



MANATEE COUNTY
FLORIDA

June 8, 2021

Secretary L.K. Nandam
Florida Department of Transportation District 1
801 North Broadway Avenue
Bartow, FL 33830-3809

Re: Route 99/US 41 Transit Signal Priority Demonstration Project

Dear Secretary Nandam:

Manatee County wishes to acknowledge support for the Sarasota/Manatee Metropolitan Planning Organization (MPO) proposed Route 99/US 41 Transit Signal Priority (TSP) Demonstration Project in Manatee and Sarasota Counties. Enhancing the efficiency, reliability, and service frequency of the Route 99/US 41 service has long been a priority for Manatee County and Sarasota County.

Implementation of a TSP project along the US 41 corridor is consistent with several regional transportation objectives including the following:

- *Bus Travel Time and Service Reliability:* Investments that improve bus travel time and service reliability are supported by several local planning efforts including the Manatee County 2018 Transit Development Plan (TDP).
- *Ridership:* Route 99 service is the most ridership productive transit route in the two-county region and ridership exceeded over half a million riders in three of the last four fiscal years.
- *Congestion Management:* Route 99 operates within Prioritized Locations identified in the MPO's Congestion Management Plan (CMP) and the Sarasota/Manatee Transportation Systems Management and Operations (TSM&O) Master Plan.
- *LRTP Goals:* Improvements in public transportation align with Transform 2045 Long Range Transportation Plan (LRTP) goals including Equity/Livability, Mobility/Reliability, and Technology/Autonomy.

The TSP demonstration project is a culmination of a coordinated efforts conducted over the last several months which included participation by Sarasota County, Manatee County, Sarasota County Area Transit (SCAT), Manatee County Area Transit (MCAT), Florida Department of Transportation (FDOT), and MPO staff. In summary, Manatee County supports the MPO's application to the FDOT for funding that supports this proposed Demonstration Project as it builds on existing partnerships, ensures consistency with local and regional plans, meets LRTP

Board of County Commissioners
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equity, technology, and mobility goals, and provides the opportunity to improve bus travel time and schedule reliability for the public transportation user in Manatee County.

We look forward to working with the MPO and FDOT on this important and innovative project.

Sincerely,

BOARD OF COUNTY COMMISSIONERS
MANATEE COUNTY, FLORIDA



Vanessa Baugh
Chairperson

cc: David L. Hutchinson, Executive Director, Sarasota/Manatee MPO
Chad A. Butzow, Manatee County Public Works Director

APPROVED in Open Session
6/8/2021
Manatee County Board of County
Commissioners



Board of County Commissioners June 8, 2021 - Regular Meeting

SUBJECT

EXECUTION OF LETTER OF SUPPORT FOR THE SARASOTA/MANATEE METROPOLITAN PLANNING ORGANIZATION (MPO) ROUTE 99/US41 TRANSIT SIGNAL PRIORITY (TSP) DEMONSTRATION PROJECT

Category

CONSENT AGENDA

Briefings

None

Contact and/or Presenter Information

Chad Butzow, Public Works Director, Chad.Butzow@mymanatee.org, (941) 708-7450 x7432

Jonathan Roberson, Transit Planning Manager, Jonathan.Roberson@mymanatee.org, (941) 747-8621 x7622

Action Requested

Authorization for the Board Chairperson to sign a letter of support to the Florida Department of Transportation (FDOT) for the Sarasota/Manatee Metropolitan Planning Organization (MPO) Route 99/US41 Transit Signal Priority (TSP) Demonstration Project.

Enabling/Regulating Authority

Chapter 341, Florida Statutes; Rule 41-2, Florida Administrative Code; Manatee County's Transit Development Plan (TDP), 2018 Major Update, Manatee Connect

Background Discussion

Currently, Manatee County Area Transit (MCAT) and Sarasota County Area Transit (SCAT) jointly operate Route 99 with 30-minute service frequency along the US 41 transit corridor, connecting Manatee County and Sarasota County. In early 2022, MCAT will implement 20-minute Peak Period service frequency on the Route 99/US 41 corridor.

In 2020, the MPO initiated the "US 41 Transit Choices Study". The purpose of the study is to identify technology and capital projects that will improve the speed, efficiency, and reliability of

fixed-route public transportation services operating along the US 41 corridor between Downtown Sarasota and Downtown Bradenton.

The Manatee County Public Works Department and Transit Division staff serve on the MPO's technical steering committee that assisted in development for the final draft "US 41 Transit Choices Study" report.

A key finding from the study is that both MCAT and SCAT buses experience delays along certain segments of the Route 99 corridor, which impacts on-time performance and schedule reliability.

