

SR 7 MULTIMODAL IMPROVEMENTS CORRIDOR STUDY

CHAPTER 1: STUDY PURPOSE AND NEED

FINAL



**For complaints, questions or concerns about civil rights or nondiscrimination; or for special requests under the Americans with Disabilities Act, please contact:
Christopher Ryan, Public Information Officer/Title VI Coordinator at
(954) 876-0036 or ryanc@browardmpo.org**



Table of Contents

Introduction	1-1
Problem Statement	1-1
Goals and Objectives	1-2
Purpose and Need	1-3
Performance Measures.....	1-4
Monitoring Methodology.....	1-12

List of Tables

Table 1-1: Performance Measures	1-5
---------------------------------------	-----

INTRODUCTION

The Broward Metropolitan Planning Organization (MPO), in partnership with the Florida Department of Transportation (FDOT) District 4, is undertaking the SR 7 Multimodal Improvements Corridor Study to identify short-, mid-range, and long-term infrastructure, safety, and operational improvements for this critical regional roadway and transit route. The need for the project was identified in Commitment 2040, Broward County's Long Range Transportation Plan.

The study area is a mile-wide corridor centered on SR 7 that runs from just south of the Miami-Dade County Line to north of Sample Road. The corridor impacts 15 cities, unincorporated Broward County, and the Seminole Tribe of Florida. This study is guided by a Project Advisory Committee (PAC), which consists of representatives from the various partner agencies involved in the SR 7 corridor study process. Working Groups of municipal and tribal representatives were also formed to complement the PAC and provide the opportunity for the different municipalities and the Seminole Tribe of Florida to be involved in and coordinate during the SR 7 corridor study process.

This initial chapter of the SR 7 Multimodal Improvements Corridor Study outlines the following:

- > Problem Statement
- > Goals and Objectives
- > Purpose and Need
- > Performance Measures
- > Monitoring Methodology

PROBLEM STATEMENT

The problem statement for SR 7 was developed with input from the PAC and provides the framework for identifying goals and objectives to guide development of project recommendations.

SR 7 has the highest transit ridership of any corridor in Broward County and has been the subject of extensive land use and economic development planning activities; however:

- > *Transit service along the corridor requires continued monitoring and investment to keep up with growing ridership demand;*
- > *There is a high frequency of pedestrian and bicycle crashes along the corridor;*
- > *Segments and intersections along the corridor exhibit high levels of traffic congestion; and*

- > *Land use visions have not been uniformly implemented and may not be consistent with the current cost-feasible transportation plan.*

GOALS AND OBJECTIVES

The following goals and objectives were identified to address the problem statement. Input was sought on these goals and objectives from the PAC and Working Groups.

GOAL 1

Goal 1: Enhance the safety of all road users.

- > Objective 1.1: Reduce the frequency and severity of pedestrian and bicycle crashes within the SR 7 corridor.
- > Objective 1.2: Reduce the frequency and severity of automobile crashes within the SR 7 corridor.

GOAL 2

Goal 2: Improve the quality and completeness of the non-motorized transportation network.

- > Objective 2.1: Provide continuous, high-quality bicycle and pedestrian facilities along SR 7.
- > Objective 2.2: Provide a comprehensive network of bicycle and pedestrian facilities within the SR 7 corridor.
- > Objective 2.3: Provide for adequate opportunities for safe and convenient crossing of SR 7 and other major roadways within the study area.

Goal 3: Continue to improve transit service within the SR 7 corridor.

- > Objective 3.1: Provide for on-time performance and acceptable bus load-factors.
- > Objective 3.2: Reduce bus running times through facility design and operational strategies.
- > Objective 3.3: Improve transit passenger experience through Mobility Hub improvements.
- > Objective 3.4: Improve the safety and convenience of accessing transit (cross-reference Objectives 1.1, 2.1, 2.2, and 2.3).

Goal 4: Reduce automobile traffic congestion without adversely impacting the mobility and/or safety of cyclists, pedestrians, and transit users.

- > Objective 4.1: Identify critical 'bottleneck' locations.
- > Objective 4.2: Identify and qualify opportunities to reduce congestion through geometric and/or operational improvements (i.e., new or extended turn lanes, modified signal timing).

- > Objective 4.3: Assess the potential of Advanced Traffic Management System (ATMS) solutions to reduce congestion along SR 7.

Goal 5: Encourage land use and urban form to support multimodal transportation options

- > Objective 5.1: Incorporate existing and planned land use conditions when analyzing and planning for Mobility Hub infrastructure investments.
- > Objective 5.2: Identify opportunities to update zoning and land development code to implement the Transit Oriented Corridor (TOC) designation.

PURPOSE AND NEED

The purpose of this study is to identify a list of specific transportation and congestion management projects to address the issues noted in the problem statement. These projects may be for short-term implementation, incorporated into other ongoing projects, or as tasks that need to be vetted as part of a major capital investment study or stand-alone projects. The projects will include multimodal improvements that enhance safety, address congestion management, and lead to better transit service. The projects will include improvements to enhance the transit passenger experience, enhance the bicycle and/or pedestrian experience, improve and/or bicycle and pedestrian safety, improve transit reliability and travel time, and encourage transit oriented development, emphasize integrated planning and investment, and support the vision for sustainable growth within the corridor.

