

**COLUMBUS-PHENIX CITY  
METROPOLITAN PLANNING ORGANIZATION**



**2011 CONGESTION MANAGEMENT PROCESS REPORT**

**COLUMBUS-PHENIX CITY METROPOLITAN PLANNING ORGANIZATION**

**2011 CONGESTION MANAGEMENT REPORT**

**Prepared for the Columbus Planning Department, Columbus, GA**

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## **CHAPTER 1 - INTRODUCTION**

The Columbus-Phenix City Metropolitan Planning Organization (CPCMPO) was established in 1964 to serve as the body for facilitating transportation planning decisions in the Columbus and Phenix City region in a manner that is coordinated, comprehensive and continuous. Our jurisdiction encompasses all of Muscogee County, Chattahoochee County, the northeastern quadrant of Russell County and southeastern quadrant of Lee County in Alabama.

One way in which we continually monitor the status of transportation needs for the region is through the Congestion Management Process (CMP), which is performed bi-annually and whose results are released in a report.

Under federal regulations, the Congestion Management Process is required of all metropolitan areas with a population greater than 200,000. The CPCMPO has now conducted five iterations of this study (2003, 2005, 2007, 2009, and 2011). All roadways deemed “regionally significant” were included for measurement in this study. 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 demand reduction and operational management strategies.

On an annual basis, the CPCMPO prepares the Unified Planning Work Program (UPWP), which identifies all transportation planning activities agreed upon to be performed by the CPCMPO participants and funded by federal grants and state contracts in the coming year. We also prepare a Transportation Improvement Program (TIP), which prioritizes projects for a four year window and the Long Range Transportation Plan (LRTP) every fifth year, which projects the needs for transportation investments twenty years into the future.

### **Study Tasks**

Activities undertaken during the development of the Congestion Management Process study

1. Identify Corridors to Be Measured.
2. Define Goals and feasible Congestion Management Strategies
3. Develop of Congestion Related Performance Measures
4. Data Collection and Monitoring
5. Summary of Findings and Recommendations.

The 2011 study was again conducted from April through June with the report findings being released in fall.

The Congestion Management Process has previously been described as consisting of “7 Steps”. With the 2011 version, policy guidance revisions led to the addition of a new step, making it an “8 Step” process.

1. Develop Congestion Management Objectives;
  2. Identify Area of Application;
  3. Define System or Network of Interest;
  4. Develop Performance Measures;
  5. Institute System Performance Monitoring Plan;
  6. Identify and Evaluate Strategies;
  7. Implement Selected Strategies and Manage Transportation System; and
  8. Monitor Strategy Effectiveness.
- 

### **1. Develop Congestion Management Objectives;**

The objective of the CPCMPO is to have a baseline target of Level of Service “C” or better on roads in our route network. Level of Service can be defined as a term used to qualitatively describe the operating conditions of a roadway based on factors such as speed, travel time, maneuverability, delay, and safety.

### **2. Identify Areas of Application;**

Our objective is to measure levels of congestion and delay along major corridors in our network during three different periods of day.

### **3. Define System or Network of Interest;**

Thirty eight different segments of roadway in the Columbus-Phenix City region were selected for measurement in the 2011 Congestion Management Process report. Their individual characteristics, such as intersections, speed limits and roadway category were programmed into our software package, TravTime.

### **4. Develop Performance Measures;**

The TravTime software used in this study offered a variety of data set results from which we could choose for use in this report. This study opted to use “Congested Time”. This is represented as the period of time (in seconds) where the monitored vehicle recording data traveled below 20 miles per hour. This category of measurement was chosen as the indicator of system performance as it is a relatively easy to understand.



## 5. Institute System Performance Monitoring Plan;

The routes of the Congestion Management Process are subject to varying degrees of monitoring, ranging from recurring presence and evaluation in biannual reports, to individual corridor and intersection capacity studies to regular monitoring through our soon to be operational Automated Traffic Management Center. As improvement projects are completed, such as Whittlesey Road, Forrest Road and Moon Road widening, we will continue to monitor conditions to see how traffic flow has been affected.

## 6. Identify and Evaluate Strategies;

Identifying strategies to achieve operations objectives is best accomplished when transportation planners and system operators collaborate. Planners have access to data on current and forecasts on future mobility concerns. Operators of transit and freight have practical awareness of existing conditions as well as the best practices utilized elsewhere that could be implemented.

Maintenance and Operations (M&O) strategies may also be implemented. This aims to enhance system performance based on the infrastructure that we already have, as opposed to building new physical capacity. It is important to note that M&O does *not* encompass traditional maintenance activities, such as grading, pothole repair, or resurfacing. Rather, M&O strategies focus on optimizing the performance of the transportation system.

- **Operating Existing Capacity More Efficiently:** Getting more out of what we have through improvements to system operations. These could include:
  - Metering traffic onto freeways.
  - Optimizing the timing of traffic signals.
  - Improving incident response.
  - Adjusting transit service schedules.
  - Improving management of work zones.
  - Identifying weather and road surface problems and rapidly targeting responses.
  - Installing a transit signal priority system.
  - Implementing access management.
- **Demand Management:** Encouraging changes in travel mode, time, location, or route. These changes could include:
  - Programs that encourage transit use, ridesharing, bicycling, and walking.
  - Parking management.
  - Employer-based programs.
  - Telecommuting programs.
  - Providing real-time information on transit schedules and arrivals.

- **Land Use Strategies:** Strategies designed to alter development patterns and design. These strategies could include:
  - Transit-oriented development.
  - Clustering development.
  - Urban design.
- **Infrastructure Development:** New highway, transit, or bicycle/pedestrian capacity. This sort of development could include:
  - Adding capacity to the transit system (buses, urban or commuter rail).
  - Adding travel lanes on major freeways and streets.
  - Removing bottlenecks by realigning intersections.
  - Installing overpasses or underpasses at congested locations.

**7. Implement Selected Strategies and Manage the Transportation System;** and

**8. Monitor Strategy Effectiveness;** successive congestion management process reports can illustrate whether strategies have been effective.

Monitoring and evaluation helps to inform better decision making by transportation planners and engineers. The ways in which this may occur are as follows:

- Better understanding of the effectiveness of transportation strategies and investments. This helps with the planning of future investments and strategies to meet regional objectives.
- Fine-tuning the operation of projects already implemented and the implementation of ongoing operations programs (e.g. signal re-timing, bus schedule revisions).
- Helping to calibrate and refine planning models, such as the Columbus-Phenix City traffic model, so that conditions are properly reflected.
- Improving collaboration between agencies in collecting and monitoring data, which can yield benefits in terms of both developing and refining operations objectives and performance measures as well as in identifying successful strategies.

Monitoring and evaluating information also improves the effectiveness of communications with decision makers, stakeholders, and the public, enabling:

- Understanding the current status of transportation system performance more clearly, based on valid data rather than anecdotal perception.
- A way to see how progress has been made in meeting operations objectives and where opportunity for further improvement remains.

The Congestion Management Process helps the Columbus-Phenix City Metropolitan Planning Organization to:

- Identify congested locations;
- Determine the causes of congestion;
- Develop alternative strategies to mitigate congestion;
- Evaluate the potential of different strategies;
- Propose alternative strategies that best address the causes and impacts of congestion;
- Track and evaluate the impact of previously implemented congestion management strategies.

The Congestion Management Process is as much a way of thinking about congestion related issues as it is a set of technical tools. To put it another way, it uses a number of analytic tools to define and identify congestion near an activity center, in a corridor or an entire region and offers strategies, where applicable, to reduce congestion or mitigate the impacts of congestion.

The Congestion Management Process benefits greatly from a systematic approach to collecting and managing data for performance measurement. Collection of travel and delay time data is an important component of this process, but is not sufficient in and of itself for the purposes of effectively managing congestion. The Congestion Management Process also requires analysis and strategy development components.

The Congestion Management Process is intended to provide strategies for inclusion in the metropolitan long range transportation plan, and may also be used for intermediate and short-term planning purposes.

### ***CMP Strategies***

Strategies can be grouped into the following broad categories:

#### 1. Adding More Base Capacity

Increasing the number and size of highways and providing more transit and freight rail service. This can include expanding the base capacity (by adding additional lanes or building new highways) as well as redesigning specific bottlenecks such as interchanges and intersections to increase their capacity.

This approach is not always possible due to constraints, both physical and fiscal, but it remains an important approach to addressing congestion, alone and in combination with other strategies.

Examples:

- Adding travel lanes on freeways, roads and streets.
- Adding capacity to the transit system.

## 2. Operating Existing Capacity More Efficiently

Getting more out of what we have. This is a strategy that deals with the operation of the existing network of streets, highways, transit systems and freight services.

Many operations-based strategies are enhanced by the use of enhanced technologies or intelligent transportation system projects. Examples of strategies that could be potentially deployed include:

Examples:

- Optimizing the timing of traffic signals;
- Pre-emptive action or faster responses to traffic incidents;
- Restricting turns at key intersections;
- Geometric improvements to roads and intersections;
- Converting streets to one-way operations; and
- Access management.

## 3. Efficient Travel and Land Use Patterns that Generate Less Congestion

Utilization of Travel Demand Management (TDM), encouragement of non-automotive travel and land use management are strategies aimed to reduce the number of single-occupancy vehicle trips. In some instance the goal is to substitute communications for travel, or to encourage regional cooperation to change development patterns and reduce sprawl.

Examples:

- Programs that encourage transit use and ridesharing;
- Curbside and parking management;
- Flexible work hours;
- Telecommuting Programs;
- Bikeways and other strategies that promote non-motorized travel;
- Land use controls or zoning;
- Growth management restrictions such as urban growth boundaries;
- Development policies that support transit oriented designs for corridors and communities involving homes, employment centers and retail areas.
- Incentives for high-density development, such as tax incentives.

## CHAPTER 2 – OVERALL INTENT

The intent of the Congestion Management Process is to protect the region's investment in, and improve the effectiveness of, the existing and future transportation networks.

This is achieved by using the Congestion Management Process to provide decision makers with information about transportation system performance and alternative strategies to reduce congestion, and enhance the mobility of persons and goods. Recommendations on strategies considered most appropriate for congested locations in the area will be developed during later tasks in the study.

The Congestion Management Process is a decision support tool in the development of the Long Range Transportation Plan. The Congestion Management Process is especially helpful in identifying transportation deficiencies, transportation needs and priorities related to congestion within the CPCMPO planning boundaries. These findings can subsequently be used as justification for projects suggested for inclusion in the Long Range Transportation Plan.

### What is a Congestion Management Process?

A Congestion Management Process is a continuous cycle of transportation planning activities designed to provide decision-makers with better information about transportation system performance and the effectiveness of alternative strategies to deal with congestion.

A Congestion Management Process consists of four thematic components:

- Measurement and identification of congestion;
- A matrix of congestion mitigation strategies;
- Monitoring of effectiveness after implementation; and
- An orderly evaluation process.

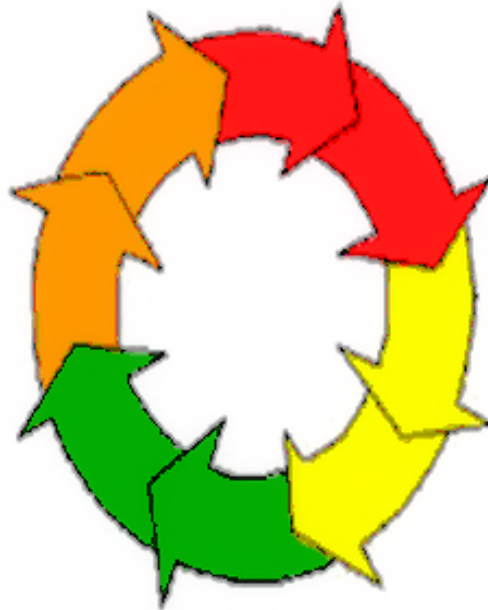
The current federal highway authorization bill titled the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) requires that congestion relief be considered in the selection of transportation improvement projects, and that all urbanized areas with populations in excess of 200,000 (termed Transportation Management Areas [TMAs]) develop and implement a Congestion Management Process.

As shown in Figure 2-1 the components of the Congestion Management Process form a continuous cycle of transportation planning activities. By monitoring the effectiveness of congestion mitigation strategies and evaluating their benefits in an orderly, consistent manner, planners and decision makers can improve their ability, over time, to select the most cost-effective strategies appropriate to their specific local conditions and needs.

**Figure 2-1**  
**Congestion Management: A Cyclical Process**

**Monitors  
Effectiveness**

**Orderly  
Evaluation  
Process**



**Matrix  
Of  
Strategies**

**Measures  
And Locates  
Congestion**

The Federal Highway Administration (FHWA) has issued guidelines on what constitutes a fully operational Congestion Management Plan<sup>1</sup>. The guidelines are summarized under the following steps:

- System Monitoring and Identification of Congested Locations;
- Performance Measure Development;
- Identification of Congestion Causes;
- Identification and Ranking of Mitigation Strategies;
- Implementation of Strategies; and
- Monitoring of Effectiveness.

### System Monitoring

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. System monitoring should occur on all “regionally significant” roadway and transit facilities, with data collected continuously to identify the location and extent of congestion on these facilities.

With respect to roadways, this would include facilities classified as arterial or higher. System monitoring activities typically incorporate one or more of the following:

#### *1. Floating Car Travel Time / Delay Collection*

This method of data collection involves recording the time and position of a vehicle “floating” within the traffic stream at control points along a roadway facility. The speed / time / delay data may be obtained via a tape recorder or stopwatch.

Often, travel time / delay runs will indicate segments along a route, or at an intersection, where traffic counts may need to be collected. These “as-needed” counts are an important component of the system monitoring process. Time and delay runs and traffic counts serve as integral inputs to the third mechanism to monitor system performance:

#### *2. Traffic Count Collection / Analysis*

Traffic count data was acquired from the Georgia Department of Transportation (GDOT), Alabama Department of Transportation (ALDOT) and Columbus Consolidated Government (CCG) traffic counters to monitor traffic volumes on routes in the network. Many of these counts have been performed on an annual basis, allowing for the comparative review of volumes over a number of years.

#### *3. Regional Travel Demand Model*

The regional travel demand model can be a component of monitoring system performance in two ways.

- First, it provides a method of determining likely speed and traffic volume on facilities not directly observed under either of the system monitoring processes described above.
- Second, it allows for the forecasting of future traffic congestion along broadly defined roadway corridors or activity center areas.

Some ways in which travel demand can be visually represented is through the development of “build/no build” scenario traffic models and travel time shed models.

The build/no build traffic models depicts various scenarios depicting the effect that building or omitting planned transportation improvements would have on traffic volumes. How the model works is as follows - demographic forecasts are made as to the likely number of homes, businesses and retail stores in a specific area.

Formulas are then applied to calculate how many daily trips each would generate as well as attract. These projections are then aggregated to depict what overall traffic volumes would be in the area. These volumes are then “loaded” by the software to try to get all of the trips completed, from origin to destination, using the road network. Various projects can be added or detracted from the network, which then affects the volumes on existing roads.

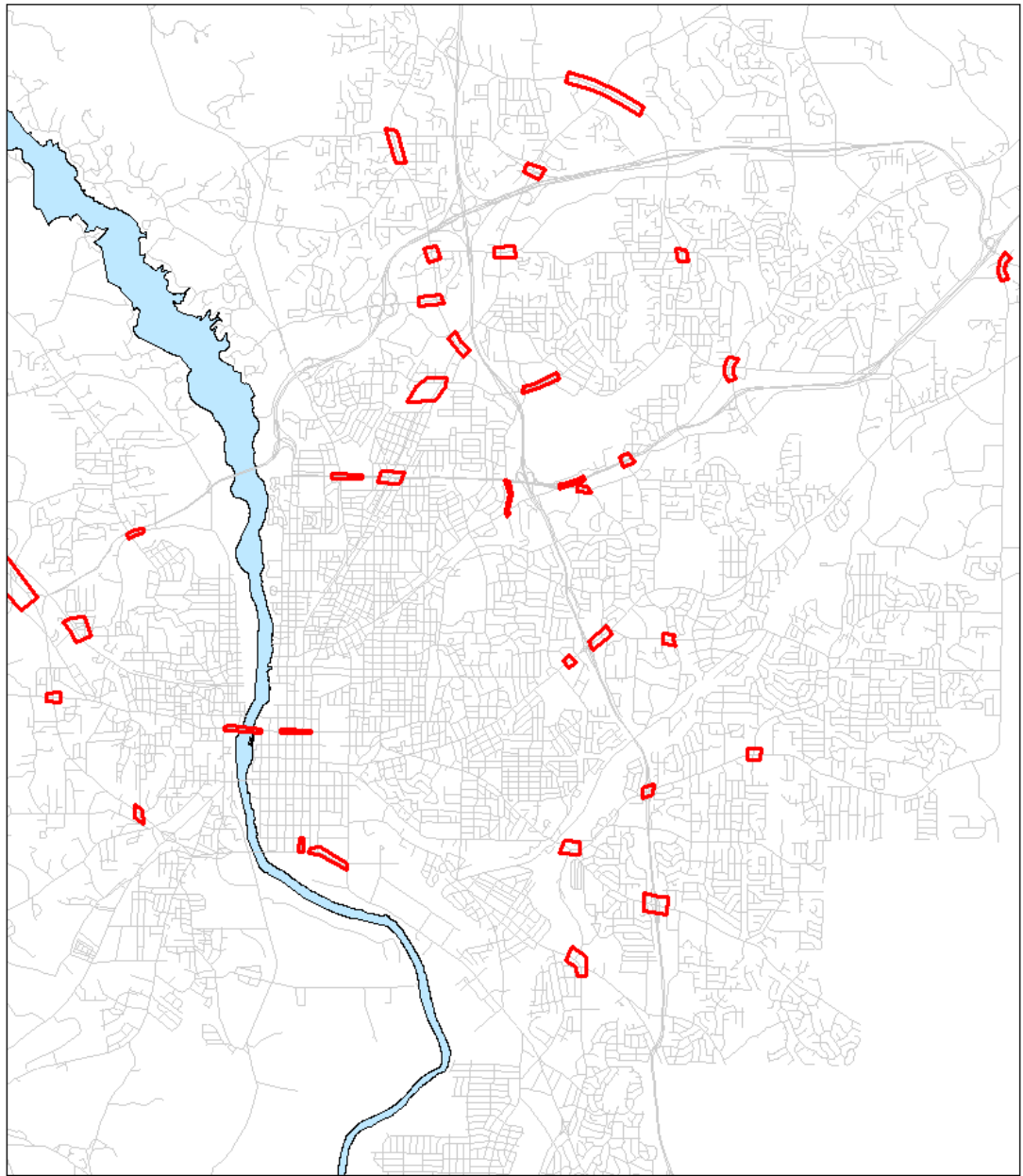
If a new project were to be represented on the model, some of the traffic in the network would be diverted to the new route. If a project is not built, this traffic is diverted to existing routes. The model calculates what the likely path of trips will be, given the route network and costs in terms of time and distance, between the point of origin and the destination.

Doing this allows planners to forecast where future investment may be needed and thus begin the process of preparing projects to address identified issues.

The following maps (Figures 2-2 and Figures 2-3) represent the present 2011 traffic conditions followed by the 2035 “no build” traffic model for the region. It is based on the assumption that none of the planned projects listed in our present Long Range Transportation Plan are constructed. The areas outlined in red boxes indicate where the model calculated that the level of service rating would be a “D” or lower. This was done by taking the projected volumes for the road and comparing them to the capacity thresholds for that type of road.




Figure 2-2

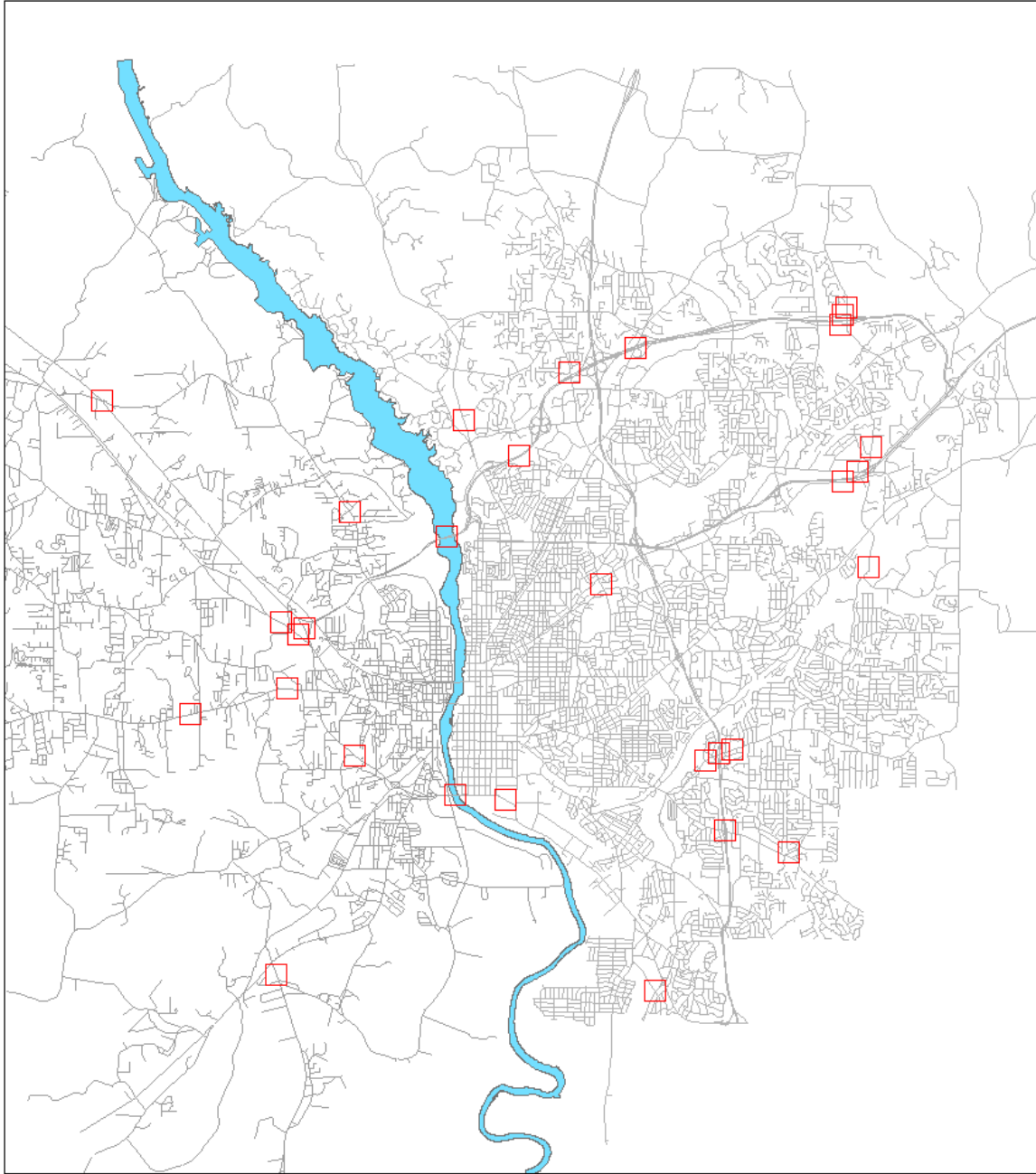


0 0.45 0.9 1.8  
Miles

Present Day Congested Areas Identified by  
2011 Congestion Management Process

<b>Legend</b>
 Congestion Areas

**Figure 2-3**



**Areas of Road Network Projected to Experience Traffic Congestion in 2035.**  
(source: GDOT Traffic Model - 2009)

**Legend**

□ Congestion Areas

### Travel Time Shed Maps:

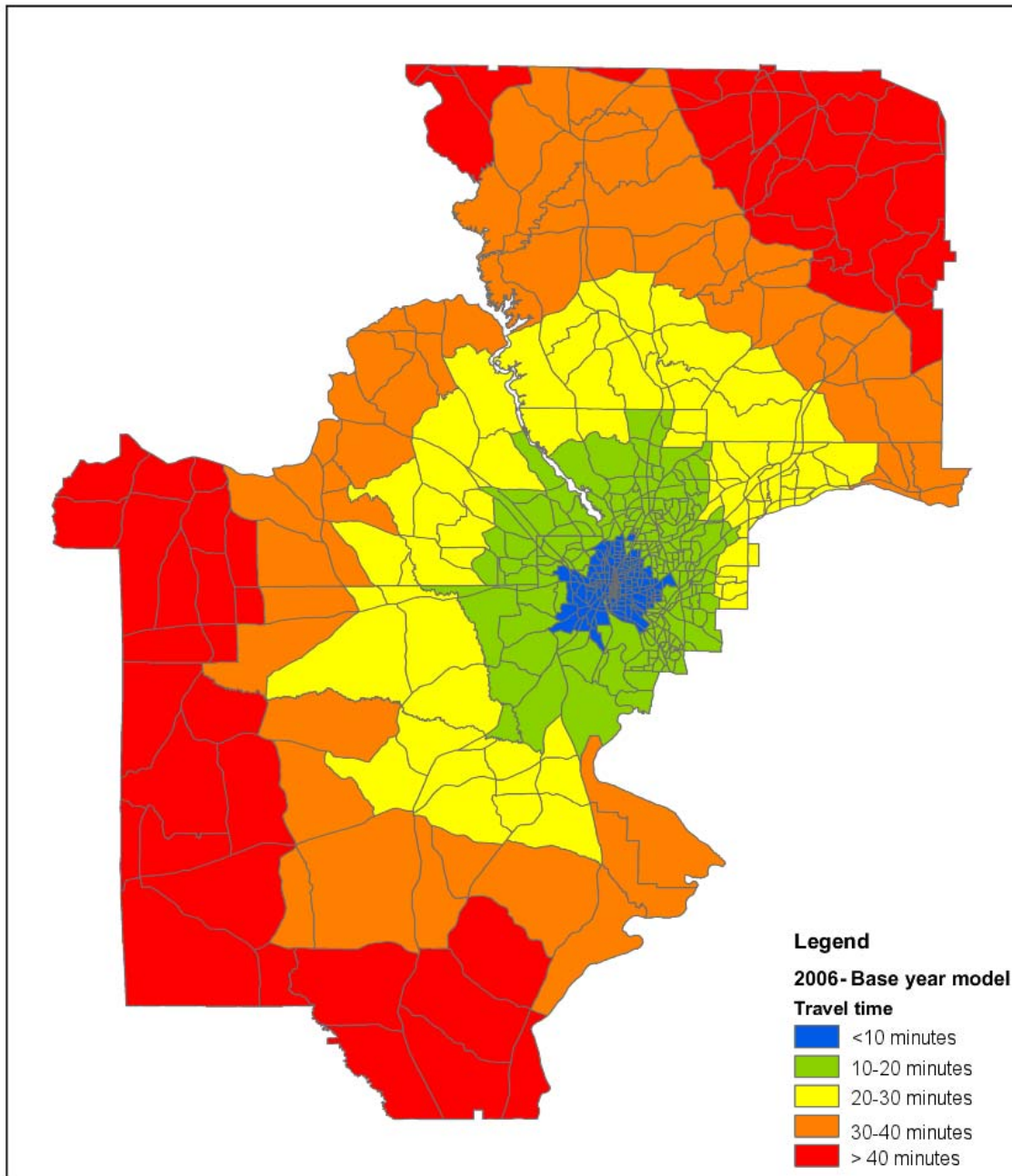
Travel time shed maps utilize the same demographic population and traffic data as the traffic models. These approximate the amount of travel time (expressed in minutes) to a singular central destination.

For our travel time shed maps, the specified destination was the Government Center Tower at 100 Tenth Street in Columbus. Travel time is represented in concentric bands in increments of ten minutes to show the length of time necessary to reach the specified destination. This is estimated by the modeling software based on its calculations of likely future traffic volumes on the route.

For instance, a house situated in a census tract shaded in yellow, could expect to reach downtown Columbus in a time between twenty to thirty minutes.

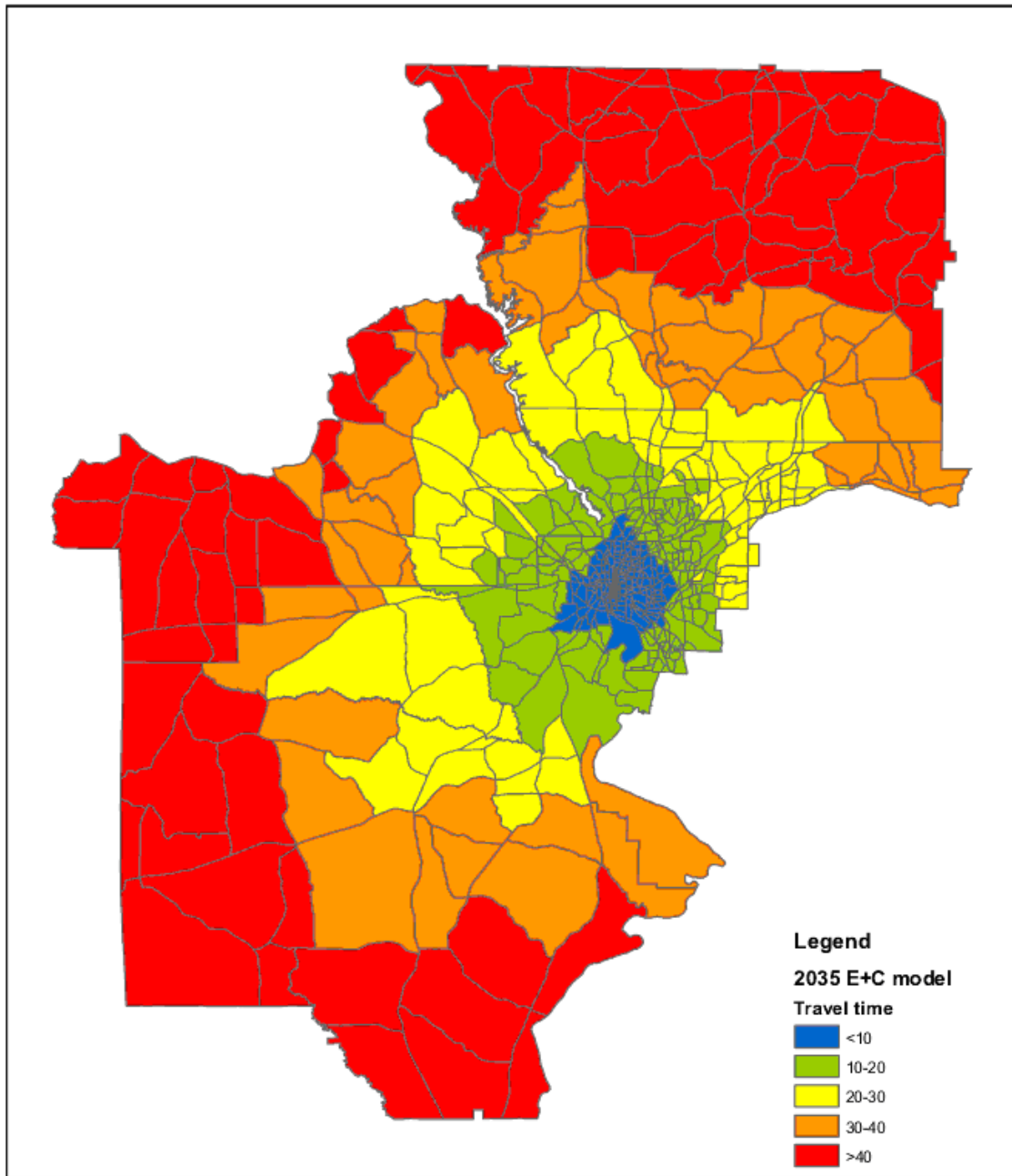
**Figure 2-4**

Columbus-Phenix City Transportation Study  
2006 Base Year Travel Time Shed Model



**Figure 2-5**

Columbus-Phenix City Transportation Study  
2035 Travel Time Shed Model - All Projects in LRTP Constructed



## **CHAPTER 3**

### **CONGESTION MANAGEMENT STRATEGIES**

#### **INTRODUCTION**

A key task in the development of a Congestion Management Process is the identification and structuring of congestion mitigation strategies in a fashion that is easily understood by not only technical staff, but also the public. This chapter provides a focused discussion of those strategies thought most applicable to the congestion problems identified in the CPCMPO area during this study.

#### **STRATEGY CLASSES**

Strategy classes represent broad groupings of individual strategies and improvement measures.

The strategies in this discussion have been broken into the following twelve classes, as identified in the Federal Congestion Management Process Final Rule 1 for the Congestion Management Process:

1. Transportation demand management (TDM) measures
2. Traffic operations improvements
3. Measures to encourage high occupancy vehicle (HOV) use
4. Public transit capital improvements
5. Public transit operational improvements
6. Measures to encourage the use of non-motorized modes
7. Congestion pricing
8. Growth management
9. Access management
10. Incident management
11. Intelligent Transportation Systems (ITS)
12. General purpose capacity expansion

For each strategy class, groups of distinct strategies have been identified, as well as representative measures of effectiveness (MOEs) to assess the pre- or post implementation effectiveness of a given strategy group. Note that Congestion Management Process guidelines do not specify that all possible strategies be analyzed for every location of congestion. Only those that could potentially mitigate congestion at the given location in a reasonable manner should be analyzed.

**Table 3-1  
Listing and Definition of Strategies:**

<b>STRATEGY CLASS</b>	<b>STRATEGY GROUP</b>	<b>REPRESENTATIVE STRATEGIES</b>
<b>1. Transportation Demand Management</b>	A. Ride sharing Programs	Ride share matching, Marketing and promotion, Vanpool Operations.
	B. Alternative Work Arrangements	Telecommuting, flex time or compressed workweeks, Staggered work hours.
	C. Transit/Carpool Incentives	Employer-paid transit passes, Subsidized vanpool
	D. Parking Management	Preferred carpool/vanpool parking, Carpool/Vanpool parking discounts, Increased parking fees
	E. Guaranteed Ride Home (GRH) Programs	Used in conjunction with vanpool or programs to provide participants a ride home in event of emergency, thus alleviating their perception that they need to drive their personal vehicle daily as a contingency for such situations.
<b>2. Traffic Operational Improvements</b>	A. Improved signalization patterns	Signal retiming, coordinated systems, demand responsive systems
	B. Roadway geometry improvements	Turn lanes, channelization, acceleration/deceleration lanes, bus turnouts, lane widening, one-way couplets, grade separation.
	C. Time of Day Restrictions	Turning restrictions, parking restrictions, truck access restrictions
	D. Commercial Vehicle Improvements	Commercial vehicle facilities, intermodal facilities, geometric improvements, truck routes
	F. Construction Management	Management plans, detour signing improvements, advance information of closures and alternate routes.
<b>3. HOV Measures</b>	A. Priority Systems and Support Services	transit signal priority, park and ride facilities.
	B. Fleet Improvements	Fleet expansion, vehicle replacement/upgrades, transit vehicle management systems, vehicle type changes.
	C. Transit support facilities	Park and ride facilities, transit centers, improved stations/stop facilities

<b>5. Transit Operational Improvements</b>	A. Transit Service Improvements	Extending transit service hours. Decreasing dead head time for fixed routes. Light Rail in Columbus. High Speed Rail linkage to Atlanta. Increased
	B. Transit Marketing/Information	Marketing Programs, agency coordination, transit information systems
	C. Fare Incentives	Continue to utilize swipe fare card system.
	D. Traffic Operations for Transit	Traffic signal priority, signal coordination, bus pull over areas
	E. Disabled Access	Accessible benches at all bus stop shelters, curb cuts in all sidewalks near bus stops.
<b>6. Non-Motorized Modes</b>	A. Bicycle/pedestrian infrastructure improvements	Bike lanes, bicycle/pedestrian paths, bicycle route marking, sidewalks
	B. Bicycle/pedestrian support services	Bike rack/lockers, transit vehicle bike carriers, employer showers, bicycle/pedestrian planning, bicycle route maps
<b>7. Congestion Pricing</b>	A. Road user fees	Tolls, time of day pricing, HOV facility fees
	B. Parking fees	Surcharges, time of day pricing.
<b>8. Growth Management</b>	A. Compact development	Density standards
	B. Redevelopment/Plan	Site reclamation/reuse, incentives to develop in areas with existing infrastructure.
	C. Mixed use development	Zoning regulations
	D. Jobs/Housing balance	Zoning regulations
	E. Transit-Oriented Development	Density standards, bicycle/pedestrian access, design requirements
	F. Corridor land use & transportation coordination	Intergovernmental agreements



<b>9. Access Management</b>	A. Driveway management	Policies and standards, side street/alley access, shared access/common driveways
	B. Median management	Policies and standards, establishing medians, bi-directional turn lanes
	C. Frontage roads	Used to provide access to parcels alongside a roadway while minimizing the number of
<b>10. Incident Management</b>	A. Incident Detection	Emergency traffic patrols, emergency monitoring, roadway detectors/surveillance.
	B. Incident response	Emergency vehicle priority, emergency traffic patrols, communication systems protocol.
	C. Incident clearance	Emergency response team's, service patrols
	D. Incident Information/routing	Highway advisory radio, alternative route planning, variable message signs.
<b>11. Intelligent Transportation System</b>	A. Advance Traffic Management Systems	Freeway management, traffic signal control, emergency management,
	B. Advance Traveler Information Systems	Multi-modal regional traveler information.
	C. Advance Public Transportation Systems	Vehicle management systems, automated vehicle location systems, electronic fare payment.
	D. Commercial Vehicle Control Systems	Weight-in-motion system, electronic credential checking.
	E. Advance Vehicle Control Systems	Collision avoidance system. Vehicle guidance system.
<b>12. General Purpose Capacity Expansion</b>	A. Expressway lanes	Add lane to existing facilities or construct new facilities.
	B. Arterial lanes	

### **Mass Transit in Columbus-Phenix City Region:**

There are two mass transit bus services operating in this region. In Columbus, the system is known as METRA, which runs buses over nine fixed routes in addition to a demand responsive service for the disabled. It carried 1,080,000 passenger trips in 2011 along its fixed routes.

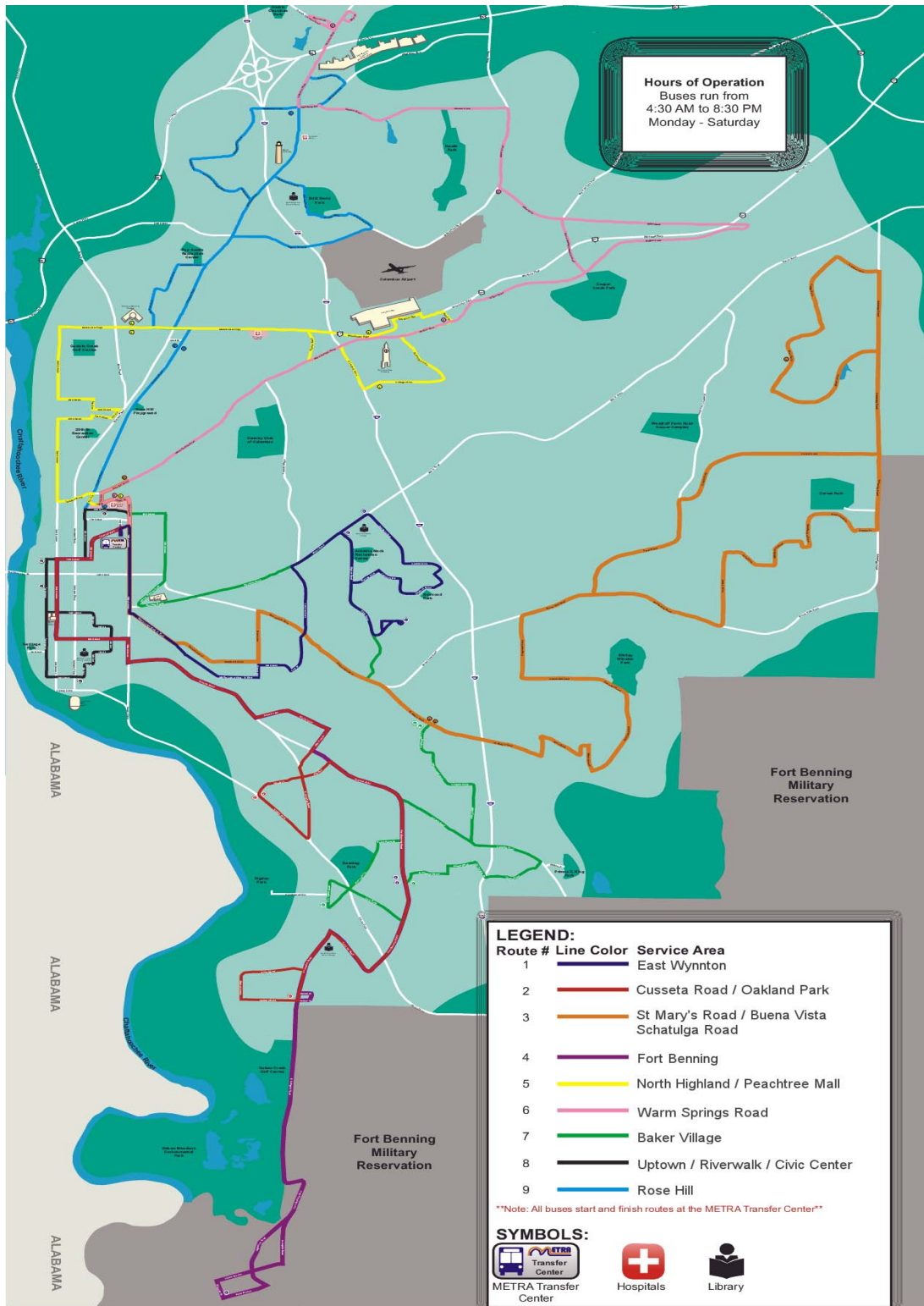
In Phenix City, a mass transit bus service known as PEX (Phenix City Express) operates two fixed routes in addition to a demand responsive service for the disabled. In 2011, the PEX system carried an average of 139 riders per day on its fixed routes, while serving a daily average of 29 riders on its ADA paratransit service.

Most riders on both system are transit dependent, with a growing population of nontraditional riders. In Columbus, with increasing access to alternative transportation routes, more bicycle riders are opting to using public transit as a back up system. This introduction to public transit coupled with transportation cost savings, has encouraged non-traditional riders to give public transit full consideration as a travel option.

### **Transit Enhancements for Future Consideration:**

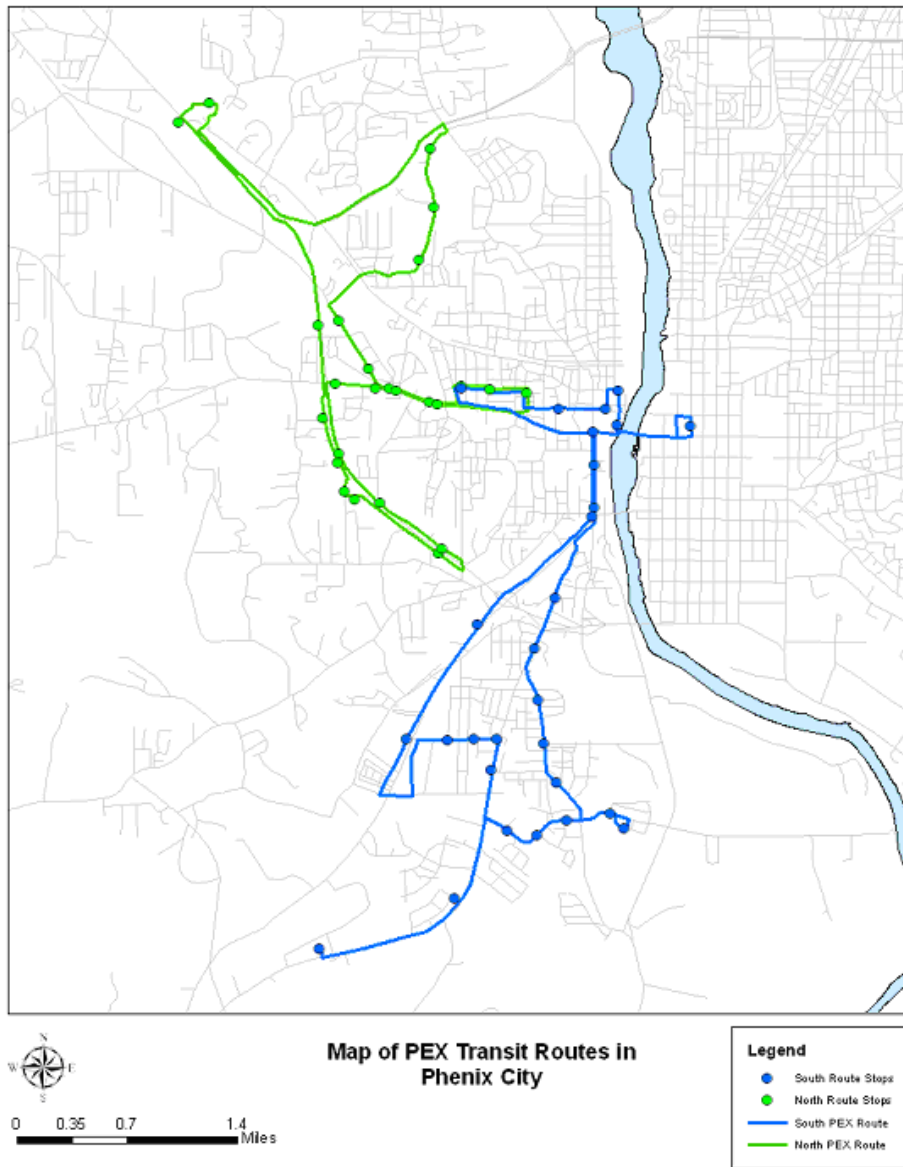
- Extending transit service hours until 11:30 pm weekdays
- Decrease deadhead to 30 minutes for Columbus fixed routes
- High speed rail between Columbus and other cities to include but not limited to Atlanta
- Light rail in Columbus
- Increased access to new job centers

Figure 3-1



Columbus METRA System Map (2011)

Figure 3-2



## **CHAPTER 4**

### **PERFORMANCE MEASURES**

Performance measures provide the basis for evaluating transportation system operating conditions and for identifying the location and severity of congestion. Performance measures typically used in a Congestion Management Process are discussed in detail.

The Chapter ends with a discussion of measures appropriate to the current CPCMPO Congestion Management Process plan.

#### **TYPICAL MOES FOR CONGESTION MANAGEMENT PROCESS**

As noted in the previous chapter, Measures of Effectiveness (MOEs) typically considered in Congestion Management Process plans include.

- Travel Time Measures (vehicle hours traveled by mode, delay and speed)
- Volume to capacity ratios
- Annual traffic counts
- Intersection Level of Service
- Percentage of Households and Employment within “X” miles of a Bus Route
- Percentage of Households and Employment within “X” miles of an interchange
- Transit System measures (rider volumes, reserve capacity, et cetera)
- Vehicle occupancy
- Incident Measures

Of these measurements of effectiveness, travel time measures are often used as the primary measure of effectiveness in Congestion Management Process plan development. Typically, volume to capacity ratios are used as a secondary measure of effectiveness. Measurements of effectiveness are frequently selected based on consideration of the following factors:

- Availability of data from existing sources;
  - Ease of data collection and processing;
  - Applicability of those measures in quantifying system performance; and
  - Ability of the performance measure to help forecast future system deficiencies.
- The following pages go on to describe the various measures used in the development of the current study.

Descriptions of Congestion Management Process performance measures follow:

#### **Congestion Measures**

##### Volume-to-Capacity (V/C) Ratio<sup>1</sup>

Due to the wide availability of volume and capacity figures, as well as the straightforward nature of the measure, Volume-to-Capacity (V/C) ratios<sup>1</sup> are widely used as general measures of congestion in transportation planning. It compares the number of vehicles counted on the road (volume) to the calculated maximum capacity of the roadway. The Transportation Research Board’s (TRB) Highway Capacity Manual (HCM) has established relationships between V/C ratio and traffic operation, and is a standard guide in the field.

### Congested Time and Travel Speed

Congested time and travel speed<sup>2</sup> are closely related measures that illustrate the reduction in mobility people experience during congestion. Congested time and speed experienced under congested conditions can be compared to those found in free flow operating conditions to assess the magnitude of congestion.

For our study, we set a threshold of 20 miles per hour speed for categorizing a vehicle as having hit congestion. As vehicles inevitably have to stop for red signals and stop signs, we also categorized by the amount of time (in seconds) spent below 20 miles per hour. For a segment to be deemed “stressed” was a consistent period of travel speed below 20 miles per hour for longer than 30 seconds. For a segment to be considered “congested”, travel speed had to measure below 20 miles per hour for greater than 60 seconds.

The duration of congestion can also be determined by measuring the reduced travel speeds over a period of time. Future travel time and speed can be projected thru model forecast data, while present day conditions can be determined through the “floating car” travel time run methodology utilized for this report. Some surveillance detectors (occupancy loop or video detection), or signal control detectors can also provide speed data. These data may be summarized at any analysis level desired: link, corridor or region-wide.

### **System Efficiency Measures**

#### Vehicle Miles Traveled (VMT)

Vehicle miles traveled<sup>3</sup> is defined as the number of miles traveled by a vehicle in each trip and is a direct output of regional travel demand models. VMT can be reported for a link, corridor, major activity center or region wide. VMT is a good indicator of travel demand, as well as air quality emissions.

VMT projections readily allow for comparisons between various alternatives of a given scenario, and can also report the frequency of travel between two defined areas. While VMT can report travel by different modes, the measure cannot be used to make comparisons between various modes. As a measure of performance, VMT is best used when:

- Comparing similar links, corridors, and areas;
- Comparing system scenarios in different planning years; and
- Evaluating highway-related project alternatives.

#### Incident (non-recurring congestion) Measures

Incident measures<sup>4</sup> differs from the other performance measures, which all attempt to measure recurring congestion. An attempt should be made to measure incident congestion, which accounts for much of the congestion experienced in Columbus and Phenix City.

- Accident Location and Frequency
- Incident-Related Delay
- Incident Duration

Due to the nature of incidents (which include vehicular crashes or special events), this information is very difficult to obtain in a systematic way.

Footnotes:

1. V/C ratios are typically available from regional travel demand models or traffic count Program and can be analyzed by link or corridor.
2. Primary measure selected for the Columbus Area Congestion Management Process
3. Secondary measure selected for the Columbus Area Congestion Management Process

## **CHAPTER 5** **DATA COLLECTION**

This chapter describes the data collection activities undertaken for the CPCMPO Congestion Management Process study. It covers new data collected by the study team such as travel time surveys, the use of existing data and other data such as additional traffic counts, obtained from other government agencies. The processing of these data and the generation of Measures of Effectiveness (MOEs) are also described.

### **System Monitoring**

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. System monitoring should occur on all “regionally significant” roadway and transit facilities, with data collected continuously to identify the location and extent of congestion on these facilities.

With respect to roadways, this would include facilities classified as arterial (23 CFR 500.109(b)) or higher. System monitoring activities typically incorporate one or more of the following operations.

### **Measuring Procedure**

Travel time surveys were conducted along arterial routes throughout the Columbus-Phenix City Metropolitan area. Routes for surveying were determined by the CPCMPO. The surveys were conducted between April and June, 2011. The protocol for conducting these surveys remained similar to what was done in previous studies, although the device used to record the movement data and the software to process it evolved since the last iteration.

Staff members who participated in the data collection process operated their vehicles in a “floating car” procedure, whereby they traveled end to end on every route, remaining at the prevailing speed of surrounding traffic. During data collection weeks, up to five cars were in operation. The driver ensured that the vehicle traveled at a speed representative of the typical vehicle for that time of day and specific route travel.

A portable GPS unit was set up in the vehicle to record current location and travel speed. Trips were measured three times in each direction during three specified time periods on Tuesdays, Wednesdays and Thursdays.

- A.M. Rush Hour period (approximately 6:30 A.M. to 8:30 A.M.),
- Off Peak period (10 A.M. to 12 P.M. and 1 P.M. to 3 P.M.)
- P.M. Rush Hour period (approximately 4:30 P.M. to 6:30 P.M.)

Some of the recorded data included:

- GPS location relative to predetermined checkpoints along the route, such as a signalized intersection;
- Distance from one segment on the route to the next (segments divided by checkpoints);
- Stopped time at a signalized or sign controlled intersection (zero mph speed);
- Congested time (travel at a speed of below 20 mph); and
- Delay along each segment, based on user-specified limitations.



This data, once collected, was subsequently transferred into the TravTime software program. TravTime utilized these GPS findings to assess the conditions of congestion in the overall traffic network.

#### Traffic Count Collection / Analysis

Traffic count data obtained by the Georgia Department of Transportation (GDOT), Alabama Department of Transportation (ALDOT) and Columbus Consolidated Government counters are used by the Columbus Planning Department to monitor roadway system performance. Traffic counters can either be placed permanently on segments of a roadway or used to measure the temporal differences in traffic volume based on a unique circumstance, such as a special event.

These “as-needed” counts are an important component of the system monitoring process. Time and delay runs and traffic counts serve as integral inputs to the third mechanism to monitor system performance:

#### Regional Travel Demand Model

The CPCMPO has worked with the Georgia Department of Transportation Office of Transportation Planning division to produce and maintain a regional traffic model, which is prepared in a software package known as Cube. The regional travel demand model can serve a two fold purpose with respect to monitoring system performance. First, it provides a method of determining speed and volume values on facilities not directly observed under either of the system monitoring processes described above.

Second, it allows for the forecasting of future traffic congestion along broadly defined roadway corridors or activity center areas.

## Routes Surveyed

Travel time surveys were conducted along a total of 38 routes, as shown in Table 5-1. CPCMPO staff members identified the critical time of day and conducted surveys in both directions along each route.

**Table 5-1  
2011 Congestion Management Process – Route Network**

	<b>ROUTE</b>	<b>BEGIN</b>	<b>END</b>	<b>DISTANCE</b>
1	13th St.	Broad St.	Macon Rd.	2.77 miles
2	2nd Ave.	Victory Dr.	J.R. Allen Pkwy.	3.15 miles
3	54th St.	River Rd.	Veterans Pkwy.	1.39 miles
4	Airport Thruway	Veterans Pkwy.	Miller Rd.	2.63 miles
4	Alabama 165	US 431	101st Airborne Rd.	6.87 miles
5	Armour Rd.	Warm Springs	Sowega Dr.	1.94 miles
6	Beaver Run Rd.	Flat Rock	Macon Rd.	2.40 miles
7	Bradley Park Dr.	River Rd.	Whittlesey Rd.	2.16 miles
8	Brennan/ Ft. Benning Rd.	Victory Dr.	Buena Vista Rd.	3.08 miles
9	Buena Vista Rd.	Macon Rd.	Schatulga Rd.	6.98 miles
10	Crawford Rd. (US 80)	AL-169	Third Ave.	11.73 miles
11	Cusseta Rd.	10th Ave.	Fort Benning line	3.32 miles
12	Double Churches Rd.	River Rd.	Veterans Pkwy.	2.93 miles
13	Flat Rock & Schatulga	Buena Vista Rd.	Beaver Run Rd.	4.8 miles
14	Floyd Rd./Woodruff Farm	Buena Vista Rd.	Milgen Rd.	4.34 miles
15	Forrest Rd.	Macon Rd.	Schatulga Rd.	4.17 miles
16	Interstate 185	Smith Rd.	Victory Dr.	13.71 miles
17	Macon Rd.	Tenth St.	Beaver Run Rd.	9.61 miles
18	Manchester Expwy.	Second Ave.	J.R. Allen Pkwy.	7.45 miles
19	Martin Luther King Jr. Pkwy.	13 <sup>th</sup> Street	Alabama 165	4.13 miles
20	Milgen Rd.	Hilton Ave.	Flat Rock Rd.	6.14 miles
21	Miller Rd.	Airport Thruway	Macon Rd.	2.70 miles
22	Moon Rd./Williams Rd.	Whitesville Rd.	Miller Rd.	2.73 miles
23	Opelika Rd.	Crawford Rd.	US 280	6.79 miles
24	Pierce Rd./River Chase	US 280	Stadium Dr.	4.18 miles
25	River Rd.	Hamilton Rd	Double Churches Rd.	4.13 miles
26	Schomburg Rd.	Warm Springs Rd.	Grey Rock Rd.	2.41 miles
27	St. Mary's Rd.	Buena Vista Rd.	Fort Benning Rd.	3.33 miles
28	Stadium Dr.	US 280	River Chase Dr.	2.38 miles
29	Summerville Rd.	US 280	13 <sup>th</sup> St.	7.91 miles
30	Talbotton Rd.	Flat Rock Rd.	Second Ave.	2.21 miles
31	US 280 (Alabama)	Lee Rd.	Veterans Pkwy.	8.53 miles
32	US 280 (Victory Dr.)	Second Ave.	Interstate 185	5.04 miles
33	US 80 (J.R. Allen Pkwy.)	US 280	Lynch Rd.	12.79 miles
34	Veterans Pkwy.	Victory Dr.	Almond Rd.	12.04 miles
35	Warm Springs Rd.	County Line Rd.	Milgen Rd.	7.78 miles
36	Whitesville Rd.	Williams Rd.	Airport Thruway	3.66 miles
37	Whittlesey Rd./Blvd.	Bradley Park Dr.	Veterans Pkwy.	3.16 miles
38	Williams Rd.	Whitesville Rd.	Veterans Pkwy.	1.95 miles

### Performance Measures

These are used to identify congested conditions at individual locations, or within corridors and activity centers. Such measures are the primary means by which congestion information is communicated among transportation professionals and the public. Therefore, care must be taken in the selection, organization and presentation of these measures so that they are:

- Clearly understood;
- Sensitive to all travel modes;
- Sensitive to time;
- Supported by data that are neither costly nor difficult to collect;
- Supported by data that may be forecast into the future and able to measure the effects of strategies meant to mitigate congestion.

The Federal Highway Administration also suggests that selected performance measures be categorized as follows:

1. Those that measure congestion (facility-based measures, such as V/C ratios);
2. Those that measure mobility (travel time-based measures);
3. Those that measure accessibility (activity-based measures, such as the number of jobs within 35 minutes of a particular facility, or within ½ mile of a transit stop);
4. Those that measure system efficiency (measures that provide an overall assessment of system wide performance, such as the number of congested lane-miles, or VMT under congested conditions).

### Data Processing

Gathered data were processed thru the TravTime software package and exported into Excel spreadsheets as well as shape files which could be visually displayed in ArcMap GIS mapping software. The designated intersections along the routes were used to divide each route into tangible sections.

Based on the location of each intersection, the survey vehicle progress along each segment was recorded in terms of travel time along each segment, distance between checkpoints, and delay in travel time from previous node (intersection) based on user specified design speed. These readings are just a few of the data collected by the TravTime software.

At a minimum, three runs per direction were taken along each route during the A.M. and P.M. peak periods, while at least one run per direction was taken during the off-peak period. From this data, the average speed of travel along each segment and for the whole route was calculated.

Travel delay times were also computed from the free flow speed, distance between segments and the average segment travel speed.

Each section on the route was assigned one of five congestion categories. The principal criteria used was the average speed (in terms of miles per hour) observed during the travel time survey for the survey vehicle and the amount of time (expressed in seconds) the survey vehicle spent at speeds of 20 miles per hour or slower.

The congested time was quantified into three categories of traffic flow.

Good – The average speed of the survey vehicle was above 20 mph through the segment or higher than two-thirds of the posted speed limit for a segment of road. The amount of time spent below 20 mph in the segment was less than 30 seconds, indicating very brief delays. These segments were labeled in green on our charts.

Stressed – The average speed of the survey vehicle was below two-thirds of the posted speed limit for a segment of road and the amount of time spent at below 20 mph was between 30 to 60 seconds. This could be characterized as having to wait one full cycle for a traffic signal before proceeding through an intersection. These segments were labeled in yellow on our charts.

Congested - The average speed of the survey vehicle was below one-thirds of the posted speed limit for a segment of road and the amount of time spent at below 20 mph was greater than 60 seconds. This could be characterized as our vehicle encountering a long queue of vehicles waiting for a signal to change and having to wait for two cycles to clear the intersection. These segments were labeled in red on our charts.

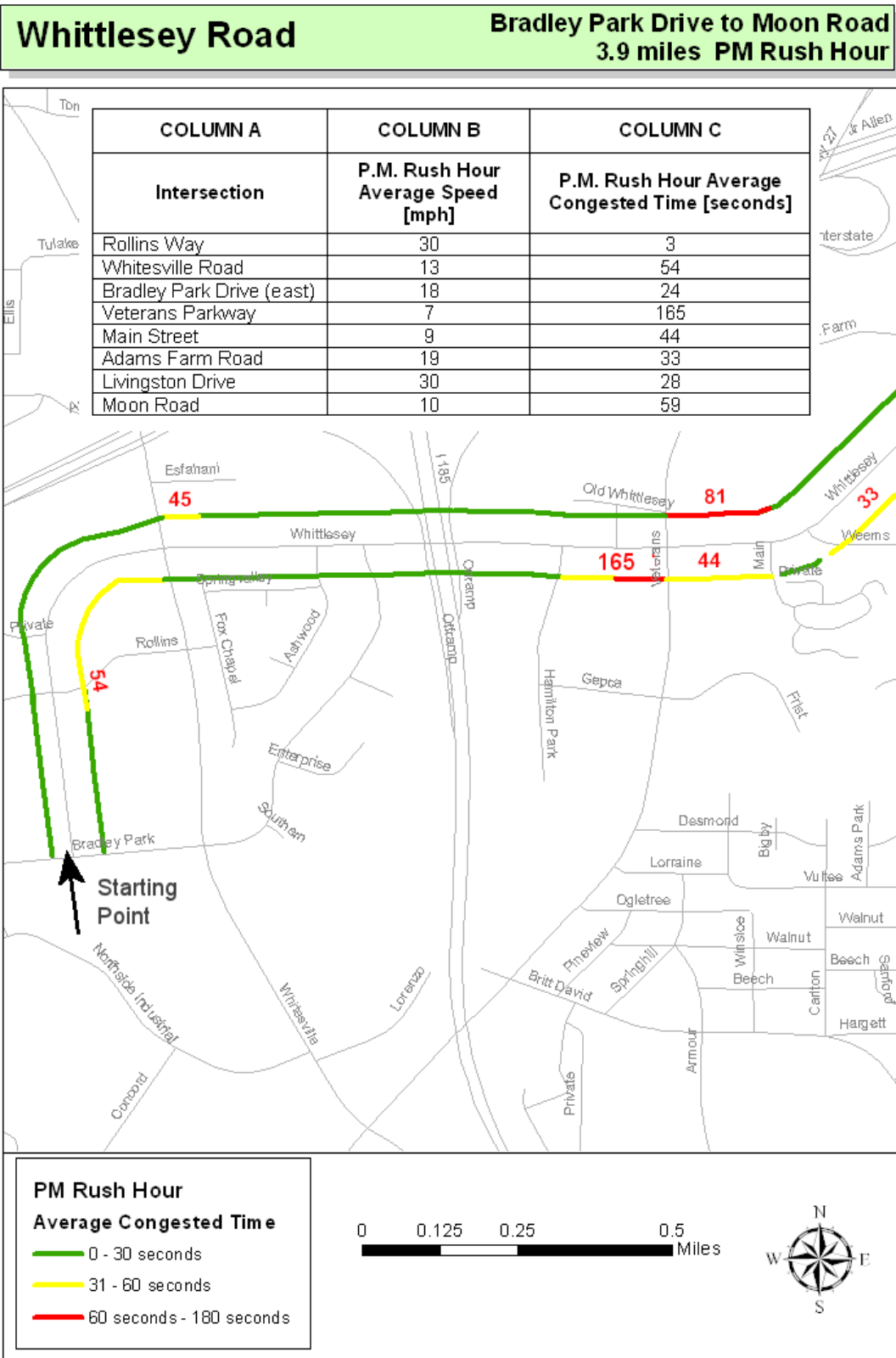
To illustrate how these congestion ratings are applied, let's take a look at one route example from our survey – eastbound Whittlesey Road/Boulevard during the P.M. Rush Hour from 4:30 to 6:30 P.M.

