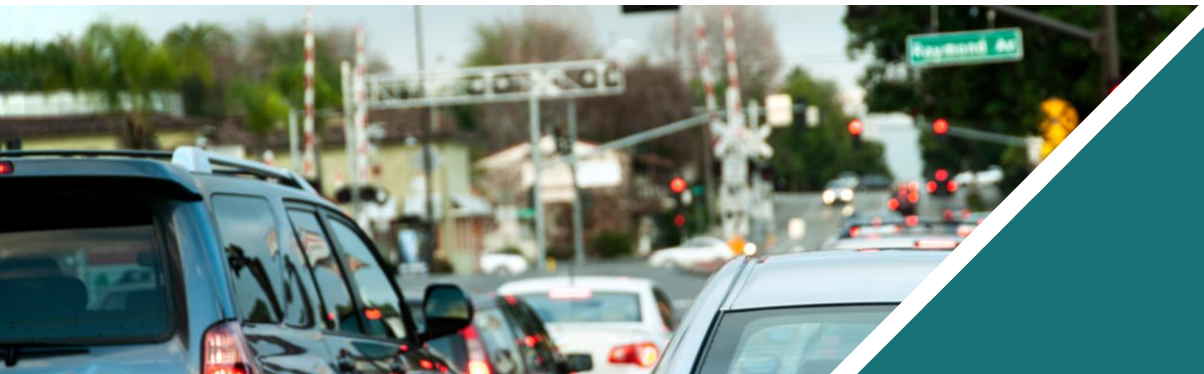
Hernando/Citrus MPO

# Congestion Management Process

UPDATE

June 2026

# Congestion Management Process Update

June 2026

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# Introduction

A Metropolitan Planning Organization (MPO) is defined as a transportation policy-making body comprised of representatives from local government and transportation agencies with authority and responsibility in metropolitan planning areas. Mandated by the Federal Highway Act of 1973, MPOs are designated for urbanized areas with populations exceeding 50,000 to guide transportation development. The Hernando/Citrus MPO was established in 2014 when the Hernando County MPO was reapportioned to include Citrus County and to serve as the body for facilitating transportation planning decisions in Hernando and Citrus counties. The Hernando/Citrus MPO functions as a regional planning partner in a manner that is coordinated, comprehensive, and continuous with the member jurisdictions and stakeholder agencies in both counties.

## What is a CMP?

Under federal regulations (23 CFR 450.322), the Congestion Management Process (CMP) is required of all metropolitan areas with a population greater than 200,000 and is a statewide requirement for all MPOs in the state of Florida (Florida Statutes, Section 339.175). The CMP is a systematic approach, collaboratively developed and implemented throughout an MPO's planning area to provide for the safe and effective management and operation of new and existing transportation facilities by using travel demand reduction and operational management strategies.

The CMP is a detailed process that addresses eight action-oriented steps, illustrated in Figure 1, that an urban area follows to improve the performance of its transportation system by reducing the negative impacts of traffic congestion. A CMP is developed to improve traffic flow and safety conditions by using an objective-driven, performance-based approach. It provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet state and local needs.[1]

This report identifies the transportation network being analyzed as a part of the 2026 CMP update. It provides a baseline understanding of the regional congestion issues and travel behavior by covering the first six steps of the CMP framework. Steps seven and eight of the CMP become the implementation of projects as they are prioritized and funded in the MPO's Transportation Improvement Program (TIP). Once completed, these improvements are evaluated for effectiveness and the ability to manage congestion.

## Benefits of a CMP

An agency-specific CMP benefits the regional transportation system by providing a defined process for an MPO to address congestion concerns linked to transportation, livability, and land use. It allows an MPO to respond to congestion or other operational issues by using a systematic, measurable approach. The Federal Highway Administration (FHWA) identifies the following benefits of a successful CMP:

- A structure to analyze congestion issues
- Increased collaboration and coordination
- Effective resource allocation
- Providing an objective-driven and performance-based approach
- Links to subsequent project development and environmental review activities
- Improved safety

[1] *Federal Highway Administration (FHWA), "Congestion Management Process: A Guidebook", 2011.*

*Figure 1: Congestion Management Process Framework*


*Source: FHWA, 2011*

Additionally, a CMP helps an MPO identify improvement projects that provide the most benefit to the multimodal transportation network and then allocate funds to these projects accordingly. Collectively, these projects benefit the region by helping to reduce congestion, improve safety, and enhance quality of life. Reducing travel delays improves air quality conditions by reducing emissions from idling vehicles and helps motorists reduce fuel cost by spending less time in congested conditions.

## Causes of Congestion

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

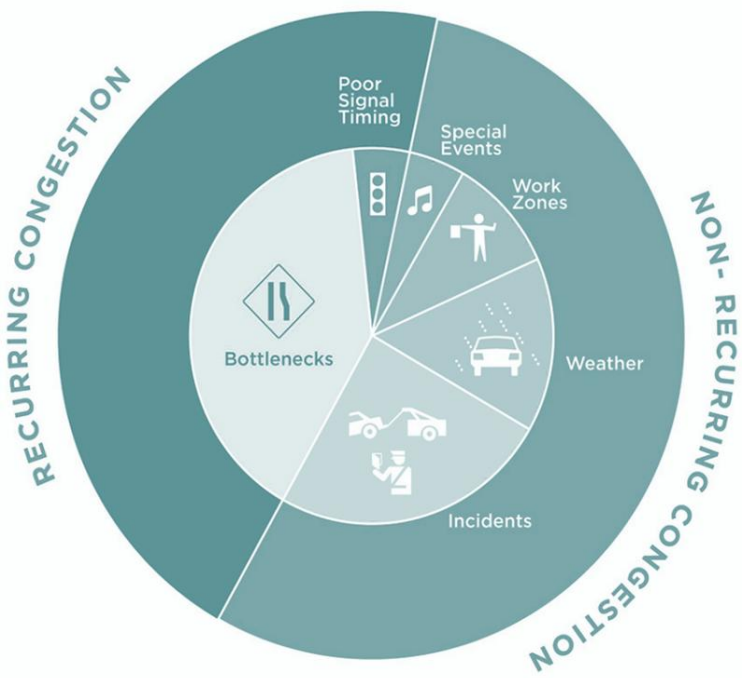
1. **Recurring congestion** - Occurs when the number of vehicles attempting to use a roadway exceeds the capacity of that roadway during peak travel periods (e.g. commute hours). This type of congestion is predictable because travel routes follow a specific pattern with regards to time of day and route selection.

2. **Non-recurring congestion** - Occurs when there are 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 2 shows the results of a national study conducted by FHWA on the sources of congestion and the type/category of congestion. It shows that, while bottlenecks account for 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. These national benchmarks are widely used in CMP updates due to the lack of

comprehensive local studies on the causes of congestion. The underlying data suggests that local causes are likely to be similar, with bottlenecks and traffic incidents typically being the top two causes of congestion.

*Figure 2: Typical Causes of Congestion Nationwide*




*Source: FHWA, 2015*

## Federal Guidelines

The initial federal requirements for congestion management were introduced by the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and were continued under its successor, the Transportation Equity Act for the 21st Century (TEA-21), enacted in 1998. 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 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.

Most recently passed, the Infrastructure Investment and Jobs Act (IIJA) was signed into law 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, expand the strategies and funding opportunities available to MPOs for addressing congestion. It should be noted that the IIJA is set to expire in September 2026, with reauthorization discussions currently underway at the time of this CMP update. Any changes in subsequent legislation resulting from this process may impact CMP requirements and expectations in the future.

# CMP Objectives

The first action of the CMP is to identify regional objectives, which are used to guide the process of monitoring congestion and improving mobility within the MPO's planning area. Clear regional objectives also inform the selection of CMP performance measures used to quantify congestion levels, as well as to identify and prioritize congestion management strategies.

***The overall goal of the CMP is to identify SAFE and EFFECTIVE congestion management and operational strategies for the transportation system.***

The more specific objectives developed to support this goal are shown below in Table 1. Collectively, these objectives form a holistic approach to managing roadway congestion by addressing related factors such as safety considerations, improving the operational aspects of the roadway network, and providing viable multimodal transportation options.

*Table 1: CMP Objectives*

| Objective |
|---|
| **Reduce the number and severity of vehicle crashes** |
| **Reduce the congested vehicle miles traveled** |
| **Improve Peak Period Travel Time Reliability on the National Highway System for automobiles and freight vehicles** |
| **Increase the number of coordinated traffic signals and installation of Advanced Traffic Management Systems** |
| **Increase miles of congested corridors with frequent transit service** |
| **Increase walking and cycling facilities along transit routes and within activity centers** |
| **Incorporate projects identified through the CMP into the Five-Year Transportation Improvement Program (TIP)** |
| **Promote and support local development decisions that include integrated land uses** |

# CMP Network

Identifying the CMP Network includes defining both the geographic scope and transportation network being analyzed in the CMP.

The Hernando/Citrus MPO's Planning Area covers 1,362 square miles. This includes the City of Brooksville in Hernando County, the cities of Crytal River and Inverness in Citrus County, and 34 distinct communities known as Census-Designated Places (CDPs) throughout the unincorporated portions of both counties. According to the most recent Census estimates, the two-county Planning Area had a combined population of 393,367 in 2025, which represents a 58% increase during the 25 years since the 2000 Decennial Census. When looking ahead to the next 25 years, the total population in Hernando and Citrus counties is expected to grow collectively by another 21% to 476,209 based on projections developed as part of the MPO's 2050 Long Range Transportation Plan (LRTP), which was adopted on October 3, 2024.

The characteristics of the CMP roadway network, which include all functionally classified roadways in Hernando and Citrus counties, are illustrated by the series of maps on the following pages. This information is important both for providing a better understanding of the roadways in the MPO's Planning Area and is also used when developing potential congestion mitigation strategies for consideration later in the process.

Map 1 shows the functional classification of network roadways. Functional classification is a system used by the Florida Department of Transportation (FDOT) to group roadways into categories based on the character of service they provide and how they facilitate travel. Larger roadways, such as Interstates or Principal Arterials, provide a high level of mobility and travel speeds, but a limited level of access to nearby land uses. Smaller roadways, such as Minor Collectors, provide better access at the expense of mobility and travel speeds.

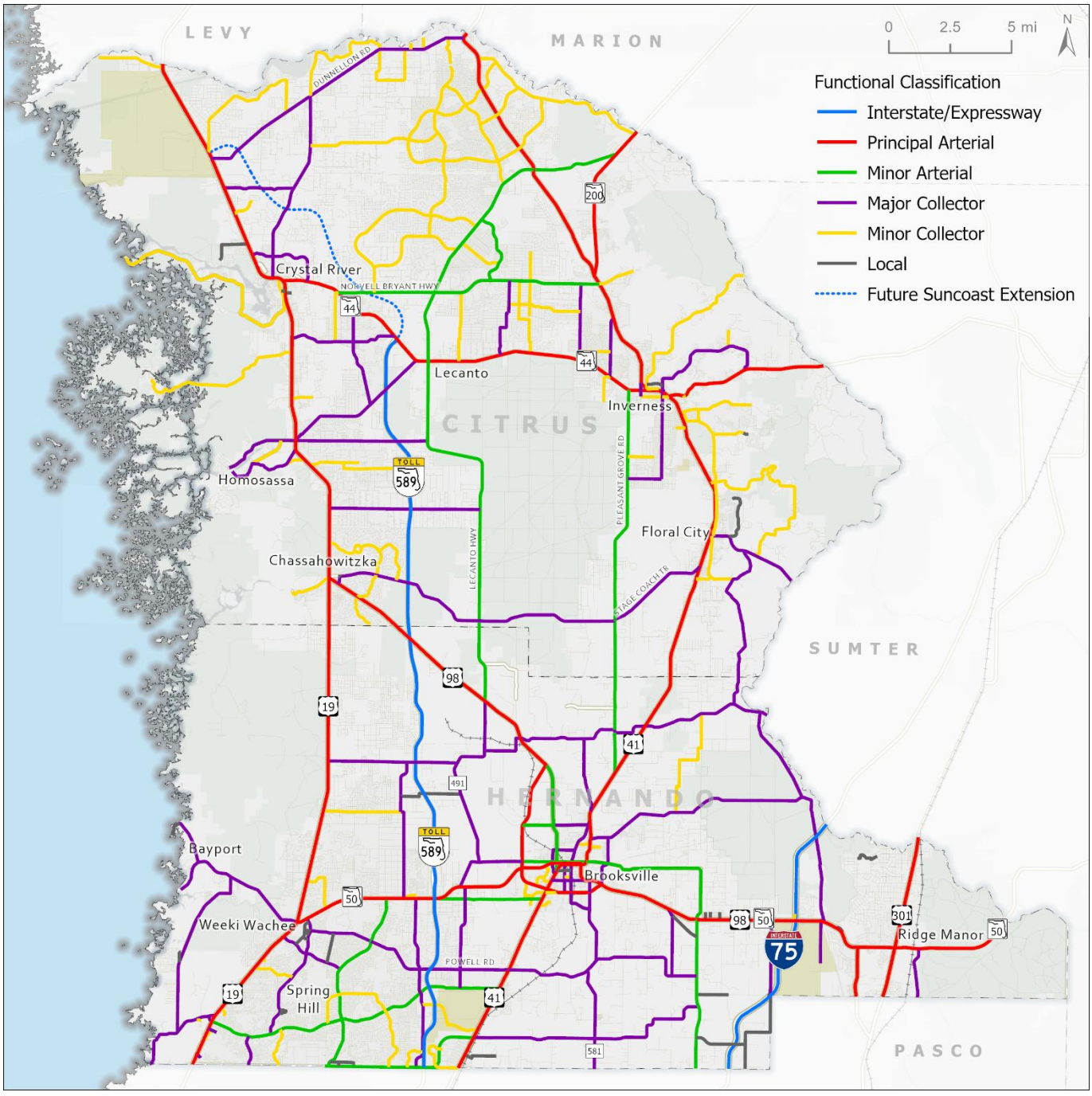
Map 2 provides information on the number of lanes for each roadway segment. Based on data from the Tampa Bay Regional Planning Model (TBRPM v10.1.1), this map shows the future network capacity based on the projects that had funding committed for construction through 2028 in the MPO's 2050 LRTP.

Map 3 and Map 4 show Annual Average Daily Traffic (AADT) volumes on the CMP network roadways. AADT is a common metric for understanding a roadway segment's typical daily usage. It represents bidirectional counts, which are seasonally adjusted to estimate the total number of vehicles for a given year and then divided by 365 to show the average per day. Map 3 includes all vehicles using the roadway, while Map 4 only shows freight trucks and large commercial vehicles.

Finally, Map 5 and Map 6 provide a summary of the public transportation (or transit) services provided in each county. These transit routes are mostly fixed-route local bus service, in addition to an on-demand microtransit service zone in the Brooksville area provided by Hernando County Transit (*TheBus*).