The following conditions create a need for improvements along the SR 7 corridor:

- > Transit ridership demand continues to increase.
- > As more buses are added to the roadway to meet increasing transit demand, more conflicts between automobile and transit traffic are created.
- > As transit demand increases, demand for bicycle and pedestrian facilities increases as a means of accessing transit.
- > Bicycle and pedestrian crash rates are a cause for concern along the corridor.
- > Pedestrian, bicycle, and transit facilities along the corridor can create an unpleasant user experience to the extent they fail to create a safe environment for the user.
- > Automobile congestion during peak periods is a problem for mobility.
- > Due to the many areas of conflict between modes, SR 7 contributes to community discord in that it creates an “us versus them” mentality between automobile users and non-motorized mode users.

- > Having over 15 governing bodies with jurisdiction over portions of the 21-mile corridor makes it imperative that a regional process be used to develop solutions and create a cohesive land use vision.

PERFORMANCE MEASURES

The following performance measures were developed to measure the effectiveness in meeting the goals and objectives previously defined.

Table 1-1: Performance Measures

Goal 1: Enhance the safety of all road users.			
Objectives	Performance Measures	Prioritization Criteria	Monitoring Strategy
<i>Objective 1.1: Reduce the frequency and severity of pedestrian and bicycle crashes within the SR 7 corridor.</i>	<ul style="list-style-type: none"> > Frequency of bicycle and pedestrian crashes; > Frequency of incapacitating injury and fatal bicycle and pedestrian crashes 	<p>High: The project concept has a documented crash modification factor</p> <p>Medium: The project concept implements a design/operations best practice for safety</p>	<p>As part of the Task 5.02, Baseline Conditions Report, establish crash frequency and crash rate for bicycle, pedestrian, and overall motor vehicle crashes and incapacity injury and fatal crashes within the study corridor using a minimum 5-year crash history.</p> <p>Following substantial implementation of study recommendations, reassess crash statistics after 1, 3, and 5 years.</p>
<i>Objective 1.2: Reduce the frequency and severity of automobile crashes within the SR 7 corridor.</i>	<ul style="list-style-type: none"> > Frequency of crashes > Frequency of incapacitating injury and fatal crashes > Crashes/million vehicle miles travelled (MVMT) > Incapacitating injury and fatal crashes/MVMT 	<p>Low: The project concept does not have a likely safety benefit</p>	

Goal 2: Improve the quality and completeness of the non-motorized transportation network.			
Objectives	Performance Measures	Prioritization Criteria	Monitoring Strategy
<i>Objective 2.1: Provide continuous, high-quality bicycle and pedestrian facilities along SR 7.</i>	Percent of SR 7 corridor with: <ul style="list-style-type: none"> > Standard sidewalks > Enhanced sidewalks* > Standard bike lanes > Enhanced bike facilities* 	High: Most criteria met Medium: Some criteria met Low: Few or no criteria met Criteria: <ul style="list-style-type: none"> > Traffic characteristics (higher speeds/volume) > Demand (proximity to a Mobility Hub; population/employment density) > Presence/quality of existing facilities > Serves transportation disadvantaged population > Completes a critical link/activates other investments 	As part of the Task 5.02, Baseline Conditions and Task 6.01c, Multimodal Network Connectivity, establish the baseline (existing + programmed) inventory of bicycle and pedestrian facilities and crossings within the study corridor. Following substantial implementation of study recommendations, reassess bicycle and pedestrian facility network connectivity.
<i>Objective 2.2: Provide a comprehensive network of bicycle and pedestrian facilities within the SR 7 corridor.</i>	Percent of arterial and collector streets within study area with: <ul style="list-style-type: none"> > Standard sidewalks > Enhanced sidewalks* > Standard bike lanes > Enhanced bike facilities* 		
<i>Objective 2.3: Provide for adequate opportunities for safe and convenient crossing of SR 7 and other major roadways within the corridor.</i>	Number of roadway segments greater 0.25 miles between controlled crossing (traffic signal or marked crosswalk)	High: Provides for crossing meeting FDOT Traffic Engineering Manual (TEM) Chapter 3.8 criteria	

	Average distance of bus stops from controlled crossings weighted by ridership	Low: Does not meet TEM Chapter 3.8 criteria	
--	---	---	--

*** enhanced sidewalks are facilities that provide some capacity for cyclists by exceeding the minimum width of 5 feet with utility strip or 6 feet at back of curb, but do not meet the minimum criteria 10ft to be considered a shared use pathway.*