In Column A, the intersections used to segment the route are listed. We did this to be able to distinguish where congestion was occurring, rather than apply a single label to the entire route. Each intersection represents the end of a segment, thus Rollins Way represents the end of the segment which starts at Bradley Park Drive.

In Column B, the average travel speed of the floating car for each of the segments during the time period. Thus for the PM Rush Hour (4:30 PM to 6:30 PM), the floating car assigned to the route traveled at an average speed of 30 miles per hour between Bradley Park Drive and Rollins Way. This would rank it as being “good” in the congestion ratings and thus it is labeled with a green line in the accompanying map.

In contrast, the floating car hit congestion further along from the underpass at Interstate 185 up the hill to the intersection with Veterans Parkway. Here, the floating car had an average speed of 7 miles per hour. This, along with the lengthy average 165 second delay (indicated in Column C) recorded, resulted in the segment being rated as “congested” and labeled in red. This sort of delay would be characterized by a vehicle having to slowly inch along in a long queue of traffic uphill, with the traffic signal at Veterans Parkway going through two or more full cycles until the survey vehicle could get close enough to clear through it. This segment would be rated in our congestion rankings as “congested”, with it being labeled in red on our charts.

Figure 5-1



In Column "A", the intersections used to segment the route are listed. We did this to be able to distinguish where congestion was occurring, rather than apply a single label to the entire route. Each intersection represents the end of a segment, thus Rollins Way represents the end of the segment which starts at Bradley Park Drive (labeled on the map).

In Column "B", the average speed of the floating car for each of the segments is listed. Thus for the PM Rush Hour (4:30 PM to 6:30 PM), the floating car assigned to the route traveled the segment at an average speed of 30 miles per hour between the starting point at Bradley Park Drive to Rollins Way. This would rank it as being "good" in the congestion ratings and thus it is labeled with a green line in the accompanying map.

In contrast, the floating car regularly encountered congestion as it headed east on Whittlesey Road to the segment between the underpass at Interstate 185 up the hill to the intersection with Veterans Parkway. Here, the floating car had an average speed of 7 miles per hour. This, along with the lengthy average 165 second delay (indicated in Column C) recorded, resulted in the segment being rated as "congested" and labeled in red.

This sort of delay would be characterized by a vehicle having to slowly inch along in a long queue of traffic uphill, with the traffic signal at Veterans Parkway going through two or more full cycles until the survey vehicle could get close enough to clear through it. This segment would be rated in our congestion rankings as "congested", with it being labeled in red on our charts.

For the segment between Main Street Village and Adams Farm Road, the survey vehicle managed an average speed of 19 miles per hour and was delayed for 33 seconds. This sort of delay might be associated with having to wait for small queues of vehicles to clear up at a signalized intersection, while the survey vehicle was able to pass through without having to wait for a full cycle. This segment would be rated in our congestion ranking as "stressed" with it being labeled in yellow on our charts.

Roadways with higher traffic speeds have higher per hour vehicular capacity. Measured traffic volumes are compared to capacity ratings to determine a level of service for that roadway.

## Vehicular Crashes

Delays and congestion in a traffic network can happen unexpectedly when vehicles are involved in crashes. In addition to the cost in terms of time spent by other motorists waiting for the obstructing crash vehicles to be cleared, there is also the toll in terms of damage, injuries and in some cases fatalities.

The Columbus Planning Department makes use of software called Critical Analysis Reporting Environment (CARE) which compiles crash data and allows for the user to run queries to identify circumstances or the incidences of crashes in a specific area. Fortunately, the substantial majority of crashes that are recorded are those involving property damage only. These typically are fender-bender collisions, often at low speeds, rather than right angle impacts at higher speeds, which are more destructive.

**Table 5-3  
Intersections with the Most Crashes in Columbus  
(2005 to 2009 Data Set)**

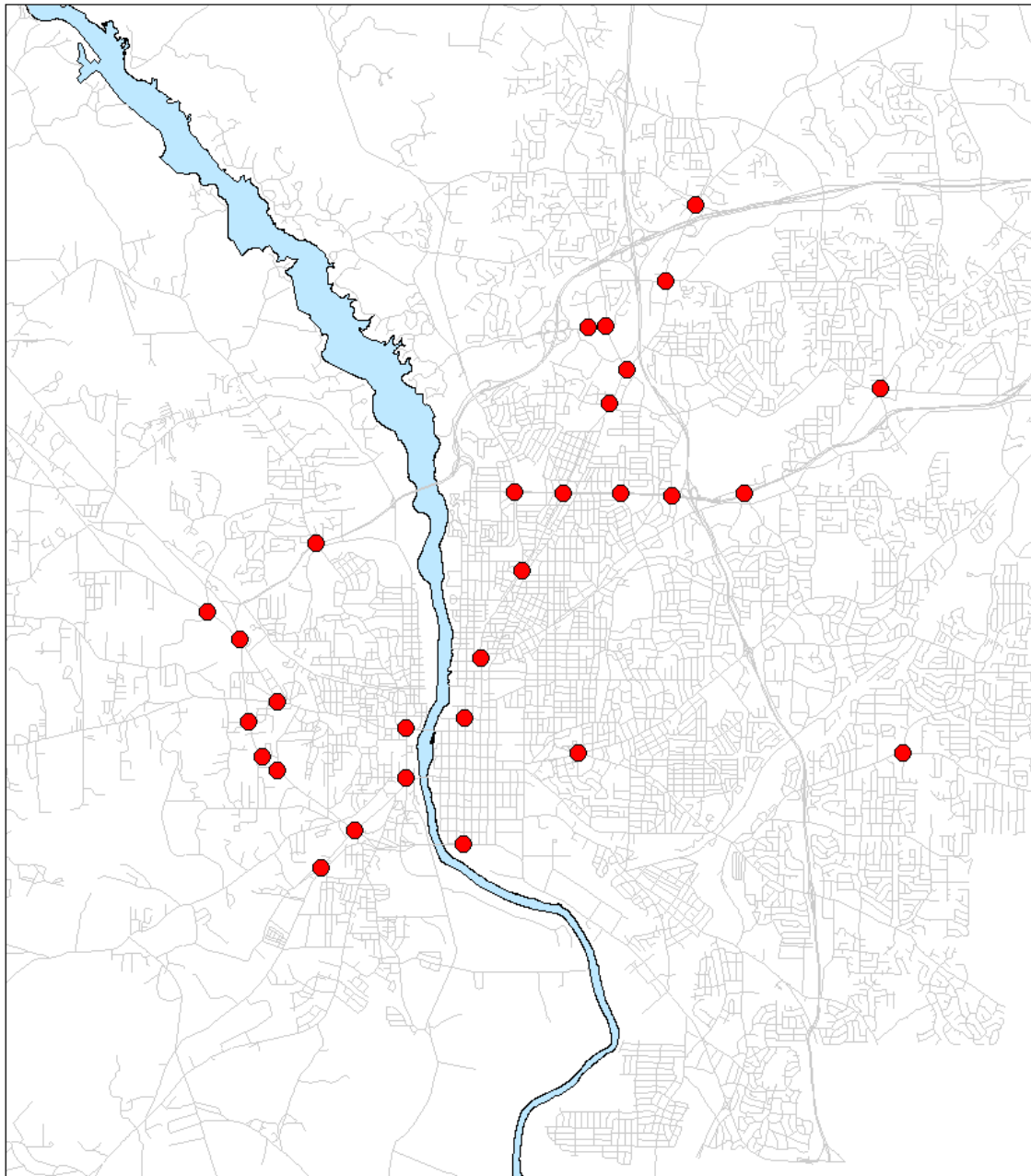
	Intersection	Total Number of Crashes	Fatality Crashes	Crashes With Injuries	Property Damage Only
1	14th St at 2nd Ave	324	1	69	254
2	Veterans Pkwy at 45th St	290	1	68	221
3	Manchester Expwy at Armour Rd	268	0	46	222
4	Manchester Expwy at University Ave	192	1	33	158
5	Veterans Pkwy at River Rd	175	0	41	134
6	Veterans Pkwy at Whitesville Rd	158	0	36	122
7	Veterans Pkwy at Double Churches Rd	156	0	35	121
8	Victory Dr at Veterans Pkwy	155	1	28	126
9	Veterans Pkwy at Airport Thrw	151	1	29	121
10	Veterans Pkwy at Whittlesey Rd	148	0	33	115
11	Warm Springs Rd at Miller Rd	130	0	33	97
12	Manchester Expwy at Woodruff Rd	128	0	27	101
13	Whitesville Rd at Bradley Park Dr	124	0	29	95
14	Veterans Pkwy at Talbotton Rd	123	0	26	97
15	45th St at River Rd	119	0	29	90
16	Buena Vista Rd at Floyd Rd	117	0	24	93
17	Whittlesey Rd at Bradley Park Dr	116	0	28	88
18	Buena Vista Rd at Floyd Rd	116	0	37	79
19	4th St at Muscogee CS 117003	113	0	36	77
20	Buena Vista Rd at Wynnnton Rd	111	1	21	89
	Total Number of Fatality Crashes at Intersections (2005-2009)	55			
	Total Number of Crashes with Injuries at Intersections (2005-2009)	5,513			
	Total Number of Crashes with Property Damage Only (2005-2009)	16,989			
	Total Number of Crashes (2005-2009)	22,557			

**Table 5-4  
Intersections with the Most Crashes in Phenix City  
(2006 to 2010 Data Set)**

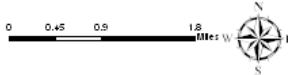
	Location	Total Number of Crashes	Fatality Crashes	Crashes With Injuries	Property Damage Only
1	Intersection: US 80 at US 431	264	1	65	198
2	Intersection: US 80 at SR 1901	216	1	38	177
3	Intersection: Opelika Rd at US 80	194	2	35	157
4	Intersection: 13th St at US 280	116	1	30	85
5	Intersection: Summerville Rd at US 80	116	1	18	97
6	Intersection: 11th St at US 280	106	0	31	75
7	Intersection: Magnolia Dr at US 431 at SR 190	97	0	24	73
8	Intersection: Broad St at 13th St	94	0	13	81
9	Intersection: 38th Pl at Stadium Dr	83	0	18	65
10	Intersection: S 16th Ave at US 280 & 431	83	0	23	60
11	Intersection: 14th Ave S at US 280	68	0	18	50
12	Intersection: 20th St at US 280	64	0	17	47
13	Intersection: 28th Ave at Crawford Rd (US 80)	62	0	26	36
14	Intersection: US 431 at Magnolia Dr/Savage Dr	60	0	9	51
15	Intersection: 25th Ave at US 280	55	0	7	48
16	Intersection: Crawford Rd at Opelika Rd	55	0	16	39
17	Intersection: US 431 US 280 at Lakewood Dr	53	0	6	47
18	Intersection: Knowles Rd at US 431	50	2	17	31
19	Intersection: Dobbs Dr at Lakewood Dr	47	0	9	38
20	Intersection: Broad St at Dillingham St	47	0	6	41
	Total Number of Fatality Crashes at Intersections (2006-2010)	38			
	Total Number of Crashes with Injuries at Intersections (2006-2010)	1,521			
	Total Number of Crashes with Property Damage Only (2006-2010)	4,521			
	Total Number of Crashes (2006-2010)	6,090			



**Figure 5-2**



**Legend**  
● High Crash Locations



**Intersections with the Highest  
Number of Crashes Columbus  
and Phenix City Region**

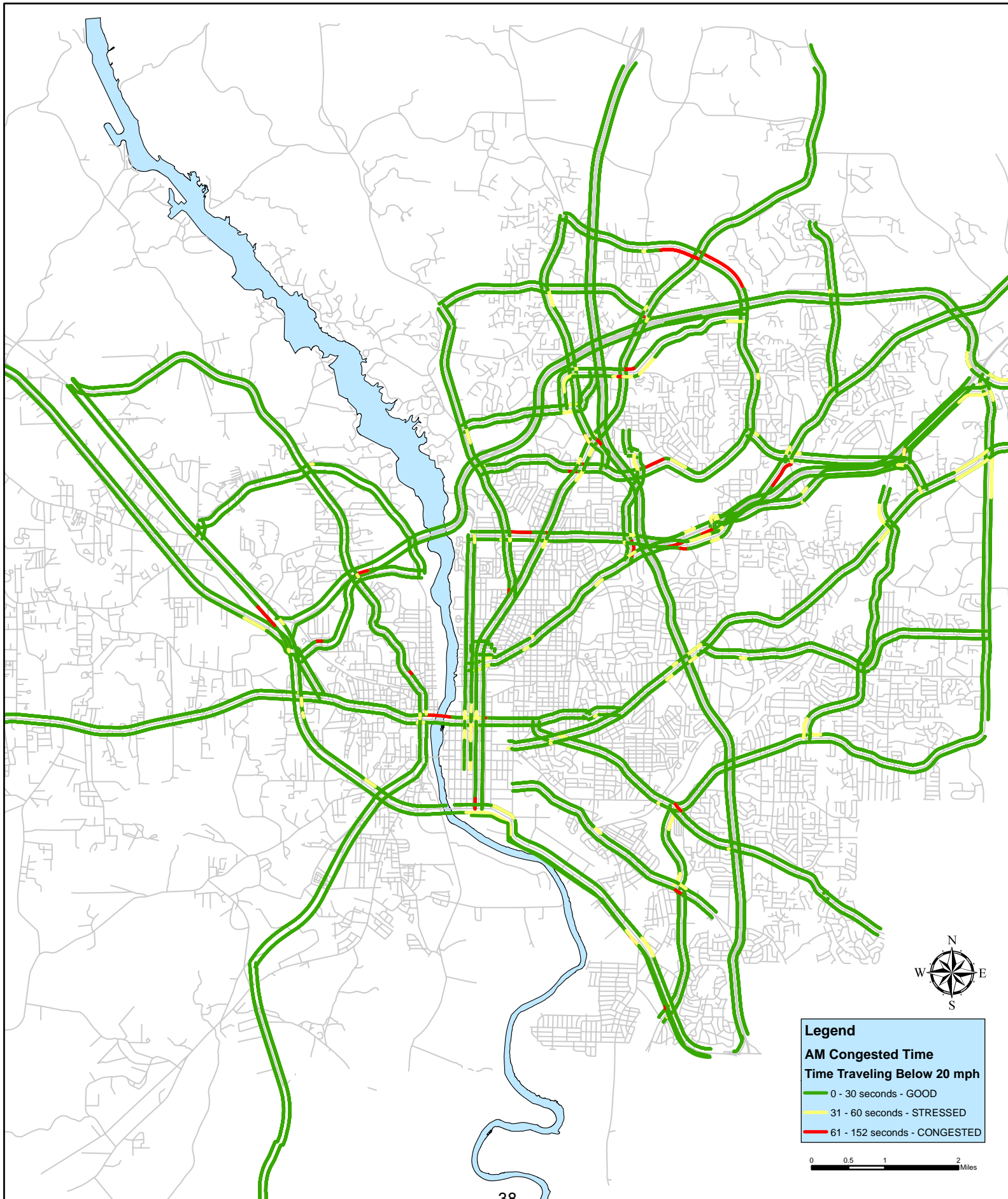
Data Sets Utilized:  
Muscookee County - 2005 to 2009  
Russell County - 2006 to 2010

## **CHAPTER 6 – DATA MEASUREMENTS**

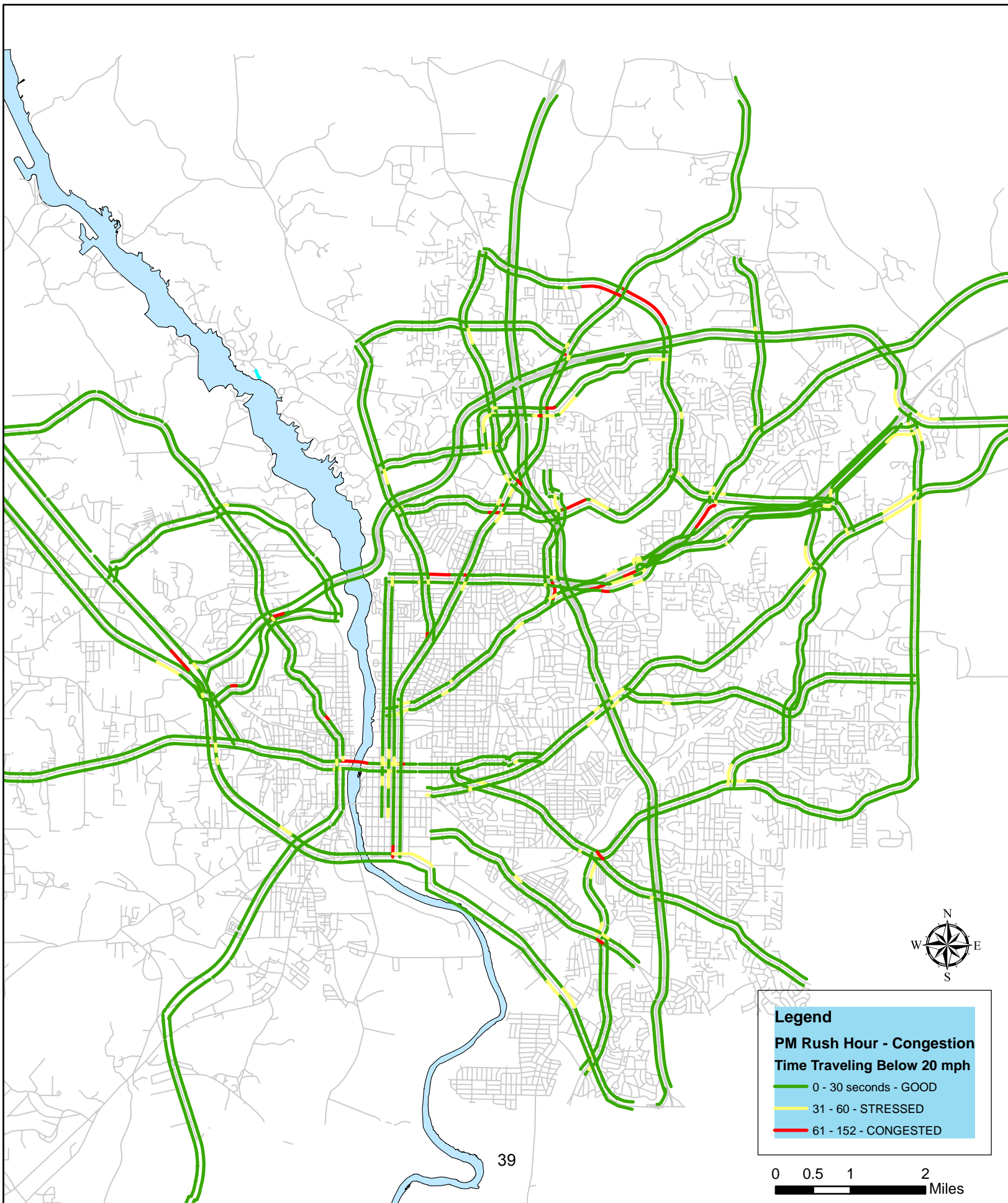
On the following pages are the results of our travel time data, gathered through our floating car method. The data was processed through our TravTime software, which then generated shape files that were compatible with our existing GIS mapping system. Maps are provided which diagram the AM Rush Hour and the PM Rush Hour congestion levels, with segments color categorized: red (congested), yellow (stressed) or green (good).

Tables are also provided showing the actual average speed recorded from intersection to intersection on the selected route during the three time periods – AM Rush Hour, Off Peak and PM Rush Hour. Recommendations for improving the traffic flow (where applicable) are also provided.

# Levels of Congestion for AM Rush Hour As Determined During 2011 Congestion Management Process

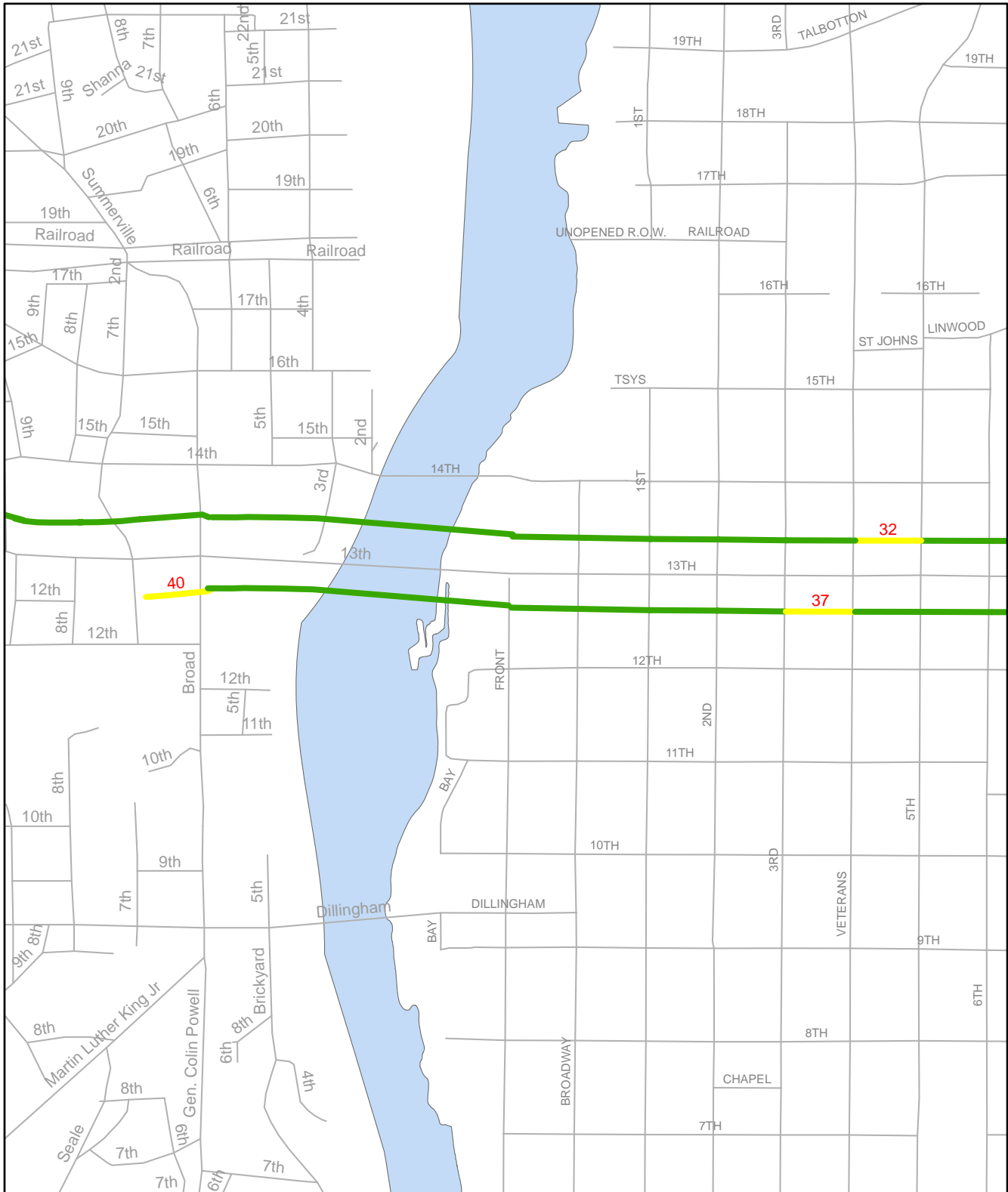


# Levels of Congestion for PM Rush Hour As Determined During 2011 Congestion Management Process



# 13th Street

From Broad Street to Macon Road  
2.7 miles AM Rush Hour



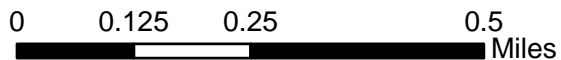
## AM Rush Hour

### Average Congested Time

0 - 30 seconds

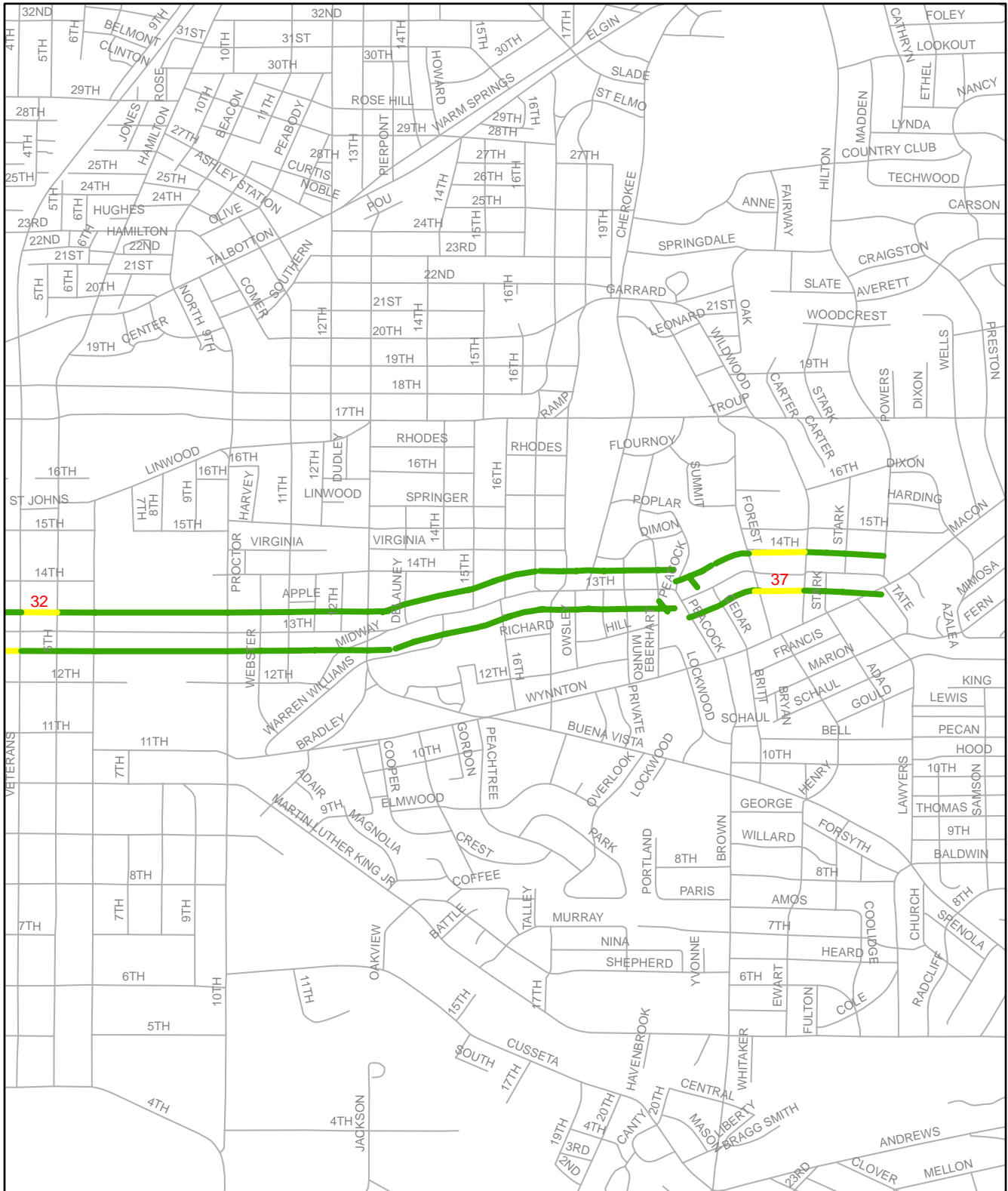
31 - 60 seconds

60 seconds - 180 seconds



# 13th Street

From Broad Street to Macon Road  
2.7 miles AM Rush Hour



## AM Rush Hour

### Average Congested Time

0 - 30 seconds

31 - 60 seconds

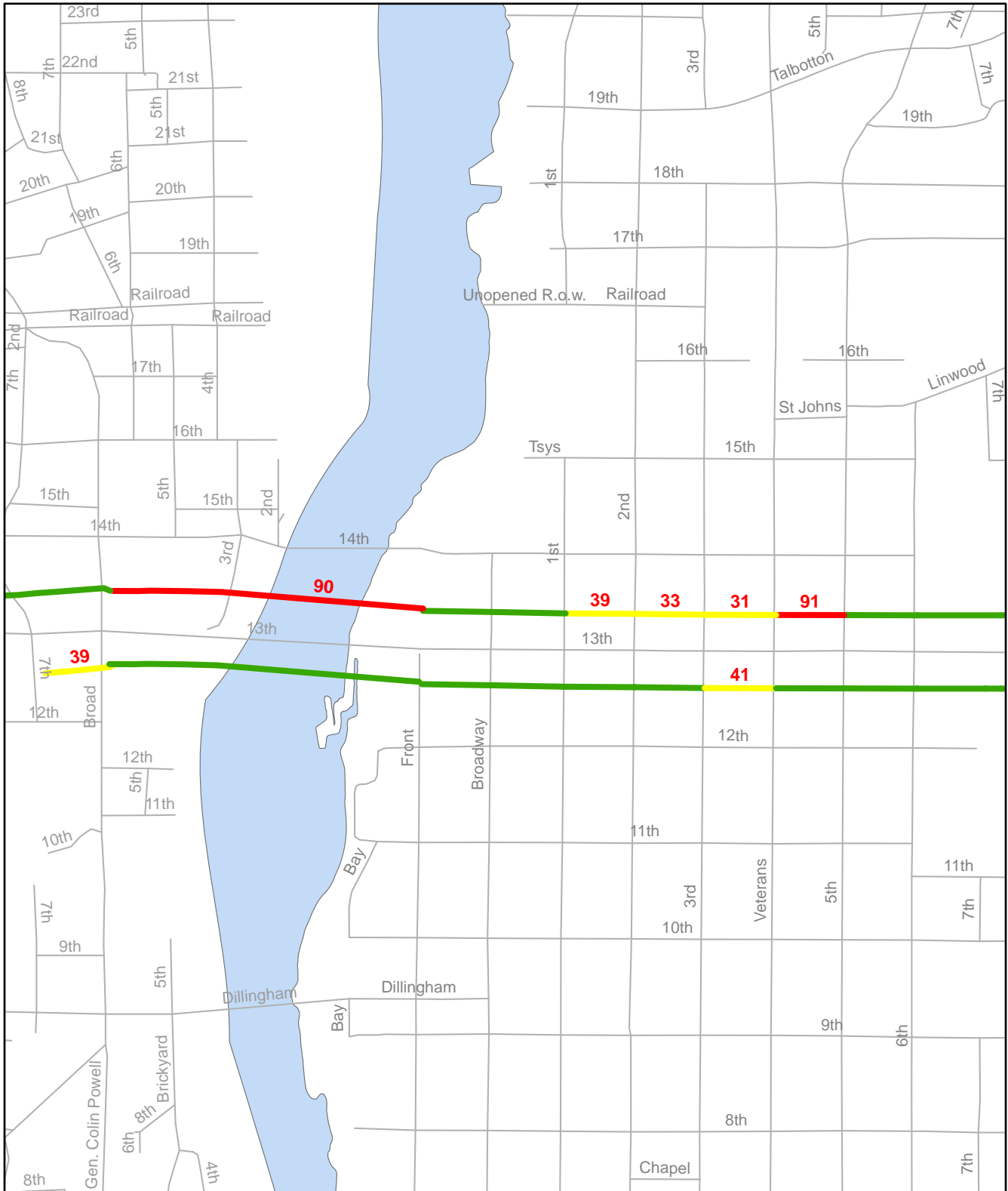
60 seconds - 180 seconds

0 0.25 0.5 1 Miles



# 13th Street

From Broad Street to Macon Road  
2.7 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

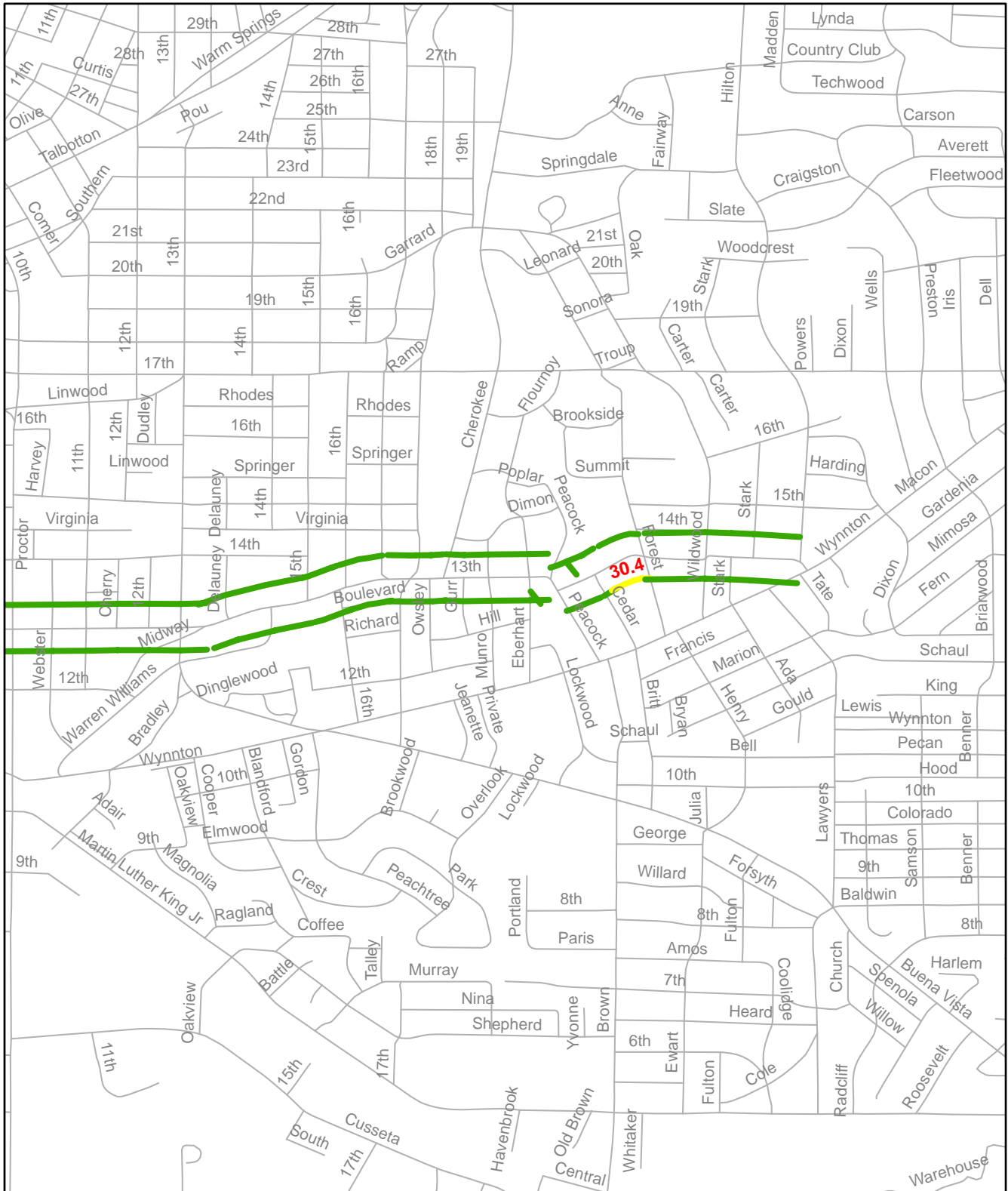
- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds

0 0.125 0.25 0.5 Miles



# 13th Street

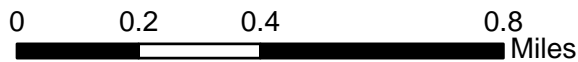
From Broad Street to Macon Road  
2.7 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds





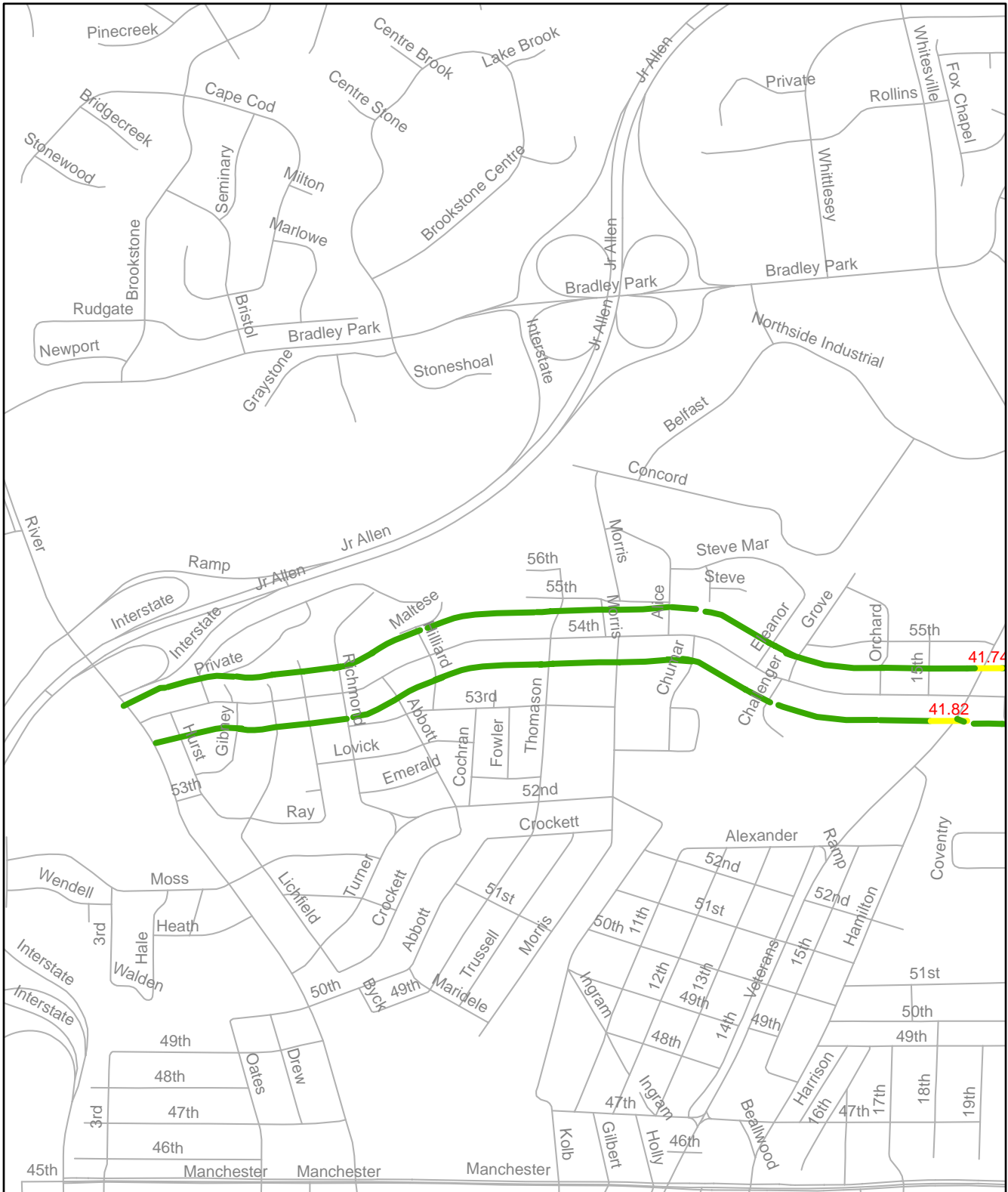
<b>13th Street - [eastbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Broad Street	3	0.08	6	41	10	22	6	38
Broadway	3	0.44	22	24	23	22	22	23
1st Avenue	3	0.08	18	11	9	29	11	19
2nd Avenue	3	0.08	11	19	14	13	8	28
3rd Avenue	3	0.08	26	0	15	12	13	13
Veterans Parkway	3	0.07	6	36	7	35	5	41
Fifth Avenue	3	0.09	14	16	16	13	30	0
10th Avenue	3	0.37	29	4	16	43	20	28
Buena Vista	3	0.31	23	14	20	24	21	19
18th Avenue	3	0.44	28	0	27	2	26	6
Forest Avenue	3	0.45	21	29	22	23	17	46
Macon Road	3	0.28	16	46	14	44	18	28

<b>13th Street - [westbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Forest Avenue	3	0.28	15	43	16	29	15	33
18th Avenue	3	0.45	23	17	22	19	23	19
Buena Vista	3	0.44	21	22	23	13	23	14
10th Avenue	3	0.31	23	15	20	18	20	20
Fifth Avenue	3	0.37	32	0	32	0	25	16
Veterans Parkway	3	0.09	8	32	5	58	3	92
3rd Avenue	3	0.07	19	5	19	7	7	31
2nd Avenue	3	0.08	17	8	23	2	8	33
1st Avenue	3	0.08	28	0	25	0	6	39
Broadway	3	0.08	26	3	22	5	22	4
Broad Street	3	0.44	24	17	15	61	12	90
9th Avenue	3	0.23	28	1	20	22	22	11

<b>13<sup>th</sup> Street</b>	
Primary Locations of Delay	<p>PM Rush Hour in the westbound direction between 5<sup>th</sup> Avenue and 1<sup>st</sup> Avenue.</p> <p>PM Rush Hour in the westbound direction between Broadway and Broad Street.</p>
Possible Solutions:	<p>The future ATMS (Automated Traffic Management System) will allow for more demand responsive coordination of traffic signal phases.</p> <p>Work with Phenix City towards possible future coordination of signals at 3<sup>rd</sup> Street and Broad Street to lessen queue westbound over bridge.</p> <p>Encourage more ride-share (carpooling) options for large employers in area.</p>

# 54th St. & Airport Thruway

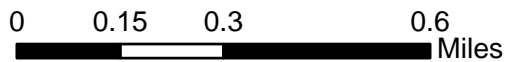
From River Road to Miller Road  
4.0 miles AM Rush Hour



## AM Rush Hour

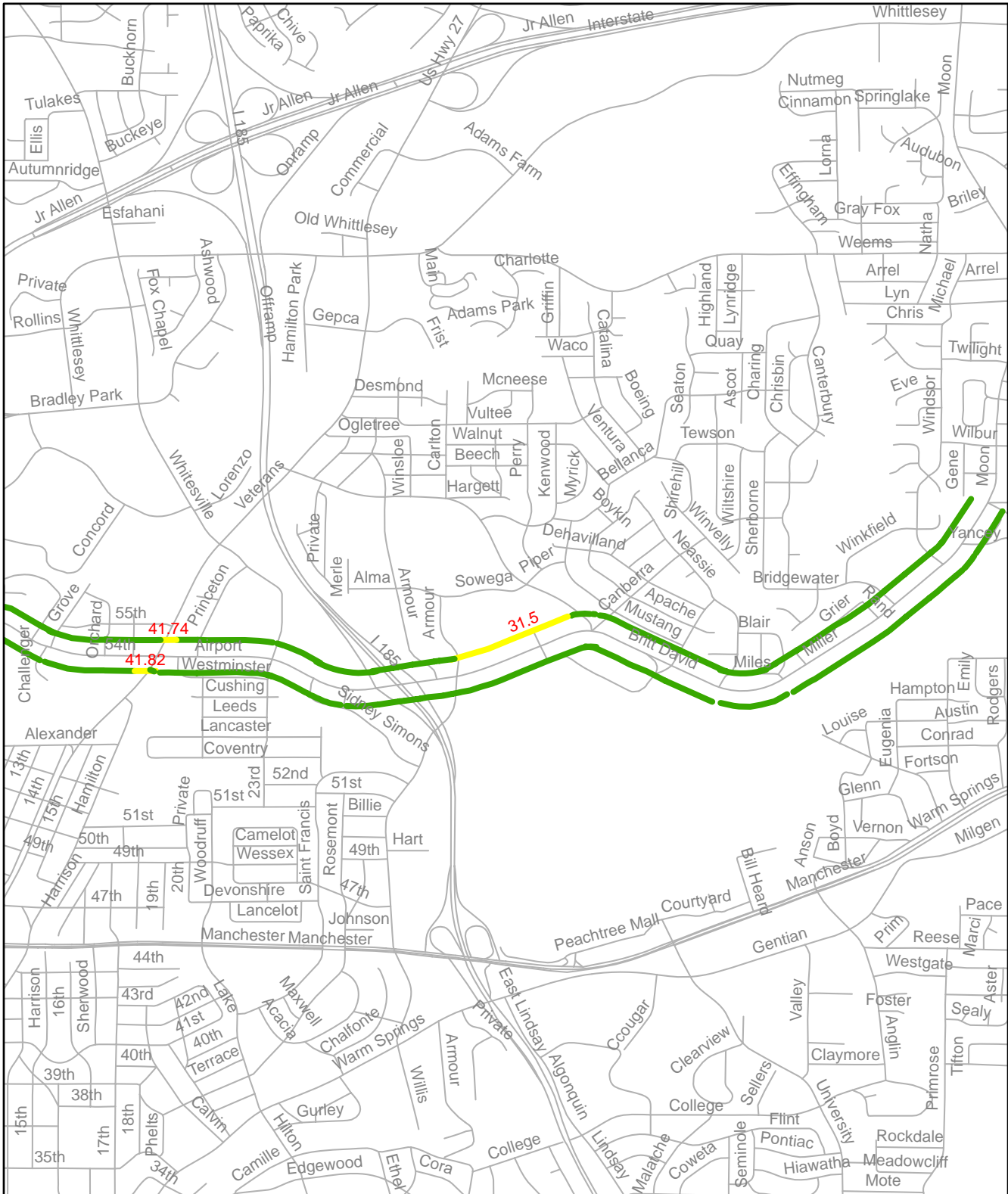
### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



# 54th St. & Airport Thruway

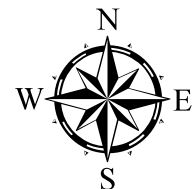
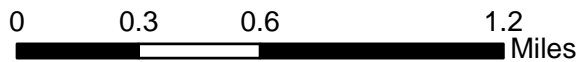
From River Road to Miller Road  
4.0 miles AM Rush Hour



## AM Rush Hour

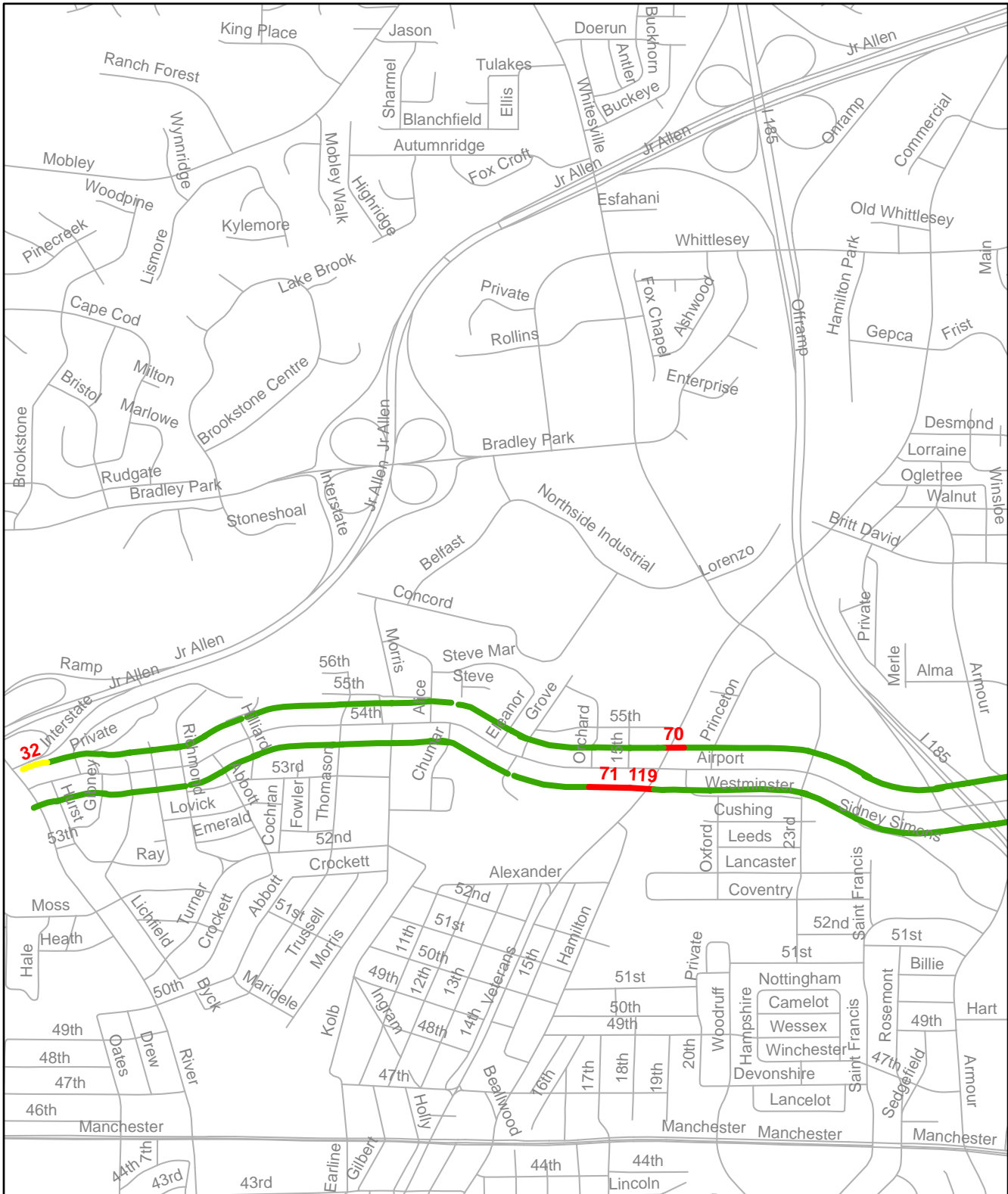
### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



# 54th St. & Airport Thruway

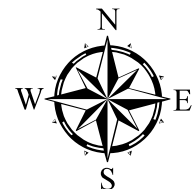
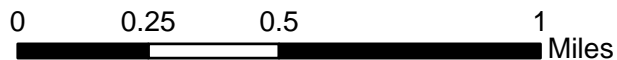
From River Road to Miller Road  
4.0 miles PM Rush Hour



## PM Rush Hour

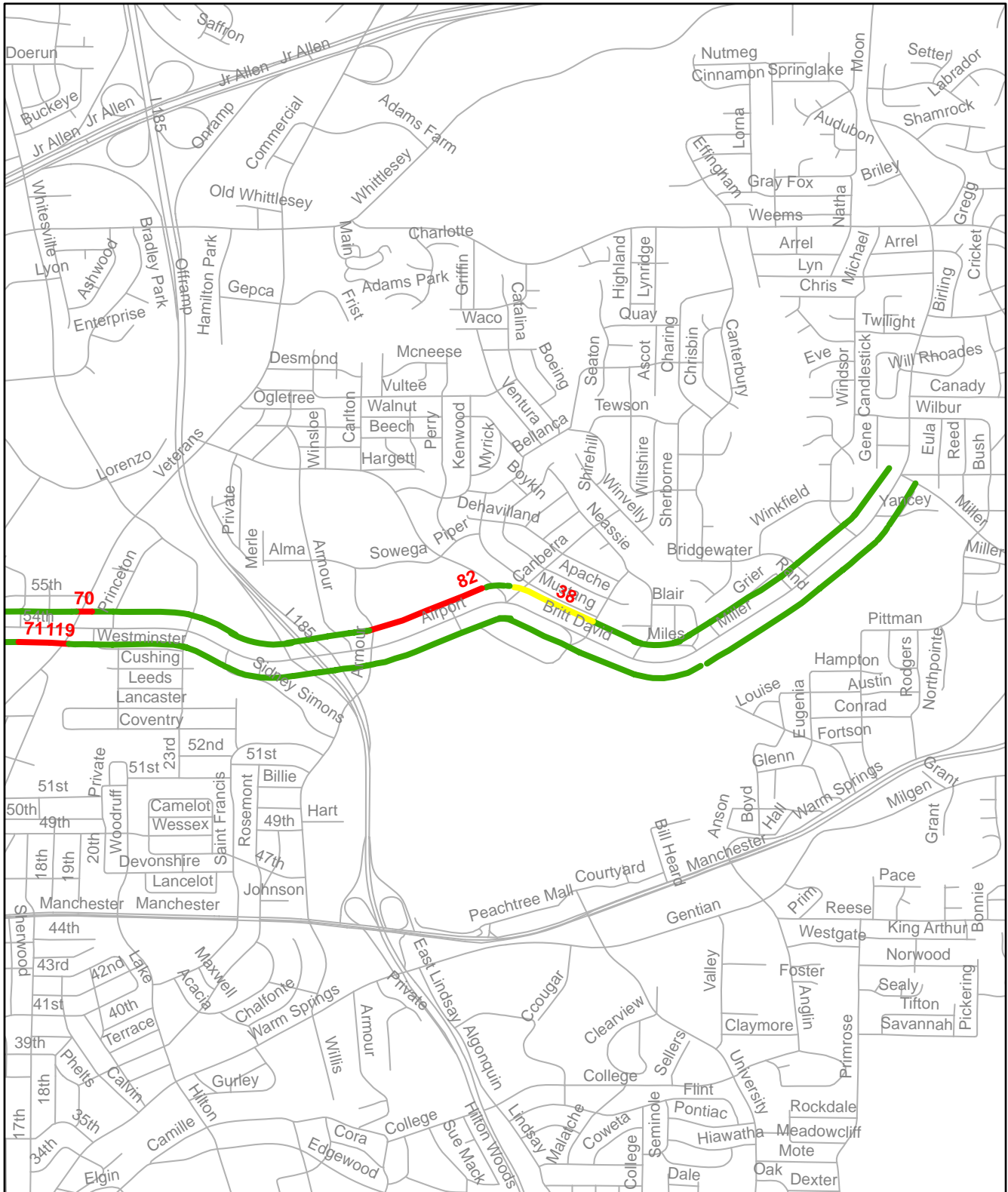
### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



# 54th St. & Airport Thruway

From River Road to Miller Road  
4.0 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

0 - 30 seconds

31 - 60 seconds

60 seconds - 180 seconds

0 0.3 0.6 1.2 Miles



<b>54th Street - [eastbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Abbott Avenue	4	0.41	31	2	30	4	30	4
Veterans Parkway	4	0.97	24	52	22	61	12	193

<b>54th Street - [westbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Abbott Avenue	5	0.98	29	20	32	5	31	7
River Road	5	0.41	31	8	24	24	20	32

<b>Airport Thruway - [eastbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Whitesville Road	4	0.31	20	27	22	20	25	16
Armour Road	4	0.53	29	18	22	32	14	84
W. Britt David	4	0.4	32	11	22	28	21	26
Bridgewater Drive	4	0.97	39	8	43	0	46	0
Miller Road	4	0.41	28	16	33	10	25	25

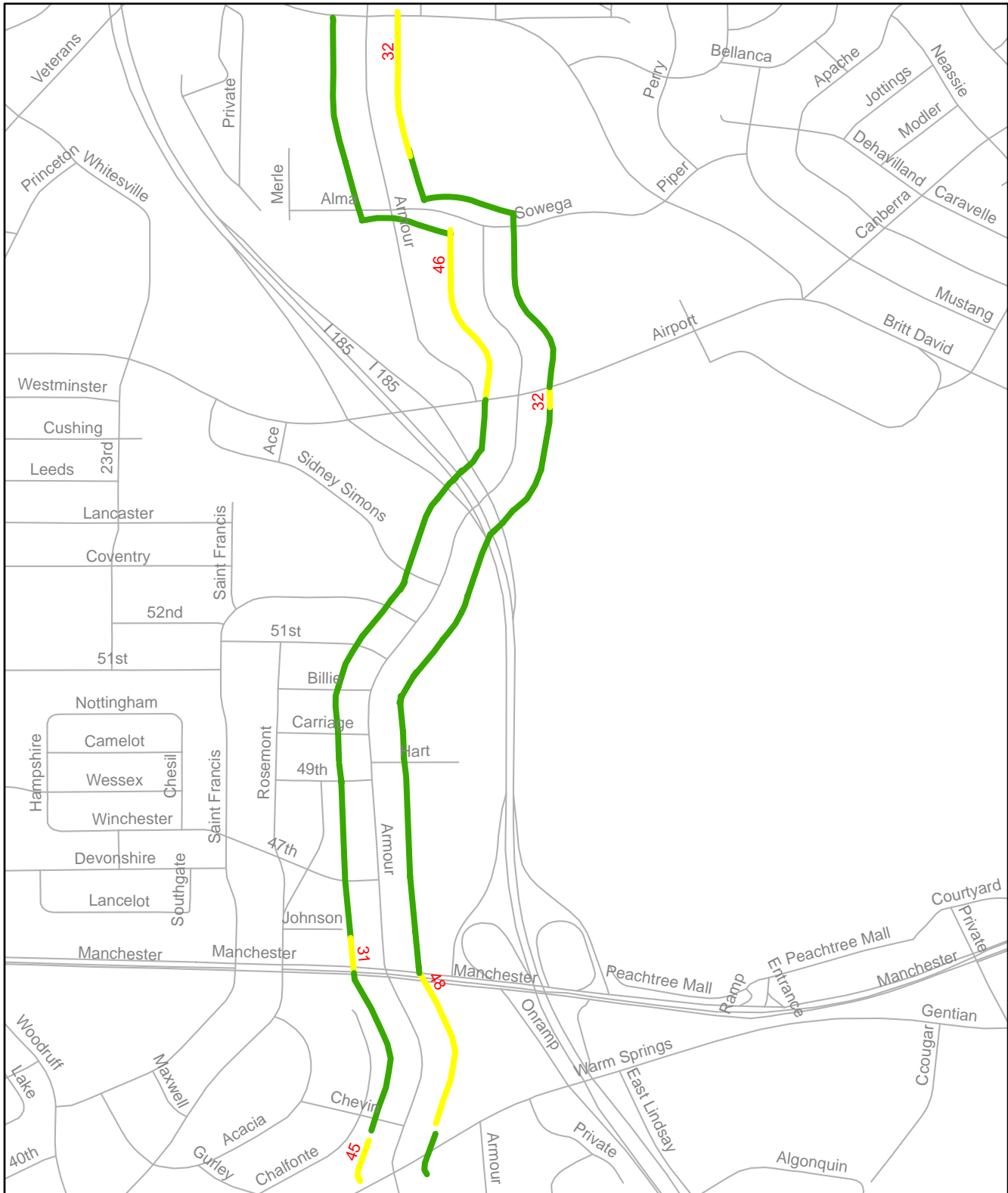
<b>Airport Thruway - [westbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Bridgewater Drive	3	0.59	17	82	16	67	30	40
W. Britt David Road	3	0.96	40	8	33	28	12	82
Armour Road	3	0.4	18	43	22	29	24	8
I-185 South Ramps	3	0.23	35	0	36	1	16	41
Veterans Parkway	3	0.6	17	65	12	127	11	70



<b>54<sup>th</sup> Street / Airport Thruway</b>	
Primary Locations of Delay:	<p>Intersection with Veterans Parkway, westbound and eastbound PM Rush Hour</p> <p>Intersection with Armour Road westbound PM Rush Hour.</p>
Possible Solutions:	<p>Veterans Parkway ATMS project will interconnect Airport Thruway signal system to traffic control center. Signals between West Britt David Road and Whitesville Road are already coordinated.</p>

# Armour Road

From W. Britt David Rd. to Warm Springs Rd.  
2.0 miles AM Rush Hour



## AM Rush Hour

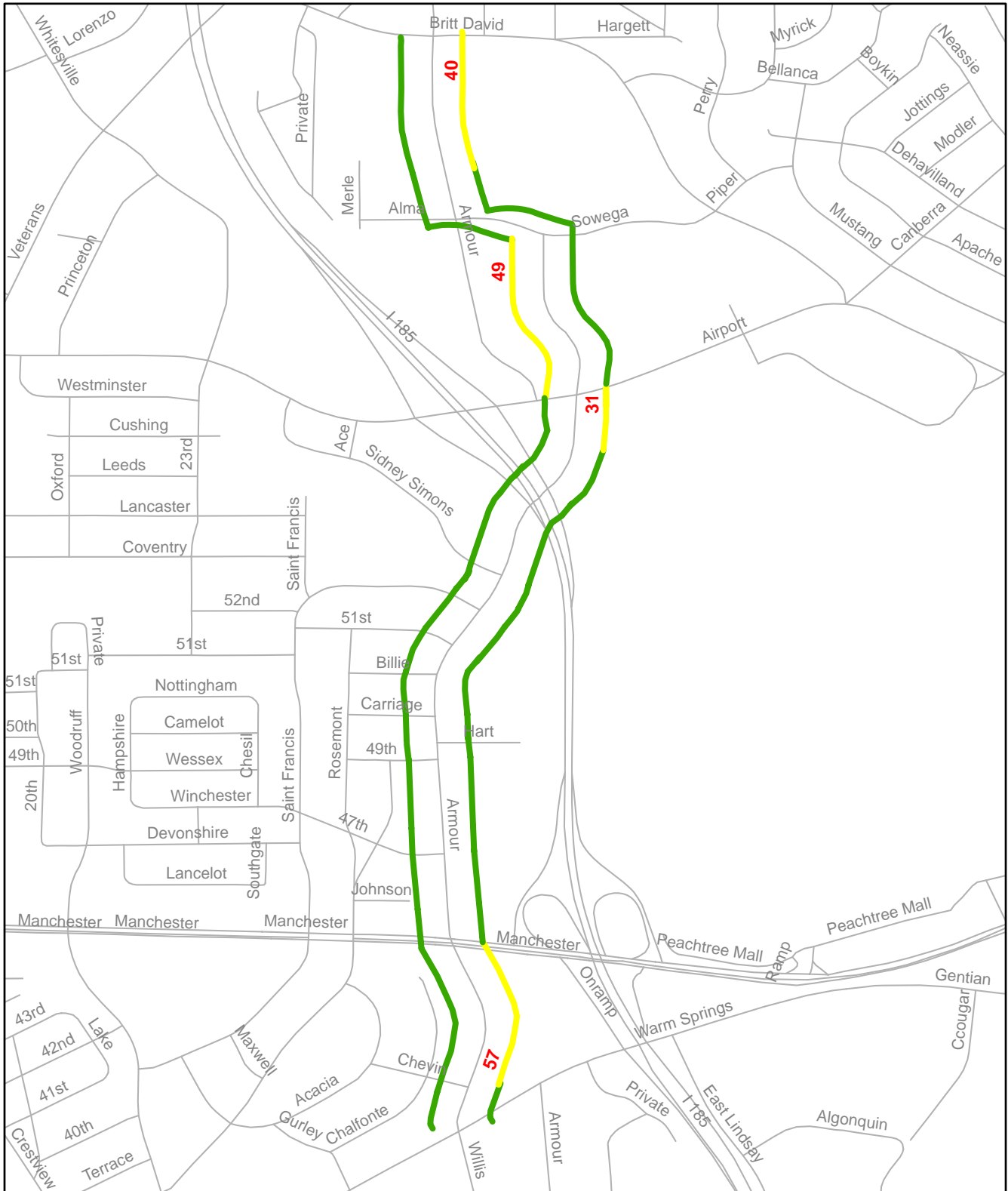
### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