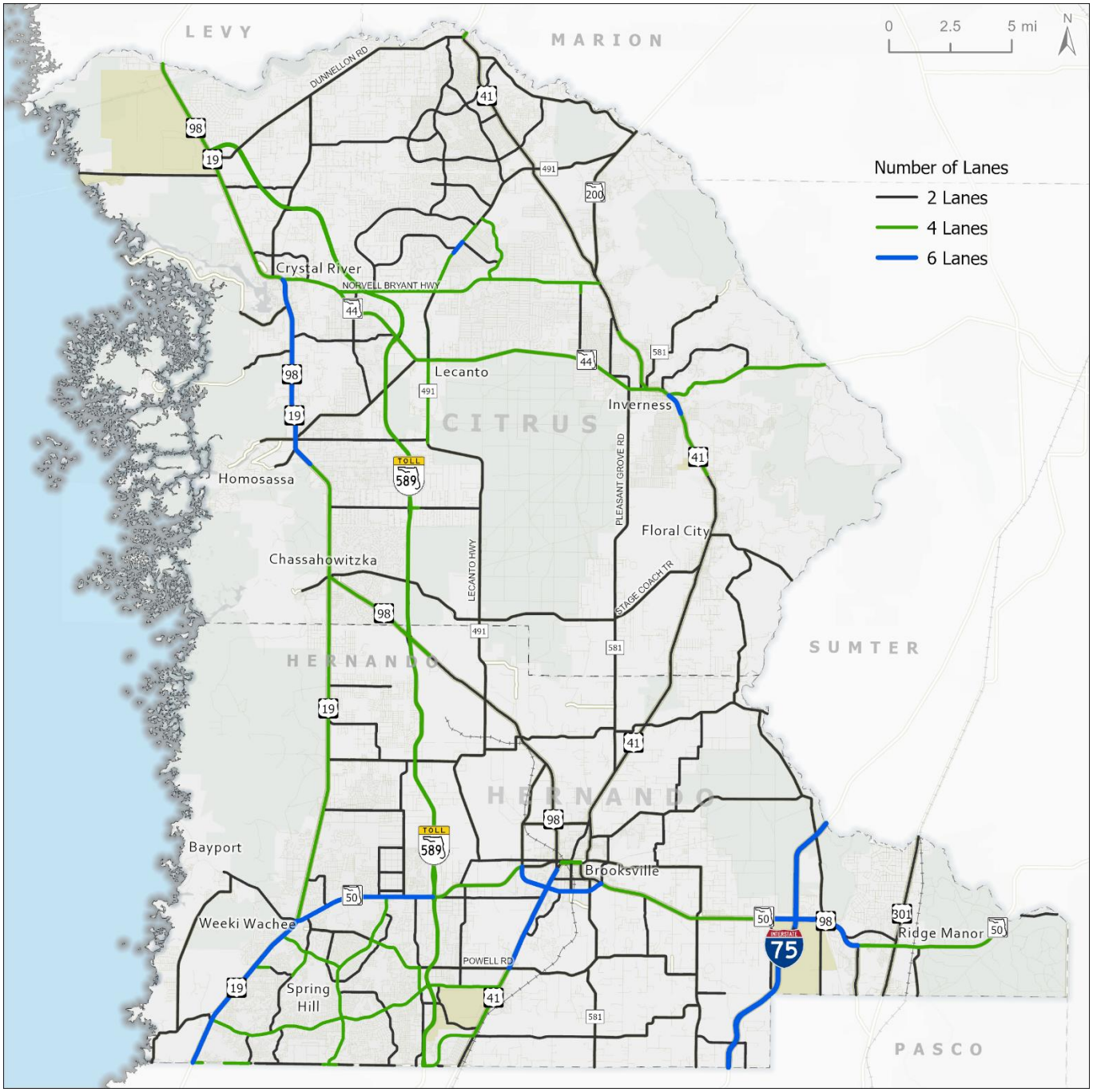
It should be noted that new roadway segments that are programmed for construction are included as part of the CMP Network for the purpose of the congestion analysis described later in this document. These future network segments, however, are only shown in Map 1 and Map 2. The other maps in the series only show roadways that were operational when the most recent performance data was collected in 2026.

