

# Systemwide Level of Service Analysis

## Executive Summary

Prepared for



**Miami-Dade Transportation  
Planning Organization**

Prepared by:



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# Executive Summary

## Introduction

The systemwide level of service analysis has been developed to evaluate the performance, observed trends, and capacity of the existing transportation system network. This study focuses on the County's roadway, transit, and non-motorized facilities to determine if they meet current travel demands. The assessment of multimodal system needs, and recommendations will support the development of program priorities and will be used to update future transportation plans.

The Miami-Dade TPO completed a previous Arterial Grid Analysis Study in 2013 which examined the existing conditions and evaluated potential improvements to the arterial network. This study builds upon the information collected to perform trend analysis and broaden the range of modes analyzed for a comprehensive multimodal perspective.

Recommendations are developed for future system improvements to support the 2050 Long-Range Transportation Plan (LRTP), the Transportation Improvement Program (TIP), and the Transit Development Plan (TDP).

## Literature Research & Data Gathering

All available data developed in the previous Arterial Grid Network Study was reviewed in addition to other relevant and recent studies obtained from different agencies, including the Florida Department of Transportation (FDOT) and Miami-Dade Department of Transportation and Public Works (DTPW).

The 2022 Transportation Improvement Program (TIP), the 2045 Long-Range Transportation Plan (LRTP) and the 2022-2031 Transit Development Plan (TDP) were reviewed to identify major improvements with considerable impact on mobility throughout the County.

The following data was collected to understand the characteristics of the population, the economy, and the transportation infrastructure in Miami-Dade County.

- Existing employment and population density
- Future employment and population density
- Metrobus ridership, schedule information and operating data
- Bicycle and pedestrian Strava data
- Bicycle counts
- Existing Annual Average Daily Traffic (AADT)
- Existing number of lanes
- Existing roadway capacity
- Speed limits
- Roadway functional classification
- Operating speeds

## System Network Analysis

A planning level of service (LOS) was estimated for the following transportation modes based on criteria found in the Highway Capacity Manual, the FDOT Quality/Level of Service Handbook, data collected as part of this study, and information provided by partner agencies.

- Roadway planning LOS for State facilities
- Roadway planning LOS for County facilities
- Transit planning LOS
- Bicycle planning LOS
- Pedestrian planning LOS

## Transportation System Assessment

### Roadway

Arterial grid network disruptions and missing links in Miami-Dade County are identified in the report. A list of new projects already programmed under the latest version of the TIP, the LRTP, and the TDP are provided in this study.

A description of the following projects identified by several partner agencies to provide connections at some key locations throughout the County are included in the report.

- NW 37th Avenue Connections at and near SR 112
- Kendall Parkway
- SR 924 West Extension
- SR 924 East Extension

The existing conditions LOS maps for State and County facilities were used to identify roadway segments that operate at LOS E or F. These segments were defined as priority corridors and preliminary improvement strategies were also identified to alleviate the congestion experienced at these locations. State and County facilities are identified as “priority corridors” if they meet the following 3 criteria:

- Operate at LOS E or F
- The operating speed during the peak hours is 10 mph or lower than the posted speed limit
- Not included in 2022 TIP or 2045 LRTP

A comparison between 2013 and 2019 AADTs, shown in Figure 1, was performed to examine trends from the previous Arterial Grid Network study and traffic conditions before the pandemic. Figure 1 shows that 14% of the link segments perceived a reduction in traffic volumes, 39% perceived a small difference in traffic volumes and 47% perceived an increase in traffic volumes when comparing 2013 and 2019 AADTs. The fact that the majority of the links experienced an increase in traffic volumes, indicates that traffic demand has outpaced the roadway capacity of our roadway network in the last 6 years.