# Armour Road

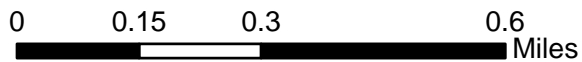
From W. Britt David Rd. to Warm Springs Rd.  
2.0 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



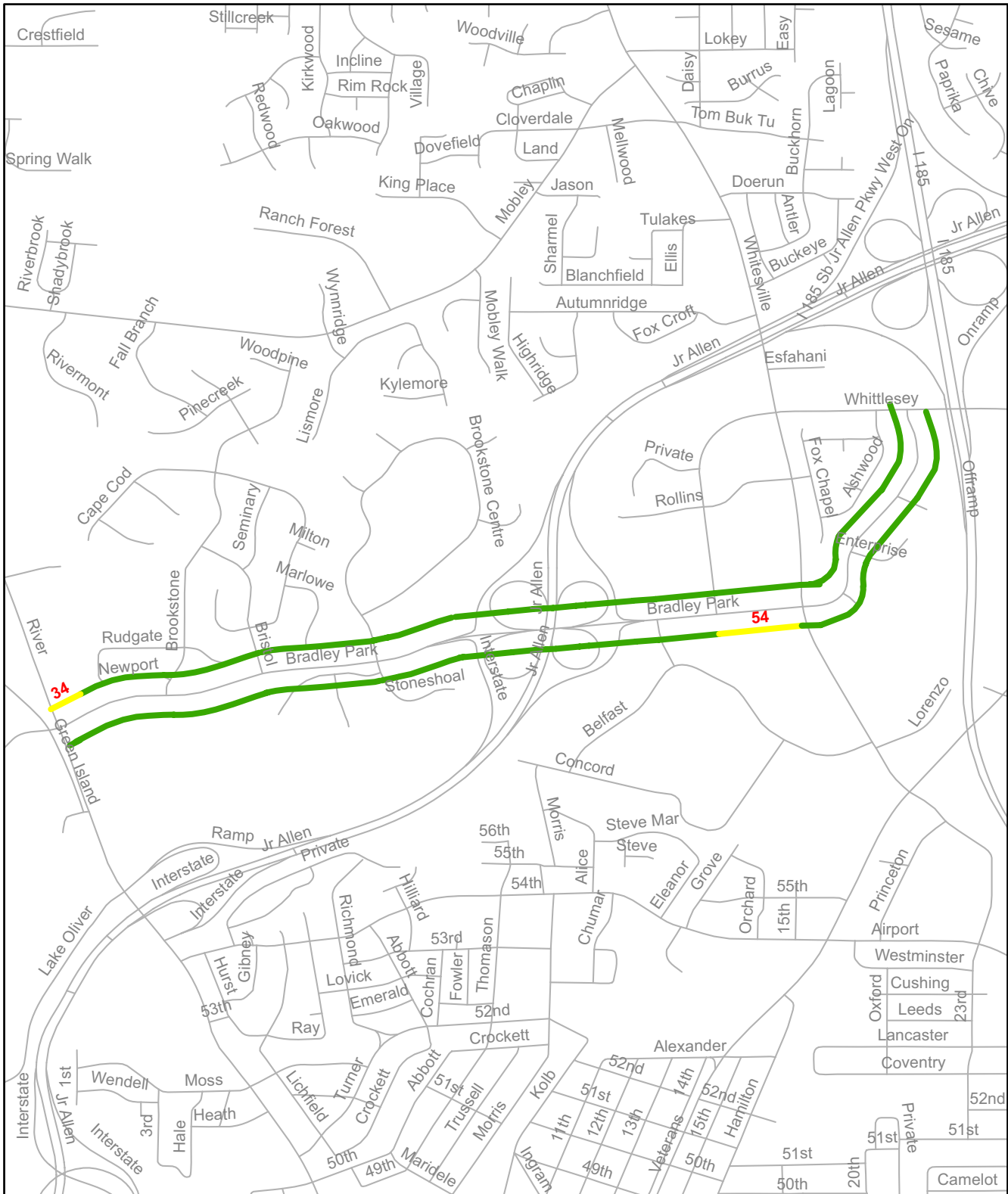
<b>Armour Road - [northbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Manchester Expwy.	3	0.3	14	51	18	31	37	0
Sydney Simons Blvd	3	0.62	36	0	36	0	18	33
Airport Thruway	3	0.33	17	35	17	40	18	22
Sowega Drive	3	0.26	25	8	19	17	16	50
W. Britt David Rd.	3	0.41	16	46	24	19	8	5

<b>Armour Road - [southbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Sowega Drive	3	0.41	23	22	26	13	13	47
Airport Thruway	3	0.26	13	45	17	30	24	18
Sydney Simons Blvd	3	0.33	34	1	16	38	27	21
Manchester Expressway	3	0.62	24	31	23	39	18	29
Warm Springs Road	3	0.3	14	44	26	10	56	1

<b>Armour Road</b>	
Primary Locations of Delay:	No congested areas were identified in this study, measured delays were only related to stopped time at signalized intersections.
Possible Solutions:	

# Bradley Park Drive

From River Road to Whittlesey Road  
2.1 miles AM Rush Hour



## AM Rush Hour

### Average Congested Time

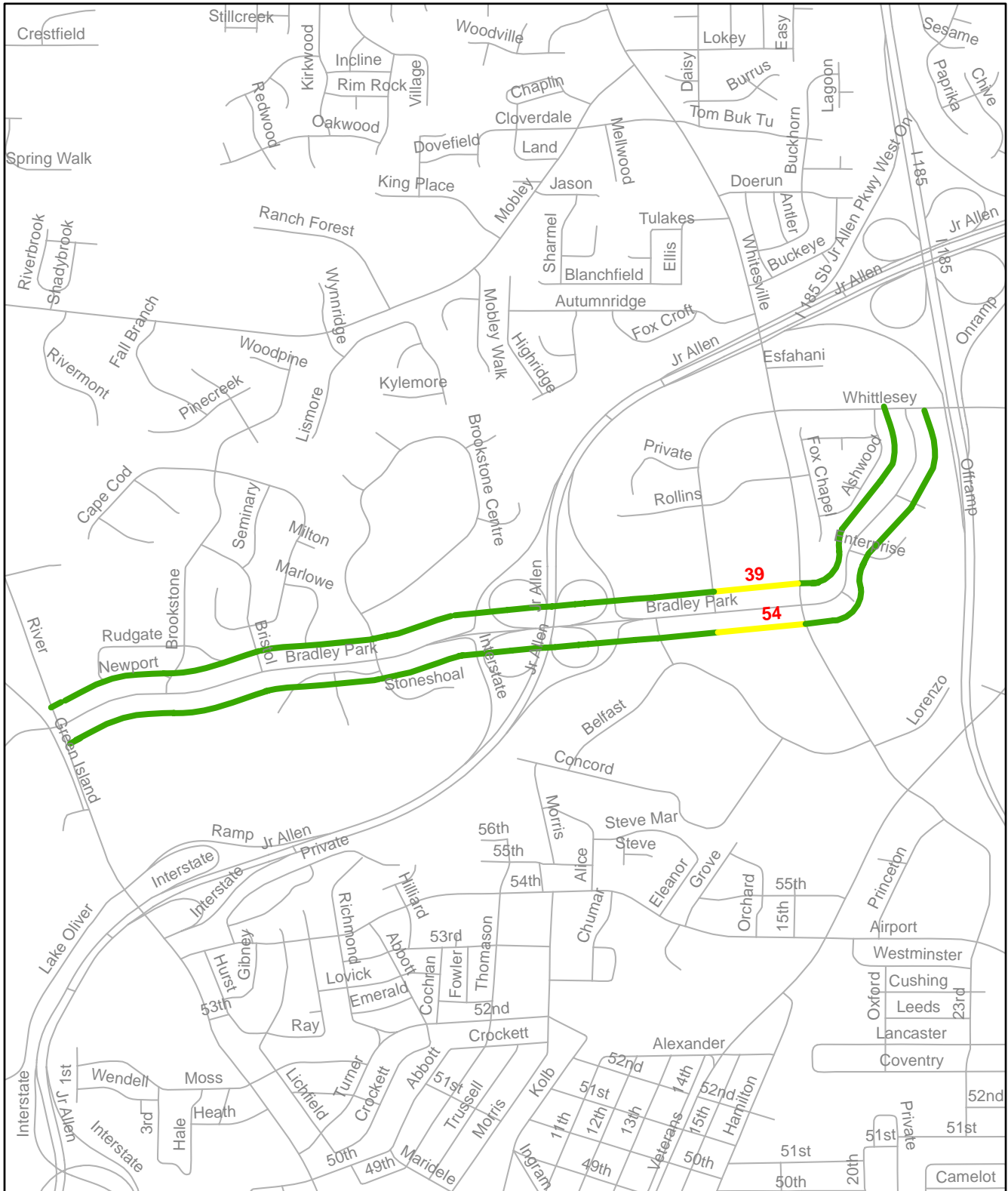
- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds

0 0.2 0.4 0.8 Miles



# Bradley Park Drive

From River Road to Whittlesey Road  
2.1 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

0 - 30 seconds

31 - 60 seconds

60 seconds - 180 seconds

0 0.2 0.4 0.8 Miles



<b>Bradley Park Drive - [eastbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Brookstone Parkway	3	0.68	24	20	31	15	30	12
Belfast/Shopping Ctr	3	0.57	33	8	26	23	25	28
Whittlesey Road [west]	3	0.13	19	8	28	2	12	25
Whitesville Road	3	0.18	9	54	9	51	9	53
Whittlesey Road [east]	3	0.59	26	14	23	26	25	19

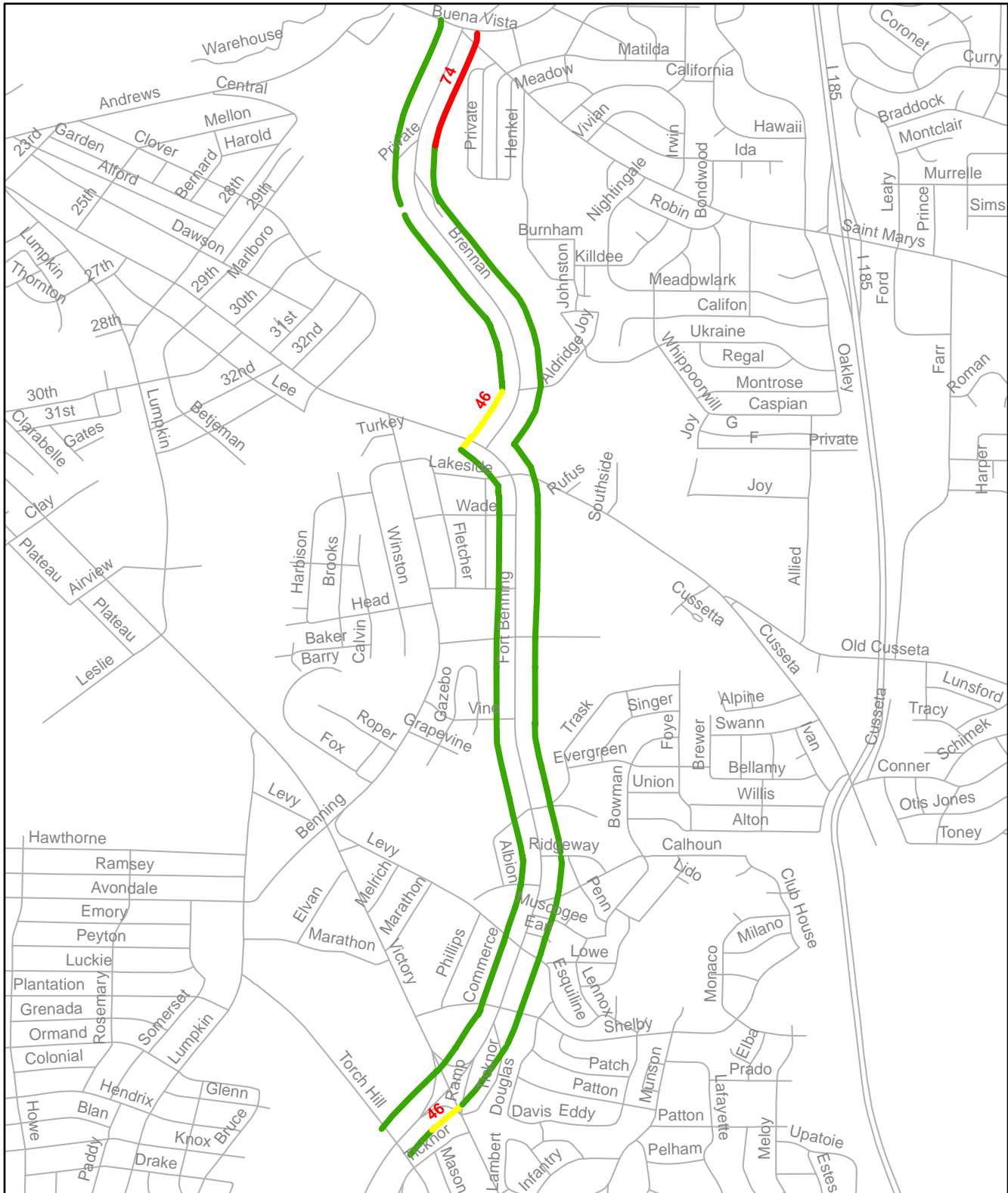
<b>Bradley Park Drive - [westbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Whitesville Road	3	0.59	25	20	23	11	11	38
Whittlesey Road [west]	3	0.18	22	12	21	9	17	12
Belfast/Shopping Ctr	3	0.13	31	1	36	7	36	3
Brookstone Parkway	3	0.57	39	0	26	35	31	8
River Road	3	0.68	22	34	13	34	8	65



<b>Bradley Park Drive</b>	
<u>Primary Locations of Delay:</u>	<p>Intersection of Bradley Park and River Road, AM Rush Hour Westbound</p> <p>Intersection of Bradley Park and Whitesville Road, AM and PM Rush Hour Eastbound.</p>
<u>Possible Solutions:</u>	<p>Traffic volumes are heavy in the AM Rush Hour at the Bradley Park and River Road intersection, a primary cause is traffic headed to/from Brookstone School. This intersection is soon to be improved with an extended left turn lane for southbound River Road and a dedicated right turn lane for westbound Bradley Park Drive.</p>

# Brennan / Fort Benning Rd

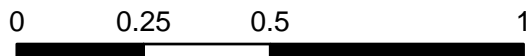
Buena Vista Rd to Torch Hill Rd  
3.1 miles AM Rush Hour



## AM Rush Hour

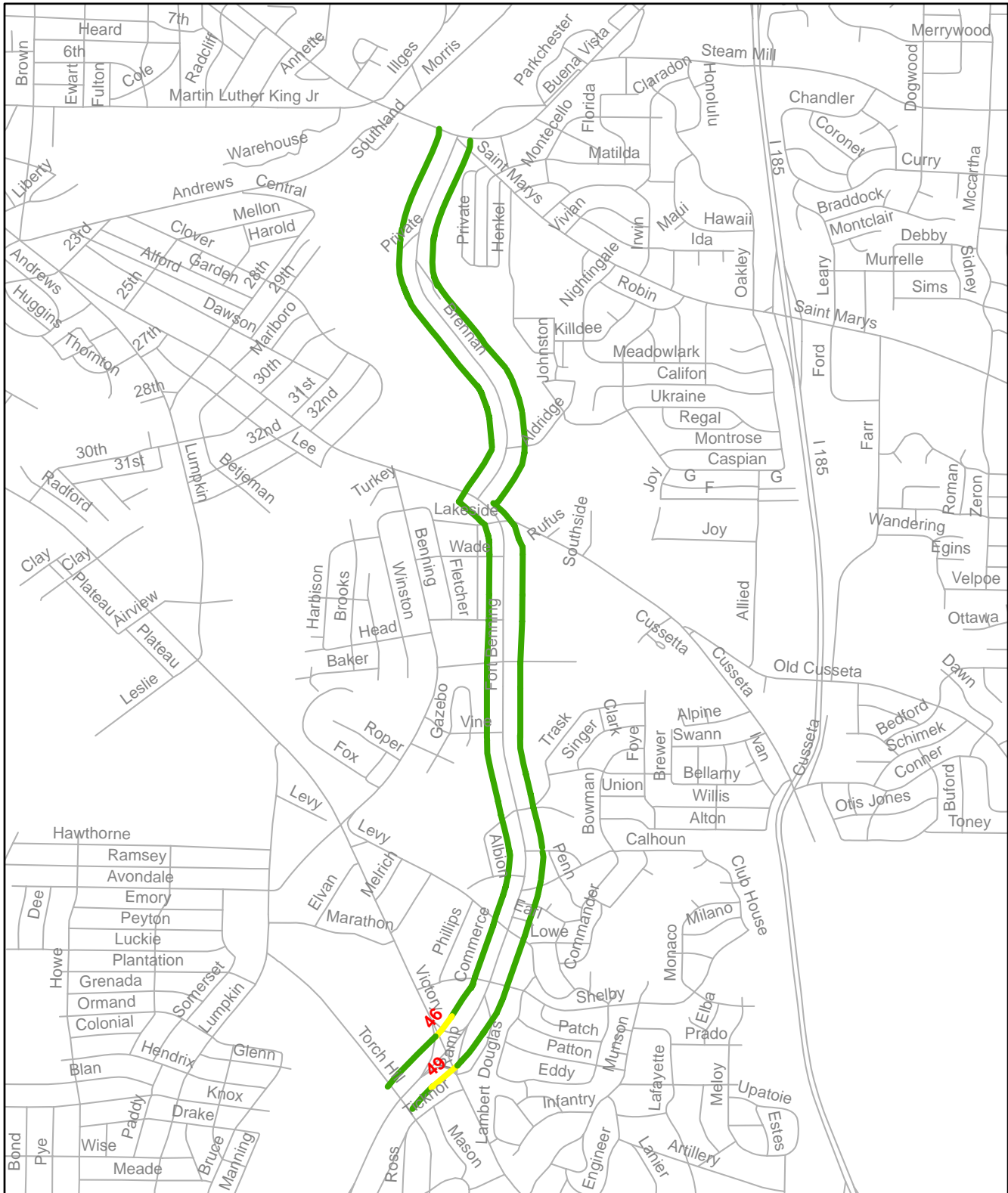
### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



# Brennan / Fort Benning Rd

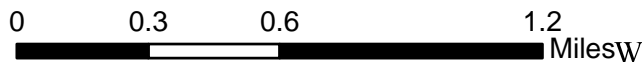
Buena Vista Rd to Torch Hill Rd  
3.1 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



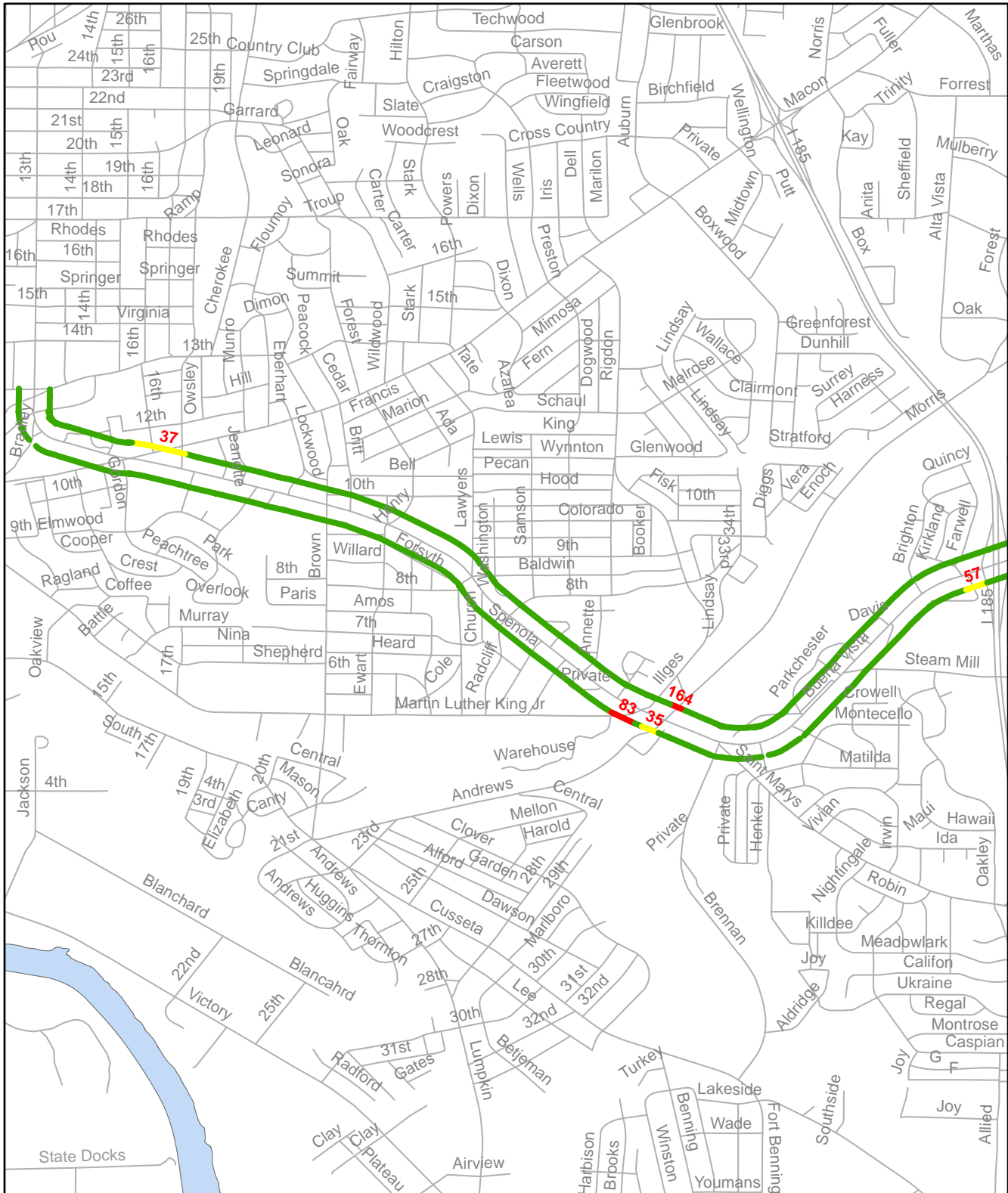
<b>Brennan/Fort Benning Road - [northbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Victory Drive	3	0.17	8	63	13	34	8	65
Shelby Street	3	0.25	32	1	35	0	35	0
Baker Plaza	3	0.97	30	17	29	23	27	23
Cusseta Road	3	0.51	20	32	19	46	19	41
Buena Vista Road	3	1.18	20	86	27	44	27	34

<b>Brennan/Fort Benning Road - [southbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Cusseta Road	3	1.18	25	50	24	61	30	28
Baker Plaza	3	0.51	22	29	22	11	26	18
Shelby Street	3	0.97	32	1	31	11	31	10
Victory Drive	3	0.23	16	29	13	43	12	47
Torch Hill Road	3	0.19	24	13	32	4	41	2

<b>Brennan Road / Fort Benning Road</b>	
Primary Locations of Delay:	Intersection of Cusseta Road / Brennan Road / Fort Benning Road
Possible Solutions:	A project is being planned which will realign this intersection from existing dog leg to a single intersection. This should ease travel flow through the area.

# Buena Vista Road

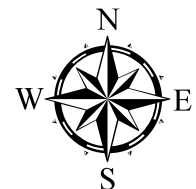
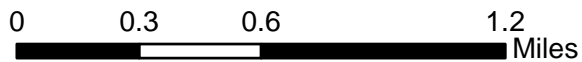
From 13th St to Schatulga Road  
9.5 miles AM Rush Hour



## AM Rush Hour

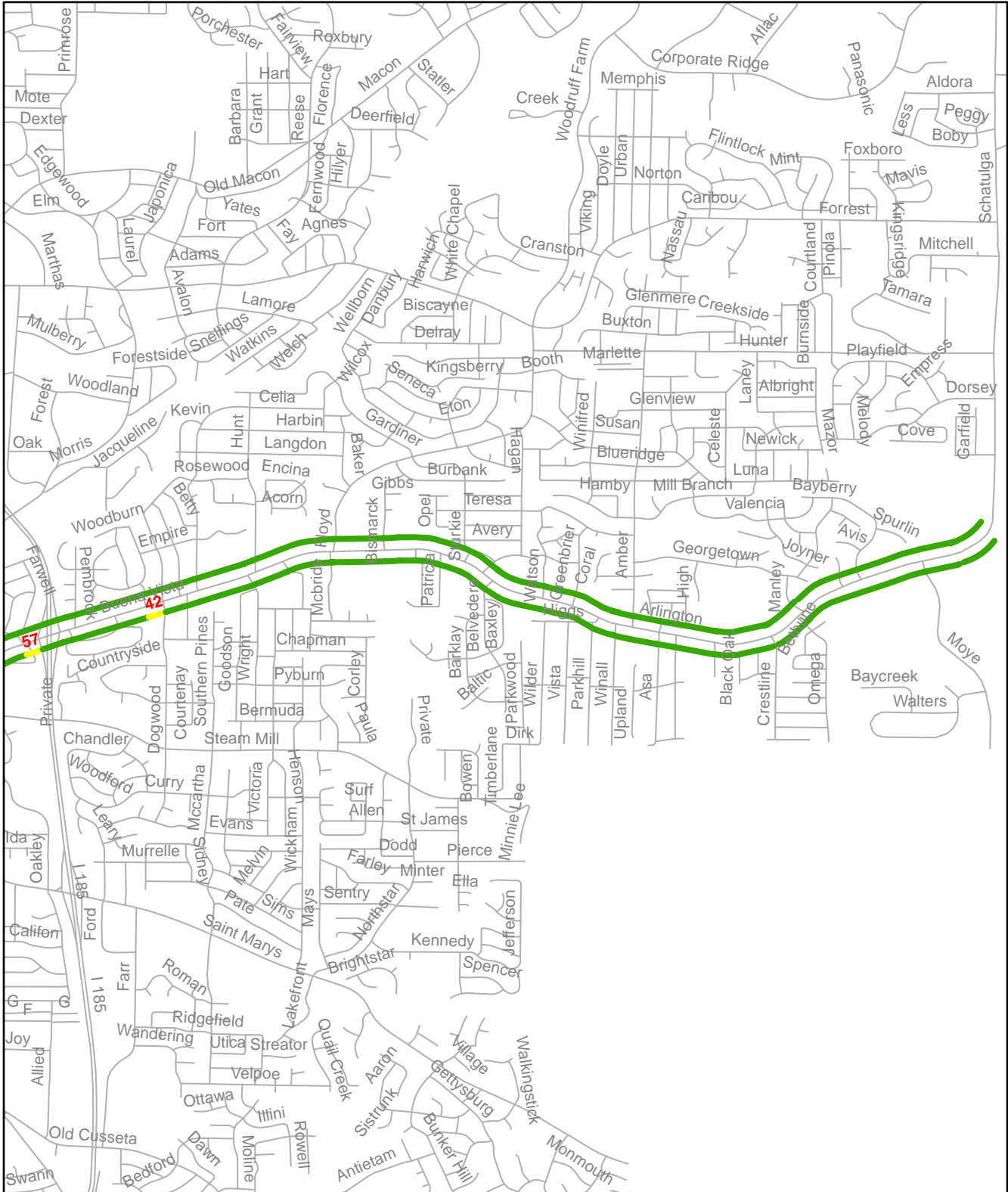
### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



# Buena Vista Road

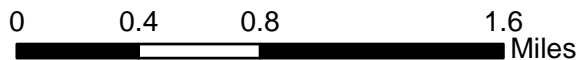
From 13th St to Schatulga Road  
9.5 miles AM Rush Hour



## AM Rush Hour

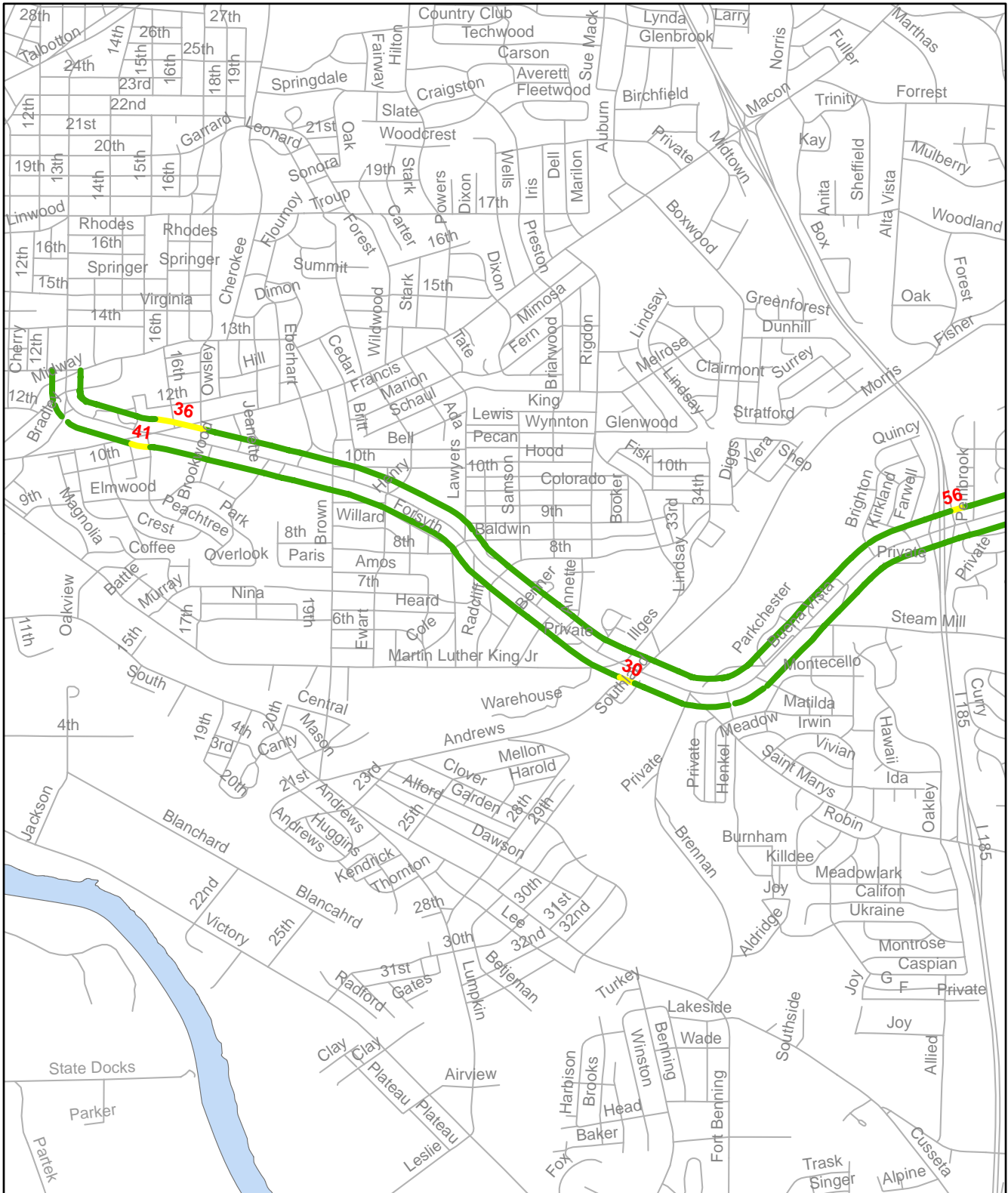
### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



# Buena Vista Road

From 13th St to Schatulga Road  
9.5 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

0 - 30 seconds

31 - 60 seconds

60 seconds - 180 seconds

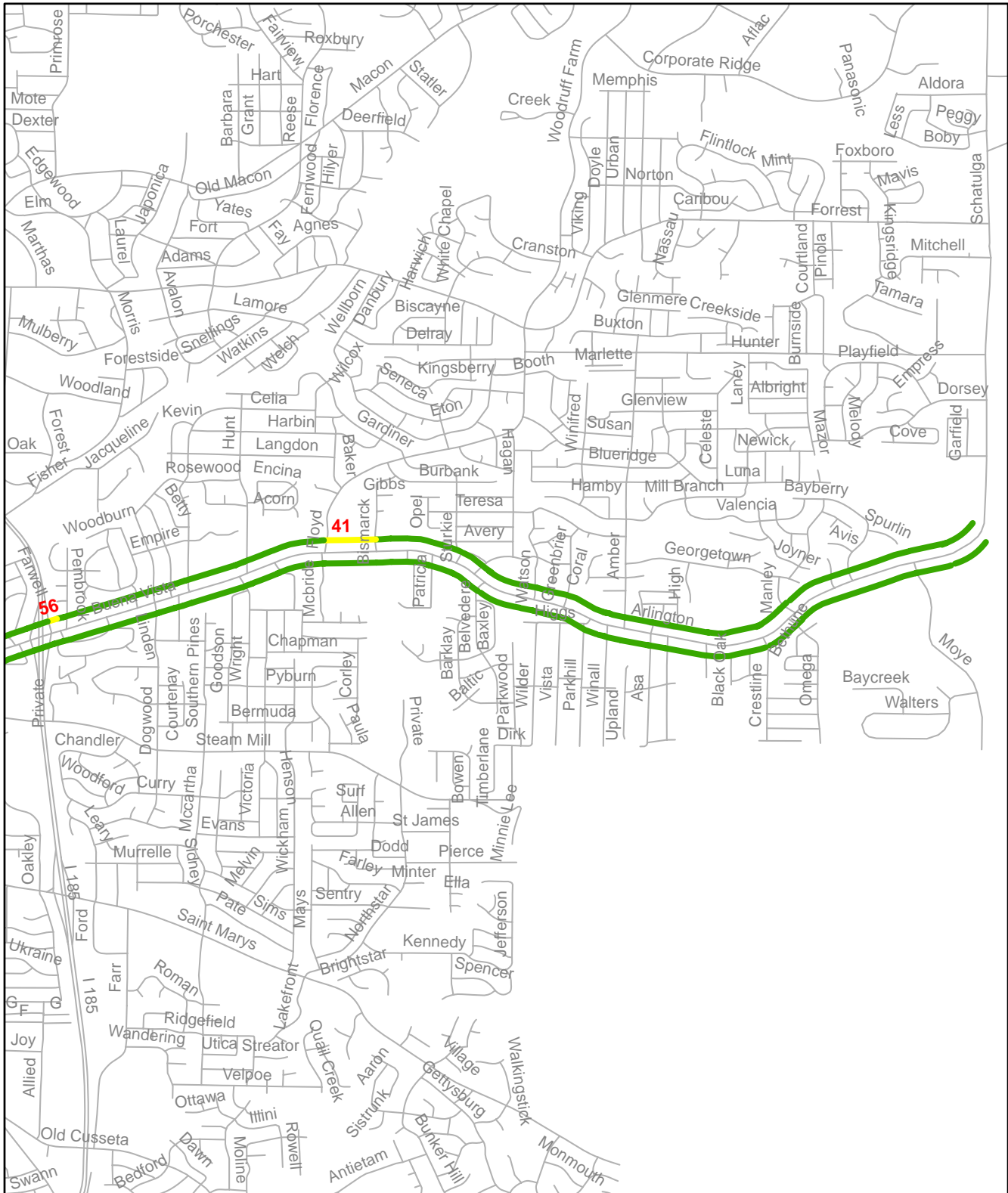
0 0.35 0.7 1.4 Miles





# Buena Vista Road

From 13th St to Schatulga Road  
9.5 miles PM Rush Hour



## PM Rush Hour

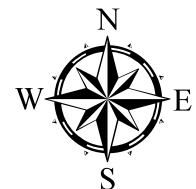
### Average Congested Time

0 - 30 seconds

31 - 60 seconds

60 seconds - 180 seconds

0 0.4 0.8 1.6 Miles



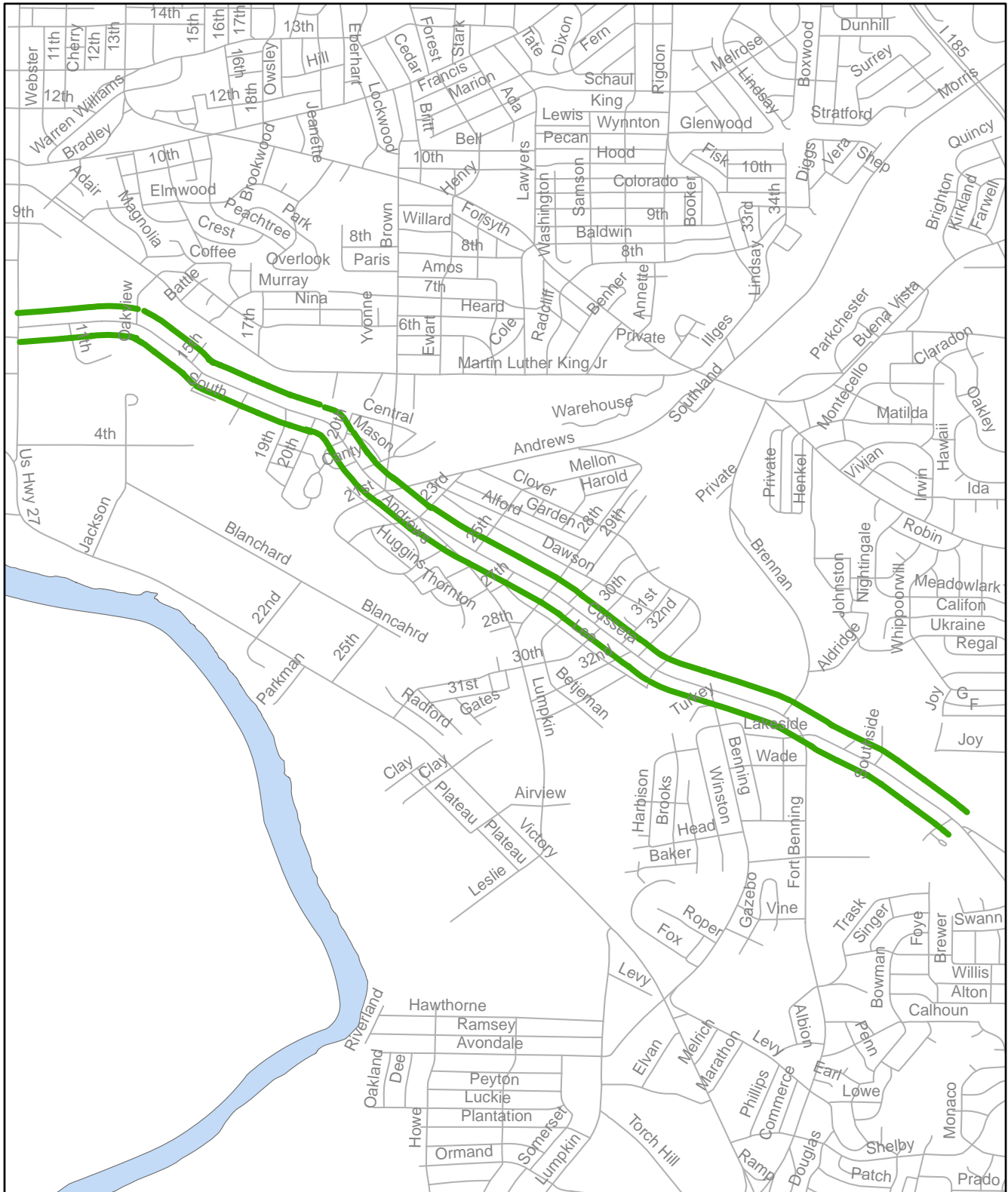
Buena Vista Road - [eastbound]	# Runs	Segment Distance [miles]	AM Rush Hour Average Speed [mph]	AM Rush Hour Average Congested Time [seconds]	Off Peak Average Speed [mph]	Off Peak Average Congested Time [seconds]	PM Rush Hour Average Speed [mph]	PM Rush Hour Average Congested Time [seconds]
Warren Williams Road	4	0.08	21	10	24	3	21	6
Macon Road	4	0.32	17	35	15	43	14	44
Brown Avenue	4	0.55	30	19	19	40	24	25
Lawyers Lane	4	0.46	29	13	26	16	25	19
Martin Luther King Drive	4	0.63	15	84	20	54	31	4
St Marys Road	4	0.23	13	42	10	63	8	80
Steam Mill Road	4	0.43	37	0	31	0	27	7
Brighton Road	3	0.34	35	5	34	3	40	0
South I-185 Ramps	3	0.18	9	59	10	48	15	26
North I-185 Ramps	3	0.08	16	11	24	2	25	2
Pembrook Road	3	0.06	30	0	30	0	30	0
Wright Avenue	3	0.66	21	43	27	15	23	34
McBride Drive	3	0.32	23	16	21	20	17	35
Amber Drive	3	1.18	33	7	32	17	40	1
Schatulga Road	3	1.44	37	1	38	1	47	0

Buena Vista Road - [westbound]	# Runs	Segment Distance [miles]	AM Rush Hour Average Speed [mph]	AM Rush Hour Average Congested Time [seconds]	Off Peak Average Speed [mph]	Off Peak Average Congested Time [seconds]	PM Rush Hour Average Speed [mph]	PM Rush Hour Average Congested Time [seconds]
Amber Drive	2	1.44	34	20	41	3	46	2
McBride Drive	2	1.18	27	47	28	34	30	41
Wright Avenue	2	0.32	20	29	17	34	18	29
Pembrook Road	2	0.66	30	8	22	37	32	8
North I-185 Ramps	2	0.06	9	23	17	7	3	57
South I-185 Ramps	2	0.08	31	0	31	0	32	0
Brighton Road	2	0.18	34	0	33	0	36	0
Steam Mill Road	2	0.34	43	0	35	1	41	0
St Marys Road	3	0.43	41	0	30	6	30	1
Martin Luther King Drive	3	0.23	4	179	17	25	16	29
Lawyers Lane	3	0.63	25	31	26	19	30	1
Brown Avenue	3	0.46	25	10	23	21	22	22
Macon Road	3	0.55	21	47	20	43	20	37
Warren Williams Road	3	0.32	33	0	28	7	26	9
13th Street	3	0.08	40	4	12	20	28	2

<b>Buena Vista Road</b>	
<u>Primary Locations of Delay:</u>	<ul style="list-style-type: none"> <li>• Intersections of Buena Vista Road and Martin Luther King Jr. Boulevard, Illges Road, Morris Road, Andrews Road, St. Mary's Road and Brennan Road (a.k.a. "The Spider Web")</li> <li>• Interstate 185 interchange</li> <li>• Floyd Road and McBryde Road dogleg intersection.</li> </ul>
<u>Possible Solutions:</u>	<ul style="list-style-type: none"> <li>• Eliminate at grade railroad crossing between intersections. This rail line, situated near a switching point, clears slowly and caused significant delay to motorists. Constructing an overpass for traffic will allow for both modes to coexist without interference.</li> <li>• Explore construction of an enhanced interchange over Interstate 185 to provide greater capacity for accommodating left turning traffic (from Buena Vista Road onto onramps)</li> <li>• Shifting McBryde Avenue to be aligned with Floyd Road at intersection would simplify signal phasing, whereas it is presently split between the two roads.</li> </ul>

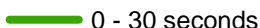
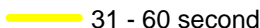
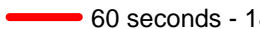
# Cusseta Road

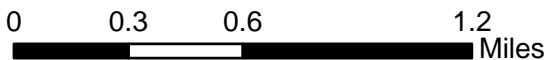
## 10th Avenue to Old Cusseta Road AM Rush Hour



### AM Rush Hour

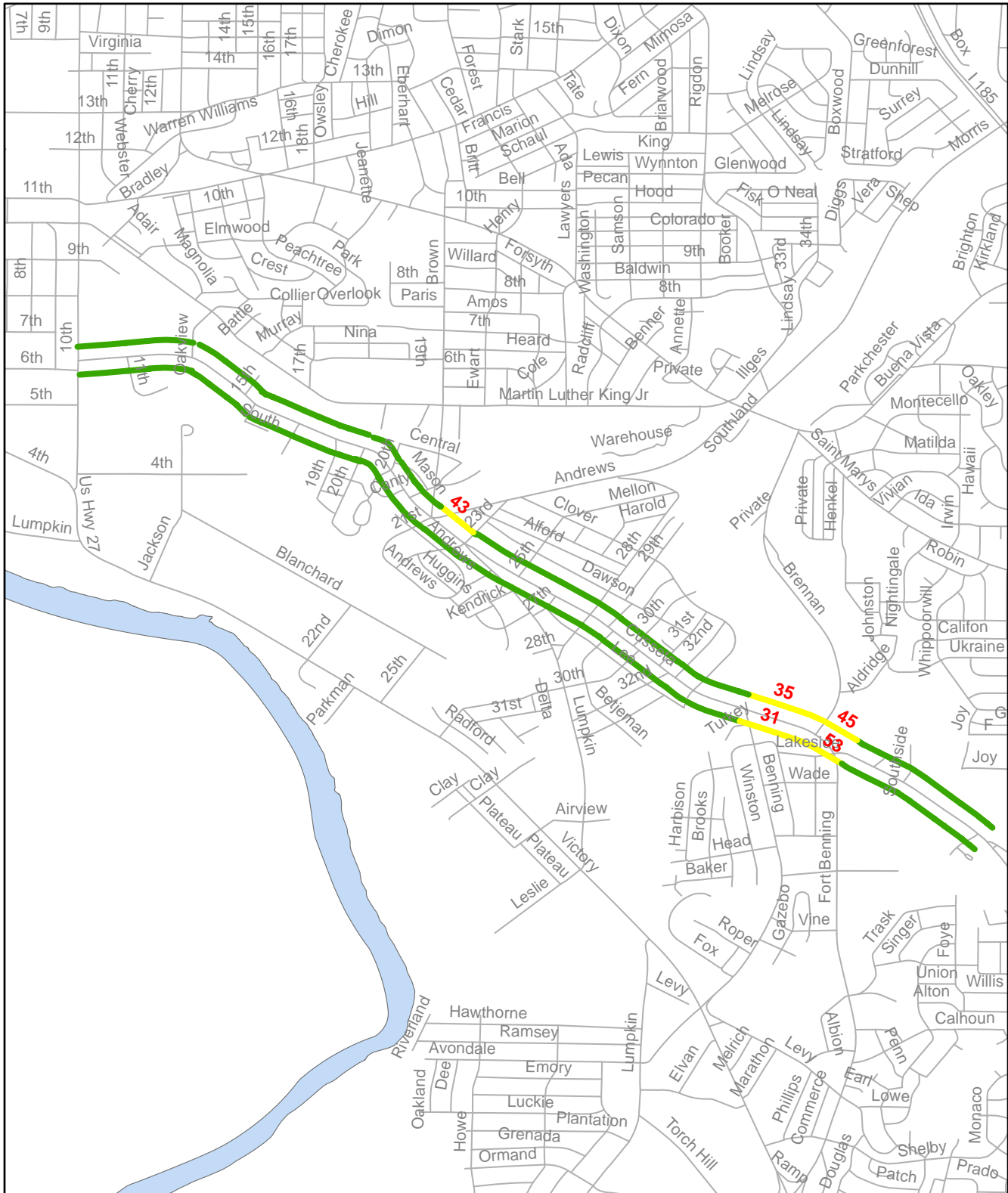
#### Average Congested Time

-  0 - 30 seconds
-  31 - 60 seconds
-  60 seconds - 180 seconds



# Cusseta Road

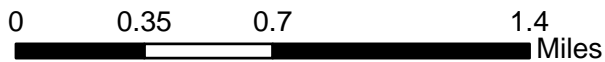
## 10th Avenue to Old Cusseta Road PM Rush Hour



### PM Rush Hour

#### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



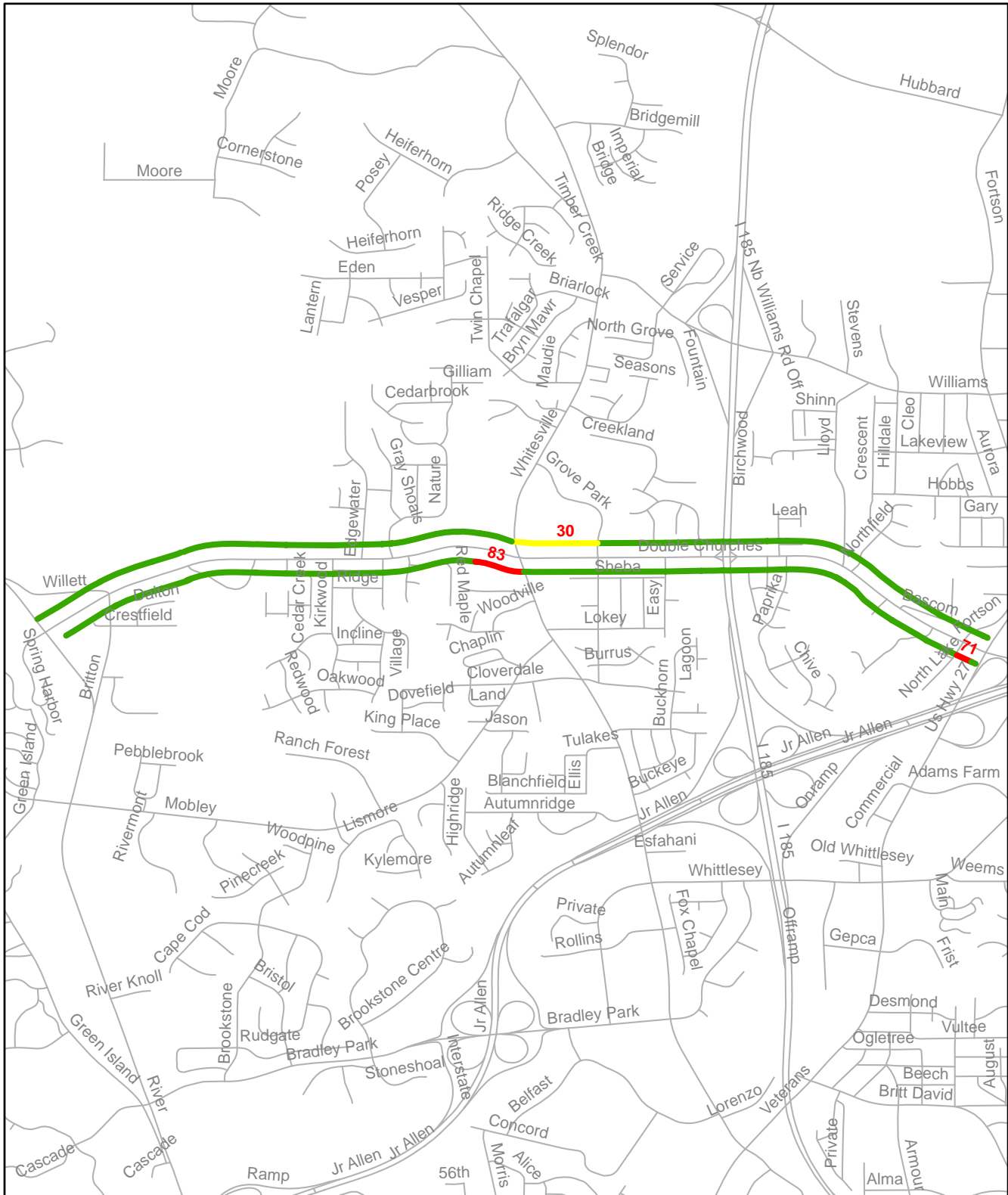
<b>Cusseta Road - [westbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Andrews Road	2	1.29	25	31	28	22	28	15
22nd Street	2	0.13	20	9	15	18	18	11
28th Street	2	0.45	29	0	32	2	29	2
Clover Avenue	2	0.41	31	0	33	0	30	0
Brennan Road	2	0.41	26	10	28	9	19	32
Cusseta/Old Cusseta	2	0.62	21	27	20	44	18	55
Brennan Road	3	0.62	26	17	21	46	20	35

<b>Cusseta Road - [eastbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Clover Avenue	3	0.41	30	1	24	12	18	4
28th Street	3	0.41	29	0	34	1	28	25
22nd Street	3	0.45	24	13	31	7	22	43
Andrews Road	3	0.13	25	4	12	26	8	12
10th Avenue	3	1.29	30	2	31	17	29	21

<b>Cusseta Road</b>	
<u>Primary Locations of Delay:</u>	<p>Some delay at Cusseta Road / Fort Benning Road / Brennan Road intersection.</p> <p>Some delay at the Cusseta Road / Andrews Road / Brown Avenue intersection.</p>
<u>Possible Solutions:</u>	<p>The intersection of Fort Benning/Brennan Roads will be realigned from existing dog-leg to single intersection. This should ease travel flow through area.</p> <p>Intersections of Cusseta Road / Andrews Road / Brown Avenue / North Lumpkin Road could possibly be reconstructed as roundabouts.</p>

# Double Churches Road

River Road to Veterans Parkway  
2.87 miles AM Rush Hour



## AM Rush Hour

### Average Congested Time

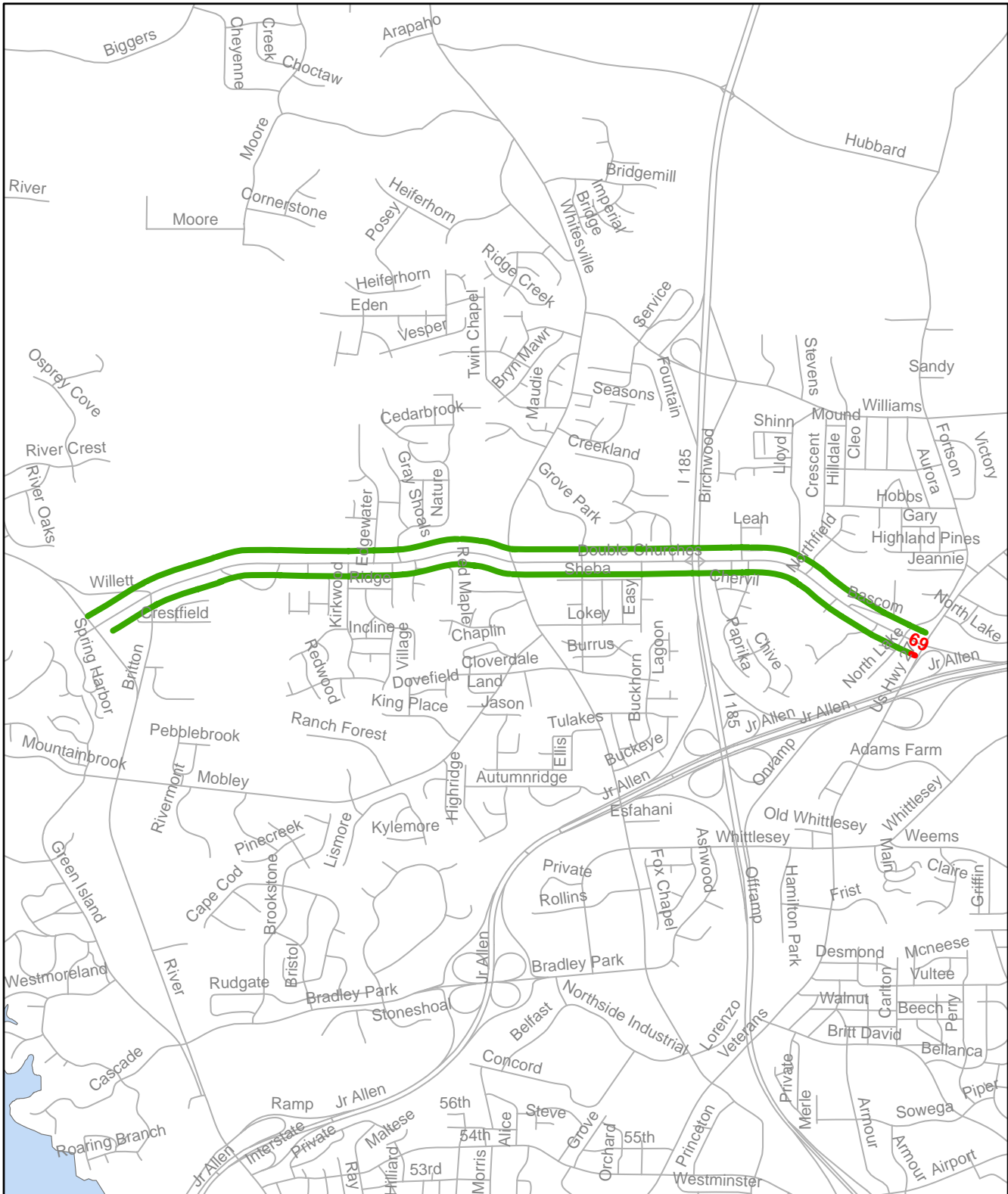
- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds





# Double Churches Road

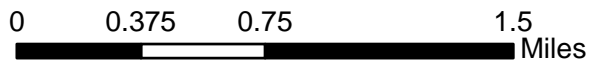
River Road to Veterans Parkway  
2.87 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



<b>Double Churches - [eastbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Kirkwood Drive	3	0.91	40	0	43	0	40	0
Whitesville Road	3	0.56	15	87	29	23	28	24
Northfield Drive	3	0.99	34	1	42	1	33	19
Veterans Parkway	3	0.47	12	97	23	37	15	70

<b>Double Churches - [westbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Northfield Drive	3	0.47	26	16	20	43	22	34
Whitesville Road	3	0.99	27	30	33	25	38	9
Kirkwood Drive	3	0.56	31	2	39	1	40	1
River Road	3	0.91	36	11	42	6	40	5

<b>Double Churches Road</b>	
Primary Locations of Delay:	<p>Intersection of Veterans Parkway and Double Churches Road.</p> <p>Intersection of Whitesville Road and Double Churches Road.</p>
Possible Solutions:	<p>Intersection with Veterans Parkway will be improved to provide dual left turns from northbound Veterans Parkway onto westbound Double Churches. Dual right turn lanes will be installed for Double Churches eastbound onto Veterans Parkway southbound.</p> <p>Intersection with Whitesville Road is planned for improvements to provide multilane approaches on all four legs of the intersection.</p>





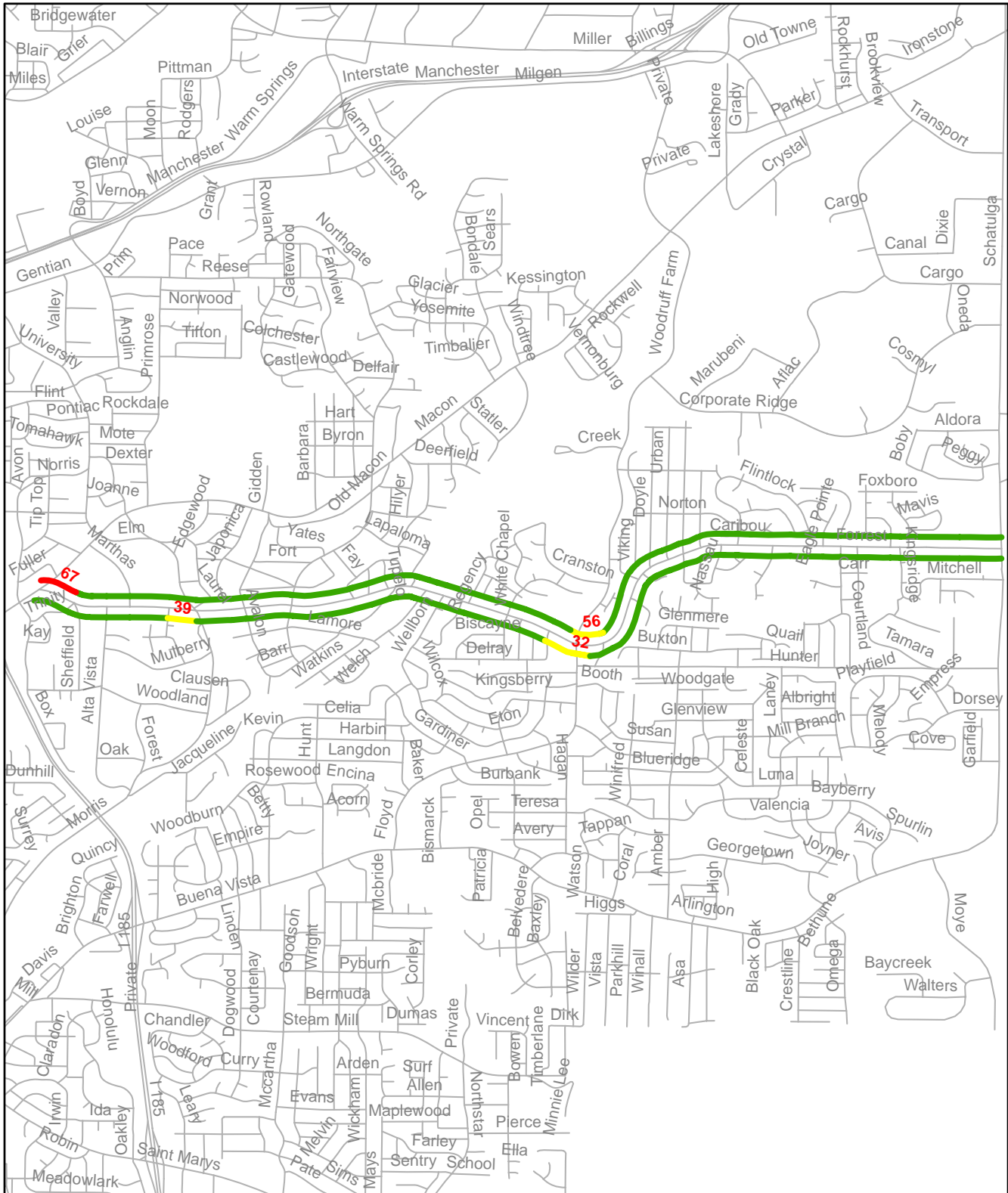
<b>Flat Rock / Schatulga Road – [northbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Forrest Rd.	3	1.15	49	0	52	0	47	1
Cargo Dr.	3	1.23	42	13	51	0	49	0
Macon Rd.	3	1.38	43	11	43	32	35	50
Vinings Way	3	0.6	38	0	38	19	27	30
Milgen Rd.	3	0.27	37	1	33	8	10	79
US 80	3	0.21	45	4	45	9	13	52

<b>Flat Rock / Schatulga Road - [southbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Milgen Rd.	3	0.21	29	7	37	4	0	0
Vinings Way	3	0.27	40	0	41	0	11	55
Macon Rd.	3	0.6	32	17	26	31	34	0
Mutec Dr.	3	1.38	31	40	45	0	38	8
Forrest Rd.	3	1.05	49	0	49	0	46	0
Buena Vista Rd.	3	2.57	47	0	44	0	46	1

<b>Flat Rock Road / Schatulga Road</b>	
Primary Locations of Delay:	Intersections of Beaver Run Road and Milgen Road.
Possible Solutions:	Improve to 4 lane roadway between Beaver Run and Milgen Road.