*Map 1: CMP Network - Functional Classification*



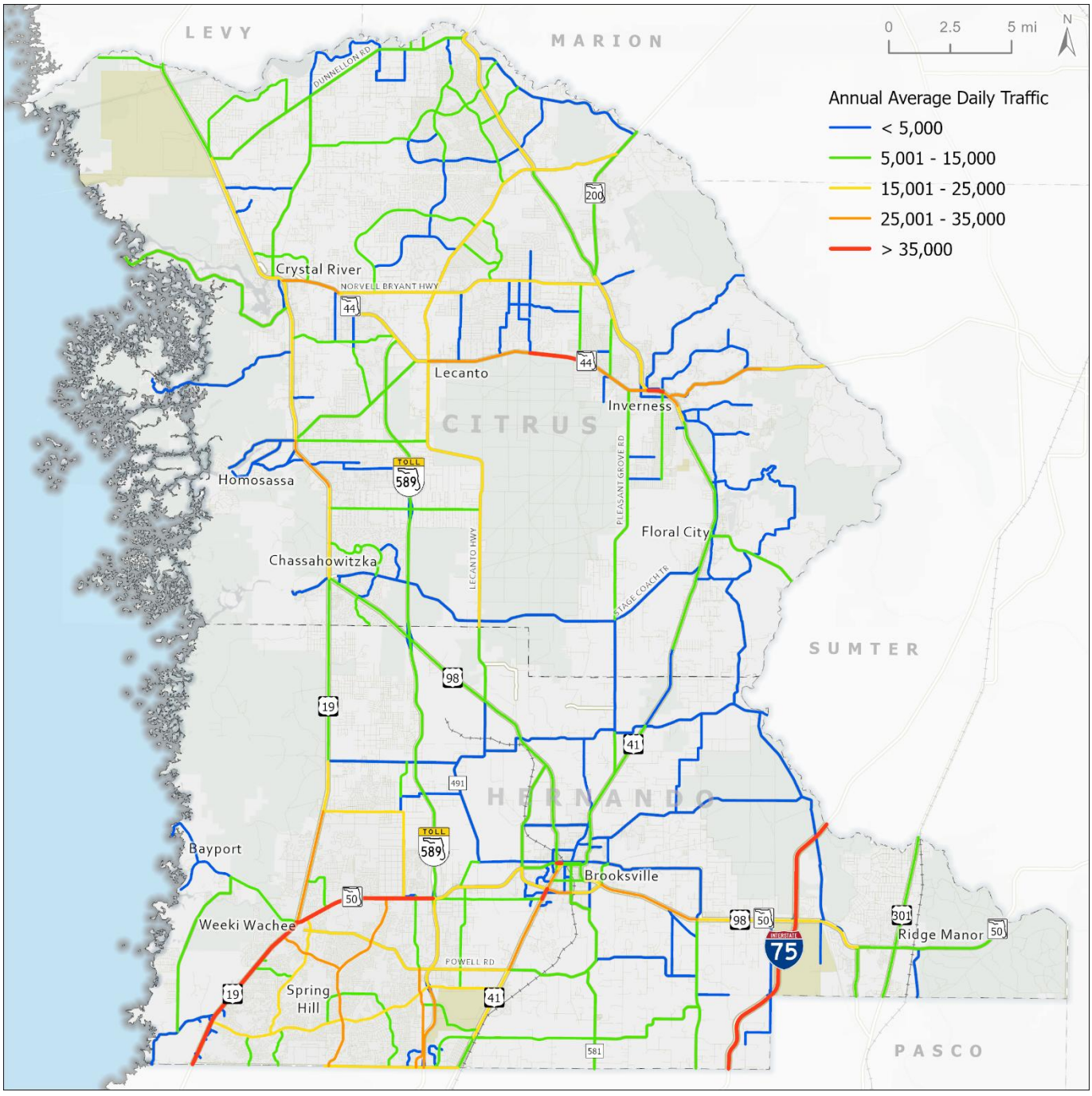

*Source: FDOT Roadway Characteristics Inventory, 2025*

*Map 2: CMP Network - Number of Lanes (2028 Existing + Committed)*



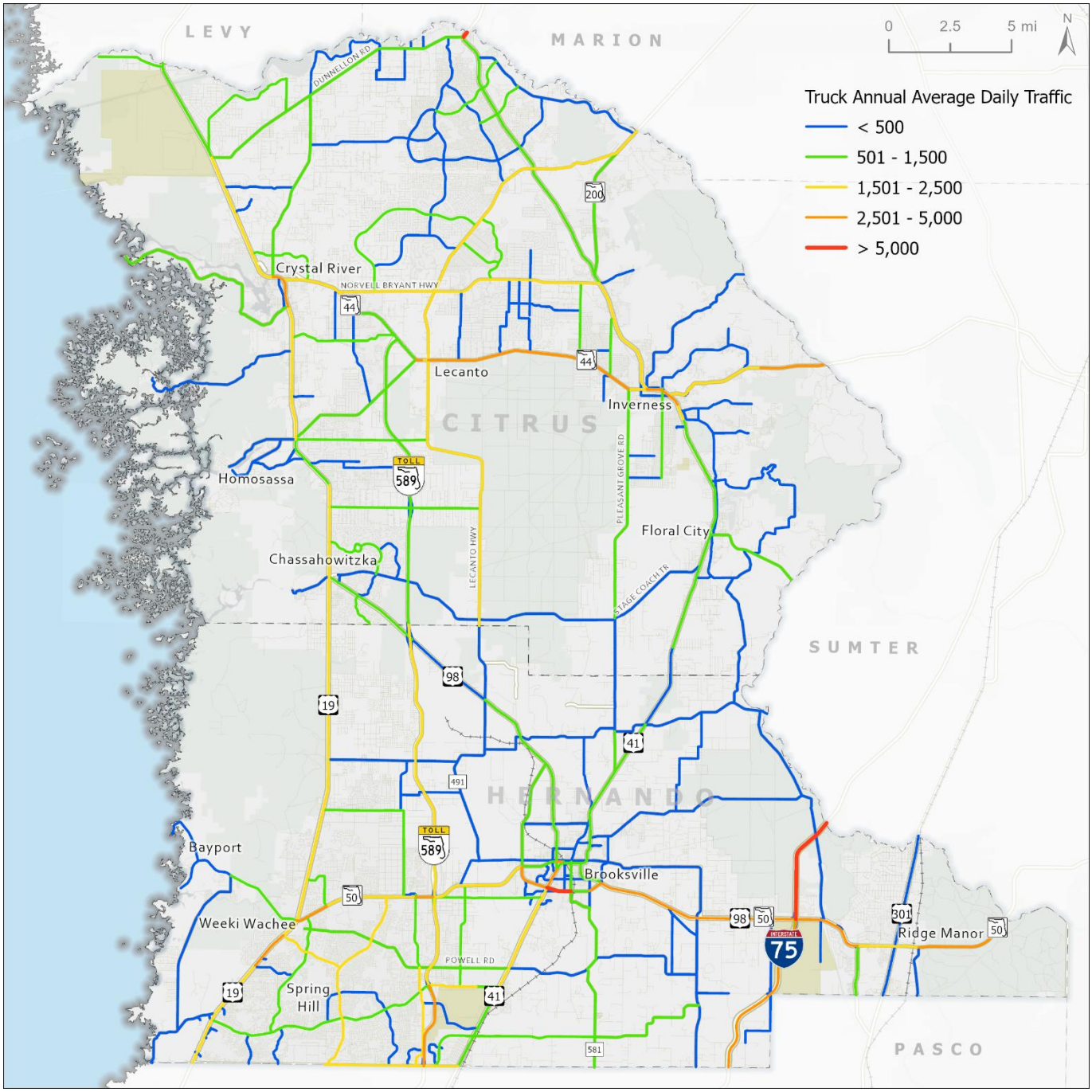

*Source: Tampa Bay Regional Planning Model v10.1.1*

*Map 3: CMP Network - Annual Average Daily Traffic (AADT) for All Vehicles*



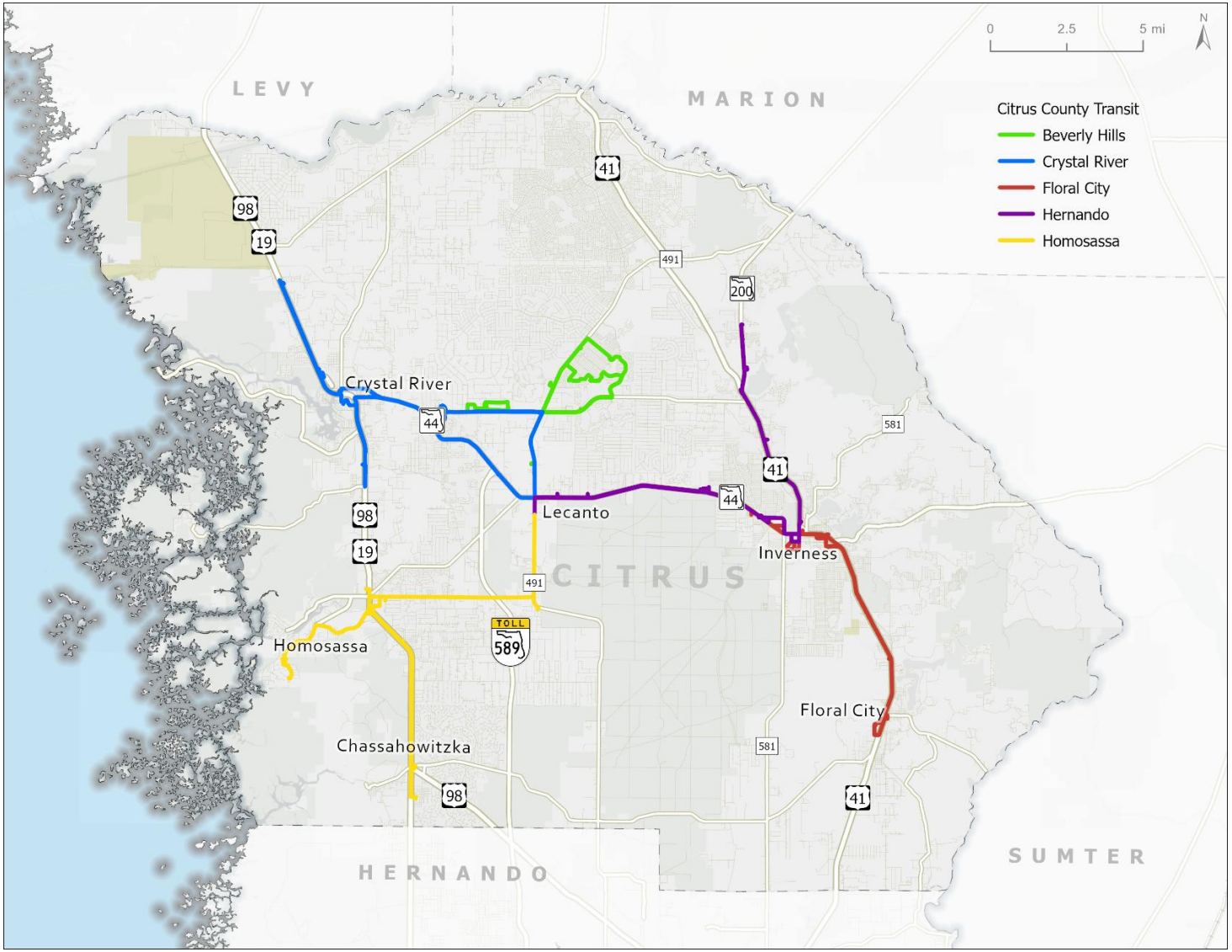

*Source: FDOT Roadway Characteristics Inventory, 2025*

*Map 4: CMP Network - Annual Average Daily Traffic (AADT) for Trucks Only*



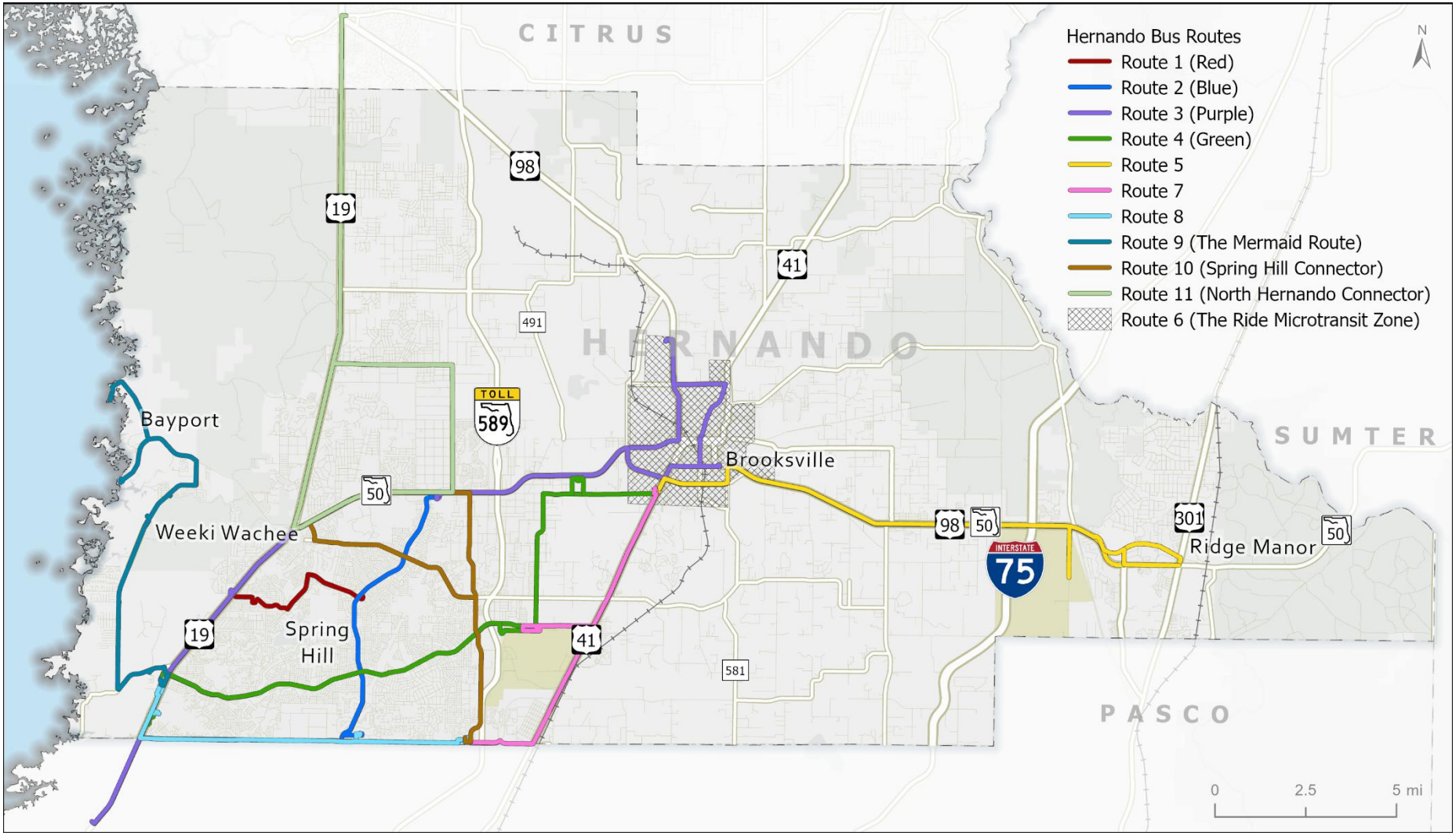

*Source: FDOT Roadway Characteristics Inventory, 2025*

*Map 5: CMP Network - Citrus County Transit Routes*




*Source: Citrus County, 2026*

*Map 6: CMP Network - Hernando County Transit Routes*




*Source: Hernando County, 2026*

# Congestion Management Performance Measures

Performance measures provide the basis for evaluating a transportation system and identifying the location and severity of congestion. Measuring performance within the CMP is a primary method of communicating current system conditions with the public and local policymakers. According to the Federal Highway Administration (FHWA), establishing multimodal performance measures should guide the identification of an acceptable level of system performance. Factors to consider when selecting performance measures include:

- Characterizing the existing and anticipated conditions of the regional transportation system
- Tracking progress towards meeting regional objectives
- Identifying specific locations with congestion to address
- Addressing congestion mitigation strategies, programs, and projects
- Communicating system performance to decisions makers and the public.

As discussed earlier, congestion is the result of multiple factors and can occur at recurring times and locations, or randomly. Four major dimensions of congestion: intensity, duration, extent, and variability are noted by FHWA in the Congestion Management Process Guidebook. Traditional ways of measuring congestion include the use of volume/capacity ratios or level of service, which are good metrics for describing the intensity dimension, while travel time reliability is generally used to measure the variability dimension experienced by motorists. Both are useful for summarizing systemwide performance. The duration and extent of congestion are more applicable when measuring at the corridor or location-specific scale.

Based on the availability of data and the emphasis for developing a safe and effective multimodal transportation system consistent with the CMP objectives, the metrics shown in Table 2 were identified to measure key systemwide performance aspects related to managing congestion.

*Table 2: CMP Performance Measures*

| CMP Objective | Data for Measuring Performance |
|---|---|
| Reduce the number and severity of vehicle crashes | 5-year rolling crash averages<br>5-year rolling non-motorized crash averages |
| Reduce the congested vehicle miles traveled | Current Traffic Counts and Roadway Length |
| Improve Peak Period Travel Time Reliability on the National Highway System for automobiles and freight vehicles | National Highway System Travel Time Reliability<br>Freight Route Travel Time Reliability |
| Increase the number of coordinated traffic signals and installation of Advanced Traffic Management Systems | Number of signalized intersections connected to a regional traffic management center |
| Increase miles of congested corridors with frequent transit service | Transit Route Coverage |
| Increase walking and cycling facilities along transit routes and within activity centers | Miles of Sidewalks, Bike Lanes, Multi-Use Trails |
| Incorporate projects identified through the CMP into the Five-Year Transportation Improvement Program (TIP) | Annual Review of the MPO Transportation Improvement Program (TIP) and Funded Work Program Projects |
| Promote and support local development decisions that include integrated land uses | Continued Coordination with Stakeholders Related to Development Plan Reviews; Presentations to MPO Board and Board of County Commissioners. |

## Network Performance

Using the CMP framework, the first three actions provide direction for conducting the analysis of roadway conditions and system performance that leads to identification of congestion locations. Following this framework leads to more effective investment decisions resulting in a safer and more efficient transportation system. Data collection and monitoring existing conditions provide insight into the performance of the region's transportation system as the fourth action of the CMP. With respect to congestion management planning, system monitoring is an all-inclusive term meant to encompass all the various activities that transportation planners engage in to collect data relevant to transportation system performance for the entire network.

The sections below include the categorized data used to assess multimodal network performance. It should be noted that performances measures related to Transportation Improvement Program (TIP) review and land use coordination are not included in the network performance evaluation. These are instead addressed through items that are reviewed on an annual basis as part of the MPO's regular planning process or through ongoing activities that occur as part of the MPO's regular coordination efforts with its planning partners.

### Roadway Safety

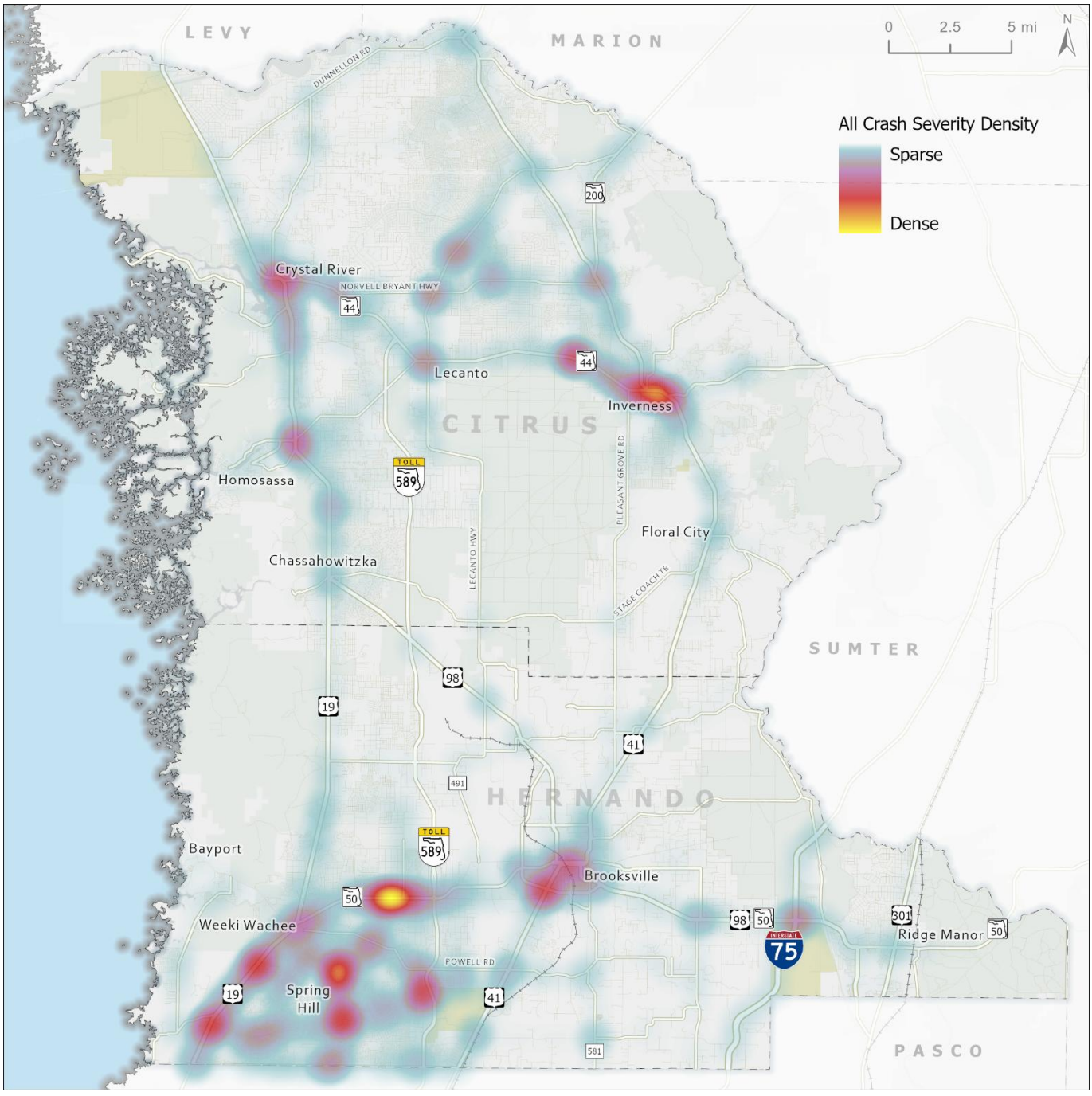
Understanding the location, frequency, and severity of roadway crashes guides the selection of non-recurring congestion locations and highlights areas of safety concern on the roadway network. Table 3 and Map 7 summarize the characteristics and most common locations of crashes within Hernando and Citrus counties.

*Table 3: 2019-2023 Five-Year Traffic Crash Summary*

| Crash Category | Hernando County | Citrus County | Two-County Total | % of Total |
|---|---|---|---|---|
| **Crash Severity** | | | | |
| Fatal | 193 | 141 | 334 | 1.08% |
| Severe Injury | 1,107 | 706 | 1,813 | 5.85% |
| Non-Severe Injury | 2,295 | 1,490 | 3,785 | 12.22% |
| Possible Injury | 2,599 | 1,880 | 4,479 | 14.46% |
| No Injury | 12,483 | 8,072 | 20,555 | 66.38% |
| **Total:** | **18,677** | **12,289** | **30,966** | **100.00%** |
| **Crash Type** | | | | |
| Angle | 1,803 | 1,803 | 3,606 | 11.65% |
| Animal | 363 | 280 | 643 | 2.08% |
| Bicycle | 175 | 125 | 300 | 0.97% |
| Head On | 352 | 212 | 564 | 1.82% |
| Left Turn | 2,087 | 1,645 | 3,732 | 12.05% |
| Off Road | 2,058 | 1,510 | 3,568 | 11.52% |
| Other | 1,961 | 1,383 | 3,344 | 10.80% |
| Pedestrian | 186 | 152 | 338 | 1.09% |
| Rear End | 6,092 | 3,945 | 10,037 | 32.41% |
| Right Turn | 363 | 189 | 552 | 1.78% |
| Rollover | 289 | 324 | 613 | 1.98% |
| Sideswipe | 2,316 | 1,335 | 3,651 | 11.79% |
| Unknown | 632 | 260 | 892 | 2.88% |
| **Total:** | **18,677** | **12,289** | **30,966** | **100.00%** |

*Source: FLHSMV / Signal 4 Analytics*

*Map 7: 2019-2023 Five Year Crash Heat Map*




*Source: FLHSMV / Signal 4 Analytics*

Using the most recent, validated five-year crash data from Florida Department of Highway Safety & Motor Vehicles (FLHSMV) crash reports, this information was compiled to help identify trends and high-crash cluster locations. Beyond informing CMP improvement strategies, it can also help guide other MPO planning and safety study efforts to define hazardous driving locations and the factors which contribute to roadway crashes.

## Roadway Capacity

The capacity of the roadway network when compared against the travel demand, or the number of vehicles regularly using the network, is a common method for assessing congestion levels. From a systemwide perspective, network performance can be measured by assessing each roadway's Level of Service (LOS). LOS is a letter-grade assigned to a roadway segment to represent quality of service and recurring congestion, with LOS A representing free-flow speed with no congestion and LOS F representing operational failure with severe levels of congestion. Table 4 shows both the centerline mileage and percentage of network roadways by LOS for existing (2025) and projected future (2030) conditions. This information is based on the most recent traffic counts conducted in both counties compared against FDOT's generalized service volume capacity for each roadway type. In each county, the percentage of roadways operating at a LOS E or LOS F is expected to increase by 2030, even when accounting for the additional capacity projects programmed for construction. Routine monitoring of roadway Level of Service is conducted by the MPO through annual data collection activities.

*Table 4: Centerline Miles of Roadway by Level of Service*

| Level of Service (LOS) | 2025 | | 2030 | |
|---|---|---|---|---|
| | *Centerline Miles* | *% of Centerline Miles* | *Centerline Miles* | *% of Centerline Miles* |
| **Hernando County** | | | | |
| **B** | 128.1 | 33.3% | 133.6 | 34.7% |
| **C** | 171.3 | 44.5% | 166.1 | 43.2% |
| **D** | 57.4 | 14.9% | 51.0 | 13.3% |
| **E** | 8.2 | 2.1% | 8.2 | 2.1% |
| **F** | 19.8 | 5.1% | 26.0 | 6.8% |
| **TOTAL** | **384.9** | **100.0%** | **384.9** | **100.0%** |
| **TOTAL (LOS E or F)** | **28.0** | **7.3%** | **34.2** | **8.9%** |
| **Citrus County** | | | | |
| **B** | 53.8 | 16.5% | 43.2 | 13.3% |
| **C** | 199.9 | 61.5% | 206.2 | 63.4% |
| **D** | 37.4 | 11.5% | 32.0 | 9.8% |
| **E** | 14.4 | 4.4% | 22.8 | 7.0% |
| **F** | 19.7 | 6.1% | 21.0 | 6.5% |
| **TOTAL** | **325.2** | **100.0%** | **325.2** | **100.0%** |
| **TOTAL (LOS E or F)** | **34.2** | **10.5%** | **43.8** | **13.5%** |

*Source: Hernando/Citrus MPO - Major Roadway Network Quality / Level of Service Analysis, 2026*

## Roadway Reliability

Another way of measuring the effects of congestion on roadway performance is reliability. A roadway network's reliability indicates the predictability of traffic conditions. Reliability does not represent the presence or lack of congestion conditions, but rather how consistent conditions are during the same time(s) on any given day.

Table 5 summarizes multiple metrics for expressing network reliability over different time periods, as well as for different combinations of roadways and vehicle types. Although these measures differ slightly, they have

commonalities in that they use probe speed data measurements to determine travel times, and thus, roadway performance on a daily basis throughout the year.

In general, the Level of Travel Time Reliability (LOTTR) is a ratio comparing longer travel times (80th percentile) to "normal" travel times (50th percentile). LOTTR assesses the consistency, or dependability, of travel times from day to day or across different times of the day. A higher LOTTR indicates a larger difference between these two measured travel times for the same roadway, and thus, more unpredictability in expected traffic conditions. Similarly, Planning Time Index (PTI), represents the total travel time that a traveler should budget for a trip to ensure on-time arrival to their destination at least 95% of the time. A higher PTI indicates a less reliable arrival time, which requires travelers to set aside more time to ensure on-time arrival at their destination.

