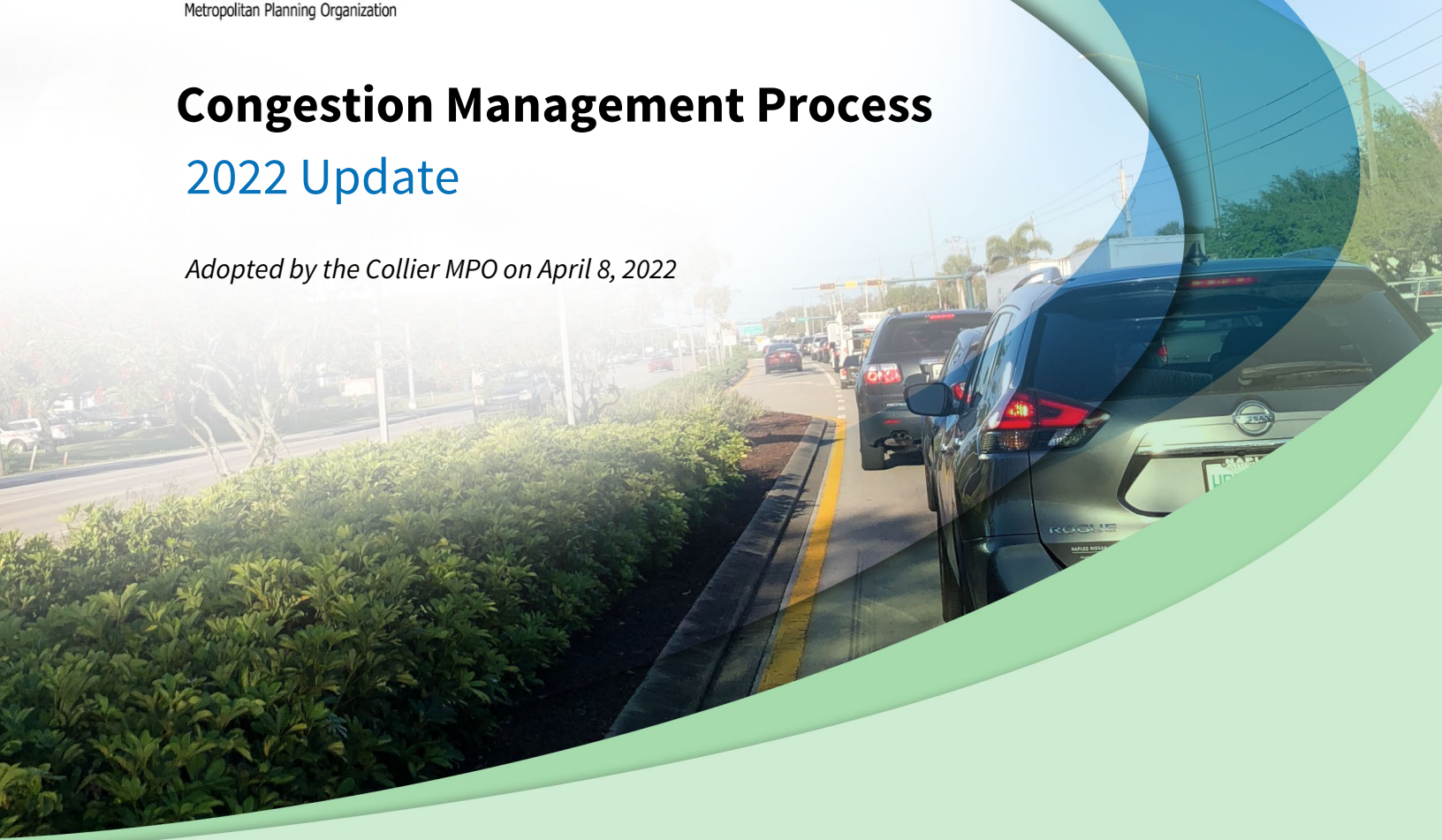




Congestion Management Process

2022 Update

Adopted by the Collier MPO on April 8, 2022





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This document was prepared by the Collier Metropolitan Planning Organization (MPO) in Collier County, Florida in collaboration with the Florida Department of Transportation and the advisory committees of the MPO.

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Collier MPO Mission

Provide transportation planning leadership through a collaborative effort to maintain a safe, efficient, integrated, and multi-modal transportation system.

Collier MPO Vision

The MPO strives to provide a fully integrated and multi-modal transportation system that safely and efficiently moves people and goods while promoting economic development and protecting natural and man-made regional assets.



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1.0 Introduction

The Congestion Management Process (CMP) is a data-driven and systematic approach conducted by Metropolitan Planning Organizations (MPOs) to improve traffic operations and safety by identifying strategies that reduce travel demand or implement operational efficiencies. The Collier MPO is required by the federal government to implement a CMP as part of its routine planning efforts. The public benefits from having a functional CMP that results in low-cost improvements or strategies being implemented in a relatively short timeframe (5–10 years). Projects identified through the CMP are coordinated with the Long Range Transportation Plan (LRTP) in terms of identifying future revenue commitments and establishing consistency in the MPO’s planning process.

1.1 Causes of Congestion

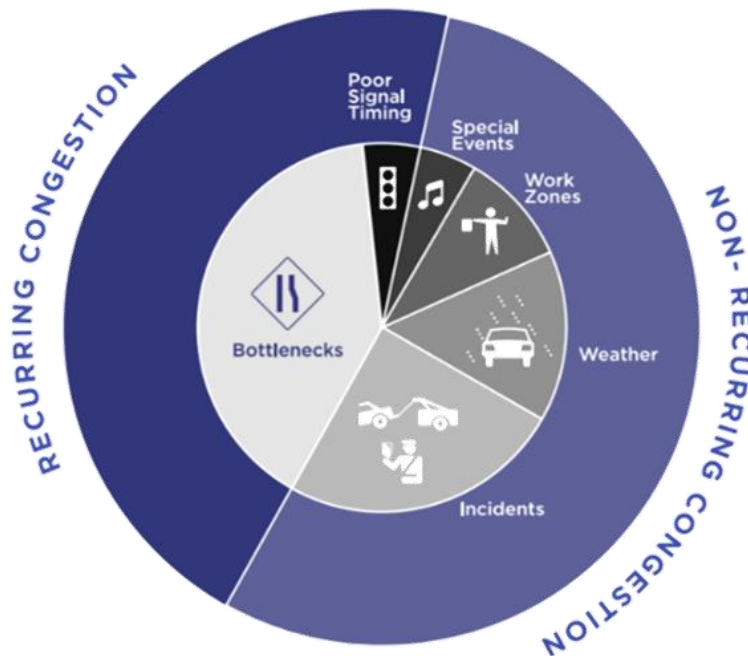
The process of congestion management begins by understanding the causes of the congestion. Congestion results from the interaction between many different sources but can be broadly classified into two categories:

1. **Recurring congestion** – when the number of vehicles attempting to use a roadway exceeds the capacity of that roadway during peak travel periods (e.g., commute hours). This type of congestion is predictable because travel routes follow a specific pattern with regards to time of day and route selection.
2. **Non-recurring congestion** – unexpected or non-regular disruptions to the normal flow of traffic on a roadway (e.g., traffic incidents, weather, road construction and maintenance, special events). This type of congestion is more difficult to measure and predict.

Figure 1-1 shows the results of a 2015 national study conducted by the Federal Highway Administration (FHWA) (*Incorporating Travel Time Reliability into the Congestion Management Process: A Primer*) on the sources of congestion and the type/category of congestion. The figure shows that while bottlenecks account the largest source disruption, non-recurring congestion events (e.g., special events, work zones, weather, incidents) account for over half of the causes of congestion. This national data is widely used in CMP updates due to the lack of comprehensive local studies on the causes of congestion. The data suggest that local causes are likely to be similar, with bottlenecks and traffic incidents typically being the top two causes of congestion.



Figure 1-1: Causes of Congestion



1.2 Purpose and Organization

To carry out the requirements related to congestion management, the Collier MPO regularly updates this CMP documentation, along with the 2020 Transportation System Performance (TSP) Baseline Conditions Report and Action Plan. These documents work together to define the objectives-driven, performance-based approach used by the MPO for integrating the selection and prioritization of congestion-reducing strategies with the Transportation Improvement Program (TIP) and the LRTP.

The outputs of the CMP, such as identified hot spot congested corridors/locations and their recommended mitigation strategies, are evaluated and then prioritized for implementation. The projects or strategies that are identified for implementation through the CMP are then moved into project development and programmed into the TIP for funding and implementation. Once completed, the implemented projects are monitored to evaluate the strategy effectiveness. In Collier County, CMP projects are typically funded using boxed funds identified in the LRTP along with other available local revenues. This allows the MPO to review current needs and fund strategies for implementation which best address congestion.

The 2022 CMP Update is designed to follow the eight actions of the CMP (described in Chapter 2) and is organized as follows:

- **Chapter 1: Introduction** provides an overview of the process and an introduction to the causes of congestion.
- **Chapter 2: CMP Overview** outlines the federal and state requirements governing the development of the CMP and describes the eight-actions of the CMP along with the



- general schedule associated with future updates of the Baseline Conditions Report and Action Plan.
- **Chapter 3: Congestion Management Objectives** describes the Goals and Objectives of the CMP.
 - **Chapter 4: CMP Network** illustrates the multimodal systems and study area that are evaluated through the CMP.
 - **Chapter 5: Congestion Management Performance Measures** presents a summary of system level performance measures and their association to the CMP objectives.
 - **Chapter 6: Performance Monitoring and Congestion Analysis** describes the data sources used to determine congested locations and the methodology used for analyzing the congestion hot spot locations.
 - **Chapter 7: Implementation Process and Strategy Selection** categorizes the range of congestion reducing strategies based on the causes of congestion and describes how strategies are evaluated and prioritized for implementation.
 - **Chapter 8: Evaluation of Implemented Strategies and Projects** defines the MPO's method for evaluating implemented strategies and determining the effectiveness of each relative to the CMP's performance measures.