# Forrest Road

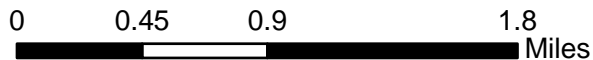
Macon Road to Schatulga Road  
3.04 miles AM Rush Hour



### AM Rush Hour

### Average Congested Time

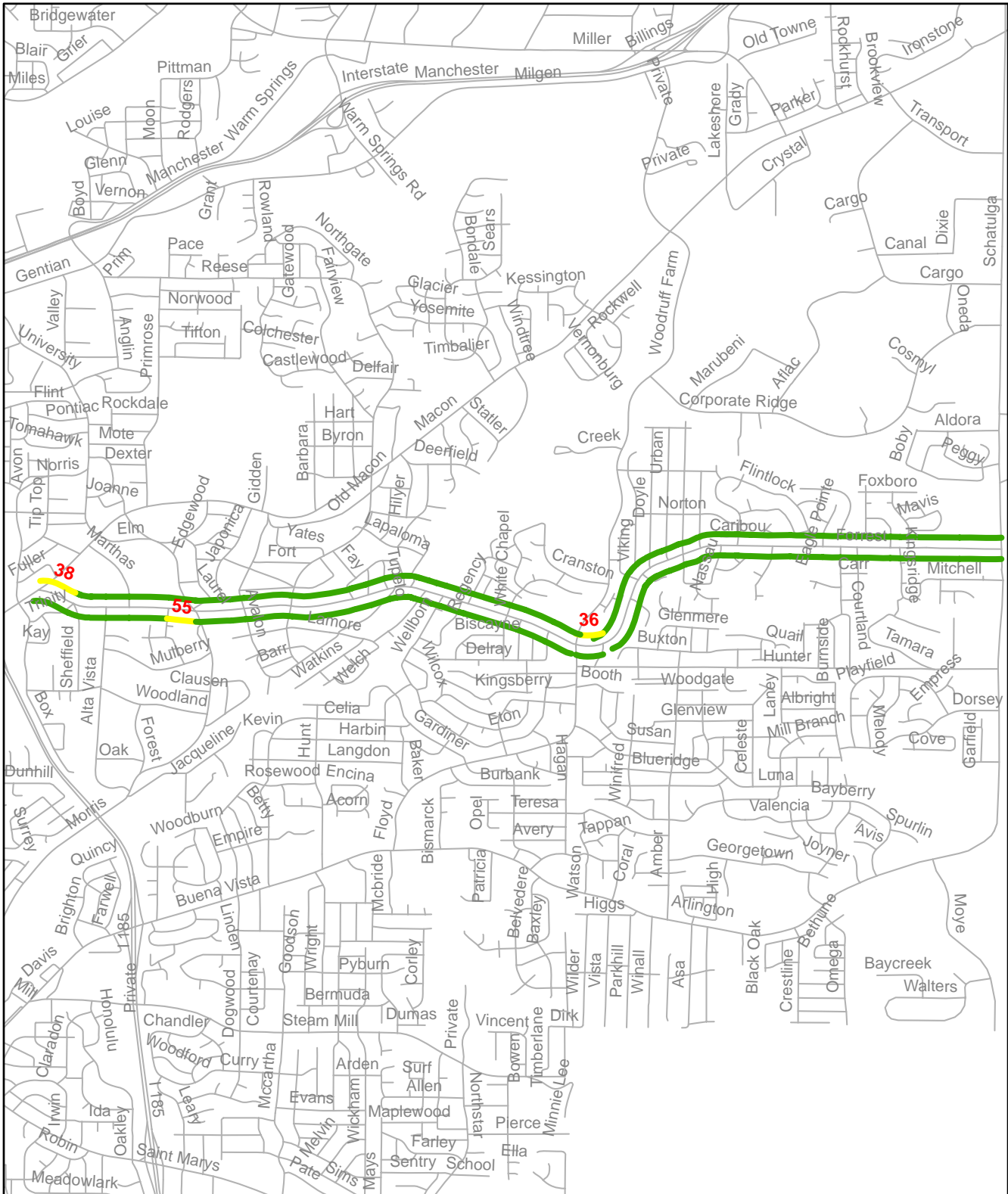
- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds





# Forrest Road

**Macon Road to Schatulga Road**  
**3.04 miles PM Rush Hour**



## PM Rush Hour

### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds

0 0.45 0.9 1.8 Miles



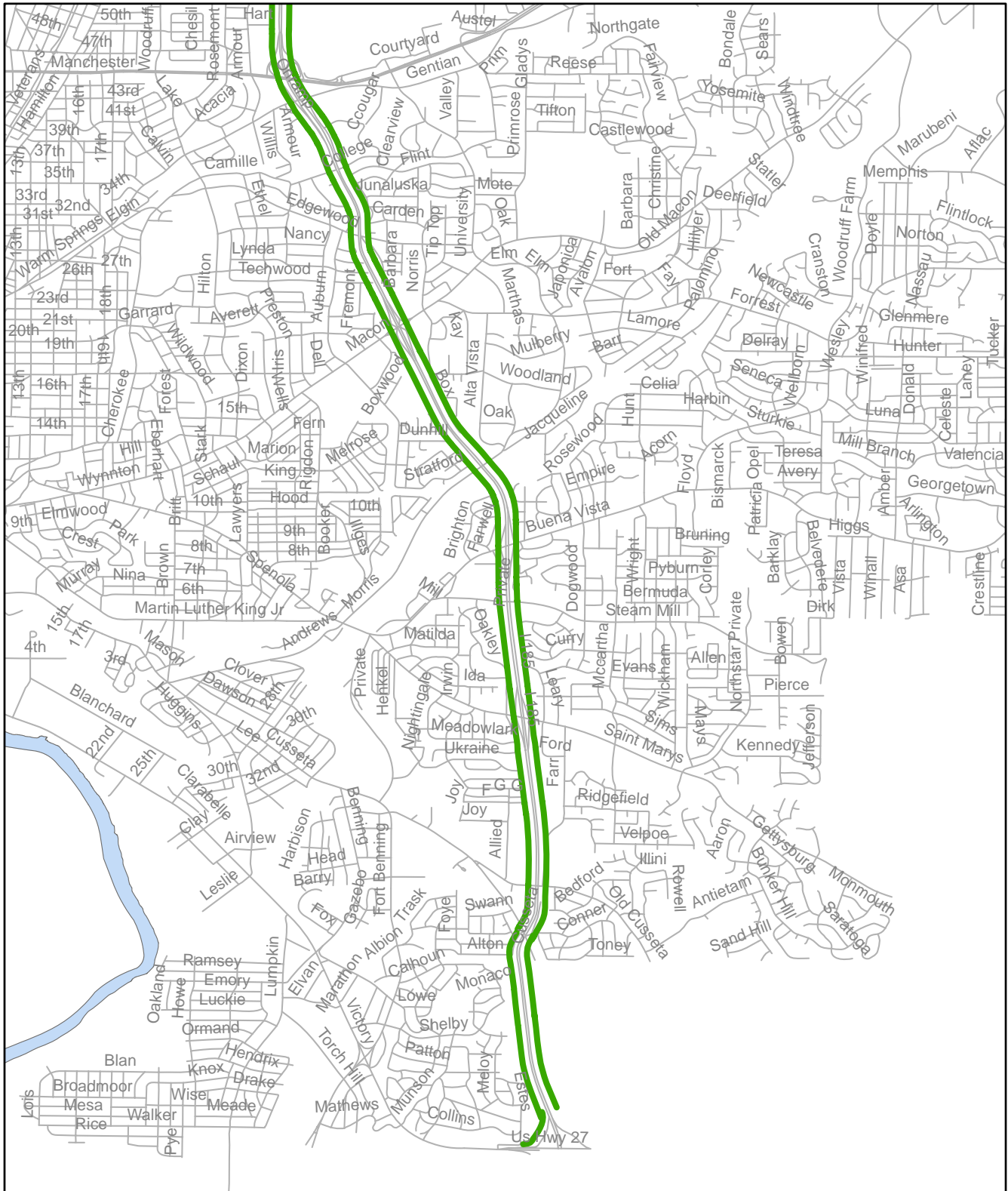
<b>Forrest Road [eastbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Elm Drive	4	0.64	19	19	28	7	16	74
Reese Road	4	0.38	5	4	29	0	19	30
Floyd/Woodruff Farm Rds.	4	1.2	14	37	22	68	27	31
Schatulga Road	4	1.94	23	34	31	4	32	13

<b>Forrest Road [westbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Floyd / Woodruff Farm Rds.	3	1.94	23	92	25	78	27	59
Reese Road	3	1.2	28	26	28	19	30	7
Elm Drive	3	0.38	18	36	21	22	20	29
Macon Road	3	0.64	17	68	25	20	22	33

<b>Forrest Road</b>	
<u>Primary Locations of Delay:</u>	Westbound Forrest Road at Macon Road
<u>Possible Solutions:</u>	<p>Intersection of Forrest Road and Macon Road may be relocated to align Macon Road with Fuller Avenue. Concept plans show adequate channelization for left turning traffic.</p> <p>Concept plans for intersection of Forrest Road and Elm Road show new channelized right turn lanes being constructed on each arm of the intersection.</p>

# Interstate 185

Victory Drive to Smith Road  
11 miles AM Rush Hour



## AM Rush Hour

### Average Congested Time

0 - 30 seconds

31 - 60 seconds

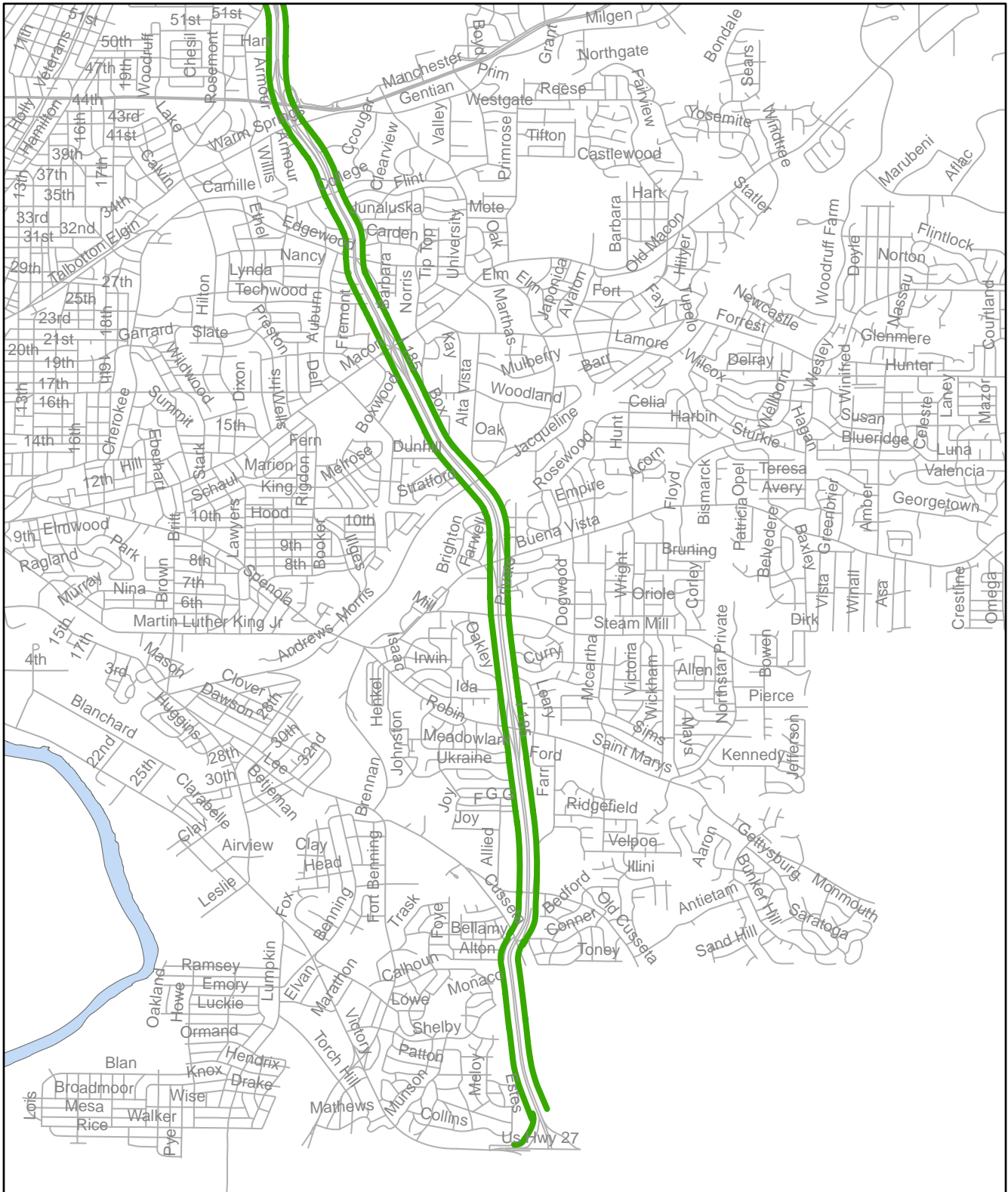
60 seconds - 180 seconds





# Interstate 185

Victory Drive to Smith Road  
11 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

0 - 30 seconds

31 - 60 seconds

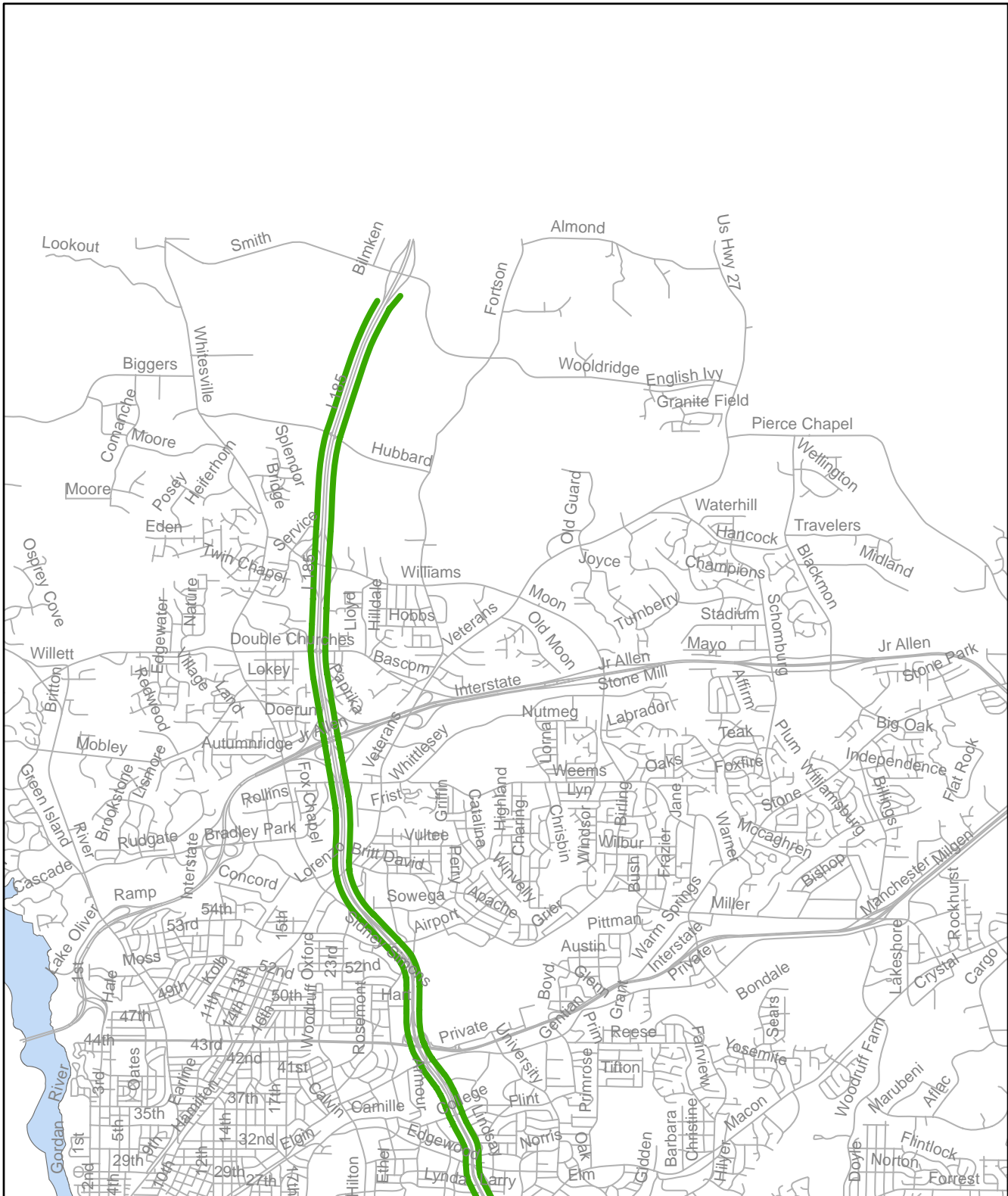
60 seconds - 180 seconds

0 0.5 1 2 Miles






# Interstate 185

## Victory Drive to Smith Road 11 miles PM Rush Hour



### PM Rush Hour

### Average Congested Time

-  0 - 30 seconds
-  31 - 60 seconds
-  60 seconds - 180 seconds



<b>Interstate 185 [northbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Saint Marys Road	3	2.57	61	0	59	0	58	0
Buena Vista Road	3	1.12	63	0	64	0	62	0
Macon Road	3	1.56	63	0	63	0	63	0
Manchester Expwy.	3	1.73	60	0	61	0	63	0
Airport Thruway	3	0.93	64	0	63	0	63	0
JR Allen Parkway	3	1.87	66	0	65	0	64	0
Smith Road	3	3.79	66	0	65	0	64	0

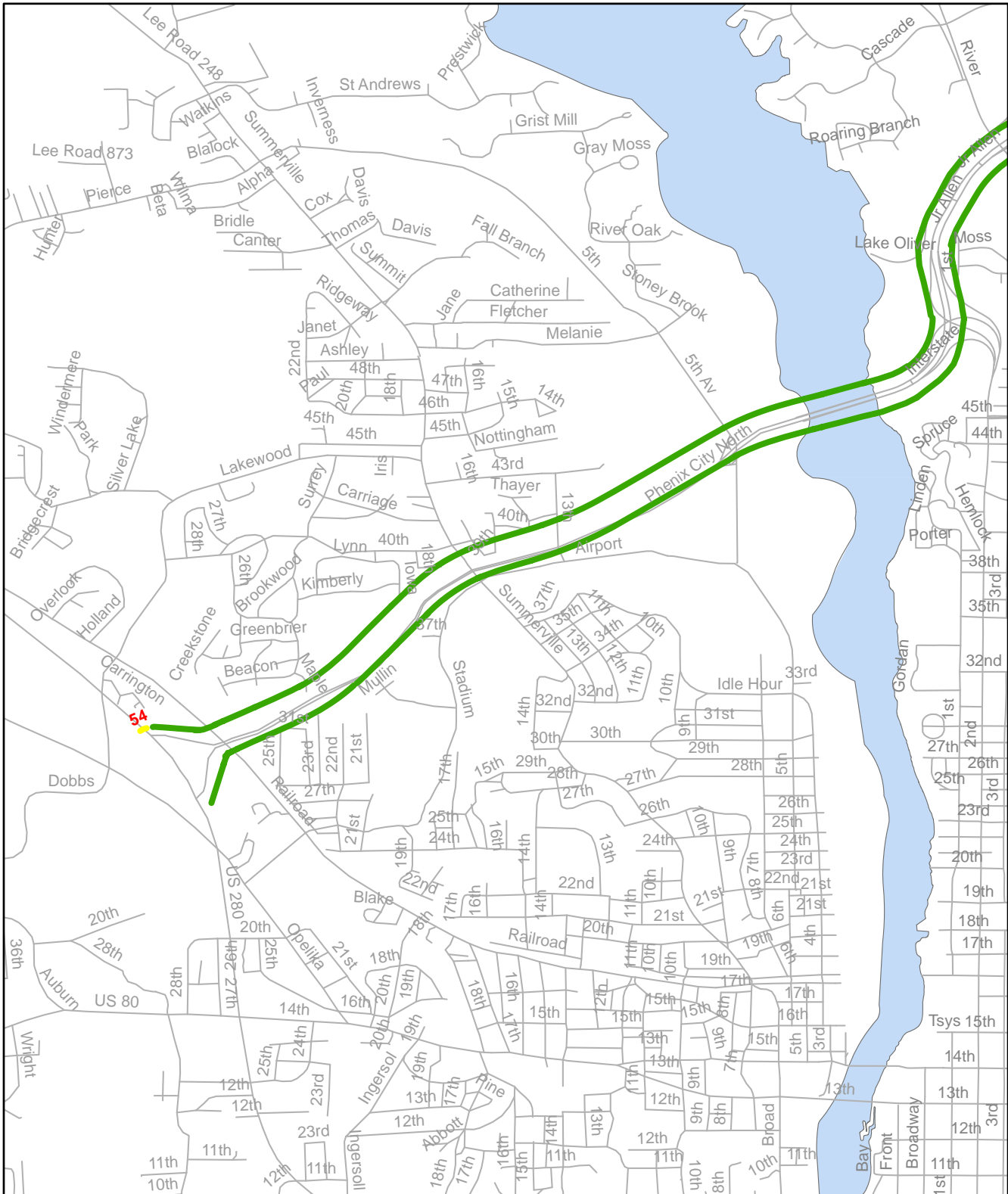
<b>Interstate 185 [southbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Williams Road	3	2.31	64	0	64	0	65	0
JR Allen Parkway	3	1.52	66	0	66	0	66	0
Airport Thruway	3	1.86	66	0	64	0	65	0
Manchester Expwy.	3	0.92	63	0	64	0	65	0
Buena Vista Road	3	3.31	63	0	63	0	63	0
Saint Marys Road	3	1.11	62	0	60	0	63	0
Victory Drive	3	2.63	61	0	54	0	58	0
(Route End)	3	0.24	62	0	48	0	60	0



<b>Interstate 185</b>	
Primary Locations of Delay:	<p>Some interchange ramps have issues with congestion, but the mainline is clear.</p> <p>Ramps include:</p> <p>I-185 northbound offramp to Manchester Expressway eastbound;</p> <p>I-185 offramps at Buena Vista Road and St Mary's Road</p>
Possible Solutions:	<p>Lengthening offramp lane at Manchester Expressway</p> <p>Making interchange improvements at Buena Vista Road and St Mary's Road</p>

# JR Allen Parkway

**US 280 to Flat Rock Road  
12 miles AM Rush Hour**



## AM Rush Hour

### Average Congested Time

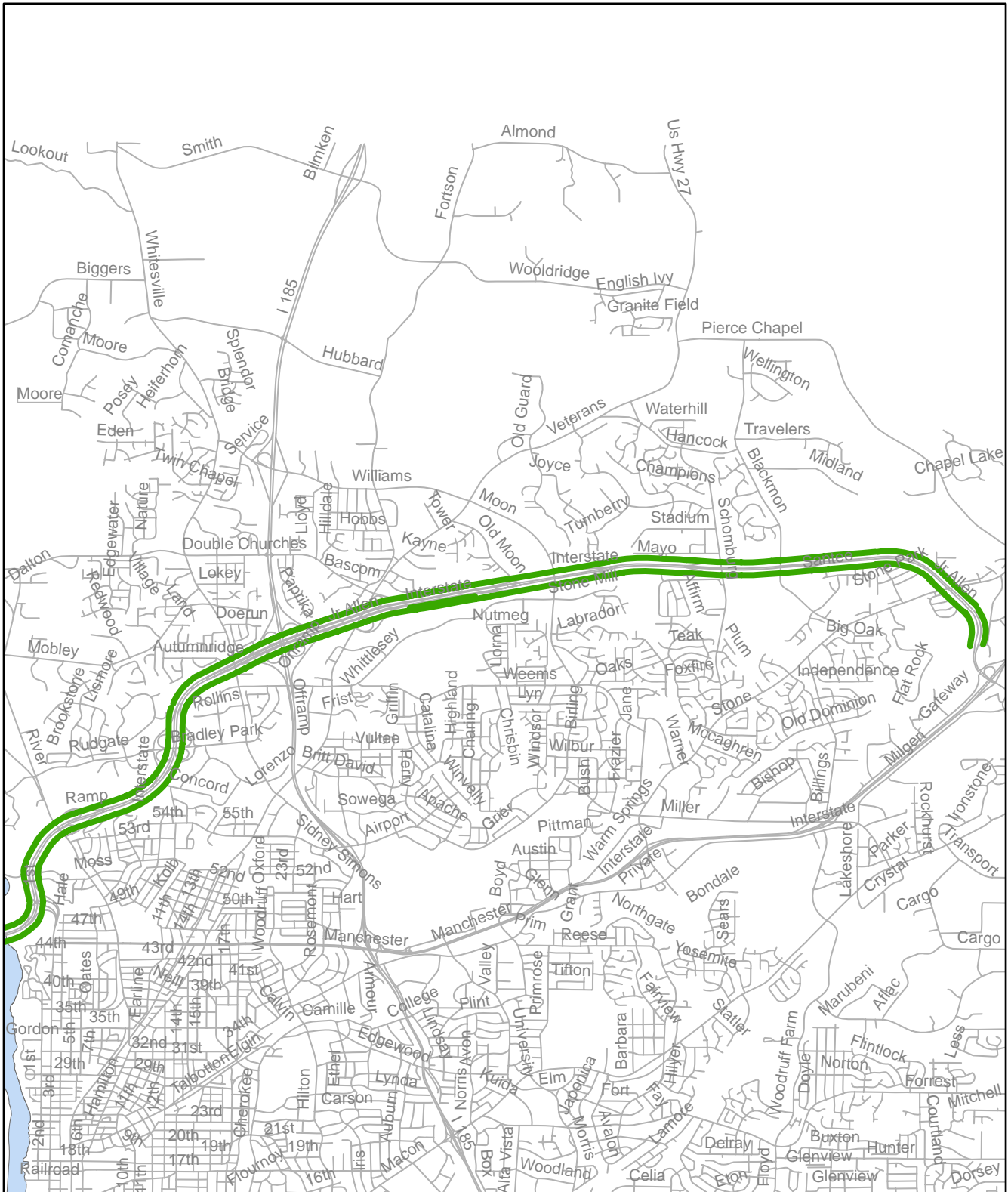
- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds

0 0.35 0.7 1.4 Miles



# JR Allen Parkway

US 280 to Flat Rock Road  
12 miles AM Rush Hour



## AM Rush Hour

### Average Congested Time

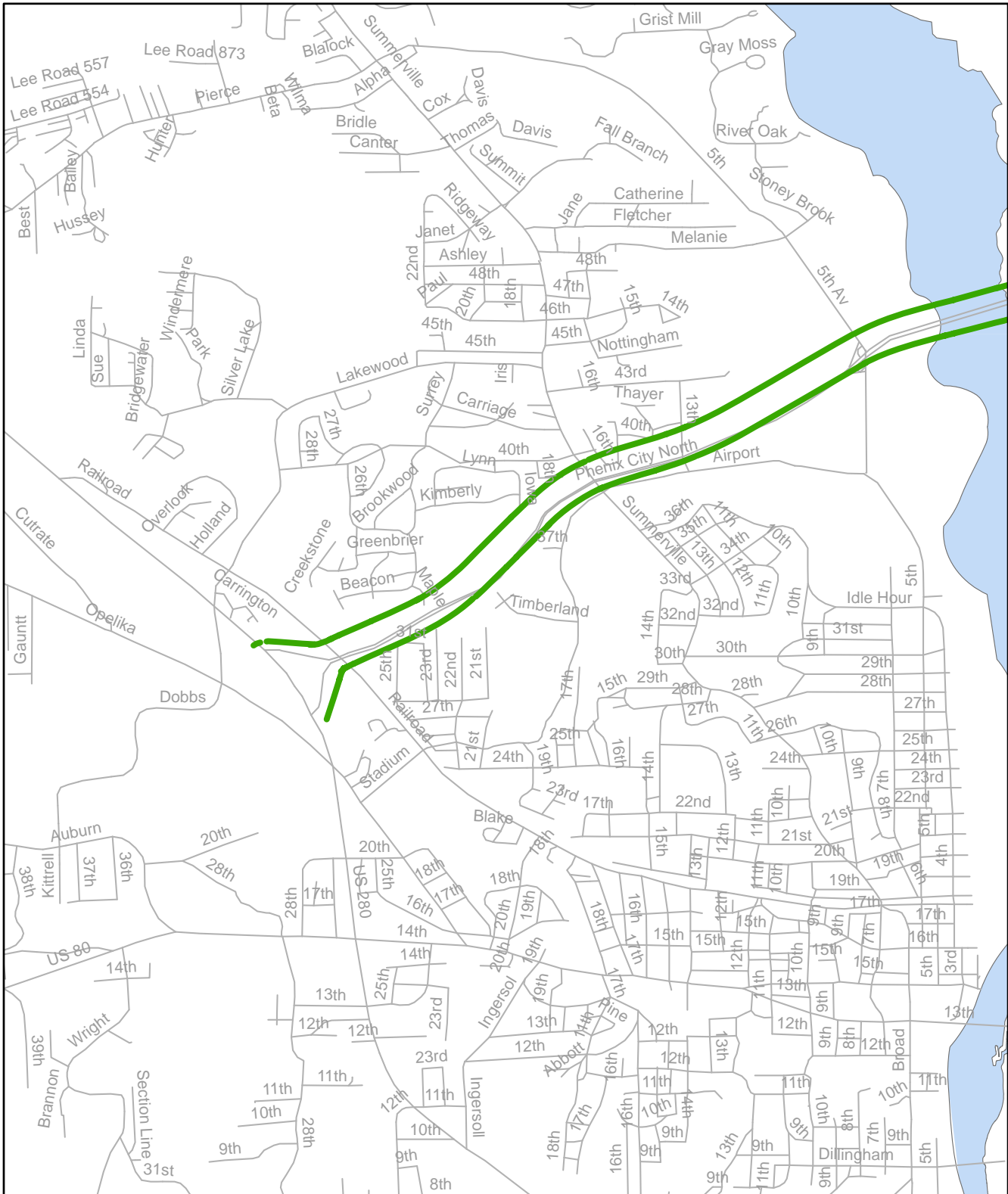
- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds

0 0.5 1 2 Miles



# JR Allen Parkway

US 280 to Flat Rock Road  
12 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

0 - 30 seconds

31 - 60 seconds

60 seconds - 180 seconds

0 0.35 0.7 1.4 Miles



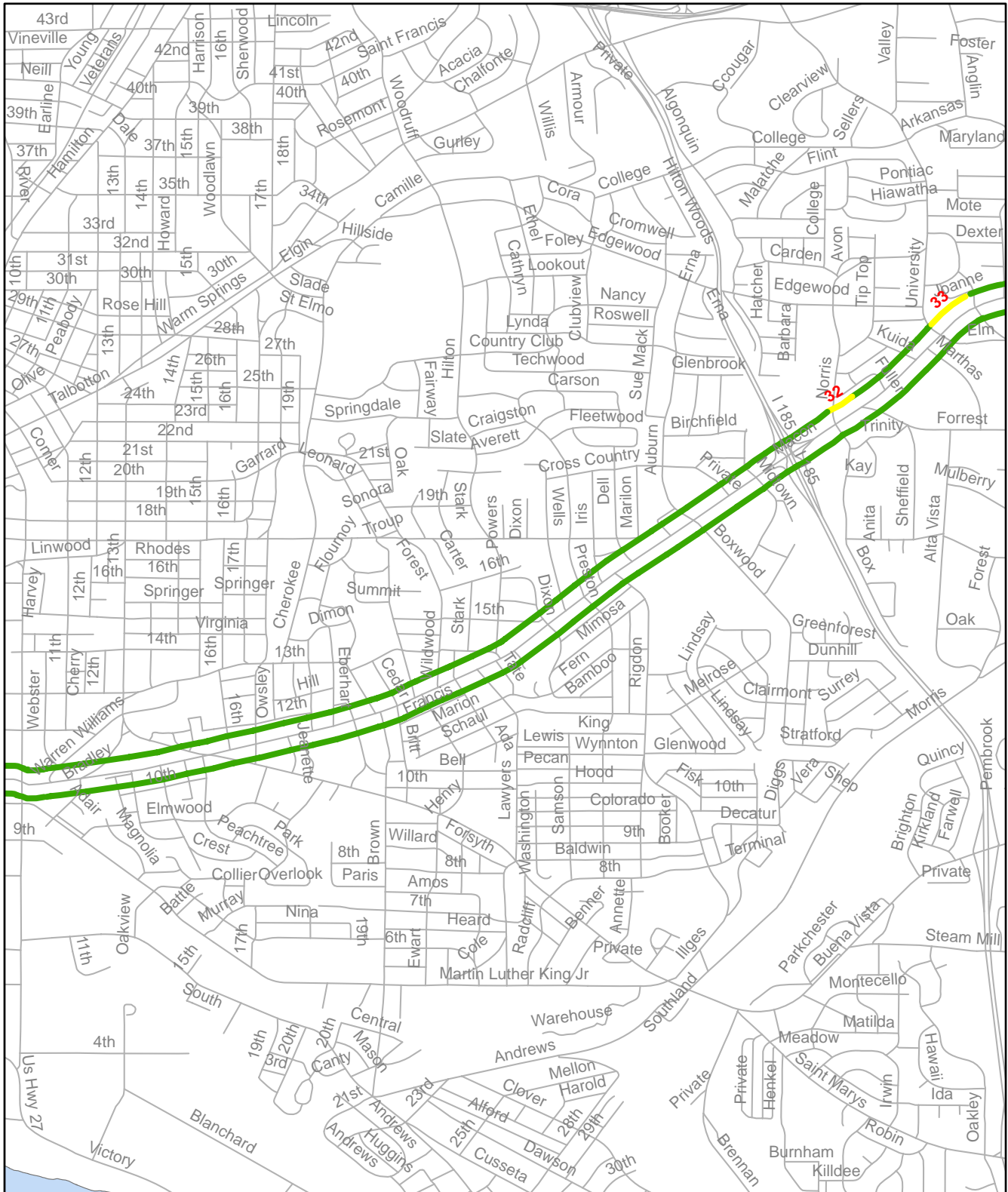


<b>JR Allen Parkway Westbound</b>	<b># Runs</b>	<b>Avg Distance</b>	<b>AM Rush Hour Average Speed</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Schomburg Road	3	2.33	55.23	0	57.55	0	73.24	0
Moon Road	3	1.22	59.58	0	61.83	0	65.21	0
Bradley Park Drive	3	1.95	65.6	0	62.61	0	75.64	0
River Road	3	1.14	61.44	0	63.64	0	63.07	0
Second Avenue	3	0.44	60.21	0	60.68	0	60.65	0
River Chase Drive	3	1.13	62.83	0	62.34	0	64.08	0
Summerville Road	3	0.92	62.31	0	61.62	0	62.29	0
US 280	3	1.25	33.02	55	39.42	31	40	35
<b>JR Allen Parkway Eastbound</b>	<b># Runs</b>	<b>Avg Distance</b>	<b>AM Rush Hour Average Speed</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Summerville Road	3	1.24	47.23	0	49.51	0	53.54	0
Riverchase Drive	3	0.91	62.62	0	61.19	0	68.29	0
Second Avenue	3	0.65	63.58	0	62.48	0	63.15	0
River Road	3	0.92	61.58	0	60.81	0	60.77	0
Bradley Park Drive	3	1.16	62	0	60.94	0	63.81	0
Interstate 185	3	1.28	64.06	0	62.95	0	64.39	0
Veterans Parkway	3	0.62	65.71	0	64.18	0	64.2	0
Moon Road	3	1.45	65.91	0	64.85	0	65.25	0
Schomburg Road	3	1.22	65.58	0	64.43	0	64.68	0
Flat Rock Road	3	2.3	62.1	0	57.48	7	64.03	0

<b>JR Allen Parkway</b>	
Primary Locations of Delay:	Westbound JR Allen Parkway at intersection with US 280.
Possible Solutions:	<p>Need a project to help eliminate sun glare delays created in evening rush hour for westbound JR Allen Parkway traffic between River Road and Summerville Road.</p> <p>Signage may need to be installed warning motorists of likelihood of recurring congestion on this segment during PM Rush Hour.</p>

# Macon Road

Tenth Avenue to US 80  
9.6 miles AM Rush Hour



## AM Rush Hour

### Average Congested Time

- █ 0 - 30 seconds
- █ 31 - 60 seconds
- █ 60 seconds - 180 seconds

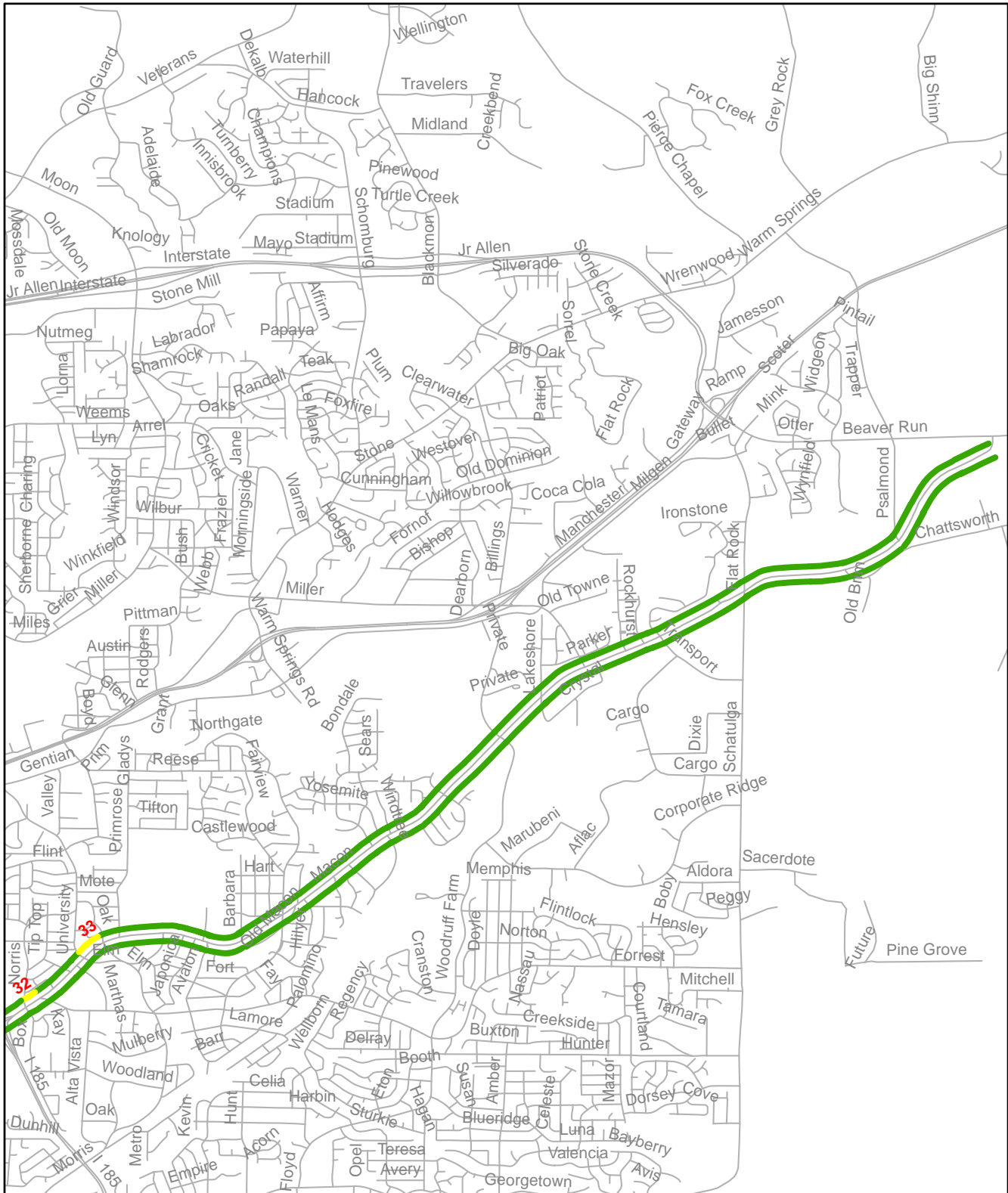
0 0.35 0.7 1.4 Miles





# Macon Road

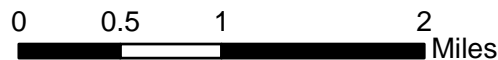
Tenth Avenue to US 80  
9.6 miles AM Rush Hour



## AM Rush Hour

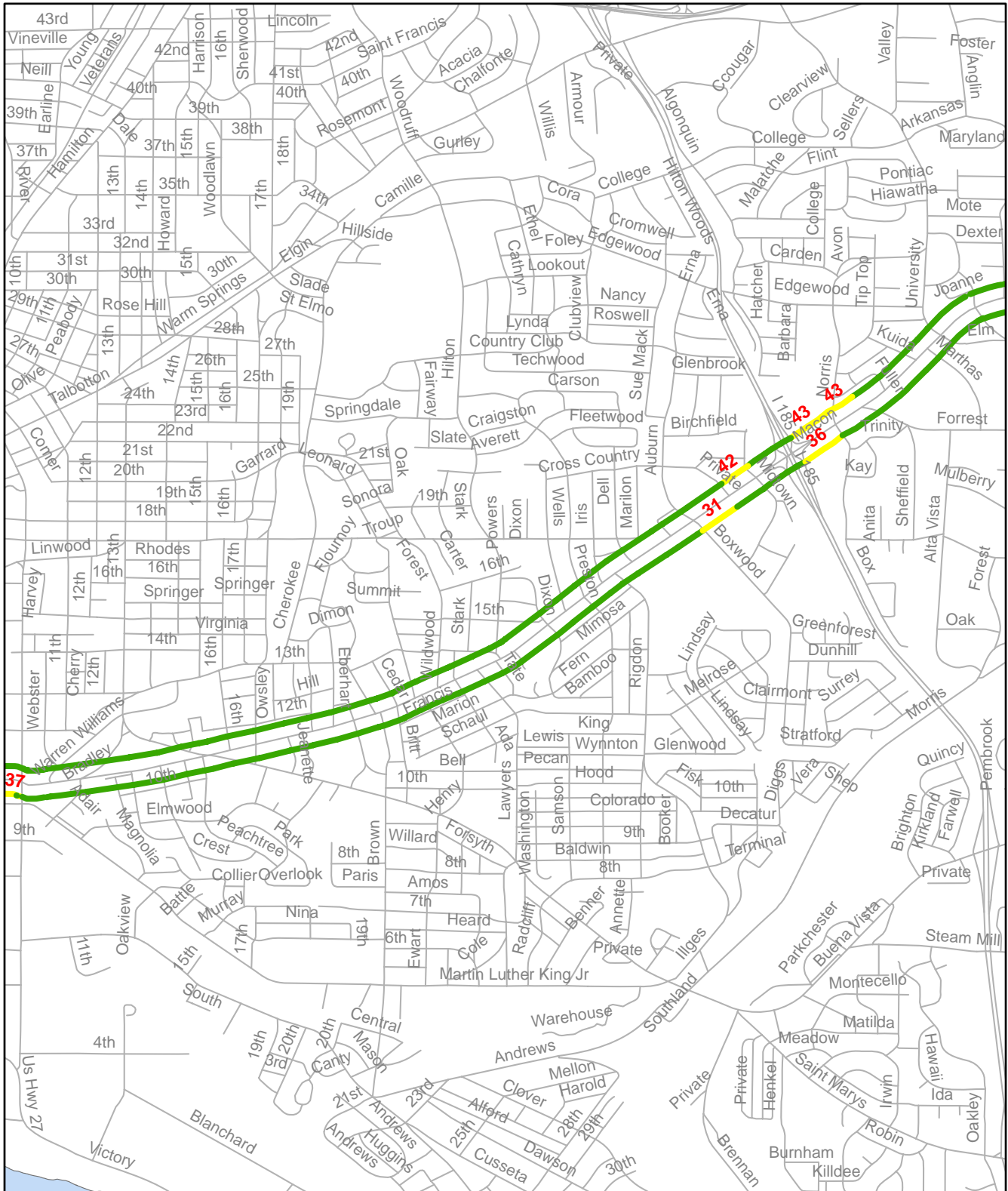
### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



# Macon Road

Tenth Avenue to US 80  
9.6 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

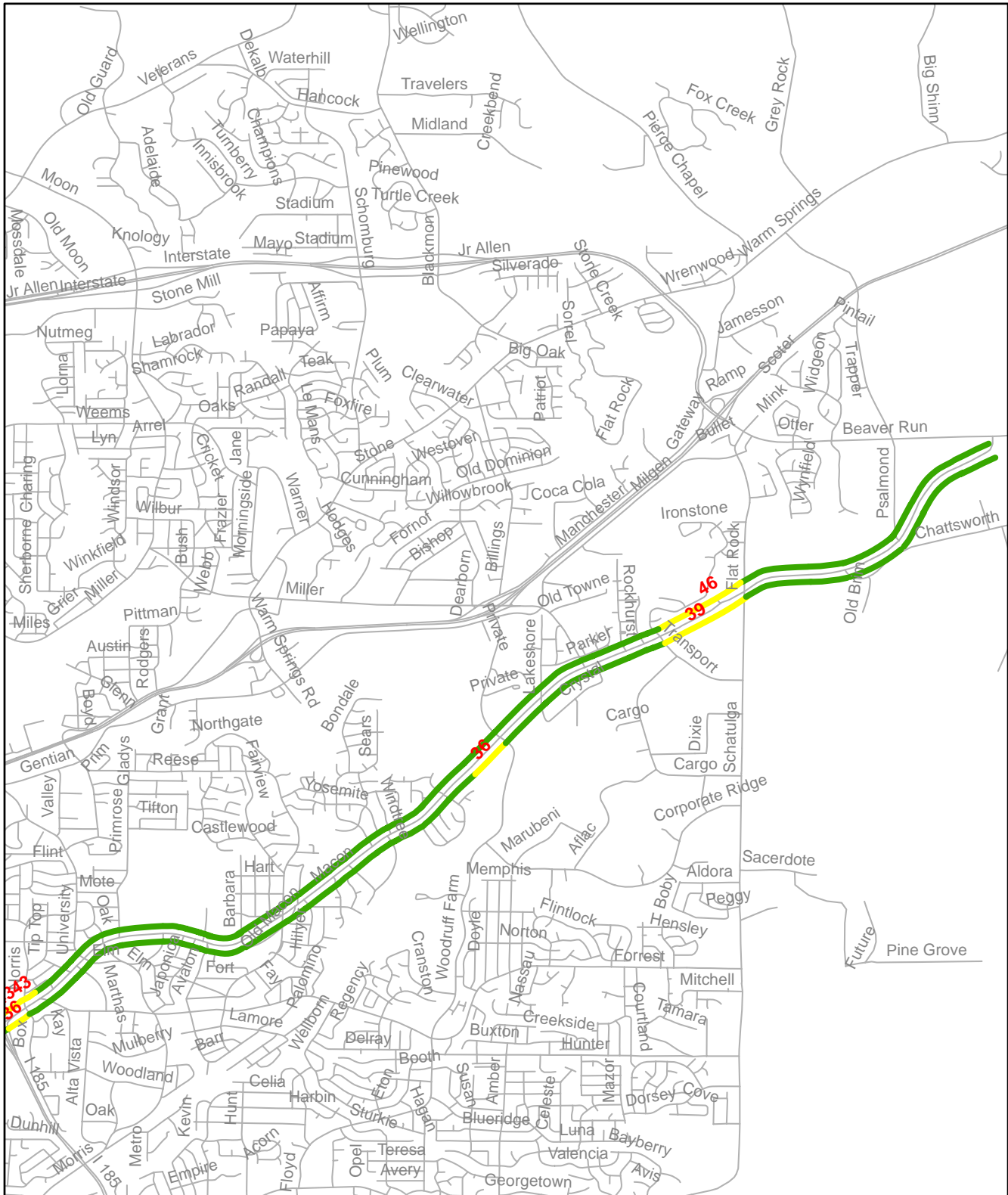
- █ 0 - 30 seconds
- █ 31 - 60 seconds
- █ 60 seconds - 180 seconds

0 0.35 0.7 1.4 Miles



# Macon Road

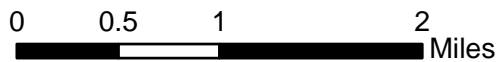
Tenth Avenue to US 80  
9.6 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

- █ 0 - 30 seconds
- █ 31 - 60 seconds
- █ 60 seconds - 180 seconds



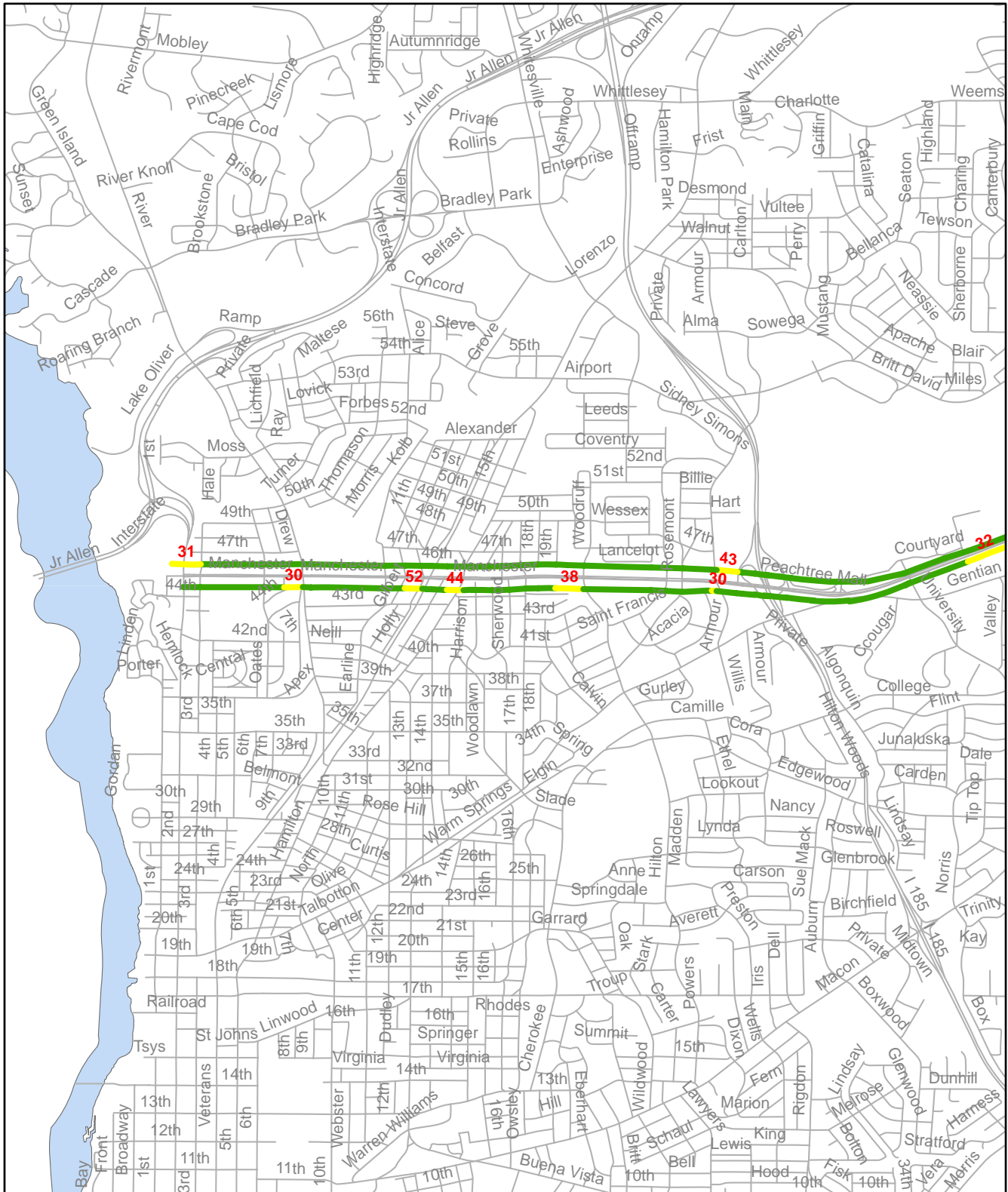
<b>Macon Road - [westbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Beaver Run Road	4	0.01	55	0	52	0	49	0
Psalmond Road	4	0.8	50	0	51	0	53	0
Flat Rock/Schatulga Road	4	0.91	49	0	46	0	42	0
Miller Road	4	1.01	35	29	40	17	28	56
Woodruff Farm	4	0.65	40	3	42	4	43	2
Reese Road	4	1.65	38	23	40	18	39	23
University Avenue	4	1.21	39	9	33	22	35	23
Forrest Road	7	0.36	30	8	27	11	26	14
Elm Drive	7	0.09	8	32	6	48	6	43
Interstate 185	7	0.17	20	13	13	28	10	44
Cross Country Plaza	7	0.23	14	36	16	28	12	42
Auburn Ave	7	0.14	14	23	20	10	31	1
Rigdon Road	7	0.31	31	4	25	14	24	16
Dixon Drive	7	0.27	34	0	33	1	33	1
13th Street	7	0.21	22	12	33	0	21	14
Lawyers Lane	7	0.06	17	7	19	7	30	0
Ada Avenue	7	0.08	21	5	14	13	23	4
Forest Avenue	7	0.13	16	14	27	1	19	11
18th Avenue	7	0.52	23	21	22	26	22	28
Buena Vista Road	7	0.15	12	32	9	47	11	32
10th Avenue	7	0.58	24	26	24	25	26	22

<b>Macon Road - [eastbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
10th Avenue	6	0.07	8	26	5	51	6	37
Buena Vista Road	6	0.58	29	7	22	31	22	32
18th Avenue	6	0.15	24	7	26	5	27	4
Forest Avenue	6	0.52	24	23	23	25	19	44
Ada Avenue	6	0.13	20	8	25	4	17	15
Lawyers Lane	6	0.08	19	8	22	3	19	7
13th Street	6	0.06	23	4	22	4	13	11
Dixon Drive	6	0.21	25	9	26	7	31	1
Rigdon Road	6	0.27	32	2	24	12	31	2
Auburn Ave	6	0.31	35	3	35	1	31	2
Cross Country Plaza	6	0.14	26	6	12	28	11	31
Interstate 185	6	0.23	14	35	16	29	25	8
Elm Drive	6	0.17	23	7	21	11	12	37
Forrest Road	6	0.09	24	4	9	29	11	20
University Avenue	6	0.36	19	32	24	16	21	25
Reese Road	3	1.21	32	32	33	23	30	26
Woodruff Farm	3	1.66	41	16	38	22	35	35
Miller Road	3	0.65	40	4	33	16	42	0
Flat Rock/Schatulga Road	3	1.01	41	13	34	22	29	43
Psalmond Road	3	0.91	55	0	56	0	53	0
Beaver Run Road	3	0.8	59	0	59	0	60	0

<b>Macon Road</b>	
Primary Locations of Delay:	<p>Box Road intersection to Auburn Avenue intersection sees some delay, particularly during the PM Rush Hour period.</p> <p>Section between Transport Road and Flat Rock/Schatulga Road intersections experiences some delay in PM Rush Hour, likely due to employee traffic from Mutec Drive area.</p>
Possible Solutions:	Extend fiber optic signal interconnect for segment between University Avenue to Schatulga Road to provide signal coordination.