The final draft " US 41 Transit Choices Study" recommends a Mixed Traffic Transit Signal Priority (TSP) Demonstration Project. In a TSP system, buses communicate with specific traffic signals, allowing slight adjustments in the traffic signal timing to reduce the impacts of traffic congestion and, in doing so, enhance schedule adherence for transit service. As a Demonstration Project, the potential benefits for TSP technology are assessed and measured without a full-scale, long-term investment.

The MPO requests a Manatee County "Letter of Support" for their forthcoming application to FDOT to fund the planning and design phases of a TSP Demonstration Project for the Route 99/US 41 public transit corridor.

Public Works/Transit Division staff supports this TSP Demonstration Project concept as it represents an opportunity to test innovative technology that has minimal impact on cross-street traffic and improves bus travel time reliability along the Route 99/US 41 corridor.

Attorney Review

Not Reviewed (No apparent legal issues)

[Emailed and interoffice 6/11/2021](#)

Instructions to Board Records

Provide signed letter to Jonathan Roberson, Jonathan.Roberson@mymanatee.org, Public Works/Transit Division, Ext 7652.

Cost and Funds Source Account Number and Name

N/A

Amount and Frequency of Recurring Costs

N/A



5.2 Demonstration Project

A small-scale demonstration project provides multiple benefits, including serving as a proof-of-concept. A demonstration project allows for the assessment and measurement of benefits and risks without a full-scale, long-term investment. A strong performance assessment plan defined in the CONOPS document will support implementation of the demonstration project and will justify whether or not to continue investment in TSP operations. Findings from the demonstration project would be summarized in a before-and-after study.

A draft list of testing elements has been prepared for inclusion in the CONOPS performance assessment plan. This initial list should be used as a starting point for discussion with the implementing and funding agencies.

- Bus Detection Rates
- Bus Travel Time Benefits
- General Travel Time Benefits
- Traffic Queues
- Signal Phase Impacts
- Bus Operator Protocols
- Bus Rider and Motorist Perceptions

A proposal for a mixed-traffic TSP demonstration project is presented for the Route 99/US 41 corridor. Components of the demonstration project proposal and major operational features are described below. *It is recommended that final identification of candidate intersections for the demonstration project be defined in agreement and coordination among the implementing agencies.*

- The demonstration project is proposed to consist of mixed-traffic TSP applications at a maximum of four (4) intersections within the Route 99/US 41 corridor. Figure 37 illustrates the corridor limits for selection of the TSP candidate intersections. An opinion of probable cost for the demonstration project is shown in Table 13.
- The proposal includes equipping 10 fixed-route SCAT and MCAT buses with TSP signal receivers. Installation would occur on five vehicles in each fleet.
- Stop relocations may be required to take advantage of the TSP system. Relocations will be coordinated with each respective transit agency, as needed.

