



Multimodal/Roadway Intersection Analysis

Between SW 27th Avenue and SW 72nd Street

GPC VIII Work Order 02



EXECUTIVE SUMMARY



Miami-Dade Transportation
Planning Organization

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Prepared for:



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Introduction

US 1 is an important north-south corridor in Miami-Dade County linking residential communities to Miami's urban core. The study corridor includes the City of Miami, City of Coral Gables and the City of South Miami. Currently, US 1 experiences considerable traffic congestion, specifically between the areas of SW 72nd Street to SW 27th Avenue in Miami-Dade County, in part, due to the increase of commercial, and residential development projects in the area. This Study analyzed the accessibility and mobility impacts of recently constructed and approved commercial and residential development projects in the area along the corridor.

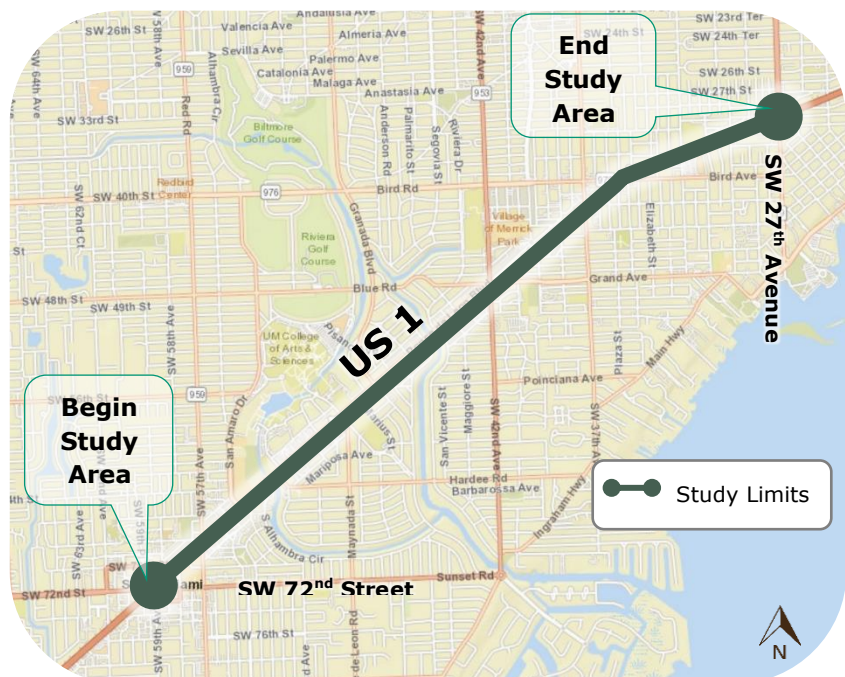
This Study will build upon prior efforts such as: the 2019 *FDOT US 1 Corridor Study from SW 88th Street/N Kendall Drive to Interstate 95* and the 2019 *City of Coral Gables Comprehensive Multimodal Transportation Plan*. The results of this Study will provide the necessary information to make appropriate transportation and policy decisions.

Study Purpose

The objective of this study is to conduct a traffic analysis to assess vehicular and pedestrian crossing access along and across US 1 from SW 72nd Street to SW 27th Avenue and provide recommendations to maximize the capacity of this corridor via multimodal and/or roadway improvements.

Study Process

The study process is presented in the graphic below. In addition to this process, a Project Working Group (PWG) was established to solicit feedback and review materials on all project deliverables. The PWG was comprised of representatives from FDOT, the Miami-Dade TPO, the cities of Coral Gables, Miami, South Miami, Miami Dade County, University of Miami, and Friends of the Underline.



Literature
Review/Data
Collection

Existing
Conditions
Analysis

Transportation
Analysis

Transportation
Solutions

Final
Recommendations



Study Focus Areas

The study focused on six areas that were identified to be transportation deficient/congestion hot spots for the corridor based on previous studies, available data, and guidance from the PWG. These focus areas are listed below.