# Manchester Expressway

Second Avenue to JR Allen Parkway  
10.5 miles AM Rush Hour



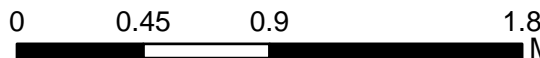
## AM Rush Hour

### Average Congested Time

0 - 30 seconds

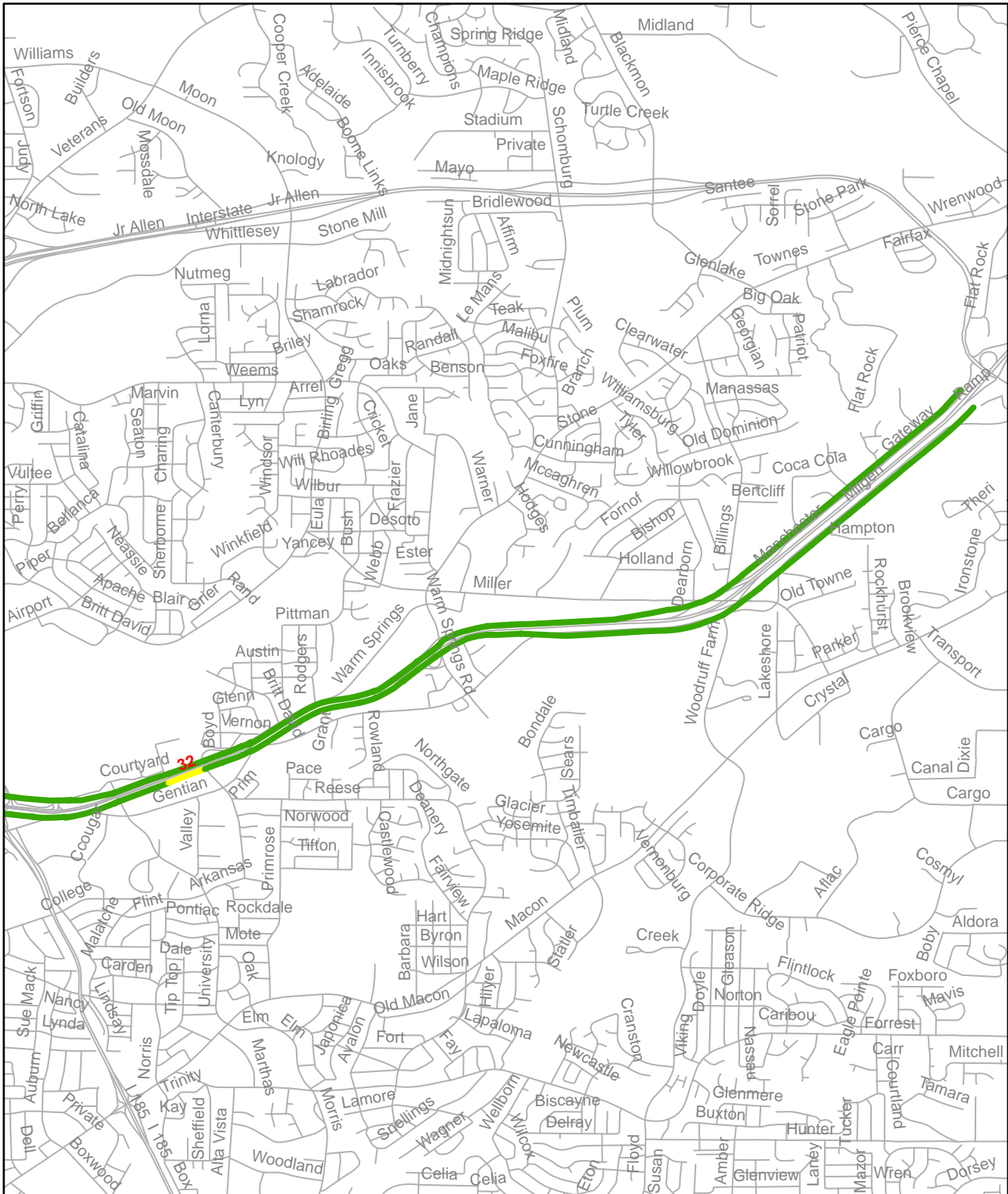
31 - 60 seconds

60 seconds - 180 seconds



# Manchester Expressway

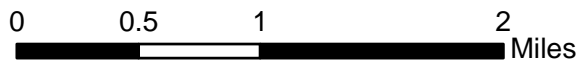
Second Avenue to JR Allen Parkway  
10.5 miles AM Rush Hour



## AM Rush Hour

### Average Congested Time

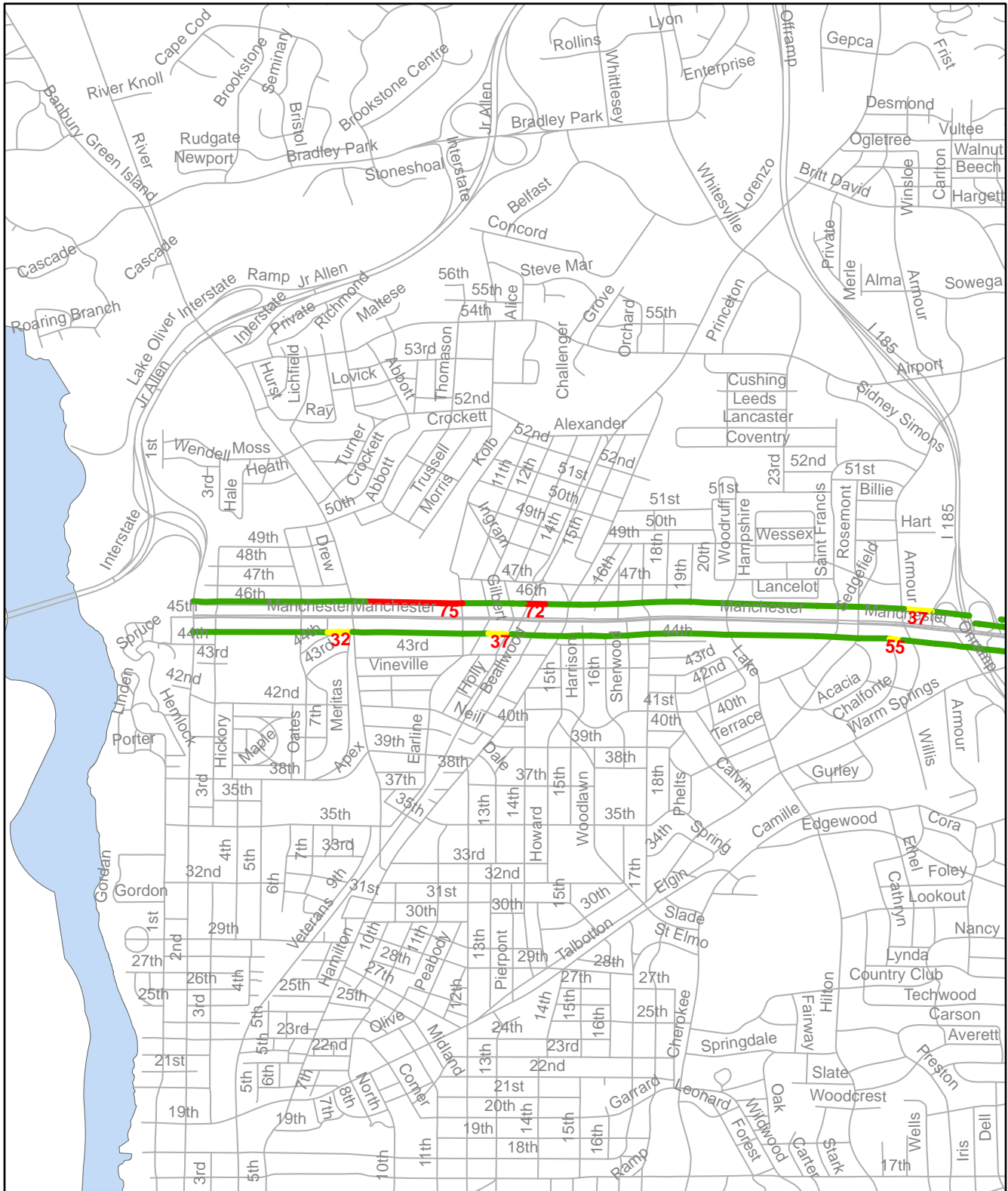
- █ 0 - 30 seconds
- █ 31 - 60 seconds
- █ 60 seconds - 180 seconds





# Manchester Expressway

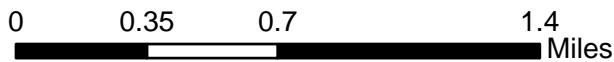
Second Avenue to JR Allen Parkway  
10.5 miles PM Rush Hour



### PM Rush Hour

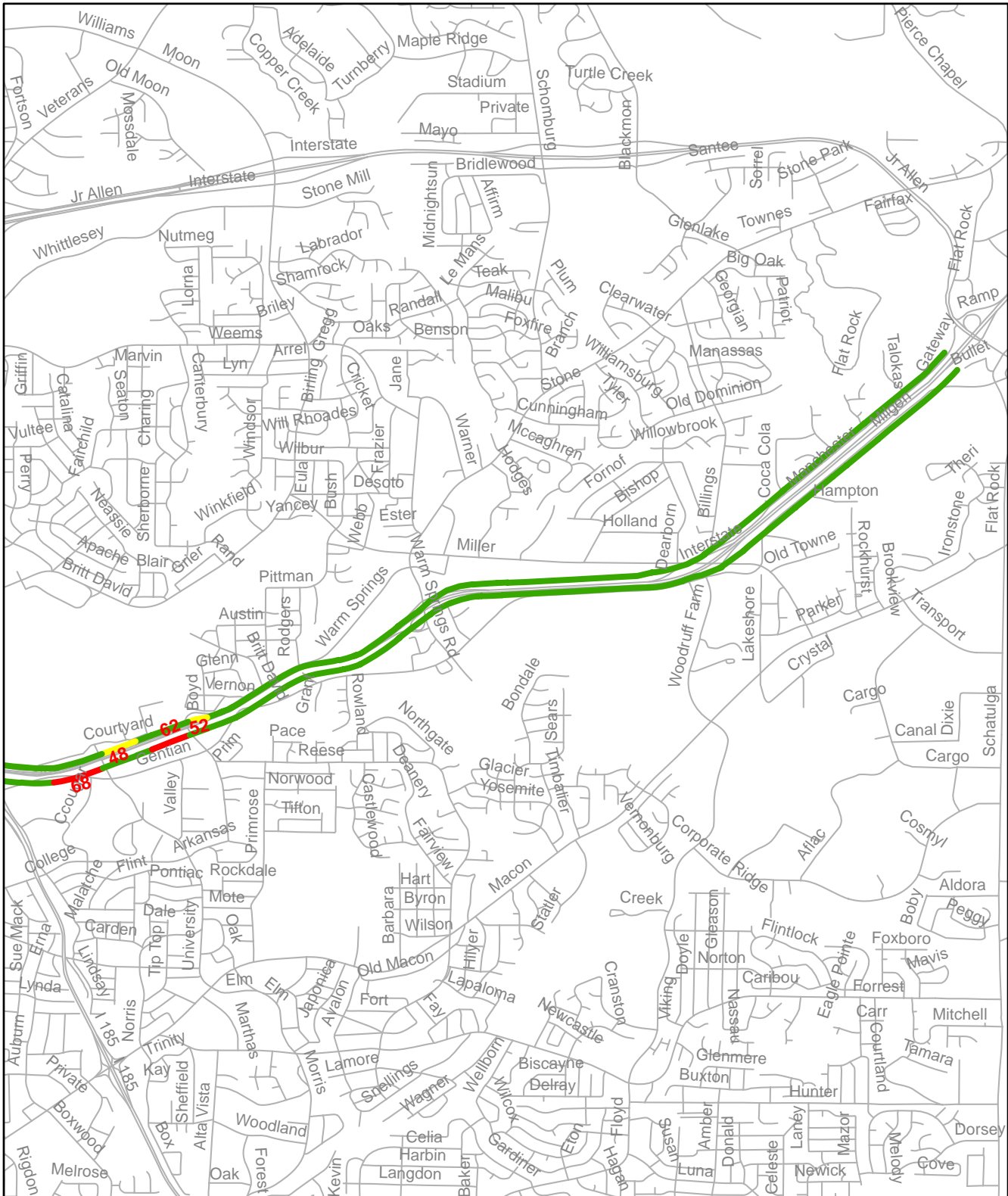
#### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



# Manchester Expressway

Second Avenue to JR Allen Parkway  
10.5 miles PM Rush Hour



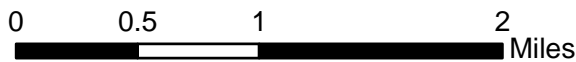
## PM Rush Hour

### Average Congested Time

0 - 30 seconds

31 - 60 seconds

60 seconds - 180 seconds



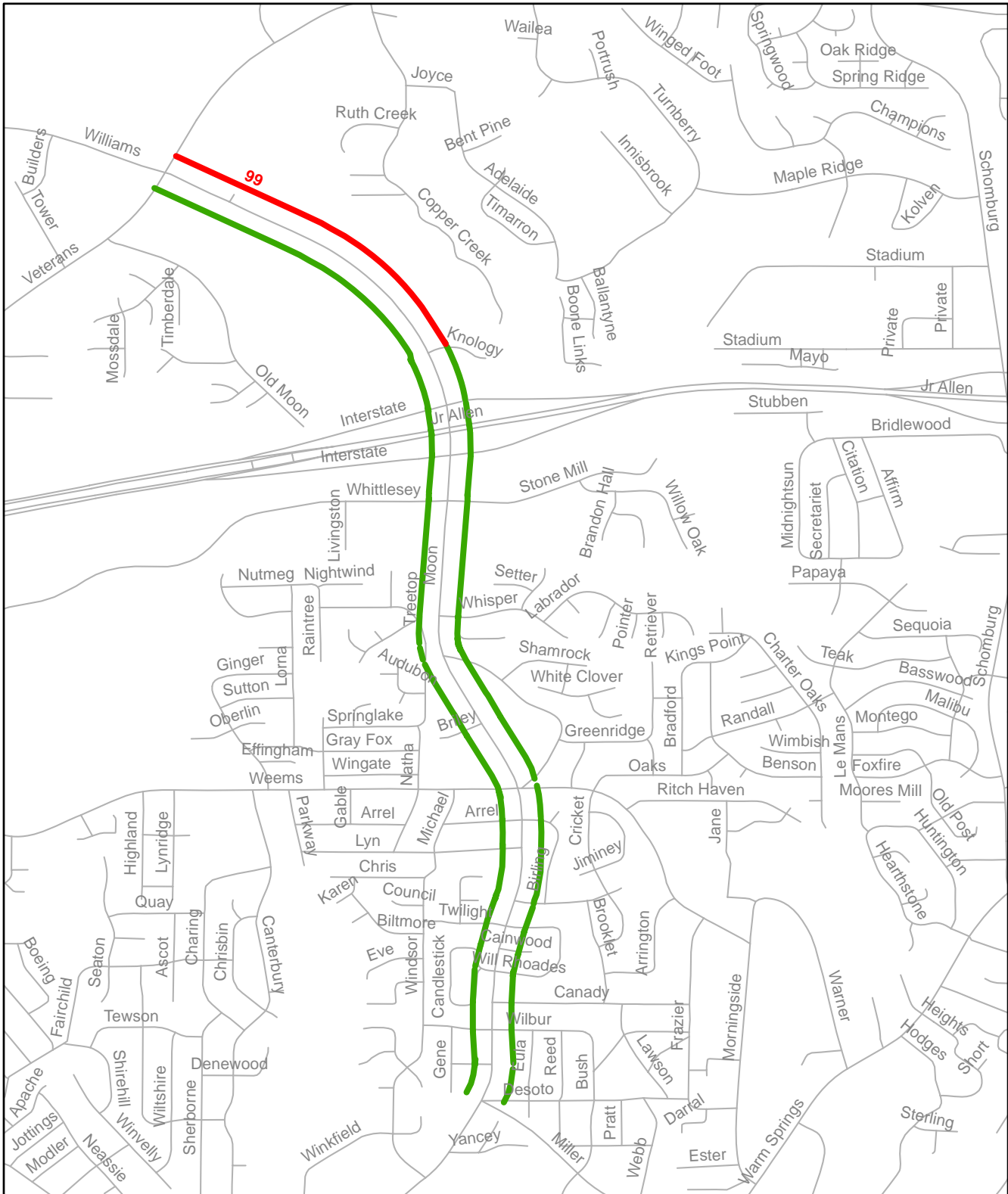
<b>Manchester Expressway [westbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Miller Road	3	1.55	61	0	61	0	61	0
Warm Springs Connector	3	1.33	62	0	60	0	60	0
Warm Springs Rd	3	1.25	49	2	46	8	37	34
Courtyard Way	3	0.19	28	10	41	1	18	19
University Ave	3	0.25	27	13	12	58	13	49
Interstate 185 North	3	0.49	27	16	36	2	28	17
Interstate 185 South	3	0.2	33	0	35	0	19	16
Armour Road	3	0.08	6	43	8	31	6	37
Woodruff Road	3	0.53	39	0	22	34	28	19
17th Avenue	3	0.23	36	2	20	22	26	9
Hamilton Road	3	0.25	34	4	18	26	16	34
Manchester Expressway	3	0.12	11	28	7	48	5	75
River Road	3	0.51	24	13	19	39	13	88
Second Avenue	3	0.47	22	31	19	45	24	25

<b>Manchester Expressway [eastbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
River Road	3	0.47	21	34	24	26	21	36
Veterans Parkway	3	0.49	14	67	12	93	18	50
Hamilton Road	3	0.14	9	44	27	2	18	13
17th Avenue	3	0.25	24	14	23	15	36	0
Woodruff Road	3	0.23	14	38	18	23	33	0
Armour Road	3	0.52	23	33	22	34	16	59
Interstate 185 South	3	0.08	29	0	29	0	27	1
Interstate 185 North	3	0.19	40	0	31	6	37	0
University Ave.	3	0.51	45	0	27	26	16	68
Courtyard Way	3	0.25	22	23	39	2	33	0
Warm Springs Rd	3	0.18	13	32	13	33	8	62
Warm Springs Connector	3	1.26	48	1	48	0	50	0
Miller Road	3	1.35	58	0	56	0	61	0
US 80	3	1.53	55	0	60	0	60	0

<b>Manchester Expressway</b>	
Primary Locations of Delay:	<ul style="list-style-type: none"> <li>• Westbound Manchester Expressway between Kolb Avenue and River Road in PM Rush Hour.</li> <li>• Eastbound Manchester Expressway at Armour Road, University Blvd and Reese Road.</li> </ul>
Possible Solutions:	<ul style="list-style-type: none"> <li>• Improve coordination of signals thru Automated Traffic Management System.</li> <li>• River Road intersection congestion might be alleviated through constructing a right turn lane from westbound Manchester onto northbound River.</li> <li>• Need to expand the use of the Manchester Expressway for Park and Ride activities for longer distance trips to Columbus from surrounding counties.</li> </ul>

# Moon Road

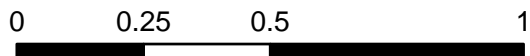
Veterans Parkway to Miller Road  
2.8 miles AM Rush Hour



## AM Rush Hour

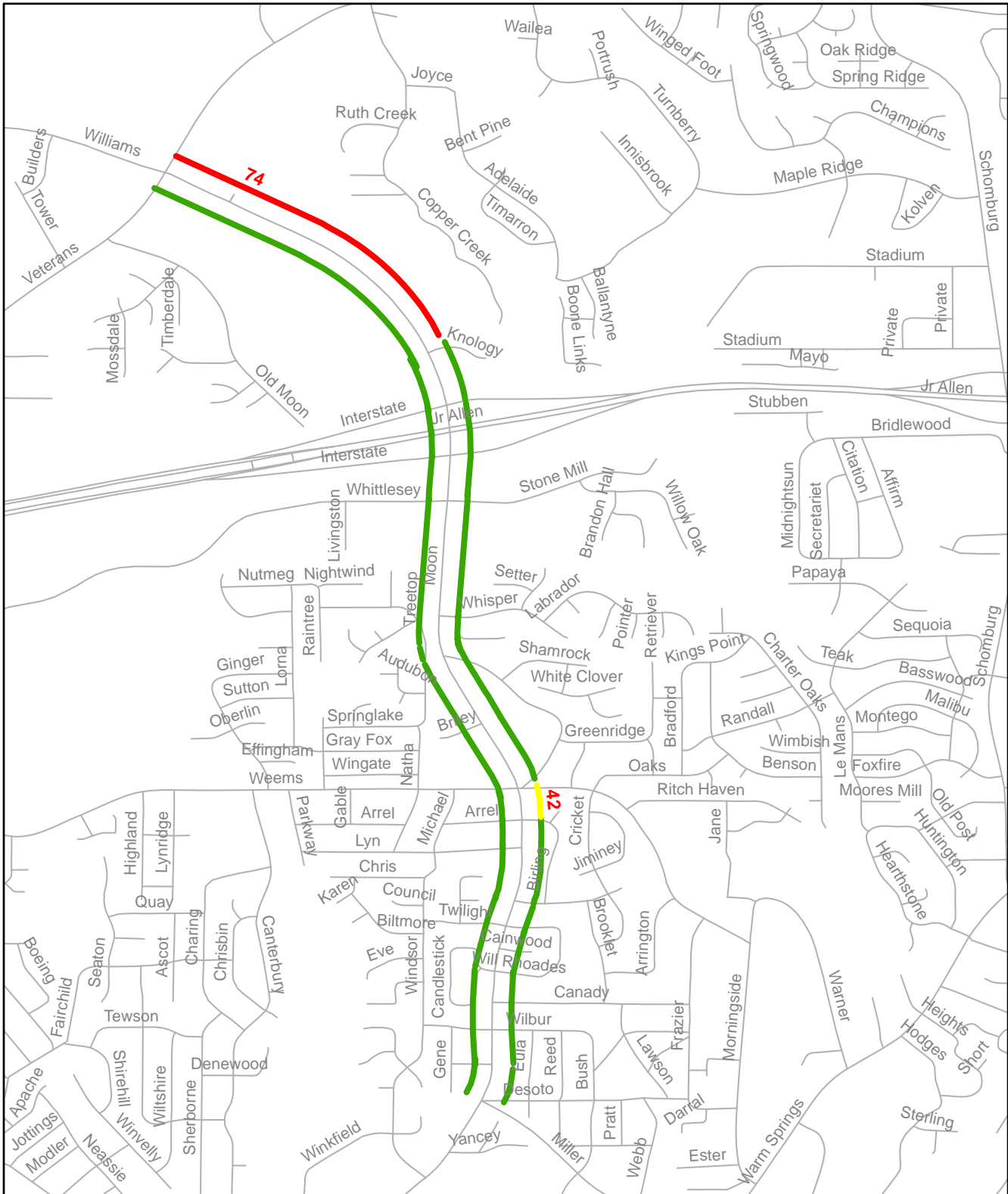
### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



# Moon Road

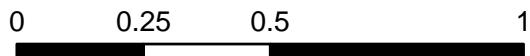
Veterans Parkway to Miller Road  
2.8 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



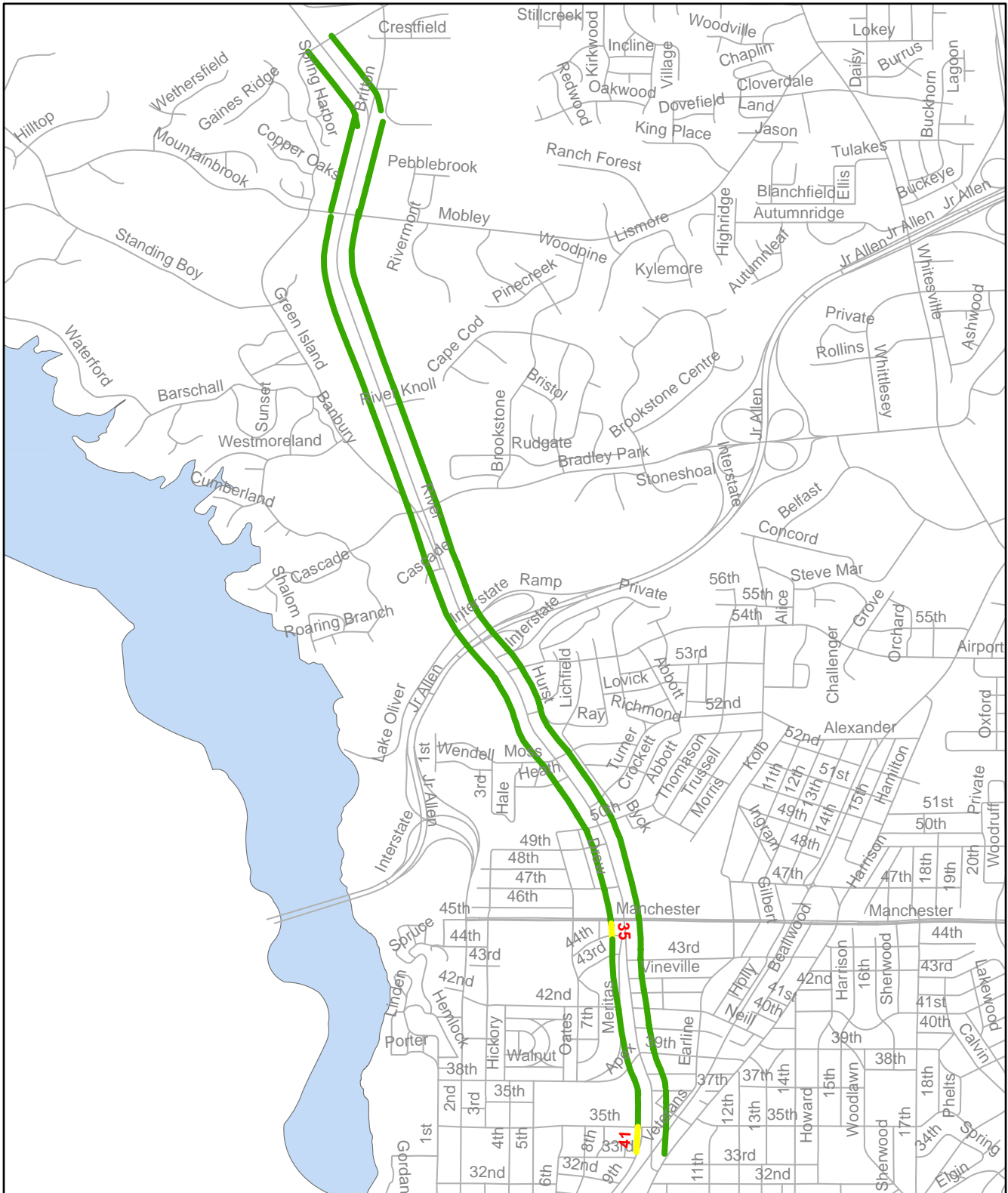
<b>Moon Road - [northbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Wilbur Road	3	0.17	32	1	29	2	33	0
Weems Road	3	0.63	22	33	31	3	21	42
Whittlesey Blvd	3	0.79	28	16	28	17	32	2
US 80 east ramps	3	0.11	23	6	21	8	27	3
US 80 west ramps	3	0.13	23	8	35	1	37	0
Veterans Parkway	3	0.89	17	123	23	59	20	74
<b>Moon Road - [southbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
US 80 west ramps	3	0.89	30	25	39	0	28	27
US 80 east ramps	3	0.13	36	0	27	6	32	0
Whittlesey Blvd	3	0.11	13	21	14	16	10	29
Weems Road	3	0.79	30	11	26	26	26	23
Wilbur Road	3	0.63	33	0	32	4	33	0
Miller Road	3	0.17	38	0	38	0	38	1

<b>Moon Road</b>	
Primary Locations of Delay:	Northbound Moon Road approaching Veterans Parkway. Northbound Moon Road at Weems Road.
Possible Solutions:	4 lane widening under construction on Moon Road between US 80 and Veterans Parkway.  Section of Moon Road between Whittlesey Boulevard and Wilbur Drive soon to be widened to include two way center left turn lane.



# River Road

Double Churches Road to Veterans Parkway  
4.1 miles AM Rush Hour



## AM Rush Hour

### Average Congested Time

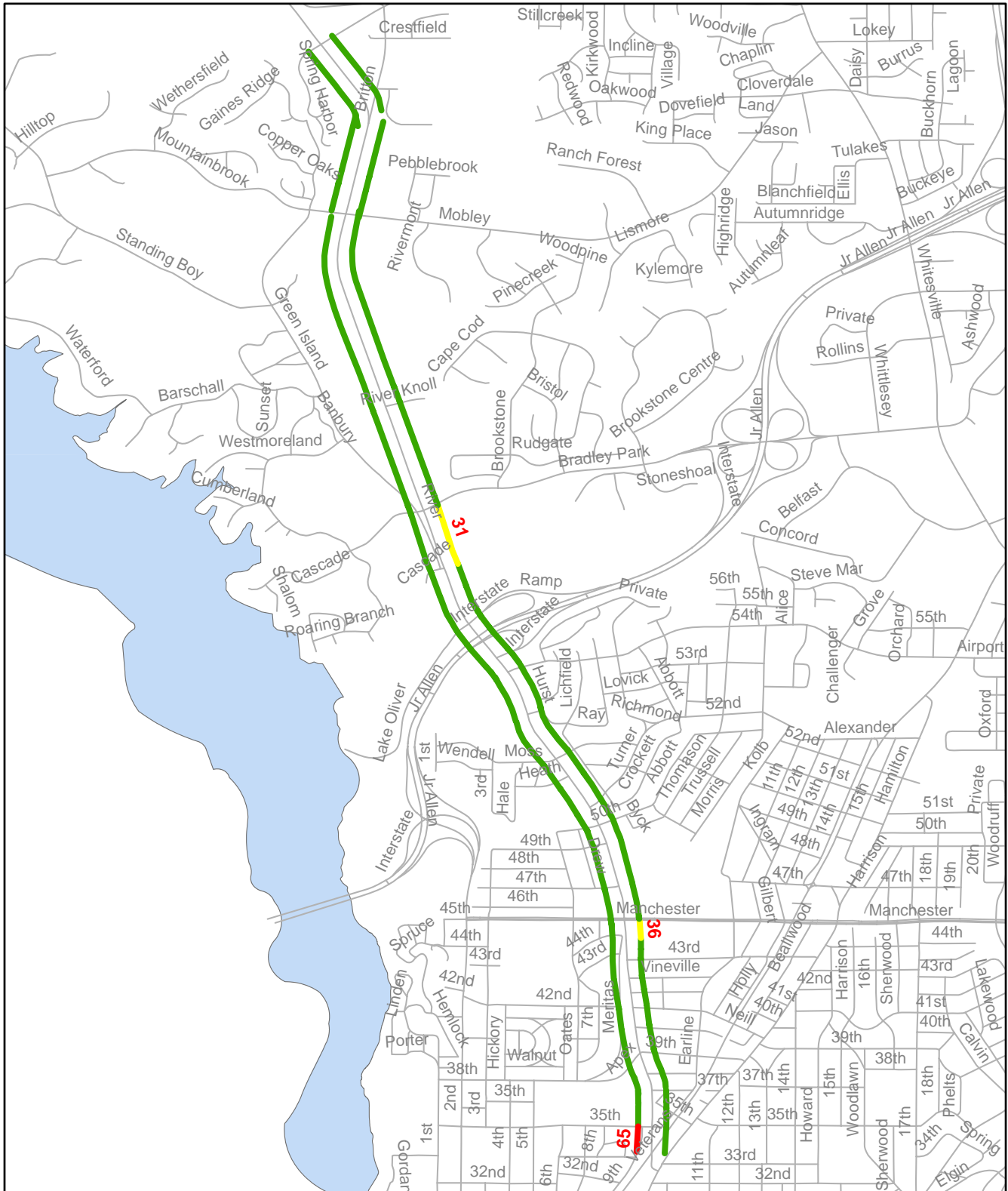
- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds

0 0.35 0.7 1.4 Miles



# River Road

**Double Churches Road to Veterans Parkway**  
**4.1 miles PM Rush Hour**



## PM Rush Hour

### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



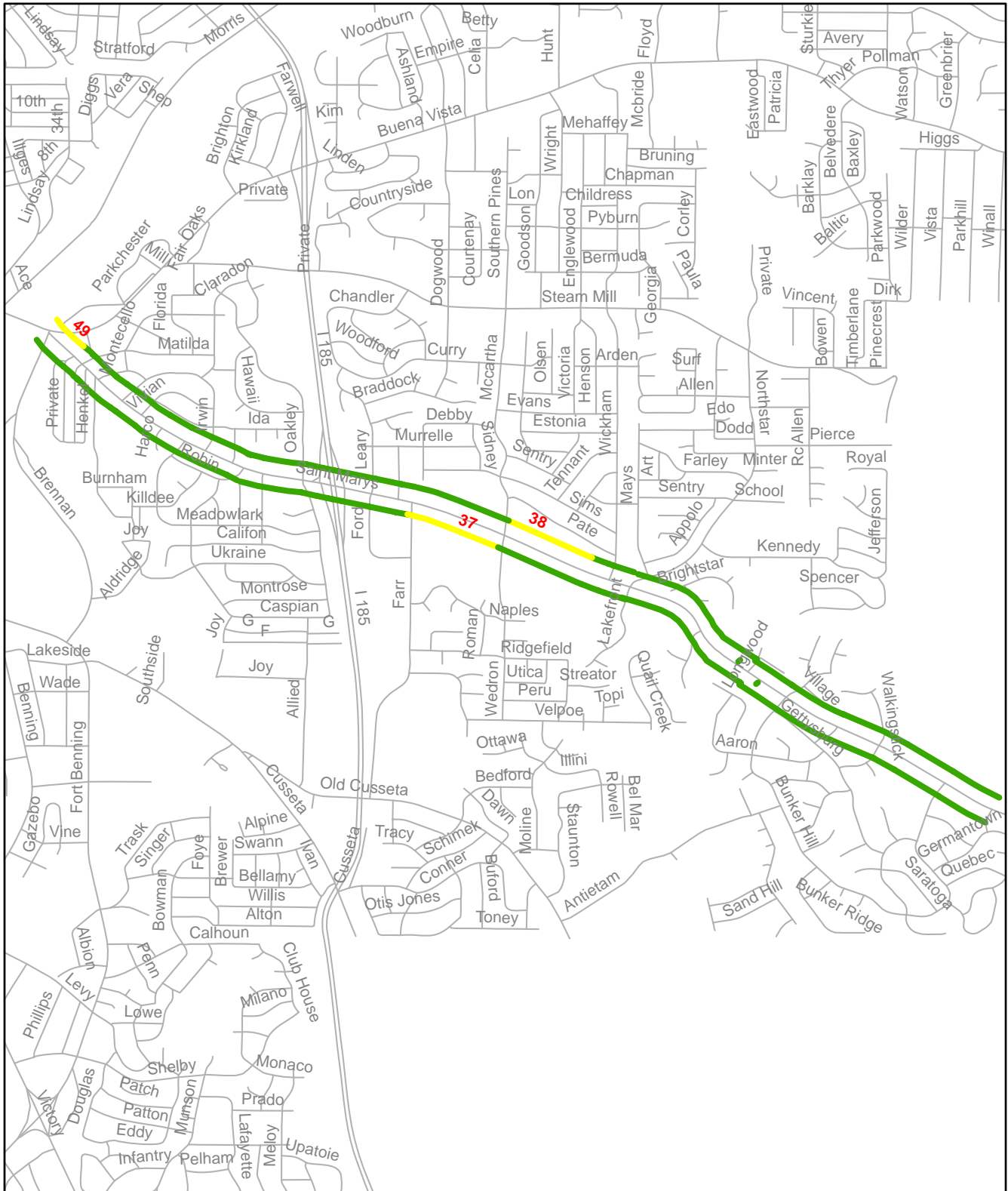
River Road - [northbound]	# Runs	Segment Distance [miles]	AM Rush Hour Average Speed [mph]	AM Rush Hour Average Congested Time [seconds]	Off Peak Average Speed [mph]	Off Peak Average Congested Time [seconds]	PM Rush Hour Average Speed [mph]	PM Rush Hour Average Congested Time [seconds]
39th Street	3	0.35	36	2	24	20	32	8
Manchester Expressway	3	0.48	22	34	19	48	16	66
54th Street	3	0.95	31	13	36	5	37	4
Bradley Park Drive	3	0.62	29	25	37	9	27	31
Mobley Road	3	1.09	40	10	39	4	38	13
Double Churches Road	3	0.64	45	0	46	0	46	0

River Road - [southbound]	# Runs	Segment Distance [miles]	AM Rush Hour Average Speed [mph]	AM Rush Hour Average Congested Time [seconds]	Off Peak Average Speed [mph]	Off Peak Average Congested Time [seconds]	PM Rush Hour Average Speed [mph]	PM Rush Hour Average Congested Time [seconds]
Mobley Road	4	0.64	41	4	45	1	35	13
Bradley Park Drive	4	1.09	33	26	35	28	34	24
54th Street	4	0.62	41	0	45	0	43	0
Manchester Expressway	4	0.95	27	34	30	31	33	25
39th Street	4	0.48	19	49	24	28	35	6
Veterans Parkway	4	0.35	17	43	24	22	13	65

<b>River Road</b>	
Primary Locations of Delay:	<ul style="list-style-type: none"> <li>• Southbound River Road at Bradley Park Drive/Cascade Road/Green Island Road intersection in AM Rush Hour during the school year.</li> <li>• Southbound River Road at Veterans Parkway.</li> </ul>
Possible Solutions:	<ul style="list-style-type: none"> <li>• Project soon to commence which will extend left turn lane on River Road southbound for additional 250', which should provide sufficient storage capacity for vehicles seeking to turn left onto Bradley Park Drive.</li> </ul>

# Saint Mary's Road

Buena Vista Road to Fort Benning Boundary  
3.5 miles AM Rush Hour



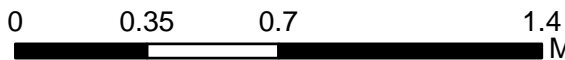
## AM Rush Hour

### Average Congested Time

0 - 30 seconds

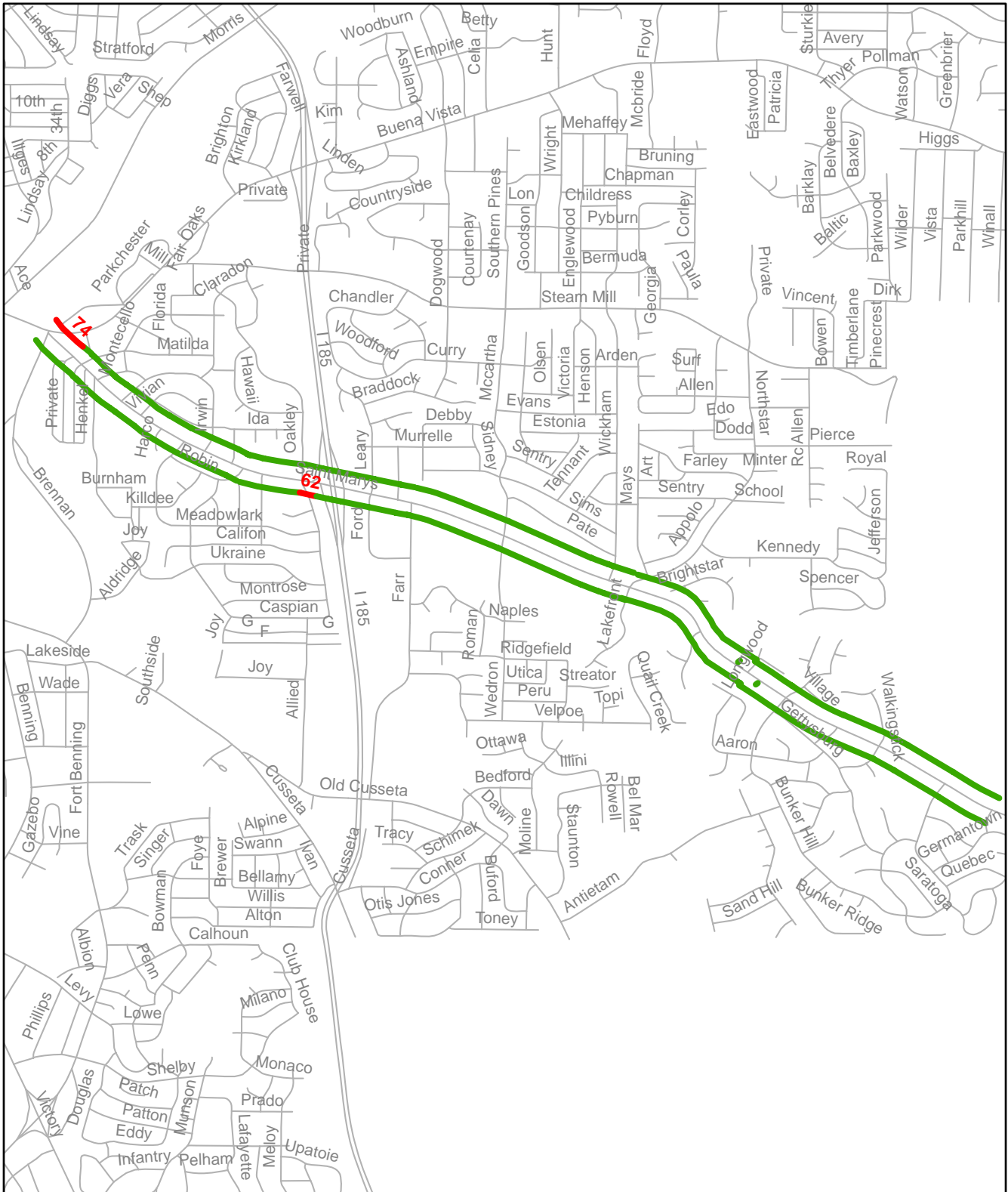
31 - 60 seconds

60 seconds - 180 seconds



# Saint Mary's Road

Buena Vista Road to Fort Benning Boundary  
3.5 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



<b>Saint Marys Road [westbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Wickham Drive	3	1.42	30	0	40	0	33	0
McCartha Drive	3	0.34	18	38	33	11	24	19
North I-185 Ramps	3	0.5	22	25	23	26	20	35
South I-185 Ramps	3	0.08	21	4	10	25	26	1
Robin Drive	3	0.23	20	16	29	7	30	0
Buena Vista Road	3	0.76	21	49	43	0	19	74

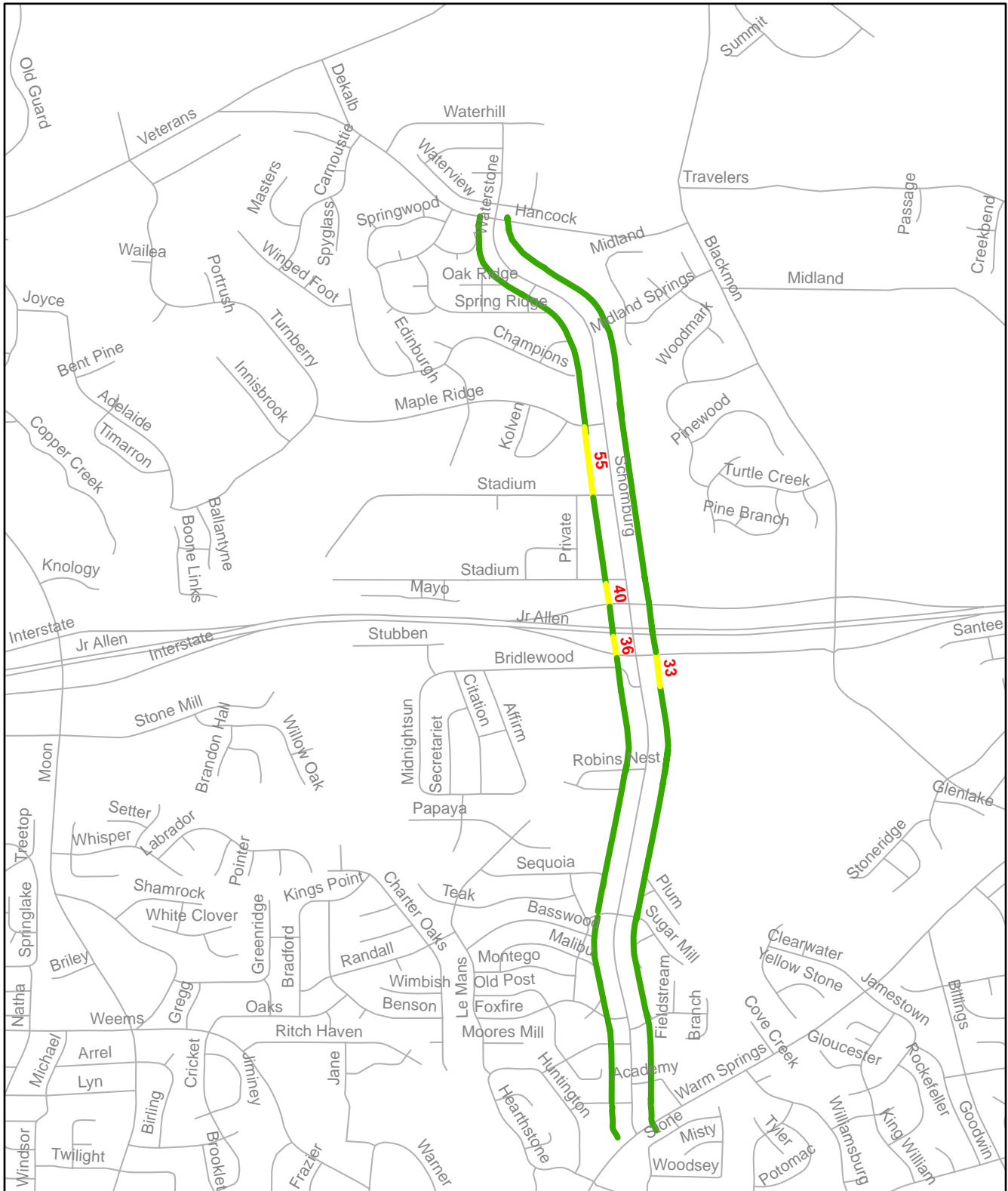
<b>Saint Marys Road [eastbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Robin Drive	3	0.76	34	1	42	0	34	1
South I-185 Ramps	3	0.23	20	18	27	13	10	62
North I-185 Ramps	3	0.08	14	11	29	0	13	15
McCartha Drive	3	0.5	21	38	21	38	18	44
Wickham Drive	3	0.34	24	16	32	0	34	0
End of Road	3	1.42	32	0	40	2	34	0

<b>Saint Mary's Road</b>	
Primary Locations of Delay:	<ul style="list-style-type: none"> <li>• Westbound Saint Mary's Road at Buena Vista Road/Brennan Road (Spider Web) in the PM Rush Hour.</li> <li>• Eastbound Saint Mary's Road between Oakley Avenue and Interstate 185 interchange.</li> </ul>
Possible Solutions:	<ul style="list-style-type: none"> <li>• Spider Web intersection may be realigned as part of future project to construct overpass for Buena Vista Road over railroad tracks.</li> <li>• Saint Mary's Road interchange with I-185 would benefit from having more capacity for handling left turn traffic. Limited capacity now causes delay for through traffic.</li> </ul>



# Schomburg Road

Hancock Road to Warm Springs Road  
2.4 miles AM Rush Hour



## AM Rush Hour

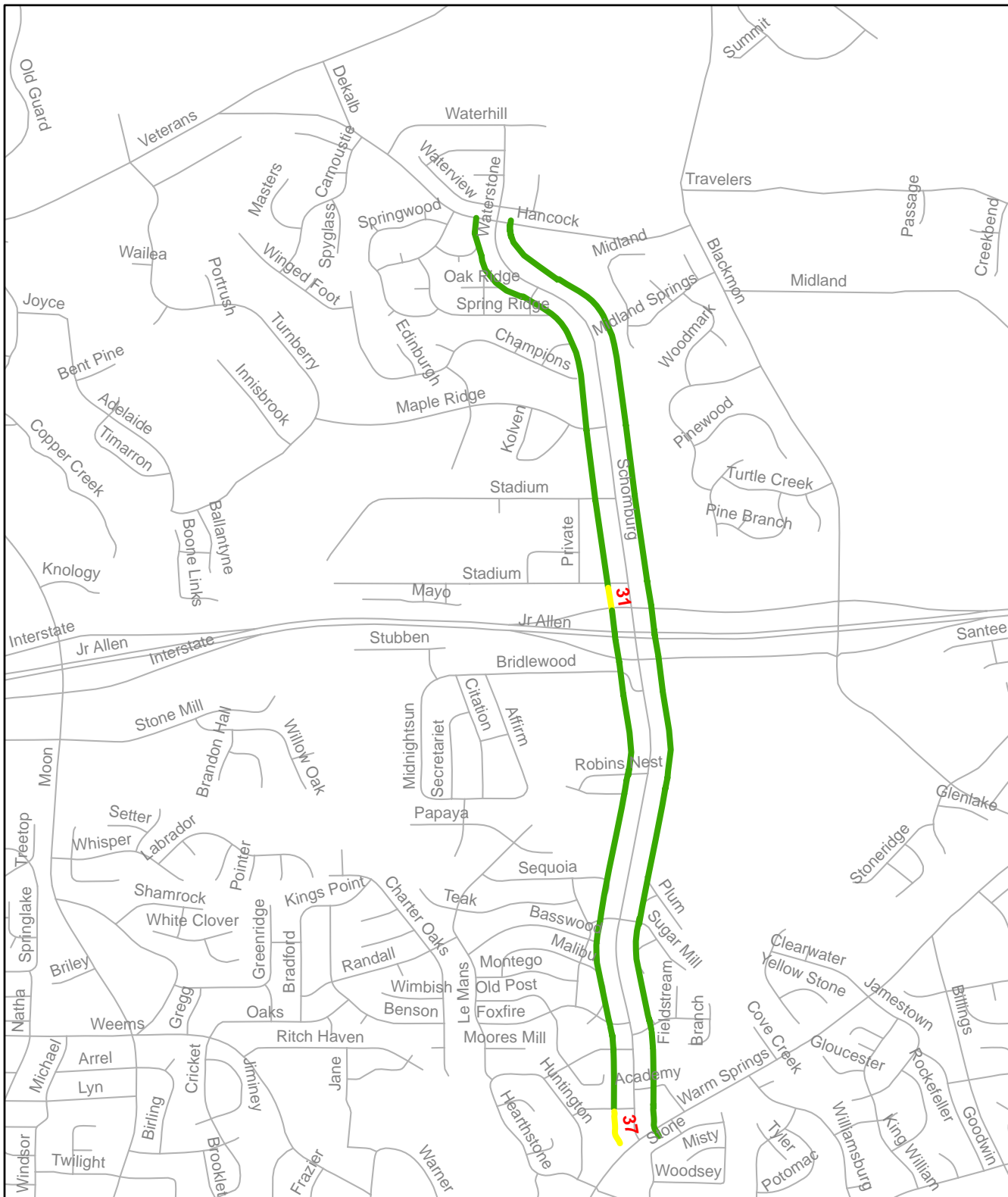
### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



# Schomburg Road

Hancock Road to Warm Springs Road  
2.4 miles PM Rush Hour



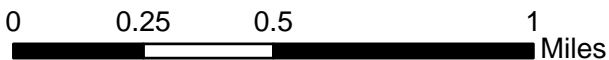
### PM Rush Hour

#### Average Congested Time

0 - 30 seconds

31 - 60 seconds

60 seconds - 180 seconds

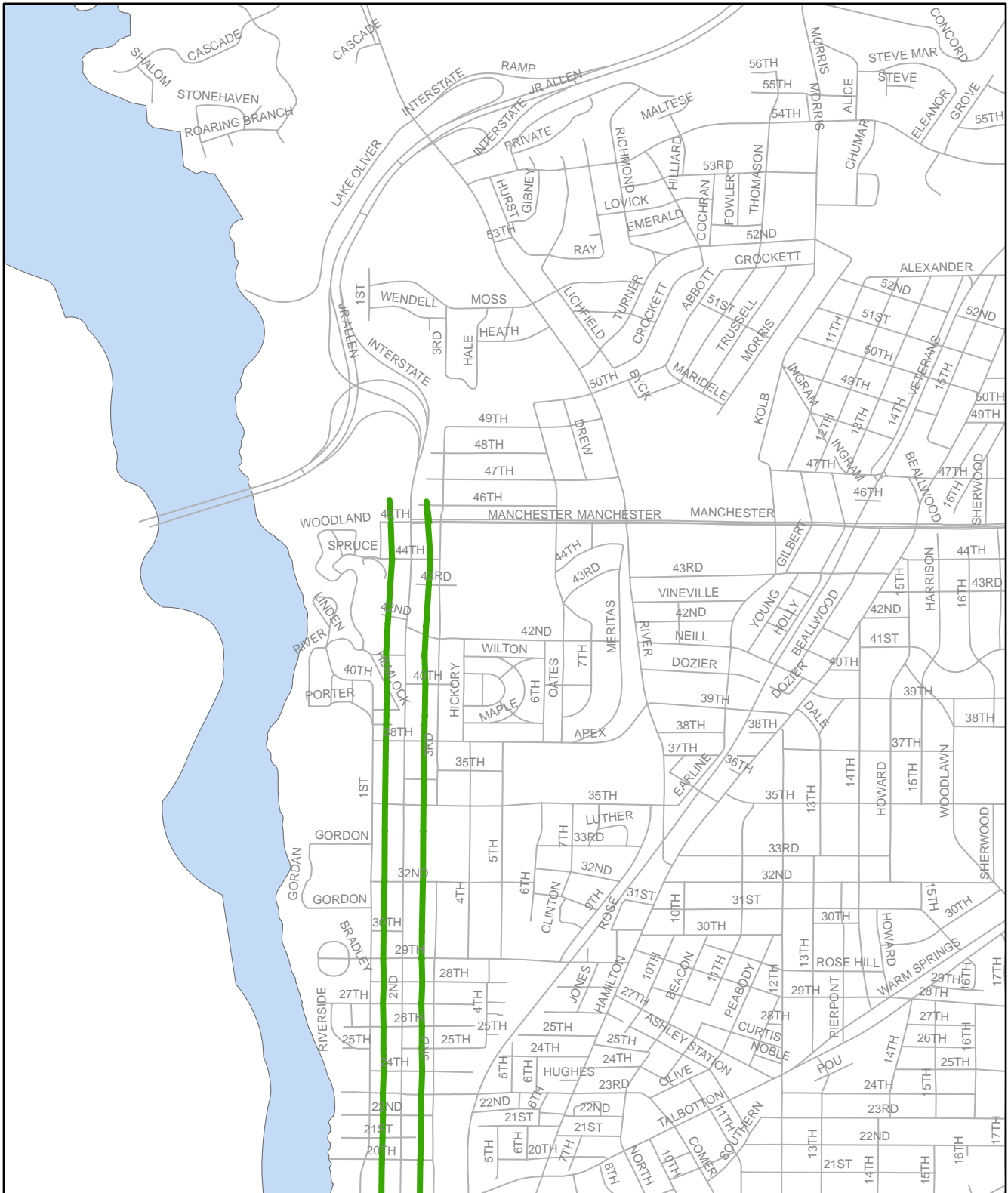


<b>Schomburg Road [north]</b>	<b># Runs</b>	<b>Distance [miles]</b>	<b>AM Rush Hour Speed [mph]</b>	<b>Congested Time [seconds]</b>	<b>Off Peak Speed [mph]</b>	<b>Congested Time [seconds]</b>	<b>PM Rush Hour Speed [mph]</b>	<b>Congested Time [seconds]</b>
US 80 East Ramp	4	1.19	28	43	32	2	34	20
US 80 West Ramp	4	0.13	29	2	12	1	24	7
North Stadium Drive	4	0.28	18	31	37	0	25	13
Maple Leaf Trail	4	0.18	35	2	41	0	41	0
Hancock Road	4	0.6	30	19	34	1	31	19
<b>Schomburg Road [south]</b>	<b># Runs</b>	<b>Distance [miles]</b>	<b>AM Rush Hour Speed [mph]</b>	<b>Congested Time [seconds]</b>	<b>Off Peak Speed [mph]</b>	<b>Congested Time [seconds]</b>	<b>PM Rush Hour Speed [mph]</b>	<b>Congested Time [seconds]</b>
Maple Leaf Trail	4	0.6	32	14	41	1	40	2
North Stadium Drive	4	0.18	9	55	28	0	36	2
US 80 West Ramps	4	0.28	15	42	21	1	16	38
US 80 East Ramps	4	0.13	10	37	18	0	19	12
Warm Springs Road	4	1.19	40	1	40	2	42	0

<b>Schomburg Road</b>	
Primary Locations of Delay:	<ul style="list-style-type: none"><li>• School traffic generated around Eagle Ridge and Shaw High School.</li></ul>
Possible Solutions:	<ul style="list-style-type: none"><li>• Encourage more student use of school buses and carpooling as opposed to single occupant vehicle usage.</li></ul>

# Second Avenue

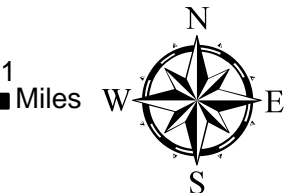
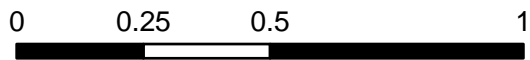
From JR Allen Parkway to Eighth Street  
3.2 Miles - AM Rush Hour



## AM Rush Hour

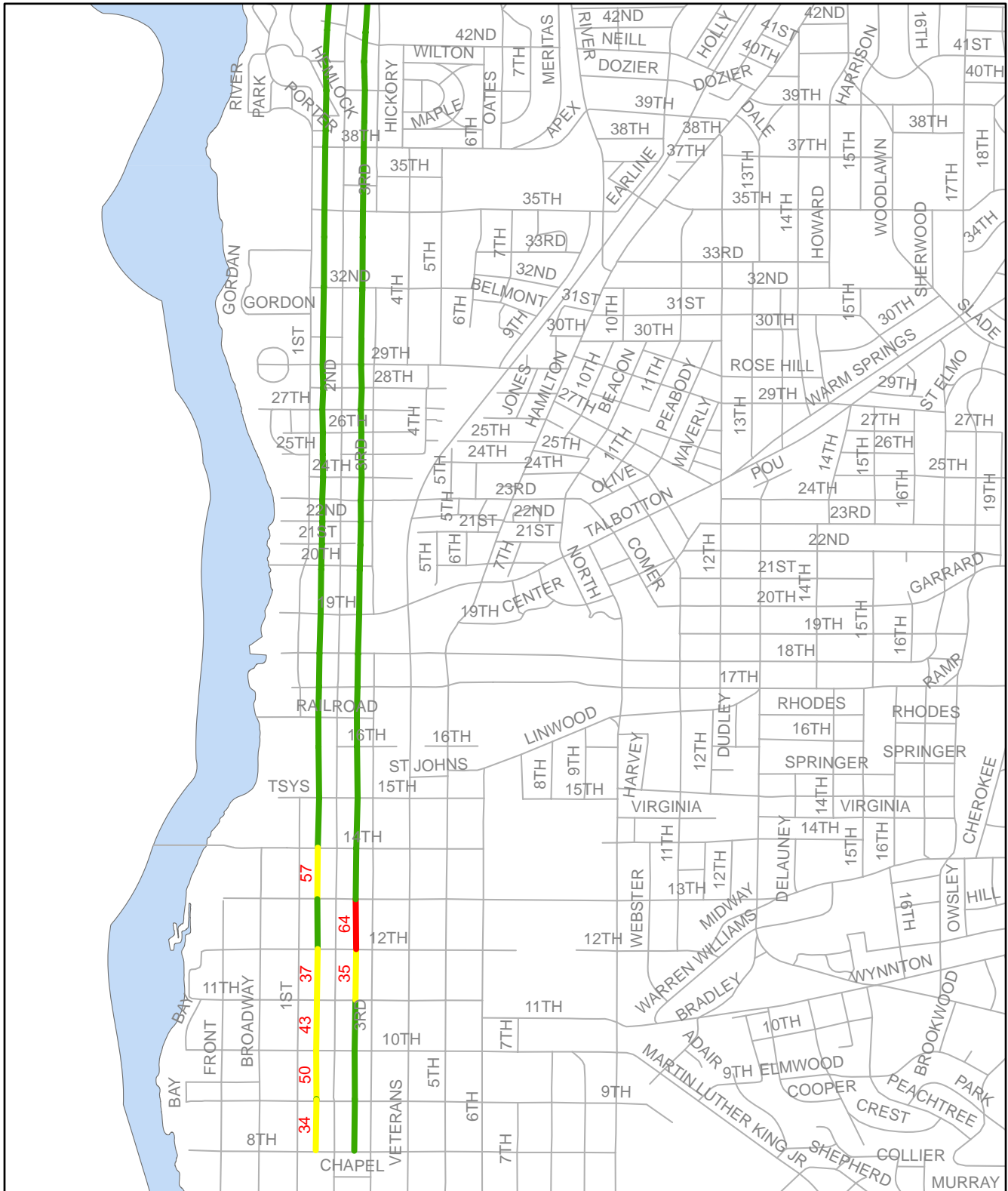
### Average Congested Time

- █ 0 - 30 seconds
- █ 31 - 60 seconds
- █ 60 seconds - 180 seconds



# Second Avenue

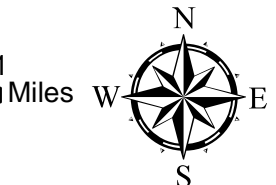
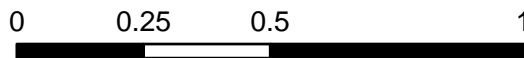
From JR Allen Parkway to Eighth Street  
3.2 Miles - AM Rush Hour



## AM Rush Hour

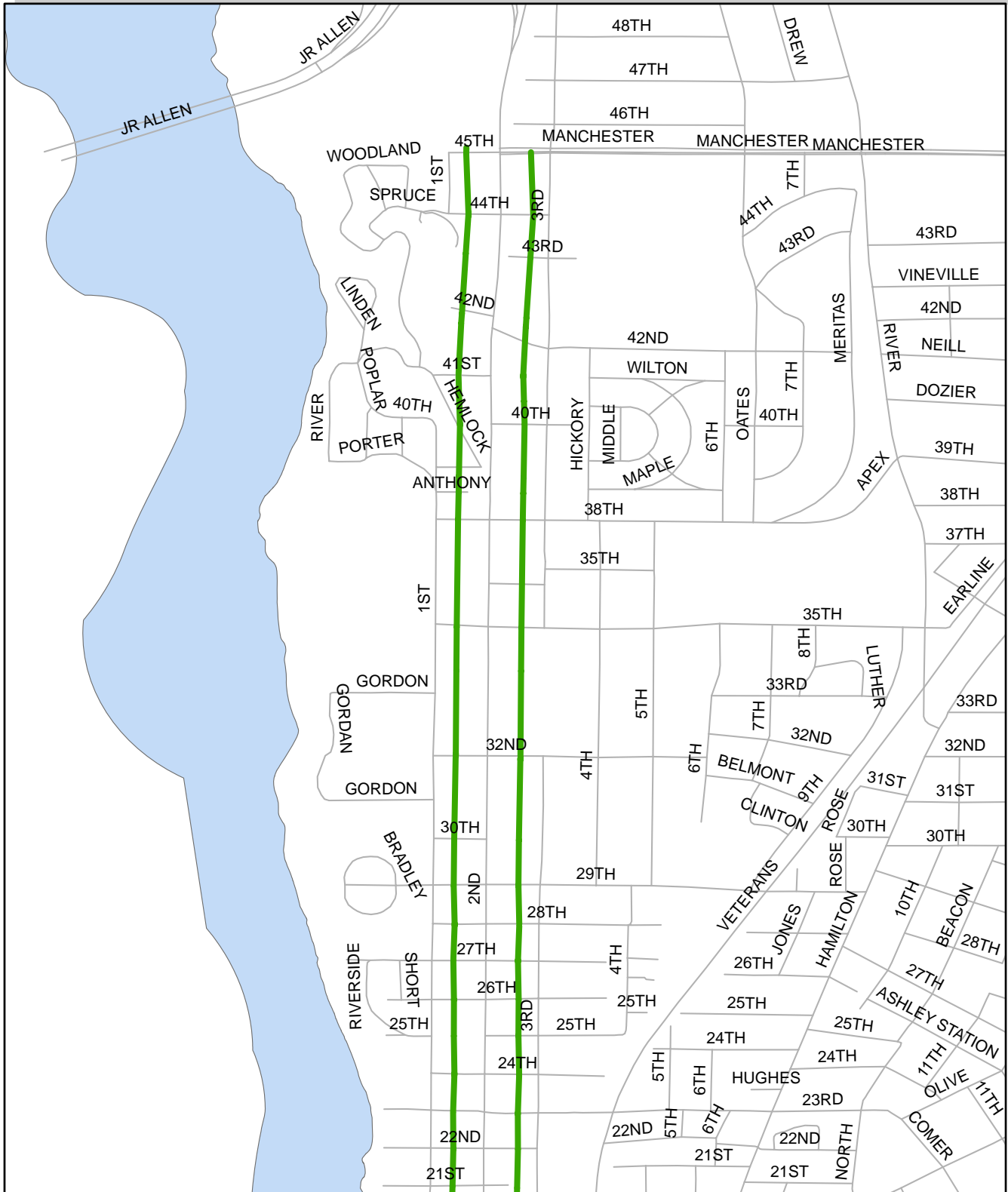
### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



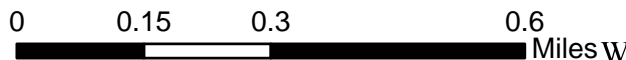
# Second Avenue

From JR Allen Parkway to Eighth Street  
3.2 Miles - PM Rush Hour



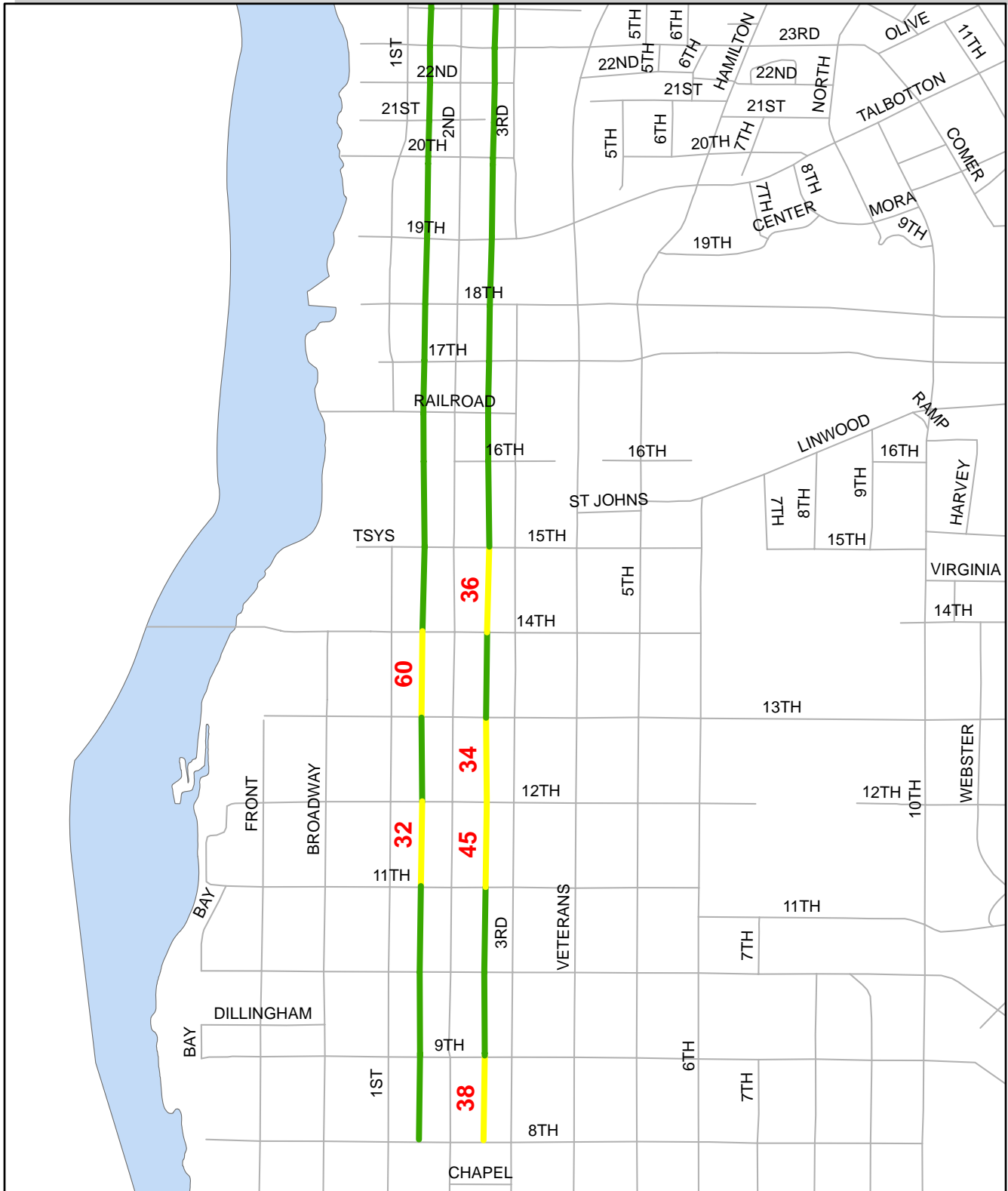
## Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