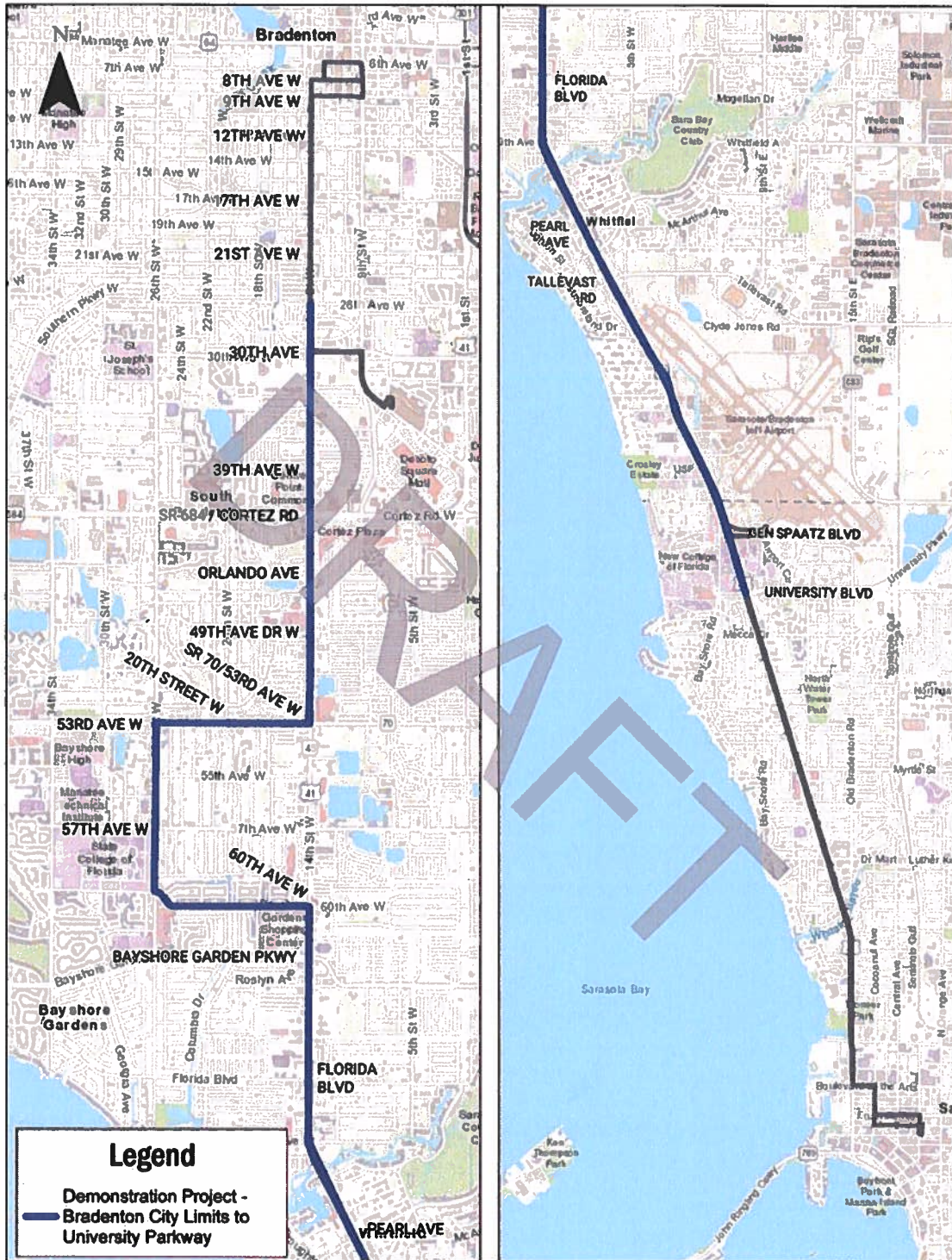


Figure 37: TSP Demonstration Project Limits



Table 13: TSP Demonstration Project – Opinion of Probable Cost

Project Component	Description	System-Wide	Intersection Equipment	Engineering and Design	Total
System-Wide Requirements					
Bus Receiver and Installation	Install bus receiver on fixed-route fleet	\$ 70,000		\$ 14,000	\$84,000
Monitoring/Central System Software	Procurement of central system monitoring software	\$100,000		\$ -	\$100,000
Mixed Traffic TSP					
Intersection 1	Install TSP Intersection Equipment		\$ 26,000	\$ 5,200	\$32,000
Intersection 2	Install TSP Intersection Equipment		\$ 26,000	\$ 5,200	\$32,000
Intersection 3	Install TSP Intersection Equipment		\$ 26,000	\$ 5,200	\$32,000
TOTAL COST					\$312,000

5.3 Demonstration Project Implementation Timeline

Figure 38 provides a timeline for associated TSP demonstration project implementation activities. The proposed schedule of activities would occur over the span of 24 months, beginning in June 2021. Concept of Operations development would occur in FDOT FY 2022 and TSP Demonstration Project implementation would occur in FDOT FY 2023. Tentative timeframes for each activity illustrated in the timeline include:

- FDOT Funding Application and Agreement – 6 Months
- Prepare Demonstration Project CONOPS – 6 Months
- TSP Demonstration Project – 6 Months

