COLUMBUS - PHENIX CITY
METROPOLITAN PLANNING ORGANIZATION

Congestion Management Process

2024 Update

Prepared by

benesch

2024 CONGESTION MANAGEMENT PROCESS UPDATE

September 2024

For information regarding this document, please contact:

Columbus-Phenix City Transportation Study

420 10th Street, P.O. Box 1340

Columbus, Georgia 31902

Phone: (706) 653-4421

www.columbusga.gov/planning

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1. Introduction

An 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. Designating an MPO for an urbanized is when the population exceeds 50,000 persons or more. The Columbus-Phenix City Transportation Study Metropolitan Planning Organization (C-PCTSMPO) was established in 1964 to serve as the body for facilitating transportation planning decisions in the Columbus, GA and Phenix City, AL region following passage of the 1962 Federal-Aid Highway Act. With each census population count, the Governor along with local government undertake a process of redesignating the MPO and identifying the Metropolitan Planning Area.

With a population of more than 300,000 people living in the Columbus Metropolitan Area, the C-PCTSMPO is considered a large urbanized area, defined as Transportation Management Area (TMA) under the federal transportation legislation as an urbanized area of more than 200,000. The initial federal requirements for congestion management were introduced by the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, were continued under successive authorizations, and remain in effect with the current Infrastructure, Investment and Jobs Act which outlines the activities and requirements for MPO Planning.

The MPO functions as a regional planning partner in a manner that is coordinated, comprehensive and continuous with the member jurisdictions of Muscogee County, Chattahoochee County, and the southern portion of Harris County in Georgia, and the northeastern quadrant of Russell County and southeastern quadrant of Lee County in Alabama.

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. Since 2003, the C-PCTSMPO has routinely updated the CMP by evaluating traffic conditions on roadways deemed regionally significant. The CMP is a systematic approach, collaboratively developed and implemented throughout the metropolitan region to provide for the safe and effective management and operation of new and existing transportation facilities through the use of travel demand reduction and operational management strategies.

The Congestion Management Process (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 objectives-driven, performance-based approach. It provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management strategies that meet state and local needs.[1]

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

Figure 1: Congestion Management Process Framework

Source: FHWA, 2011

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. 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

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 time delay improves air quality conditions by reducing emissions from idling vehicles and helps motorists reduce fuel cost by spending less time in congested conditions.

Purpose of This Report

This report identifies the transportation network being analyzed as a part of the 2024 CMP update. It provides a baseline understanding of the regional congestion issues and travel behavior by covering steps or action one through six of the CMP framework shown in Figure 1. Steps 7 and 8 of the CMP become the implementation of projects as they are prioritized and funded in the Transportation Improvement Program. Once completed, the effectiveness of each implemented project can be evaluated for future application and ability to manage congestion.

Data from this report will be used to determine appropriate congestion management strategies for the MPO's CMP network and establish a baseline for future comparison and system monitoring. Consistent with the nationally defined causes of congestion, the analysis and system reporting of congestion measures seeks to pinpoint locations within the roadway network where congestion occurs. Potential strategies which are commonly used to address congestion issues are presented as examples, but would require a more in-depth evaluation to identify the specific needs and determine suitability for any given location before being programmed by the MPO and advanced for implementation by one of its partner agencies.

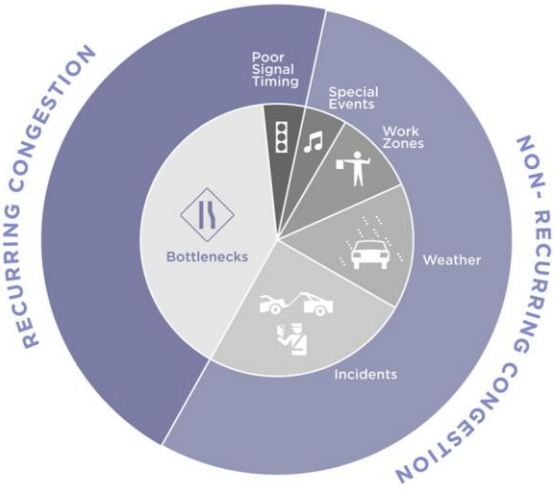
Causes of Congestion

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: Causes of Congestion



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 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 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 expand the strategies and funding opportunities available to the MPO for addressing congestion and selecting congestion reduction projects.

2. CMP Goals & Objectives

The first action of the CMP is to identify 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 the MPO Planning Area. They also inform the selection of CMP performance measures used to quantify congestion levels, as well as to identify and prioritize congestion management strategies.

This CMP update supports the goals and objectives as outlined in the C-PCTSMPO 2050 Metropolitan Transportation Plan (MTP). The goal of the 2024 CMP update is to identify and evaluate areas of congestion and provide a toolbox of strategies that can be used to implement future MPO funded projects.

The objectives of the 2050 MTP that address congestion and the CMP are listed in Table 1 along with the data measures used for evaluating system performance.

Table 1: 2050 MTP and CMP Objectives

CMP Related Objectives	Data Measure used for MTP Performance Evaluation
• Reduce sprawl and foster compact, mixed use development patterns • Promote site development that provides the opportunity for access & on-site circulation	• Reduction in vehicle miles of travel
• Reduce the number and severity of crashes involving vehicles, bicyclists, pedestrians, and others • Correct systematically high crash locations	• Number of fatalities and serious injuries in the calendar year and rate of fatalities per 100 million VMT
• Optimize network efficiency through signalization • Utilize technology to enhance network efficiency	• Projects with ITS elements identified
• Maximize livability by addressing recurring and non-recurring congestion	• Agency coordination to address incident-related, non-recurring congestion • Incorporation of multimodal facilities
• To maintain accessibility in heavily traveled corridors	• Identify congestion areas by collecting travel time data
• Enhance transportation mode options other than the private automobile in historically disadvantaged communities	• Number of Complete Streets and pedestrian projects in historically disadvantaged communities

3. CMP Network

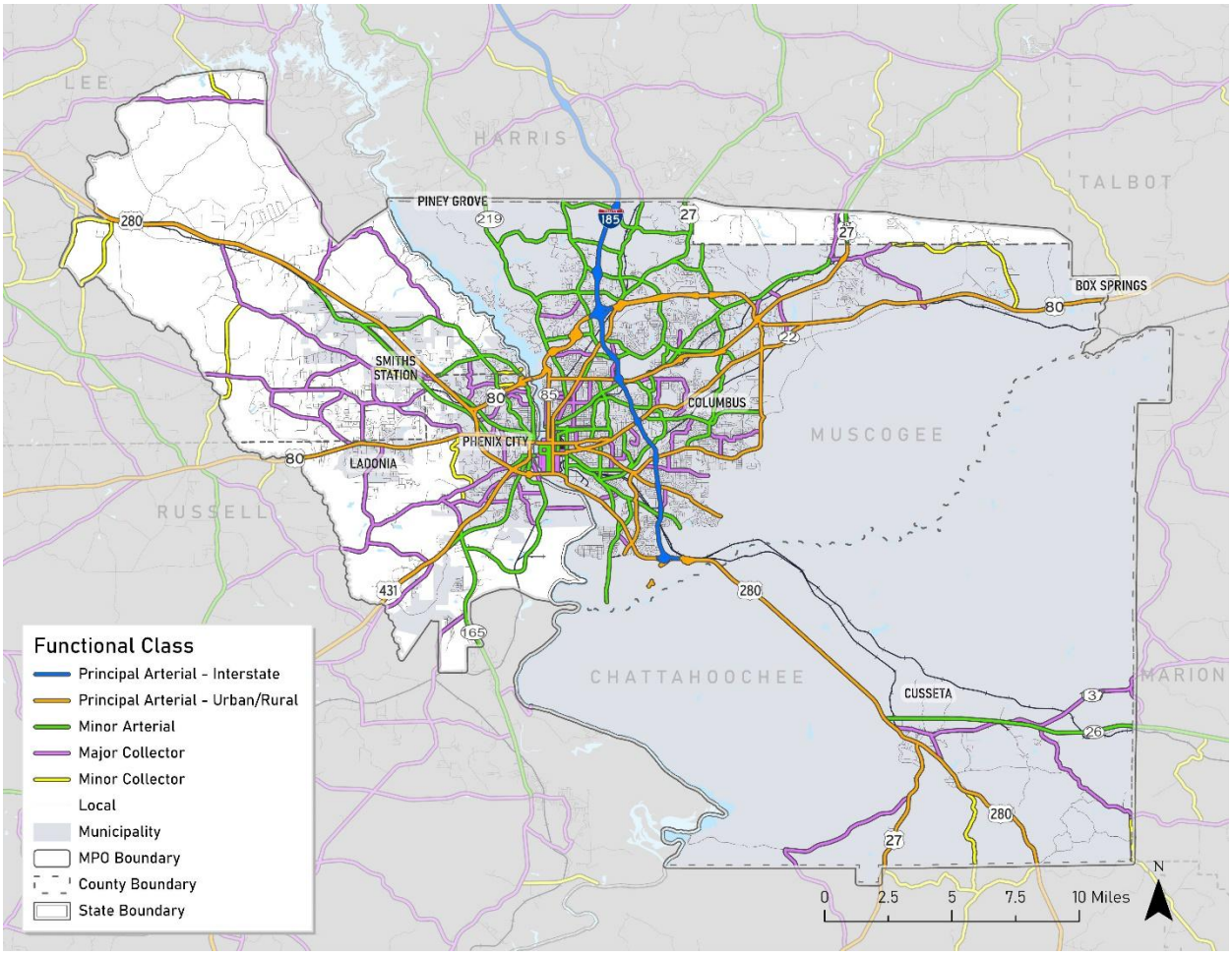
Identifying the CMP Network includes defining both the geographic scope and transportation network being analyzed in the CMP.

The C-PCTSMPO Planning Area covers 662 square miles and consists of the of the City of Columbus (Muscogee County), Chattahoochee County, and a portion of Harris County in Georgia, and the City of Phenix City, the City of Smiths Station, and portions of unincorporated Lee & Russell Counties in Alabama. Collectively, these cities and counties make up the Columbus Urbanized Area. Population increased in the urbanized area by more than 11.5% from 2010 to 2020, based on the results of the past decennial census counts. Though 2022, population decreased slightly at a rate of 1.4% since 2020. By 2050, population is expected to grow to 412,502 (more than 22% greater than the 2022 population of 337,979) based on projections used in developing the MPO's 2050 MTP.