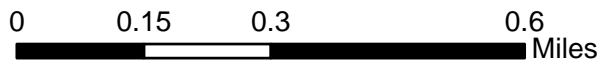
# Second Avenue

From JR Allen Parkway to Eighth Street  
3.2 Miles - PM Rush Hour



### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



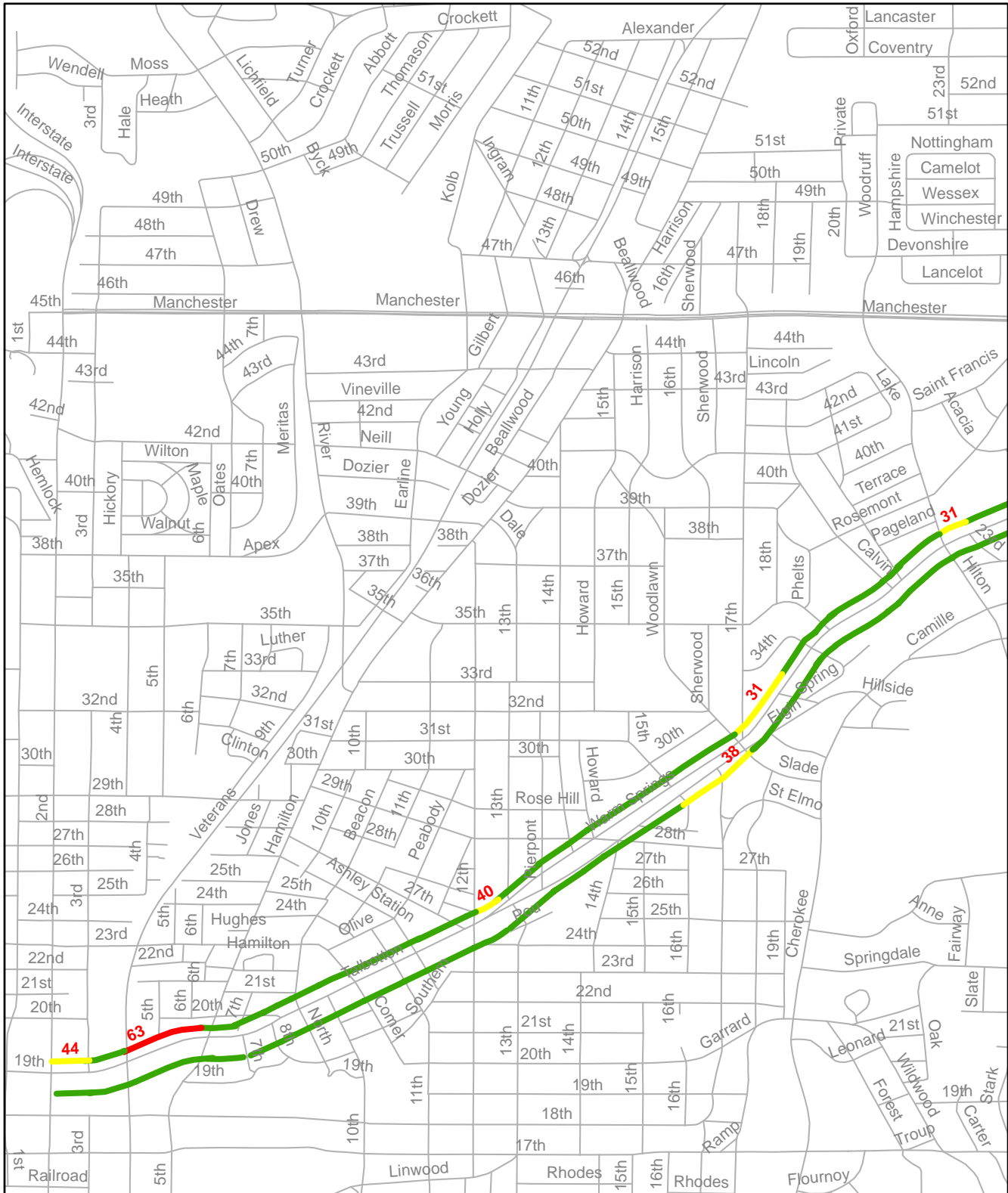


<b>Second Avenue [northbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
9th Street	3	0.12	16	23	7	56	10	37
10th Street	3	0.13	12	29	11	36	11	31
11th Street	3	0.13	14	19	14	21	14	19
12th Street	3	0.13	10	36	17	13	9	45
13th Street	3	0.13	6	64	8	46	10	34
14th Street	3	0.13	13	24	24	4	24	4
15th Street	3	0.13	18	13	27	4	10	37
17th Street	3	0.37	34	0	30	7	30	8
Talbotton Road	3	0.1	12	20	21	6	17	11
35th Street	3	0.84	34	1	33	2	34	3
38th Street	3	0.2	33	0	32	3	28	5
Manchester Expressway	3	0.73	28	19	27	27	22	45
<b>Second Avenue [southbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
38th Street	3	0.56	38	0	35	2	31	13
35th Street	3	0.16	21	13	31	0	24	7
Talbotton Road	3	1.04	28	31	33	4	34	8
17th Street	3	0.1	33	0	35	0	15	14
15th Street	3	0.37	27	13	29	10	25	19
14th Street	3	0.13	19	11	25	4	27	0
13th Street	3	0.13	7	58	8	43	7	59
12th Street	3	0.13	12	29	9	43	15	18
11th Street	3	0.13	10	37	10	39	10	33
10th Street	3	0.13	9	43	14	22	15	18
9th Street	3	0.13	8	53	10	40	22	5
8th Street	3	0.12	13	32	13	30	15	24

<b>Second Avenue</b>	
Primary Locations of Delay:	<ul style="list-style-type: none"><li>• AM and PM Rush Hour between 9<sup>th</sup> Avenue and 14<sup>th</sup> Avenue.</li><li>• Northbound between 35<sup>th</sup> Street and Manchester Expressway.</li></ul>
Possible Solutions:	<ul style="list-style-type: none"><li>• Encourage employers to promote flex time and carpooling.</li></ul>

# Talbotton / Milgen Road

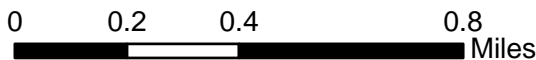
Second Avenue to Flat Rock Road  
8.4 miles AM Rush Hour



## AM Rush Hour

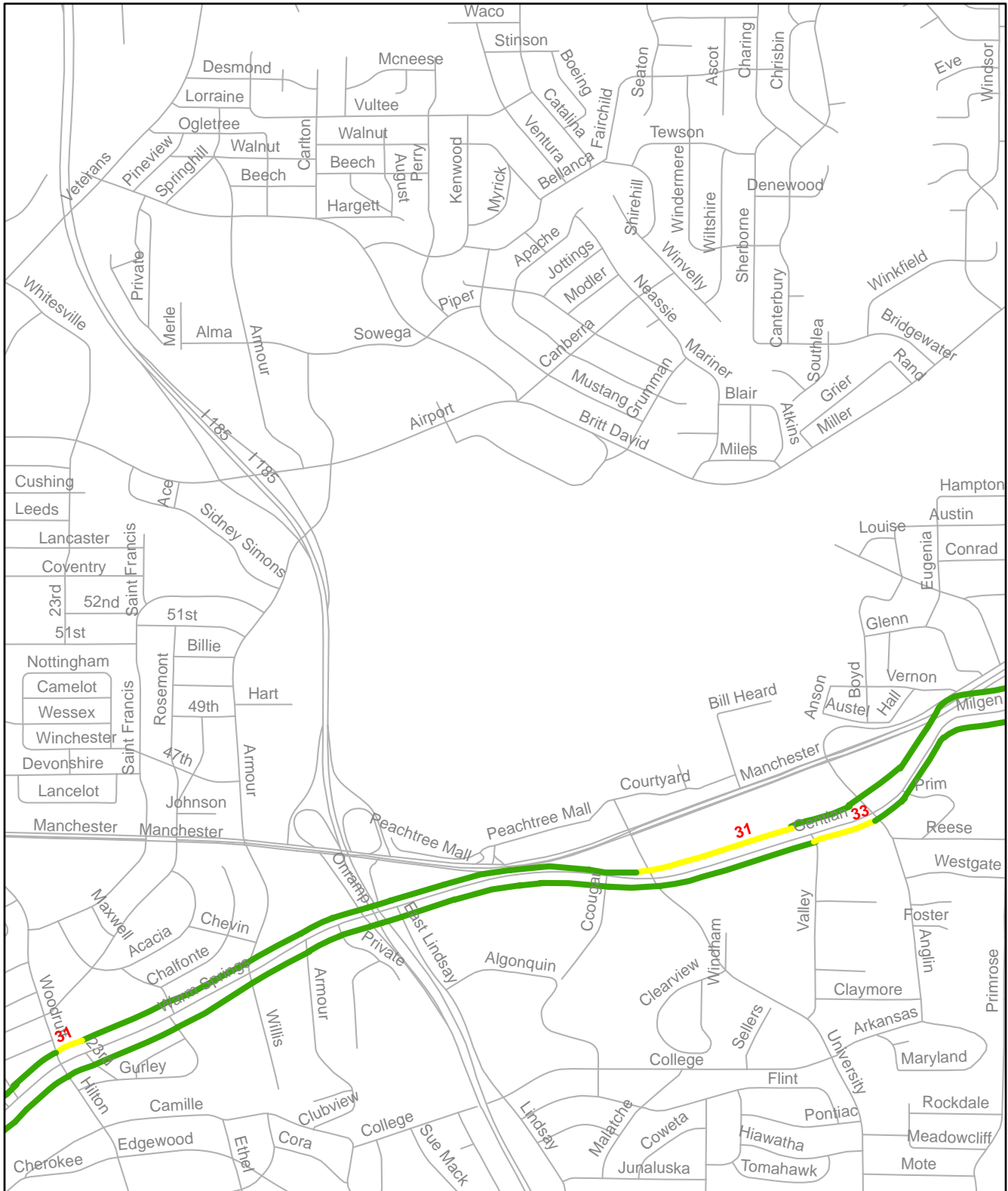
### Average Congested Time

- █ 0 - 30 seconds
- █ 31 - 60 seconds
- █ 60 seconds - 180 seconds



# Talbotton / Milgen Road

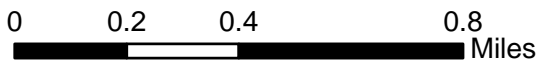
Second Avenue to Flat Rock Road  
8.4 miles AM Rush Hour



## AM Rush Hour

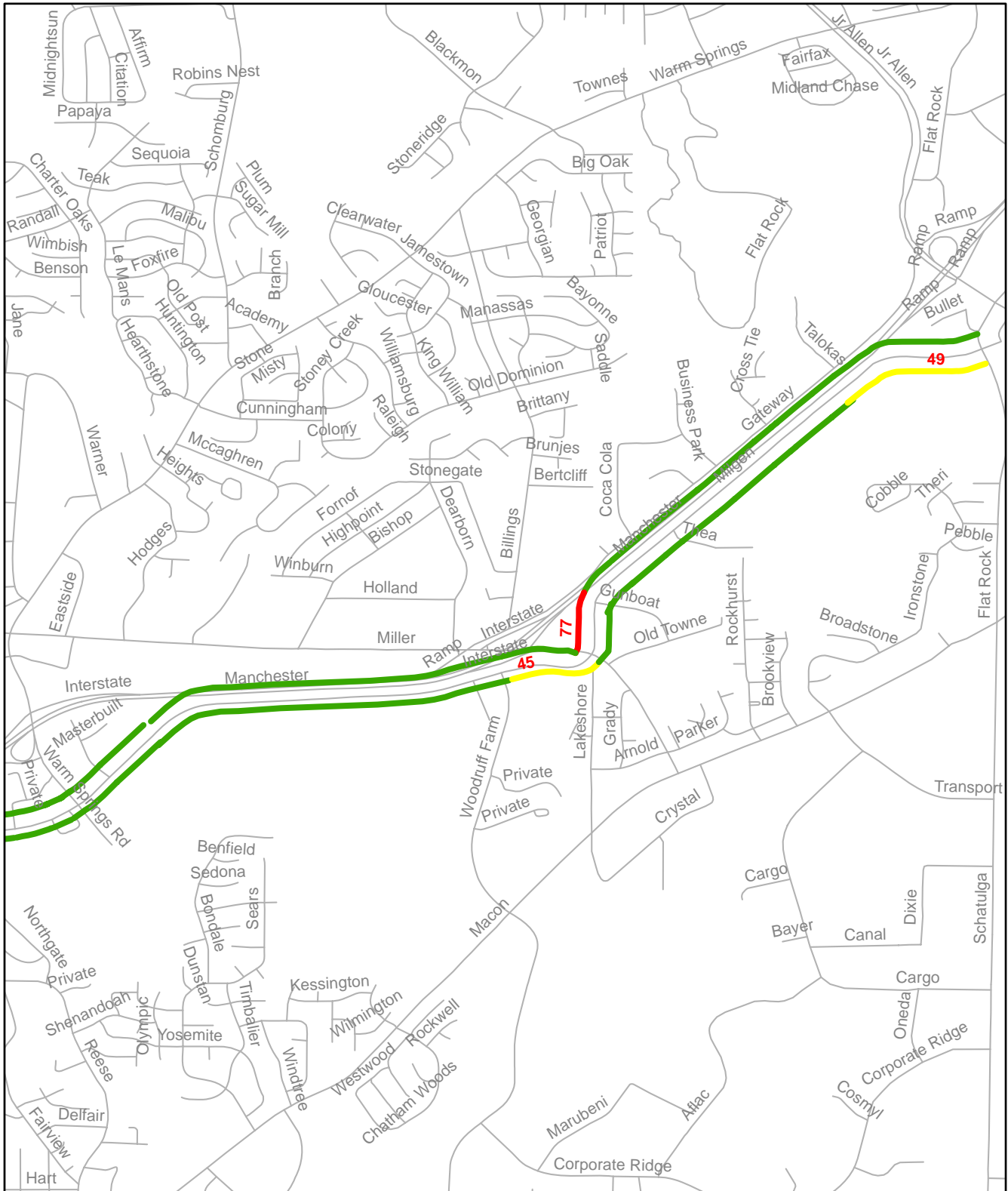
### Average Congested Time

- █ 0 - 30 seconds
- █ 31 - 60 seconds
- █ 60 seconds - 180 seconds



# Talbotton / Milgen Road

Second Avenue to Flat Rock Road  
8.4 miles AM Rush Hour



## AM Rush Hour

### Average Congested Time

0 - 30 seconds

31 - 60 seconds

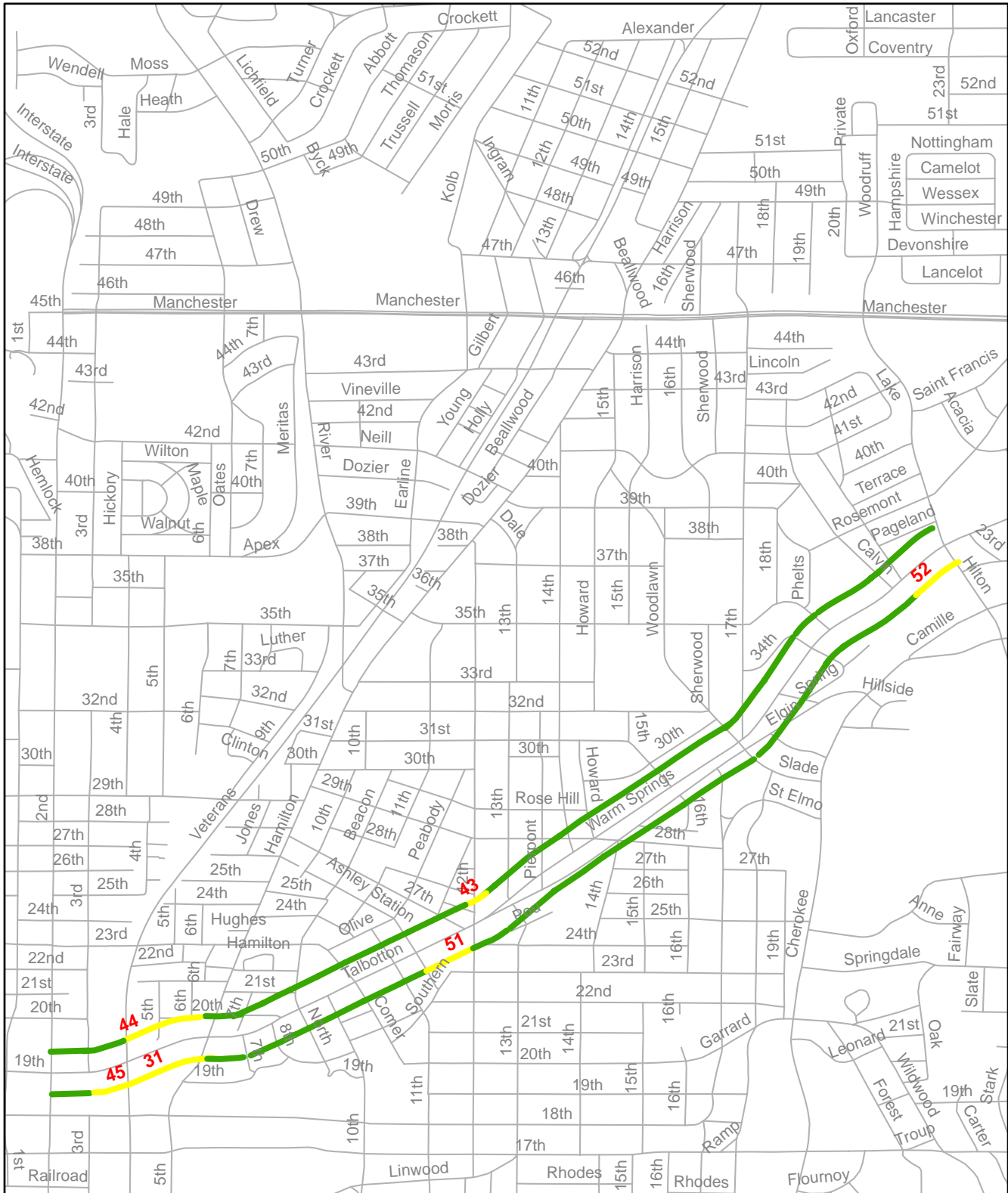
60 seconds - 180 seconds

0 0.3 0.6 1.2 Miles



# Talbotton / Milgen Road

Second Avenue to Flat Rock Road  
8.4 miles PM Rush Hour



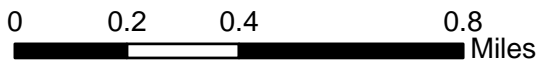
## PM Rush Hour

### Average Congested Time

0 - 30 seconds

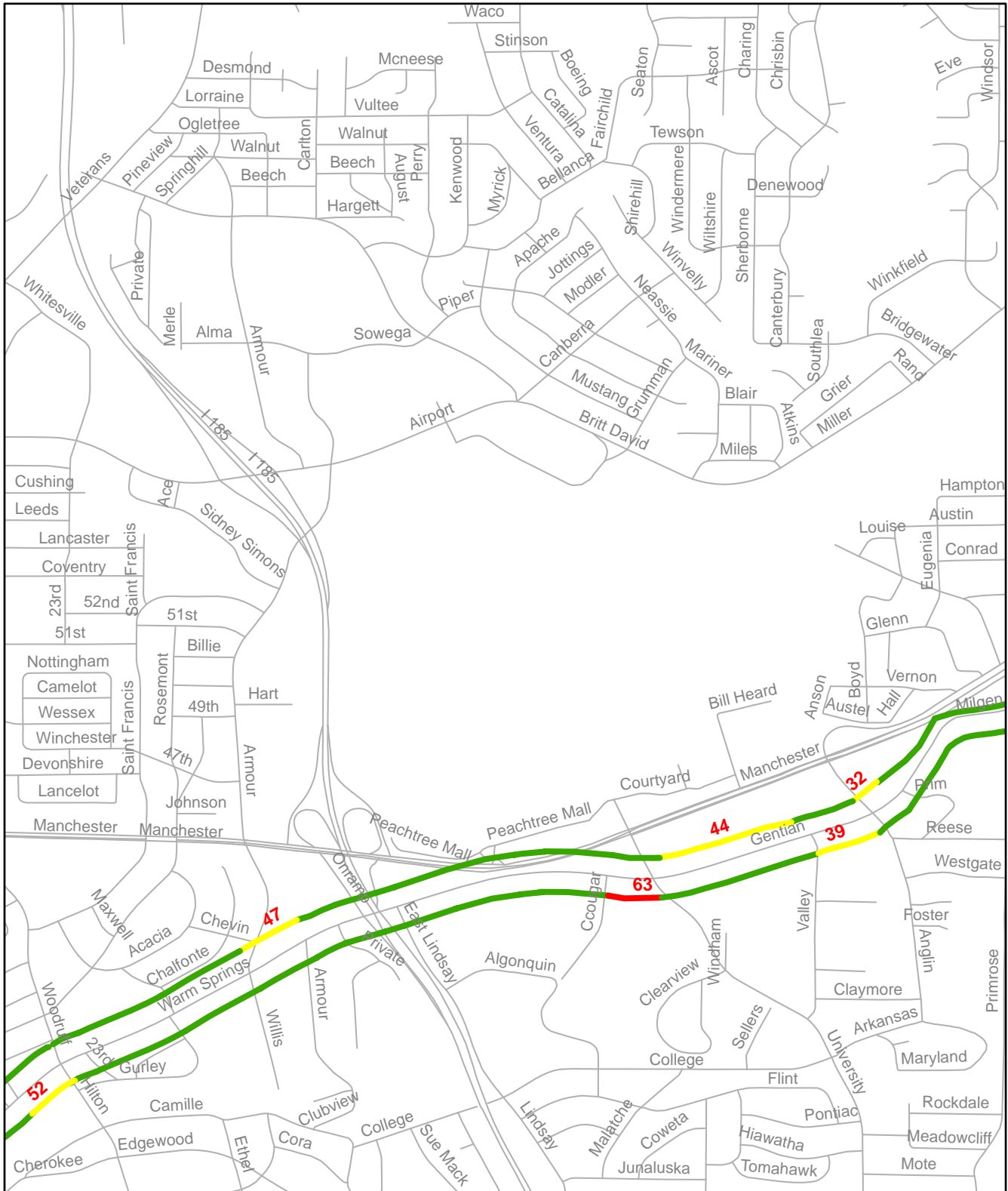
31 - 60 seconds

60 seconds - 180 seconds



# Talbotton / Milgen Road

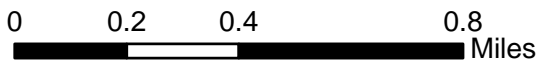
Second Avenue to Flat Rock Road  
8.4 miles PM Rush Hour



## PM Rush Hour

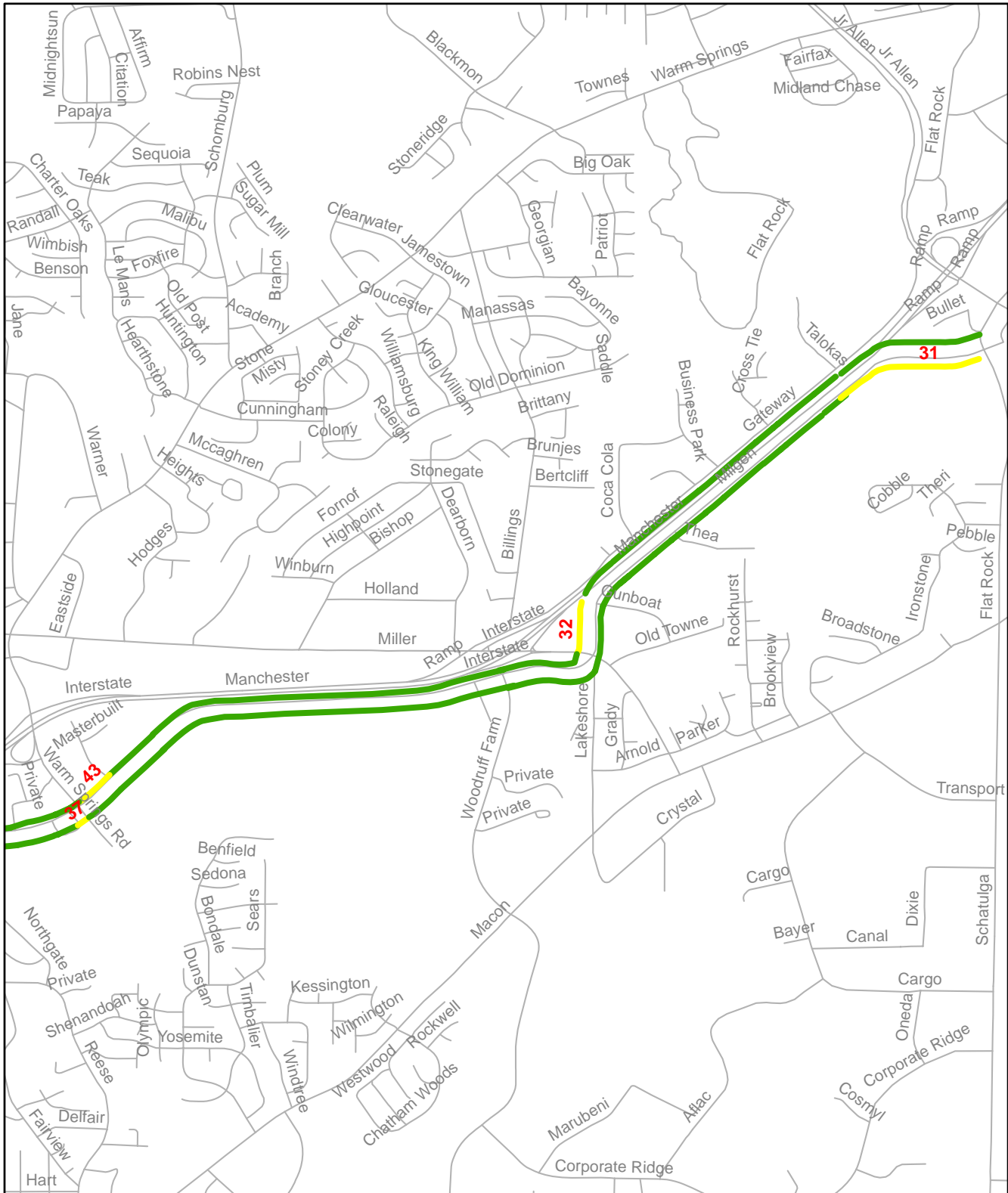
### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



# Talbotton / Milgen Road

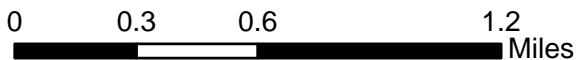
Second Avenue to Flat Rock Road  
8.4 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds





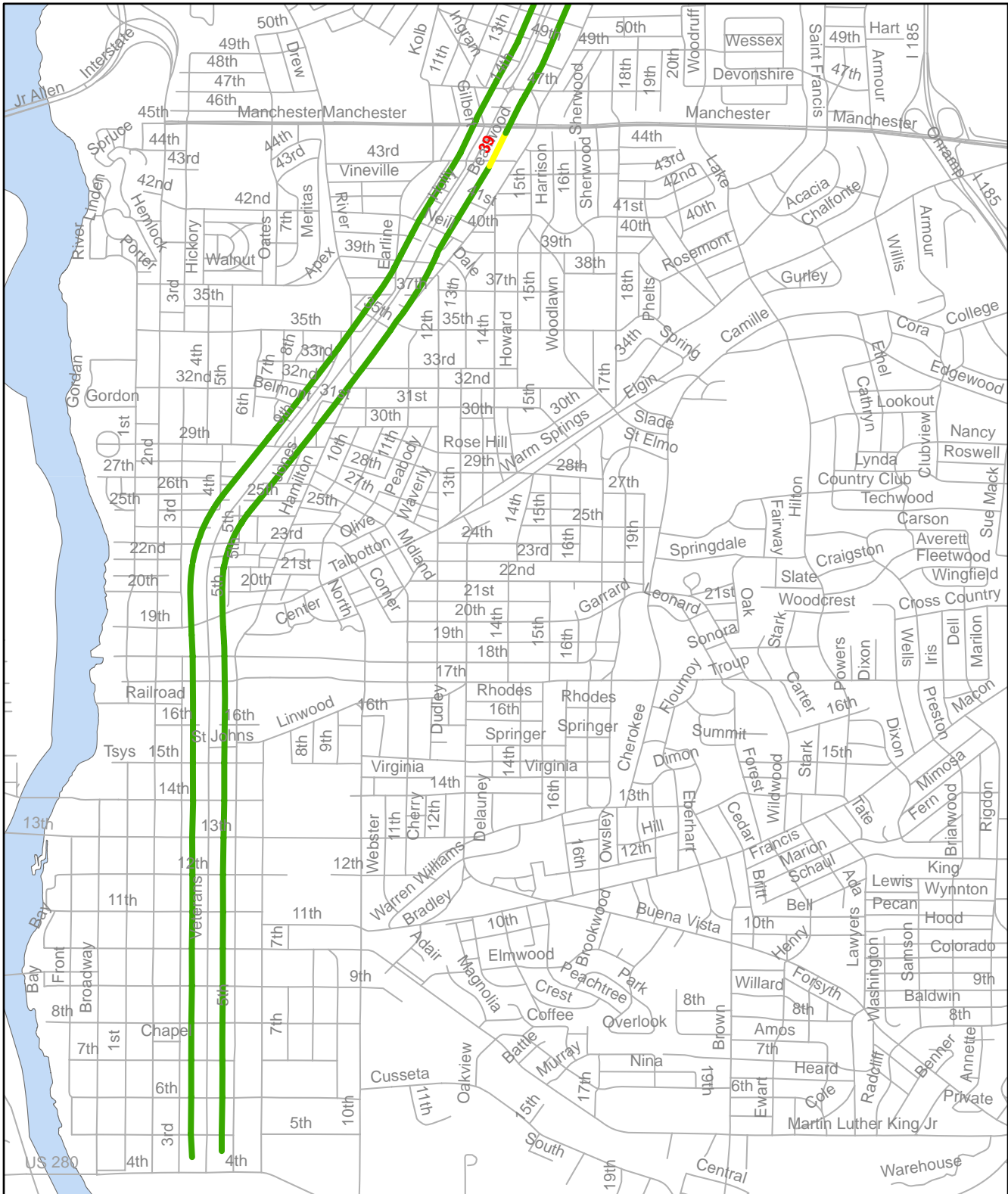
<b>Talbotton Road - [eastbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Veterans Parkway	3	0.15	12	32	7	62	9	47
Hamilton Road	3	0.17	30	0	15	26	12	31
10th Avenue	3	0.26	24	11	28	4	20	18
Comer Avenue	3	0.06	13	10	26	0	10	16
12th Avenue	3	0.27	18	24	16	34	11	53
Woodlawn Avenue	3	0.67	20	48	24	26	21	27
Hilton Avenue	3	0.62	26	14	28	14	18	53

<b>Talbotton Road - [westbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Woodlawn Avenue	3	0.62	21	41	23	33	25	14
12th Avenue	3	0.67	18	61	20	51	19	43
Comer Avenue	3	0.27	25	10	27	1	28	1
10th Avenue	3	0.06	13	11	13	10	11	13
Hamilton Road	3	0.26	24	10	22	15	22	13
Veterans Parkway	3	0.17	8	63	10	44	10	44
Second Avenue	3	0.14	12	29	16	15	15	19

<b>Talbotton Road</b>	
Primary Locations of Delay:	<ul style="list-style-type: none"> <li>• Intersection of Veterans Parkway and Talbotton Road.</li> <li>• Intersection of Talbotton Road, 12<sup>th</sup> Avenue and 27<sup>th</sup> Street</li> <li>• Intersection of Talbotton Road and Hilton Avenue.</li> </ul>
Possible Solutions:	<ul style="list-style-type: none"> <li>• Project underway to widen Talbotton Road from existing 2 to 4 lanes. Improvements to intersections with 12<sup>th</sup> Street/27<sup>th</sup> Street and Hilton Avenue are part of this project.</li> <li>• Encourage use of the nearby Fall Line Trace bicycling/pedestrian trail as alternative to driving along corridor.</li> </ul>

# Veterans Parkway

**Victory Drive to Almond Road**  
**12.2 miles AM Rush Hour**



## AM Rush Hour

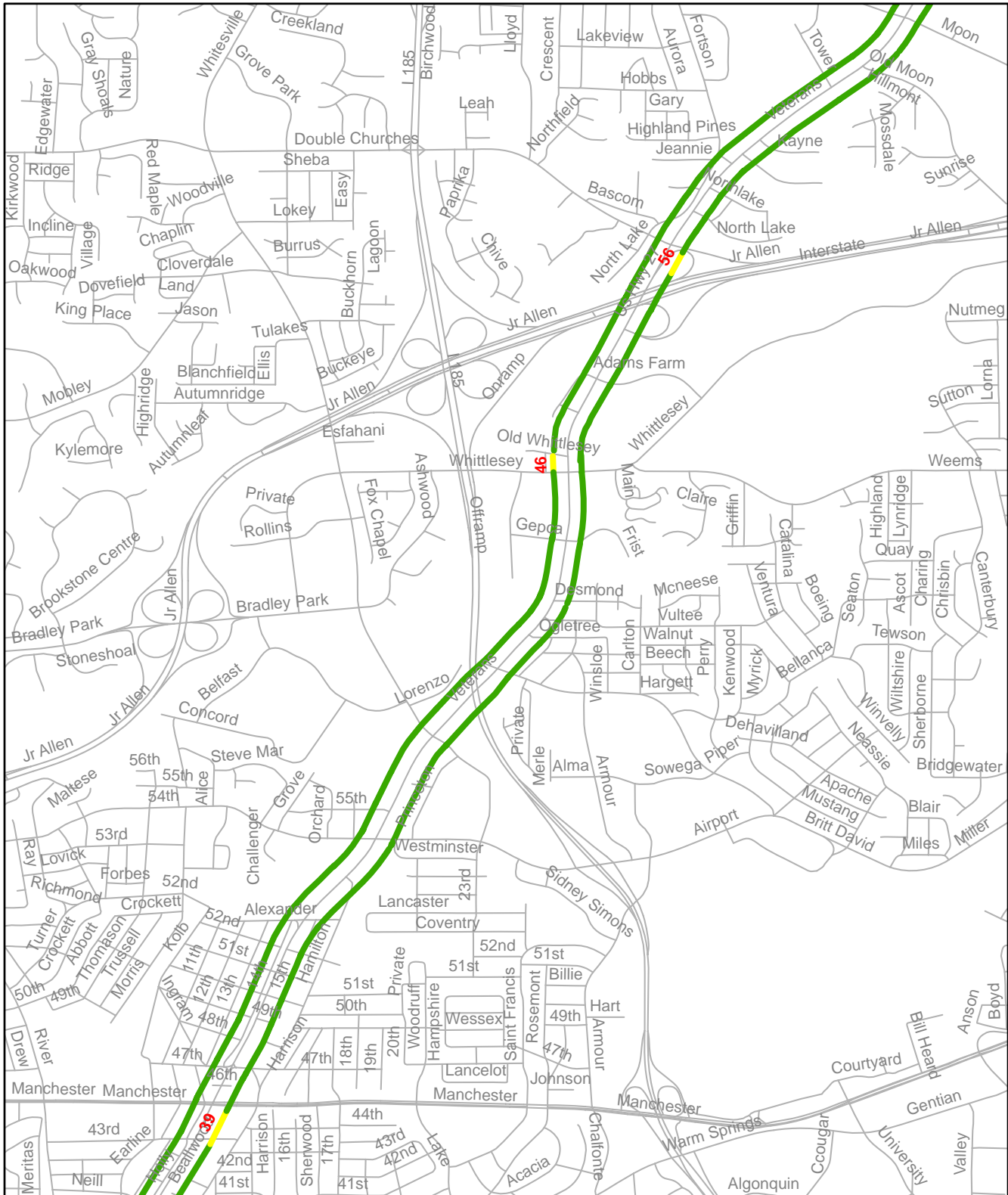
### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



# Veterans Parkway

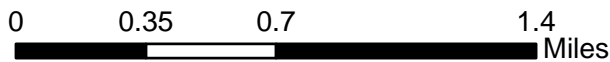
Victory Drive to Almond Road  
12.2 miles AM Rush Hour



## AM Rush Hour

### Average Congested Time

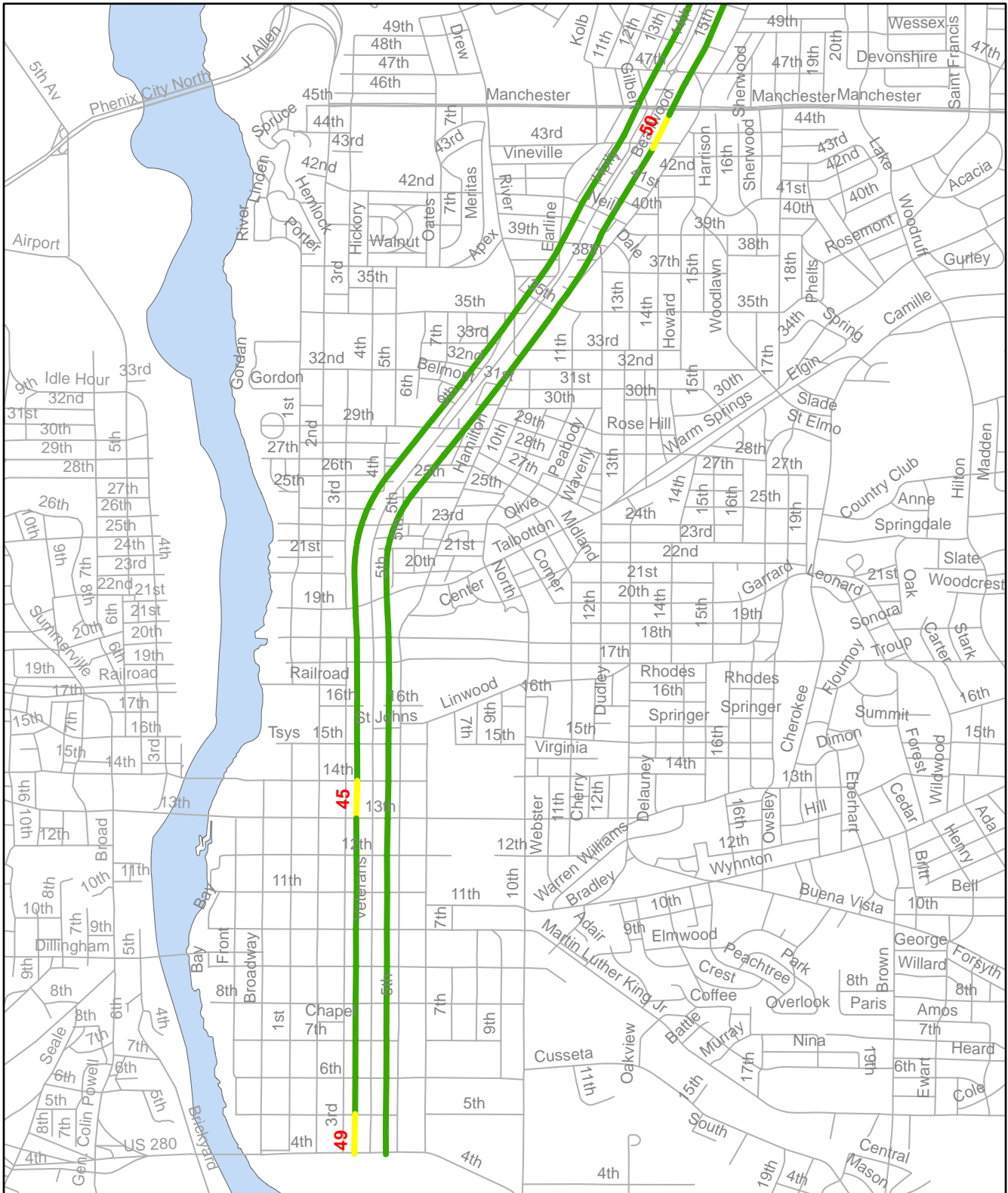
- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds





# Veterans Parkway

Victory Drive to Almond Road  
12.2 miles PM Rush Hour



## PM Rush Hour

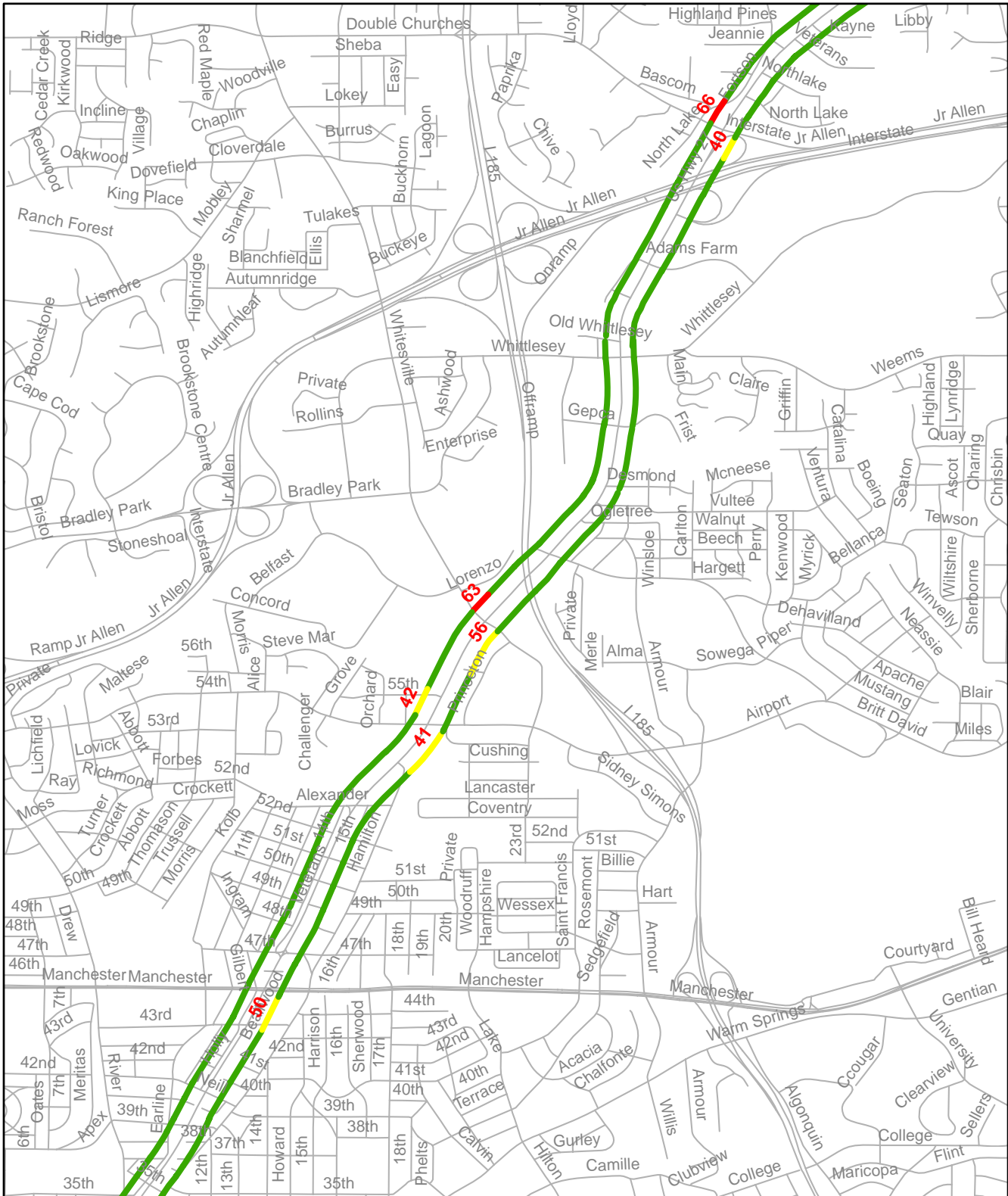
### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



# Veterans Parkway

Victory Drive to Almond Road  
12.2 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

0 - 30 seconds

31 - 60 seconds

60 seconds - 180 seconds







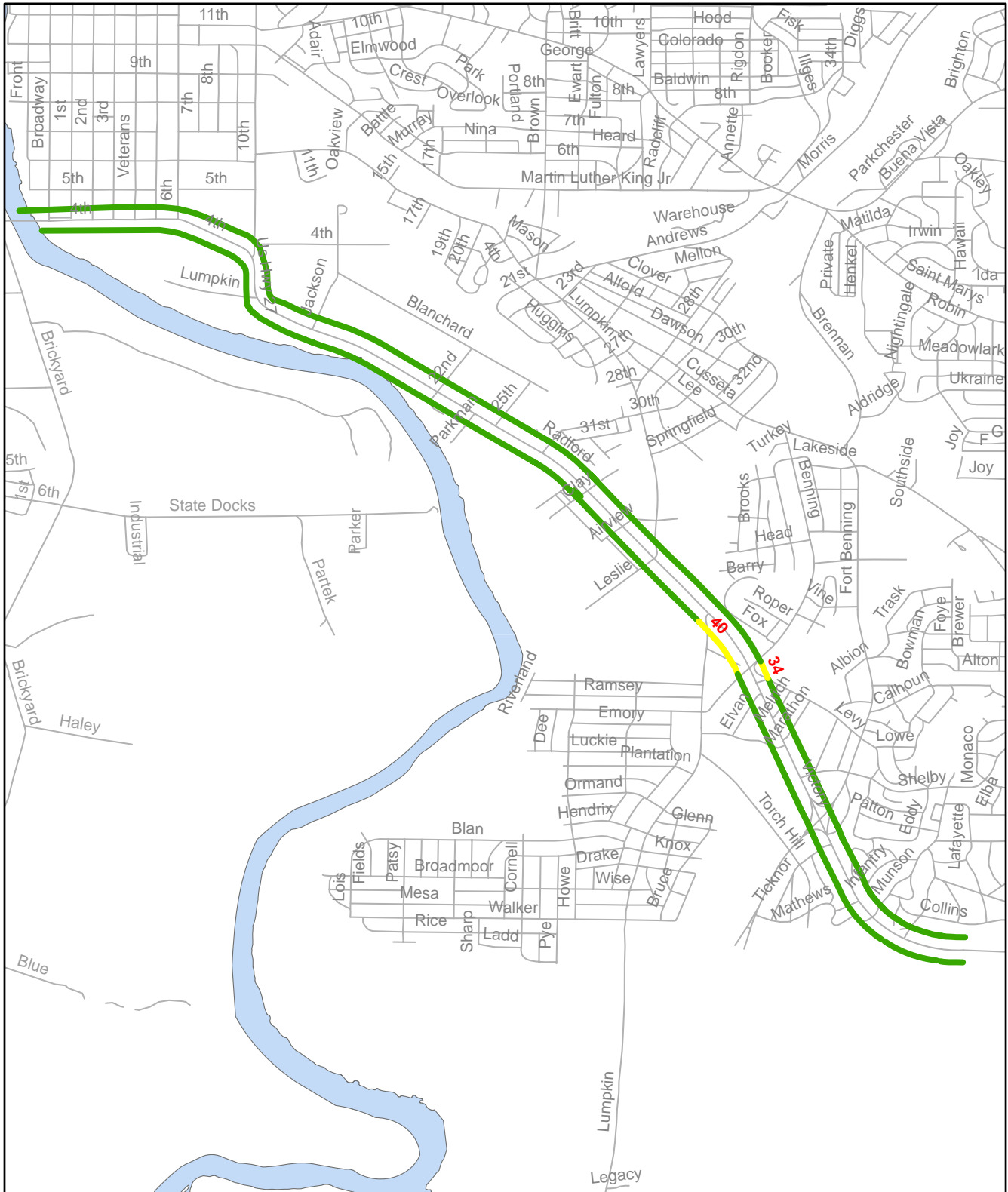
Veterans Parkway - [northbound]	# Runs	Segment Distance [miles]	AM Rush Hour Average Speed [mph]	AM Rush Hour Average Congested Time [seconds]	Off Peak Average Speed [mph]	Off Peak Average Congested Time [seconds]	PM Rush Hour Average Speed [mph]	PM Rush Hour Average Congested Time [seconds]
8th Street	7	0.52	31	7	27	10	27	16
9th Street	7	0.13	17	13	15	15	29	3
10th Street	7	0.13	34	2	20	13	35	4
11th Street	3	0.12	34	0	8	49	25	6
12th Street	3	0.14	27	5	16	19	22	8
13th Street	3	0.12	13	20	14	17	11	28
14th Street	3	0.13	37	14	20	10	19	16
15th Street	3	0.14	39	0	26	5	25	7
Talbotton Road	3	0.5	27	25	27	22	26	23
23rd Street	3	0.27	39	0	39	0	33	4
River Road - [SR 219]	3	0.75	32	26	38	12	29	30
39th Street	3	0.4	41	0	26	19	26	17
Manchester Expressway [SR 85]	3	0.53	23	39	21	46	20	50
Alexander Street	3	0.7	39	1	39	1	35	10
Airport Thruway	3	0.36	22	23	21	26	17	41
Whitesville Rd	3	0.41	39	0	15	65	15	56
W. Britt David Rd	3	0.31	43	0	35	0	37	0
Whittlesey Rd.	3	0.74	40	2	36	0	36	6
Adams Farm Rd	3	0.34	21	29	26	11	23	22
US 80E Ramp	3	0.2	38	1	20	19	23	11
Double Churches Rd	3	0.32	14	56	30	7	11	74
Williams/Moon Rd	3	1.07	35	16	31	29	29	43
Cooper Creek	3	0.65	33	7	31	16	39	25
Hancock Rd	3	0.59	45	0	43	1	46	0
Wooldridge Road	3	1.39	49	1	46	0	55	0
Almond Rd	3	1.05	48	0	46	0	51	1

Veterans Parkway - [southbound]	# Runs	Segment Distance [miles]	AM Rush Hour Average Speed [mph]	AM Rush Hour Average Congested Time [seconds]	Off Peak Average Speed [mph]	Off Peak Average Congested Time [seconds]	PM Rush Hour Average Speed [mph]	PM Rush Hour Average Congested Time [seconds]
Wooldridge Rd	3	0.78	53	0	52	0	55	0
Hancock Rd	3	1.38	52	0	46	0	53	0
Cooper Creek	3	0.6	43	5	37	7	45	0
Williams/Moon Rd	3	0.65	26	24	24	35	25	34
Double Churches Rd	3	1.07	40	10	34	25	25	67
US 80E Ramp	3	0.32	41	0	20	29	28	11
Adams Farm Rd	3	0.2	41	0	30	1	16	28
Whittlesey Rd	3	0.34	16	49	12	71	22	21
W. Britt David Rd	3	0.75	41	4	40	1	28	30
Whitesville Rd	3	0.3	19	29	15	47	12	64
Airport Thruway	3	0.41	28	20	16	52	19	42
Alexander Street	3	0.35	33	8	38	0	39	0
Manchester Expressway	3	0.7	48	0	31	23	38	11
39th Street	3	0.67	41	1	32	18	34	19
River Road (SR 219)	3	0.25	21	20	28	11	19	29
23rd Street	3	0.86	39	7	47	0	45	5
Talbotton Road	3	0.2	29	7	15	32	19	22
15th Street	3	0.5	38	0	34	7	40	1
14th Street	3	0.13	15	18	25	4	26	4
13th Street	3	0.13	25	2	11	32	8	44
12th Street	3	0.13	14	20	18	13	17	14
11th Street	3	0.13	22	10	27	2	29	0
10th Street	3	0.12	23	7	30	0	18	13
9th Street	4	0.12	28	3	9	39	10	29
8th Street	4	0.13	24	7	17	17	17	13
Victory Drive	4	0.52	26	19	29	9	18	50

<b>Veterans Parkway</b>	
Primary Locations of Delay:	<ul style="list-style-type: none"> <li>• Intersection of Veterans Parkway and 13<sup>th</sup> Street.</li> <li>• Intersection of Veterans Parkway and Manchester Expressway.</li> <li>• Intersection of Veterans Parkway and Whittlesey Road.</li> <li>• Intersection of Veterans Parkway and Double Churches Road.</li> </ul>
Possible Solutions:	<ul style="list-style-type: none"> <li>• Veterans Parkway and Whittlesey Road intersection to be improved as part of widening project for Whittlesey. New right turn lane to be constructed on southbound Veterans onto Whittlesey.</li> <li>• Veterans Parkway and Double Churches Road intersection to be improved, with dual left turn lanes installed for northbound Veterans Parkway and dual right turn lanes for eastbound Double Churches.</li> </ul>

# Victory Drive

Veterans Parkway to Santa Fe Road  
4.9 miles AM Rush Hour



## AM Rush Hour

### Average Congested Time

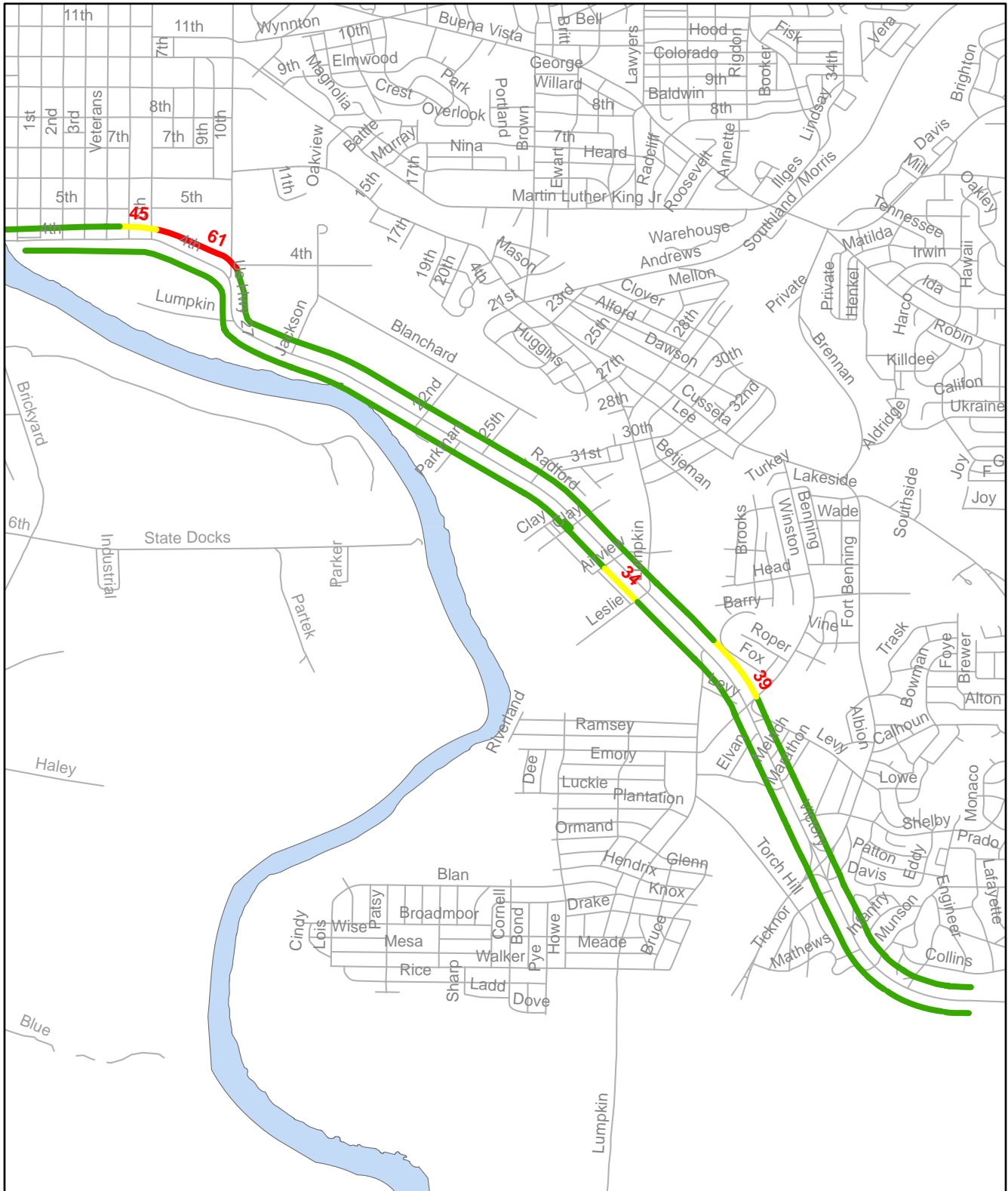
- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds

0 0.45 0.9 1.8 Miles



# Victory Drive

Veterans Parkway to Santa Fe Road  
4.9 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

- █ 0 - 30 seconds
- █ 31 - 60 seconds
- █ 60 seconds - 180 seconds



<b>Victory Drive - [southbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
North Lumpkin Rd	6	2.55	38	19	35	32	36	47
South Lumpkin Rd	6	0.32	25	18	19	31	41	0
Benning Drive	6	0.3	16	40	21	23	35	4
Fort Benning Rd	6	0.71	26	32	24	37	32	13
Santa Fe Rd.	6	0.87	37	5	36	4	46	0

<b>Victory Drive - [northbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Fort Benning Road	3	0.87	34	13	18	44	21	43
Benning Drive	3	0.72	28	34	29	26	33	24
South Lumpkin Road	3	0.29	24	17	28	11	17	40
North Lumpkin Road	3	0.32	33	7	24	19	37	0
Veterans Parkway	3	2.68	28	116	36	38	29	125

<b>Victory Drive</b>	
Primary Locations of Delay:	<ul style="list-style-type: none"><li>• Intersection of Victory Drive and Veterans Parkway in the westbound direction during the PM Rush Hour.</li></ul>
Possible Solutions:	<ul style="list-style-type: none"><li>• Create extended island at start of Veterans Parkway northbound so traffic turning off Victory Drive westbound has its own dedicated lane into which to merge.</li></ul>

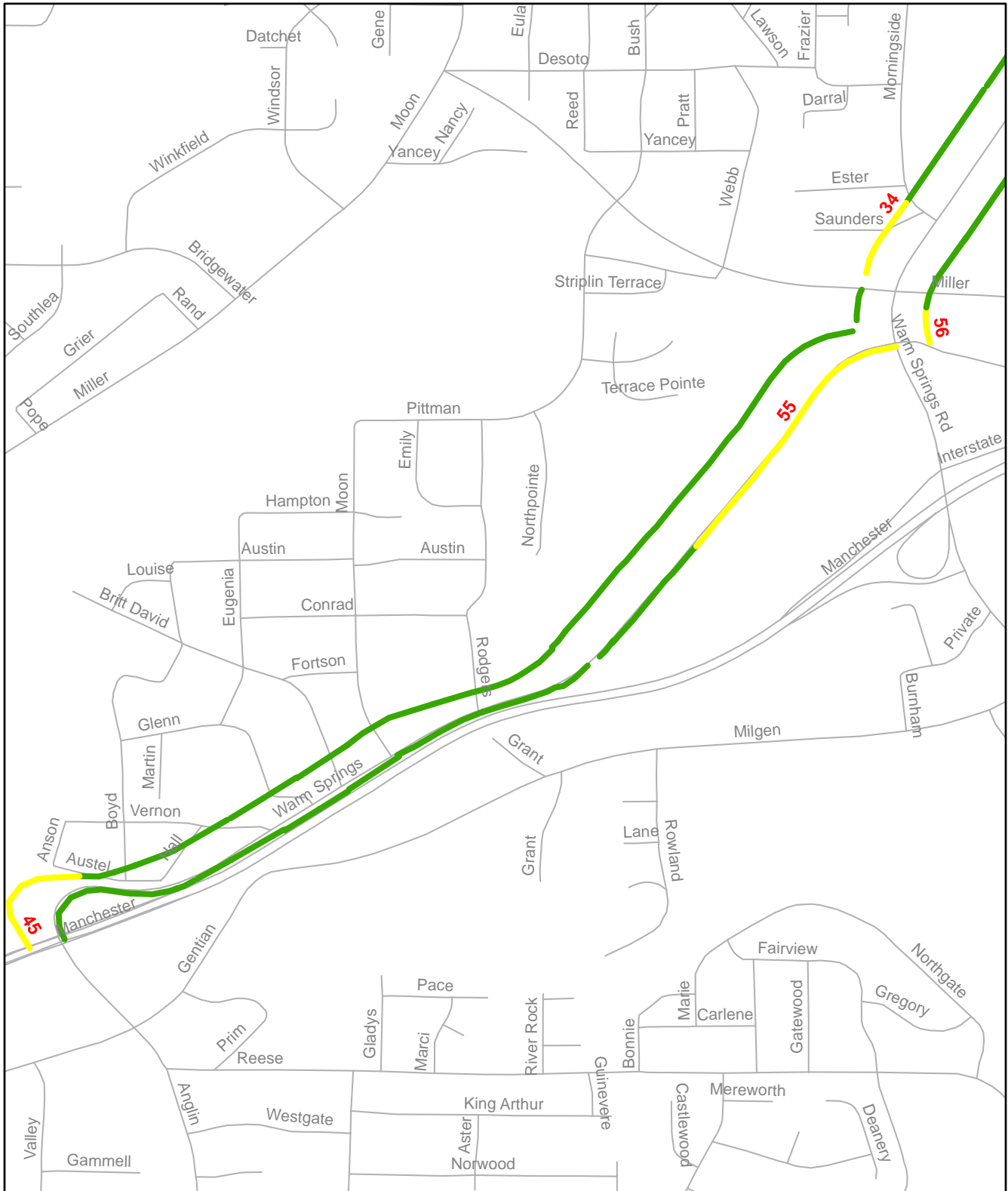






# Warm Springs Road

## Milgen Road to Warm Springs Road 8.0 miles PM Rush Hour



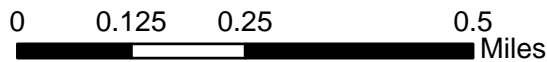
### PM Rush Hour

### Average Congested Time

0 - 30 seconds

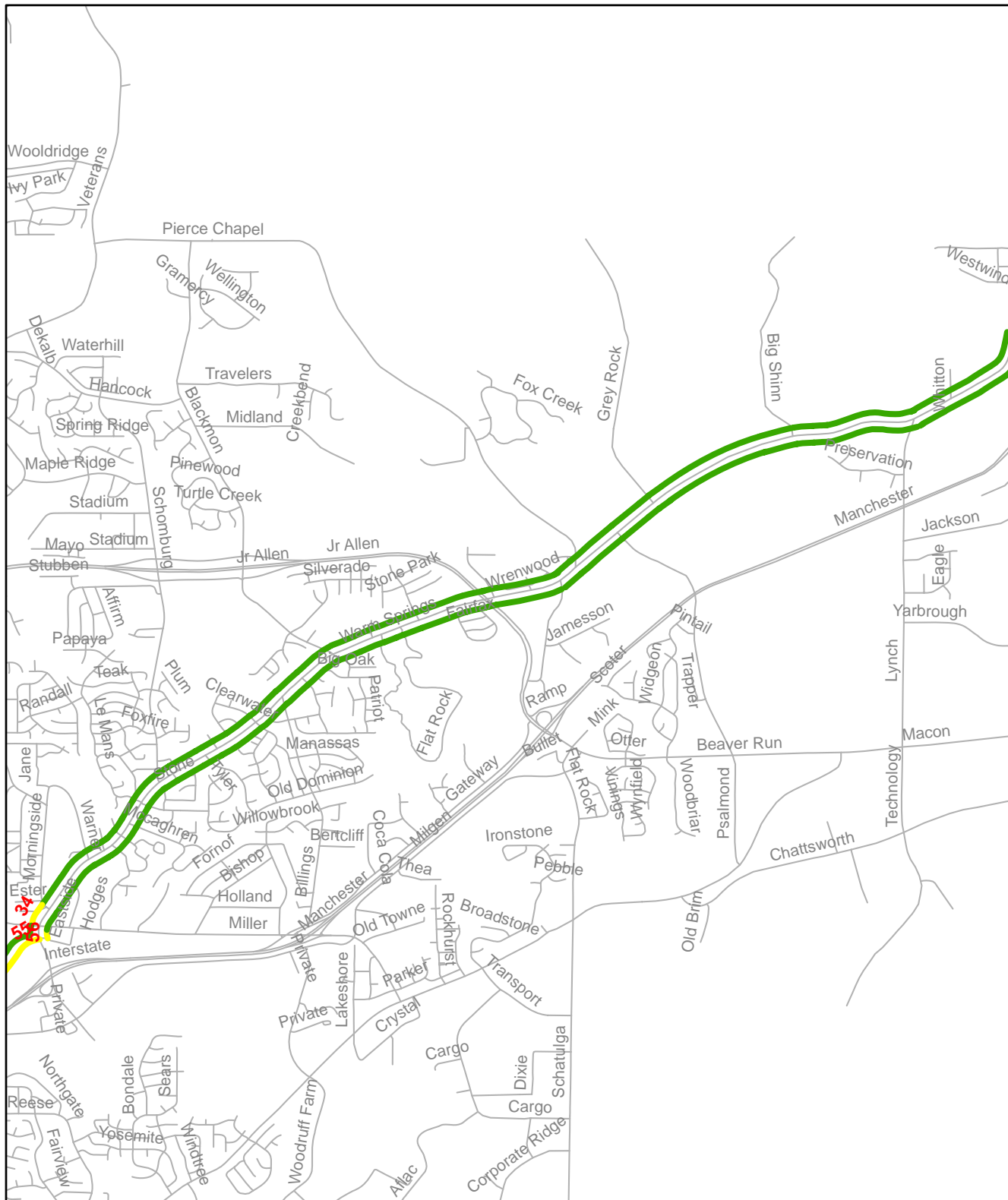
31 - 60 seconds

60 seconds - 180 seconds



# Warm Springs Road

Milgen Road to Warm Springs Road  
8.0 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