*Table 5: Reliability Performance Measures*

| Measure | 2024 | |
|---|---|---|
| | Hernando County | Citrus County |
| **Weekday AM Peak Period (6-10AM) Level of Travel Time Reliability on the State Highway System** | 1.04 | 1.04 |
| **Weekday PM Peak Period (4-8PM) Level of Travel Time Reliability on the State Highway System** | 1.04 | 1.05 |
| **Average Daily Planning Time Index on the National Highway System** | 1.13 | 1.14 |
| **Average Daily Truck Planning Time Index on the National Highway System** | 1.16 | 1.15 |
| **% of Interstate Person Miles Traveled that are Reliable** | 100.0% | |
| **% of Non-Interstate National Highway System Person Miles Traveled that are Reliable** | 99.0% | |
| **Truck Travel Time Reliability Index** | 1.08 | |

*Source: FDOT Source Book, 2026*

## Signal Technology

According to the FHWA, Poor traffic signal timing contributes to traffic congestion and delay. Conventional signal systems use pre-programmed, daily signal timing schedules. Adaptive signal control technology adjusts the timing of red, yellow and green lights to accommodate changing traffic patterns and ease traffic congestion.[2] As part of the FDOT District Severn ITS (Intelligent Transportation System) Architecture, Citrus County and Hernando County Traffic Control Centers are integrated into the FDOT Tampa Bay SunGuide Center network. These centers manage traffic flow, detect incidents, and coordinate with local 911 dispatch operators.

The traditional signal timing process is time consuming and requires substantial amounts of manually collected traffic data. Advanced signal technology allows for continued collection of data and allows for more dynamic signal timing updates. Projects like the addition Arterial Traffic Management on US 19 that is included in the

[2] *Federal Highway Administration. (n.d.). Adaptive signal control technology. U.S. Department of Transportation. Retrieved May 11, 2026, from* FHWA Adaptive Signal Control Technology (https://www.fhwa.dot.gov/innovation/everydaycounts/edc-1/asct.cfm)

MPO's TIP is an example of an advanced signal technology deployment that will aid in future congestion management.

Coordinating with FDOT, Citrus County, and Hernando County to understand the systemwide plans for upgrading and implementing advanced traffic signal technologies will allow the MPO to better identify the most appropriate locations for future investments.

### Multimodal Transportation

In addition to roadway infrastructure, a well-planned and connected multimodal transportation network is a critical component of congestion management. Transit service and non-motorized transportation facilities, such as bike lanes, shared-use paths, trails, and sidewalks, provide travel options other than driving which can help reduce overall travel demand in key areas of traffic congestion.

Hernando County's transit system, *TheBus*, and Citrus County Transit, regularly collect and maintain information related to various transit services and operational data. Reported on as part of each agency's Transit Development Plan, transit service characteristics are evaluated annually to determine system performance. For the CMP, Table 6 includes the total revenue miles of transit service in the MPO Planning Area. Based on data reported to the National Transit Database (NTD) by each transit agency, total annual revenue miles of service is a metric that combines the systemwide miles of route coverage with the service frequency provided by each route.

*Table 6: Transit Performance Measures*

| Measure | 2024 | |
|---|---|---|
| | Hernando County | Citrus County |
| **Total Annual Revenue Miles of Service** | 561,288 | 229,654 |

*Source: FDOT Florida Transit Information & Performance Handbook, 2025*

Table 7 provides metrics summarizing the non-motorized network. They include the share of non-limited access (i.e. non-interstate) roadways on the State Highway System that have pedestrian or bicycle facilities on at least one side. Additionally, the total centerline miles of major network roadways complete with sidewalks on both sides, as well as the total centerline miles complete with a bike lane or adjacent shared-use path are both provided for each county.

*Table 7: Non-Motorized Performance Measures*

| Measure | 2024 | |
|---|---|---|
| | Hernando County | Citrus County |
| **% Pedestrian Facility Coverage on the State Highway System** | 77.2% | 57.1% |
| **% Bicycle Facility Coverage on the State Highway System** | 80.2% | 82.4% |
| **Network Centerline Miles with Sidewalks on Both Sides** | 62.0 | 54.1 |
| **Network Centerline Miles with Bicycle Facilities (Bike Lane or Shared-Use Path)** | 108.5 | 93.4 |

*Source: FDOT Source Book and Hernando/Citrus MPO, 2026*

# Congestion Analysis

## Approach

Once the relevant data have been collected and compiled to identify congestion causing factors, the fifth action of the CMP is to analyze the network to identify highly congested locations, prioritize the top problem areas, and assess the potential causes of congestion.

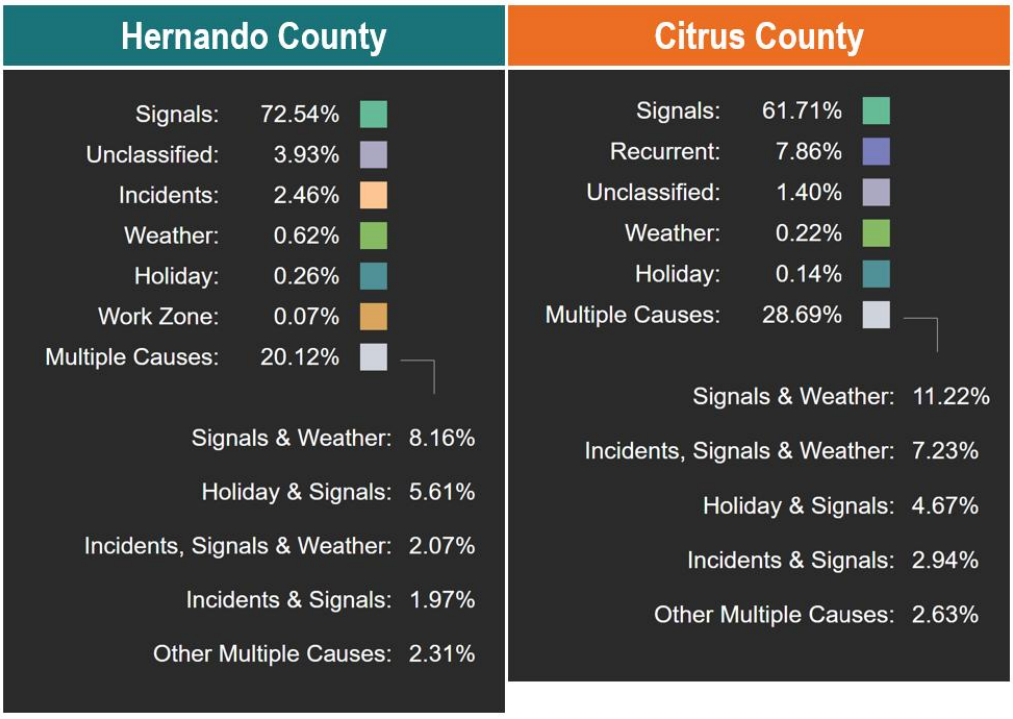
Congestion is traditionally understood to be the level at which the performance of the transportation system is no longer acceptable due to traffic delays. Consistent with the multimodal nature of congestion and the causes of congestion, the CMP includes a multi-data approach for identifying areas of congestion. In addition to multiple sources of data, the congestion analysis approach also includes a two-step process for first identifying congested roadway segments and then determining the top-priority locations for further evaluation.

The data sources chosen to evaluate and provide context to congestion are described in the following sections along with the results of the two-tier screening process. Maps providing additional information and data for the larger CMP network can be found in Appendix A.

## Local Causes of Congestion

Prior to conducting the location-specific congestion analysis on the CMP roadway network, a broader review of the most common causes of congestion in Hernando and Citrus counties was conducted to better understand the factors influencing traffic delays at the local level. 2024 average weekday speed measurements from the RITIS traffic data application were used to generate sources of congestion on the roadway network within each county. Shown in Figure 3, the results indicate that traffic signals or intersection throughput are the overwhelming leading cause of congestion.

*Figure 3: Causes of Weekday Congestion in Hernando & Citrus Counties*




*Source: RITIS, 2025*

## Tier 1 Congestion Screening

The initial congestion screening process consisted of evaluating the full CMP roadway network to identify highly congested segments throughout the MPO's Planning Area. Multiple sources of data were used to provide a more balanced approach when defining congestion conditions throughout the network. The three primary indicators of a highly congested location are described in more detail below:

1. **Volume-to-Capacity (V/C) Ratio** - This measure considers both the travel demand and the transportation infrastructure supply by establishing a ratio to identify locations with insufficient capacity, which results in congestion. A V/C ratio which exceeds 1.0 is a location where the measured vehicle volume over a period of time is greater than the amount of traffic the roadway facility can carry, resulting in congestion and delay. Data from the regional travel demand model (TBRPM v10.1.1), also used for developing the MPO's 2050 LRTP, was projected through the year 2030 for the purposes of this analysis to determine the estimated V/C ratio for the CMP roadway network. Highly congested locations were defined as those with a V/C ratio of 1.20 or greater.

2. **Recurring Bottleneck Conditions** - This measure is based on probe speed data from the RITIS application. Traffic conditions for every weekday in 2024 were averaged to identify locations where recurring traffic delays occur when comparing free-flow travel speeds to measured travel speeds during times of congestion. The results provide information on traffic bottlenecks, including the duration, queue length, and severity of occurrences, which is then used to rank them based on a combination of the conditions. Highly congested locations were defined as those that experience the 10 worst or most severe bottleneck conditions in either county.

3. **Stakeholder Feeback** - This measure incorporates the results of information received from MPO partner agency stakeholders. As part of the CMP's coordination efforts, a series of meetings was held with agency staff from the MPO's Technical Advisory Committee (TAC), representing a variety of local, county, and state agencies that understand local traffic conditions and regularly receive feedback from the public on related issues. During a meeting on November 20, 2025, stakeholders provided feedback on congested locations by marking a map of Hernando and Citrus counties to indicate areas that experience the worst recurring congestion. For the purposes of this congestion screening, highly congested locations were defined as those appearing on at least one of these maps.

If a roadway segment or group of segments met the criteria associated with any of these three indicators, it was identified for further consideration. The Tier 1 screening resulted in thirteen corridors in each county (26 in total). These corridors and their limits are provided in Table 8 on the next page.

*Table 8: Corridors Identified by Tier 1 Congestion Screening*

| ID # | Roadway | From | To | 2030 Maximum Volume/Capacity Ratio | 2024 County Bottleneck Ranking | Stakeholder Feedback (# of Maps) |
|---|---|---|---|---|---|---|
| **Hernando County** | | | | | | |
| **H-1** | **County Line Rd** | Holden Dr | Mariner Blvd | **1.21** | N/A | **4** |
| **H-2** | **County Line Rd** | Linden Dr | Oak Chase Blvd | **1.27** | N/A | **4** |
| **H-3** | **Mariner Blvd** | Northcliffe Blvd | Linden Dr | **1.24** | **#1** | **1** |
| **H-4** | **US 98 / Ponce de Leon Blvd** | Fort Dade | Jefferson St | **1.26** | N/A | 0 |
| **H-5** | **US 41 / Broad St** | Grubbs Rd | CR 581 / Snow Memorial Hwy | **1.33** | N/A | 0 |
| **H-6** | **Northcliffe Blvd** | Mariner Blvd | Deltona Blvd | 0.98 | **#3** | **1** |
| **H-7** | **Barclay Ave** | Elgin Blvd / Powell Rd | Spring Hill Dr | 0.50 | **#2 & #4** | **5** |
| **H-8** | **Wiscon Rd** | SR 50 / Cortez Blvd | California St | 0.39 | **#5** | **2** |
| **H-9** | **California Blvd** | Powell Rd | Spring Hill Dr | 0.51 | **#7** | **2** |
| **H-10** | **Main St / Howell Blvd** | North Ave | US 98 / Broad St | 1.09 | **#6** | **1** |
| **H-11** | **Main St** | Us 98 / Broad St | MLK Jr Blvd | 0.52 | **#9** | **1** |
| **H-12** | **SR 50 / Cortez Blvd** | US 301 / Treiman Blvd | Burwell Rd | 0.12 | **#8** | **1** |
| **H-13** | **Emerson** | US 98 / Jefferson St | SR 50 / Cortez Blvd | 0.16 | **#10** | **1** |
| **Citrus County** | | | | | | |
| **C-1** | **US 41 / Florida Ave** | Castlelake Ave | Sunray Ln | **1.23** | N/A | 0 |
| **C-2** | **US 41 / Main St** | Grace Street (Citrus Hospital) | SR 44 / Gulf to Lake Hwy | **1.45** | **#7** | **5** |
| **C-3** | **US 41 / Florida Ave** | David St | Independence Hwy | **1.27** | N/A | **1** |
| **C-4** | **SR 200 / Carl G Rose Hwy** | Aero Pl | Lecanto Hwy | **1.37** | N/A | **1** |
| **C-5** | **Lecanto Hwy** | Norvell Bryant Hwy | Fennessy Ln | **1.34** | **#5** | **2** |
| **C-6** | **Dunnellon Rd** | US 19 / US 98 | Chabaud Ter | **1.23** | N/A | 0 |
| **C-7** | **US 98 / Suncoast Blvd** | SR 44 / Gulf to Lake Hwy | Venable St | 0.74 | **#4** | **3** |
| **C-8** | **SR 44 / Gulf to Lake Hwy** | US 19 / US 98 | Norvell Bryant Hwy | 1.00 | **#3** | **5** |
| **C-9** | **SR 44 / Gulf to Lake Hwy** | Norvell Bryant Hwy | Rock Crusher Rd | 0.53 | **#8** | **3** |
| **C-10** | **Deltona Blvd** | Elkcam Blvd | G Martinelli Blvd | N/A | **#10** | 0 |
| **C-11** | **Hampshire Blvd** | Lecanto Hwy | McNeal Dr | 0.32 | **#9** | 0 |
| **C-12** | **SR 44 / Gulf to Lake Hwy** | Independence Hwy | Pleasant Grove Rd | 0.77 | **#6 & #2** | **4** |
| **C-13** | **SR 44 / Gulf to Lake Hwy / Main St** | Pleasant Grove Rd | Citrus High School | 1.09 | **#1** | **4** |

## Tier 2 Congestion Screening

The next step in the congestion screening process used the data from the previously described indicators to determine which of the 26 Tier-1 corridors should be considered a top priority for further evaluation to determine the more specific factors contributing to congestion and eventually develop a series of improvement strategies for addressing them. The Tier 2 screening process used the criteria below to prioritize the larger group of highly congested locations. Roadway segments meeting any two of the three criteria were considered for further evaluation:

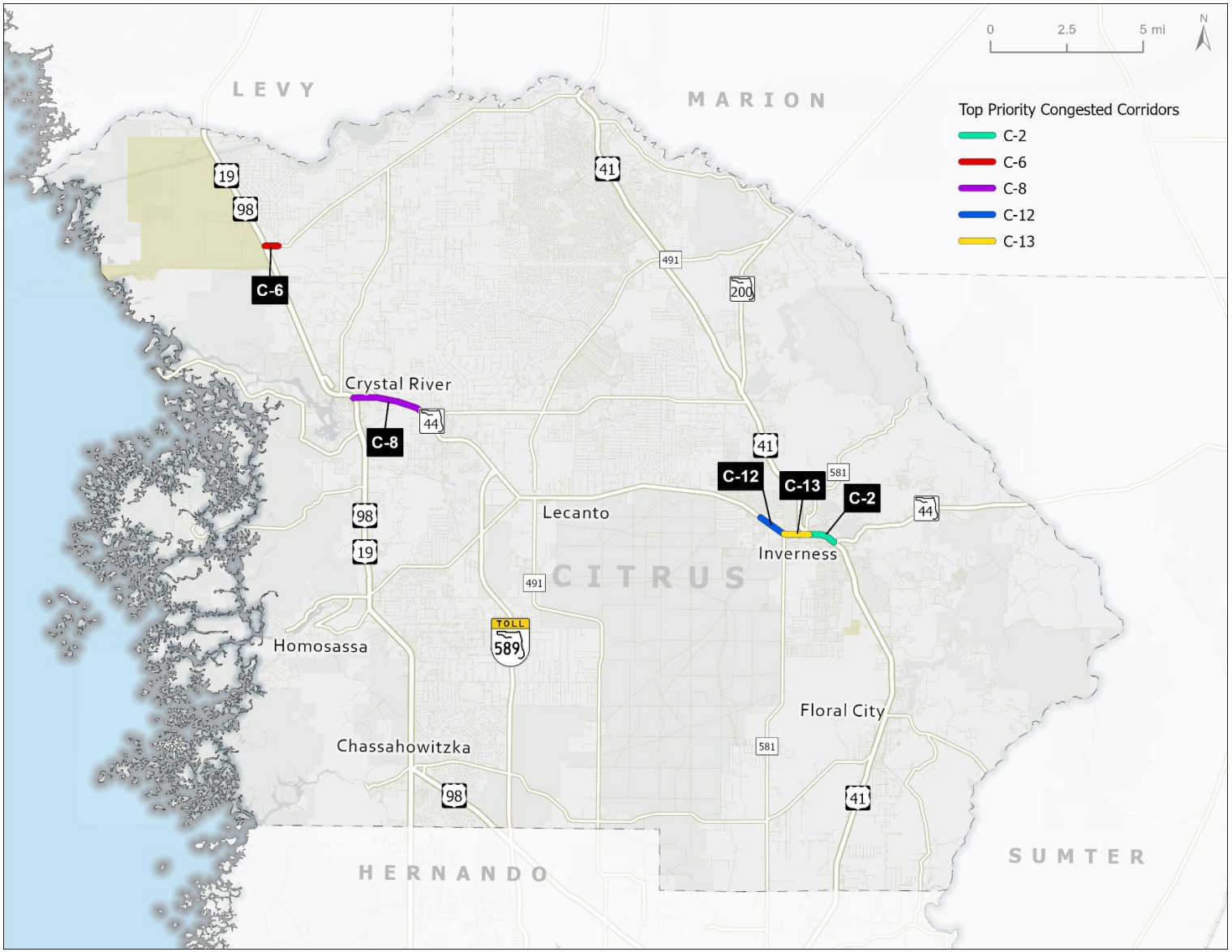
- Having a projected 2030 V/C ratio of 1.20 or greater,
- Experiencing the Top 5 worst recurring bottleneck conditions in each county, or
- Being identified on at least 4 stakeholder maps of regularly congested areas.