- ◆ **Focus Area 1:** SW 57th Avenue/SW 72nd Street
- ◆ **Focus Area 2:** S Alhambra Circle
- ◆ **Focus Area 3:** Granda Boulevard
- ◆ **Focus Area 4:** SW 42nd Avenue/Blue Road/Grand Avenue
- ◆ **Focus Area 5:** SW 37th Avenue/SW 40th Street
- ◆ **Focus Area 6:** SW 27th Avenue

Literature Review

A localized research effort was included in this study with the purpose of assessing vehicular and pedestrian crossing patterns alongside other mobility trends between and around SW 72nd Street and SW 27th Avenue that informed recommendations to increase safety and efficiency of the study corridor. The matrix below provides an overview of the key topics covered in each of the documents reviewed.

Plan	Design	Community	Traffic	Trips	Active	Land Use
Previous Traffic Studies						
US 1 Summary Report (2019)		X	X	X	X	
TM 2: Existing Conditions			X	X	X	
TM: 4 Preliminary Strategies	X		X			
TM: 5 Conceptual Strategies		X	X		X	
TM: 6 Multimodal Strategy			X	X	X	
Master Plans						
South Miami Comprehensive Plan			X	X		X
Coral Gables Multimodal Plan		X	X	X	X	
Miami-Dade TPO 2045 LRTP		X	X	X	X	
University of Miami Mobility Plan	X		X	X	X	X
Miami Bicycle Master Plan	X	X	X		X	X
Underline Studies						
Community/Connectivity Study		X	X		X	X
Framework Plan/Demo Projects	X		X	X	X	
Road Impact Fee Study			X	X	X	

A common trend among most studies was the **prioritization of pedestrian and bicycle safety initiatives** due to the current volume of vehicular traffic on and through US 1 coupled with the lack of safe and accessible crosswalks. Additionally, there are many recommendations amongst the studies **featuring changes to signal timing, repainting street lines, pedestrian walkovers, and updating signage**. Lastly, many of the studies are looking to **the Underline to perform as the main mode of pedestrian mobility along the corridor**.



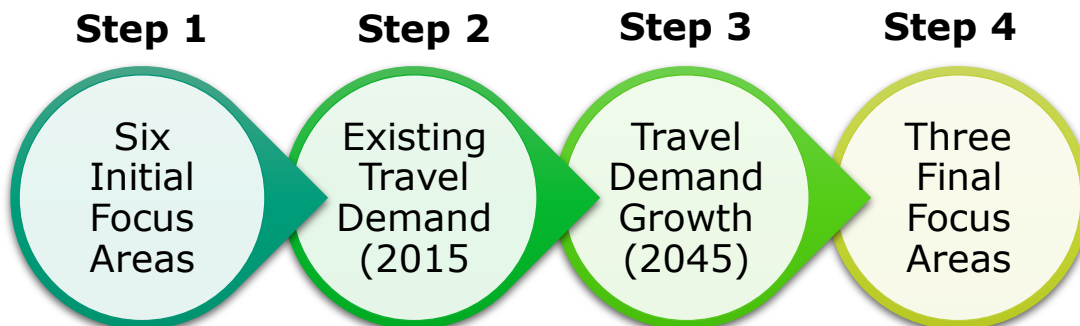
Existing Conditions Analysis

The existing conditions analysis included a review of the existing transportation infrastructure, land use and zoning, as well as recent and approved development along the corridor. The purpose of this analysis is to establish a baseline of the current facilities while determining the adequacy of the existing facilities to serve the transportation needs of all types and users. The following list summarizes the existing roadway characteristics for the US 1 study corridor:

- ◆ FDOT functional classification of US 1 is **Urban Principal Arterial**.
- ◆ The facility is within an **Urbanized Area** by the Federal Highway Administration.
- ◆ US 1 is a **six-lane** facility with a center paved and raised median.
- ◆ The posted speed limit along the corridor is **40 mph** south of the University of Miami and **45 mph** north of the University of Miami.
- ◆ **Sidewalks** are present on at least the east side of the roadway for the length of the corridor. West side sidewalks are intermittent.
- ◆ There are **no bike lanes** along the corridor.
- ◆ **Street lighting** is present along the length of the corridor.