2.0 CMP Overview

2.1 Federal Guidance

The initial federal requirements for congestion management were introduced by the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and were continued under the successor law, the Transportation Equity Act for the 21st Century (TEA-21). The Safe Accountable Flexible Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU) was passed into law in August 2005, and the requirements were further expanded under Moving Ahead for Progress in the 21st Century Act (MAP-21) signed into law on July 6, 2012.

One of the significant changes included in the federal surface transportation program, SAFETEA-LU, was the updated requirement for a “congestion management process” in urban areas with greater than 200,000 people or TMAs, as opposed to a “congestion management system.” According to FHWA, the change in name was intended to be a substantive change in perspective and practice to address congestion management through a process that provides for effective management and operations, an enhanced linkage to the planning process based on cooperatively developed travel demand reduction and operational management strategies and capacity increases.

The Fixing America’s Surface Transportation (FAST) Act was passed on December 4, 2015. The FAST Act and current Florida Department of Transportation (FDOT) and FHWA guidance stress the importance of identifying performance measures and targets to monitor network performance by evaluating the effect of implemented strategies. The CMP creates a structured process for incorporating congestion issues into the metropolitan planning process – addressing congestion by developing congestion management objectives, developing performance measures to support the objectives, collecting data, analyzing problems, identifying solutions, and evaluating the effectiveness of implemented strategies.

Recently passed, the Infrastructure Investment and Jobs Act was signed into law by the President on November 15, 2021, and continues the performance-driven approach to addressing congestion. Future opportunities included in this legislation which aim to address carbon emissions and congestion management technologies will expand the strategies and funding opportunities available to the MPO for addressing congestion once rulemaking for the new legislation has been developed.

According to FHWA’s “Congestion Management Process: A Guidebook”, published in April 2011, a CMP is “a systematic and regionally accepted approach for managing congestion that provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet state and local needs. The CMP is intended to move these congestion management strategies into the funding and implementation stages.”

The eight actions identified in the Guidebook for preparing a CMP are shown in Figure 2-1. These actions are shown individually through the remaining chapters to document where action is described in detail.



Figure 2-1: Eight Actions of the Congestion Management Process



2.2 State Requirements

In addition to the federal mandates for MPOs, Chapter 339.177, Florida Statutes, requires the FDOT to develop and implement a traffic congestion management process for managing programs and systems in cooperation with the 27 MPOs in the state of Florida.

2.3 Previous Updates

The original Naples (Collier County) Congestion Management System Manual was created in 1997 to be consistent with the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and the 1995 National Highway System changes requiring the development and implementation of the Congestion Management System (CMS) and Traffic Monitoring System. A major update to the CMS was completed in December 2006 and was incorporated into the 2030 LRTP to identify the prioritization process for the MPO’s CMS funding set-aside (boxed funds) of Federal Transportation dollars. The 2006 CMS Update incorporated some of the management process changes required with the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

In 2008, the MPO’s Congestion Management System / Intelligent Transportation System (CMS/ITS) Stakeholders Committee suggested revising the CMS Process to integrate the management and operations strategies required by the FHWA and Federal Transit Administration (FTA). In 2017, the Collier MPO updated the CMP to make the document current with the 2040 LRTP adopted in December 2015 and with new Moving Ahead for Progress in the 21st Century Act (MAP-21) federal legislation that was signed into law on July 6, 2012, and followed by the Fixing America’s Surface



Transportation (FAST) Act which was signed into law on December 4, 2015. MAP-21 and the FAST Act require performance-based and data-driven planning. MPOs are required to actively engage stakeholders in developing plans and performance targets. The MPO’s CMS/ITS Committee played an instrumental role in the development of the scope and revisions to the 2017 CMP Update.

2.3.1 2017 Initiatives

The CMS/ITS Committee, through a year-long process reviewed draft updates to the 2008 CMP and ultimately concluded that the following initiatives were necessary to lay the foundation for a data-driven planning process to identify congestion hot spots, analyze alternative solutions, and prioritize projects for MPO Board adoption.

Thinking Beyond the CMS Boxed Funds

The 2017 Update expanded the Committee’s focus beyond the typical signal timing adjustment and technology upgrade projects to consider multi-modal investments such as constructing bus shelters and bicycle/pedestrian facilities. The 2017 Update considered the full range of funding available to address congestion by adding capacity to the existing road system and seeking ways to increase transit ridership and ridesharing, and more proactively link access to transit stops from bicycle/pedestrian facilities, transit hubs and the “last mile” connectivity that transit users depend on.

Transportation System Performance Reports

The 2017 Update called for the completing of a biennial TSP reporting process to provide accurate, up-to-date information on system performance and assess alternative strategies for congestion management that meet state and local needs. The first Performance Report was completed in 2020 and included an action plan for improving the CMP as well as recommendations being incorporated into this document.

Performance Measures

Previous updates to the CMP identified various performance measures but stopped short of requiring their application. The 2017 Update identified performance measures used by project sponsors to establish baseline measures, project performance, and the ability to report future results to the MPO Board. The connection of performance measures with strategy effectiveness was further developed in the TSP Action Plan by correlating the performance measures with the objectives of the CMP.

Recurring Projects

The 2017 Update also identified and committed future funding for recurring projects reflective of good business practices – maintaining ITS infrastructure that is consistent with the FDOT Regional ITS architecture, for example. This category of projects does not lend itself to measuring system performance, but rather better connected to preserving the existing transportation infrastructure by remaining current with technology.



2.4 2022 Update

The 2022 CMP Update brings the document current with the MPO's 2045 LRTP adopted on December 11, 2020. This latest update also incorporates recommendations made by the MPO's initial TSP Baseline Conditions Report and Action Plan, which were approved by the MPO Board on September 11, 2020. The development process of the TSP Baseline Conditions Report and Action Plan identified congested roadway segments in Collier County, as well as strategies for addressing congestion, a new goal and objectives for the CMP, multimodal performance measures, and criteria for evaluating congestion management strategies and prioritizing congestion reducing projects. New information in this CMP update is mostly procedural in nature. The 2022 CMP Update is not based on an analysis of new congestion data or an evaluation of specific recent strategies. Instead, it incorporates the new elements from the initial TSP effort and defines how they will be a part of the MPO's CMP and larger planning process in the future. The MPO Congestion Management Committee (CMC), formerly the CMS/ITS Committee, helped steer the TSP process and the integration of its recommendations into this CMP update.

2.5 Future Updates

As part of the MPO's continual monitoring of the CMP, updates to this document and the TSP reports should be anticipated. These updates should coincide with regular updates of the MPO's core planning products, as well as changes in any CMP-related requirements in the future.

2.5.1 CMP Document

The CMP provides the framework of the process by outlining all 8 actions with a specific emphasis on the first 3. The policy direction included as part of the first three actions guides the technical analysis conducted as part of actions 4 through 8. The CMP document also serves as the guidance document for conducting future analysis of congested locations and evaluation of implemented strategies. Review and update of this document should be conducted on a five-year cycle consistent with the update cycle of the LRTP. Timing of the completion of CMP updates in advance of finalizing the LRTP would benefit integration of CMP strategies into the LRTP. Additional updates should be considered on a more frequent basis when changes are made in federal rules or local regulations.

2.5.2 Transportation System Performance Reports

The MPO has identified a biennial schedule for updating the TSP reports. This cycle allows for the identification of congested conditions and potential strategies consistent with the LRTP update cycle, and again between LRTP updates. This update cycle also provides the MPO with the opportunity to evaluate strategies that have been funded and implemented through the TIP.

2.5.3 Implementation of Strategies

Consistent with the MPO's current policy, funding for multimodal CMP projects occurs through the project prioritization process and TIP development. In addition to funding specific projects, the MPO can also incorporate corridor and feasibility planning studies in the Unified Planning Work Program as an opportunity to better define appropriate strategies for addressing congestion.



3.0 Congestion Management Objectives

1

Develop Regional Objectives

The first action of the CMP is to identify the Regional Objectives. The CMP Goal and Objectives are used to guide the process of monitoring congestion and improving the mobility of persons and goods in Collier County. They also inform the selection of CMP performance measures used to quantify congestion levels, as well as help to identify and prioritize congestion management strategies.

3.1 CMP Goal

The MPO’s overarching CMP Goal is to:

Improve Collier County’s transportation system performance and reliability through mitigating congestion and improving the safety and mobility of people and goods.

3.2 CMP Objectives

As a part of the TSP Action Plan’s recommended enhancements to the CMP process, a review was conducted of CMP goals and objectives used by other MPOs in Florida and nationwide that would complement the Collier MPO’s 2017 CMP Objectives.

The following Objectives were reviewed by the CMC and approved by the MPO Board for providing more specific guidance and direction in evaluating the performance measures and strategies of the CMP.

Objective 1: Improve the safety of transportation facilities.

Objective 2: Integrate the Congestion Management Process and its proposed improvements into the LRTP, TDP, and Bicycle/Pedestrian Master Plan, and support the integration of transportation and land use.

Objective 3: Develop, maintain, expand, and close gaps in pedestrian, bicycle, and shared-use path facility networks for efficient and safe movement of people. Connect these pedestrian and bicycle facilities to existing and future transit stops.

Objective 4: Reduce vehicle miles traveled (VMT) by encouraging alternative modes of transportation, supporting sustainable land use development, and creating an integrated multimodal transportation system.

Objective 5: Optimize the movement of goods.

Objective 6: Promote transportation investments that support the LRTP’s priorities, goals, and objectives.

3.3 LRTP Goals and Objectives Related to Congestion

In addition to the CMP Goal and Objectives, the MPO’s 2045 LRTP includes multiple goals and objectives that are either specifically intended to reduce roadway congestion or supplement the CMP effort. Because the eight actions followed by the CMP are integrated into the metropolitan planning process, the LRTP and other MPO planning efforts work in tandem with the CMP in terms



of desired outcomes. Even though the LRTP is focused on longer-term transportation investments as compared with the CMP's shorter-term implementation, an improved multimodal transportation system is a shared purpose of both efforts. As such, the most relevant CMP-related goals and objectives from the 2045 LRTP are listed below.

