



Factors Affecting Transit Ridership – Executive Summary

Miami-Dade County has the 15th largest public transit system in the country with a multimodal transit system comprising of Metrobus, Metrorail, Metromover, and Special Transportation Services (STS). As seen in national trends, Miami-Dade County’s transit system has experienced a trend of declining ridership in recent years, which in some cases have resulted in the Department of Transportation and Public Works (DTPW) scaling transit services accordingly. The Miami-Dade Transportation Planning Organization (TPO) initiated this study to identify contributing factors for the decreasing trend in transit ridership in Miami-Dade County and to recommend potential actions.

Transit data was reviewed to better understand the current state of transit ridership in Miami-Dade County and the contributing factors to changes in transit ridership. In addition, national research was conducted to understand ridership trends experienced by other transit agencies, causal factors, and strategies developed to mitigate transit ridership decline.

Another key component of this study is a web-based survey conducted in June 2018 to obtain input from the residents of Miami-Dade County on the factors affecting transit use. *It should be noted that this was not a scientific survey. The survey provided informal feedback on service from individuals that may or may not use transit today, and is not necessarily representative of the general cross section of the population.* Overall, 1,755 completed surveys were received, which included 1,164 responses from transit users and 591 responses from non-transit users. Questionnaires were made available in English, Spanish, and Creole. The survey announcements were primarily carried out through e-blasts, agency websites, digital ads, and social media. These outreach efforts were supplemented by limited in-person surveys at major transit stations.

Miami-Dade Transit Ridership Trends

Table 1 and **Figure 1** summarize Miami-Dade County transit system ridership trends during weekdays in March between 2014 and 2018. While ridership decline is evident in all three major transit modes (Metrobus, Metrorail, and Metromover), Metrobus is the mode that has experienced the most decline. Metrobus ridership was down by 29% from March 2014 to March 2018; however, Metrobus ridership decline accounted for 89% of the total ridership decline across the three modes. As a result, Metrobus’ mode share among the three modes decreased from 68% in March 2014 to 62% in March 2018.

Table 1: Total Weekday Boardings for March by Mode (2014-2018)

Mode	2014	2015	2016	2017	2018	% Change 2014 - 2018
Metrobus	5,265,534	5,478,734	4,833,560	4,513,157	3,719,191	-29%
Metrorail	1,606,072	1,707,781	1,747,930	1,686,955	1,460,487	-9%
Metromover	740,543	769,463	836,323	783,199	684,041	-8%
Total	7,731,909	8,081,029	7,545,143	7,120,323	5,994,084	-22%

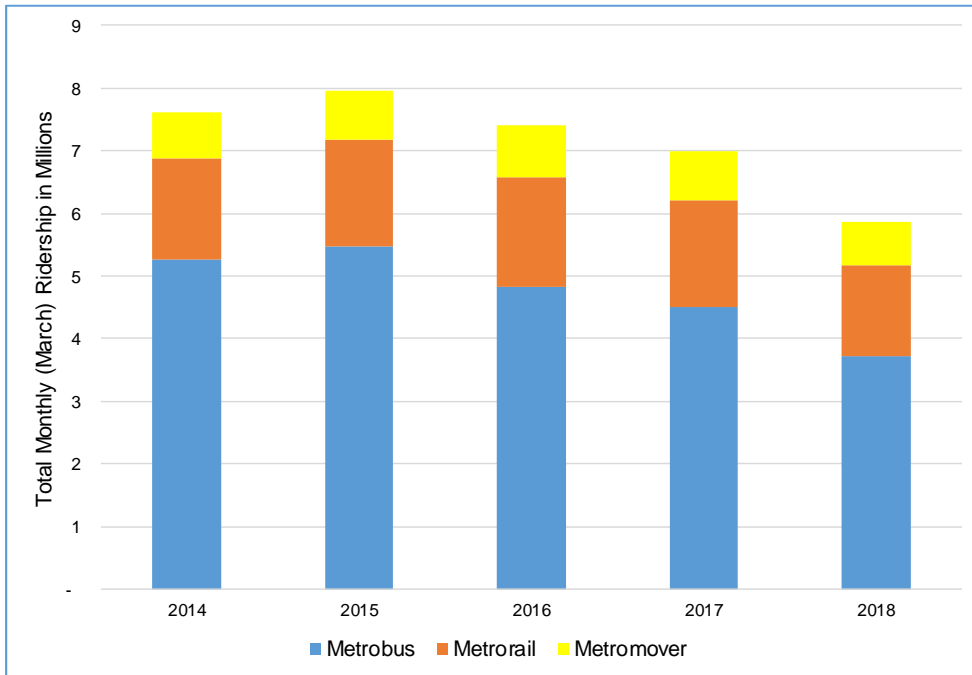


Figure 1: Systemwide Weekday Transit Ridership Trends for March

Municipal Transit Circulators

Local transit circulators in Miami-Dade County experienced an increase in ridership. However, this increase is largely due to significant ridership increases in Miami and Miami Beach.