Roadway Network

The CMP roadway network (Map 1) includes all existing functionally classified roadways. Additional new roadways planned to be constructed as a part of the 2050 MTP are included in the congestion analysis and are considered to be future roadways for purposes of defining the CMP Network.

Map 1: CMP Roadway Network

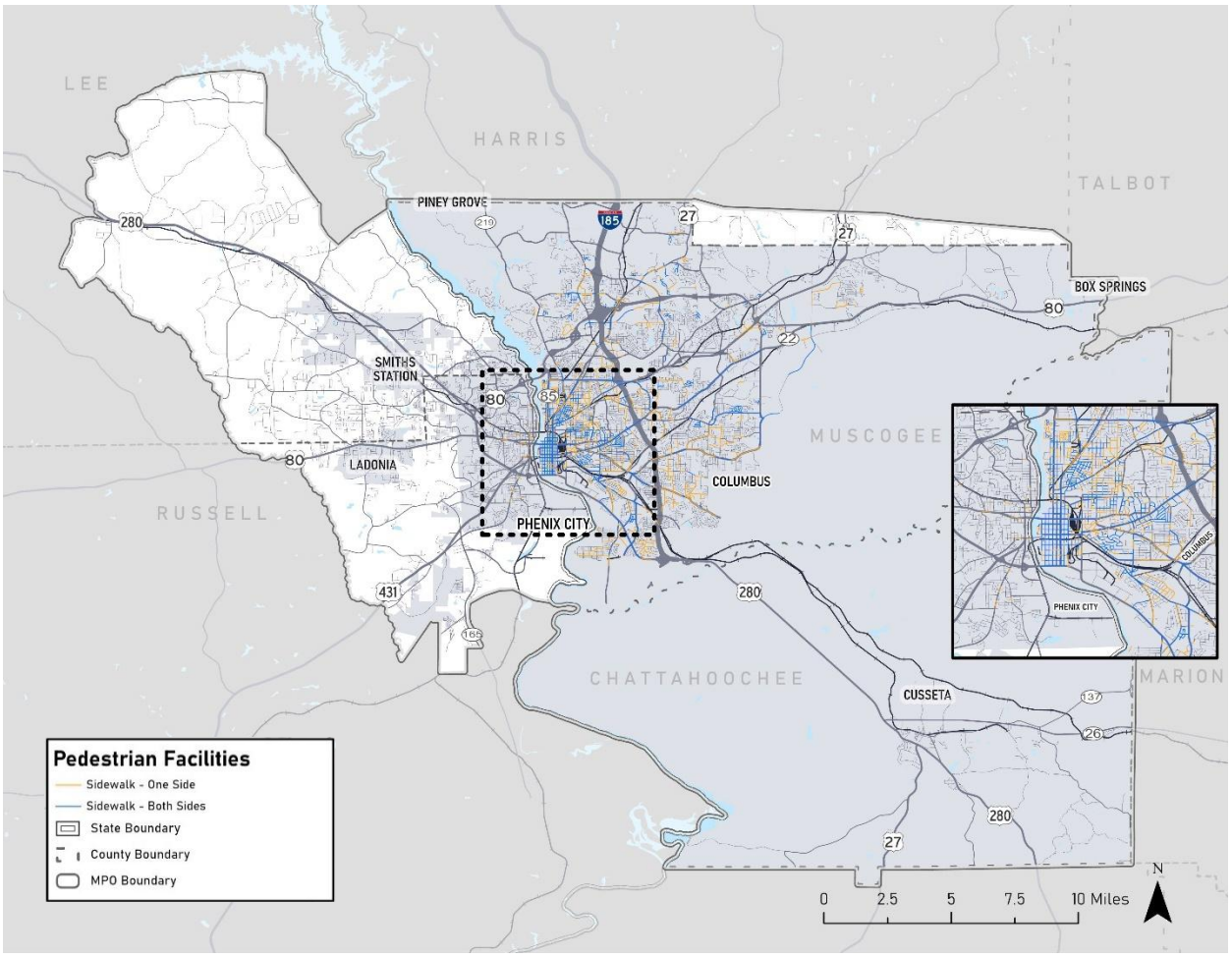


Bicycle & Pedestrian Network

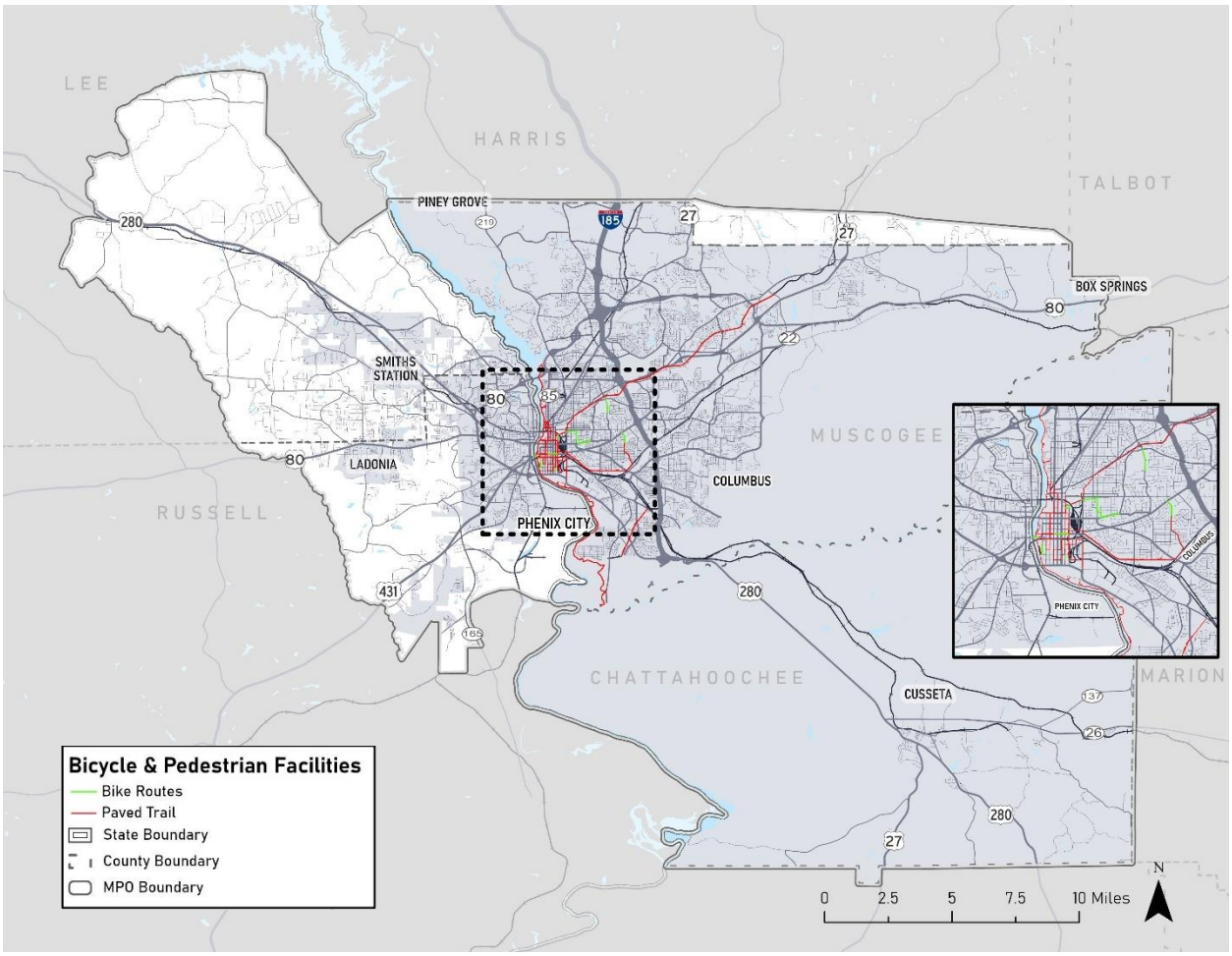
The CMP network also includes a multimodal network comprised of bicycle, sidewalk, and paved trail facilities identified in the MPO's 2050 MTP. In addition to providing more transportation options, expanding this multimodal network of facilities can help address roadway congestion by reducing automobile trips. These facilities are illustrated on in Map 2 and Map 3. Facility types shown on these maps include:

- Sidewalks: a sidewalk provides a connection that is separated from vehicular traffic and can be used by pedestrians and cyclists in the absence of other facilities. Information is provided at the street segment level to indicate presence of sidewalks on both sides of the street or only on one side.
- Bike Routes: these bicycle facilities are a portion of the roadway which has been designated by striping, signing, and pavement markings for use by bicyclists.
- Paved Trails: these multimodal facilities are separated from vehicular traffic and are open to non-motorized traffic. Often adjacent to roadways, these facilities can also be in separate corridors from roadways, such as the Fall Line Trace or the Chattahoochee Riverwalk.