Transportation Analysis

Based on existing data and traffic analysis tools, a transportation analysis was performed along the corridor with an additional emphasis on the six study focus areas. This analysis included reviewing the existing daily travel demand as well as the 2045 growth using the Southeast Regional Planning Model (SERPM). Based on those results, three of the study focus areas (57th Avenue/SW 72nd Street, Granada Boulevard, and SW 42nd/LeJeune Road) were selected from the six to further develop transportation solutions for those locations.



Additionally, the study area growth patterns from the travel demand modeling effort were used to develop a traffic model of the study intersections for estimating future 2045 traffic operations conditions and planning for what future transportation users may expect while traveling the area during peak hours if no action is taken. The purpose of the traffic analysis is not only understand the levels of delay and congestion motorists will face in 2045, but it also serves as a baseline in developing capacity and operational improvement solutions aimed at reducing pedestrian crossing delay, which in turn will improve pedestrian signal compliance and safety.



Transportation Solutions

Throughout the study process, potential transportation solutions were conceptualized and tested for viability. Some of the concepts developed for the US 1 corridor are listed below.

- ◆ Multi-Way Boulevards
- ◆ Pedestrian Walk-Over Bridges and/or elevated bicycle paths
- ◆ Triple Traffic Circle
- ◆ Crosswalks for all approaches at every intersection
- ◆ Continual sidewalks along southbound US 1
- ◆ Leading Pedestrian Interval phasing at signals
- ◆ Extending medians to provide pedestrian refuges
- ◆ Developing unified aesthetic theme / design for US 1 and Ponce de Leon
- ◆ Reconfiguring the SW 42nd / Grand / Ponce de Leon intersection
- ◆ Focusing on the Underline as the corridor spine and implement bike/pedestrian enhancements emanating from it

These concepts were tested through traffic modeling programs, vetted through the Project Working Group, and collaborated with TPO staff in developing the final recommendations.

Transportation Recommendations

Short-term and long-term recommendations were developed for the final three focus areas and are summarized in the table below. As this is a planning-level study, many of these recommendations require a more detailed analysis to confirm construction feasibility. Coordination with FDOT including additional study and analysis is necessary to move many of these recommendations forward from the planning stage.

Focus Area	Short-Term Recommendations	Long-Term Recommendations
Metrorail Stations	Increase multi-modal options at Coconut Grove, Douglas Road, University, and South Miami Metrorail Stations (TPO SMART Demonstration Projects & Micromobility).	
US 1 / SW 57th Avenue	Create bulb-outs, add high-emphasis crosswalks, create pedestrian refuges within medians, stagger stop bars for vehicles, eliminate right-turn slip lanes, implement the Underline.	Elevated bike path with pedestrian walkovers.
US 1 / Granada Boulevard	Create bulb-outs, add high-emphasis crosswalks, create pedestrian refuges within medians, eliminate right-turn slip lanes, implement the Underline, create unified aesthetic and landscape theme inspired by the multi-way boulevard concept.	Elevated bike path featuring a circular bridge across US 1 to the Underline.
US 1 / LeJeune Road / SW 42nd Avenue / Grand Avenue	Adding and enhancing crosswalks, create pedestrian refuges within medians, decrease pedestrian crossing distance by adding extra pavement and bulb-outs.	Traffic circle at Ponce de Leon / SW 42 nd Avenue / LeJeune Road.



In addition to the focus area recommendations, additional operational modifications were developed for various locations along the corridor including:

- ◆ Implementing crosswalks for all approaches at every intersection
- ◆ Constructing continual sidewalks along southbound US 1
- ◆ Re-orienting pedestrian crossings at right angles
- ◆ Hardening curbs and curb extensions
- ◆ Eliminating right-turn slip lanes
- ◆ Prohibiting right-turns on red
- ◆ Installing Leading Pedestrian Interval (LPI) phasing at signals
- ◆ Extending medians at intersections to provide pedestrian refuges

Furthermore, enhanced bicycle connection opportunities were identified that link the Metrorail stations along US 1 and the Underline with downtown Coral Gables. One of the designated routes follows Ponce de Leon, and designates space for bicycles on the wide sidewalks. This technique is common in many European cities, and has recently been implemented on a segment of SW 152nd Street in south Miami-Dade County. The other designated route includes installing striped bike lanes on Suarez Street, Riviera Drive, and University Drive. This route is consistent with recent City of Coral Gables plans, and connects with existing bike lanes on Malaga Avenue and Galiano Street in the downtown area.