It should be noted that these are included for informational and planning consistency purposes only. They do not have corresponding performance measures that are formally evaluated as a part of the CMP.

LRTP Goal #4: Reduce Roadway Congestion

CMP-Related Objectives

- Reduce the number of deficient roadways (those with a high volume-to-capacity ratio) identified in the 2045 existing-plus-committed (E+C) network
- Reduce travel delay between residential areas and key destinations

LRTP Goal #5: Promote Freight Movement

CMP-Related Objectives

- Enhance movement on major regional freight mobility corridors or freight distribution routes

LRTP Goal #6: Increase the Safety of the Transportation System for Users

CMP-Related Objectives

- Reduce the number of fatalities, injuries, and crashes
- Ensure adequate bicycle and pedestrian facilities are incorporated into new highway and transit projects
- Implement safety-related improvements on high crash corridors

LRTP Goal #7: Promote Multimodal Solutions

CMP-Related Objectives

- Improve frequency and reliability of public transit service routes and improve access to park-and-ride lots
- Improve pedestrian and bicycle facilities
- Implement Complete Streets policies

LRTP Goal #8: Promote the Integrated Planning of Transportation and Land Use

CMP-Related Objectives

- Coordinate with local governments and partner agencies to assure transportation plans and programs support local land use plans and a sustainable transportation system
- Assure that local growth management objectives are reflected in transportation plans and programs



4.0 CMP Network

2

Define CMP Network

The second action is to define the CMP Network. This involves defining both the geographic scope and transportation elements which are analyzed in the CMP. It should be noted that the CMP network described in the sections below is for demonstration purposes. Defining this network is an ongoing process. In the future the most recent version of the CMP network, which incorporates the most recent elements of other MPO planning products, should always be used.

4.1 CMP Coverage Area

The Collier MPO CMP covers 2,025 square miles which is the entire physical area of Collier County (including the City of Naples, Marco Island, and Everglades City). The population of Collier County increased by approximately 53% from 1990 to 2000, 28% from 2000 to 2010, and 17% from 2010 and 2020. Based on the 2020 Census results, 375,752 people reside in Collier County. This estimate is expected to grow to 510,237 by 2045 per the Collier Interactive Growth Model (CIGM) projections used for the 2045 LRTP. The County is also anticipated to see continued growth in employment with a projected 212,780 jobs in 2045, representing a 49% increase over the total employment in 2015. The coverage area for the CMP is illustrated on the maps shown on the following pages.

4.2 Roadway Network

The CMP roadway network (Figure 4-1) includes all existing functionally classified roadways and those funded for construction, known as the existing-plus-committed (E+C) network. Updated for the TSP Baseline Conditions Report, this network reflects the roadway network anticipated to be open to traffic in 2023.

4.3 Bicycle & Pedestrian Network

The CMP network also includes the bicycle, sidewalk, and shared use path facilities identified in the MPO's *Bicycle/Pedestrian Master Plan*, which was adopted in March 2019 and amended in February 2020. In addition to providing more transportation options, implementation of these non-motorized facilities (shown in Figure 4-2) in can also help address roadway congestion:

- **Shared Use Paths:** a facility separated from motorized vehicular traffic and only open to non-motorized traffic.
- **Connector Sidewalks:** a sidewalk that provides cyclists the option of a connection that is separate from vehicular traffic, identified only where there are gaps in the cycling network.
- **Bike Lanes:** a portion of a roadway which has been designated by striping, signing, and pavement markings for the use of bicyclists.

4.4 Transit Network

The transit routes operated by Collier Area Transit (CAT) provide a vital component of the CMP when considering transportation options and the ability to reduce dependence on private autos in congested locations. Existing transit routes included in the 2021-2030 Transit Development Plan (TDP) (Figure 4-3) complete the transportation systems included in the MPO's CMP Network. Potential improvements to this transit network must be consistent with the most recent CAT TDP and the transit element of the MPO's most recent LRTP.



Figure 4-1: Collier MPO CMP Network (2023 Planned Number of Lanes)