Map 2: CMP Sidewalk Network



Map 3: Bike and Trail Network



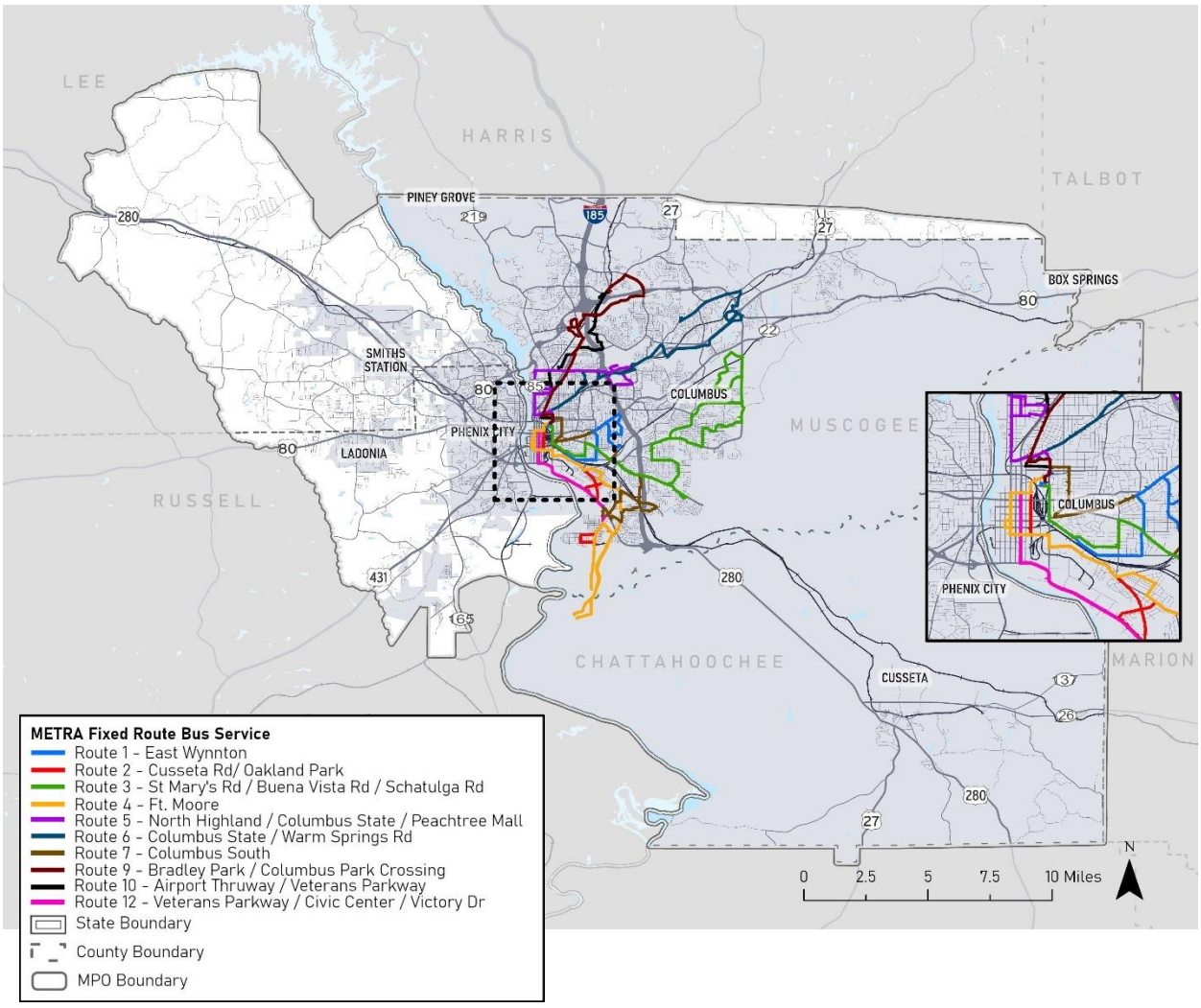
Transit Network

The Columbus Consolidated Government operates the METRA Transit system that serves Muscogee County as well as Fort Moore in Chattahoochee County in Georgia. Across the Chattahoochee River in Alabama, The Phenix City Express (PEX) is operated by the Lee-Russell Council of Governments. Map 4 provides the current fixed route system map for METRA, consisting of 10 routes in the Columbus area with hours of operation spanning from 4:30 AM until 8:30 PM, Monday through Saturday.

PEX is operated within Phenix City and provides a connection with METRA at the 2nd Avenue Stop in Columbus as well as a transfer between the North and South routes at the Central Activities Center. PEX also provides a dial-a-ride demand response service for connecting with nearby communities, including Auburn and Opelika, in Lee and Russell counties.

METRA and PEX both provide ADA Complementary Paratransit Service to eligible persons with disabilities who are unable to board, ride or disembark from an accessible fixed route.

Map 4: CMP Transit Routes



4. Congestion Management Performance Measures

Performance measures provide the basis for evaluating transportation system operating conditions and for identifying the location and severity of congestion. Measuring performance within the CMP is a primary method of communicating current transportation system conditions with the public and local community policymakers.

According to the 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 on a daily basis, 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 have included the use of volume/capacity ratios or level of service are good for describing the intensity dimension and traffic counts have been used to address the extent dimension for motorists. Data availability was a previous limitation that made measuring the variability and duration of congestion more difficult to measure.

The MPOs Congestion Management Process has previously identified a series of potential measures as the basis for evaluating transportation system conditions. Based on the availability of data and the emphasis for developing a safe, multimodal transportation system the following metrics are being used to identify congestion/bottleneck locations.

Traffic Volumes: Travel demand in the region is measured by the number of daily vehicles traveling on the roadway system. Additional information within the traffic volumes also provides an understanding of the types of vehicles that are using the regional roadway system. This includes total daily traffic as well as the truck percentage that comprise the daily traffic volume. Information in this analysis is based on the 2022 traffic count data provided by the Georgia and Alabama Departments of Transportation.

Volume/Capacity: 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 volume over a period of time is greater than the amount of traffic the roadway facility can carry, resulting in congestion and delay. Results from the travel demand model used for developing the 2050 Metropolitan Transportation Plan have been used to estimate V/C results which can point to locations of recurring congestion.

Safety: Understanding the location, frequency, and severity of roadway crashes guides the selection of non-recurring congestion locations. Using the most recent five-year crash history from Georgia and Alabama Departments of Transportation, high crash clusters were identified for this report to guide future safety study efforts to define hazardous driving locations and trends related to the factors which contribute to roadway crashes.

Reliability (Travel Time Index): Motorists familiar with recurring congestion during peak times are able to plan for additional delay during peak travel times. Capturing travel speeds, using Bluetooth detectors, near-road monitoring devices, or information captured from cell phones, provides aggregate travel speeds for roadway users. Evaluating these speeds over a measured period of time (15-minutes, hourly, daily) and comparing against the free-flow condition provides insight into the intensity of delay. Table 2 provides a general description of the types of travel time measures that are possible. Data for this measure are based on the Replica data platform for the Fall 2023 season.

Table 2: Overview of Probe Speed Data Metrics

Congestion Measure	What Does It Measure?	How Is It Estimated With Speed Data?	What Does It Tell You About Traffic Conditions?
Free-Flow Travel Time	Roadway Performance without Traffic Congestion	Travel time at free-flow speeds (or 85th-percentile point for all time periods) to establish baseline conditions with no congestion	Amount of time a trip would take under ideal traffic conditions at free-flow speed
Travel Time Index	Average Congestion	Ratio of travel time under average conditions compared to (or as a percentage of) free-flow travel time	Amount of time a trip would take on an average day in a given month
Planning Time Index	Average Congestion & Average Reliability	Ratio of travel time under worst-case (or worst 5% of) conditions compared to (or as a percentage of) free-flow travel time	Amount of time a trip would take on the worst 1-2 (or 5% of) days in a given month, meaning that on the other, non-worst-case (or 95% of) days, the trip would take this amount of time or less
Buffer Time Index	Average Reliability	Ratio of the difference in travel time under average vs. worst-case conditions compared to (or as a percentage of) free-flow travel time	Amount of additional time a trip would take on the worst 1-2 (or 5% of) days in a given month compared to an average day

Source: RITIS, 2024

5. Monitoring Performance and Congestion Analysis

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.

System Performance Monitoring

Data collection and the monitoring of existing conditions provides 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. This system monitoring is conducted for the MPO's CMP network described previously.

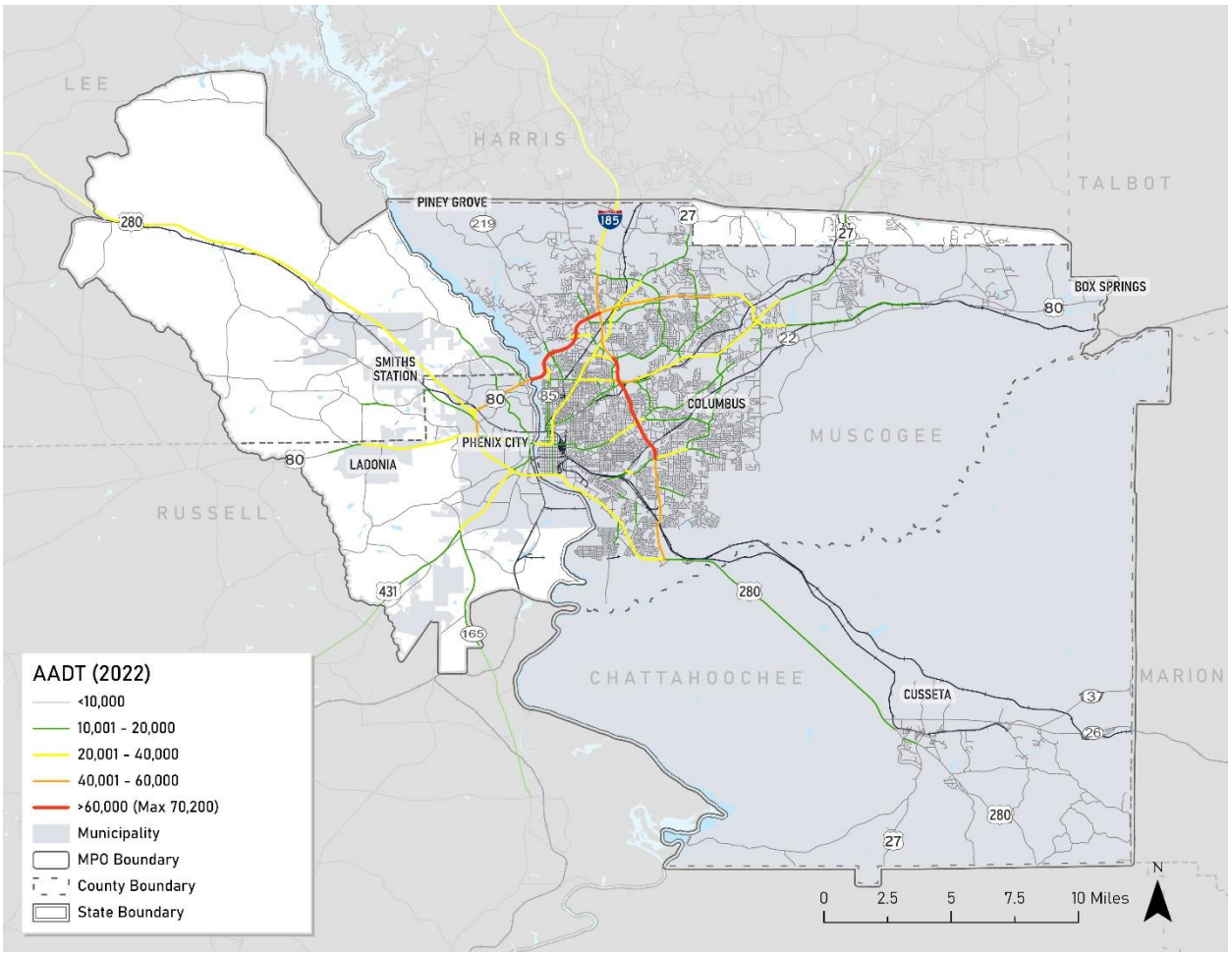
Congestion is traditionally understood to be the level at which the transportation system performance is no longer acceptable due to traffic delays. Consistent with the multimodal nature of congestion and the causes of congestion, the CMP includes a multi-data approach for identifying areas of congestion. The data sources chosen to evaluate and provide context to congestion are shown in the following maps and tables as examples of the system level characteristics.