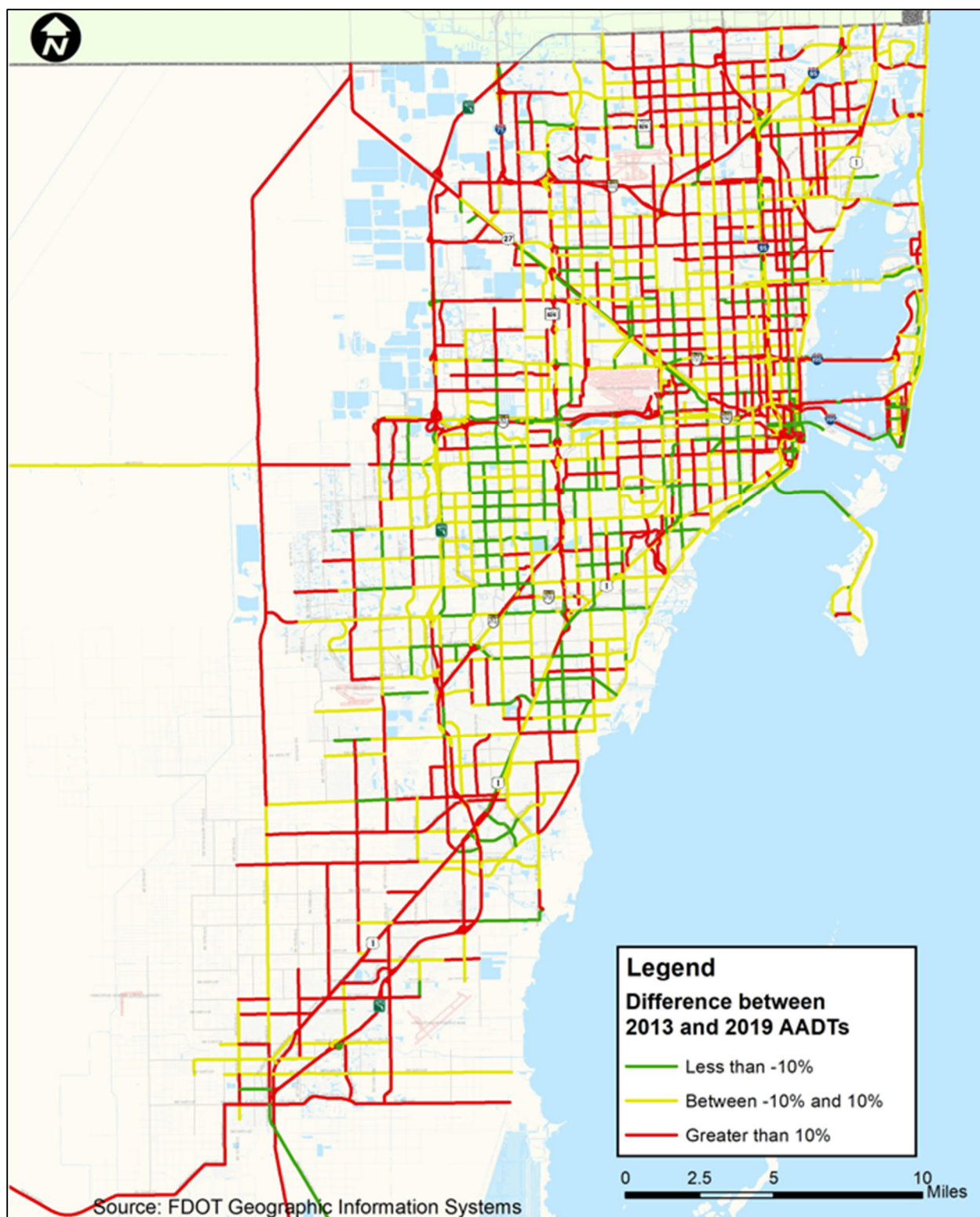


Figure 1: 2013 & 2019 AADT Comparison

### Transit

The following Information taken from the Miami-Dade DTPW Transit Development Plan major and annual updates, is documented in the report.

- Transit propensity analysis
- Transit system capacity and improvements
- Committed bus service adjustments (Better Bus Project)
- Existing trends

### Non-motorized

The existing conditions bicycle planning LOS map is used to identify areas where the County's bicycle/pedestrian network is disrupted or lacks connectivity. Connections to Metrorail stations and high population density areas were the two major factors considered. Recommended bicycle lanes are proposed near South Dade Transitway stations and existing Metrorail stations.

### Conclusion and Next Steps

The systemwide level of service analysis completed a comprehensive evaluation of existing conditions and identified potential improvements to the arterial network from a multimodal perspective. Some of the most important aspects of the study are summarized below:

- Documentation of major roadway improvements from the TIP, the LRTP, and the TDP
- Gathering of the latest existing and future socio-economic conditions in Miami-Dade County
- Documentation of existing roadway, transit, bicycle, and pedestrian facilities and service.
- Evaluation of the level of service for roadways, transit, and non-motorized modes of transportation
- Identification of priority corridors for roadway improvements
- Documentation of the latest plans to improve transit service
- Proposed new improvements for non-motorized modes of transportation

Recommended improvements and the roadway priority corridors identified in this study layout the groundwork for further analysis to evaluate in more detail the need and feasibility of said improvements. The recommendations included in this report, will be considered during the preparation of the 2050 LRTP and the TPO's future planning processes.