The results of the Tier 2 congestion screening process are summarized in Table 9, and shown in Map 8 and Map 9 on the following pages. It should be noted that two corridors, H-1 (County Line Road from Holden Drive to Mariner Boulevard) and C-5 (Lecanto Highway from Norvell Bryand Highway to Fennessy Lane), met the criteria for top-priority corridors, but were removed from consideration because of capacity-adding projects that were recently constructed or are programmed for funding in the next five years. They were replaced by an additional priority corridor in each county: H-8 (Wison Road from SR 50 / Cortez Boulevard) and C-6 (Dunnellon Road from US 19 / US 98 to Chabaud Terrace). Additional information about future capacity-adding projects listed in the MPO's 2050 LRTP can be found in Appendix B.

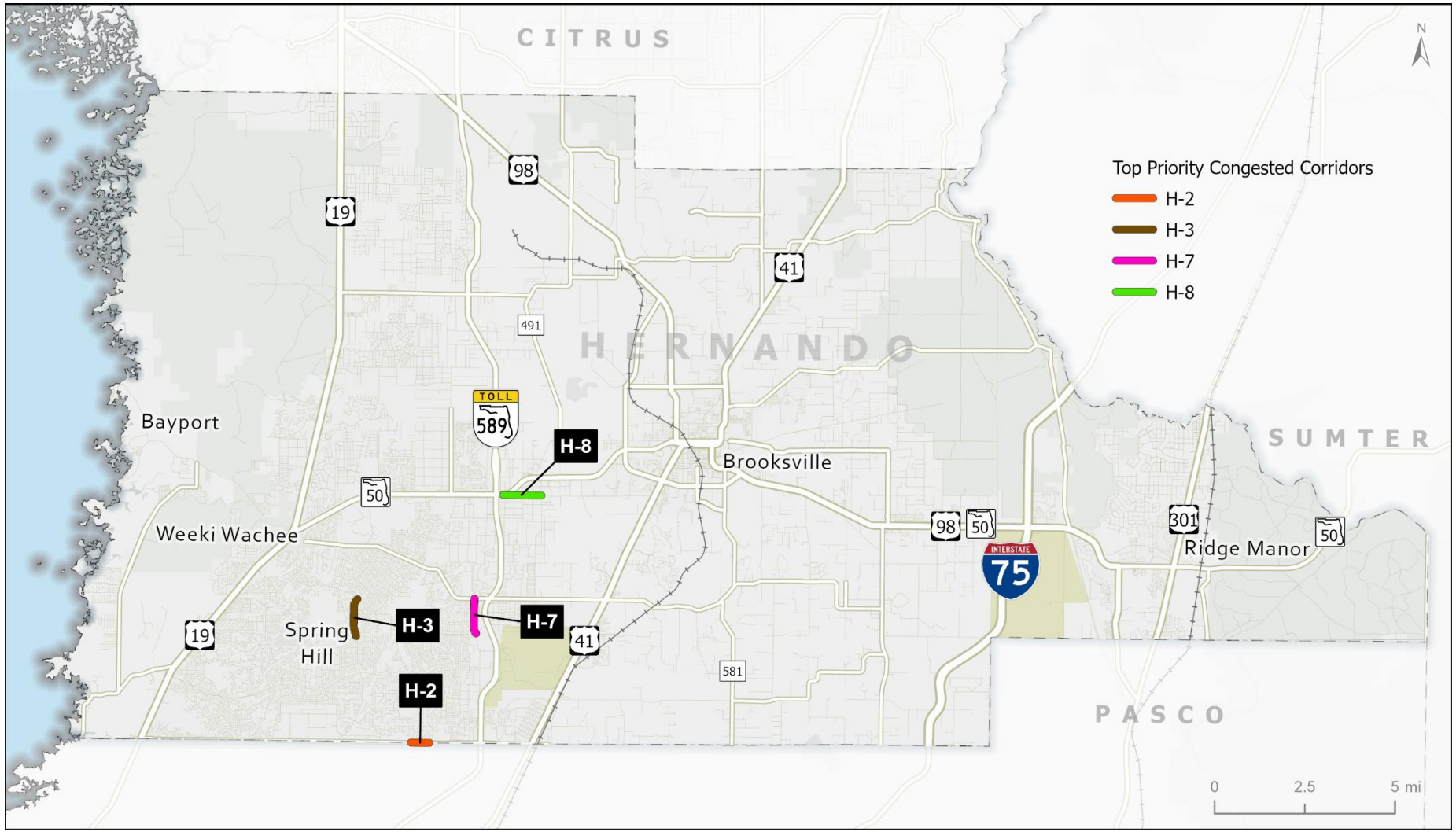
*Table 9: Top-Priority Corridors Identified by Tier 2 Congestion Screening*

| ID # | Roadway | From | To | 2030 Maximum Volume/Capacity Ratio | 2024 County Bottleneck Ranking | Stakeholder Feedback (# of Maps) |
|---|---|---|---|---|---|---|
| **Hernando County** | | | | | | |
| **H-2** | **County Line Road** | Linden Dr | Oak Chase Blvd | **1.27** | N/A | **4** |
| **H-3** | **Mariner Blvd** | Northcliffe Blvd | Linden Dr | **1.24** | **#1** | 1 |
| **H-7** | **Barclay Ave** | Elgin Blvd / Powell Rd | Spring Hill Dr | 0.50 | **#2 & #4** | **5** |
| **H-8** | **Wiscon Rd** | SR 50 / Cortez Blvd | California St | 0.39 | **#5** | 2 |
| **Citrus County** | | | | | | |
| **C-2** | **US 41 / Main St** | Grace Street (Citrus Hospital) | SR 44 / Gulf to Lake Hwy | **1.45** | **#7** | **5** |
| **C-6** | **Dunnellon Rd** | US 19 / US 98 | Chabaud Ter | **1.23** | N/A | 0 |
| **C-8** | **SR 44 / Gulf to Lake Hwy** | US 19 / US 98 | Norvell Bryant Hwy | 1.00 | **#3** | **5** |
| **C-12** | **SR 44 / Gulf to Lake Hwy** | Independence Hwy | Pleasant Grove Rd | 0.77 | **#6 & #2** | **4** |
| **C-13** | **SR 44 / Gulf to Lake Hwy / Main St** | Pleasant Grove Rd | Citrus High School | 1.09 | **#1** | **4** |

*Map 8: Top-Priority Congestion Corridor Locations - Citrus County*



*Map 9: Top-Priority Congestion Corridor Locations - Hernando County*



# Congestion Management 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. Federal regulations governing the MPO's CMP (23 CFR 450.322(c)4) development categorizes strategies into the following classifications:

- Demand management strategies,
- Traffic operational improvements,
- Public transportation improvements,
- ITS/signal technologies as related to the regional ITS architecture, and
- Where necessary, additional system capacity.

## Strategy Toolbox

In carrying out this requirement, a variety of more specific congestion management strategies are evaluated to determine which are likely to be the most viable options based on contextual factors such as existing infrastructure, travel patterns, and the characteristics of data collected during the congestion analysis process. These strategy types for consideration are listed in Table 10, which serves as a toolbox for developing the recommendations described in this section. Using the full list of strategies in the toolbox available for managing congestion, the primary purpose of the CMP's sixth action is to identify a set of recommended strategies for managing congestion on the CMP Network and achieve the CMP Objectives. A brief description of the example strategies listed in the toolbox can be found in Appendix C.

Although all strategy types were considered when developing recommendations for top-priority corridors, a primary focus was placed on Traffic Operational Improvements since signals and intersection-related delays are a significant cause of congestion in both Hernando and Citrus counties. These types of improvement strategies also tend to have lower costs, shorter implementation timeframes, and can be easily customized to fit the needs of specific corridors or intersection locations.

Additionally, a common cause of traffic delays for many of the priority corridors evaluated is school-related congestion. As such, a separate toolbox was developed to summarize congestion management strategies specifically for addressing these conditions. The strategies described in Table 11 can be applied not only to the corridors described in this section, but to other roadways near one or more major schools anywhere in the MPO Planning Area.

*Table 10: CMP Strategy Toolbox*

| Strategy Classification | Representative Strategies |
|---|---|
| **Demand Management** | Carpool/Vanpool Assistance and Incentives<br>Flexible Work Hours<br>Telecommuting<br>Transit Vouchers<br>Guaranteed Ride Home Programs<br>Parking Management<br>Land Use Planning (jobs/housing balance, mixed-use) |
| **Public Transportation Improvements** | Improved Frequency (more buses per hour)<br>Park-n-Ride Lots<br>Transit Station/Stop Amenities<br>Extended Hours of Operations<br>Variable Transit Fares (age-based discounts, week pass)<br>Improved Transit Access for Pedestrians and Cyclists<br>Expanded Coverage Area (new routes) |
| **Traffic Operational Improvements** | Improved Signalization<br>Intersection Geometry (number of turn lanes)<br>Alternative Intersection Concepts (including roundabouts)<br>Incident Management<br>Access Management (median and driveway access)<br>Congestion Pricing<br>Freight/Commercial Vehicle Enforcement<br>Construction Management (Maintenance of Traffic)<br>Roadway Signage<br>Multimodal infrastructure (bike lanes / sidewalks) |
| **ITS Technologies** | Advanced Traffic Management System (ATMS)<br>Traffic Management Center Operations<br>Ramp Metering<br>Traveler Information Devices<br>Expanded Traffic Signal Timing and Coordination |
| **System Capacity** | New Roadway Alignments<br>Additional Travel Lanes on Existing Roadways<br>HOV / Special Use Lanes |

*Table 11: CMP Strategy Toolbox for School-Related Congestion*

| Strategy Classification | Representative Strategies |
|---|---|
| **Roadway Network** | **Circulation Improvement:**<br>• Evaluate and optimize traffic signals around school dismissal times<br>• Evaluate pedestrian signal timing (crossing times and wait times)<br>• Evaluate the street network to optimize routing to and from school sites |
| | **Infrastructure Tools:**<br>• Traffic calming measures (curb extensions, chicanes, lateral shifts, roundabouts, etc.)<br>• Traffic control devices (traffic signals, variable message signs, pedestrian hybrid beacons)<br>• Pavement markings and signage (Marked crosswalks, guidance signage, warning signage, speed feedback signage) |
| **School Site** | **Site Design:**<br>• Establish off-site waiting lots and curbing and parking zones<br>• Designate separate entrances and additional entrances for different modes of travel (bus, drop-off/ pick-up, pedestrians/ bicyclists)<br>• Establish a priority parking and loading zone for carpool vehicles<br>• Provide a pull-through lane to the left side of the on-site drop-off zones to permit passing |
| | **Demand Scheduling:**<br>• Stagger dismissal times<br>• School Dismissal Automation Software (e.g. PikMyKid, School Pass) |
| **Transportation Mode** | **Encouragement Solutions:**<br>• Awareness campaign about school bus routes among eligible students<br>• School Carpooling Apps (e.g GoKid, KiD CarPool, Carpool to School, Carpools-Kids, Zūm, Hop Skip Drive, Sheprd, Kango)<br>• Waking/biking school bus<br>• Walk/ride to school days |
| | **Infrastructure Solutions:**<br>• Fill gaps in the pedestrian and bicycle network<br>• Path and trail connection from school to adjacent properties<br>• Secure and convenient bicycle parking |

## Corridor-Specific Recommendations

Potential strategies for the Tier 2 congested locations were developed based on a review of the current transportation system including multimodal infrastructure and transit services, and local land-use considerations. Listed on the following pages are a series of corridor conditions, observations, and strategies for developing future congestion management projects.

## Hernando County Locations

*H-2 - County Line Road from Linden Drive to Oak Chase Boulevard*

| Corridor Summary | | Observations/Recommendations |
|---|---|---|
| **Segment Length** | 0.5 Miles | • County Line Road tapers from 4-lanes to 2-lanes<br>• Widening of County Line Road from Mariner to Suncoast (FY 2031)<br>• Potential interim strategies:<br>  ○ Westbound right-turn lane on Greymanor Road (Avalon West)<br>  ○ Completion of Newbridge Street West to Linden (Frontage Road) |
| **Existing # of Lanes** | 2 | |
| **2030 Max Volume Capacity Ratio** | 1.27 | |
| **2024 County Bottleneck Rank** | N/A | |
| **2030 Max Total Vehicle Volume** | 19,315 | |
| **2040 Max Trucks Share** | 4.7% | |
| **2024 Max Travel Time Index** | 1.3 (WB @ 5:15 PM) | |
| **Transit Service** | Route 8 | |
| **Crash Hot Spot** | No | |
| **Non-Motorized Facilities** | None | |
| **Land Use Factors** | Residential, New Development | |

*H3 - Mariner Boulevard from Northcliffe Boulevard to Linden Drive*

| Corridor Summary | | Observations/Recommendations |
|---|---|---|
| **Segment Length** | 1.1 Miles | • Bottleneck associated with school dismissal time<br>  ○ Coordinate with schools to promote transportation options<br>• Intersection at Northcliffe constrained<br>  ○ Quadrant intersection using Chalmer St & Lamson Ave for NB to WB and EB to SB movements<br>• Monitor impacts from completion of Chalmer St / Bay Drive to Deltona Blvd<br>• Median Modification (Landover to Elgin) in Tentative Work Program (FY 29) |
| **Existing # of Lanes** | 4 (w/ Center Turn Lane) | |
| **2030 Max Volume Capacity Ratio** | 1.24 | |
| **2024 County Bottleneck Rank** | #1 | |
| **2030 Max Total Vehicle Volume** | 35,230 | |
| **2040 Max Trucks Share** | 2.5% | |
| **2024 Max Travel Time Index** | 1.6 (NB @ 2:15 PM) | |
| **Transit Service** | Route 2 (Blue) | |
| **Crash Hot Spot** | Yes | |
| **Non-Motorized Facilities** | Sidewalks | |
| **Land Use Factors** | Schools (x2), Residential, Shopping/Activity Centers, New Development | |