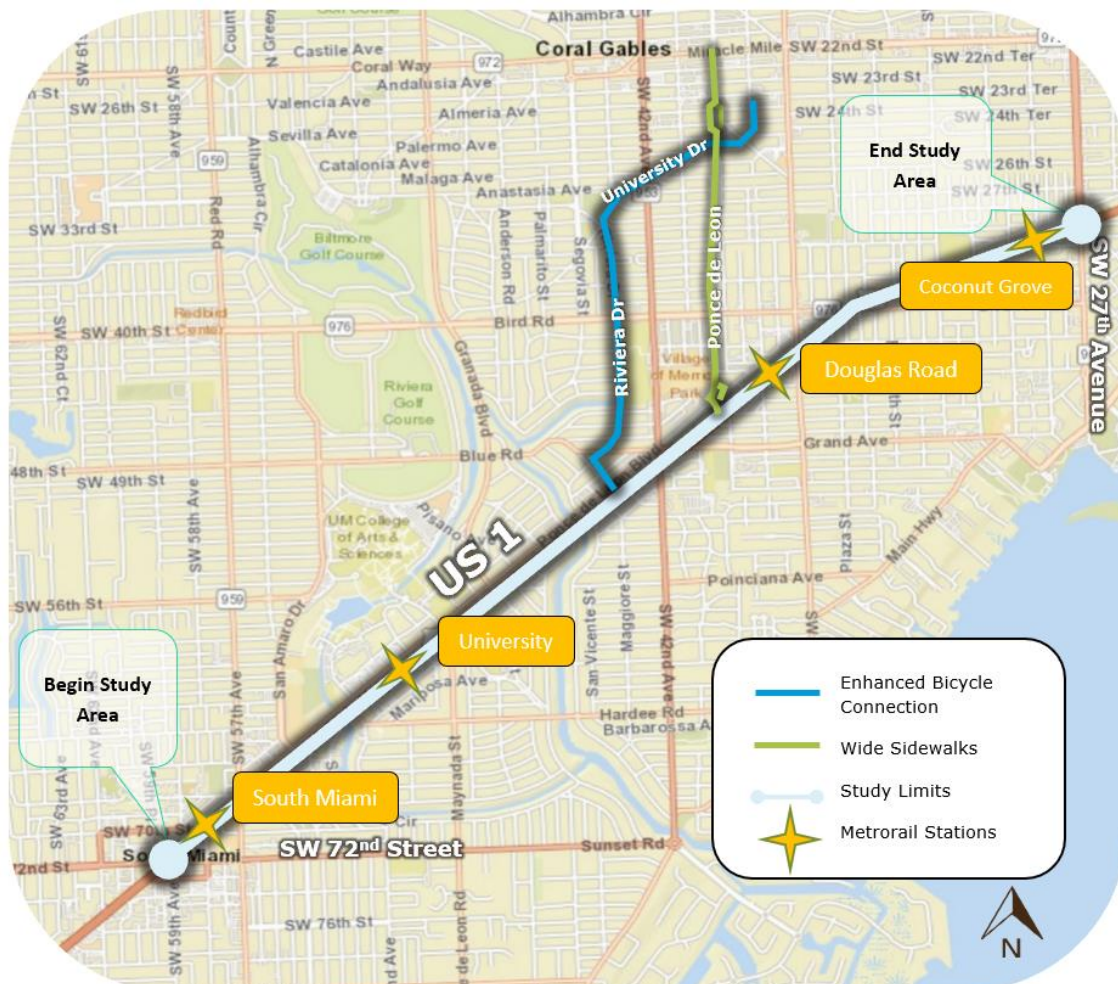




Photo source: Project Team.