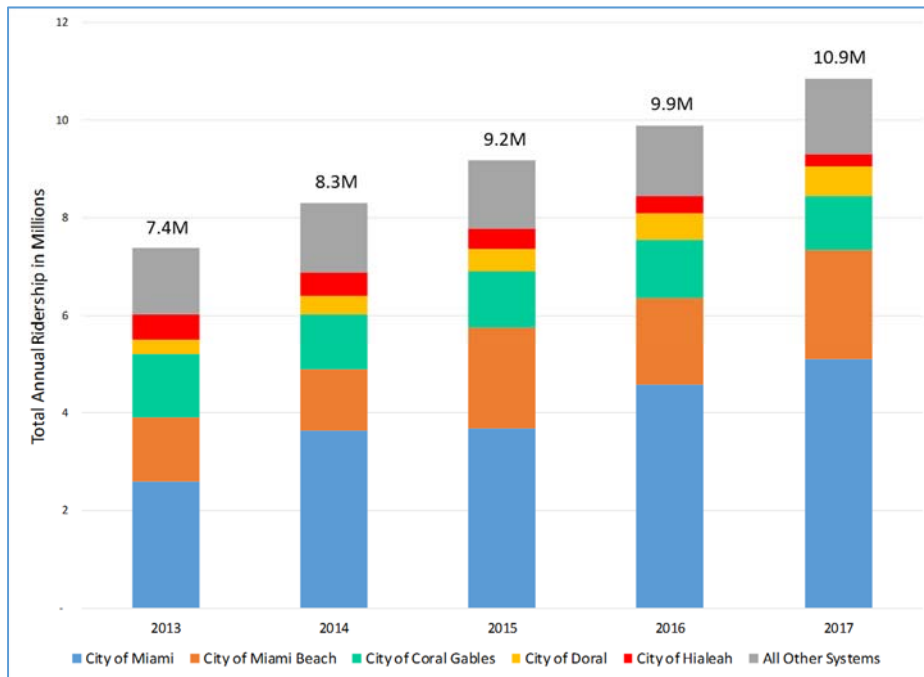


Figure 2: Annual Ridership for Miami-Dade County Municipal Circulators



Comparison with National Trends

Transit ridership decline in Miami-Dade County is comparable to other major transit services in Florida and nationwide.