Traffic Counts in the region, shown in Map 5, are provided by the Georgia and Alabama Departments of Transportation for 2022. The map illustrates traffic counts in ranges typically associated with the arterial capacity values as an initial screening of conditions based on the roadway number of lanes. Roadways exceeding 60,000 AADT (Average Annual Daily Trips) include Interstate 185 (I-185) from Buena Vista Road to the Airport Thruway and US 80 from the Alabama State Line to I-185.

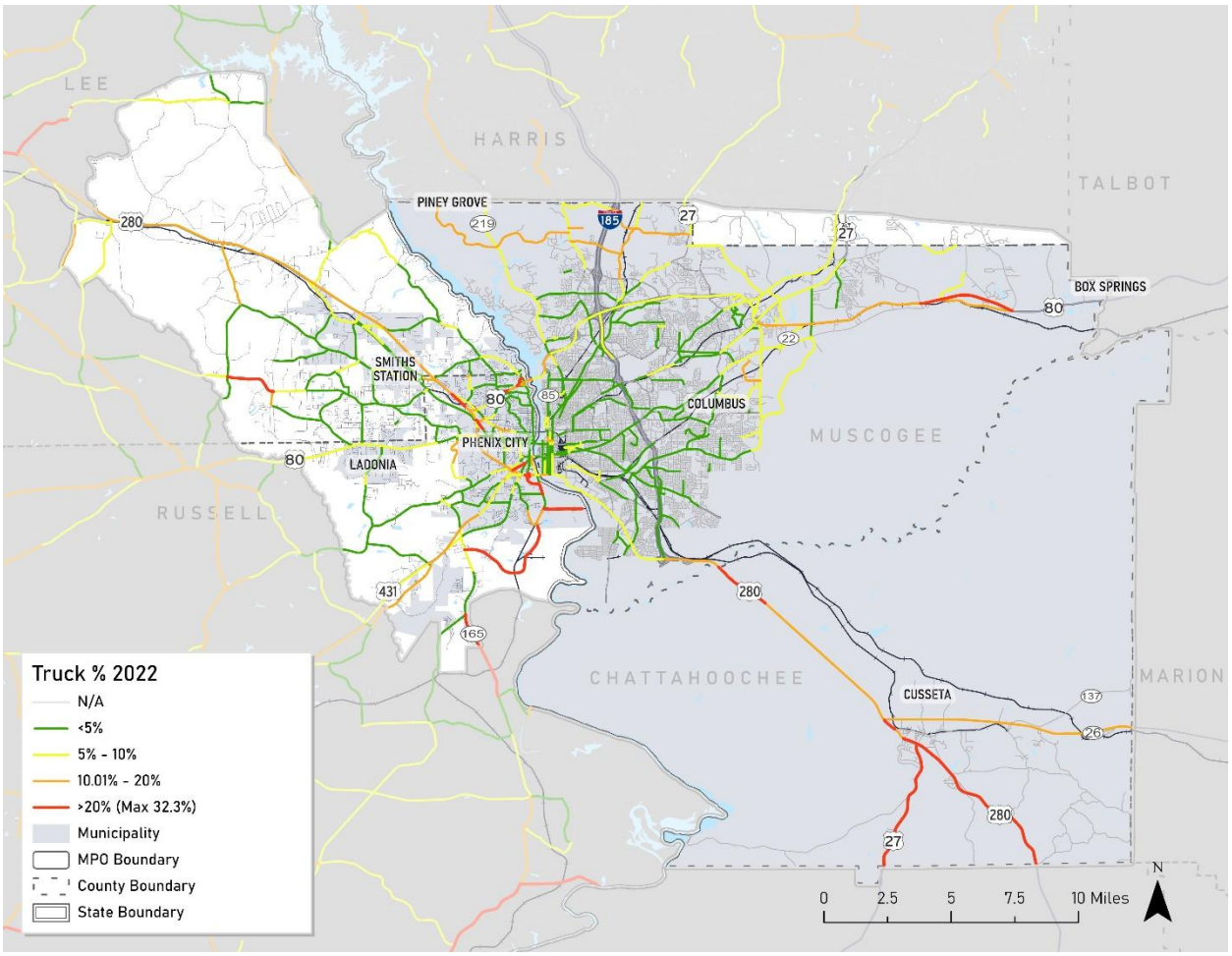
In addition to traffic volumes, the presence of freight traffic can be an additional contributor to localized congestion. Due to the additional distance freight traffic requires for accelerating and braking as well as the physical space required by trucks on the road, congestion conditions can be exaggerated in the presence of high truck traffic. Map 6 identifies the roadways of the CMP Network with high truck traffic percentages.

Locations where truck traffic percentages are the highest are on major arterial corridors where volumes shown in the previous map are lower. The high truck percentages on US 280 and US 27 in Chattahoochee County point to the regional nature of travel through this area without alternative routes.

Map 5: AADT Traffic Counts



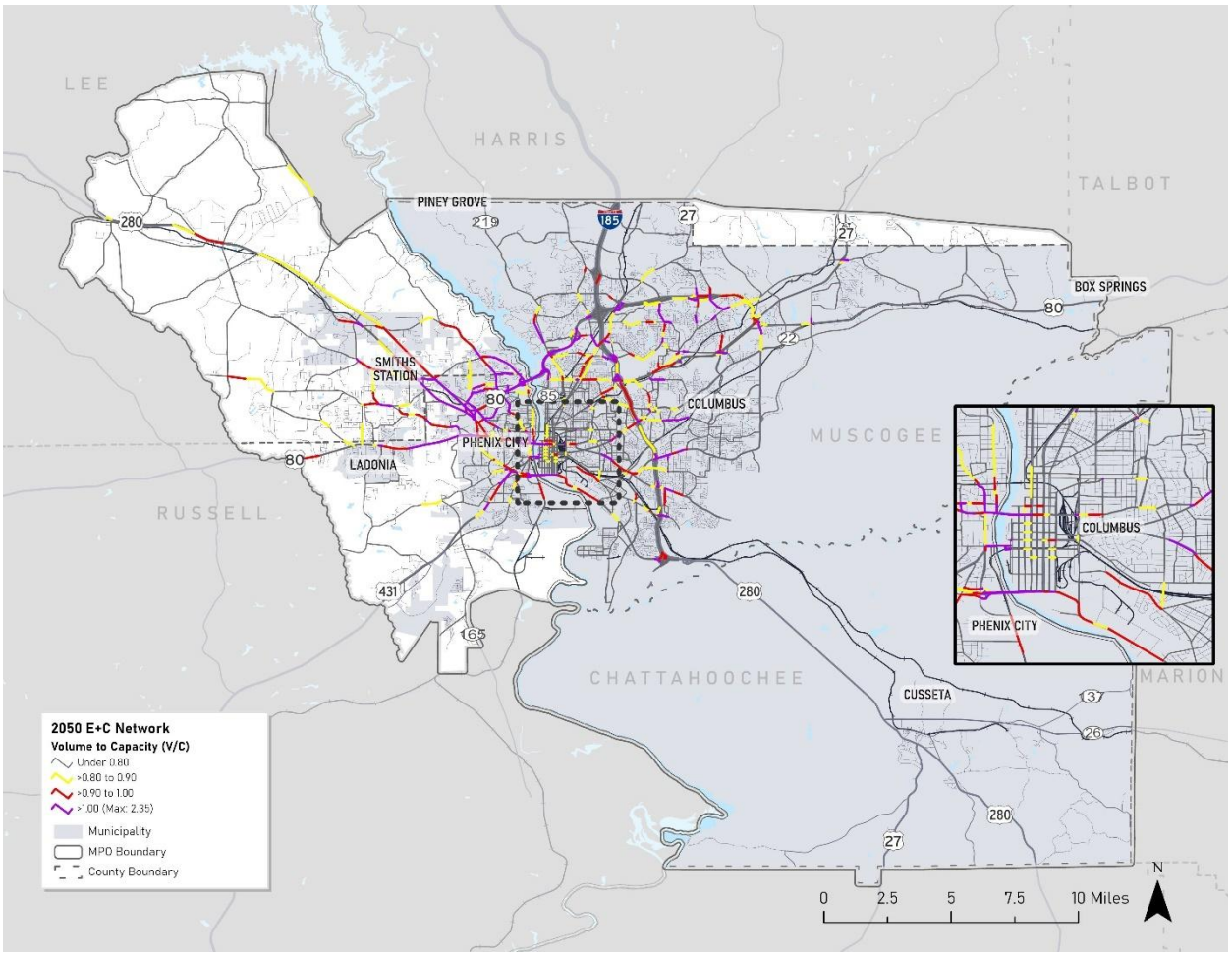
Map 6: Percent Trucks



The MPO has worked with the Georgia DOT to produce and maintain a regional travel demand model. The regional model serves a two-fold purpose with respect to monitoring system performance. First it proves a method of determining speed and volume on facilities not directly observed under routine traffic count programs. Second, it allows for the forecasting of future traffic congestion along broadly defined roadway corridors or activity center areas. The travel demand model is currently being updated along with the CMP to reflect the latest projections of population and employment for the region through the year 2050.

As part of the travel demand development process, analysis of roadway conditions through the year 2027 (based on funding in the MPO's Transportation Improvement Program) were evaluated against the projected growth in population through the year 2050. The result of this model alternative evaluation is shown in Map 7. While these results are often used to identify future roadway capacity needs, the association of these future conditions with other existing congestion data points provides additional direction for identifying appropriate congestion reduction strategies. Signal coordination, Intelligent Transportation System improvements, and other traffic operational strategies can often be implemented more efficiently, and at a lower cost, than roadway capacity projects for locations that have exceeded capacity by 10% or less.