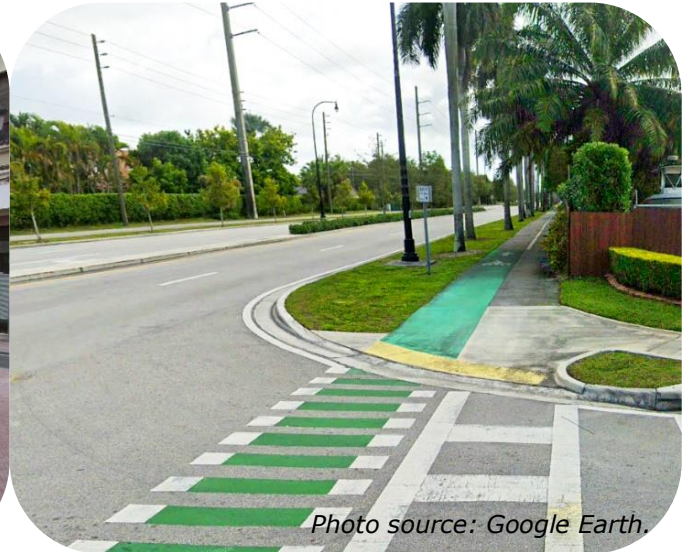
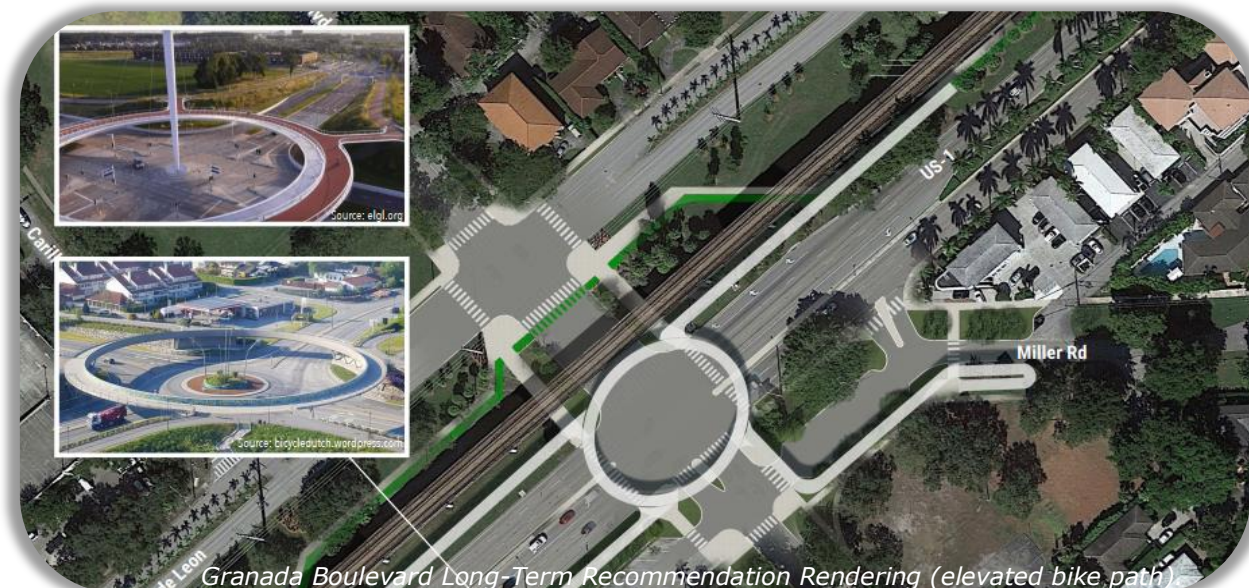


Photo source: Google Earth.

Next Steps

The overarching goal of this study was to identify opportunities to enhance the crossing of the US 1 corridor for bicyclists and pedestrians, as well as vehicles. During the effort, a larger vision of transforming US 1 into a boulevard developed. Similar to many of the grand boulevards around the world, US 1 connects Miami's urban core with dense mixed-use suburbs. Land uses and development along the corridor have been rapidly changing, which further incentivizes the evolution of the corridor into a more urban pedestrian-supportive environment. The recommendations in this report serve as just the beginning of the transformation process. Obtaining broad community support, along with collaboration from local municipalities and transportation agencies, is crucial. Some smaller enhancements identified in this study can be incorporated with resurfacing projects and other operational modifications once a consensus between the cities, county, and FDOT for a grander treatment of the US 1 corridor is reached. All investments should be made with the larger vision in mind.



Granada Boulevard Long-Term Recommendation Rendering (elevated bike path)



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