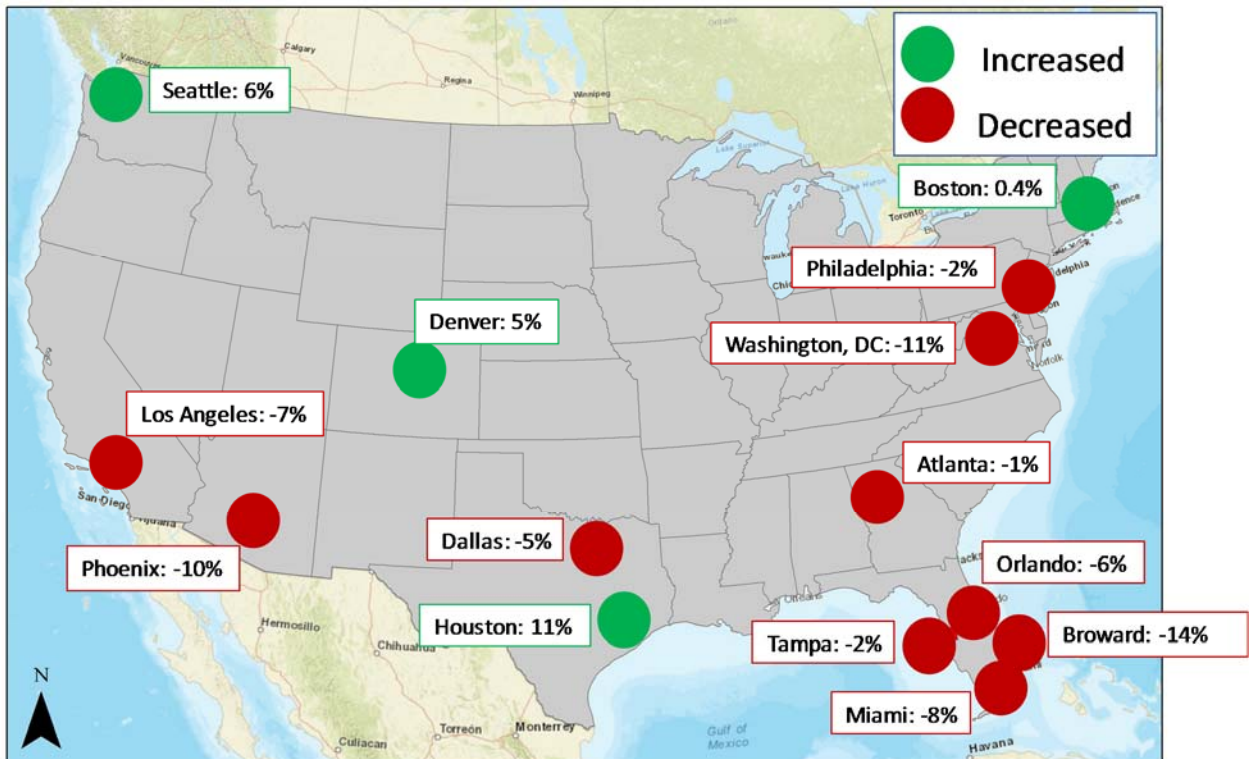


Figure 3: Transit Ridership Trends between 2012 and 2016 (Comparison with Other Transit Agencies)

A review of available information from transit agencies that experienced an increase in ridership indicated the following strategies that contributed to ridership increase:

- Large scale investments that include transit network expansions and operational improvements to the existing system
- Investment in passenger rail systems
- Restructuring of bus systems in response to the changing land use patterns and growth trends
- Obtaining public support and input for the investments

Factors Affecting Transit Ridership

Factors contributing to ridership decline in Miami-Dade County are both internal and external to the transit system.



On-time Performance

Based on the 311 complaints, on-time performance statistics from the TDP, and survey input, service reliability issues appears to be the most prominent *internal factor*. The most recent on-time performance data of Metrobus and Metrorail are below the targets established in the TDP.

Table 2: Historical On-Time Performance of Transit Vehicles Per Mode

Year	Metrorail	Metrobus
	On-time Performance (Target)	
2014	96.6% (95%)	74.2% (78%)
2015	96.0% (95%)	67.0% (78%)
2016	97.0% (95%)	74.0% (78%)
2017	87.6% (95%)	69.2% (78%)

Table 3: Breakdown of Miami-Dade County Transit 311 Complaints

Complaint Type	Number of Complaints	Percentage
Service Related	19,265	52%
Operator Behavior	3,991	11%
Driving Safety	2,706	7%
Service Request Related	2,638	7%
Equipment/Facilities Maintenance	3,114	8%
Commendation	1,928	5%
Planning and Scheduling	1,348	4%
Office Administration	1,331	4%
Passenger Incident	584	2%
Fares and Transfers	158	< 1%
Other	71	< 1%
Total	37,134	100%

Table 4: Primary Reasons for Transit Use Decline

Survey Response Choices	Percentage
Reduction in transit service, reliability and/or safety concerns	50%
Drive a personal vehicle and/or carpool/vanpool	22%
I use Uber, Lyft or taxi	16%
Change in residential or employment location	4%
I am biking/walking	2%
Other	6%
Total	100%



Increasing Automobile Ownership

As shown in **Table 4**, increasing automobile ownership appears to be a primary *external factor* that contributed to modal shift from transit to automobile. Between 2013 and 2016, automobile registration (254,000) in Miami-Dade County outpaced population growth (70,000) by a factor of 3.6, thus indicating increased access to a personal vehicle.

Choice Riders vs. Transit Use Decline

The survey responses indicate that 83 percent of transit users and 98 percent of non-transit users are having access to an automobile for use. Only 17 percent of transit users who participated in the survey identified as “captive riders.” Therefore, “choice riders” are a significant proportion of transit users in Miami-Dade County. As such, the likelihood of transit ridership fluctuations can be greater among the “choice riders.”

Table 5: Access to an Automobile

Access to an automobile	Yes	No	Total
Transit users	83%	17%	100%
Non-transit users	98%	2%	100%

Table 6 further breaks down access to automobile based on the frequency of transit use. These results are consistent with the general understanding that high automobile ownership is an indicator of less propensity to use transit.

Table 6: Frequency of Transit Use and Access to an Automobile

Access to an automobile	Yes	No	Total
Frequent transit users	77%	23%	100%
Infrequent transit users	93%	7%	100%

Impact of Transportation Network Companies

Based on the survey, Transportation Network Companies (TNCs) appear to have some impact on transit ridership decline, especially among the 24-35 age group.



Table 7: Transit Use Decline Attributed to Uber, Lyft, or Taxi Use by Age Groups

Age Group	Transit Use Decreased	Transit Use Decreased Due to Uber, Lyft, or Taxi Use	Percent Difference
16-24 years	5%	5%	0%
25-34 years	34%	43%	+9%
35-44 years	19%	25%	+6%
45-54 years	16%	13%	-3%
55-64 years	16%	10%	-6%
Over 65 years	10%	5%	-5%
Total	100%	100%	-

Age vs. Transit Use Decline

Table 8 indicates that survey respondents belonging to the 25-34 age group is most overrepresented for transit use decreased, followed by the 35-44 age group. In contrast, more respondents belonging to the 45+ age groups indicated that their transit use either increased or remained the same rather than decreased.