- █ 0 - 30 seconds
- █ 31 - 60 seconds
- █ 60 seconds - 180 seconds



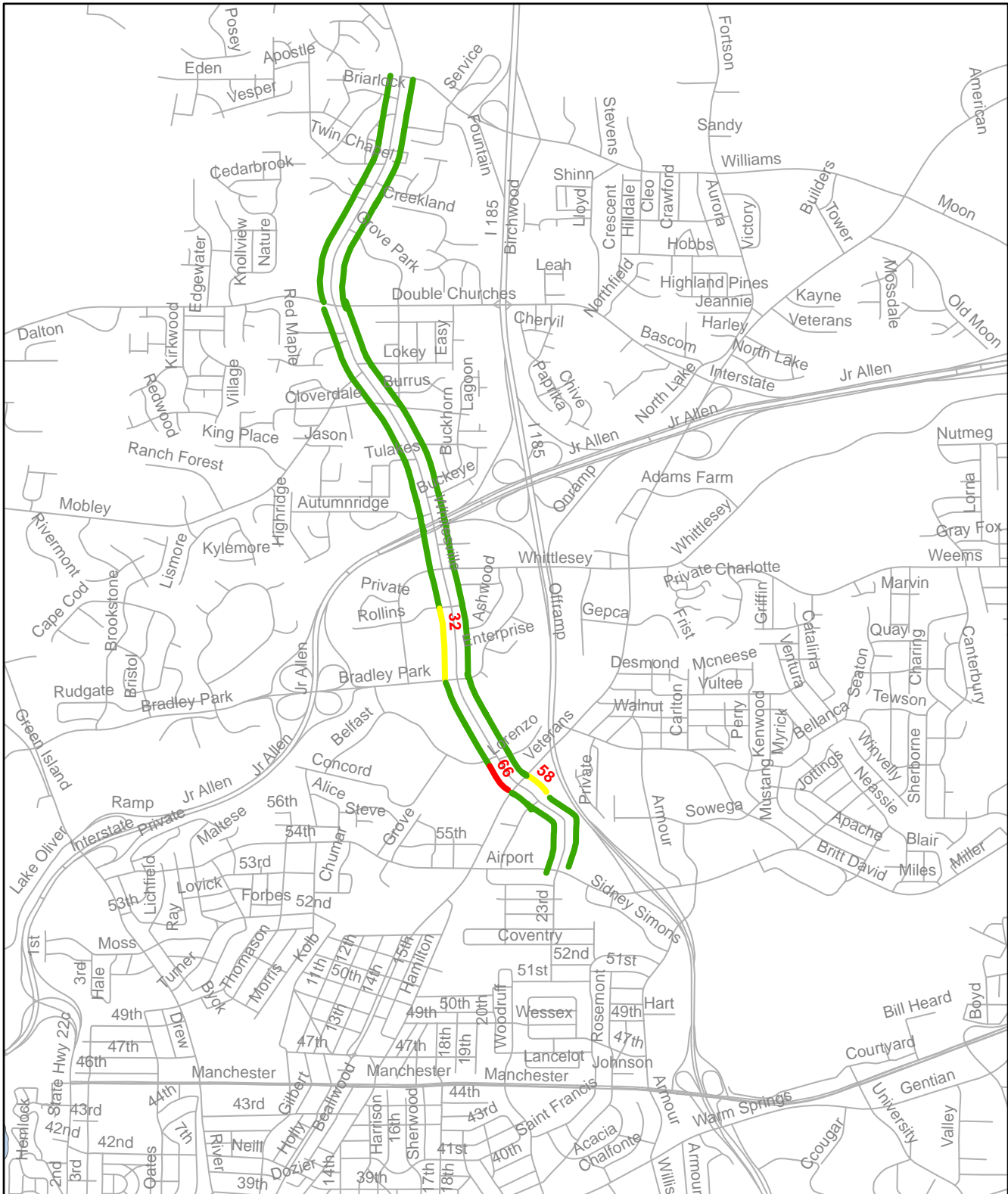
Warm Springs Road - [eastbound]	# Runs	Segment Distance [miles]	AM Rush Hour Average Speed [mph]	AM Rush Hour Average Congested Time [seconds]	Off Peak Average Speed [mph]	Off Peak Average Congested Time [seconds]	PM Rush Hour Average Speed [mph]	PM Rush Hour Average Congested Time [seconds]
Warm Springs Connector	3	1.4	28	43	35	10	27	55
Miller Road	3	0.07	9	22	5	47	4	55
Schomburg Road	3	1.07	38	7	38	7	38	5
Billings Road	3	0.8	39	0	41	0	41	1
Blackmon Road	3	0.37	35	4	33	7	38	2
Flat Rock (west)	3	1.23	39	4	41	4	41	4
Pierce Chapel Road	3	0.12	27	1	43	0	41	0
Grey Rock Road	3	0.55	29	4	41	0	34	6
County Line Road	3	2.16	37	2	44	1	47	0

Warm Springs Road - [westbound]	# Runs	Segment Distance [miles]	AM Rush Hour Average Speed [mph]	AM Rush Hour Average Congested Time [seconds]	Off Peak Average Speed [mph]	Off Peak Average Congested Time [seconds]	PM Rush Hour Average Speed [mph]	PM Rush Hour Average Congested Time [seconds]
Grey Rock Road	3	2.16	40	19	42	7	46	0
Pierce Chapel Road	3	0.55	31	2	44	0	45	0
Flat Rock (west)	3	0.12	30	0	43	0	43	0
Blackmon Road	3	1.23	40	2	42	3	42	1
Billings Road	3	0.37	34	4	35	4	34	4
Schomburg Road	3	0.8	40	2	44	0	36	11
Miller Road	3	1.07	28	45	38	10	29	35
Warm Springs Connector	3	0.07	22	2	24	2	21	3
Manchester Expressway	3	1.4	25	68	27	53	27	52

<b>Warm Springs Road</b>	
Primary Locations of Delay:	<ul style="list-style-type: none"> <li>• Intersection of Warm Springs and Warm Springs Connector</li> <li>• Intersection of Warm Springs and Miller Road.</li> </ul>
Possible Solutions:	<ul style="list-style-type: none"> <li>• Future studies should not include the segment of Warm Springs Road between the Connector and Manchester Expressway, but rather remain on the Connector between Miller Road and Milgen Road.</li> </ul>

# Whitesville Road

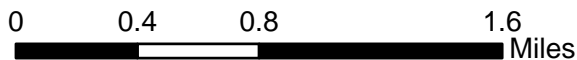
**Williams Road to Airport Thruway**  
**3.76 miles AM Rush Hour**



### AM Rush Hour

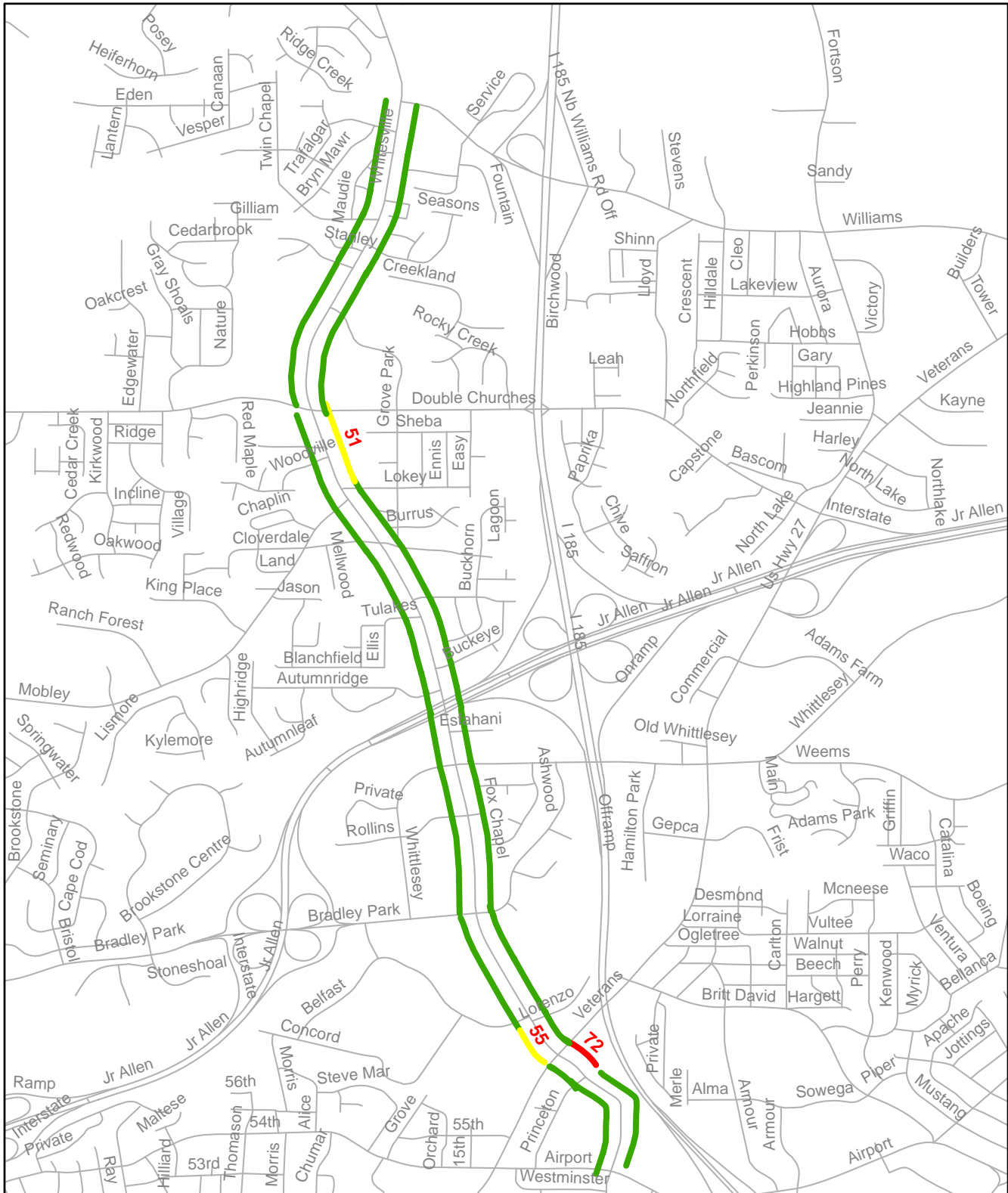
### Average Congested Time

- █ 0 - 30 seconds
- █ 31 - 60 seconds
- █ 60 seconds - 180 seconds



# Whitesville Road

Williams Road to Airport Thruway  
3.76 miles PM Rush Hour



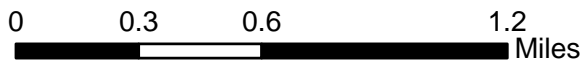
## PM Rush Hour

### Average Congested Time

0 - 30 seconds

31 - 60 seconds

60 seconds - 180 seconds



<b>Whitesville Road - [eastbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Williams Way	3	0.22	15	30	20	18	23	11
Stevens Lane	3	0.59	33	0	32	0	34	0
Fortson Road	3	0.43	9	144	28	11	20	35
Veterans Parkway	3	0.7	17	85	18	76	17	87

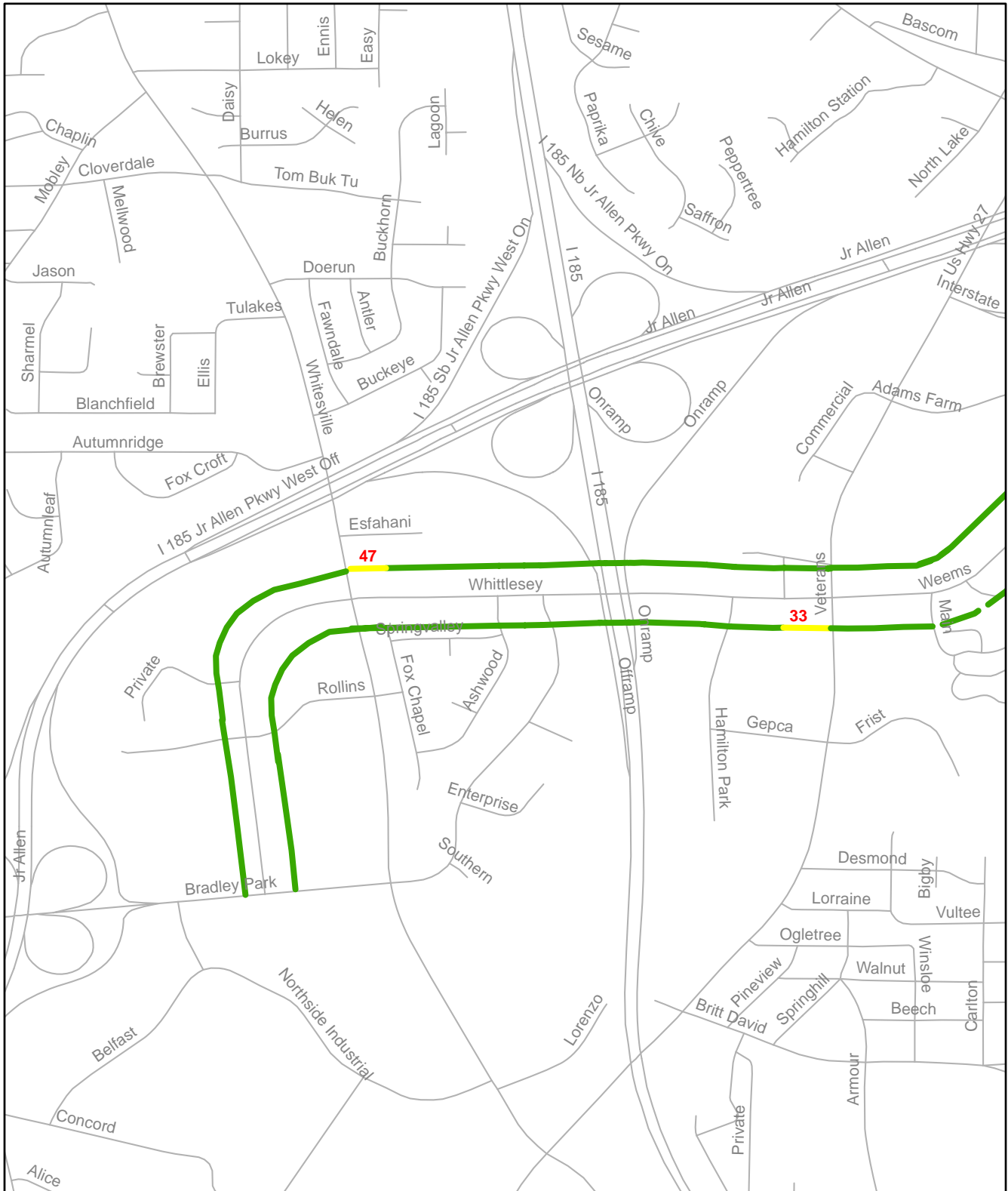
<b>Whitesville Road - [westbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Fortson Road	4	0.7	33	14	29	21	29	20
Stevens Lane	4	0.43	34	5	35	2	34	3
Williams Way	4	0.59	39	6	42	0	41	0
Whitesville Road	4	0.22	16	31	31	5	24	12



<b>Whitesville Road</b>	
Primary Locations of Delay:	<p>Whitesville Road at Veterans Parkway intersection.</p> <p>Whitesville Road at Double Churches Road intersection.</p>
Possible Solutions:	<p>Planned intersection improvements at Whitesville Road and Double Churches Road will add turn lanes on all approaches.</p> <p>Current traffic congestion at Whitesville Road and Veterans Parkway may be alleviated upon the completion of Whittlesey Road widening project.</p>

# Whittlesey Road

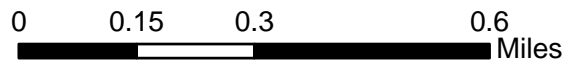
Bradley Park Drive to Moon Road  
3.9 miles AM Rush Hour



## AM Rush Hour

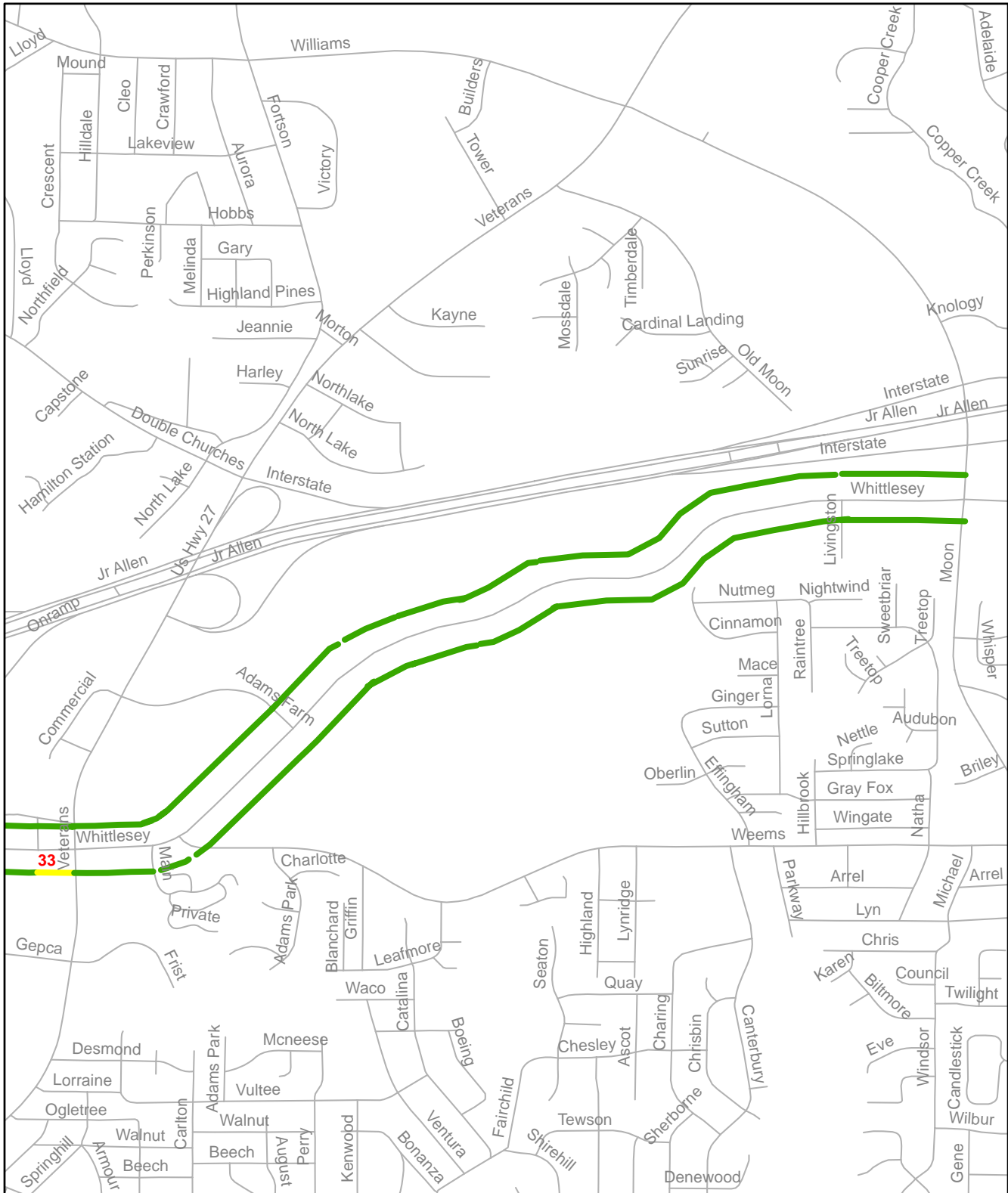
### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



# Whittlesey Road

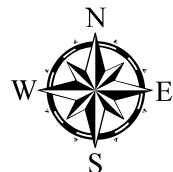
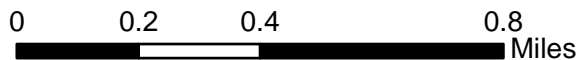
Bradley Park Drive to Moon Road  
3.9 miles AM Rush Hour



## AM Rush Hour

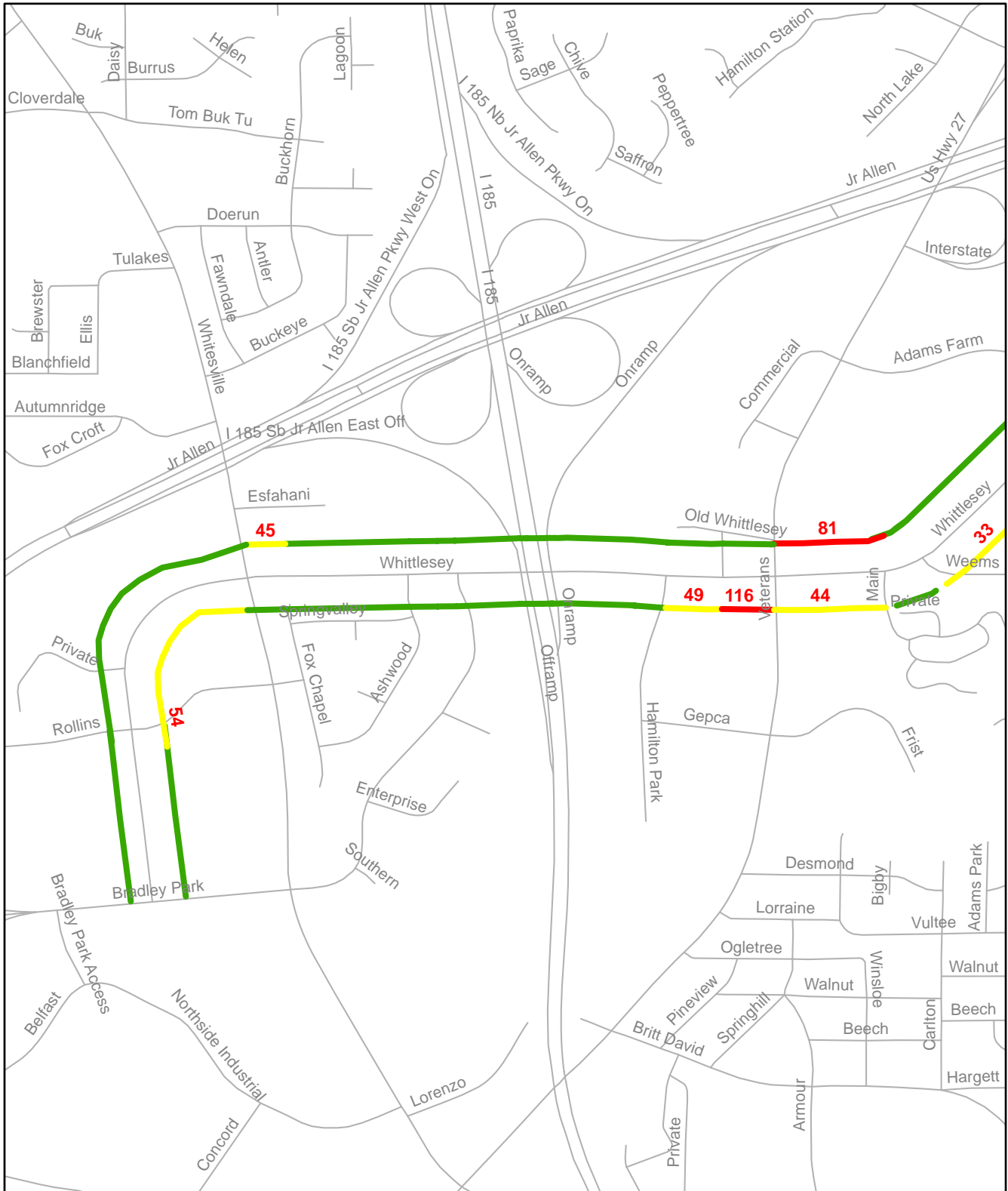
### Average Congested Time

- █ 0 - 30 seconds
- █ 31 - 60 seconds
- █ 60 seconds - 180 seconds



# Whittlesey Road

Bradley Park Drive to Moon Road  
3.9 miles PM Rush Hour



## PM Rush Hour

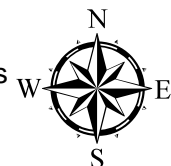
### Average Congested Time

0 - 30 seconds

31 - 60 seconds

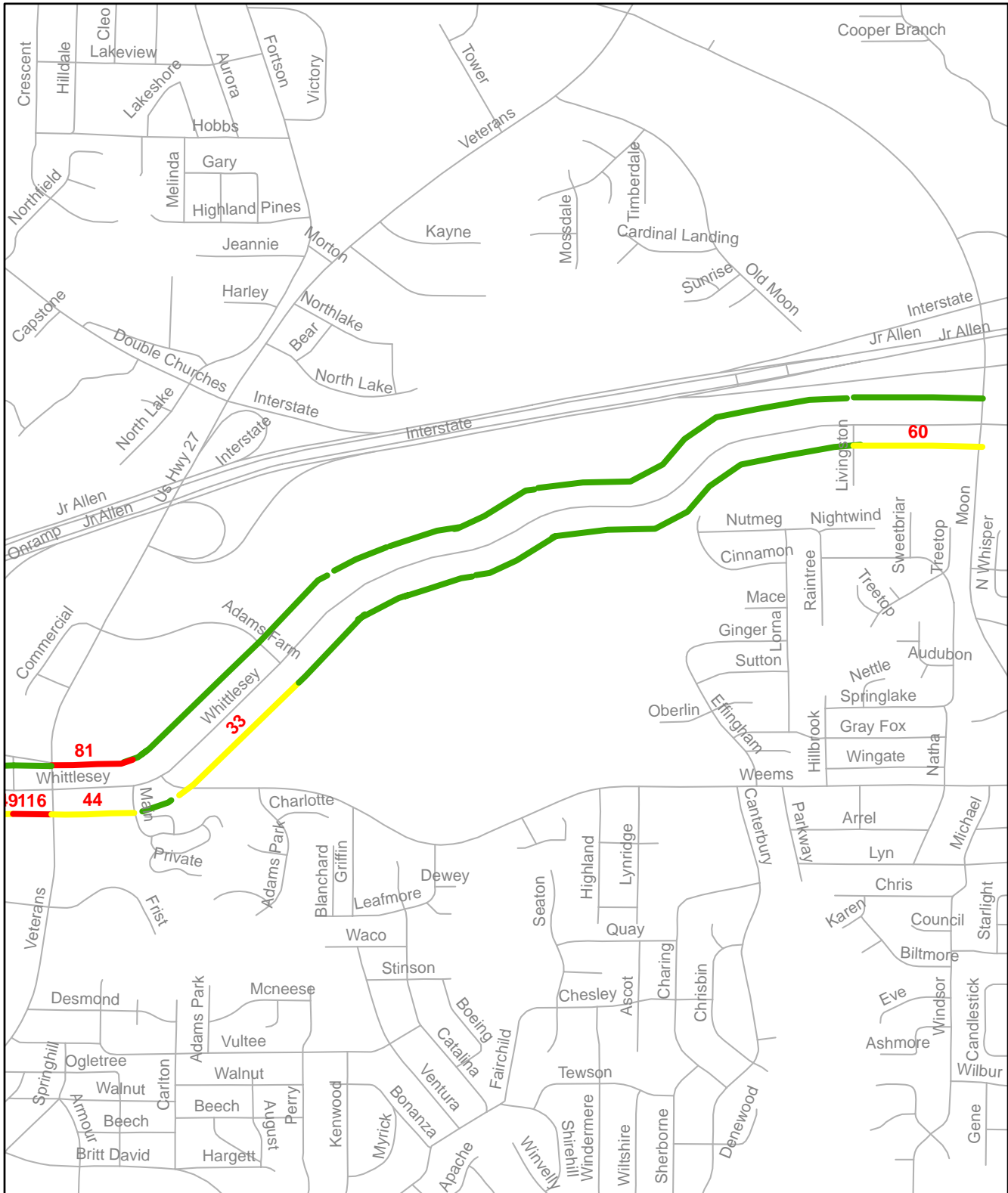
60 seconds - 180 seconds

0 0.15 0.3 0.6 Miles



# Whittlesey Road

Bradley Park Drive to Moon Road  
3.9 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



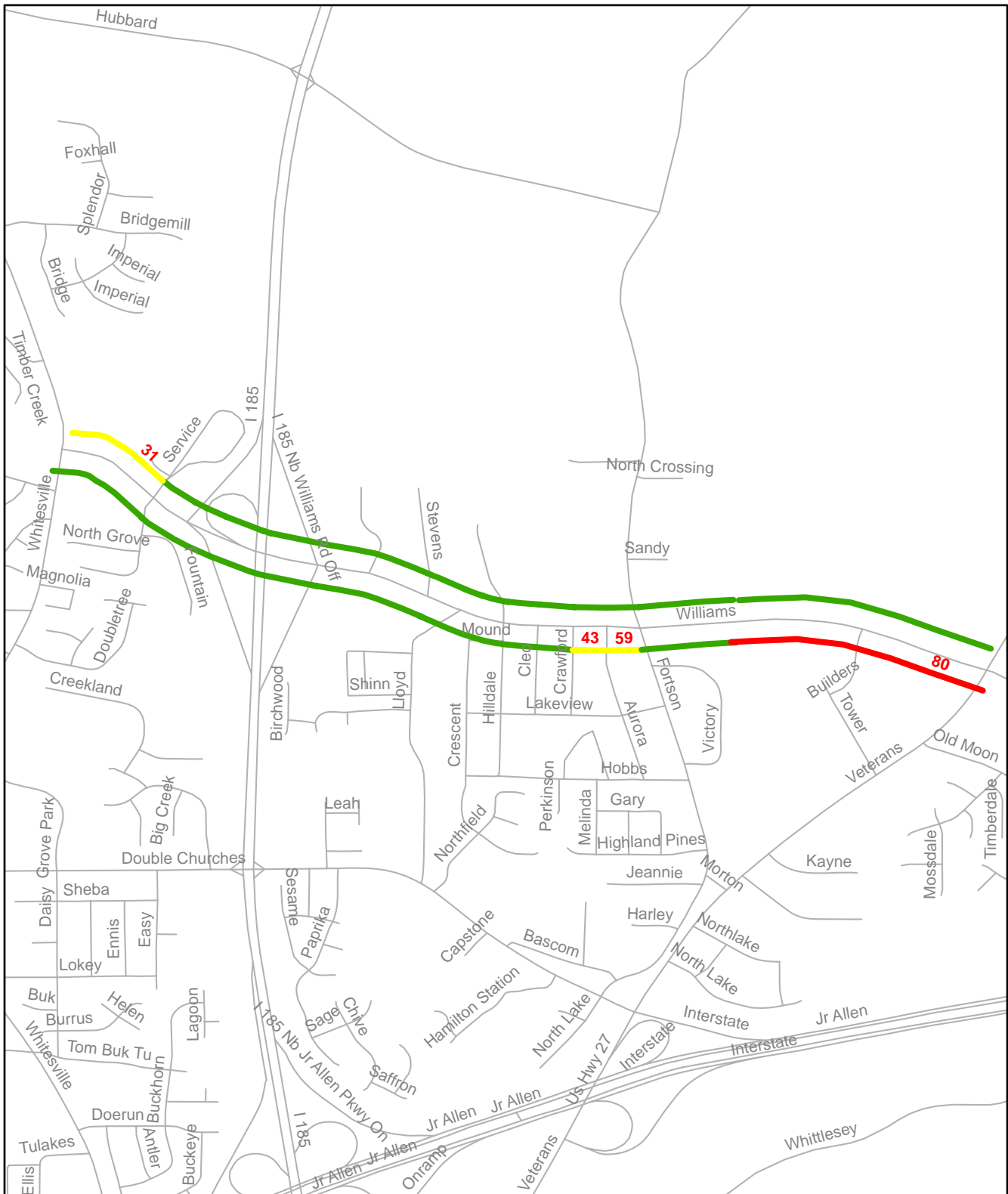
<b>Whittlesey Road - [eastbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Rollins Way	3	0.27	31	2	31	1	30	3
Whitesville Road	3	0.32	22	20	27	13	13	54
Bradley Park Drive (east)	3	0.27	30	4	33	0	18	24
Veterans Parkway	3	0.41	19	34	12	83	7	172
Main Street	3	0.14	19	11	19	11	9	44
Adams Farm Road	3	0.37	28	13	15	52	19	33
Livingston Drive	3	1.16	37	10	34	17	30	28
Moon Road	3	0.22	19	23	35	4	10	59

<b>Whittlesey Road - [westbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Livingston Drive	3	0.22	34	1	34	1	34	0
Adams Farm Road	3	1.17	37	13	30	34	25	55
Main Street	3	0.36	31	10	37	0	22	23
Veterans Parkway	3	0.15	13	26	4	133	6	82
Hamilton Park Drive	3	0.14	27	1	25	13	27	1
Bradley Park Drive (east)	3	0.27	25	11	20	22	18	29
Whitesville Road	3	0.27	13	47	15	39	11	68
Rollins Way	3	0.33	34	1	29	0	30	1
Bradley Park Drive [west]	3	0.26	19	25	26	10	21	21

<b>Whittlesey Road</b>	
Primary Locations of Delay:	Whittlesey Road at Veterans Parkway. Whittlesey Road at Whitesville Road.
Possible Solutions:	A project will be bid for construction in 2012 to improve Whittlesey Road from the existing two lane to a four lane roadway between Whitesville Road and Veterans Parkway.

# Williams Road

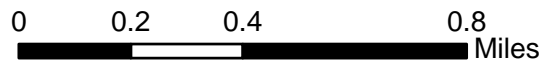
Whitesville Road to Veterans Parkway  
2.0 miles AM Rush Hour



## AM Rush Hour

### Average Congested Time

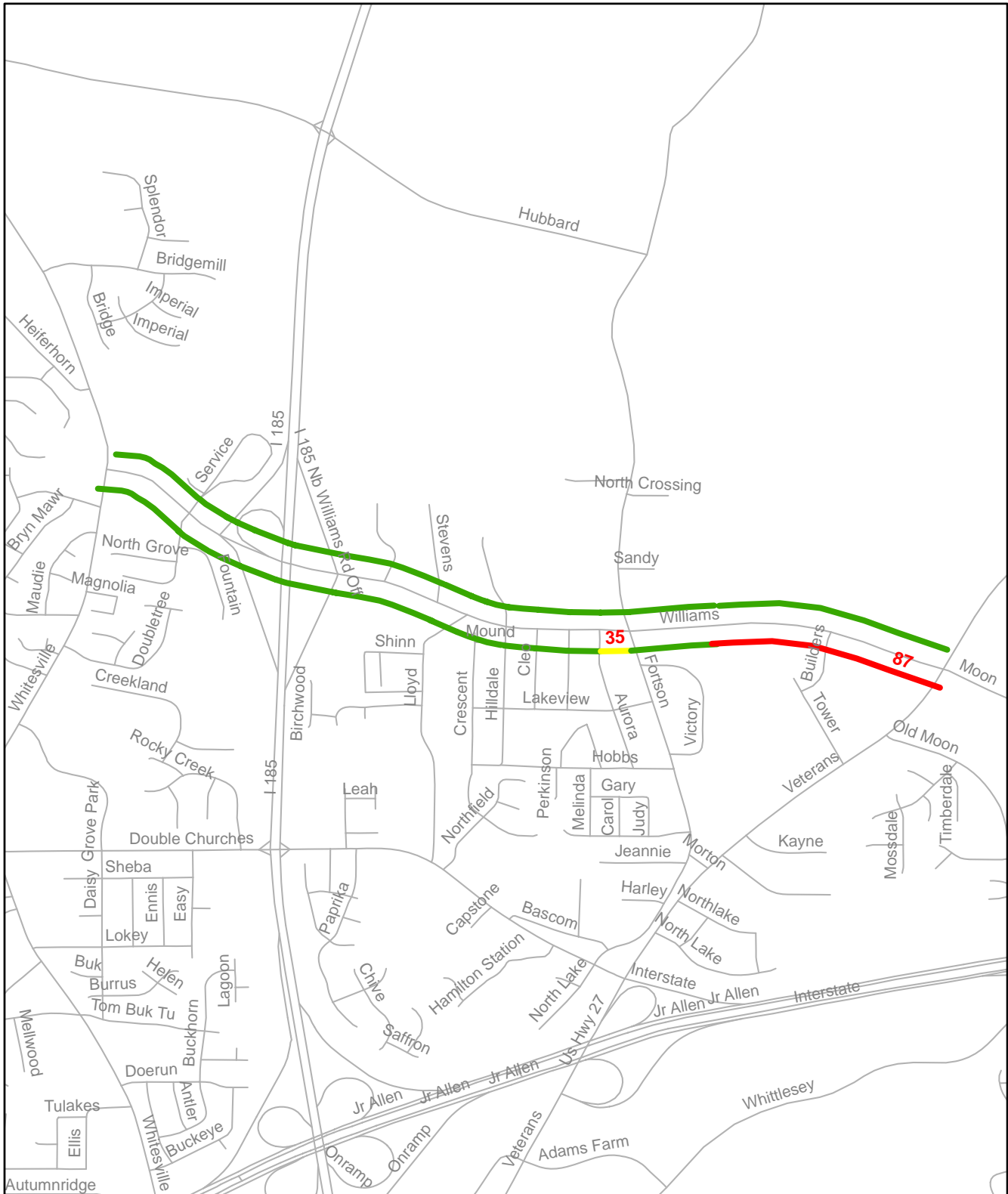
- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds





# Williams Road

Whitesville Road to Veterans Parkway  
2.0 miles PM Rush Hour



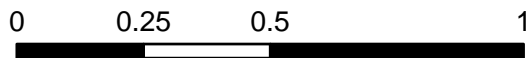
## PM Rush Hour

### Average Congested Time

0 - 30 seconds

31 - 60 seconds

60 seconds - 180 seconds



Miles



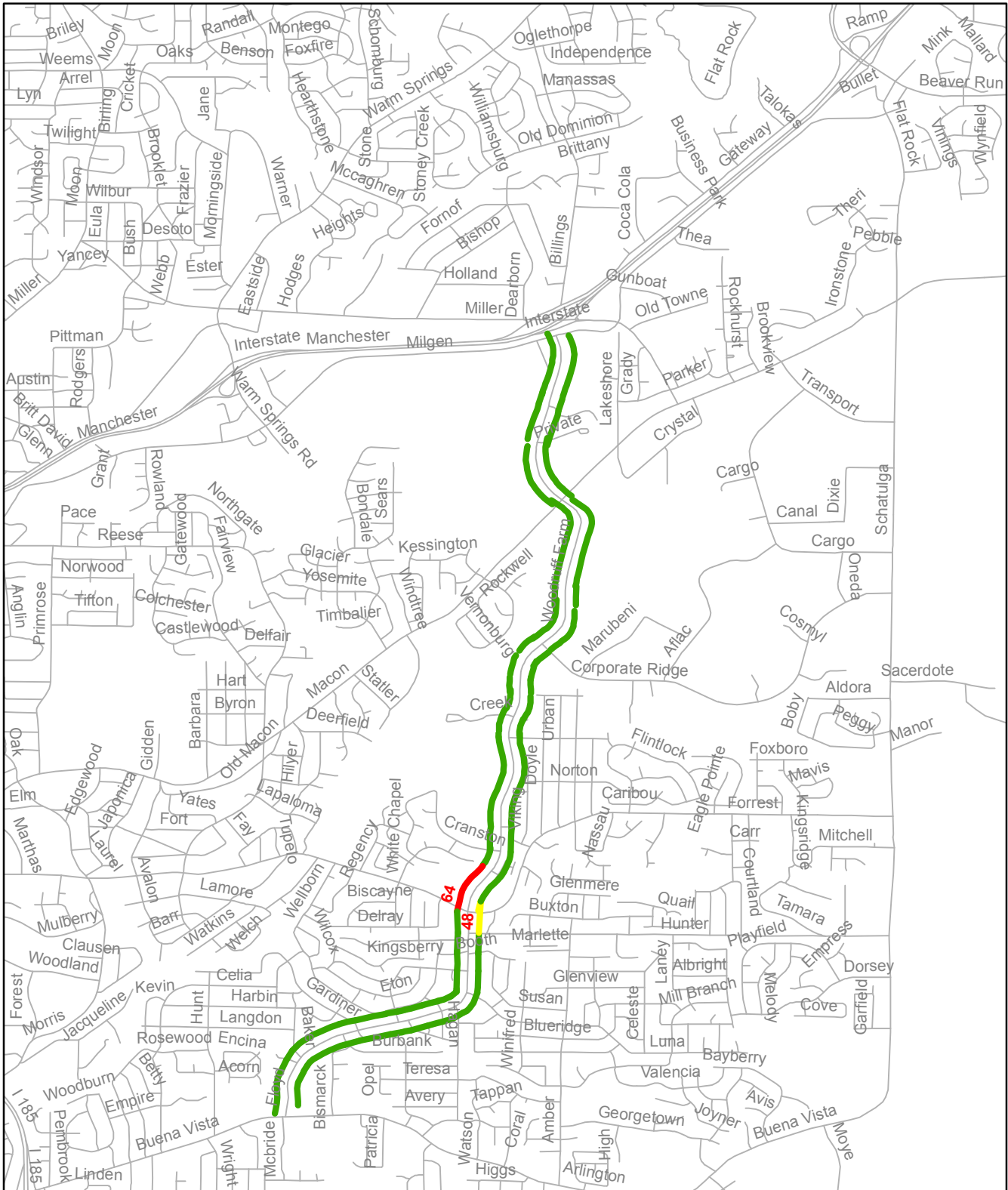
<b>Williams Road [eastbound]</b>	<b># Runs</b>	<b>Distance [miles]</b>	<b>AM Rush Hour Speed [mph]</b>	<b>Congested Time [seconds]</b>	<b>Off Peak Speed [mph]</b>	<b>Congested Time [seconds]</b>	<b>PM Rush Hour Speed [mph]</b>	<b>Congested Time [seconds]</b>
Williams Way	3	0.22	15	30	20	18	23	11
Fortson Road	3	0.43	9	144	28	11	20	35
Stevens Lane	3	0.59	33	0	32	0	34	0
Veterans Parkway	3	0.7	17	85	18	76	17	87

<b>Williams Road [westbound]</b>	<b># Runs</b>	<b>Distance [miles]</b>	<b>AM Rush Hour Speed [mph]</b>	<b>Congested Time [seconds]</b>	<b>Off Peak Speed [mph]</b>	<b>Congested Time [seconds]</b>	<b>PM Rush Hour Speed [mph]</b>	<b>Congested Time [seconds]</b>
Fortson Road	4	0.7	33	14	29	21	29	20
Stevens Lane	4	0.43	34	5	35	2	34	3
Williams Way	4	0.59	39	6	42	0	41	0
Whitesville Road	4	0.22	16	31	31	5	24	12

<b>Williams Road</b>	
Primary Locations of Delay:	<p>Eastbound at Fortson Road in AM Rush Hour.</p> <p>Eastbound at Veterans Parkway in AM Rush Hour.</p>
Possible Solutions:	<p>A roundabout is planned for the intersection of Williams Road at Fortson Road.</p> <p>Concept plans are being developed to make Williams Road a multi-lane roadway from I-185 to Veterans Parkway.</p>

# Woodruff Farm Road and Floyd Road

Milgen Road to Buena Vista Road  
4.4 miles AM Rush Hour



## AM Rush Hour

### Average Congested Time

0 - 30 seconds

31 - 60 seconds

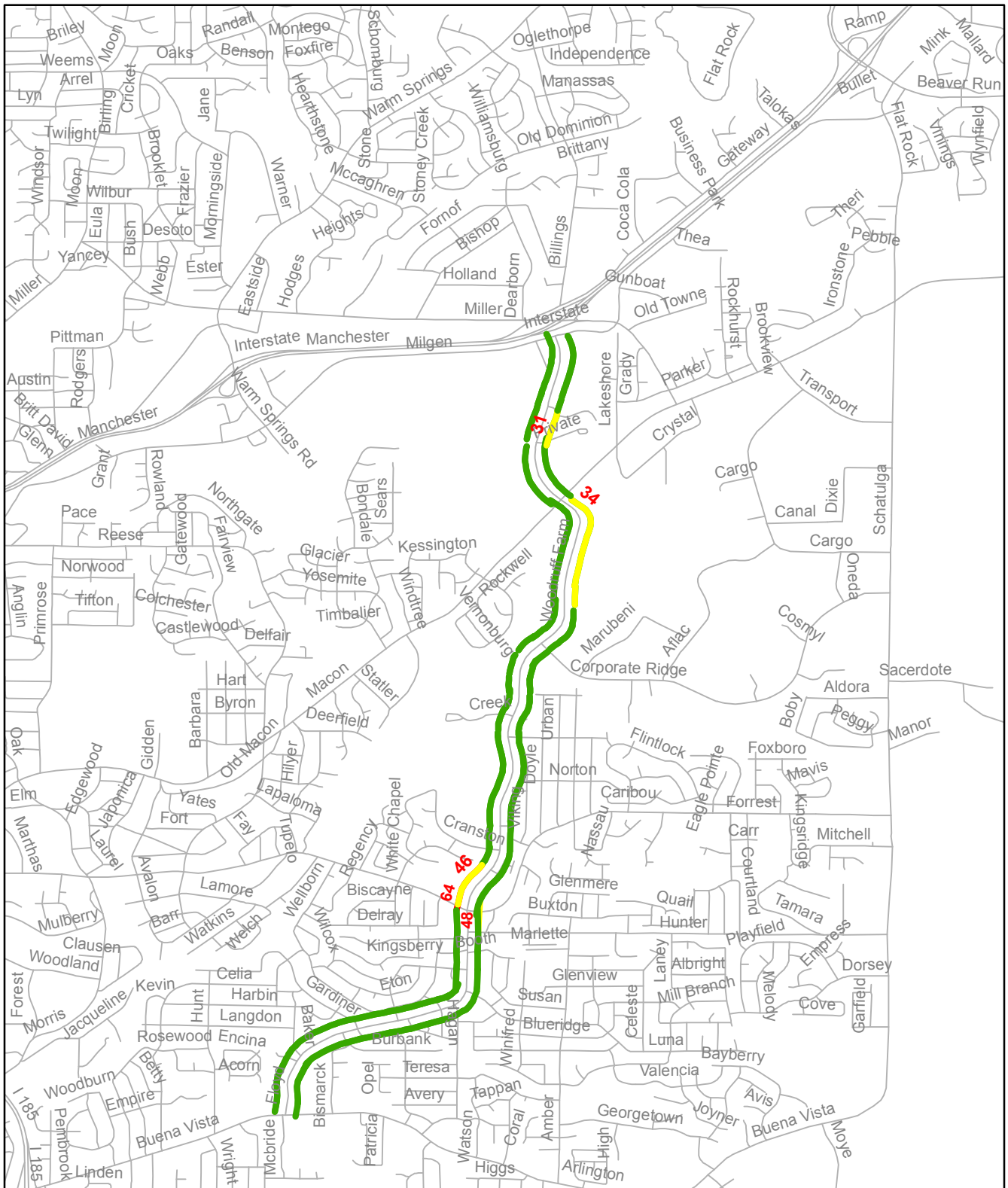
60 seconds - 180 seconds

0 0.45 0.9 1.8 Miles



# Woodruff Farm Road and Floyd Road

Milgen Road to Buena Vista Road  
4.4 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

0 - 30 seconds

31 - 60 seconds

60 seconds - 180 seconds

0 0.45 0.9 1.8 Miles



<b>Woodruff Farm Road / Floyd Road - Northbound</b>	<b># Runs</b>	<b>Avg Distance</b>	<b>AM Rush Hour Average Speed</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Forrest Road	5	1.42	22.55	67	23.81	66	24.6	67
Corporate Ridge	5	1.34	35.56	5	36.82	5	38.09	13
Macon Road	5	0.75	32.22	14	27.87	29	21.5	59
Milgen Road	5	0.82	59.31	0	65.19	0	35.84	39
<b>Woodruff Farm Road / Floyd Road - Southbound</b>	<b># Runs</b>	<b>Avg Distance</b>	<b>AM Rush Hour Average Speed</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Macon Road	5	0.83	30.48	26	30.79	28	29.5	38
Corporate Ridge	5	0.75	38.62	3	37.72	6	38.97	5
Forrest Road	5	1.34	24.34	67	26.58	56	28.58	52
Buena Vista Road	5	1.42	29.75	12	31.33	17	29.79	25

<b>Woodruff Farm Road and Floyd Road</b>	
Primary Locations of Delay:	<p>Intersection of Woodruff Farm and Forrest Road.</p> <p>Intersection of Floyd Road with McBryde Drive and Buena Vista Road.</p>
Possible Solutions:	<p>Project planned to add turn lanes at intersection of Woodruff Farm and Forrest Road.</p> <p>Realigning McBryde Drive to directly oppose Floyd Road will improve traffic flow at intersection.</p>

Alabama Roads Measured in  
2011 Congestion Management Process







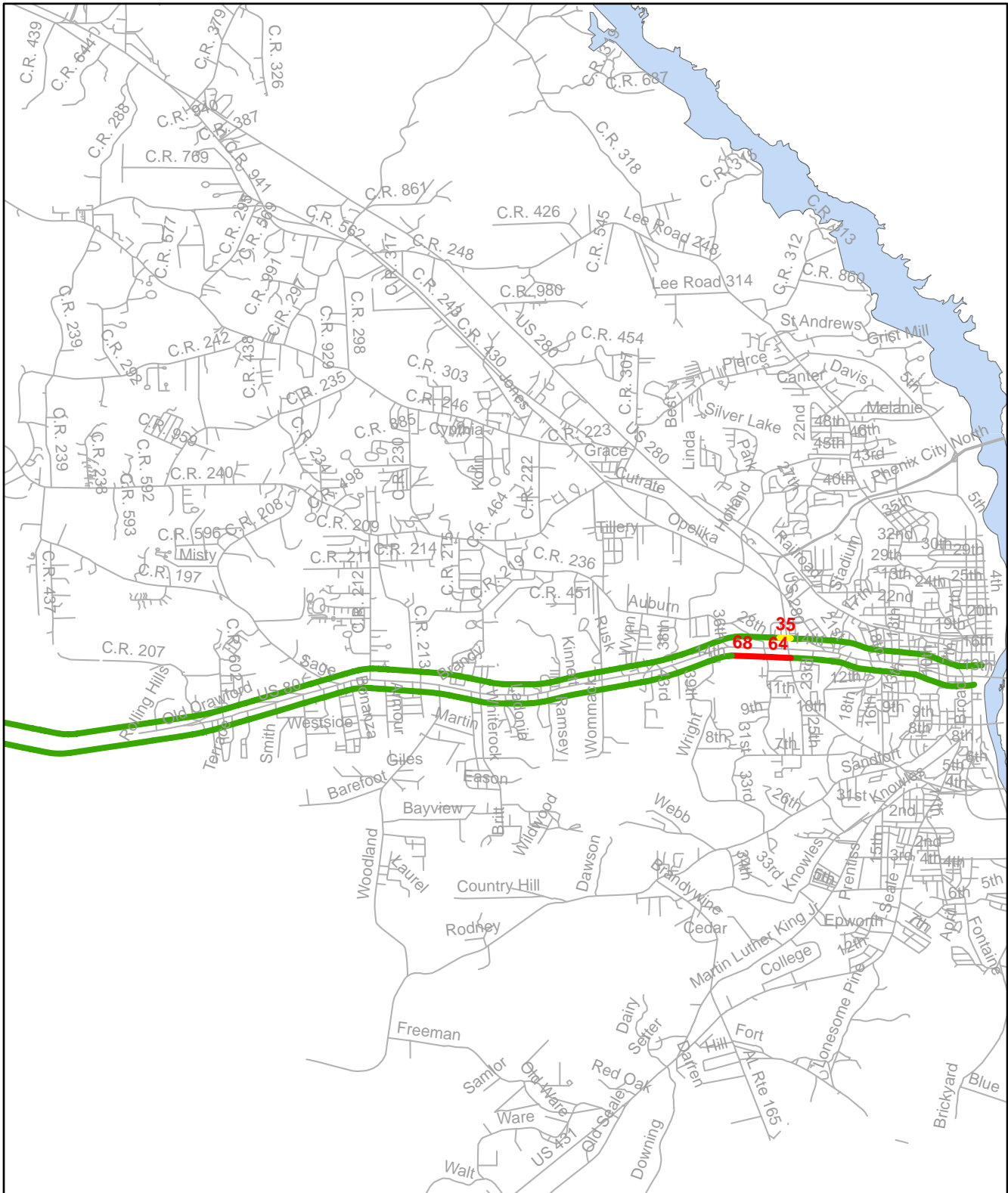
Alabama 165 - [northbound]	# Runs	Segment Distance [miles]	AM Rush Hour Average Speed [mph]	AM Rush Hour Average Congested Time [seconds]	Off Peak Average Speed [mph]	Off Peak Average Congested Time [seconds]	PM Rush Hour Average Speed [mph]	PM Rush Hour Average Congested Time [seconds]
Nuckols Road	4	3.4	52	0	0	0	53	0
Brickyard Road	4	2.65	53	0	54	0	50	0
Seale Road	4	0.5	52	0	53	3	48	0
US 431	4	0.3	26	20	52	0	38	2

Alabama 165 - [southbound]	# Runs	Segment Distance [miles]	AM Rush Hour Average Speed [mph]	AM Rush Hour Average Congested Time [seconds]	Off Peak Average Speed [mph]	Off Peak Average Congested Time [seconds]	PM Rush Hour Average Speed [mph]	PM Rush Hour Average Congested Time [seconds]
Seale Road	4	0.3	39	2	13	4	43	0
Brickyard Road	4	0.5	49	0	32	10	52	0
Nuckols Road	4	2.65	53	0	51	0	54	0
101st Airborne	4	3.4	55	0	54	0	55	0

<b>Alabama 165</b>	
Primary Locations of Delay:	No congested areas were identified in this study, measured delays were only related to stopped time at signalized intersections.
Possible Solutions:	

# Crawford Road

Alabama 169 to Broad Street  
11.6 miles AM Rush Hour



## AM Rush Hour

### Average Congested Time

0 - 30 seconds

31 - 60 seconds

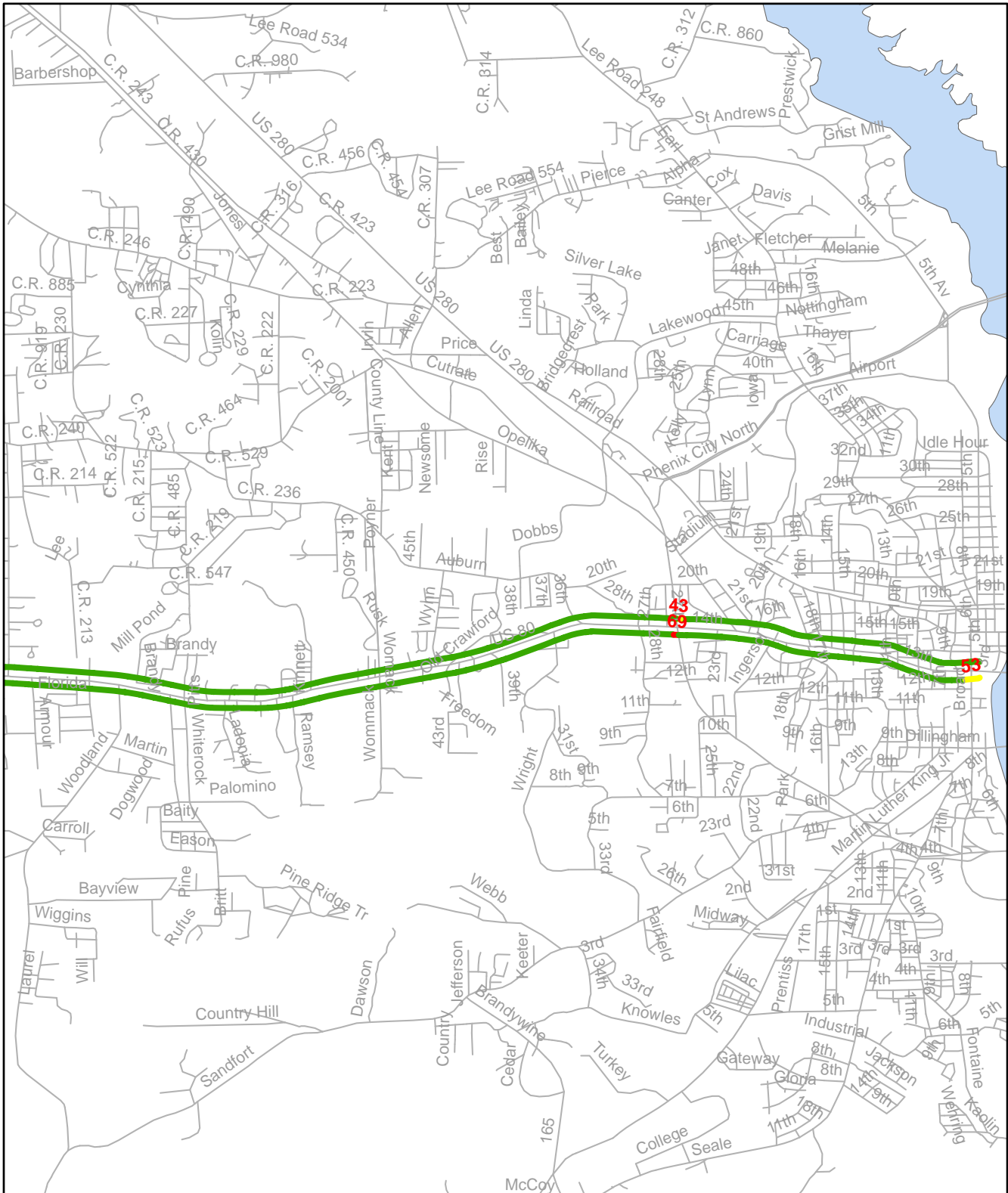
60 seconds - 180 seconds

0 1 2 4 Miles



# Crawford Road

Alabama 169 to Broad Street  
11.6 miles PM Rush Hour



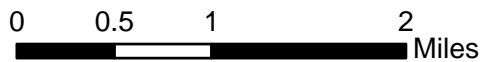
## PM Rush Hour

### Average Congested Time

0 - 30 seconds

31 - 60 seconds

60 seconds - 180 seconds



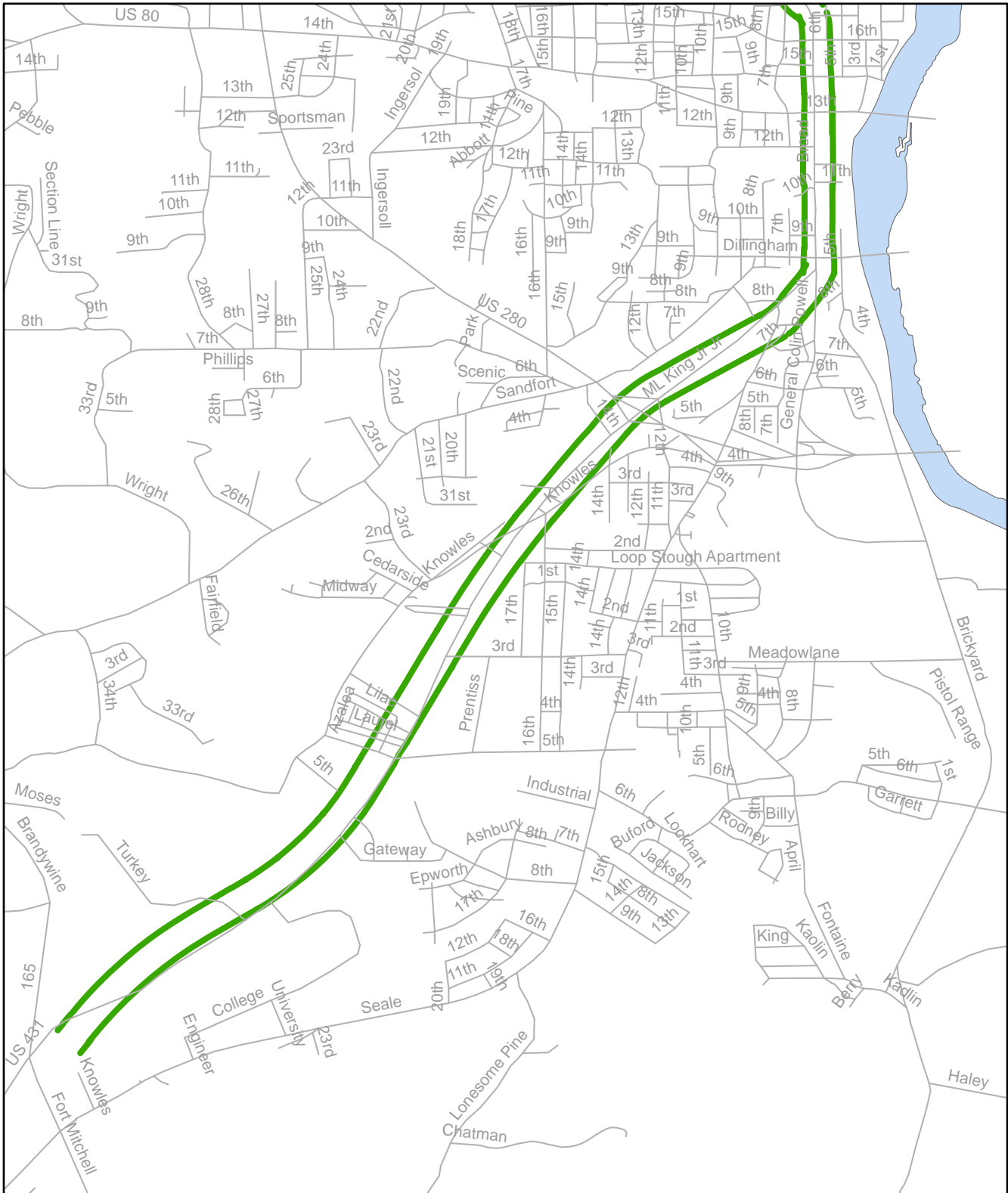
<b>Crawford Road / 13th Street - [eastbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Alabama 169 (north)	3	0.18	51	0	52	0	51	0
Jowers Road	3	2.94	54	0	55	0	54	0
Coffield Drive	3	2.7	54	0	52	0	52	0
Lee Road 212	3	0.3	38	5	45	0	33	7
Woodland Drive	3	0.64	44	0	40	6	41	1
Auburn Road	3	2.69	44	8	44	10	46	2
US 280	3	0.53	9	164	18	61	16	71
Opelika Road	3	0.35	30	5	31	7	34	1
17th Avenue	3	0.52	29	11	31	8	27	14
14th Street	3	0.32	34	0	34	0	34	1
Broad Street	3	0.55	26	19	18	55	19	55
<b>Crawford Road / 13th Street - [westbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Broad Street	3	0.09	39	0	37	0	34	0
14th Street	3	0.52	45	5	49	0	43	8
17th Avenue	3	0.35	29	7	27	10	34	1
Opelika Road	3	0.52	30	8	32	5	30	7
US 280	3	0.35	34	2	24	18	15	43
Auburn Road	3	0.53	22	35	18	57	17	56
Woodland Drive	3	2.69	42	16	44	11	43	8
Lee Road 212	3	0.64	45	0	47	0	37	6
Coffield Drive	3	0.3	26	17	38	2	31	7
Jowers Road	3	2.7	53	0	54	0	50	0
Alabama 169 (north)	3	2.94	52	0	52	0	50	0