*H-7 - Barclay Avenue from Elgin Boulevard / Powell Road to Spring Hill Drive*

| Corridor Summary | | Observations/Recommendations |
|---|---|---|
| **Segment Length** | 1.0 Miles | • Bottleneck associated with school start time<br>  ○ Coordinate with schools to promote transportation options<br>• Barclay 2-lanes north of Elgin / Powell<br>  ○ Construct additional SB storage and NB receiving lane on Barclay<br>  ○ Convert NB to EB right to shared thru/right |
| **Existing # of Lanes** | 4 (w/ Center Turn Lane) | |
| **2030 Max Volume Capacity Ratio** | 0.50 | |
| **2024 County Bottleneck Rank** | #2 and #4 | |
| **2030 Max Total Vehicle Volume** | 25,438 | |
| **2040 Max Trucks Share** | 2.3% | |
| **2024 Max Travel Time Index** | 1.6 (NB @ 7:15 AM) | |
| **Transit Service** | Route 4 (Green) and Route 10 (New) | |
| **Crash Hot Spot** | No | |
| **Non-Motorized Facilities** | Sidewalks | |
| **Land Use Factors** | Schools (x2), Residential, Shopping/Activity Centers, New Development | |

*H-8 - Wiscon Road from SR 50 / Cortez Boulevard to California Street*

| Corridor Summary | | Observations/Recommendations |
|---|---|---|
| **Segment Length** | 1.1 Miles | • Delay associated with SR 50 signal occurs throughout the day<br>• Wiscon Rd serves as local bypass of SR 50<br>• Traffic Study of Wiscon Rd and Winter St intersection<br>  ○ Lane utilization<br>  ○ Effect of uncontrolled EB movement<br>  ○ Evaluate Origin-Destination of trips |
| **Existing # of Lanes** | 2 | |
| **2030 Max Volume Capacity Ratio** | 0.39 | |
| **2024 County Bottleneck Rank** | #5 | |
| **2030 Max Total Vehicle Volume** | 6,198 | |
| **2040 Max Trucks Share** | 1.7% | |
| **2024 Max Travel Time Index** | 1.4 (WB; multiple times throughout the day) | |
| **Transit Service** | Route 3 (Purple) and Route 4 (Green) | |
| **Crash Hot Spot** | No | |
| **Non-Motorized Facilities** | None | |
| **Land Use Factors** | Residential, Shopping/Activity Centers, New Development | |

## Citrus County Locations

*C-2 - US 41 / Main Street from Grace Street (Citrus Hospital) to SR 44 / Gulf to Lake Highway*

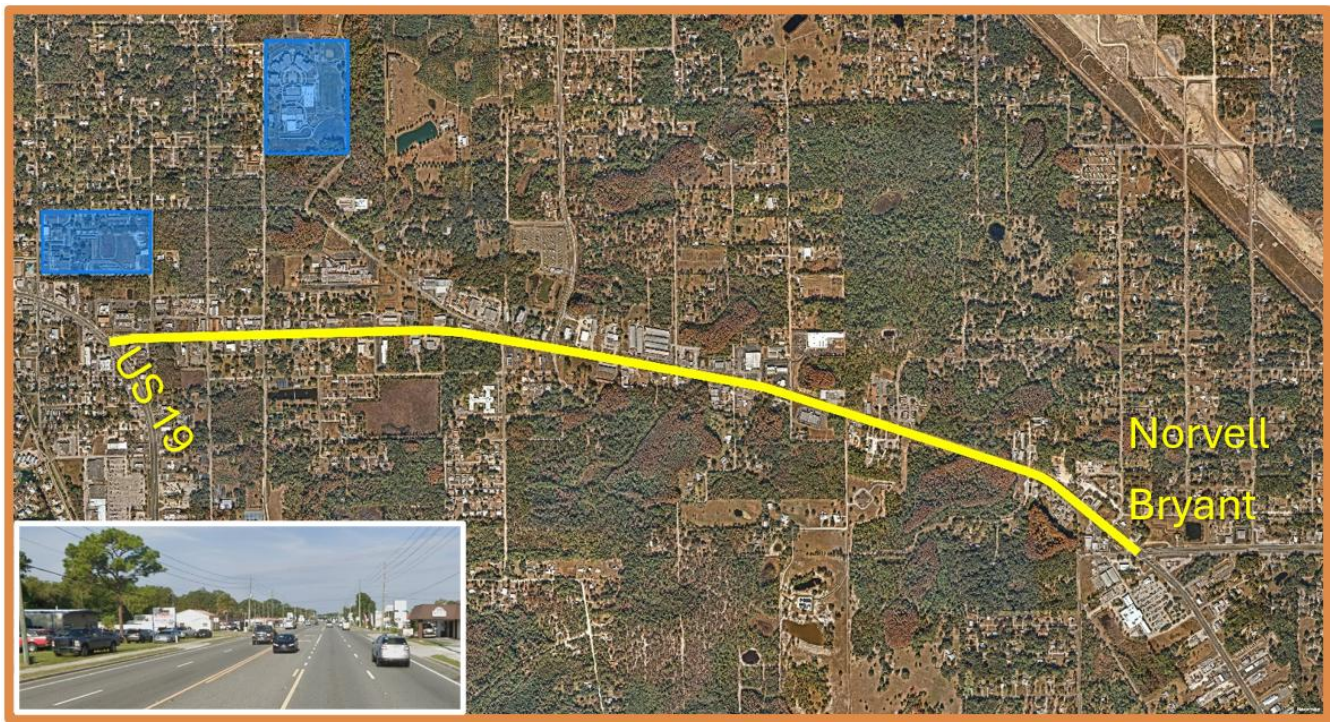
| Corridor Summary | | Observations/Recommendations |
|---|---|---|
| **Segment Length** | 0.9 Miles | • High traffic demand<br>  ○ US 41 and SR 44 traffic merging together<br>  ○ Both US 41/SR 44 intersections under construction in 2024<br>• Conduct corridor traffic study<br>  ○ Consider Highland Blvd / Montgomery Ave as an alternative route<br>  ○ Include advanced travel time information for routing options<br>• Extend Multi-Use Path on Highland Blvd east of Apopka St (0.25 miles)<br>• Implement Citrus County TDP Recommendations<br>  ○ Cross County Shuttle – connect Inverness and Crystal River<br>  ○ Bus shelters at high ridership stops<br>• Coordinate with schools to promote transportation options<br>• Incorporate median islands to improve safety |
| **Existing # of Lanes** | 4 (w/ Center Turn Lane) | |
| **2030 Max Volume Capacity Ratio** | 1.24 | |
| **2024 County Bottleneck Rank** | #7 | |
| **2030 Max Total Vehicle Volume** | 39,848 | |
| **2040 Max Trucks Share** | 6.6% | |
| **2024 Max Travel Time Index** | 1.4 (NB @ 5:15 PM) | |
| **Transit Service** | Floral City Route | |
| **Crash Hot Spot** | Yes | |
| **Non-Motorized Facilities** | Sidewalks | |
| **Land Use Factors** | Schools, Hospital, Parks, Shopping/ Activity Centers, Residential | |

*C-6 - Dunnellon Road from US 19 / US 98 to Chabaud Terrace*

| Corridor Summary | | Observations/Recommendations |
|---|---|---|
| **Segment Length** | 0.7 Miles | • High truck percentage<br>  ○ Identify destinations and potential turning movement delays<br>• US 19 Resurfacing (NW 7th Ave to S of Withlacoochee River Bridge) programmed in FY 2027<br>• Suncoast Parkway Phase 3 Extension to US 19<br>  ○ Realignment of Dunnellon Rd<br>  ○ Construction Programmed FY 2028<br>• Complete Traffic Study<br>  ○ Determine need for the addition of a WB right-turn lane<br>  ○ Signal re-timing options<br>  ○ Adaptive traffic signal consideration for random arrivals<br>  ○ Confirm changes to future travel patterns |
| **Existing # of Lanes** | 2 | |
| **2030 Max Volume Capacity Ratio** | 1.23 | |
| **2024 County Bottleneck Rank** | N/A | |
| **2030 Max Total Vehicle Volume** | 6,675 | |
| **2040 Max Trucks Share** | 5.2% | |
| **2024 Max Travel Time Index** | 1.3 (EB @ 11:30 AM) | |
| **Transit Service** | N/A | |
| **Crash Hot Spot** | No | |
| **Non-Motorized Facilities** | None | |
| **Land Use Factors** | Residential | |

*C-8 - SR 44 / Gulf to Lake Highway from US 19 / US 98 to Norvell Bryant Highway*

| Corridor Summary | | Observations/Recommendations |
|---|---|---|
| **Segment Length** | 1.1 Miles | • High traffic demand<br>  ○ Norvell Bryant and SR 44 traffic merging<br>• Regional option once Suncoast Phase 3 is completed<br>• Advance recommendations from Turkey Oak Dr Corridor Evaluation<br>  ○ Extend SB to EB left-turn at SR 44<br>  ○ Adjust signal phases at US 19 and at SR 44 to reduce crashes<br>• Evaluate Access Management and two-way left turn lane<br>• Implement Citrus County TDP Recommendations<br>  ○ Cross County Shuttle – connect Inverness and Crystal River<br>  ○ Bus shelters at high ridership stops<br>• Coordinate with schools to promote transportation options |
| **Existing # of Lanes** | 4 (w/ Center Turn Lane) | |
| **2030 Max Volume Capacity Ratio** | 1.45 | |
| **2024 County Bottleneck Rank** | #3 | |
| **2030 Max Total Vehicle Volume** | 24,328 | |
| **2040 Max Trucks Share** | 2.6% | |
| **2024 Max Travel Time Index** | 1.1 (WB @ 2:15 PM) | |
| **Transit Service** | Crystal River Route | |
| **Crash Hot Spot** | Yes | |
| **Non-Motorized Facilities** | Sidewalks | |
| **Land Use Factors** | Schools (x2), Residential, Shopping/Activity Centers, New Development | |



*C-12 - SR 44 / Gulf to Lake Highway from Independence Highway to Pleasant Grove Road*

| Corridor Summary | | Observations/Recommendations |
|---|---|---|
| **Segment Length** | 0.9 Miles | • Split Phase Signal at Pleasant Grove Rd<br>  ○ NB and SB operating at different times<br>• Conduct Signal Timing Study<br>  ○ Coordination of arrivals to accommodate EB to SB right turns<br>• Potential intersection modifications at Pleasant Grove Rd<br>  ○ Move crosswalks and stop bars closer to intersection<br>  ○ Reduce all red clearance interval<br>  ○ Can an EB to SB right-turn lane be added (limited ROW) |
| **Existing # of Lanes** | 4 (w/ Center Turn Lane) | |
| **2030 Max Volume Capacity Ratio** | 0.77 | |
| **2024 County Bottleneck Rank** | #6 and #2 | |
| **2030 Max Total Vehicle Volume** | 22,358 | |
| **2040 Max Trucks Share** | 3.9% | |
| **2024 Max Travel Time Index** | 1.6 (EB @ 5:15 PM) | |
| **Transit Service** | Floral City Route and Hernando Route | |
| **Crash Hot Spot** | Yes | |
| **Non-Motorized Facilities** | Sidewalks | |
| **Land Use Factors** | Residential, Parks, Shopping/Activity Centers, New Development | |

*C-13 - SR 44 / Gulf to Lake Highway / Main Street from Pleasant Grove Road to Citrus High School*

| Corridor Summary | | Observations/Recommendations |
|---|---|---|
| **Segment Length** | 0.8 Miles | • Split Phase Signal at Pleasant Grove Road<br>  ○ NB and SB operating at different times<br>• Conduct Signal Timing Study<br>  ○ Coordination of arrivals to accommodate EB to SB right turns<br>• Potential intersection modifications at Pleasant Grove Rd<br>  ○ Move crosswalks and stop bars closer to intersection<br>  ○ Reduce all red clearance interval<br>  ○ Add EB to SB right-turn lane<br>• Incorporate median islands to improve safety<br>• Cooridnate with schools to promote transporation options |
| **Existing # of Lanes** | 4 (w/ Center Turn Lane) | |
| **2030 Max Volume Capacity Ratio** | 1.09 | |
| **2024 County Bottleneck Rank** | #1 | |
| **2030 Max Total Vehicle Volume** | 31,580 | |
| **2040 Max Trucks Share** | 4.3% | |
| **2024 Max Travel Time Index** | 1.9 (WB @ 5:15 PM) | |
| **Transit Service** | Floral City Route and Hernando Route | |
| **Crash Hot Spot** | Yes | |
| **Non-Motorized Facilities** | Sidewalks | |
| **Land Use Factors** | Schools (x2), Residential, Parks, Shopping/Activity Centers, New Development | |

# Next Steps

The final actions of the CMP are to develop recommended strategies into implementable projects that can be prioritized and funded through the MPO's TIP and evaluate the effectiveness of the implemented projects through regular evaluation and assessment of performance measures. Projects selected for implementation should focus primarily on addressing existing areas of congestion with strategic solutions, providing viable multimodal transportation options, and incorporating safety upgrades in key locations to reduce crashes and fatalities. These projects typically have a lower cost and a shorter implementation timeframe than roadway widening and capacity projects.

This step of the process helps determine whether operational or policy adjustments are needed to make the current strategies work better and provides information about how various strategies work in order to implement future approaches within the CMP study area. Data collection and performance monitoring are ongoing with the various periodic assessments of roadway, transit, bicycle/pedestrian/trail, freight network performance in Hernando and Citrus Counties.

As future challenges associated with traffic congestion in the region continue to grow, funding for the future needed capacity and congestion management projects will also continue to be a challenge for transportation planning agencies throughout the country. Federal formula funds have been the traditional way that MPOs are able to advance transportation projects. To maintain system performance and supplement available funding, the Hernando/Citrus MPO should continue to work with FDOT to identify funding opportunities for addressing needs on the State Highway System. Additional funding has been made available by the US Department of Transportation as well on a competitive basis through the Federal transportation bill, Infrastructure Investment and Jobs Act (IIJA).

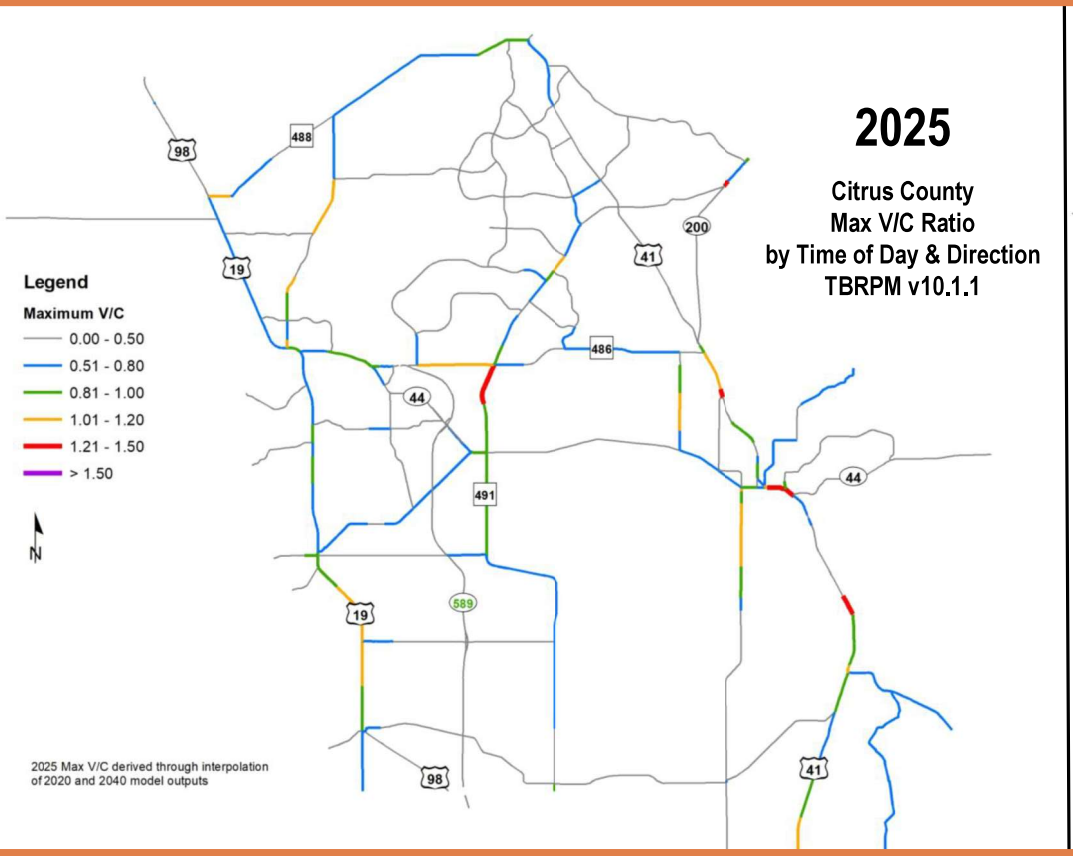
Future Action items for the Congestion Management Process may include, but are not limited to:

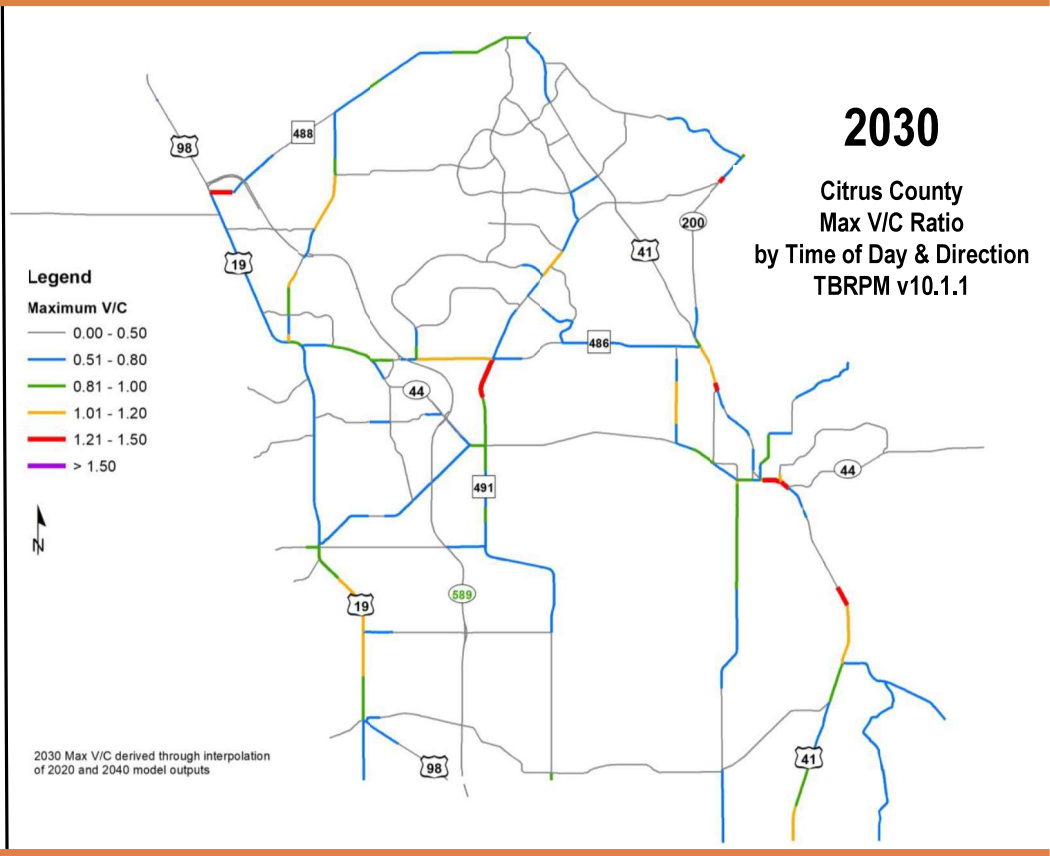
1. Integrating the recommendations of the Hernando/Citrus MPO Congestion Management Process for the ongoing monitoring of the transportation system by key stakeholders including the Technical Advisory Committee (TAC) and Citizens Advisory Committee (CAC),
2. Monitoring the availability of data from the Florida Department of Transportation, especially as it relates to travel time reliability measures,
3. Monitoring Federal and state requirements pertaining to performance evaluation and Congestion Management Process requirements including the updates to performance targets,
4. Programming corridor/intersection studies based on the mitigation strategy recommendations as permitted and based on projected funding listed in the MPO's Unified Planning Work Program,
5. Emphasizing the MPO's view of evaluating existing infrastructure needs in advance of capacity expansion and incorporating strategies for more efficient movement of traffic (i.e. TSM&O),
6. Encouraging focused coordination with local municipalities and stakeholders to incorporate congestion management strategies (i.e. sidewalks, transit infrastructure expansion, median modifications, etc.) during project planning, scoping, and design, including maintenance projects (i.e. resurfacing), as potential 'add-on' elements, and
7. Incorporating a review of the Congestion Management Process during development of the 2055 Long Range Transportation Plan update to better inform future funding decisions and project prioritization activities.

# APPENDIX A

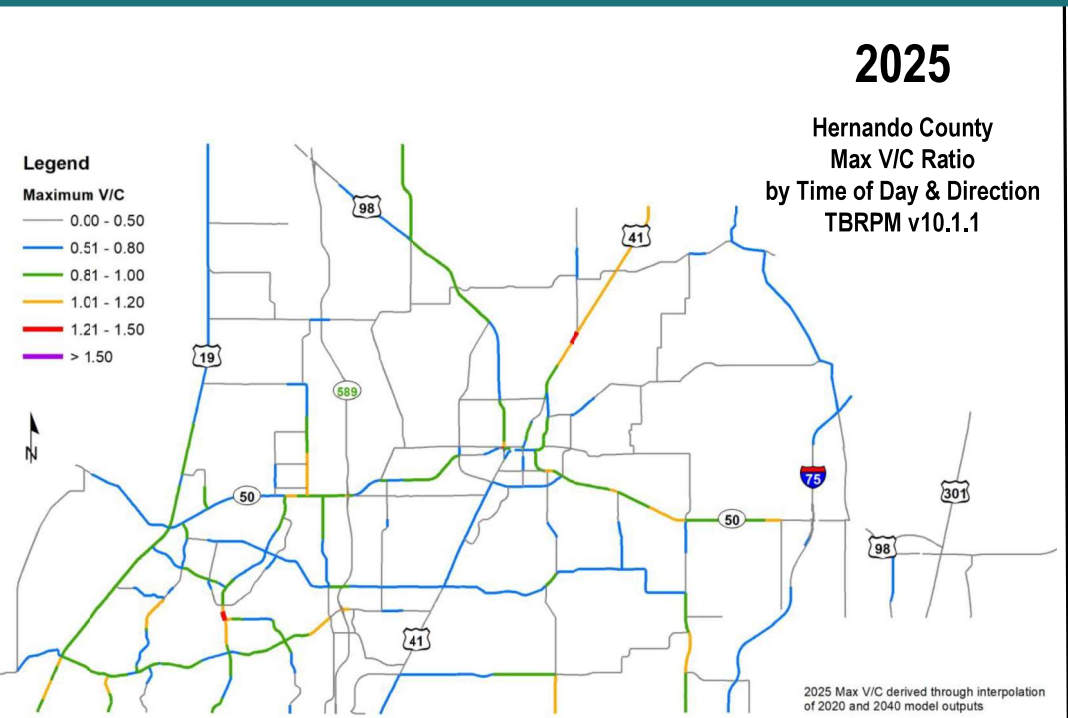
*Congestion Screening Data Maps*

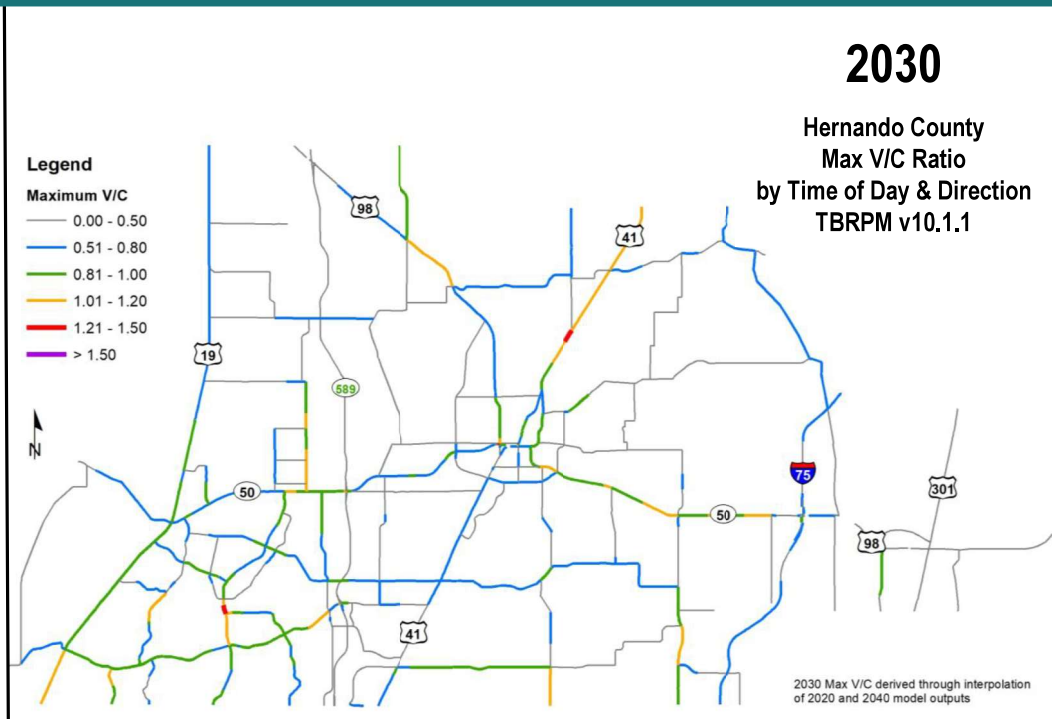
# Roadway Network Volume-to-Capacity Ratio



# Roadway Network Volume-to-Capacity Ratio

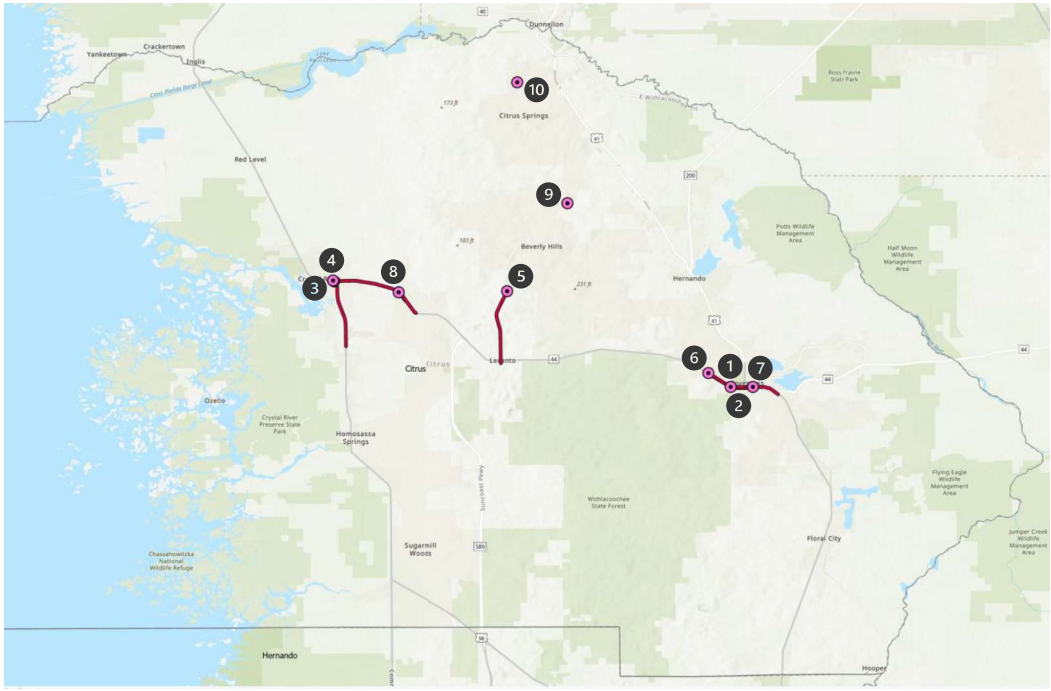


# Roadway Network Bottleneck Locations

## Worst Recurring Bottlenecks in Citrus County – 2024 Weekdays

| LOCATION | AVG DAILY DURATION (MINUTES) | AVG DAILY MAX QUEUE (MILES) | AVG DAILY VOLUME ESTIMATE |
|---|---|---|---|
| 1. SR 44 **WB** @ CR 581 / Pleasant Grove Rd | 55 | 0.89 | 14,691 |
| 2. SR 44 **EB** @ CR 581 / Pleasant Grove Rd | 26 | 0.95 | 18,902 |
| 3. SR 44 **WB** @ US 19 / US 98 / Suncoast Blvd | 8 | 2.77 | 13,665 |
| 4. US 98 **WB** @ SR 44 | 7 | 2.75 | 14,116 |
| 5. CR 491 **NB** @ CR 486 / Norvell Bryant Hwy | 8 | 3.00 | 10,311 |
| 6. SR 44 **WB** @ Independence Hwy / Crystal Blvd | 7 | 1.44 | 17,782 |
| 7. US 41 **NB** @ SR 44 | 8 | 0.97 | 19,203 |
| 8. SR 44 **WB** @ CR 486 / Norvell Bryant Hwy | 5 | 1.09 | 9,926 |
| 9. Hampshire Blvd **WB** @ Lecanto Hwy | 131 | 0.14 | *No Data* |
| 10. Deltona Blvd **SB** @ Elkcam Blvd | 12 | 0.16 | *No Data* |

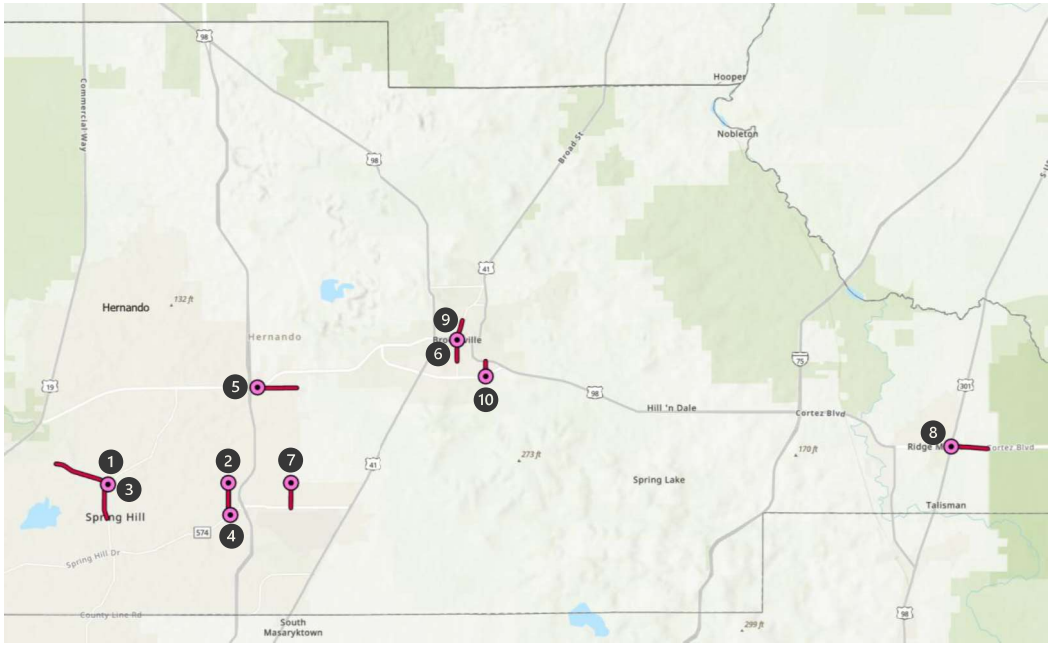



*Source: RITIS, 2025*

# Roadway Network Bottleneck Locations

## Worst Recurring Bottlenecks in Hernando County – 2024 Weekdays

| LOCATION | AVG DAILY DURATION (MINUTES) | AVG DAILY MAX QUEUE (MILES) | AVG DAILY VOLUME ESTIMATE |
|---|---|---|---|
| 1. CR 587 **NB** @ Northcliffe Blvd | 21 | 1.08 | 15,000 |
| 2. CR 585 **NB** @ CR 572 / Elgin Blvd / Powell Rd | 15 | 0.98 | 13,625 |
| 3. Northcliffe Blvd **EB** @ CR 587 / Mariner Blvd | 9 | 1.54 | 9,403 |
| 4. CR 585 **SB** @ CR 574 / Spring Hill Dr | 7 | 0.99 | 13,473 |
| 5. CR 570 **WB** @ SR 50 / Cortez Blvd | 18 | 1.07 | 2,254 |
| 6. CR 445 **SB** @ US 41 / US 98 / SR 45 / SR 50A | 10 | 0.63 | 2,826 |
| 7. CR 583 **NB** @ CR 572 / Powell Rd | 10 | 0.75 | 2,737 |
| 8. SR 50 **WB** @ US 301 / SR 35 / Treiman Blvd | 6 | 1.01 | 2,870 |
| 9. CR 445 **NB** @ US 41 / US 98 / SR 45 / SR 50A | 10 | 0.71 | 1,113 |
| 10. Emerson Rd **SB** @ SR 50 / Cortez Blvd | 13 | 0.45 | 945 |