Table 8: Transit Use Decline vs. Age of Respondents

Age Group	All Transit Users	Transit Use Decreased	Percent Difference
16-24 years	5%	5%	0%
25-34 years	25%	34%	+9%
35-44 years	17%	19%	+2%
45-54 years	20%	16%	-4%
55-64 years	21%	16%	-5%
Over 65 years	12%	10%	-2%
Total	100%	100%	-

Household Income vs. Transit Use Decline

Table 9 generally indicates a notable transit use decline among households with income less than \$50,000, whereas transit use increased among households with income more than \$100,000. Possible reasons for modal shift among lower income groups include new automobile owners, especially among young people entering the workforce, and Metrobus being the primary and most accessible transit mode available in



areas with low/moderate income populations. A possible reason is increasing congestion leading some people to use transit, especially Metrorail because of comparative travel times and the desire to relieve stress from driving. It should also be noted that survey participation was high from Metrorail users in areas such as Miami, Pinecrest, and West Kendall due to in-person surveys at Metrorail stations.

Table 9: Household Income of Transit Users

Annual Household Income	All Transit Users	Transit Use Decreased	Percent Difference
Less than \$25,000	8%	10%	+2%
\$25,000 and \$49,999	20%	25%	+5%
\$50,000 and \$74,999	20%	20%	0%
\$75,000 and \$100,000	18%	20%	+2%
More than \$100,000	34%	25%	-9%
Total	100%	100%	-

What should be done to encourage more use of transit?

This question was included in both transit user and non-transit user questionnaires with response choices customized to each group. Transit users’ main suggestion to increase transit ridership is to offer more frequent and reliable transit services. Non-transit users suggested improving first-mile, last-mile options and providing new express bus and/or passenger rail services to attract non-transit users. Based on the significant non-transit user participation in the survey, it’s apparent that there is latent demand for transit.

Table 10: Measures to Encourage Transit Use

Response Choices	Transit Users	Non-Transit Users
More frequent and on-time transit service	76%	44%
More express bus routes and/or new passenger rail services	53%	49%
More connecting options to and from transit facilities	46%	50%
Safer and cleaner transit stations/stops and vehicles	44%	36%
More convenient and comfortable transit service	41%	
Unlikely to use transit no matter what improvements are made	N/A	18%



Conclusions and Recommendations

Key findings and recommendations based on transit data analysis and survey responses are listed below. *As previously noted the survey was not a scientific survey. The survey provided informal feedback on service from individuals that may or may not use transit today, and is not necessarily representative of the general cross section of the population.*

- Metrobus ridership was down by 29% from March 2014 to March 2018; however, Metrobus ridership decline accounted for 89% of the total ridership decline across the three modes (Metrobus, Metrorail, and Metromover). Therefore, strategies to address Metrobus ridership decline should be considered. Addressing issues associated with service reliability should be a primary focus.
- Most transit users who responded to the survey can be categorized as “choice riders.” The likelihood of transit ridership fluctuations among “choice riders” can be greater due to the access to a private vehicle. Therefore, strategies to attract and maintain choice riders such as park-and-ride facilities at major transit stations, first-mile, last-mile options, passenger rail services, and convenience and comfort of transit services should be evaluated.
- The survey indicated a decline in transit use among households with an annual income less than \$50,000. Therefore, strategies to improve transit use in areas with low/moderate income populations such as service coverage and frequency improvements, grid routes, good transfer connections, and safety and security at transit stops should be evaluated.
- Based on the significant non-transit user participation in the survey, it’s apparent that there is latent demand for transit. The main suggestions of non-transit users to improve transit use were improving first-mile, last-mile options and providing new express bus and/or passenger rail services. These suggestions should be considered in the assessment of existing transit system and future projects.
- Miami-Dade County’s transit user survey appear to indicate Transportation Network Companies (TNCs) as having some impact on transit ridership decline, especially among the 24-35 age group. However, the findings of national literature survey of TNC impacts on transit are mixed. Some studies suggest that use of TNC services results in a complementary relationship to public transit, whereas others indicate some adverse impacts on transit services. There is uneven adoption of ride-hailing across income classes and age groups. Moreover, use of TNC services is less common by those who live in suburban areas. The studies cite lack of data on TNCs as a challenge for determining the impact on transit and other modes. One recommended action is to enact legislations mandating the provision of data from TNCs to facilitate more informed planning, operational, and policy decisions.