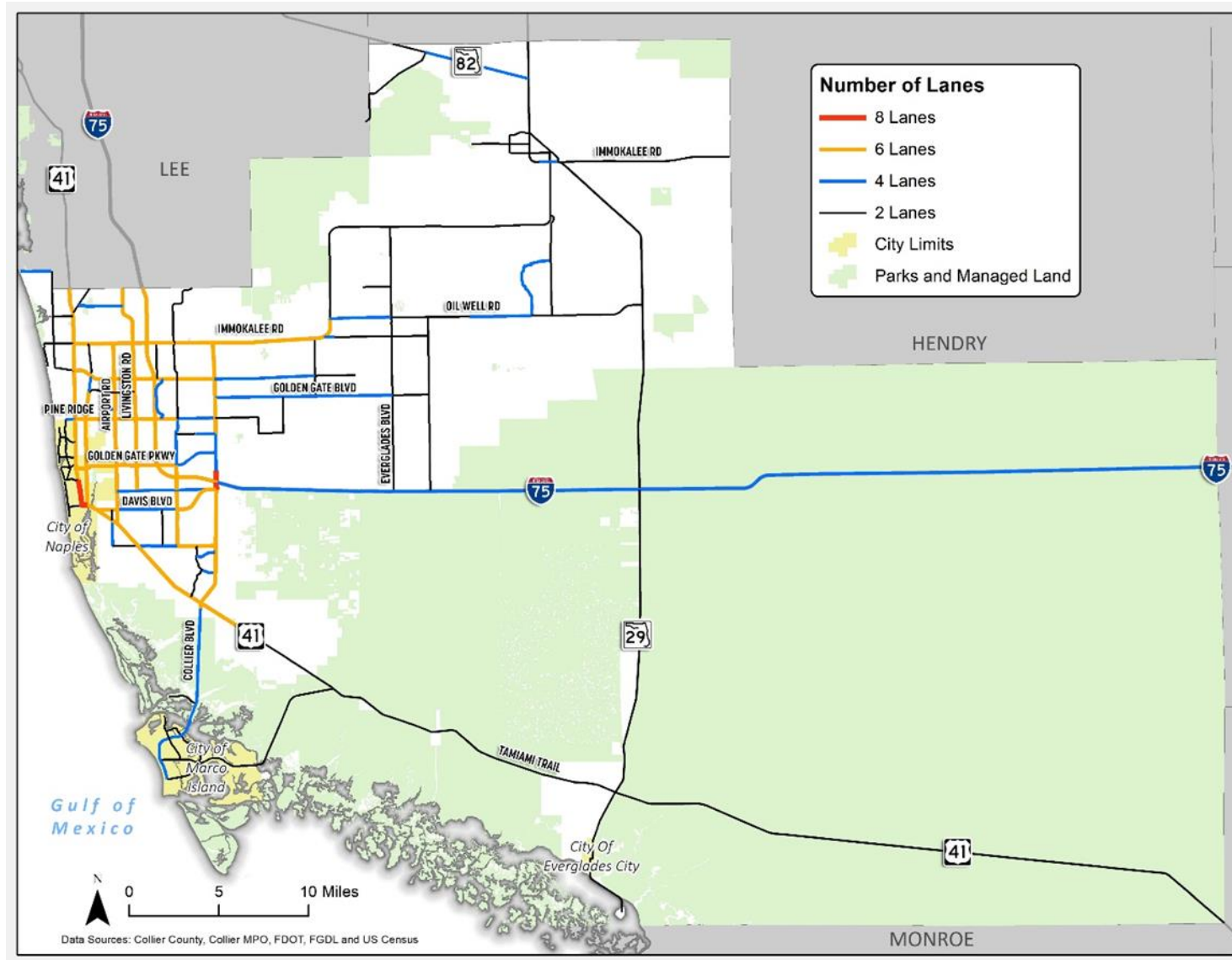


Figure 4-2: Bicycle and Pedestrian Facilities Along the CMP Network

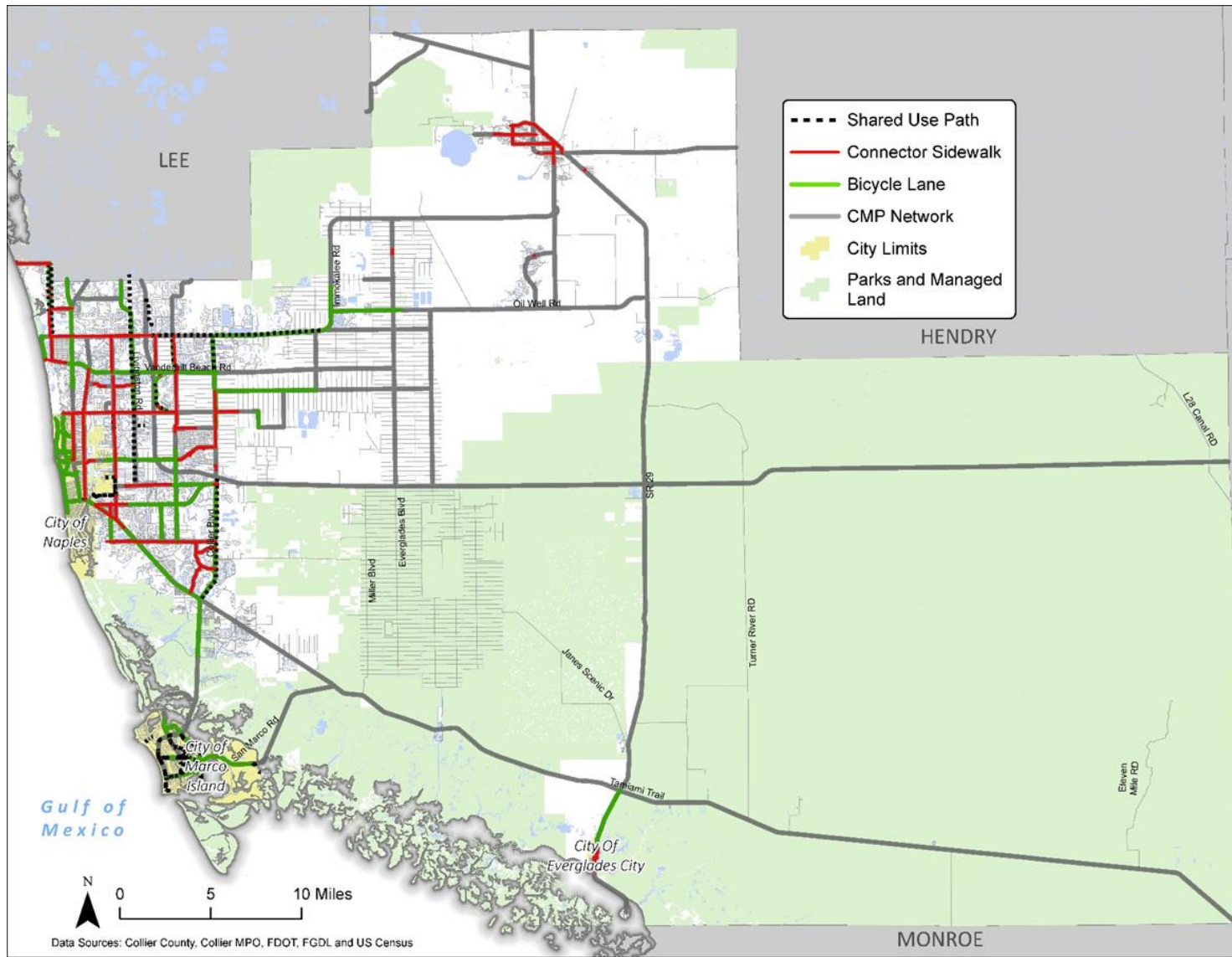
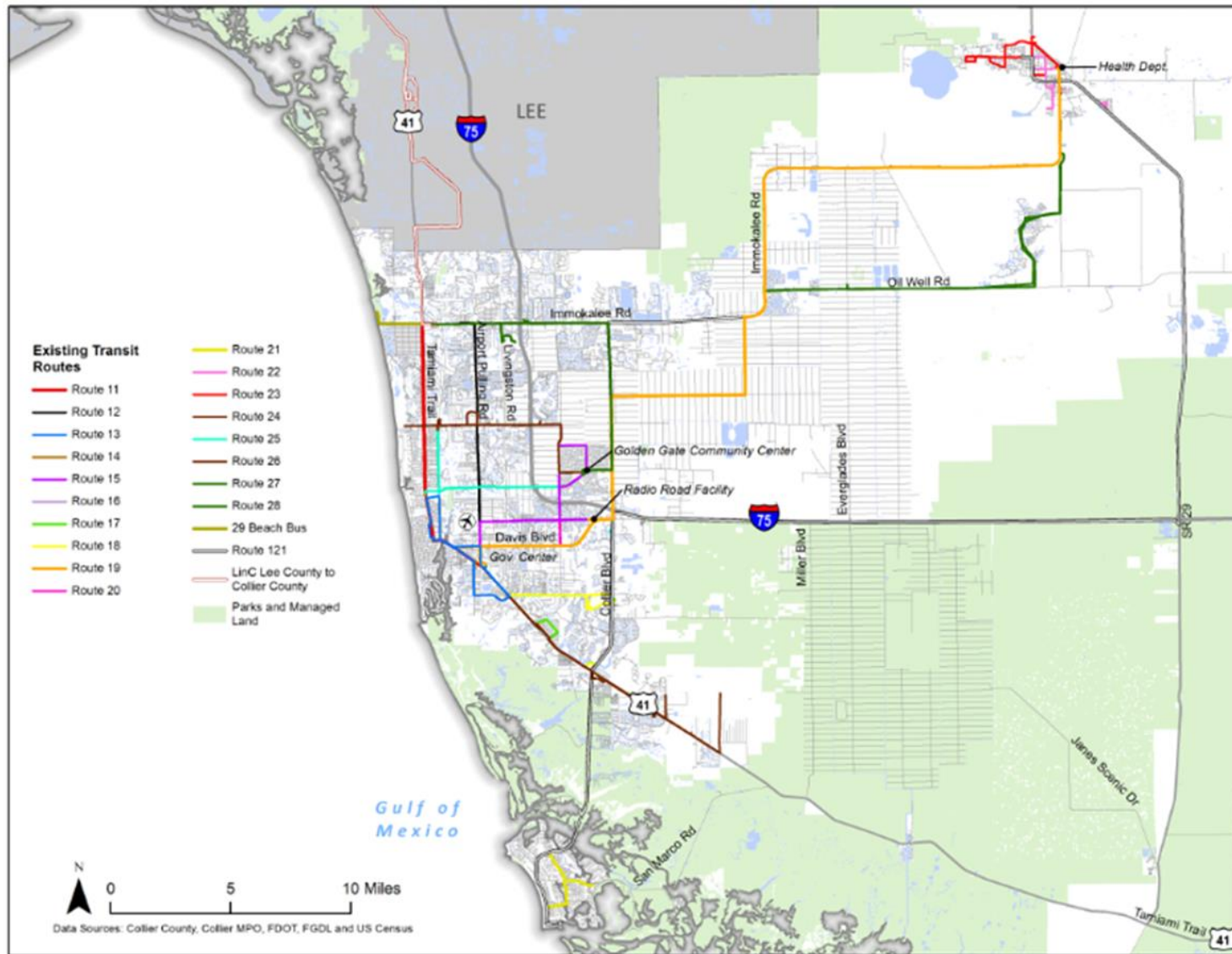


Figure 4-3: Transit Routes Operated by Collier Area Transit



5.0 Congestion Management Performance Measures

Developing performance measures related to and in support of the CMP objectives for evaluating congestion is the third action of the CMP. These performance measures are data-based methods used to measure and monitor the effectiveness of the transportation system in the CMP.

5.1 Multimodal Performance Measures

3 Develop Multimodal Performance Measures

The MPO’s CMC has previously researched, evaluated, and established performance measures during prior updates of the CMP. As part of the 2020 TSP process, the list was modified and expanded to include the following measures, which have been selected to track system performance over time, measure progress towards meeting the CMP Objectives, and evaluate the effectiveness of congestion management strategies. These performance measures are organized into a series of categories based on the multimodal system and transportation users:

TRAVEL DEMAND:

- Percent of roadway miles by volume-to-capacity (V/C) ratio
- Percent of vehicle miles traveled (VMT) by V/C ratio
- Number of signalized intersections connected to Advanced Traffic Management System (ATMS)

SAFETY:

- Total crashes
- Motor vehicle severe injury crashes
- Motor vehicle fatal crashes
- Pedestrian and bicycle severe injury and fatal crashes

TRANSIT TRAVEL:

- Average bus route service frequency and number of routes
- Passenger trips (annual ridership)
- Passenger trips per revenue hour
- Transit on-time performance

GOODS MOVEMENT:

- VMT on designated truck routes with a V/C ratio greater than 1.0
- Number of crashes Involving heavy vehicles/trucks

PEDESTRIAN/BICYCLE FACILITIES:

- Centerline miles of bicycle lanes
- Linear miles of connector sidewalks on arterial roadways
- Linear miles of shared-use paths adjacent to roadways

TRANSPORTATION DEMAND MANAGEMENT (TDM):

- Number of people registered in the FDOT Commute Connector database that have an origin in Collier County

ACCESSIBILITY:

- Share of regional jobs within a ¼-mile of transit
- Share of regional households within a ¼-mile of transit

INCIDENT DURATION

- Mean time for responders to arrive on-scene after notification
- Mean incident clearance time
- Road Ranger stops

CUSTOMER SERVICE

- Nature of comments/responses and customer satisfaction

SYSTEM RELIABILITY

- Average Travel Speed
- Travel Time Index
- Congestion %



5.2 Alignment with CMP Objectives

Table 5-1 illustrates the alignment between the multimodal performance measures and the objectives that guide the CMP. It shows how each measure assesses system performance to help achieve the desired outcome stated by the CMP Goal and Objectives discussed in Chapter 3.

Table 5-1: CMP Performance Measure and Objective Alignment

Category	Performance Measures	Objectives					
		1	2	3	4	5	6
Travel Demand	Percent of roadway miles by volume-to-capacity (V/C) ratio		✓			✓	✓
	Percent of vehicle miles traveled (VMT) by V/C ratio		✓			✓	✓
	Number of signalized intersections connected to Advanced Traffic Management System (ATMS)		✓			✓	✓
Safety	Total crashes	✓		✓			✓
	Motor vehicle severe injury crashes	✓		✓			✓
	Motor vehicle fatal crashes	✓		✓			✓
	Pedestrian and bicycle severe injury and fatal crashes	✓		✓			✓
Transit Travel	Average bus route service frequency and number of routes		✓		✓		✓
	Passenger trips (annual ridership)		✓		✓		✓
	Passenger trips per revenue hour		✓		✓		✓
	Transit on-time performance		✓		✓		✓
Pedestrian/ Bicycle Facilities	Centerline miles of bicycle lanes			✓	✓		✓
	Linear miles of connector sidewalks on arterial roadways			✓	✓		✓
	Linear miles of shared-use paths adjacent to roadways		✓	✓	✓		✓
Goods Movement	VMT on designated truck routes with a V/C ratio greater than 1.0		✓			✓	✓
	Number of Crashes Involving Heavy Vehicles/ Trucks	✓	✓			✓	✓
TDM	Number of people registered in the FDOT Commute Connector database that have an origin in Collier County		✓		✓		✓
Accessibility	Share of regional jobs within a ¼-mile of transit		✓		✓		✓
	Share of regional households within a ¼-mile of transit		✓		✓		✓
Incident Duration	Mean time for responders to arrive on-scene after notification	✓					✓
	Mean incident clearance time	✓					✓
	Road Ranger stops	✓					✓
Customer Service	Report on nature of comments/responses and customer satisfaction.		✓				✓
System Reliability	Average Travel Speed		✓				✓
	Travel Time Index		✓				✓
	Congestion %		✓				✓



6.0 Performance Monitoring and Congestion Analysis

Once the framework of the CMP has been established through the first three actions, the monitoring of system performance and analysis of congestion should lead to more effective investment decisions that result in a safer and more efficient transportation network.