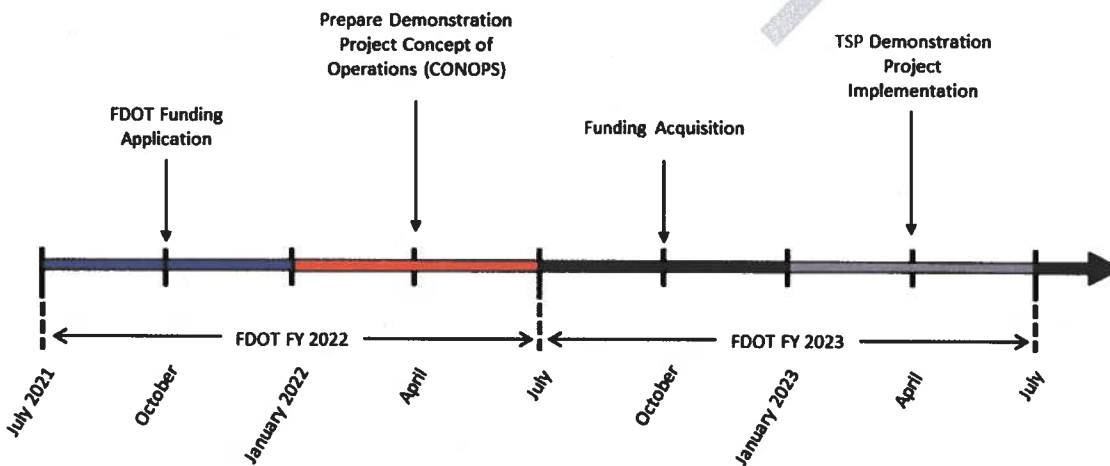


Figure 38: TSP Demonstration Project Implementation Timeline



5.4 MPO Funding

Transform 2045 defines the Sarasota/Manatee Metropolitan Planning Organization's (MPO) funding categories and associated criteria. The bus priority treatments identified in this US 41 Transit Choices Study are eligible under for funding under three of those funding categories. Descriptions of those funding categories and the related US 41 Transit Choices bus priority treatments are provided below. A link to the Transform 2045 Cost Feasible Plan, which includes details for all of the MPO's funding categories, is included here: [Transform 2045 Cost Feasible Plan Technical Report](#)

- **Transportation System Management and Operations (TSM&O) Box Funds – Transit Signal Priority (TSP)** – To receive state or federal funding, TSM&O projects require significant readiness and coordination. The MPO has organized a TSM&O Committee with representatives from all local jurisdictions wishing to participate. Members of the TSM&O committee have been closely involved throughout development of the US 41 Transit Choices Study. That coordination includes FDOT and MPO staff. The MPO will begin accepting applications for TSM&O projects in the fall of 2021 for the 2022 Project Priorities.
- **Multi-Modal Emphasis Corridors (MMEC) Program – Lane Repurposing for Queue Jump Lanes and Business Access Transit (BAT) Lanes** – The MMEC concept was developed by the MPO during the 2035 LRTP with the goal of establishing a linkage between land use and transportation strategies that improve traffic movements as well as walking, bicycling, and transit accessibility conditions. Much of the MMEC network identified by the MPO is inclusive of high transit ridership corridors within the two-county region, including the Route 99/US 41 service.
- **FDOT Partnership Program – New Capacity for Queue Jump Approach Lanes and Business Access Transit (BAT) Lanes** – The MPO worked closely with FDOT to develop a new partnership opportunity so that FDOT, the MPO, counties, and cities have the potential to fund a significant number of local and state capacity projects that support growth and new development with a mix of local and state funding. Local jurisdictions may submit applications for projects on state roads, or other local roads, to access these funds by providing local match. Local match of at least 50% is recommended. FDOT will choose projects based on local match percentage and documentation of local commitment to completion of the project.

5.5 Future Bus Priority Project Implementation

The US 41 Transit Choices Study provides the planning framework for future investment in bus priority treatments in the Route 99/US 41 corridor. Specific location-by-location projects were developed based on an evaluation framework (i.e., Figure 12 and Figure 13). Projects were then organized into low, medium, and high investment alternatives. To facilitate priority project applications for each of the projects identified in this study, project summaries have been prepared and are included in Appendix J of this report.

As progress proceeds on testing and implementation of the concepts presented in this planning study, attention to several significant policy and operational factors should be considered. This is important as application of these concepts have lasting effects on transit and traffic operations as well as on the policy direction of the Sarasota/Manatee Metropolitan Planning Organization (MPO).



- *The MPO has established a policy where no MPO-dedicated federal funds will be expended on roadway capacity improvements.* This is significant for any application of dedicated transit lanes that require new construction, such as queue jump approach lanes or Business Access Transit (BAT) lanes. New dedicated transit lanes can be facilitated as an FDOT Partnership where the jurisdiction provides a 50 percent match and FDOT manages the construction. The impacts of that MPO policy to the recommendations in this study include the following:
 - Expenses associated with new construction at four locations are removed from Appendix J. Those four locations include:
 - US 41 & Cortez Road - Construct dedicated queue jump approach
 - US 41 & Pearl Avenue - Construct additional shared right-turn lane
 - US 41 & Tallevast Road - Construct additional shared right-turn lane
 - Pearl Avenue to Tallevast Road - Construct BAT Lane.
 - *Consideration of queue jump lane and BAT lane construction at these four locations should be included in future FDOT reviews of the US 41 corridor and as part of FDOT Work Program projects where a PD&E has not begun.*
- Operating and maintenance costs are not factored into the estimates of probable cost included in this study. Some of the operating and maintenance costs may be captured under day-to-day activities as the two counties may be able to leverage existing technology and staff expertise. A more defined determination and responsibility of O&M expenses should be defined within the Memorandum of Understanding indicated earlier in this report as a CONOPS deliverable.
- Candidate locations for TSP, queue jump, and BAT lane considerations exist throughout the two-county area. A successful demonstration project will serve as the catalyst to implement similar projects, throughout the two-county region, including any required planning activities.