segment. While the two cyclist deaths occurred at major intersections (Griffin Road and Stirling Road), pedestrian fatalities were more likely to occur away from the vicinity of major intersections.

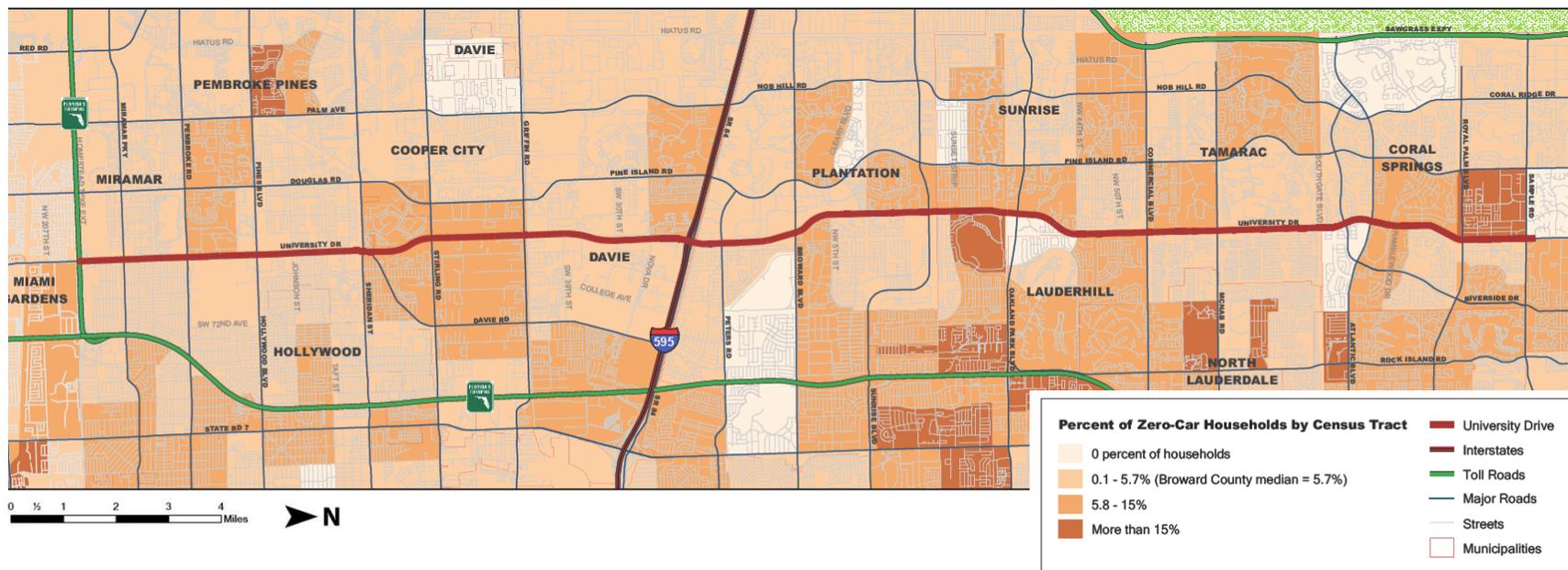
Improve the Livability and Walkability in the Corridor

As indicated above, improvements are needed to make the University Drive a more livable and walkable place. More and more people are seeking livable places to call home, and little of this environment is currently available for residents of Broward County. The median percentage



of households in Broward County without access to a vehicle is 5.7 percent (see figure below); a small number that points to a dependence on automobiles characteristic of life in South Florida. In the University Drive corridor, there is a relatively equal mix of areas with zero-car households above and below the county median, although north of Broward Boulevard there is greater likelihood of above average rates than south. For those census tracts with the highest rates of zero-car households (above 15 percent), all but two are found east of University Drive in Sunrise, Lauderhill, Lauderdale Lakes, North Lauderdale, and Margate. In Lauderhill and Lauderdale Lakes especially, such census tracts also exhibit higher rates of poverty. Meanwhile, scattered across the corridor (but not south of Stirling Road) are localized census tracts in which every household reports having access to a vehicle.

Figure 11 – Household Access to a Vehicle (2007-2011 Average)



Source: 2007-2011 American Community Survey 5-Year Estimates

Invest in Transportation Solutions that are Cost-Effective

As with all transportation investments, it is critical that the investments made in the University Drive corridor are cost-effective, both from an initial capital cost and for the long-term operating costs.