6.1 Monitoring System Performance 4 Collect Data/Monitor System Performance

As the fourth action of the CMP, collecting data and monitoring conditions provides insight into the performance of the transportation system. Cooperatively with the MPO’s planning partners, the process of data collection should be an ongoing activity. The ongoing nature of data collection provides a benefit to the MPO in preparing updates to the TSP reports through access to current and updated information. Consistent with the measures presented previously in Table 5-1, monitoring system performance includes review of data from all modes of travel considered in the CMP. Shown in Table 6-1, the system performance monitoring plan outlines the measures and data sources to be used in future updates of the TSP process.

Table 6-1 Performance Monitoring Plan

Performance Measures	Monitoring Activity	Data Source & Responsible Agency
<ul style="list-style-type: none"> • % of roadway miles by volume-to-capacity (V/C) ratio • & of vehicle miles traveled (VMT) by V/C ratio • VMT on designated truck routes with a V/C ratio > 1.0 	MPO CMP Database; LOS analysis	Collier County AUIR; FDOT LOS spreadsheet; Naples traffic counts
<ul style="list-style-type: none"> • Number of signalized intersections connected to Advanced Traffic Management System (ATMS) 	Collier County CIP	Collier County Traffic Operations
<ul style="list-style-type: none"> • Total crashes • Motor vehicle severe injury crashes • Motor vehicle fatal crashes • Pedestrian and bicycle severe injury and fatal crashes • Number of Crashes Involving Heavy Vehicles/Trucks 	Safety Performance Measures Report; Crash Data Analysis	Collier MPO / FDOT Collier County CDMS
<ul style="list-style-type: none"> • Average bus route service frequency and number of routes • Passenger trips (annual ridership) • Passenger trips per revenue hour • Transit on-time performance 	National Transit Database Reporting	Collier Area Transit
<ul style="list-style-type: none"> • Centerline miles of bicycle lanes • Linear miles of connector sidewalks on arterial roadways • Linear miles of shared-use paths adjacent to roadways 	Bicycle/Pedestrian Master Plan	Collier MPO
<ul style="list-style-type: none"> • Number of people registered in the FDOT Commute Connector database that have an origin in Collier County 	District 1 Commute Connector	FDOT
<ul style="list-style-type: none"> • Share of regional jobs within a ¼-mile of transit • Share of regional households within a ¼-mile of transit 	GIS analysis during TSP Update	Collier MPO / RITIS Database
<ul style="list-style-type: none"> • Mean time for responders to arrive on-scene after notification • Mean incident clearance time • Road Ranger stops 	Road Rangers Performance Measures Report	FDOT



Performance Measures	Monitoring Activity	Data Source & Responsible Agency
<ul style="list-style-type: none"> Report on nature of comments/responses and customer satisfaction. 	Traffic Operations Citizen Survey	Collier County Traffic Operations
<ul style="list-style-type: none"> Average Travel Speed Travel Time Index Congestion % 	Data Analysis during TSP Update	Collier MPO / RITIS Database

6.2 Measuring Congestion in Collier County

5

Analyze Congestion Problems and Needs

The fifth action of the CMP is to analyze congestion problems and needs using data and analysis to identify the location and causes of congestion that exist. To accomplish this, the Collier MPO CMP utilizes a variety of data sources to evaluate recurring and non-recurring sources of congestion.

6.2.1 Identifying Congestion Hot Spots

Congestion is traditionally understood to be the level at which the transportation system performance is no longer acceptable due to traffic delays. Consistent with the multimodal nature of congestion and the causes of congestion, the CMP includes a multi-data approach for identifying areas of congestion. The data sources chosen to evaluate and provide context to congestion within the CMP network include:

- **Volume-to-Capacity Ratios:** Existing plus committed (E+C) roadway segments with a V/C ratio greater than, or equal to 1
- **Travel Time/Speed Based Results:** Roadways with recorded speeds of less than, or equal to 23 mph.
- **School Related Congestion:** Road segments adjacent to schools with congestion issues.
- **Hot Spot Safety Locations:** Intersections and road segments with the highest frequency and rate of crashes
- **Congestion Survey:** Public Outreach Results

The results and analysis of these data sources serves as an essential bridge between the evaluation of system performance data and the identification of potential strategies to address congestion. Congested areas based on these data sources are measured, for the purpose of identifying hot spots and needed network improvements.

Problem congestion areas identified by conducting a geospatial analysis of the recurring and non-recurring data sources is used to identify congestion hot spot locations within Collier County. The hot spot locations are sorted into three tiers to further identify which of the hot spot locations had the most causes of congestion.

- **Tier 1:** represents road segments influenced by 3 or more congestion causes.
- **Tier 2:** represents road segments influenced by 2 congestion causes.
- **Tier 3:** represents road segments influenced by 1 congestion cause.



6.2.2 Analyzing Congested Locations and Needs

Prior to conducting analysis of the congestion hot spots, the most recent CMP network is compared against projects already programmed through the MPO's current TIP. Once areas of overlapping congestion and programmed projects with committed funding have been identified, the MPO's CMP focuses on various analyses of congested areas in order to develop an understanding of the needs and causes of congestion:

- **Safety Analysis:** as part of future TSP updates or as a result of independent safety studies, analysis of crash trends identifies crash trends and recommended safety countermeasures to be considered.
- **School Analysis:** The School District of Collier County keeps a list of traffic congestion concerns and related schools. Compared with schools that have a high percentage of school bus eligible students is used to prioritize locations where the School Congestion Matrix (Appendix A) can be reviewed to determine the most appropriate strategies for implementation.
- **Transit Analysis:** In cooperation with Collier Area Transit, the MPO's CMP recognizes the transit capital and infrastructure improvements that are programmed through the Transit Development Plan. Providing reliable and dependable transportation alternatives to the personal automobile will result in lowered auto-oriented travel demand and congestion. Past efforts have included a regional park and ride study as well as a Transit Impact Assessment for developing standards and funding strategies.
- **Bicycle and Pedestrian Analysis:** Completing gaps in the bicycle and pedestrian network is a key component for providing a safe and connected transportation network. Comparing the Bicycle and Pedestrian Master Plan projects with areas of congestion emphasizes those areas where the objectives of both planning efforts can be prioritized for implementation.
- **Intersection Analysis:** Addressing intersection operations within the hot spot congestion locations is accomplished through the use of microsimulation programs designed to identify changes to traffic signal timing and intersection modifications. Additional analysis to consider alternative intersection designs and concepts is completed through use of the Intersection Control Evaluation (ICE) Process.
- **Travel Time Reliability Analysis:** Using probe data sources that record travel speeds, congestion, and delay, is provided through the Regional Integrated Transportation Information System (RITIS) database. This level of traffic data helps to identify time-of-day specifics related to congestion and transportation reliability.



6.3 Congestion Management Strategies

6 Identify and Assess Strategies

Federal guidance recommends that the identification of congestion management strategies be based on their ability to support regional congestion management objectives, meet local context, and contribute to other regional goals and objectives. Strategies that effectively manage congestion and achieve the previously mentioned CMP Goal and Objectives have been selected to meet Collier County’s specific needs. The 2022 CMP Update process includes the following CMP Strategies that were identified and added to the existing strategies list based on the analysis that was conducted in the 2020 TSP Baseline Conditions Report, which also identified causes and locations of congested corridors, and the TSP Action Plan, which analyzed and identified congestion mitigation strategies for the specific corridors. The main additions made for this CMP update include safety strategies and strategies to address school-related congestion. Table 6-2 lists the category and respective CMP Strategies identified to mitigate congestion on the CMP Network in Collier County.

Table 6-2: CMP Strategies

<p>STRATEGIES: Demand Management (Programmatic), Transportation & Land Use Policy</p>	Improved incident management
	Carpool/Vanpool Assistance and Carpool/Vanpool Technology, including School Carpooling Apps
	Flexible Work Hours
	Transit Vouchers
	Transit Oriented Development
	Jobs/Housing Regional Balance
	Implement Complete Streets Policy All New Development
	High-Density and Mixed-Use Fixed Route Corridor
	School Dismissal timing (e.g., stagger dismissal times, dismissal automation software)
	Walking, Biking, Transit, and School Bus Awareness/Education Campaigns
	Safe Routes to School or School Zone Traffic Congestion Study
Origin-Destination Study	
<p>STRATEGIES: Safety</p>	Signage and Pavement Markings (e.g., special emphasis crosswalks, yield/stop for pedestrian signs, advanced signs)
	Visibility and Sightline Improvements
	New and upgraded street lighting
	Traffic control devices (e.g., left turn signals, variable message signs, pedestrian hybrid beacons)
	New and upgraded existing bicycle and pedestrian crossings



<p>STRATEGIES: Transit</p>	Amenities to Attract New Ridership
	MPO transit service expansion and improvement (e.g., frequency, hours of operation, re-align routes)
	Regional Transit system expansion
	Bus rapid transit corridor
	Park-and-Ride facilities
	Intermodal Hubs
	Transit ITS and MOD
	Arrival Prediction Technology
Park-and-Ride lots	
<p>STRATEGIES: ITS & Access Management - Active Roadway Management</p>	Expanded traffic signal timing & coordination - ITS
	Traffic Center Operations Enhancements
	Traffic signal equipment modernization - ITS
	Traveler information devices - ITS
	Communications networks & roadway surveillance - ITS
	Access management
	School Zone Traffic Calming Measures
	School Zone pedestrian and traffic signal optimization
School off-site waiting lots and curbing and parking zones	
<p>STRATEGIES: Physical Roadway Capacity Enhancement</p>	Intersection Improvements
	Replace intersections with roundabouts and other innovative designs
	Deceleration lanes and turn lanes
	New grade-separated intersections
	New travel lanes (general purpose)
	New roadway network connections
<p>STRATEGIES: Bicycle & Pedestrian Facilities</p>	New off-street pedestrian and multi-use facilities to close gaps in the transportation network and make connections to key destinations
	Integrated into TODs, High Density Corridors
	Regional Bike/Ped Facilities
	Complete Streets on New Facilities and Retrofit On-street Bicycle Facilities
	Supporting bicycle infrastructure (e.g., secure and convenient parking, bike repair, pumps)



Using the full list of strategies available for mitigating congestion, the primary purpose of the CMP, Action 6, is to identify a set of recommended strategies to manage congestion and achieve the CMP Objectives. To accomplish this task, the MPO has developed the CMP Implementation Matrix that is included in Appendix B.