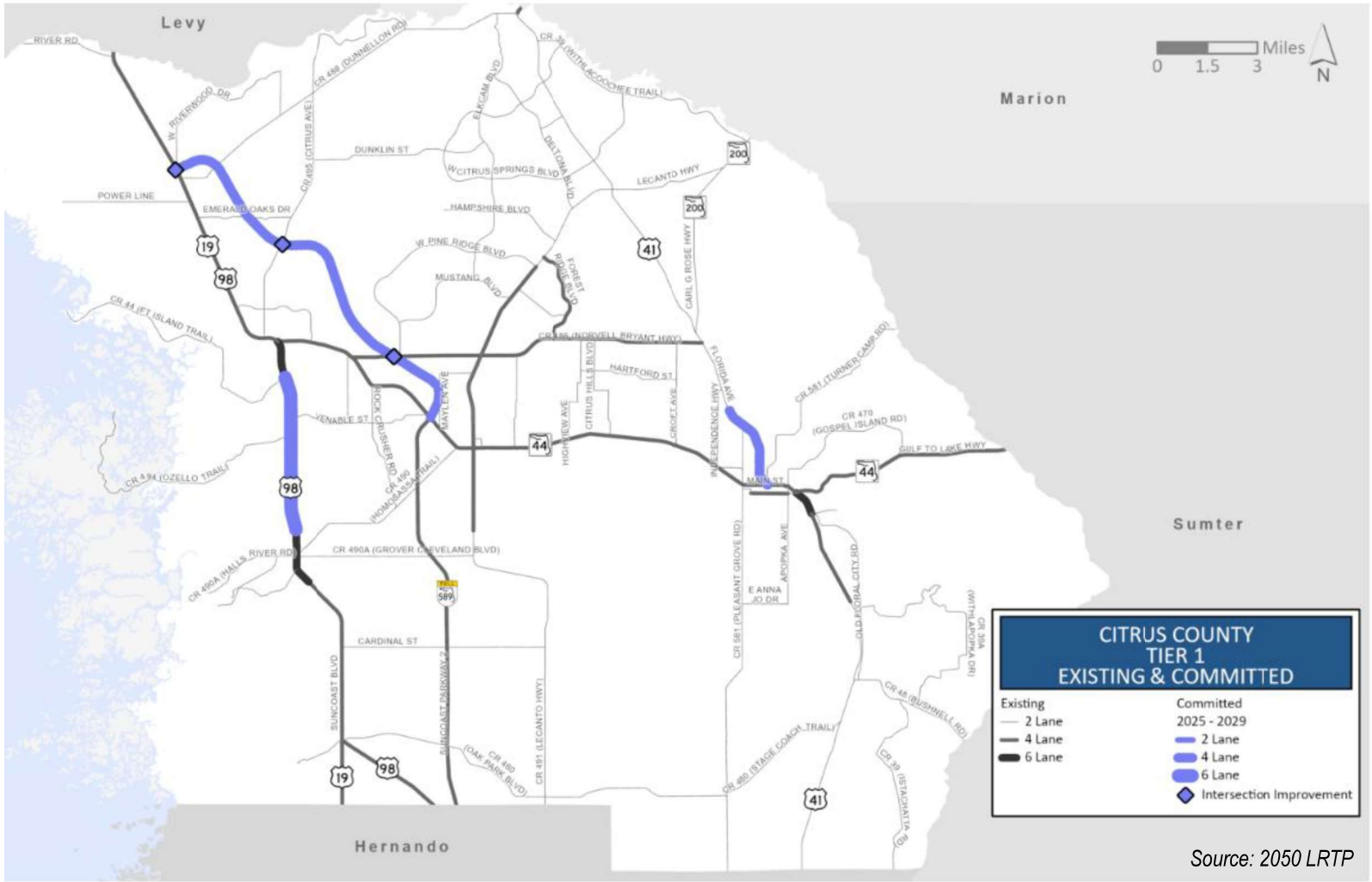



*Source: RITIS, 2025*

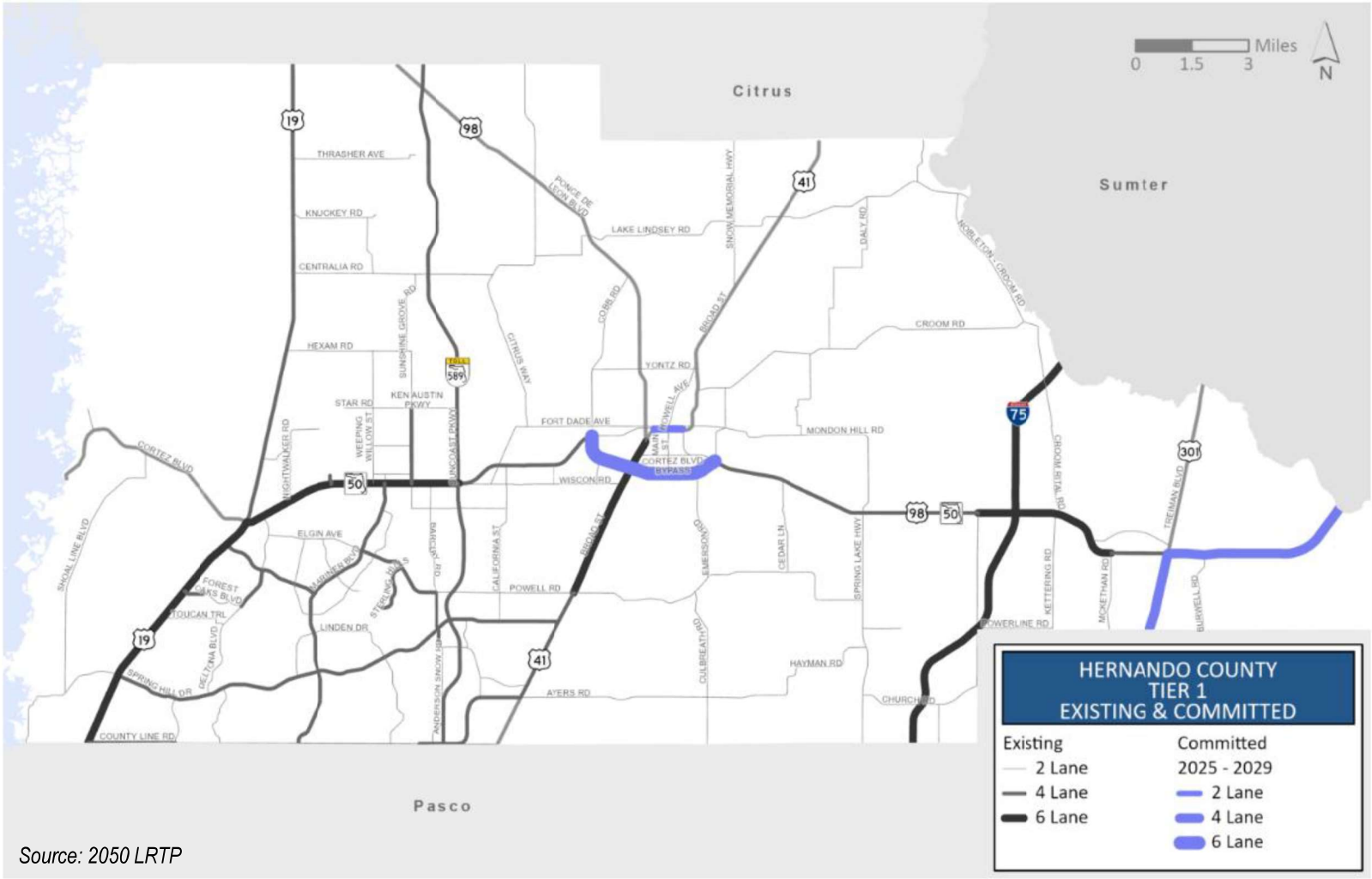
# APPENDIX B

*Programmed Improvement Projects*

# Committed Transportation Investments



# Committed Transportation Investments




*Source: 2050 LRTP*

# APPENDIX C

*Strategy Toolbox Descriptions*

| Strategy Classification | Representative Strategy | Description |
|---|---|---|
| **Demand Management** | Carpool/Vanpool Assistance and Incentives | In ridesharing programs, participants are matched with potential candidates for sharing rides. This typically is arranged/encouraged through employers or transportation management agencies that provide ride-matching services. These programs are more effective if combined with HOV lanes, parking management, guaranteed ride home policies, and employer-based incentive programs. |
| | Flexible Work Hours | Flexible work schedules allow employees to arrive and leave outside of the traditional commute period. |
| | Telecommuting | Telecommuting policies allow employees to work at home or a regional telecommute center instead of going into the office, all the time or only one or more days per week. |
| | Transit Vouchers | This strategy encourages additional transit use, to the extent that high fares are a real barrier to transit. However, due to the direct financial impact on the transit system operating budgets, employer subsidies or reductions only in selected fare categories may be a more feasible strategy to implement. |
| | Guaranteed Ride Home Programs | These programs provide a safety net for those people who carpool or use transit to work so that they can get to their destination if unexpected work demands or an emergency arises. |
| | Parking Management | This strategy reduces the instance of free parking to encourage other modes of transportation. Options include reducing the minimum number of parking spaces required per development, increasing the share of parking spaces for HOVs, introducing or raising parking fees, providing cash-out options for employees not using subsidized parking spaces, and expanding parking at transit stations or park-and-ride lots. |
| | Land Use Planning (jobs/housing balance, mixed-use) | This strategy includes policies and regulations that would decrease the total number of auto trips and trip lengths while promoting transit and non-motorized transportation options. |
| **Public Transportation Improvements** | Improved Frequency (more buses per hour) | This strategy provides more convenience for potential riders. Increasing frequency makes transit more attractive to use. |
| | Park-n-Ride Lots | These lots can be used in conjunction with HOV lanes and/or express bus services. They are particularly helpful when coupled with other commute alternatives such as carpool/ vanpool programs, transit, and/or HOV lanes. |
| | Transit Station/Stop Amenities | Comfortable, accessible, and safe bus stops improve the value of transit to the community. Amenities can include benches, trash receptacles, shelters, lighting, bicycle racks, bus schedules, maps, real time/next bus arrival information, newspaper boxes and public art. |
| | Extended Hours of Operations | This strategy provides more convenience for potential riders. Extending service hours makes transit more attractive for those who work early and/or late hours. |
| | Variable Transit Fares (age-based discounts, week pass) | This strategy encourages additional transit use, to the extent that high fares are a real barrier to transit. However, due to the direct financial impact on the transit system operating budgets, reductions only in selected fare categories may be a more feasible strategy to implement. |
| | Improved Transit Access for Pedestrians and Cyclists | Bicycle racks and bicycle lockers at transit stations and other trip destinations increase security. Additional amenities such as locker rooms with showers at workplaces provide further incentives for using bicycles. |
| | Expanded Coverage Area (new routes) | This strategy provides better accessibility to transit to a greater share of the population. Increasing route coverage makes transit more attractive to use. |

| Strategy Classification | Representative Strategy | Description |
|---|---|---|
| **Traffic Operational Improvements** | Improved Signalization | Signals can be pre-timed and isolated, pre-timed and synchronized, actuated by events (such as the arrival of a vehicle, pedestrian, bus or emergency vehicle), set to adopt one of several pre-defined phasing plans based on current traffic conditions, or set to calculate an optimal phasing plan based on current conditions. |
| | Intersection Geometry (number of turn lanes) | Intersections can be widened and lanes restriped to increase intersection capacity and safety. This may include auxiliary turn lanes (right or left) and widened shoulders. |
| | Alternative Intersection Concepts (including roundabouts) | This strategy provides innovative intersection and signal design to reduce vehicle conflict points, minimize crashes, and improve traffic flow. It includes the use of roundabouts, which are circular intersections designed for lower speeds and yield-controlled entry. |
| | Incident Management | This strategy addresses primarily non-recurring congestion, typically includes video monitoring and dispatch systems, and may also include roving service patrol vehicles. |
| | Access Management (median and driveway access) | This strategy includes adoption of policies to regulate driveways and limit curb cuts and/or policies that require continuity of sidewalk, bicycle, and trail networks. |
| | Congestion Pricing | Congestion pricing varies the cost of roadway tolls to account for times of increased usage. Static congestion pricing requires that tolls are higher during traditional peak periods. Dynamic congestion pricing allows toll rates to vary depending upon actual traffic conditions. The more congested the road, the higher the cost to travel on the road. Dynamic congestion pricing works best when coupled with real-time information on the availability of alternative routes. |
| | Freight/Commercial Vehicle Enforcement | This strategy restricts delivery or pickup of goods in certain areas to reduce congestion. |
| | Construction Management (Maintenance of Traffic) | This strategy involves managing traffic safely and efficiently in work zones so that traffic operations can be maintained during construction activities. |
| | Roadway Signage | Improving or removing signage to clearly communicate location and direction information can improve traffic flow. |
| | Multimodal infrastructure (bike lanes / sidewalks) | This strategy provides a network of well-connected, non-motorized facilities and amenities that can encourage non-automobile usage for short trips, which can improve traffic operations on the adjacent roadway network. |
| **ITS Technologies** | Advanced Traffic Management System (ATMS) | An ATMS is an integrated technological platform used at regional Transportation Management Centers (TMCs) to monitor traffic flow, control roadside equipment, manage incidents, and disseminate traveler information, which can help improve the flow and reliability of traffic conditions. |
| | Traffic Management Center Operations | This strategy involves continuous monitoring, coordination, and management of regional transportation networks using real-time data from intelligent transportation systems (ITS). |
| | Ramp Metering | Ramp metering is a traffic management strategy that uses traffic signals on freeway on-ramps to regulate the rate at which vehicles merge onto the highway. |
| | Traveler Information Devices | Dynamic messaging uses changeable message signs to warn motorists of downstream queues; it provides travel time estimates, alternate route information, and information on special events, weather, or accidents. |
| | Expanded Traffic Signal Timing and Coordination | Signals can be pre-timed and isolated, pre-timed and synchronized, actuated by events (such as the arrival of a vehicle, pedestrian, bus or emergency vehicle), set to adopt one of several pre-defined phasing plans based on current traffic conditions, or set to calculate an optimal phasing plan based on current conditions. |

| Strategy Classification | Representative Strategy | Description |
|---|---|---|
| **System Capacity** | New Roadway Alignments | Extending or re-aligning roadways can be used as a strategy for making connections within the existing roadway network and relieve overcapacity segments by providing additional routing options for connectivity between highly traveled origin/destination areas. |
| | Additional Travel Lanes on Existing Roadways | This strategy increases the capacity of congested roadways through additional general purpose travel lanes. Strategies to add capacity are the most expensive and least desirable strategies. They should be considered as last-resort methods for reducing congestion. As the strategy of cities trying to "build" themselves out of congestion has not provided the intended results, capacity-adding strategies should be applied after determining the demand and operational management strategies identified earlier are not feasible solutions. |
| | HOV / Special Use Lanes | This increases corridor capacity while, at the same time, providing an incentive for single-occupant drivers to shift to ridesharing. These lanes are most effective as part of a comprehensive effort to encourage HOVs, including publicity, outreach, park-and-ride lots, rideshare matching services, and employer incentives. |