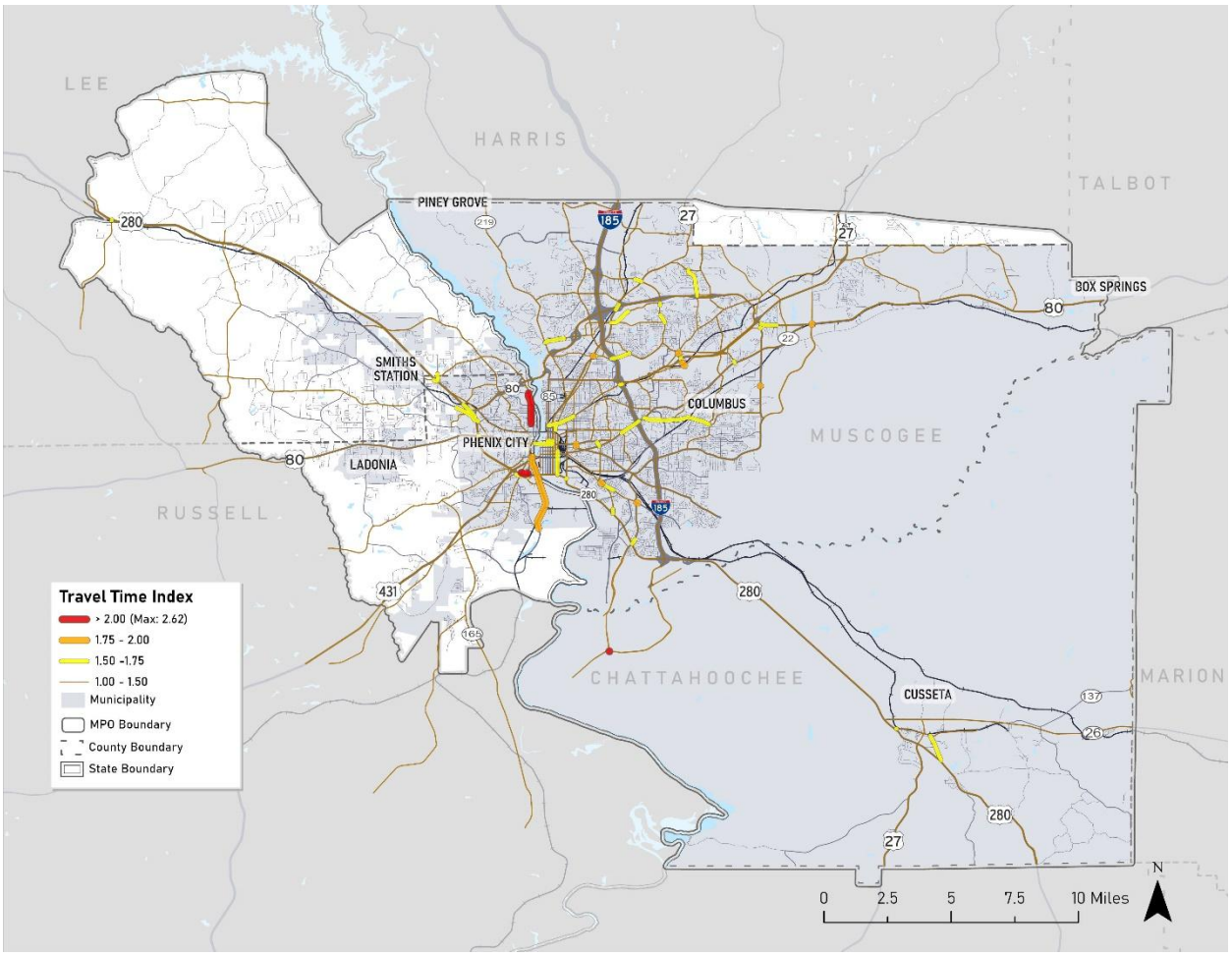
Map 7: 2019 Existing plus Committed Model Network V/C



Travel time measures are used to supplement the volume to capacity measure by providing context; an increase in travel time and decrease in speed relative to free-flow traffic that the motorist experiences when a road becomes deficient. When the Travel Time Index (TTI) is greater than 1.0 delay begins to occur as the time to travel the section of roadway is longer than free-flow conditions.

Data from the Fall of 2023 was downloaded from the Replica Studies application. Replica is a simulation based platform that reflects the complete travel activities of residents, visitors, and commercial vehicles within a region. To develop the TTI measure, speed data for each 15-minute period of an average weekday during the reporting period was provided for each major roadway segment. For the hours of 6 AM – 9 AM and 4 PM to 6 PM, the 15-minute data was combined to create an AM and PM congested speed. The AM and PM congested speeds were then compared in order to identify the worst peak period condition using the maximum travel time. Once combined, the peak travel time was compared to a calculated 85th percentile value of each roadway segments data for the Fall 2023 season. Map 8 illustrates the results of this analysis and provides a breakdown of the calculated travel time index values.

Map 8: 2023 Travel Time Index



The final data element used for measuring system performance is the evaluation of recent crash trends. Using a 5-year average, crash factors and conditions for 2018-2022 are shown in Table 3. These 5-year averages are used to identify annual average values over the reporting period.

Information regarding the crash severity is provided for all crashes reported during this time period. An injury-related subtotal of crashes, which excludes Property Damage Only (PDO) crashes, is also provided. Reporting of the lighting, roadway surface and crash type are based on the non-PDO crashes. This methodology of reporting and aggregating to a 5-year average is consistent with the MPO's requirement for monitoring and reporting of the federal safety performance measures.

Table 3: 2018-2022 Traffic Crash Summary

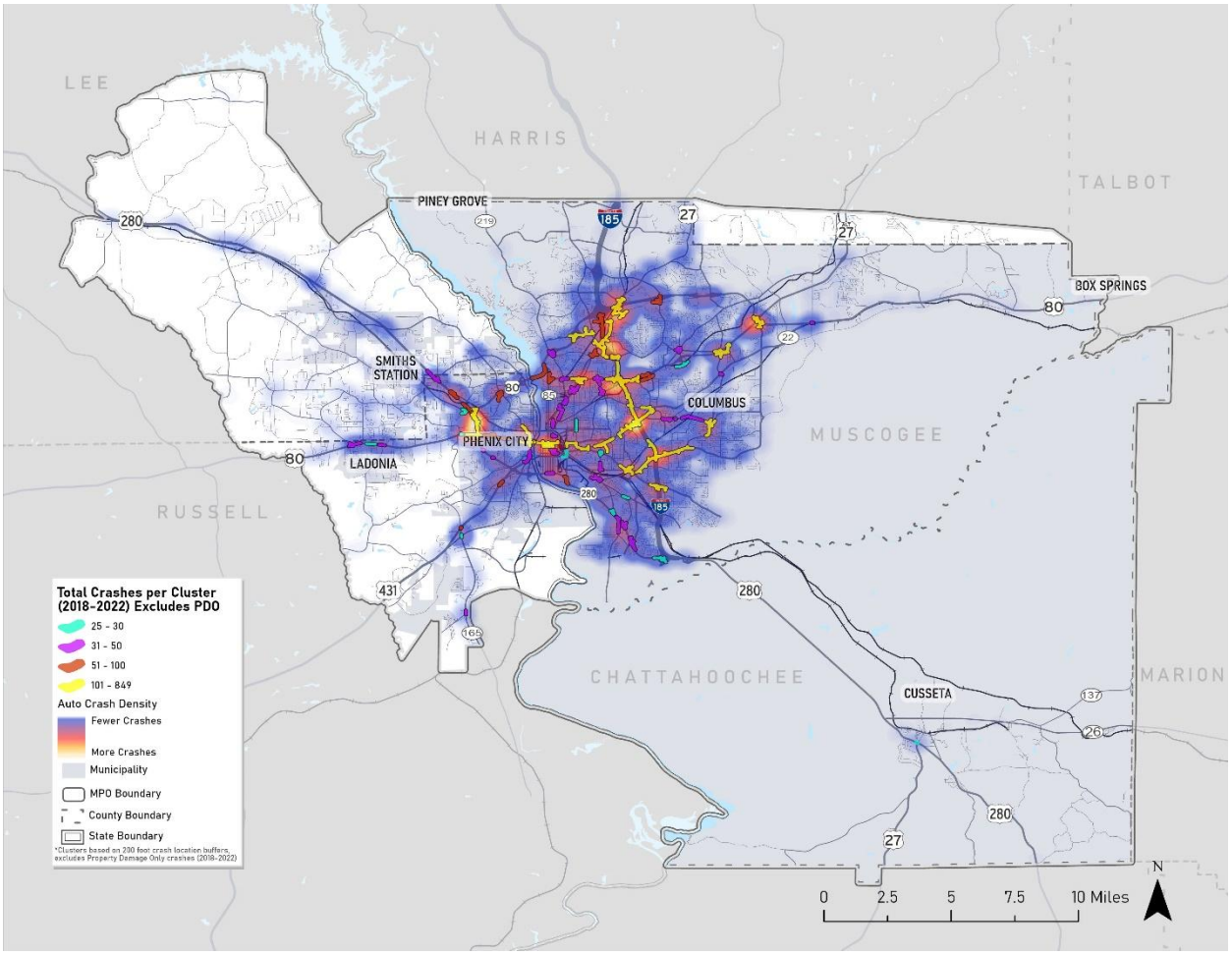
Crash Category	5-Year Rolling Average Georgia	Alabama	Total	Percentage of Total
Crash Severity				
Fatal	24	12	36	< 1%
Incapacitating	79	100	178	1.8%
Non Incapacitating	357	240	597	6.1%
Possible Injury	1,164	233	1,397	14.3%
Sub-Total (Injury Related)	*1,623*	*586*	*2,209*	22.6%
PDO	5,653	1,671	7,324	75.0%
Unknown	225	10	235	2.4%
Total Crashes	*7,501*	*2,266*	*9,767*	100%
Lighting Condition				
Dark - Lighted	246	98	344	15.6%
Dark - Not Lighted	153	43	196	8.9%
Dawn	16	10	27	1.2%
Daylight	1,187	416	1,603	72.6%
Dusk	21	18	39	1.8%
Total Crashes	*1,623*	*586*	*2,209*	100%
Surface Condition				
Dry	1,326	472	1,799	81.4%
Ice / Frost / Slush	3	1	4	< 1%
Other / Unknown	1	22	23	1.0%
Wet (Standing or Moving Water)	293	90	383	17.3%
Total Crashes	*1,623*	*586*	*2,209*	100%
Crash Type				
Angle (Other)	674	240	914	41.4%
Head On	60	18	78	3.5%
Other	294	131	424	19.2%
Rear End	527	171	698	31.6%
Sideswipe - Opposite Direction	14	6	20	< 1%
Sideswipe - Same Direction	54	21	74	3.4%
Total Crashes	*1,623*	*586*	*2,209*	100%

The distribution of traffic-related crashes in the region is illustrated in Map 9. A calculation of crash density is used to identify hot spot locations where more crashes occurred during the 2018 – 2022 analysis time period. These hot spot areas are centered around intersections of major roadways where volumes are the highest.