In the 2017 CMP Update, this matrix presented congestion management/ITS projects from the 2040 LRTP Cost Feasible Plan and evaluated projects submitted as congestion management strategies. As a part of the development process of the 2020 TSP reports, the CMP Implementation Matrix was updated to target the congestion hot spot locations identified in the TSP Baseline Conditions Report. The updated CMP Implementation Matrix lists the congested corridors and identifies the most appropriate CMP Strategies that can be used along the corridors to mitigate the causes of congestion. These strategy recommendations are based on the analysis documented in the TSP Action Plan, and provide the MPO’s planning partners with an expanded opportunity to develop future projects which address a range of multimodal and congestion reduction considerations.



7.0 Implementation Process and Strategy Selection

The sections below summarize the implementation and management of CMP Strategies, including the process for selecting strategies/projects for implementation on congested corridors, as well as the sources and funds for implementing the proposed projects consistent with Action 7.

7.1 CMP Strategy Evaluation Criteria 7 Program and Implementation Strategies

The MPO CMC plays an integral role in identifying congestion mitigation strategies with the greatest potential benefit. The purpose of the CMP Strategy Evaluation Criteria is to screen project submittals for consistency with the CMP Goal and Objectives, Strategies, and identified hot spots. Once projects are developed consistent with the strategies identified in the CMP Implementation Matrix and submitted for funding, the evaluation and prioritization of these projects is conducted by the CMC using the CMP Strategy Evaluation Criteria. These criteria were updated as part of the development of the 2020 TSP Action Plan to incorporate certain performance measures from the 2017 CMP Update that were better suited as strategy evaluation criteria. This 2022 CMP Update includes these changes, with the updated CMP Strategy Evaluation Criteria shown in Appendix C.

The CMC uses these criteria as the basis for making project recommendations to the MPO Board as priorities for funding in the 5-year TIP cycle, consistent with the current LRTP. The CMP projects that are moved into project development and programmed in the TIP are funded using boxed funds identified in the current LRTP, along with other available local revenues. The typical annual funding allotment and cumulative programmable amounts are outlined in the TIP.

In addition to the boxed funds available for CMP projects, the MPO has access to additional state and federal revenues through partnership with FDOT and other regional partners. While not exclusively allocated to transportation projects in Collier County, other revenues managed by FDOT are available for transportation projects within Southwest Florida. By identifying and prioritizing congestion reduction projects, the MPO can request funding from a variety of sources available for that purpose. These potential revenue sources include:

- National Highway Performance Program
- Highway Safety Improvement Program
- Surface Transportation Program Block Grant– Any Area
- Transportation Regional Incentive Program

7.2 Future Studies

In addition to location specific strategies, the MPO has identified future potential studies which support the objectives of the CMP. These studies can be considered for inclusion in the MPO's Unified Planning Work Program (UPWP). Potential funding sources include Planning (PL) funds, CMS/ITS "Box" funds, and Transit Planning funds based on funding eligibility and study purpose.

Past examples of studies funded through the UPWP have included the first iteration of the TSP reports, Regional Park and Ride Study, and Land Use & Transportation Scenario Testing.

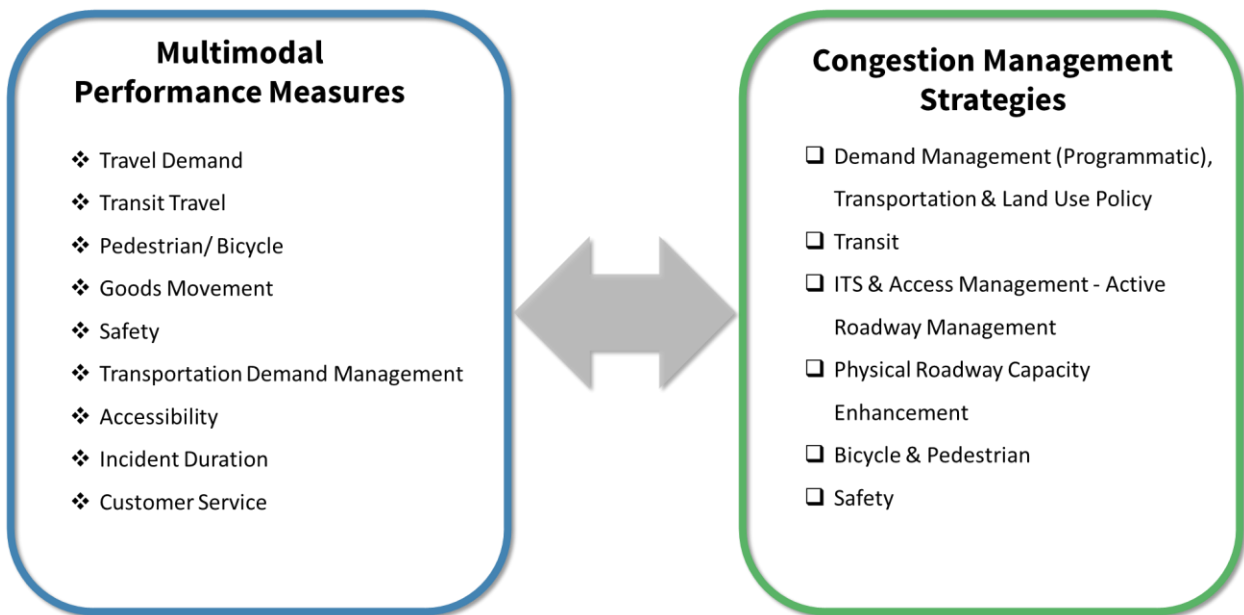


8.0 Evaluation of Implemented Strategies and Projects

This final action of the CMP is to evaluate the effectiveness of implemented strategies. To accomplish this, the MPO has developed the following methods and schedule for monitoring system performance and tracking the effectiveness of implemented congestion management strategies/projects, which is a key responsibility shared between sponsoring agencies and the MPO. The evaluation of strategies is an MPO requirement for Major LRTP Updates, and enables decision makers, the CMC, and the public the opportunity to identify the most effective CMP Strategies for future implementation. These results also provide valuable feedback that allow the MPO to make necessary changes to the CMP.

Monitoring the effectiveness of implemented strategies is conducted at a systemwide and project-level scale using the quantifiable CMP Performance Measures. The framework for this monitoring process was established in the 2020 TSP Baseline Condition Report, which set an initial baseline using 2018-2020 data for comparison against future evaluations and CMP analyses.

Additionally, the performance measures serve as a tool to evaluate project level effectiveness of the implemented congestion management strategies.



8.1 Project Evaluation Process

8

Evaluate Strategy Effectiveness

The Congestion Management Project Application Submittal Form (Appendix D) requires each sponsoring agency to identify the:

1. CMP Strategy Category the project is using,
2. CMP Performance Measure(s) the project will address, and
3. Data and criteria that will be used to measure the effectiveness of the project.



The sponsoring agency is responsible for compiling the necessary data, conducting the performance evaluations, and producing a user-friendly, performance-based report that demonstrates the link between the results of the project and stated CMP Strategies and Performance Measure(s). The report must be presented to the CMC within one year of the project becoming fully operational, and must include the change in conditions resulting from the project. As congestion management projects are implemented, their impacts will be reviewed and accounted for in the MPOs planning process.

Table 8-1 shows an example of a CMP Project Evaluation and Monitoring Matrix which includes previously funded congestion management projects. CMP priorities previously identified were not required to establish strategies and performance measures when approved. This model, however, will be used for upcoming projects for post-implementation measuring. Future congestion management priority projects will be transitioned to this evaluation model and should be updated by the sponsoring or implementing agency, in conjunction with the MPO staff, as the projects advance.

8.2 CMP and TSP Report Updates

The CMP is reviewed annually and updated on an as needed basis. At a minimum, the CMP needs to be updated to maintain consistency when updates to the TSP Report and LRTP occur. The TSP reports are reviewed periodically and updated as needed, whereas the LRTP is updated on a regular schedule every five years and amended as necessary in between. As congestion management projects are implemented, their impact will be reviewed and accounted for in the LRTP and other parts of the MPO's planning process.

8.3 Public Feedback

Regular feedback is received regarding roadway segment operation throughout the metropolitan transportation system planning process. This manifests itself in the ongoing activities of MPO staff and from interaction with local public officials. The Collier MPO website (www.colliermopo.com) describes the CMP and accepts public comments on the process or congestion in Collier County. Written public comment may also be submitted to:

Collier Metropolitan Planning Organization
Attention: Executive Director
2885 South Horseshoe Drive
Naples, FL 34104

Feedback may indicate that an additional segment is congested or has the potential to develop a congestion problem. Such a segment should be added to the CMP coverage area to ensure an increased level of scrutiny. Once added, the segment would then automatically be reviewed during the ongoing CMP evaluation activities.