Goal 3: Continue to improve transit service in the SR 7 corridor			
Objectives	Performance Measures	Prioritization Criteria	Monitoring Strategy
<i>Objective 3.1: Provide for acceptable bus load-factors.</i>	<ul style="list-style-type: none"> > Peak hour buses less than 150% of seated load > Off-peak buses less than 125% of seated load 	<p>High: Reduces overcrowding</p> <p>Medium: Neutral</p> <p>Low: Increases overcrowding</p>	
<i>Objective 3.2: Reduce bus running times/improve on-time performance through facility design and operational strategies.</i>	<ul style="list-style-type: none"> > Average vehicle hours of service per vehicle miles of service > Percent on-time performance (less than 1 minute early or 5 minutes late with 70% benchmark) 	<p>High: Improves on-time performance</p> <p>Medium: Does not impact on-time performance</p> <p>Low: Reduces on-time performance</p>	
<p><i>Objective 3.3: Improve transit passenger experience through Mobility Hub improvements.</i></p> <p><i>Objective 3.4: Improve the safety and convenience of accessing transit (cross-reference Objectives 1.1, 2.1, 2.2, and 2.3).</i></p>	<ul style="list-style-type: none"> > Sidewalk connectivity to hubs along major road network > Bicycle facility connectivity to hubs along major road network > Percent of hub area bus stops with shelters 	<p>High:</p> <ul style="list-style-type: none"> > Bike lane(s) > Trail/multiuse path > Complete sidewalks on both sides of the road <p>Medium:</p> <ul style="list-style-type: none"> > Contiguous sidewalk on one side only 	As part of the Task 5.02, Baseline Conditions and Task 6.01c, Multimodal Network Connectivity, establish the baseline (existing + programmed) inventory of bicycle and pedestrian facilities and crossings within the study corridor.

		<ul style="list-style-type: none"> > Unmarked shoulder <p>Low:</p> <ul style="list-style-type: none"> > No sidewalks or substantially incomplete > No bicycle facilities 	<p>Following substantial implementation of study recommendations, reassess bicycle and pedestrian facility network connectivity after 1, 3, and 5 years.</p>
--	--	--	--

Goal 4: Reduce automobile traffic congestion without adversely impacting the mobility and/or safety of cyclists, pedestrians, and transit users.			
Objectives	Performance Measures	Prioritization Criteria	Monitoring Strategy
<i>Objective 4.1: Identify critical 'bottleneck' locations.</i>	<ul style="list-style-type: none"> > Intersection Level of Service > Observed operational issues including cycle failures and queue spillback > Actual average travel speeds lower than expected level of service (e.g. LOS "D" = 17mph) 	High: The project concept has a documented congestion issue.	Perform periodic travel time/delay studies to evaluate congestion along the corridor.
<i>Objective 4.2: Identify and qualify opportunities to reduce congestion through geometric and/or operational improvements (i.e., new or extended turn lanes, modified signal timing).</i>		Medium: The project concept implements a design/operations best practice to reduce congestion.	Monitor implementation of planned ATMS hardware projects (detection, updated controller cabinets, fiber-optic communications networks, variable message signs, etc.)
<i>Objective 4.3: Assess the potential of ATMS solutions to reduce congestion along SR 7.</i>		Low: The project concept does not likely reduce congestion.	Monitor use of ATMS hardware including implementation of transit signal priority and adaptive or traffic responsive control systems.

Goal 5: Encourage land use and urban form to support multimodal transportation options.			
Objectives	Performance Measures	Prioritization Criteria	Monitoring Strategy
<p><i>Objective 5.1: Incorporate existing and planned land use conditions when analyzing and planning for Mobility Hub infrastructure investments.</i></p>	<ul style="list-style-type: none"> > Percent of hub area with multimodal supportive existing land use conditions. > Percent of hub area with multimodal supportive future land use conditions. 	<p>High: Benefits of the project concept are supported and/or enhanced by the existing land use conditions.</p> <p>Medium: Benefits of the project concept are supported and/or enhanced by the planned (future) land use conditions.</p> <p>Low: The existing and/or future land use conditions to not support benefits of the project concept.</p>	<p>As part of Task 5.08, Livability Planning and Land Use Analysis, establish the existing and future land use conditions at each Mobility Hub within the study area.</p> <p>Following substantial implementation of study recommendations, reassess the relationship between existing/future land use conditions and the improved transportation conditions.</p>
<p><i>Objective 5.2: Identify opportunities to update zoning and land development code to implement TOC designation.</i></p>		<p>High: Significant opportunities to implement the TOC designation exist.</p> <p>Medium: Some opportunities to implement the TOC designation exist.</p> <p>Low: Little to no opportunity exists to implement the TOC designation.</p>	



MONITORING METHODOLOGY

A program to monitor, evaluate, and report on implementation of study recommendations will enable the Broward MPO, its partner agencies, and local jurisdictions to effectively assess the success of investments, measure progress, and improve project performance. As part of the implementation plan developed for the SR 7 Multimodal Improvements Corridor Study, a monitoring system/action plan will be developed to document specific agency project development and funding responsibilities, and to monitor implementation of the study recommendations to ensure attainment of goals, objectives and performance measures.