The second method used for illustrating this system measure is to identify specific roadway corridors where crashes are clustered during the same reporting period. Using a GIS-based spatial analysis, crashes were associated with roadway segments and grouped based on the density and location of

crashes. This additional analysis helps to focus further evaluation of congestion causes to specific roadway corridors and locations.

Map 9: High Crash Areas



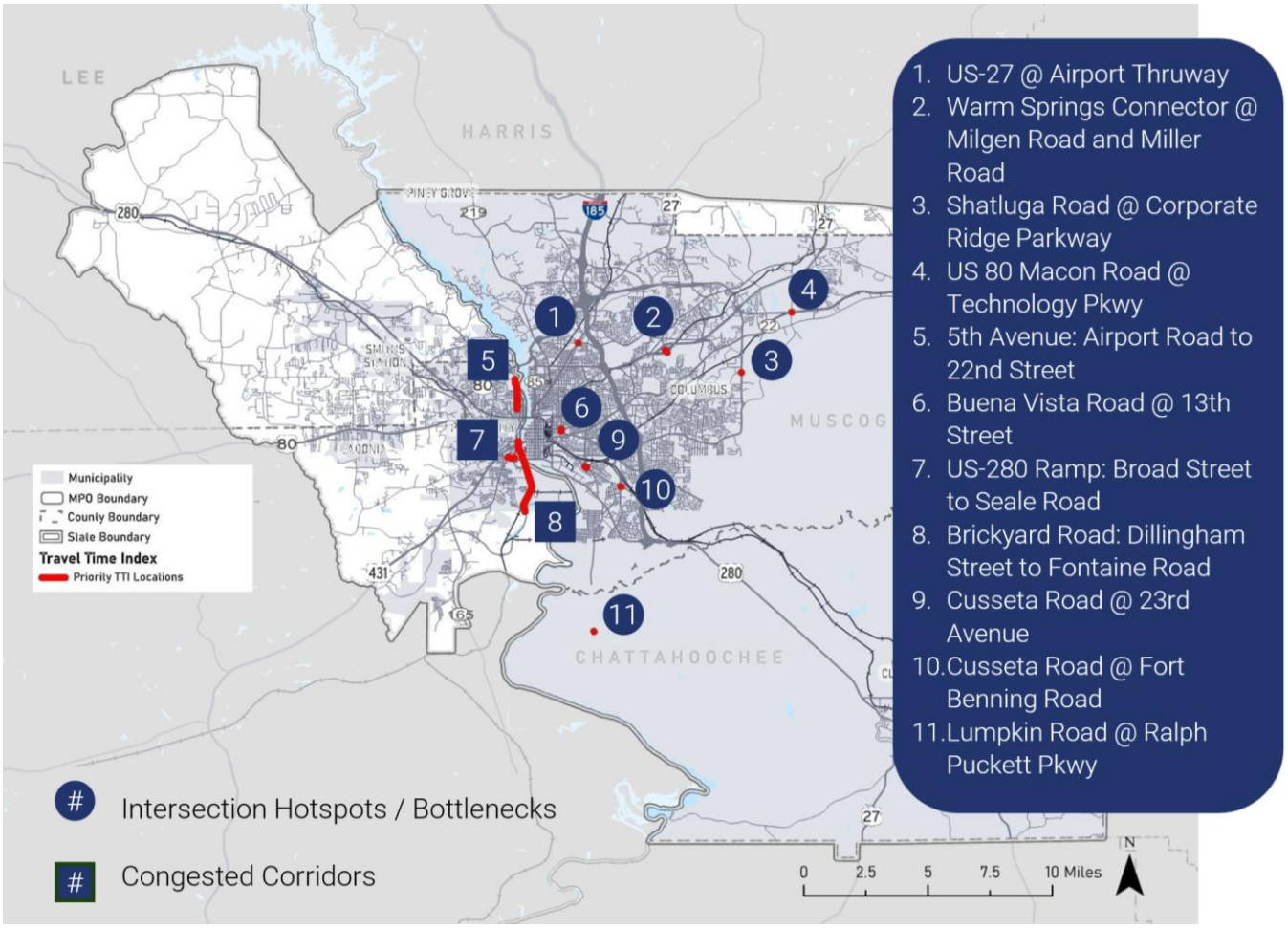
Congestion Screening Process

Once the data has been collected and compiled to identify congestion causing factors, the fifth action of the CMP is to analyze the congestion problems and areas of need in order to identify locations and causes of congestion. For the C-PCTSMPO, Travel Time Index Values greater than 1.75 and areas having more than 50 crashes are being used to identify areas of need.

Using the results of the Travel Time Index calculation, 11 locations within the region had a TTI greater than 1.75 as shown in Map 10. While many of these locations are central to the core of the urban area, other areas are at isolated intersection locations on the eastern side of the urban core.

Location number 11, Lumpkin Road @ Ralph Puckett Parkway, is located within Fort Moore and was not included in further analysis for identifying potential congestion reduction strategies as part of the MPO's Congestion Management Process.

Map 10: Locations with Travel Time Index > 1.50



Addressing roadway safety is a critical component of the MPOs charge to provide a safe and efficient transportation system. Using data from the five-year average, crash clusters containing more than 50 total crashes between 2018 and 2022 were selected as locations to evaluate for the CMP. Map 11 illustrates the locations of the 20 locations meeting this criterion. Table 4 provides additional details regarding the roadway corridors associated with the identified cluster locations.