Table 8-1: CMP Evaluation and Project Monitoring Matrix

Project	Description	FPN	Funded Amt	TIP/CIP YR	Congestion Management Strategy	CMP Performance Measure(s)	Benefits Achieved	Prioritization Date(s)
SR 82/Immokalee Rd at CR 850/Corkscrew Rd	Add turn lanes	4331751	\$906,348	CST 2017	<i>Deceleration Lanes and Turn Lanes</i>	<ul style="list-style-type: none"> • <i>Level of Service</i> • <i>Average Travel Speed</i> 	<i>Not measured</i>	Priority 2012-02
Airport-Pulling Rd & Pine Ridge Rd Signal Timing	ATMS - Arterial Traffic MGMT	4350191	\$452,560	CST 2019	<i>Expanded Traffic Signal Timing & Coordination - ITS</i>	<ul style="list-style-type: none"> • <i>Level of Service</i> • <i>Average Travel Speed</i> 	<i>Not measured</i>	Priority 2015-03
US 41 (N of Pine Ridge Rd to S of Pelican Bay Blvd)	Sidewalk	4350401	\$2,253,587	CST 2017	<i>New Pedestrian Facilities</i>	<ul style="list-style-type: none"> • <i>Linear Miles of Connector Sidewalks</i> 	Y	Priority 2015-04 2014-05
US 41 (CR 846/111th Ave to N of 91st Ave)	6' Sidewalk on East Side and 3 Bus Shelters	4350291	\$1,075,658	PE 2017 ENV 2019 CST 2020	<i>New Pedestrian Facilities / Amenities to Attract New Ridership</i>	<ul style="list-style-type: none"> • <i>Linear Miles of Connector Sidewalks</i> • <i>Passenger Trips</i> 	Y	Priority 2013-06
Signal Pre-emption City of Naples	Traffic Control Devices at 22 Intersections	4380941	\$234,200	CAP 2018	<i>Traffic Control Devices</i>	<ul style="list-style-type: none"> • <i>Total Crashes</i> 	Y	Priority 2015-06

Note: These priority projects were not required to establish strategies and performance measures at the time of approval. Information shown in italics is for illustrative purposes only, and is not based on actual performance monitoring. It is intended to provide an example of how the matrix should be used for future CMP projects.



Appendix A: School Congestion Matrix



Network Congestion Management Strategies for Schools in Collier County with High Traffic Congestion

ROAD NETWORK CONGESTION MANAGEMENT STRATEGIES			
RESULTS		<ul style="list-style-type: none"> • Reduces congestion • Lowers motor vehicle speeds in school zones • Improves pedestrian and bicyclist safety 	
EXAMPLES		Circulation Improvement: - Evaluate and optimize traffic signals around school dismissal times - Evaluate pedestrian signal timing (crossing and wait times) - Evaluate the street network to optimize routing to and from school sites	Infrastructure Tools: - Traffic calming measures (curb extensions, chicanes, lateral shifts, roundabouts, etc.) - Traffic control devices (traffic signals, variable message signs, pedestrian hybrid beacons) - Pavement markings and signage (Marked crosswalks, guidance signage, warning signage, speed feedback signage)
POTENTIAL EFFECTIVENESS OF CONGESTION MANAGEMENT STRATEGIES	Gulf Coast High (GCH)	Medium	Low
	Laurel Oak Elementary (LOE)	Medium	Low
	Marco Island Academy (MIA)	Low	Low
	Naples High (NHS)	High	Medium
	North Naples Middle (NNM)	Medium	Low
	Oakridge Middle School (OMS)	Medium	Medium
	Pelican Marsh Elementary (PME)	Medium	Medium
	Palmetto Ridge High (PRH)	Medium	Low
	Pine Ridge Middle (PRM)	High	Medium



SCHOOL SITE CONGESTION MANAGEMENT STRATEGIES			
RESULTS		<ul style="list-style-type: none"> • Eliminates peak volume times, reducing congestion • Reduces congestion in drop-off and pick-up areas 	
EXAMPLES		Site-Design: <ul style="list-style-type: none"> - Establish off-site waiting lots and curbing and parking zones - Designate separate entrances and additional entrances for different modes of travel (bus, drop-off/ pick-up, pedestrians/ bicyclists) - Establish a priority parking and loading zone for carpool vehicles - Provide a pull-through lane to the left side of the on-site drop-off zones to permit passing 	Demand scheduling: <ul style="list-style-type: none"> - Stagger dismissal times - School Dismissal Automation Software (e.g. PikMyKid, School Pass)
POTENTIAL EFFECTIVENESS OF CONGESTION MANAGEMENT STRATEGIES	Gulf Coast High (GCH)	Medium	High
	Laurel Oak Elementary (LOE)	High	High
	Marco Island Academy (MIA)	High	Medium
	Naples High (NHS)	Medium	High
	North Naples Middle (NNM)	Medium	Medium
	Oakridge Middle School (OMS)	High	Medium
	Pelican Marsh Elementary (PME)	High	Medium
	Palmetto Ridge High (PRH)	Low	High
	Pine Ridge Middle (PRM)	High	Medium



TRANSPORTATION MODE CONGESTION MANAGEMENT STRATEGIES			
RESULTS		<ul style="list-style-type: none"> • Reduces volume of vehicle traffic • Improves pedestrian and bicyclist safety 	
EXAMPLES		Encouragement Solutions: - Awareness campaign about school bus routes among eligible students - School Carpooling Apps (e.g GoKid, KiD CarPool, Carpool to School, Carpools-Kids, Zūm, Hop Skip Drive, Sheprd, Kango) - Waking/biking school bus - Walk/ride to school days	Infrastructure Solutions: - Fill gaps in the pedestrian and bicycle network - Path and trail connection from school to adjacent properties - Secure and convenient bicycle parking
POTENTIAL EFFECTIVENESS OF CONGESTION MANAGEMENT STRATEGIES	Gulf Coast High (GCH)	High	Medium
	Laurel Oak Elementary (LOE)	High	Low
	Marco Island Academy (MIA)	High	Low
	Naples High (NHS)	High	High
	North Naples Middle (NNM)	High	Low
	Oakridge Middle School (OMS)	High	Medium
	Pelican Marsh Elementary (PME)	High	Medium
	Palmetto Ridge High (PRH)	High	Low
	Pine Ridge Middle (PRM)	High	Low



Appendix B: Congestion Management Process Implementation Matrix



2020 CMP IMPLEMENTATION MATRIX

2020 CMP IMPLEMENTATION MATRIX	STRATEGIES: Demand Management (Programmatic), Transportation & Land Use Policy										STRATEGIES: TRANSIT							STRATEGIES: ITS & Access Management - Active Roadway Management							STRATEGIES: Physical Roadway Capacity Enhancement					STRATEGIES: Bicycle & Pedestrian Facilities					STRATEGIES: Safety										
	Improved incident management	Carpool/Vanpool Assistance Programs (e.g. Carpooling, School Carpooling Apps)	Flexible Work Hours	Transit Vouchers	Transit-Oriented Development	Job/Housing Regional Balance	Implement Complete Streets Policy All New Development	High-Density & Mixed-Use Fixed Route Corridor	School Dismissal Timing (e.g. stagger dismissal times, dismissal automation software)	Walking, Biking, Transit and School Bus Awareness/Education Campaigns	Safe Routes to School & School Zone Traffic Congestion Study	Origin-Destination Study	Amenities to Attract New Ridership	MPO transit service expansion and improvement (frequency, hours of operation, realign routes)	Regional Transit system Expansion	Bus rapid transit corridor	Park & Ride facilities	Intermodal Hubs	Transit ITS and MOD	Arrival Prediction Technology	Park-and-Ride lots	Expanded traffic signal timing & coordination - ITS	Traffic Center Operations Enhancements	Traffic signal equipment modernization - ITS	Traveler information devices ITS	Communications networks & roadway surveillance - ITS	Access management	School Zone Traffic Calming Measures	School Zone pedestrian and traffic signal optimization	School off-site waiting lots and curbing and parking zones	Intersection Improvements	Replace intersections with roundabouts & other innovative designs	Deceleration lanes and turn lanes	New grade-separated intersections	New travel lanes (general purpose)	New roadway network connections	New off-street pedestrian and multi-use facilities to close gaps in the transportation network and make connections to key destinations	Integrated into TODs, High Density Corridors	Regional Bike/Ped Facilities	Complete Streets on New Facilities & Retrofit or new on-street bicycle treatments	Supporting bicycle infrastructure (e.g. secure and convenient parking, bike pumps)	Signage and Pavement Markings (e.g. special lane markings, yield for pedestrians, signs, advanced street signs)	Visibility and Sightline Improvements	New and upgraded street lighting	Traffic control devices (left turn signals, pedestrian signals, beacons)
2020 TSP Update	Tiered Congestion Hot Spots & Key Intersections (referenced in 2020 TSP BASELINE CONDITION REPORT)										ESTIMATED TOTAL PROJECT COSTS	FUNDING SOURCE																																	
Immokalee Rd from Livingston Rd to I-75*	Tier 1 Congestion Hot Spot & Critical Intersection										TBD	TBD																																	
Immokalee Rd from Logan Rd to CR 951 (Collier Blvd)*	Tier 1 Congestion Hot Spot										TBD	TBD																																	
CR 951 (Collier Blvd) from Vanderbilt Beach Rd to Immokalee Rd	Tier 1 Congestion Hot Spot										TBD	TBD																																	
CR-862 (Vanderbilt Beach Rd) from Airport-Pulling Rd to Livingston Rd	Tier 1 Congestion Hot Spot & Critical Intersection										TBD	TBD																																	
Pine Ridge from Goodlette Frank Rd to Airport-Pulling Rd	Tier 1 Congestion Hot Spot										TBD	TBD																																	
Golden Gate Parkway from Santa Barbara Blvd to CR 951 (Collier Blvd)	Tier 1 Congestion Hot Spot										TBD	TBD																																	
Immokalee Rd from I-75 to Logan Rd*	Tier 2 Congestion Hot Spot										TBD	TBD																																	
Immokalee Rd from Goodlette Frank Rd to Livingston Rd*	Tier 2 Congestion Hot Spot										TBD	TBD																																	
US 41 from Vanderbilt Beach Rd to Immokalee Rd	Tier 2 Congestion Hot Spot & Critical Intersection										TBD	TBD																																	
US 41 from Immokalee Rd to Old US 41	Tier 2 Congestion Hot Spot										TBD	TBD																																	
CR-862 (Vanderbilt Beach Rd) from Vanderbilt Dr to US 41	Tier 2 Congestion Hot Spot										TBD	TBD																																	
Airport-Pulling Rd from Pine Ridge Rd to Orange Blossom Dr	Tier 2 Congestion Hot Spot										TBD	TBD																																	
Pine Ridge Rd from Livingston Rd to I-75**	Tier 2 Congestion Hot Spot										TBD	TBD																																	
Golden Gate Pkwy from Livingston Rd to I-75	Tier 2 Congestion Hot Spot & Critical Intersection										TBD	TBD																																	
Davis Blvd from US 41 to Airport-Pulling Rd	Tier 2 Congestion Hot Spot										TBD	TBD																																	
Airport-Pulling Rd from Golden Gate Pkwy to Radio Rd	Tier 3 Congestion Hot Spot & Critical Intersection										TBD	TBD																																	
Santa Barbara Blvd/Logan Blvd at Green Blvd	Critical Intersection										TBD	TBD																																	
SUBTOTAL											\$ -	\$ -																																	
2020 TSP UPDATE - NEW STUDIES/COMMITTEES	NEW CMP 2017 PRIORITIES										ESTIMATED PROJECT COSTS	FUNDING SOURCE																																	
Identify integration opportunities for travel time reliability in future congestion analysis and evaluation	Scope TBD										TBD	TBD																																	
School Transportation Working Group	Scope TBD										TBD	TBD																																	
Intersection ROW Study and Modeling	Scope TBD										TBD	TBD																																	
Origin-Destination Study	Scope TBD										TBD	TBD																																	
Notes: *Immokalee Road - A Corridor Congestion Study is being conducted along Immokalee Road Corridor between Livingston Road and Logan Boulevard. The study is expected to be completed in the Spring of 2021. Recommendations from this study should be implemented to address congestion along this corridor. **Pine Ridge Road - Study conducted in 2018 to consider innovative intersection design concepts for the intersections along Pine Ridge Road from Livingston Road to Napa Boulevard. Recommendations from this study should be implemented to address congestion along this corridor. ***I-75 - a capacity improvement project involves the potential construction of managed lanes in each direction on Interstate 75 (I-75), from east of Collier Boulevard (SR 951) in Collier County to Bayshore Road (SR 78) in Lee County. (Collier County interchanges effected - Immokalee Rd, Pine Ridge Rd, Golden Gate Pkwy, SR 951 (Collier Blvd))																																													
LEGEND - SCHEDULE																																													
In TIP or UPWP																																													
In L RTP Needs Plan/Cross-Referenced in Cost Feasible Plan, TD Plan, Bicycle & Pedestrian Master Plan																																													
In L RTP Unfunded Needs Plan																																													
Candidate Project																																													