<b>Crawford Road</b>	
Primary Locations of Delay:	Intersection of Crawford Road and US 280.
Possible Solutions:	<p>Constructing the extension of the North Bypass between the current termini of US 280 and Crawford Road near Ladonia would help mitigate some traffic that passes through this intersection.</p> <p>Crawford Road (US 80) has been designated as an east-west corridor route for bicycle travel in the 2010 <u>Statewide Bicycle and Pedestrian Plan</u> issued by the Alabama Department of Transportation. Bike lanes along corridor might encourage bicycle travel.</p>



# Martin Luther King Jr Parkway Summerville Road

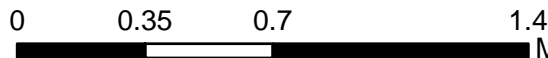
Alabama 165 to US 280  
10.5 miles AM Rush Hour



## AM Rush Hour

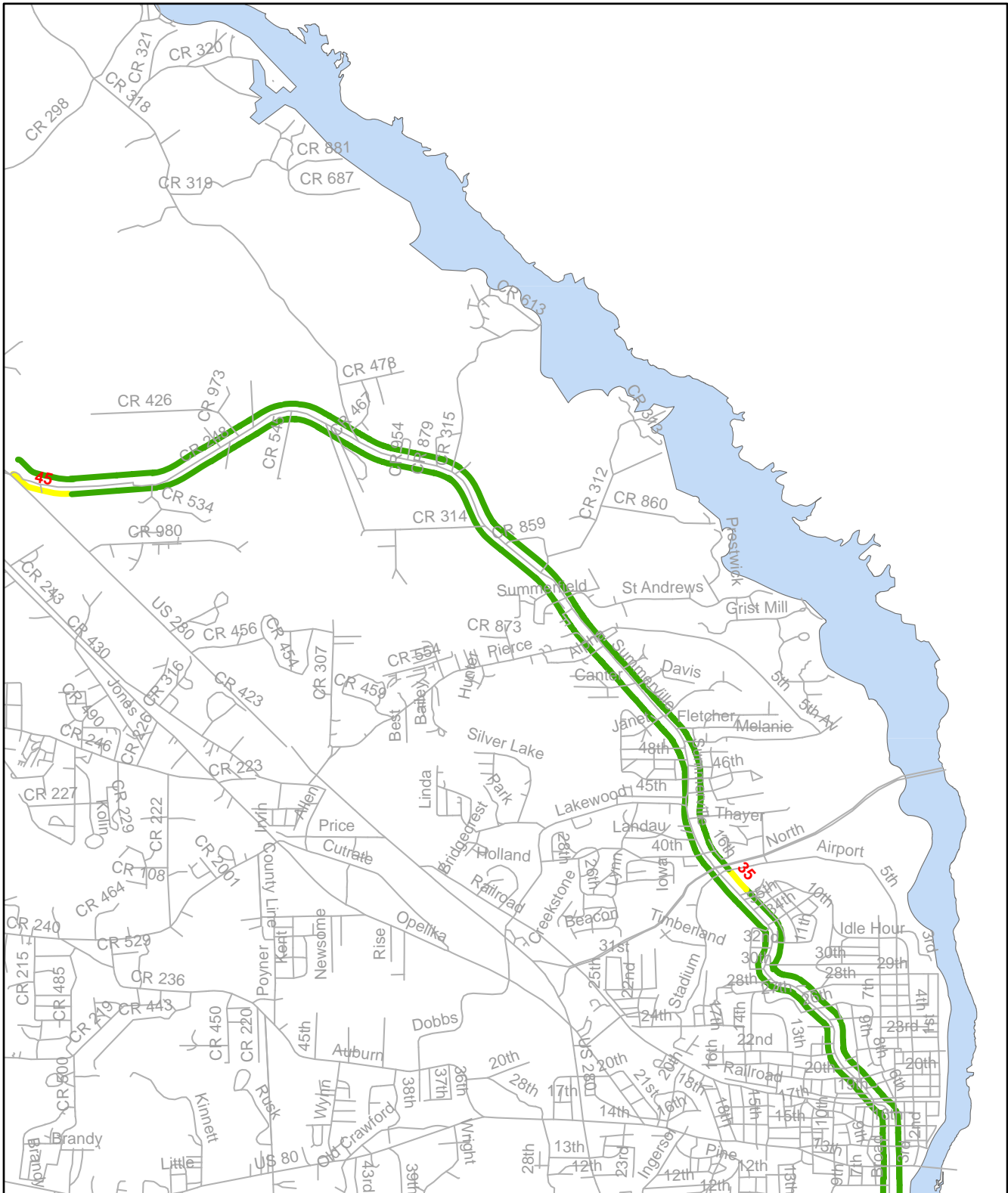
### Average Congested Time

- █ 0 - 30 seconds
- █ 31 - 60 seconds
- █ 60 seconds - 180 seconds



# Martin Luther King Jr Parkway Summerville Road

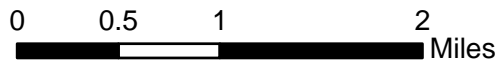
Alabama 165 to US 280  
10.5 miles AM Rush Hour



## AM Rush Hour

### Average Congested Time

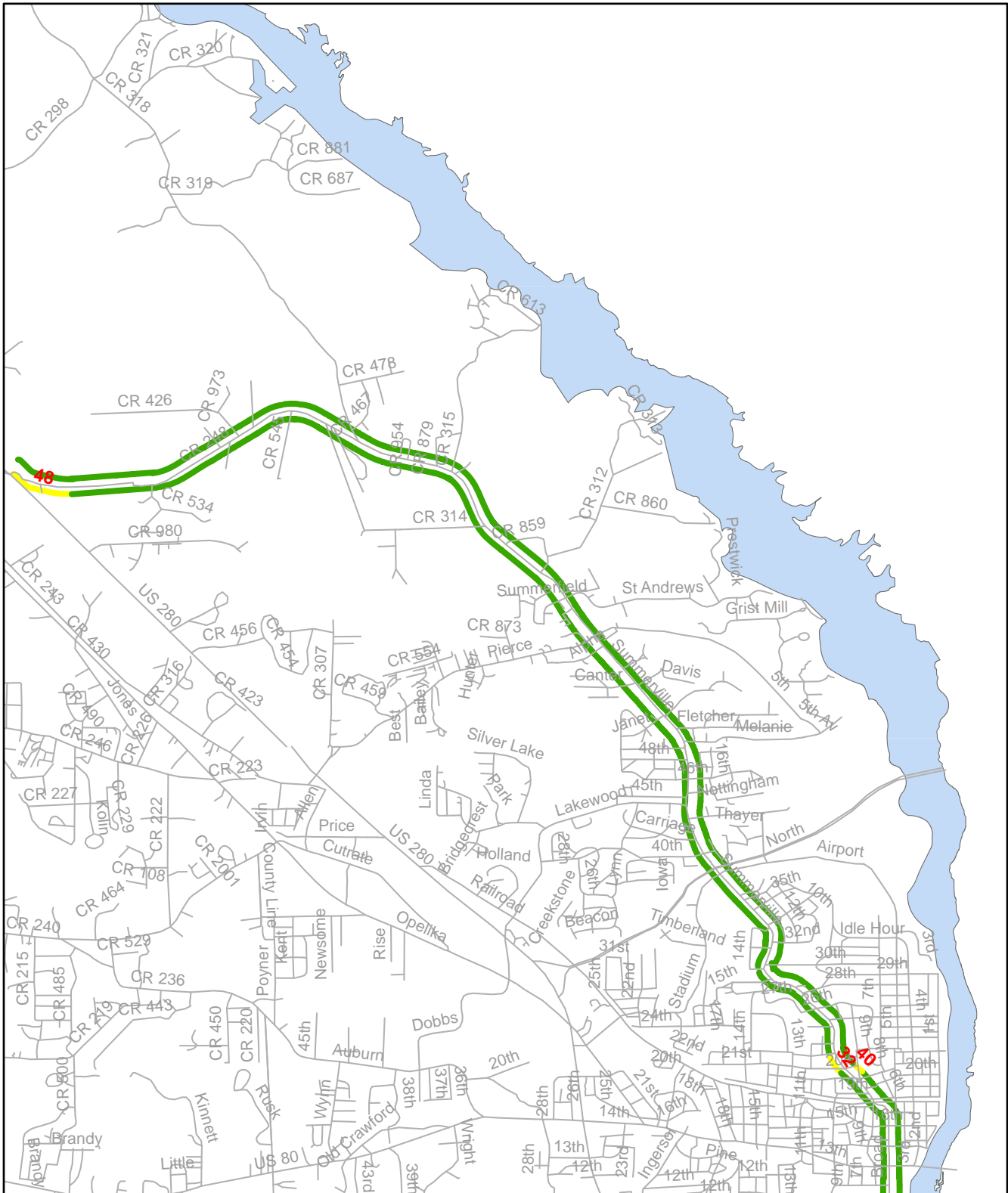
- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds





# Martin Luther King Jr Parkway Summerville Road

Alabama 165 to US 280  
10.5 miles PM Rush Hour



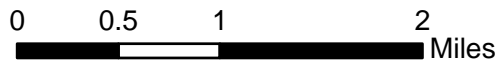
## PM Rush Hour

### Average Congested Time

0 - 30 seconds

31 - 60 seconds

60 seconds - 180 seconds



<b>Martin Luther King Jr. Parkway (US 431) [northbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
College Drive	3	0.79	52	5	54	4	55	5
Knowles Road	3	1.46	55	0	57	0	58	0
US 280 westbound ramps	3	0.74	44	4	44	4	39	17
Broad Street	3	0.63	38	4	41	0	32	13
Dillingham Street	3	0.08	14	13	6	38	12	15
13 <sup>th</sup> Street	3	0.44	28	10	29	7	30	1
<b>Martin Luther King Jr. Parkway (US 431) [southbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Dillingham Street	4	0.44	23	21	21	25	20	35
Broad Street	4	0.06	26	1	29	1	29	0
US 280 westbound ramps	4	0.64	37	1	41	0	43	2
Knowles Road	4	0.75	48	0	46	0	49	2
College Drive	4	1.46	54	0	56	0	57	0
Alabama 165	4	0.77	55	0	43	13	43	14

Summerville Road - [northbound]	# Runs	Segment Distance [miles]	AM Rush Hour Average Speed [mph]	AM Rush Hour Average Congested Time [seconds]	Off Peak Average Speed [mph]	Off Peak Average Congested Time [seconds]	PM Rush Hour Average Speed [mph]	PM Rush Hour Average Congested Time [seconds]
14th Street	3	0.08	13	15	9	27	16	11
Railroad Street	3	0.31	20	19	21	22	22	12
Stadium Drive	3	1.81	21	95	27	26	24	61
US 80 [eastbound] Ramps	3	0.03	14	6	24	2	6	16
US 80 [westbound] Ramps	3	0.09	28	1	26	2	27	1
Lakewood Drive	3	0.31	25	9	26	9	25	14
Fletcher Drive	3	0.51	31	2	30	1	31	4
River Chase Drive	3	0.73	32	9	37	0	29	19
Oakhurst Drive	3	2.72	40	1	40	2	43	0
US 280	3	1.32	42	7	40	11	46	0

Summerville Road - [northbound]	# Runs	Segment Distance [miles]	AM Rush Hour Average Speed [mph]	AM Rush Hour Average Congested Time [seconds]	Off Peak Average Speed [mph]	Off Peak Average Congested Time [seconds]	PM Rush Hour Average Speed [mph]	PM Rush Hour Average Congested Time [seconds]
Oakhurst Drive	3	1.32	29	47	40	4	30	49
River Chase Drive	3	2.72	39	11	40	11	43	10
Fletcher Drive	3	0.73	38	1	38	1	39	1
Lakewood Drive	3	0.51	33	2	26	17	34	4
US 80 [westbound] Ramps	3	0.31	27	6	21	19	25	11
US 80 [eastbound] Ramps	3	0.09	28	0	31	1	23	7
Stadium Drive	3	0.03	13	6	5	20	4	24
Railroad Street	3	1.81	28	19	23	84	25	66
14th Street	3	0.31	19	23	17	29	18	26
13th Street	3	0.13	14	23	8	45	12	25

<b>Martin Luther King Jr Parkway (US 431) and Summerville Road</b>	
<b><u>Primary Locations of Delay:</u></b>	No areas with significant delay problems were identified on these routes during the 2011 study.
<b><u>Possible Solutions:</u></b>	

# Opelika Road

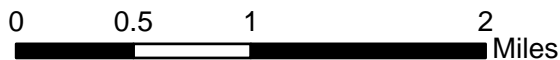
Crawford Road to US 280  
6.4 miles AM Rush Hour



## AM Rush Hour

### Average Congested Time

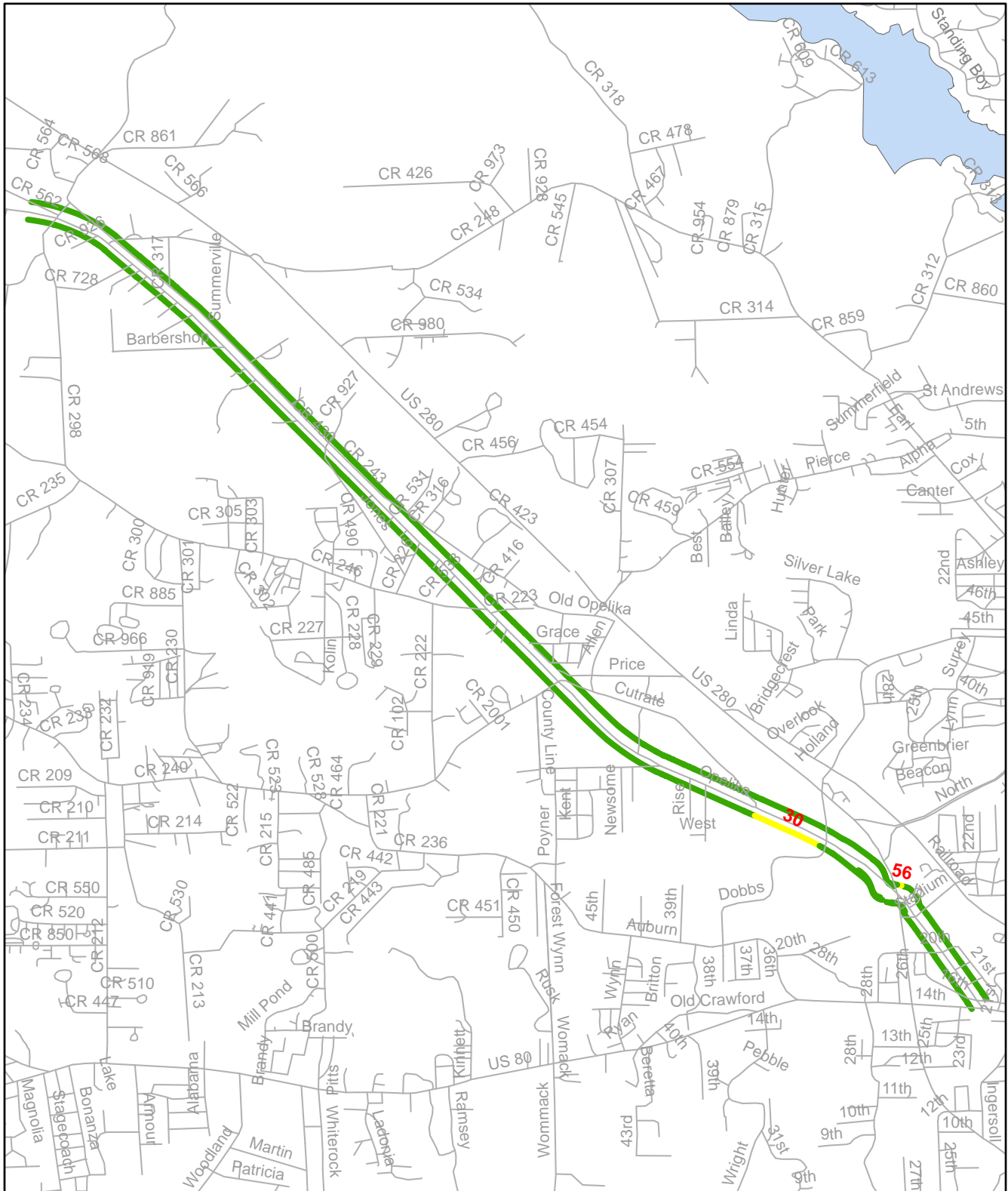
- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds





# Opelika Road

Crawford Road to US 280  
6.4 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

0 - 30 seconds

31 - 60 seconds

60 seconds - 180 seconds

0 0.5 1 2 Miles



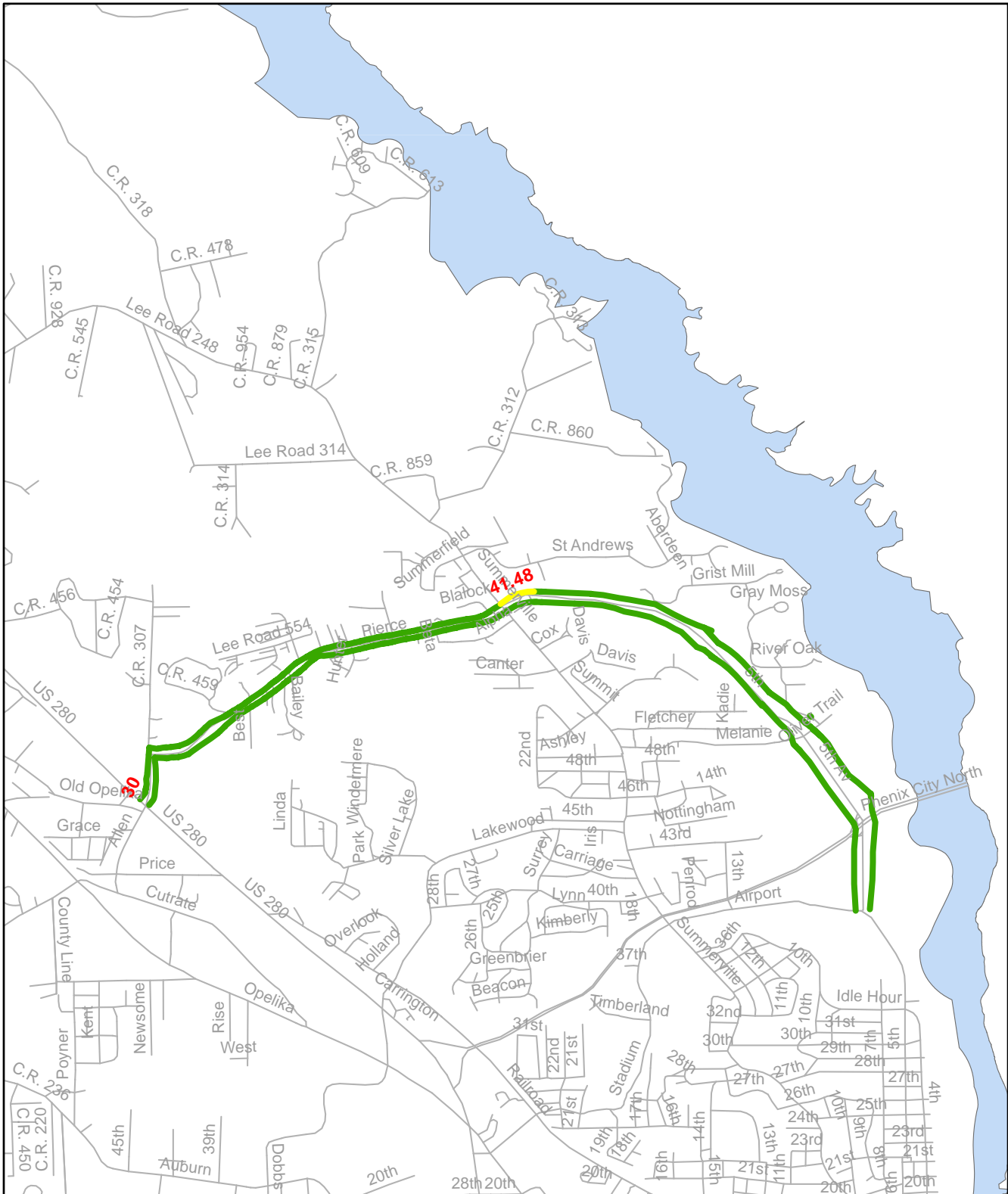
<b>Opelika Road - [north]</b>	<b># Runs</b>	<b>Distance [miles]</b>	<b>AM Rush Hour Speed [mph]</b>	<b>Congested Time [seconds]</b>	<b>Off Peak Speed [mph]</b>	<b>Congested Time [seconds]</b>	<b>PM Rush Hour Speed</b>	<b>Congested Time [seconds]</b>
Stadium Drive	3	0.58	33	0	36	0	34	1
US 280	3	0.16	7	64	8	55	6	85
Lakewood Drive	3	0.85	54	10	48	25	44	21
County Route 298	3	5.07	39	11	41	16	41	13
(Route End)	3	0.13	30	4	31	4	23	10
<b>Opelika Road - [south]</b>	<b># Runs</b>	<b>Distance [miles]</b>	<b>AM Rush Hour Speed [mph]</b>	<b>Congested Time [seconds]</b>	<b>Off Peak Speed [mph]</b>	<b>Congested Time [seconds]</b>	<b>PM Rush Hour Speed</b>	<b>Congested Time [seconds]</b>
County Route 298	3	0.13	10	39	14	25	11	37
Lakewood Drive	3	5.07	42	22	40	26	37	50
US 280	3	0.46	21	35	21	38	30	11
Stadium Drive	3	0.16	28	1	28	1	29	1
13th Street	3	0.58	31	1	38	0	32	0

<b>Opelika Road</b>	
Primary Locations of Delay:	No congested areas were identified in this study, measured delays were only related to stopped time at signalized intersections.
Possible Solutions:	



# Pierce Road/River Chase Drive

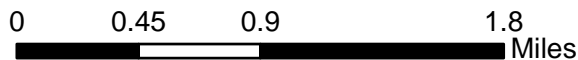
US 280 to Stadium Drive  
4.2 miles PM Rush Hour



## PM Rush Hour

### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds

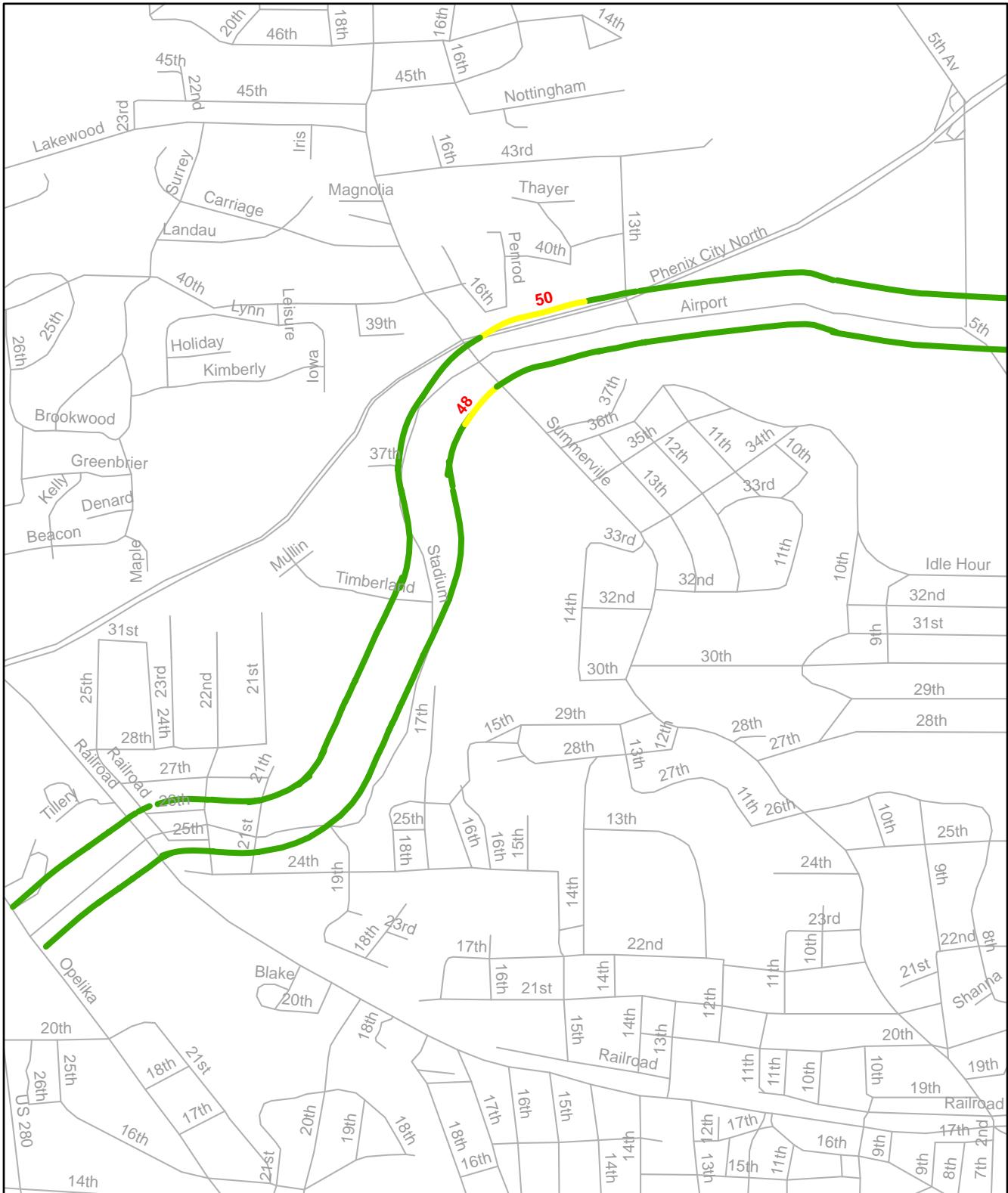


<b>Pierce Road / River Chase Drive [eastbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Glover Road (CR 307)	3	0.18	18.59	19	25.95	5	23.65	0
Summerville Road	3	1.66	28.34	55	35.77	23	34.31	19
US 80 Interchange	3	1.87	44.48	0	47.54	0	44.65	2
Airport Road	3	0.46	40.25	0	42.82	1	41.71	0
<b>Pierce Road / River Chase Drive [westbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time</b>
US 80 Interchange	3	0.46	37.16	3	42.09	2	44.52	0
Summerville Road	3	1.87	41.79	11	46.35	2	36.37	31
Glover Road (CR 307)	3	1.66	38.24	8	41.01	7	36.54	5
US 280	3	0.18	9.06	53	8.71	56	12.3	23

<b>Pierce Road/River Chase Drive</b>	
<u>Primary Locations of Delay:</u>	<ul style="list-style-type: none"> <li>• Intersection of River Chase Drive and Summerville Road. Traffic queues up behind left turn traffic waiting for gap in oncoming traffic.</li> <li>• Intersection of off-ramp from westbound US 80 (North Bypass) and River Chase Drive sees lengthy queues on off-ramp during the PM Rush Hour.</li> </ul>
<u>Possible Solutions:</u>	<ul style="list-style-type: none"> <li>• Adding left turn lanes on River Chase and Pierce at Summerville would allow for through traffic to flow through efficiently on green signal.</li> <li>• Making intersection of River Chase Drive and the North Bypass westbound off-ramp a three way stop or installing a roundabout would allow for more efficient flow of traffic.</li> </ul>

# Stadium Drive

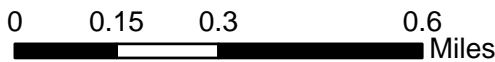
# Opelika Road to River Chase Drive 2.5 miles AM Rush Hour



## AM Rush Hour

### Average Congested Time

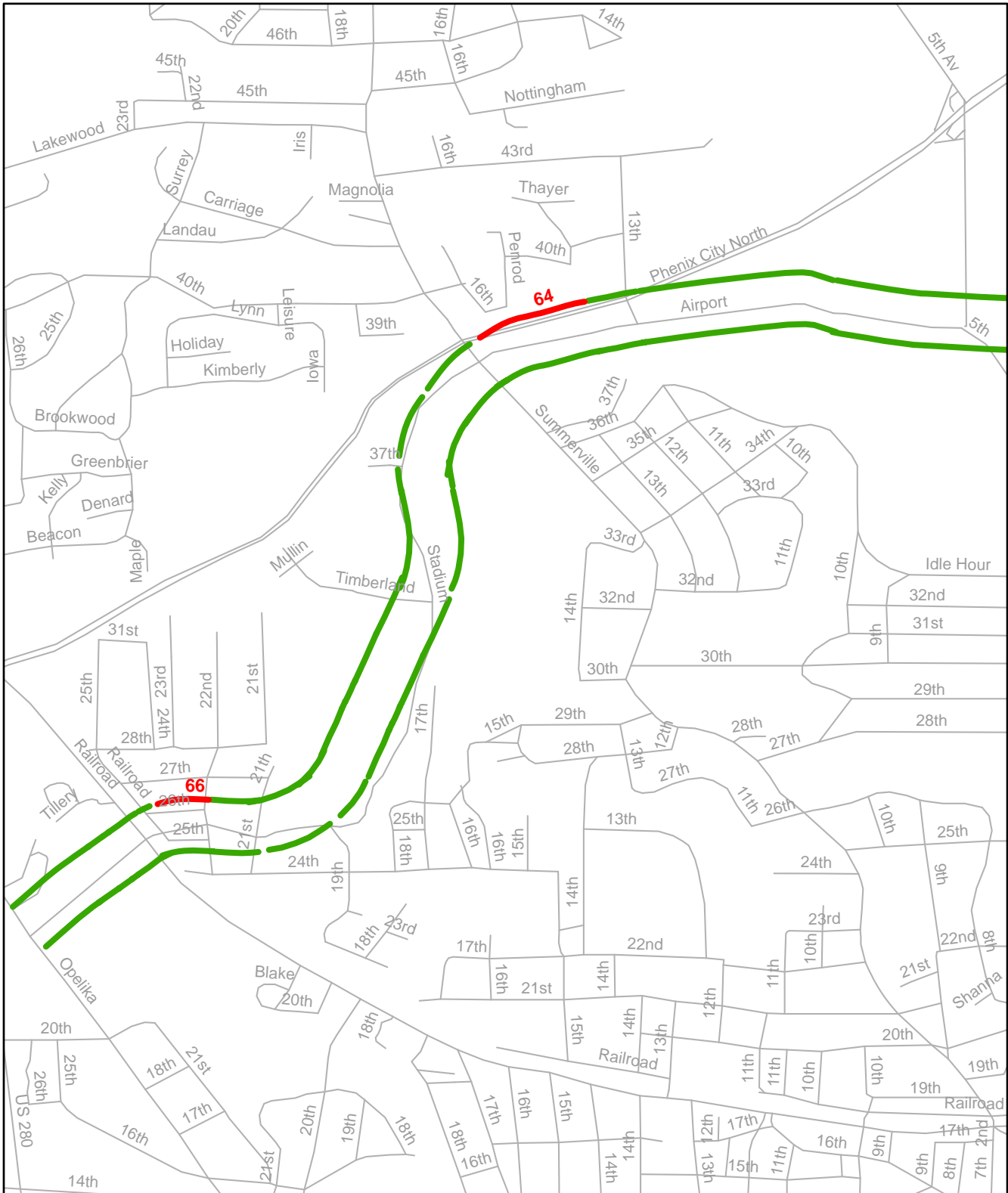
- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds





# Stadium Drive

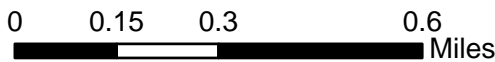
## Opelika Road to River Chase Drive 2.5 miles AM Rush Hour



### PM Rush Hour

### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds



<b>Stadium Drive - [eastbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Railroad Street	3	0.26	18	23	19	23	22	14
Summerville Road	3	1.21	24	55	28	35	27	33
River Chase Drive	3	0.91	31	9	33	6	32	4

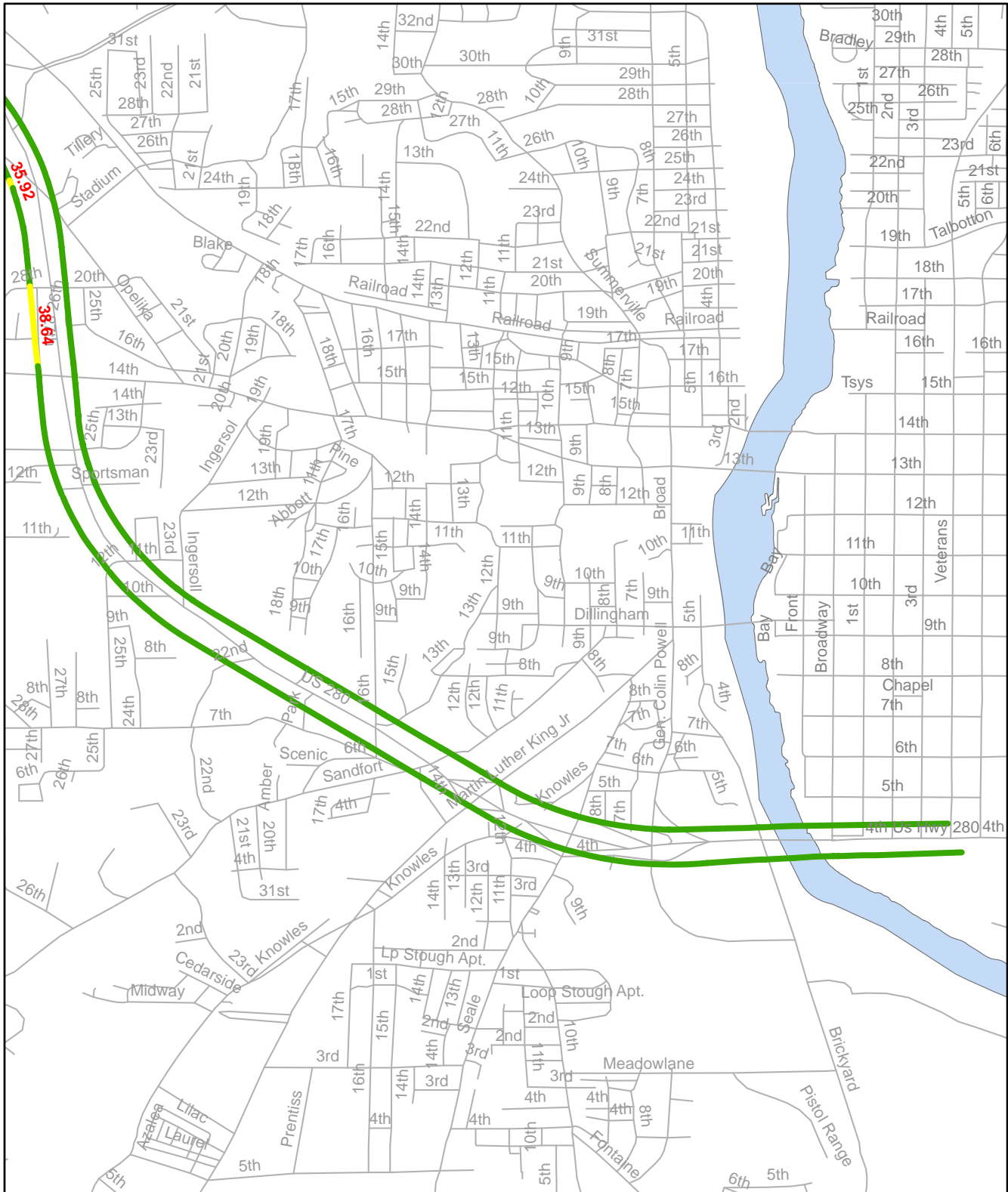
<b>Stadium Drive - [westbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Summerville Road	3	0.91	22	52	22	56	20	64
Railroad Street	3	1.21	23	65	23	71	23	71
Opelika Road	3	0.26	18	22	20	19	19	20

<b>Stadium Drive</b>	
Primary Locations of Delay:	Intersection of Stadium Drive and North Railroad Street has delays due to uneven railroad crossing grade next to intersection.
Possible Solutions:	Project planned to correct grading issue and resolve problem.



# US Highway 280

## Summerville Road to Veterans Parkway 8.6 miles AM Rush Hour



### AM Rush Hour

### Average Congested Time

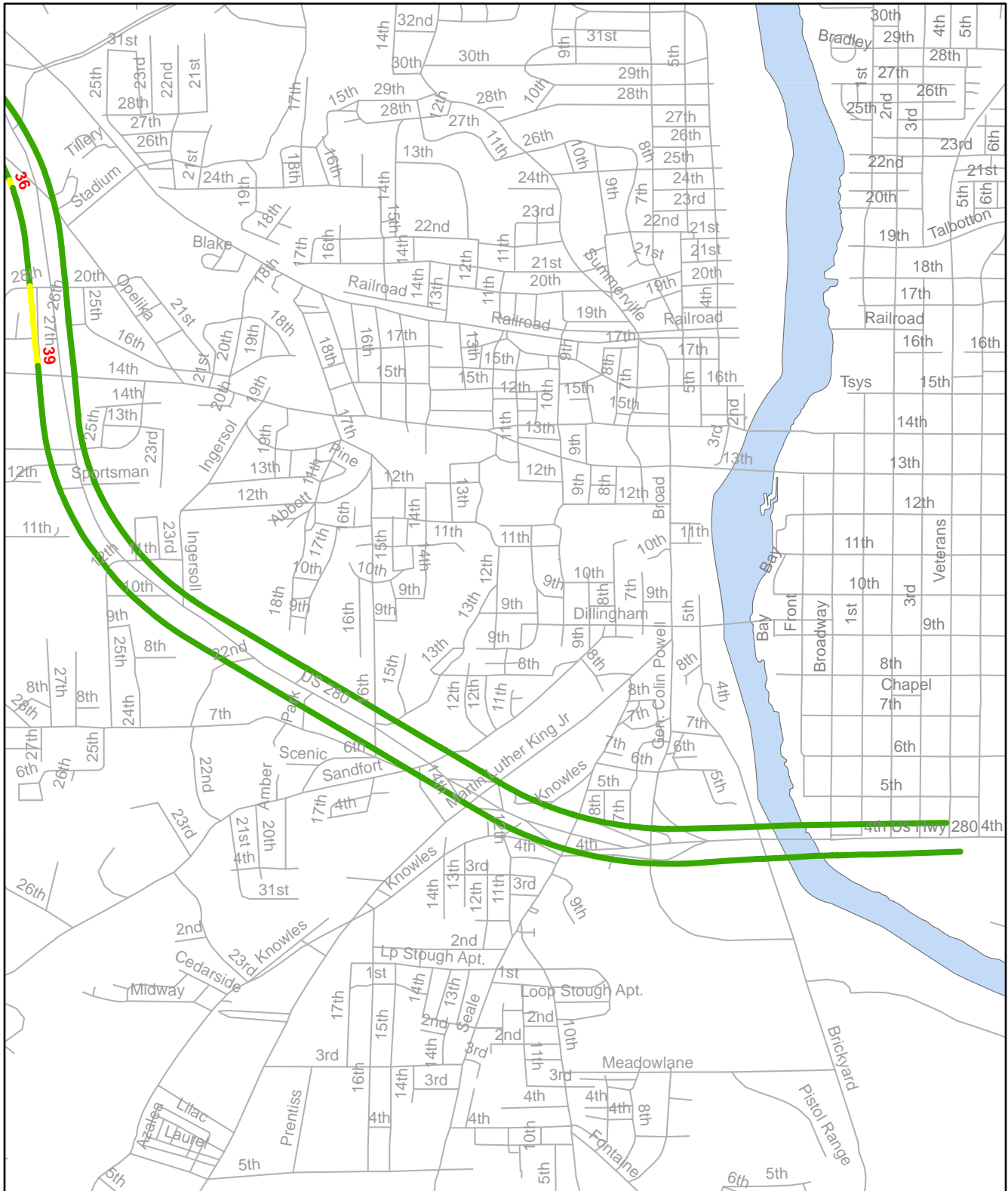
- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds

0 0.3 0.6 1.2 Miles



# US Highway 280

## Summerville Road to Veterans Parkway 8.6 miles PM Rush Hour



### AM Rush Hour

### Average Congested Time

0 - 30 seconds

31 - 60 seconds

60 seconds - 180 seconds

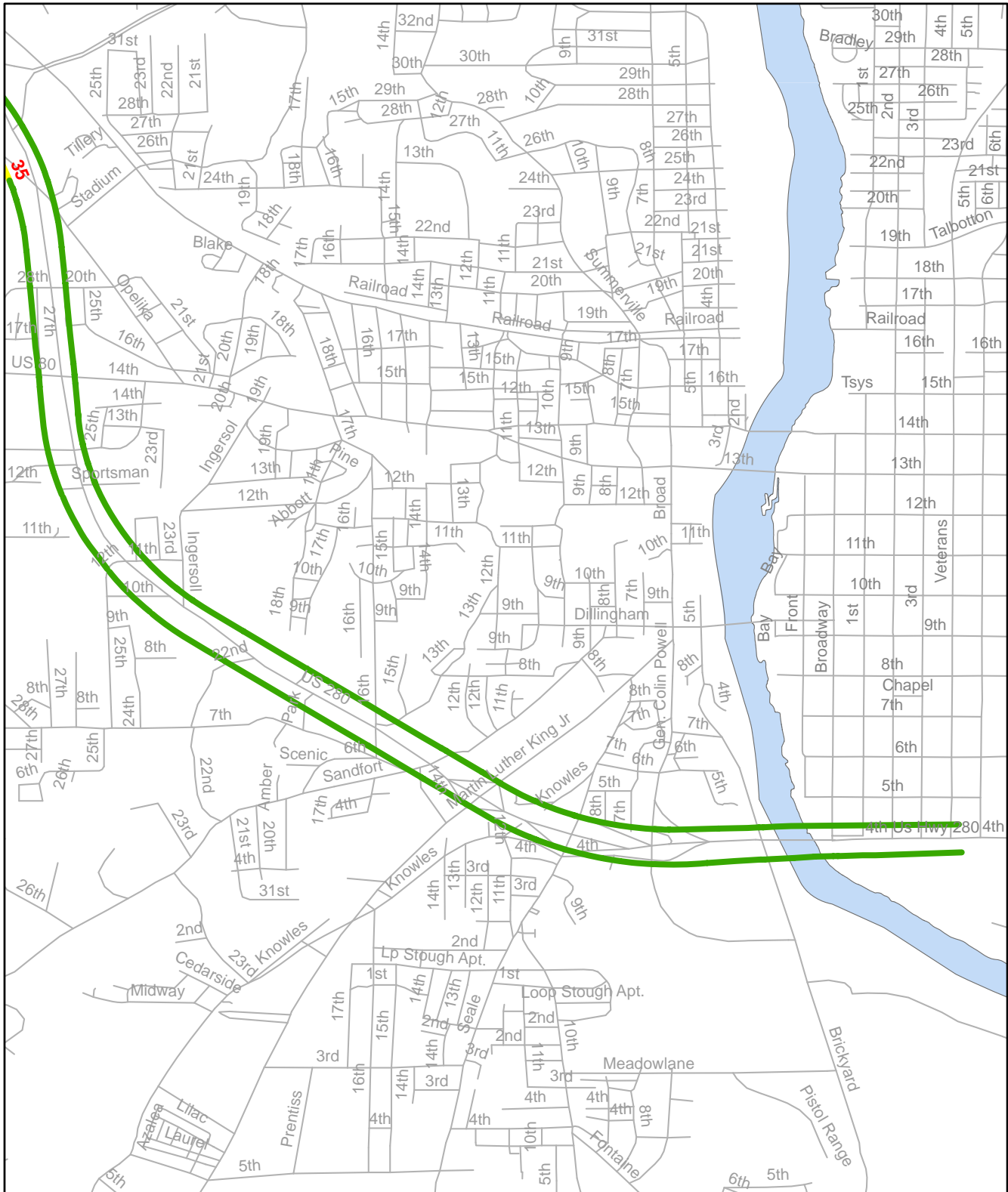
0 0.3 0.6 1.2 Miles





# US Highway 280

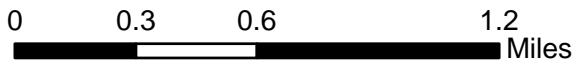
## Summerville Road to Veterans Parkway 8.6 miles PM Rush Hour



### PM Rush Hour

#### Average Congested Time

- 0 - 30 seconds
- 31 - 60 seconds
- 60 seconds - 180 seconds





<b>US 280 - [eastbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Pierce Road	8	2.71	48	35	50	23	55	12
South Railroad/Walmart	8	0.7	45	1	40	4	38	14
North Bypass Offramp	8	0.86	42	5	42	5	17	113
Opelika Road	8	0.43	18	52	25	26	15	64
Crawford Road	8	0.63	22	44	22	45	29	21
13th Street	8	0.23	26	6	19	19	31	4
22nd Street	8	0.82	36	9	24	45	36	9
16th Avenue	8	0.48	26	26	39	2	35	10
Broad Street	8	0.86	46	0	49	0	52	0
Second Avenue	8	0.67	47	0	49	0	55	0

<b>US 280 - [westbound]</b>	<b># Runs</b>	<b>Segment Distance [miles]</b>	<b>AM Rush Hour Average Speed [mph]</b>	<b>AM Rush Hour Average Congested Time [seconds]</b>	<b>Off Peak Average Speed [mph]</b>	<b>Off Peak Average Congested Time [seconds]</b>	<b>PM Rush Hour Average Speed [mph]</b>	<b>PM Rush Hour Average Congested Time [seconds]</b>
Broad Street	4	0.37	42	0	46	0	50	0
16th Street	4	0.87	44	8	43	9	35	25
22nd Avenue	4	0.47	37	7	30	17	36	7
25th Avenue	4	0.4	25	22	26	19	25	23
13th Street	4	0.4	34	7	23	27	21	32
Crawford Road	4	0.23	32	1	12	46	11	55
Opelika Road	4	0.61	26	29	22	44	35	6
US 80 Offramp	4	0.45	29	20	44	0	28	22
Railroad Street / Walmart	4	0.84	37	18	34	19	31	24
Pierce Road	4	0.69	44	0	39	8	47	0
Summerville Road	4	2.82	59	0	53	19	65	0

<b>US 280 - Alabama</b>	
Primary Locations of Delay:	<ul style="list-style-type: none"> <li>• Intersection of US 280 and Crawford Road.</li> <li>• Corridor between Crawford Road and 25<sup>th</sup> Street</li> </ul>
Possible Solutions:	<ul style="list-style-type: none"> <li>• Phenix City has an ongoing project with consultant firm to work on the signal timings and synchronization in the Crawford Road to 16<sup>th</sup> Street corridor.</li> <li>• Applying an access management plan for corridor and possibly reducing the number of signals between Crawford Road and 25<sup>th</sup> Street may help traffic flow.</li> <li>• Constructing extension of existing North Bypass to Crawford Road would help alleviate congested intersections at Crawford Road, Opelika Road and North Bypass.</li> </ul>

## **CHAPTER 7**

### **SUMMARY OF FINDINGS AND RECOMMENDATIONS**

The 2011 Congestion Management Process study has categorized the extent of congestion for the 38 routes measured in the Columbus-Phenix City region. Our findings concluded that much of the road network is presently functioning at an acceptable level of service; however we have indicated particular segments where congestion does exist.

#### **Recommended Strategies:**

In our route summaries, we provided suggestions on how congestion problems could be improved at specific routes. These recommendations, based on first hand observation and assessment well grounded in planning and engineering practices, are intended as advisory, however, such suggestions would be subject to further study and scrutiny under an actual preliminary engineering study.

The recommended strategies are summarized in this chapter, according to the strategy classes and groups described in Chapter 3.

#### **Traffic Operational Improvements**

The strategies recommended most frequently can be categorized as “traffic operations improvements”. Under the umbrella of this strategy, large scale road construction projects are not the objective, but rather improving traffic flow through spot modifications and operational changes.

Items in this group include:

- A) Intersection control improvements (e.g. signal system modifications, roundabouts)
- B) Roadway geometric improvements (e.g. correcting doglegs, adding turn lanes)
- C) Time of day restrictions (lane control systems, turn restrictions, one way streets)
- D) Ramp metering (sequencing entry of cars onto freeways during peak hours)
- E) Commercial vehicle improvements (establishing corridors for thru commercial traffic and working to eliminate or mitigate barriers for local freight).
- F) Construction management (applying strategies to minimize traffic network delay while ensuring safe working conditions on road/building construction sites)

The TravTime software utilized the measured travel times for each segment and compared them to the optimal travel time that could be achieved. In turn, it calculated the level of service for each overall route for each time period as shown below. These are shown in terms of system mileage below.

**Table 7-1  
Level of Service Ratings by Route and Time Period**

**A.M. Rush Hour**

Level of Service	Mileage	Percentage
LOS A:	146.2	37%
LOS B:	161.1	41%
LOS C:	81.2	20%
LOS D:	8.1	2%
Total:	396.6	100%

**Off Peak Hour**

Level of Service	Mileage	Percentage
LOS A:	161.1	41%
LOS B:	161.8	41%
LOS C:	59.2	15%
LOS D:	14.4	4%
Total:	396.6	100%

**P.M. Rush Hour**

Level of Service	Mileage	Percentage
LOS A:	127.7	32%
LOS B:	172.4	43%
LOS C:	74.7	19%
LOS D:	21.9	6%
Total:	396.6	100%





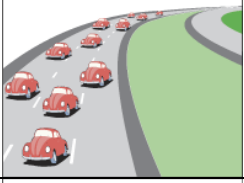

The Columbus-Phenix City Metropolitan Planning Organization seeks to have roads in our network functioning at a level of service rating of “C” or better. As demonstrated above, most roads (measured end to end) are functioning at this threshold, with the exception of some routes where this may not be occurring.

**Table 7-2 - Routes Rated At Level of Service “D”**

A.M. Rush Hour:	1. Armour Road [northbound] and [southbound] 2. Talbotton Road [westbound]. 3. Williams Road [eastbound]
Off Peak:	1. Whitesville Road [northbound] 2. Armour Road [northbound] and [southbound] 3. Veterans Parkway [northbound from Victory Drive to 10 <sup>th</sup> Ave.] * 4. 13 <sup>th</sup> Street [eastbound]. 5. Saint Marys Road [eastbound]
P.M. Rush Hour:	1. Veterans Parkway [southbound from 10 <sup>th</sup> Ave. to Victory Drive] * 2. Beaver Run Road [westbound] 3. 54 <sup>th</sup> Street [eastbound] 4. Whittlesey Road [eastbound]. 5. Talbotton Road [eastbound] 6. Armour Road [northbound] and [southbound] 7. 13 <sup>th</sup> Street [westbound] and [eastbound]

\* Streetscapes construction was taking place on Veterans Parkway between 10<sup>th</sup> Street and Victory Drive at the time of the data collection, skewing our results on that route segment.

**Table 7-3 - Characteristics and Descriptions of Level of Service**

	<p><b>LOS A</b> Represents the best operating conditions and is considered free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Frequently occurs late at night in urban areas and often found in rural areas.</p>
	<p><b>LOS B</b> Represents reasonably free-flowing conditions but with some influence by others.</p>
	<p><b>LOS C</b> Represents a constrained constant flow below speed limits, with additional attention required by the drivers to maintain safe operations. Comfort and convenience levels of the driver decline noticeably.</p>
	<p><b>LOS D</b> Represents traffic operations approaching unstable flow with high passing demand and passing capacity near zero, characterized by drivers being severely restricted in maneuverability.</p>
	<p><b>LOS E</b> Represents unstable flow near capacity. LOS E often changes to LOS F very quickly because of disturbances (road conditions, accidents, etc.) in traffic flow.</p>
	<p><b>LOS F</b> Represents the worst conditions with heavily congested flow and traffic demand exceeding capacity, characterized by stop-and-go waves, poor travel time, low comfort and convenience, and increased accident exposure.</p>

**Potentially Applicable Strategies for Addressing Identified Congestion Issues**

Access Management – This strategy includes such practices such as shared access and intra parcel connectivity. Access management techniques strive to preserve the functionality of a facility by controlling movement to/from it. By providing intra parcel connectivity, consumers can access various services in proximity to one another by using the secondary roads as opposed to having to return to the main route for short trips between the properties.

Travel Demand Management (TDM) - This is a strategy where employers take the initiative to reduce traffic congestion on surrounding roads by shifting work schedules to lessen the number of employees arriving or leaving in a short window of time. Commonly known as “flex time”, this begins the work day earlier or later than the traditional 8 A.M. and/or ends earlier or later than 5 P.M. This can be combined

with other actions such as offering the opportunity to telecommute, providing incentives for carpool or transit utilization as an alternative to using the single occupancy vehicle for commuting to work.

Non-motorized modes– Bicycle and pedestrian infrastructure improvements have been implemented in some corridors (e.g. Fall Line Trace and Riverwalk multi-use trails). Sidewalks and bicycle routes will be evaluated during the preliminary engineering for new projects. If this evaluation is positive on their feasibility, then it will advance forward for consideration of inclusion on the final project.

Incident Management - Both Alabama and Georgia law permit motorists involved in minor vehicle crashes where no injuries have occurred to move their vehicles from the travel lanes. Other regions, such as Birmingham and Atlanta have signs erected along major roadways to inform motorists of these provisions. There are not any in the Columbus-Phenix City region, consequently motorists involved in fender benders remain stopped in the travel lane presuming they can't move until police arrive and finish writing an accident report. Such signs should be considered for installation along major routes, such as Veterans Parkway, Second Avenue, US 280 and J.R. Allen Parkway.

**Figure 7-1**  
**Example of Move Damaged Vehicles Sign:**

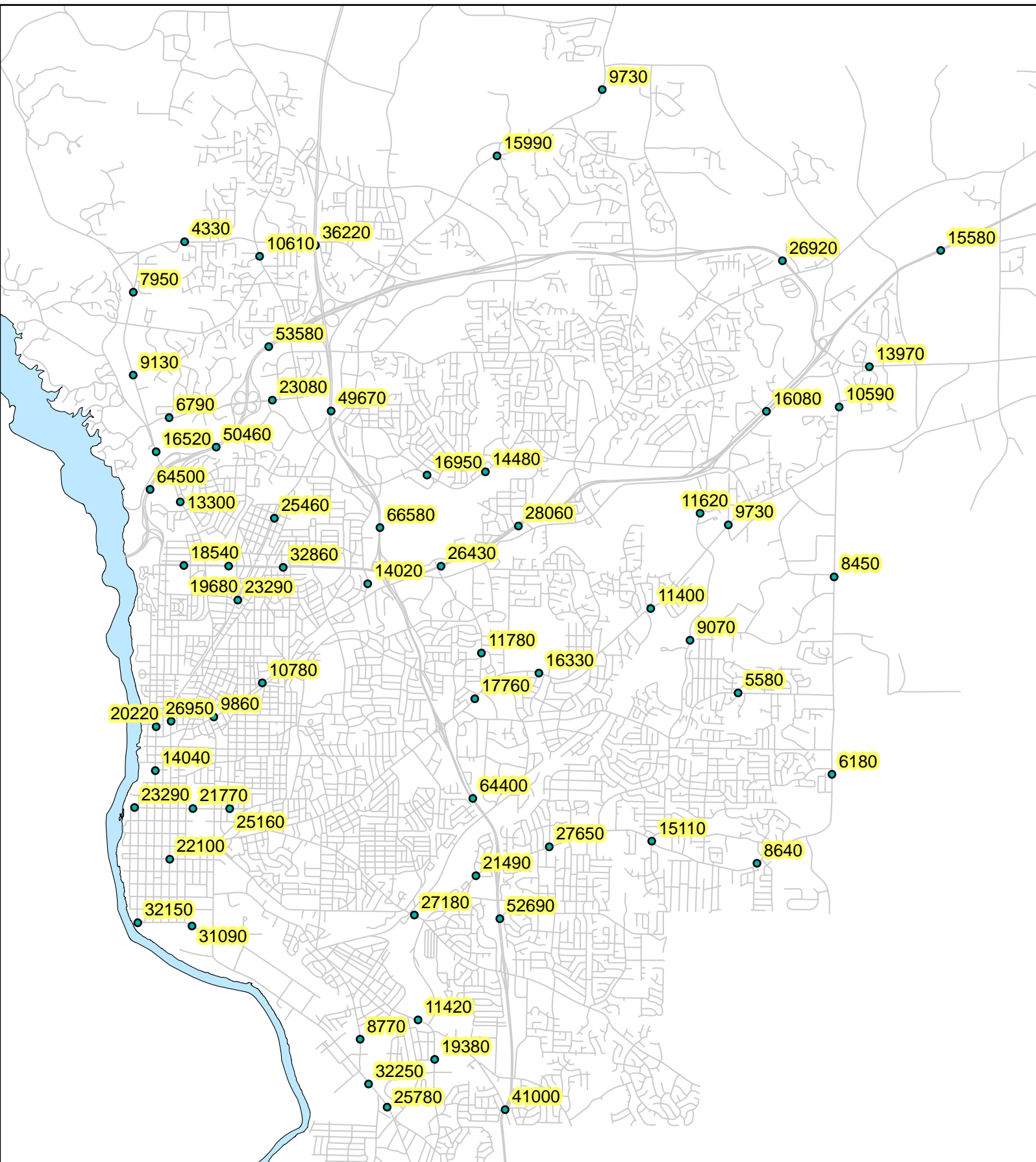


Intelligent Transportation Systems – Intelligent Transportation Systems (ITS) are developed to provide travelers and system operators with information concerning travel conditions. In the event of learning about an obstruction through the intelligent transportation system, a traveler may decide to adjust their route to avoid it. Such information can be disseminated through variable message boards, cell phones and the internet to citizens. Video imagery of traffic congested areas can be provided to operators at a central traffic control center. The Columbus Consolidated Government plans to soon launch their Automated Traffic Management System center at the Annex Building in the near future, which will allow a great deal of this functionality.

Capacity Expansion – Projects are presently underway or in advanced stages of planning to address some locations where congestion has been recurring. These include:

1. Widening of Whittlesey Road between Whitesville Road and Veterans Parkway.
2. Moon Road between Veterans Parkway and J.R. Allen Parkway (widening to 4 lanes).
3. Moon Road between Whittlesey Boulevard and Wilbur Drive (installing two-way center left turn lane)
4. Forrest Road from Macon Road to Schatulga Road (installing two-way center left turn lane)
5. Double Churches Road intersection with Veterans Parkway – additional turn lanes to be constructed to better accommodate turning traffic.
6. Double Churches Road and Whitesville Road – constructing new right turn lanes.
7. River Road at Bradley Park Drive – lengthening southbound left turn lane on River Road, adding right turn lane on westbound Bradley Park Drive.
8. Cusseta Road at Fort Benning Road/Brennan Road – realigning roads to create single intersection.
9. Widening of Talbotton Road from two to four lanes between 10<sup>th</sup> Avenue and Hilton Avenue.

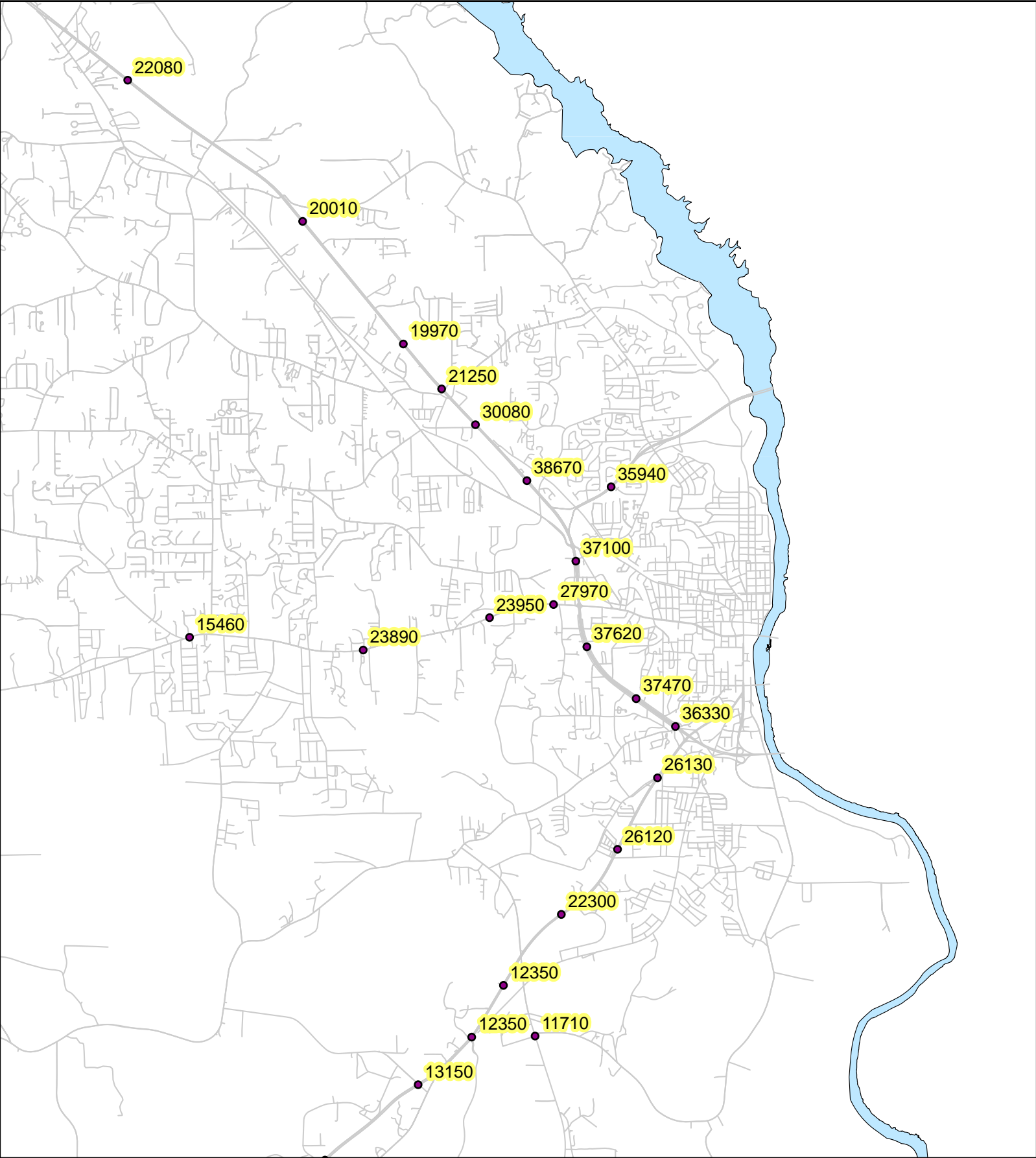
# Columbus-Phenix City Traffic Counts 2010 - Georgia



0 0.2 0.4 0.8 Miles



# Columbus-Phenix City Traffic Counts 2010 - Alabama



0 0.2 0.4 0.8 Miles