Map 11: High Crash Cluster Locations

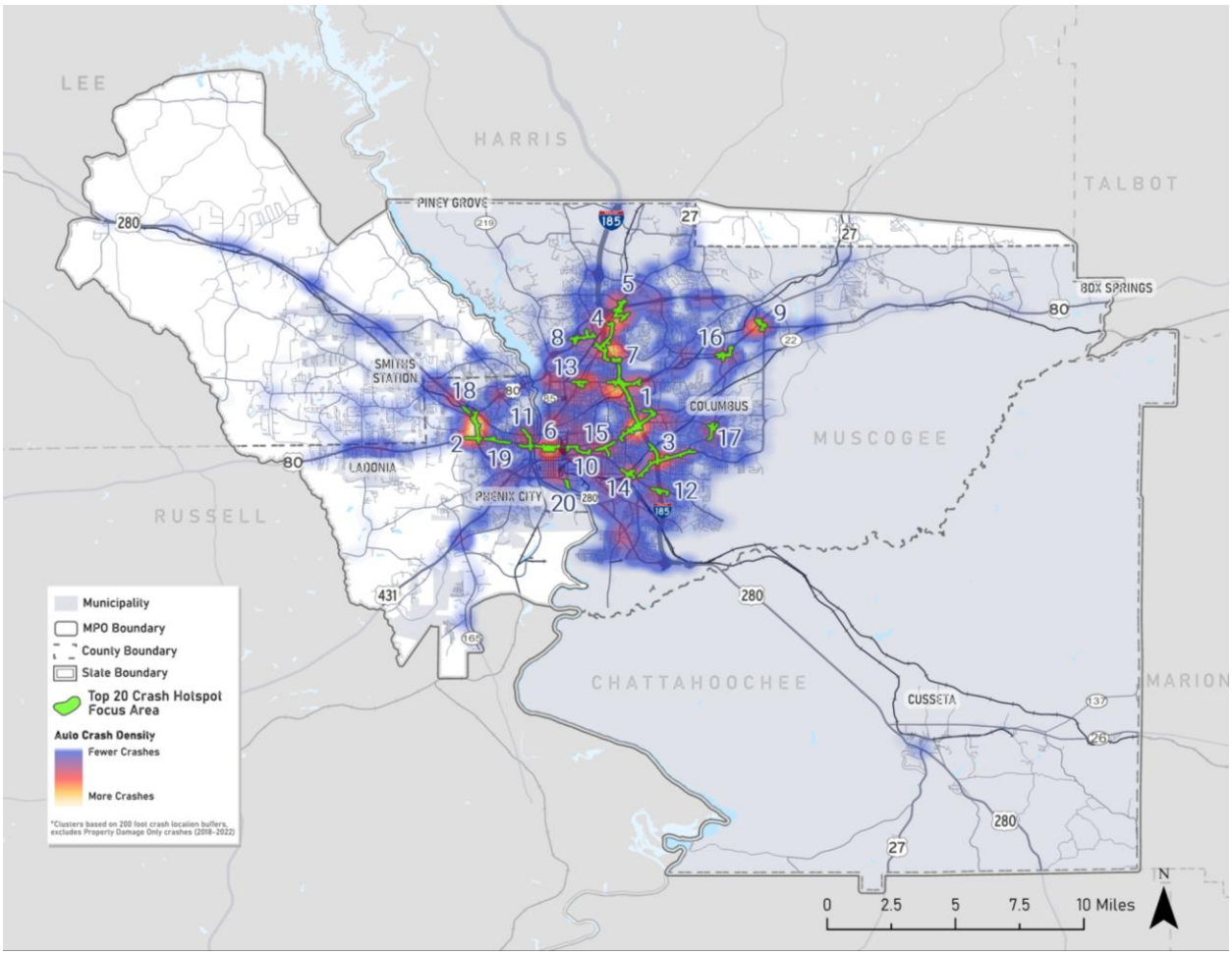


Table 4: High Crash Cluster Corridors

Crash Cluster	Primary Corridor Locations	Additional Cross Streets
1	I-185: Buena Vista Road to Airport Thruway	Macon Road at I-185
2	US 280: US 80 to Crawford Road	Crawford Road West of US 280
3	Buena Vista Road: Saint Marys Road to Bismark Drive	I-185: Buena Vista Road to Morris Road
4	US 27: Whitesville Road to Whittlesey Boulevard	Airport Thruway / Whitesville Road at I-185
5	US 27: Adams Farm Road to North Lake Parkway	Whittlesey Boulevard / Adams Farm Road south of US 80
6	13th Street: West end of Bridge to 6th Avenue	12th Street / Broadway / 2nd Avenue
7	Bradley Park Drive: Brook Stone Centre Parkway to Whitesville Road	Whittlesey Road: North of Bradley Park Drive
8	Airport Thruway: Sidney Simmons Boulevard to Smoke Drive	
9	US 80: Talokas Lane to Flat Rock Road	Flat Rock Road: Milgen Road to US 80
10	13th Street / Buena Vista Road: 10th Avenue to 18th Avenue	
11	Broad Street: 13th Street to 21st Street	13th Street: 11th Avenue to Bridge
12	Saint Marys Road: Robin Road to Farr Road	Saint Marys Road at I-185 Interchange
13	Manchester Road: Earline Avenue to 16th Avenue	Hamilton Road: 43rd Street to US 27
14	Buena Vista Road: Roosevelt Avenue to Brennan Road	Andrews Road: Morris Road to Saint Marys Road
15	Wynnton Road: Munro Avenue to South Dixon Drive	Henry Avenue: Wynnton Road to Hood Street
16	Miller Road: Gateway Road to Old Towne Road	US 27 at Milgen Rd Interchange
17	Floyd Road: Woodruff Farm Road to Hagan Drive	Forest Road: Hunter Haven to Delrary Dr.
18	US 280: US 80 to Dobbs Road	
19	Crawford Road: 13th Street to 13th Court	20th Avenue at Crawford Road
20	US 27: 10th Avenue to Lumpkin Boulevard	

6. 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 MPOs CMP (23 CFR 450.322(c)4) development categorized strategies into the following classifications.

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

Strategy Toolbox

In carrying out this requirement, the C-PCTSMPO has identified the following congestion management strategies listed in Table 5. 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.

Table 5: CMP Strategy Toolbox

Strategy Classification	Representative Strategies
Demand Management Strategies	Carpool/Vanpool Assistance and Incentives Flexible Work Hours Telecommuting Transit Vouchers Guaranteed Ride Home Programs Parking Management Land Use Planning (Jobs/Housing Balance, mixed-use)
Public Transportation Improvements	Improved frequency (more buses per hour) Park-n-ride lots Transit station amenities Extended hours of operations Variable transit fares (age-based discounts, week pass) Improved transit access for pedestrians and cyclists Expanded coverage area (New routes)
Traffic Operational Improvements	Improved signalization Intersection geometry (number of turn lanes) Alternative Intersection Concepts including roundabouts Incident management Access Management (median and driveway access) Congestion Pricing Freight/Commercial Vehicle Enforcement Construction Management (Maintenance of Traffic) Roadway signage Multimodal infrastructure (bike lanes / sidewalks)
ITS Technologies	Advanced Traffic Management System (ATMS) Traffic Management Center Operations Ramp metering Traveler Information Devices Expanded traffic signal timing and coordination

Strategy Classification	Representative Strategies
System Capacity	New roadway alignments Additional travel lanes on existing roadways HOV / special use lanes

Strategy Recommendations

Analyzing the congestion problems resulted in the identification of 31 locations where implementation of a CMP strategy is needed to address either a congestion hot spot or crash safety condition. Identifying a recommended strategy for these locations has been based on the congestion conditions presented in the preceding sections. From this list of 31 locations, 29 unique locations were identified for evaluation by the MPO. The congestion location on Fort Moore (hot spot number 11) was excluded, and the congestion location at the intersection of Buena Vista and 13th Street (hot spot number 6) overlaps with the safety concern on Buena Vista (crash cluster number 10) which was consolidated into one location for identifying recommended strategies.

Congestion Hotspots

Listed below are the unique locations along with information regarding the congestion cause, existing system conditions, and a set of potential strategies to consider for implementation. A review of these locations was conducted based on need, condition, and application of potential strategies to determine a subjective ranking of locations.

The order of congestion hot spot locations discussed below is intended to provide the MPO with a ranking that promotes evaluation and implementation of strategies which can provide relief to motorists and reduce congestion on the region's roadways.

Cusseta Road @ 23rd Avenue

Congestion Cause: Travel Time Index
Transit Service: Route 2
Bicycle & Pedestrian Infrastructure:
Sidewalks on Cusseta and Lumpkin Rd
No bicycle facilities
Congestion Factors:
- AADT: 9,800
- **2019 V/C:** Less than 1.00
- Travel Time Index: 1.90
- Percent Trucks: Less than 5%

Observations / Recommendations:
- Complex intersection with Lumpkin Road with multiple weaving movements.
- V/C ratio indicates that there is not a capacity constraint.
- Conduct engineering traffic study to identify cost-effective solution.
- Potential options might include signal re-timing, roundabout or other alternative intersection design, or additional lanes for turning movements.

Warm Springs Connector @ Milgen Road and Miller Road

Miller Rd Intersection

Milgen Rd Intersection

Congestion Cause: Travel Time Index
Transit Service: Route 6
Bicycle/Pedestrian Infrastructure:
No continuous multimodal infrastructure
Congestion Factors:
- **AADT:** 9,500 – 16,200
- **2019 V/C:** Greater than 1.00
- Travel Time Index: 1.97
- Percent Trucks: 5%

Observations / Recommendations:

- V/C ratio indicates that there is a capacity constraint at the intersections.
- Conduct traffic study to identify signal timing / coordination opportunities with Manchester Expressway.
- Construct additional NB to WB left turn lane at Miller Road
- Construct separate SB to WB right turn lane At Milgen Road
- Continue to monitor this location based on recent/new development in the area

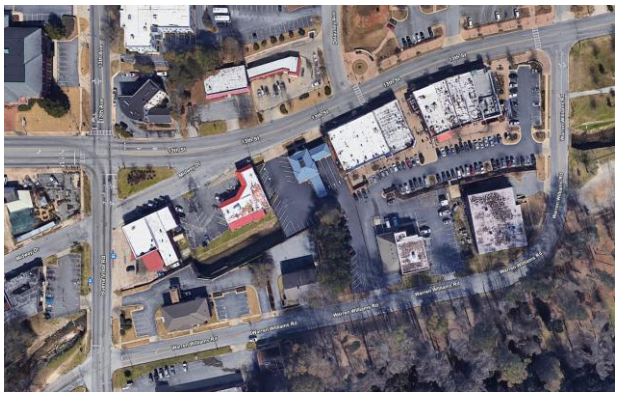
US-27 @ Airport Thruway / 54th Street

Congestion Cause: Travel Time Index
Transit Service: Route 7 and Route 10
Bicycle/Pedestrian Infrastructure:
Sidewalks on Veterans Pkwy
No bicycle facilities
Congestion Factors:
- **AADT:** 15,400- 25,000
- **2019 V/C:** Greater than 1.00
- Travel Time Index: 1.90
- Percent Trucks: Less than 5%

Observations / Recommendations:

- V/C ratio indicates a capacity constraint on 54th Street
- Short Term Consideration:
  - Reconfigure existing WB thru as WB to SB left and shared thru.
  - Replace existing signal heads and retime signal.
- Long Term Consideration (ROW Impacts should be anticipated):
  - Reconfigure EB and WB approaches to add additional lanes.
  - Dual WB to SB left
  - Separate EB to SB right from EB thru

Buena Vista Road @ 13th Street



Congestion Cause: Travel Time Index & High Crash Cluster
Transit Service: Route 7
Bicycle/Pedestrian Infrastructure:
Sidewalks on 13th Street (to the west)
Bicycle lanes on 13th Street (to the east)
Congestion Factors:

- **AADT:** 5,600 – 18,000
- **2019 V/C:** Greater than 1.00
- Travel Time Index: 1.77
- Percent Trucks: Less than 5%

Safety Factors:

- Total Crashes: 119
- Fatal / Severe: 4
- Most Common Crash Type:
- Angle 47%
- Wet Surface 8%
- Dark Conditions 23%
- Intersection Related 66%

MTP Crash Focus Areas:

- Auto: Yes
- Multimodal: Yes
- Freight: Yes

Observations / Recommendations:

- V/C ratio indicates a capacity constraint on 13th Street west of the intersection.
- Restripe NB shared thru and right to be shared thru and left.
- Reconfigure existing WB thru as WB to SB left and shared thru.
- Replace existing signal heads and retime signal
- Conduct engineering traffic study to identify potential alternative intersection design solution:
  - One potential option might include a quadrant intersection design utilizing Warren Williams Road
  - Relocate NB to EB right turns and WB to SB left turns to Warren Williams Road and 13th Street intersection.

US-280 Ramp Connector from Broad Street Extension to Seale Road

Congestion Cause: Travel Time Index
Transit Service: No Transit Service
Bicycle/Pedestrian Infrastructure:
No continuous multimodal infrastructure
Congestion Factors:

- AADT: 4,200
- **2019 V/C:** Greater than 1.00
- Travel Time Index: 2.47
- Percent Trucks: 10%

Observations / Recommendations:

- Conduct Traffic Study of the Off Ramp Connector and 4th Place.
- Potential options may include
  - Dual-roundabout configuration at US 280 ramps
  - One-way pair configuration for Off Ramp and 4th Place

Brickyard Road from south of Fontaine Road to Dillingham Street

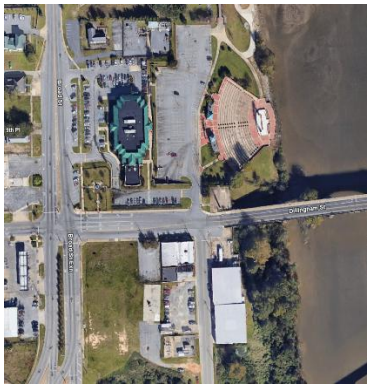
Congestion Cause: Travel Time Index
Transit Service: No Transit Service
Bicycle/Pedestrian Infrastructure:
No continuous multimodal infrastructure
Congestion Factors:

- **AADT:** 1,400 – 3,800
- **2019 V/C:** Greater than 1.00 from 6th Place S. to Broad Street Extension
- Travel Time Index: 1.77
- Percent Trucks: Greater than 20%

Observations / Recommendations:

- Conduct origin-destination study of truck traffic based on land uses and high truck traffic.
- Conduct traffic study at Dillingham intersection to determine turning movements.
- Consider operational restrictions at Dillingham intersection to eliminate thru movement from Brickyard into Courthouse Parking Lot and left turn onto Dillingham.
- Re-route NB left turning traffic at Dillingham to use 7th Street to access Broad Street. Would require upgrades and enhancements to 7th Street.