Appendix C: Congestion Management Committee Strategy Evaluation Criteria



Congestion Management Committee Evaluation Criteria and Scores

A. Pre-Project Evaluation

Q1 – Does this project address a congested roadway?

- Yes
- No

B. General Project Evaluation

Q2 – Is this application supported by multiple jurisdictions?

- Yes – 3 pt.
- No (blank) – 0 pt.

Q3 – Are there specific technical and/or monetary local contributions for this project?

- Yes – 3 pt.
- No – 0 pt.

Q4 – Does this project require the acquisition of right-of-way?

- Yes – 0 pt.
- No – 3 pt.

C. Project Specific Evaluation:

Q5 - Uses TSM Approach?

- High – 5 pts. – Incorporates intersection improvements such as turn lanes, signal improvements etc.; or significantly enhances operational response time for emergency vehicles on intersections/facilities which have an existing Level of Service (LOS) “ F”
- Med – 3 pts. – Incorporates intersection improvements such as turn lanes, signal improvements, etc.; or significantly enhances operational response time for emergency vehicles on intersections/facilities which have an existing LOS “E”
- Low – 1 pt.- incorporates intersection improvements such as turn lanes, signal improvements, etc.; or establish and/or improves traffic diversion capability on intersections/facilities (for example signage for alternative routes) which have an existing LOS “D”

Q6 - Uses TDM strategy?

- High – 5 pts. – Reduces congestion and increases efficiency of the system by adding a new a transit route or a new park & ride facility or cooperating with regional TDM program
- Med – 3 pts. – Reduces congestion and increases system efficiency by increasing existing carpooling, vanpooling, transit or a park & ride facility.
- Low – 1 pt. – Reduces congestion and increases system efficiency by adding new bicycle or pedestrian facilities



Q7 - Supports/enhances and effectively integrates with existing ITS and maintains concurrency with FDOT Regional ITS Architecture and technological advances in TOC equipment and operations?

- High – 5 pts. – Project affects arterial roadways; or addresses a critical need due to insufficient communication and/or system expansion
- Med – 3 pts. – Project affects collector roadways; or addresses a critical need
- Low – 1 pt. – Project location is not specific; or project is to address contingency system backup or to purchase miscellaneous equipment

Q8 - Increases Security?

- Yes – 3 pt.
- No (blank) – 0 pt.

Q9 - Increases Safety?

- High – 5 pts. – Addresses a documented safety problem; reduces the total number of vehicle-related crashes or serious injuries; reduces the total number of bicycle-related or pedestrian related crashes; reduce the number of transit related injuries
- Med – 3 pts. – Increases bicycle or pedestrian safety at high traffic location; and/or increases/improves safety of emergency responders at incident sites; or to reduce the number of secondary incidents as a result of a primary incident

Q10 - Promote Regional Connectivity?

- High – 5 pts. – Enhances the inter-county connectivity of highways or transit
- Med – 3 pts. – Enhances the inter-county connectivity of pathways/bikeways/trails
- Low – 1 pt. – project is on a facility identified on the regional network

Q11 - Promotes Multi-Modal Solutions?

- High – 5 pts. – Improves at least three modes; increases connectivity between motorized and non-motorized modes; advances recommendations from existing MPO Bicycle/Pedestrian Safety Studies, Audits, and Community Walkability Studies
- Med – 3 pts. – Enhances at least two modes of transportation
- Low – 1 pt. – Improves one mode; increases transit ridership on a specific route; increases transit enhancements such as park and ride lots or bus shelters; and other enhancements for non-motorized facilities etc.

Q12 - Protect Environmental Resources?

- High – 5 pts. – Reduces air quality emissions; reduces fuel consumption by reducing corridor congestion
- Med – 3 pts. – Reduces fuel consumption by reducing specific intersection delays; improves monitoring and reporting capability
- Low – 1 pt. – Supports general congestion avoidance measures



Q13 - Promotes Economic Development or Freight Movement?

- High – 5 pts. – Project is located at and directly affects access to airports, major activity centers, or freight activity centers
- Med- 3 pts. – Project is located near and affects access to, airports, high employment areas, or freight activity centers
- Low – 1 pt. – Project is not located near to airports, or high employment areas but can promote overall economic development of the community



Appendix D: Congestion Management Process Project Application Submittal Form Example



Collier MPO Congestion Management – Project Concept Sheet Example

NOTE: Please contact the MPO to obtain the most recent version of this form prior to project submittal.

A. REQUIRED PROJECT INFORMATION:

1. Name of Project _____
2. Name of Applicant _____
3. Name of Submitting Jurisdiction _____
4. If this is a multi-jurisdictional application, please list the jurisdictions involved

5. Describe the project and its purpose, including the project limits (if applicable). Attachment?

6. Amount of CMC/ITS SU Box funds being requested \$_____ Estimated Total Project Cost \$ _____
If SU Box funds are not requested, what funding source would be most appropriate?

7. Are there specific technical and/or monetary local contributions for this project? If yes, please explain.
YES NO

8. Anticipated time to complete the project _____
9. Does this project require the acquisition of Right-of-Way? YES NO
10. Is this project on a congested corridor? Identify the corridor. YES NO

11. Does this project address a documented safety problem? Explain. YES NO

12. Does this project address a strategy listed on the implementation matrix? YES NO
13. Does this project maintain concurrency with FDOT Regional ITS architecture? YES NO
14. Does this project promote one or more multi-modal solutions by advancing recommendations from an adopted MPO study? Please identify. YES NO



B. PROJECT SPECIFIC DESCRIPTION:

CHECK ALL STATEMENTS BELOW THAT APPLY TO THE PROJECT WITH EXPLANATION OF HOW IT APPLIES.
(If project is funded, you will be expected to provide data to the MPO within 2 years and 5 years of construction/implementation for performance measures selected.)

- 1. Travel Demand - Describe how the project addresses one or more of the following Performance Measures:
 - a. Percent of roadway miles by volume to capacity (V/C) ratio
 - b. Percent of vehicle miles traveled by volume to capacity (v/c) ratio
 - c. Number of signalized intersections connected to ATMS

- 2. Transit Travel – Describe how the project addresses one or more of the following performance measures:
 - a. Average bus route service frequency and number of routes
 - b. Passenger trips (annual ridership)
 - c. Passenger trips per revenue hour
 - d. Transit on time performance

- 3. Pedestrian/Bicycle Facilities – Describe how project addresses one or more of the following Performance Measures:
 - a. Centerline miles of bicycle lanes
 - b. Linear miles of connector sidewalks on arterial roadways
 - c. Linear miles of Shared Use paths adjacent to roadways

- 4. Goods Movement – Describe how project addresses one or more of the following performance measures:
 - a. Vehicle miles traveled (VMT) on designated truck routes with V/C greater than 1/0
 - b. Number of crashes involving heavy vehicles/trucks



- 5. Safety– Describe how project addresses one or more of the following performance measures:
 - a. Total crashes
 - b. Motor vehicle severe injury crashes
 - c. Motor vehicle fatal crashes
 - d. Pedestrian and bicycle severe injury and fatal crashes

- 6. TDM– Describe how project addresses one or more of the following performance measures:
 - a. Number of people registered in the FDOT Commute Connector database that have an origin in Collier County

- 7. Accessibility– Describe how project addresses one or more of the following performance measures:
 - a. Share of regional jobs within ¼ mile of transit
 - b. Share of regional households within ¼ mile of transit

- 8. Incident Duration– Describe how project addresses one or more of the following performance measures:
 - a. Mean time for responders to arrive on scene after notification
 - b. Mean incident clearance time
 - c. Road Ranger stops

- 9. Customer Service– Describe how project addresses one or more of the following performance measures:
 - a. Report on nature of comments/responses and customer satisfaction