Brickyard Road and Dillingham Street



7th Street Broad Street to Brickyard Road

Schatulga Road @ Corporate Ridge Parkway

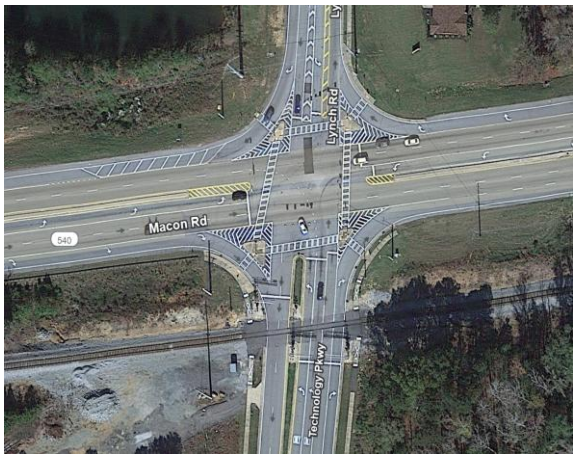
Congestion Cause: Travel Time Index
Transit Service: Route 3
Bicycle/Pedestrian Infrastructure:
Sidewalk at roundabout
Congestion Factors:

- AADT: 1,300 – 7,200
- 2019 V/C: Less than 1.00
- Travel Time Index: 1.84
- Percent Trucks: 8%

Observations / Recommendations:

- Roundabout constructed in 2014
- T-intersection leading to large employment centers.
- Without balanced approaches, gaps in traffic can be limited during peak conditions, resulting in added delay.
- Conduct traffic study and revisit original intent for constructing roundabout.
- Conduct outreach to employers to begin or expand demand management strategies such as carpooling or transit vouchers.
- Survey existing transit riders to identify potential service improvements to increase ridership.

Technology Pkwy @ US 80 Macon Road



Congestion Cause: Travel Time Index
Transit Service: No Transit Service
Bicycle/Pedestrian Infrastructure:
Sidewalk on both sides of Technology Pkwy
No bike facilities
Congestion Factors:

- AADT: 7,300 – 19,000
- 2019 V/C: Less than 1.00
- Travel Time Index: 1.97
- Percent Trucks: 14%
- Rail Crossing South of US 80

Observations / Recommendations:

- Small segment for reporting travel time between railroad crossing and US 80.
- Overall segment south of Macon Road has Travel Time Index between 1.50 and 1.75
- Continue monitoring location to evaluate future needs.

5th Avenue from Airport Road to 22nd Street

Congestion Cause: Travel Time Index
Transit Service: No Transit Service
Bicycle/Pedestrian Infrastructure:
No continuous multimodal infrastructure
Congestion Factors:

- AADT: 4,600
- 2019 V/C: Less than 1.00
- Travel Time Index: 2.62
- Percent Trucks: <5%

Observations / Recommendations

- 2-lane residential corridor providing access to US 80 and Idle Hour Park Sports Complex.
- Identify streetscaping and neighborhood traffic calming measures to deter pass through and regional traffic.
- Install multimodal infrastructure for safe pedestrian and bicyclist access.

Cusseta Road @ Fort Benning Road

Congestion cause: Travel Time Index
Transit Service: Route 4 and Route 9
Bicycle/Pedestrian Infrastructure:
Sidewalks on Cusseta Road and Fort Benning Road
No bicycle facilities
Congestion Factors:

- AADT: 8,100 – 10,800
- 2019 V/C: Less than 1.00
- Travel Time Index: 2.00
- Percent Trucks: <5%

Observations / Recommendations:

- Recently Completed Roundabout Installation.
- During off-peak periods, delay can be non-existent and skew the Travel Time Index results.
- Roundabout address additional safety and mobility objectives

High Crash Clusters

While congestion reduction is important for livability and daily quality of life, addressing traffic safety is an equally critical component of the MPO's charge. To identify potential crash reduction countermeasures at the high crash cluster locations, an assessment of local conditions and crash trends should be completed. This assessment would provide insights into the crash causal factors.

As the C-PCTSMPO is required to address the Safety Emphasis Areas listed in the statewide Strategic Highway Safety Plans in Georgia and Alabama, further assessment of safety conditions will guide future education, enforcement, or engineering solutions as appropriate.

Listed in Table 6 are the crash cluster locations along with additional information collected during the CMP update regarding crash conditions and trends over the previous 5-year reporting period. Compared with valued in Table 3, these summaries help to identify locations where certain conditions are over represented or inconsistent with the regional trends.

Safe Streets and Roads for All (SS4A) grants were awarded to the Consolidated Government of Columbus Georgia in 2022 and multiple Alabama counties, including Lee and Russell, in 2024. Completion of these planning and demonstration projects will conduct a thorough evaluation of crashes resulting in fatalities and serious injuries as part of the pursuit towards zero traffic-related deaths and serious injuries. Information provided regarding these crash clusters is designed to support future safety emphasis activities of the MPO.

Table 6: Crash Cluster Conditions

Crash Cluster	Primary Corridor Location	Total Crashes	Fatal / Severe Injuries	Most Common Crash Type	MTP Crash Focus Areas	Wet Surface (% of crashes)	Dark Conditions (% of crashes)	Intersection Related (% of crashes)
1	I-185: Buena Vista Road to Airport Thruway	849	34	Rear End - 44%	Auto, Freight	29%	24%	51%
2	US 280: US 80 to Crawford Road	440	66	Angle - 43%	Auto, Freight	12%	19%	62%
3	Buena Vista Road: Saint Marys Road to Bismark Drive	400	32	Angle - 51%	Auto, Multimodal, Freight	14%	33%	59%
4	US 27: Whitesville Road to Whittlesey Boulevard	245	11	Rear End - 46%	Auto, Freight	15%	17%	62%
5	US 27: Adams Farm Road to North Lake Parkway	216	7	Rear End - 62%	Auto, Freight	17%	23%	57%
6	13th Street: West end of Bridge to 6th Avenue	168	6	Angle - 46%	Auto, Multimodal, Freight	17%	32%	81%
7	Bradley Park Drive: Brook Stone Centre Parkway to Whitesville Road	136	4	Angle - 56%	Freight	16%	22%	76%
8	Airport Thruway: Sidney Simmons Boulevard to Smoke Drive	136	7	Angle - 48%	Auto, Freight	23%	23%	59%
9	US 80: Talokas Lane to Flat Rock Road	126	3	Rear End - 65%	Auto, Freight	11%	18%	67%
10	13th Street / Buena Vista Road: 10th Ave. to 18th Ave.	119	4	Angle - 47%	Auto, Multimodal, Freight	17%	25%	74%
11	Broad Street: 13th Street to 21st Street	110	4	Angle - 48%	Multimodal	8%	23%	66%
12	Saint Marys Road: Robin Road to Farr Road	110	3	Angle - 47%	Multimodal	15%	29%	65%
13	Manchester Road: Earline Avenue to 16th Avenue	110	4	Rear End - 47%	Multimodal	22%	20%	82%
14	Buena Vista Road: Roosevelt Avenue to Brennan Road	107	4	Rear End - 43%	Multimodal	16%	24%	71%
15	Wynnton Road: Munro Avenue to South Dixon Drive	103	4	Angle - 53%	Multimodal	14%	21%	73%
16	Miller Road: Gateway Road to Old Towne Road	102	8	Angle - 51%		15%	19%	71%
17	Floyd Road: Woodruff Farm Road to Hagan Drive	101	4	Angle - 54%		14%	25%	66%

Crash Cluster	Primary Corridor Location	Total Crashes	Fatal / Severe Injuries	Most Common Crash Type	MTP Crash Focus Areas	Wet Surface (% of crashes)	Dark Conditions (% of crashes)	Intersection Related (% of crashes)
18	US 280: US 80 to Dobbs Road	88	14	Rear End - 68%	Auto, Multimodal, Freight	17%	13%	26%
19	Crawford Road: 13th Street to 13th Court	87	6	Angle - 47%	Auto, Multimodal, Freight	13%	8%	57%
20	US 27: 10th Avenue to Lumpkin Boulevard	70	21	Other - 43%		31%	34%	33%

7. 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 Transportation Improvement Program and evaluate the effectiveness of the implemented projects through regular evaluation and assessment of performance measures. Projects selected for implementation should focus primarily on mitigating existing congestion and eliminating transportation fatalities. These projects are intended to be lower cost with a shorter implementation timeframe than roadway widening and capacity projects.

The MPOs project prioritization and selection criteria used for selecting projects to fund in the Transportation Improvement Program include congestion reducing measures, such as:

- A projects potential to reduce previous crash history trends
- A project incorporating multimodal facilities which improve bicyclist and pedestrian accessibility
- Project providing congestion relief based on existing and future volume/capacity ratios

As the MPO identifies projects for funding in the 2050 Metropolitan Transportation Plan and updates to the Transportation Plan, these project selection criteria will aid in the funding and implementation of congestion reducing projects. As an urbanized area where most locations can be reached in a reasonable amount of time with few delays, maintaining that quality of life is important. Compared with other large, urbanized areas (with population greater than 200,000), the Columbus-Phenix City region is fortunate to not have extended hours of delay or congestion. However, as the feasibility for widening existing roadways becomes more limited, congestion management and monitoring of system conditions will become increasingly important.

As shown in Map 7, there are future challenges associated with traffic congestion as the region continues to grow. Funding for the future needed capacity and congestion management projects is a challenge for all urbanized areas. Federal formula funds have been the traditional way that MPOs are able to advance transportation projects. To maintain system performance, the MPO should seek additional funding through partnership with State DOTs to address 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).

Columbus-Phenix City Transportation Study
420 10th Street, P.O. Box 1340
Columbus, Georgia 31902
Phone: (706) 653-4421

www.columbusga.gov/planning