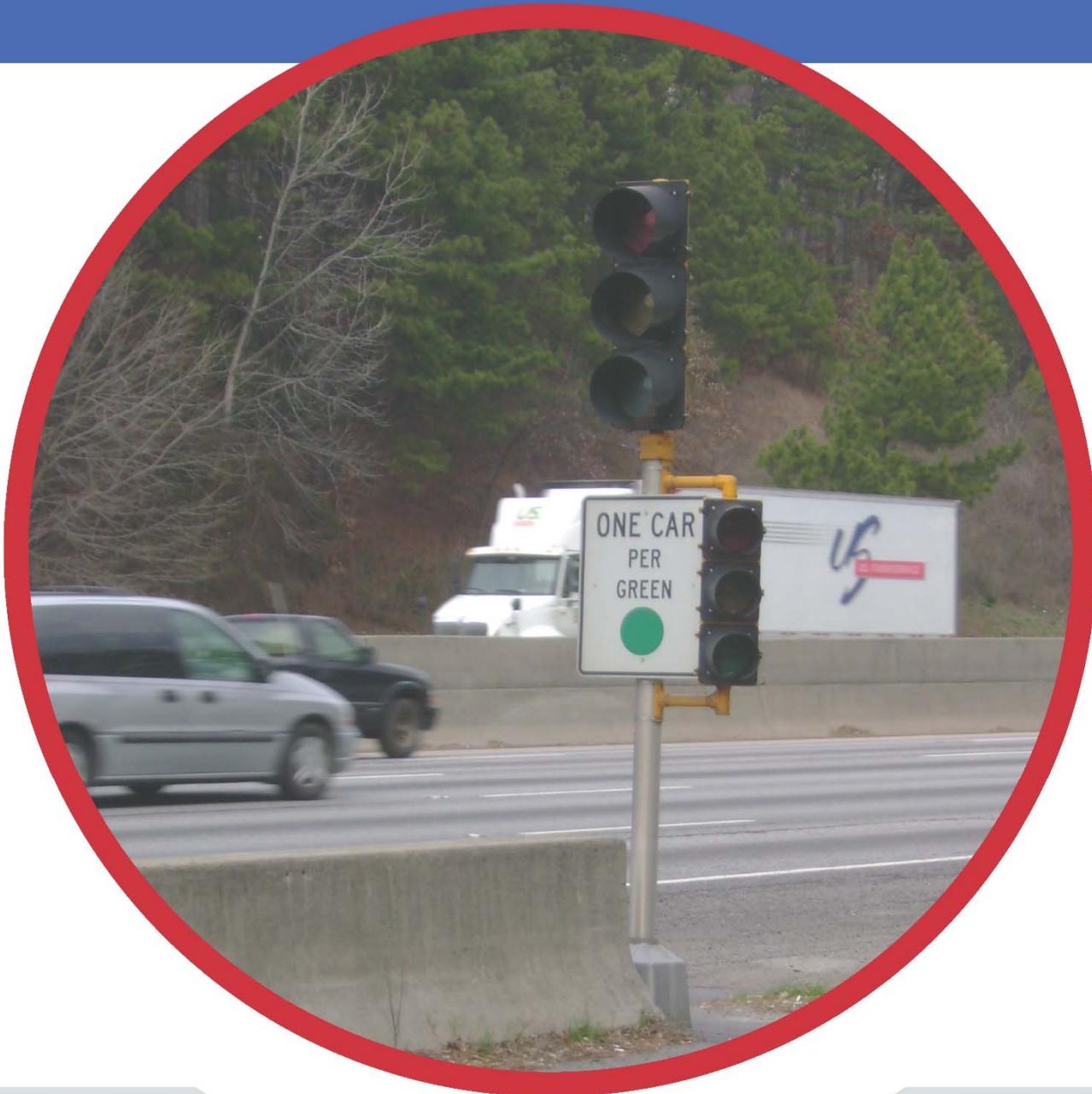


Screening Analysis



*M-0468 Ramp Metering Feasibility Study for
Cabarrus, Gaston, Iredell and Mecklenburg
Counties*

Notice

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Introduction

A key requirement of the Ramp Metering Feasibility Study is to identify which sites in the study area are suitable for ramp metering, should a decision be made to proceed with implementation. This report describes the screening analysis performed to select suitable sites from the list of all candidate sites.

The five-stage data analysis process included: (1) creation of a master List; (2) initial review of all candidate sites; (3) screening analysis following the initial review to identify sites not suitable; (4) and (5) detailed analysis of remaining viable sites. This report only covers the initial review (Task 2.1) and screening analysis (Task 3). This covers all sub-tasks under Task 2.1 in the study program and can be split down into the following sections for further discussion:

- Master List,
- Geometric Review,
- Congestion Review,
- Further Screening,
- Recommendations for Freeway to Freeway Sites and
- Summary.

The entire process covered in this report is shown in the flowchart in Figure 1.

The Master List identified 249 entrance ramps in the study area; a spreadsheet containing one row per entrance ramp (or site) was developed and is used throughout the analysis to record each site's information. This Master List spreadsheet acts as a single point of reference for high-level information so that questions can be answered quickly, accurately, and with minimal review work.

The initial review of the 249 sites included:

- Collecting geometric characteristics from aerial photography and noting, in particular, which sites are freeway-to-freeway (F2F).
- Identifying the level of congestion by analysis of NCDOT's congestion data, using the bottleneck ranking application of I-95 Corridor Coalition's Vehicle Probe Project (VPP) Suite.

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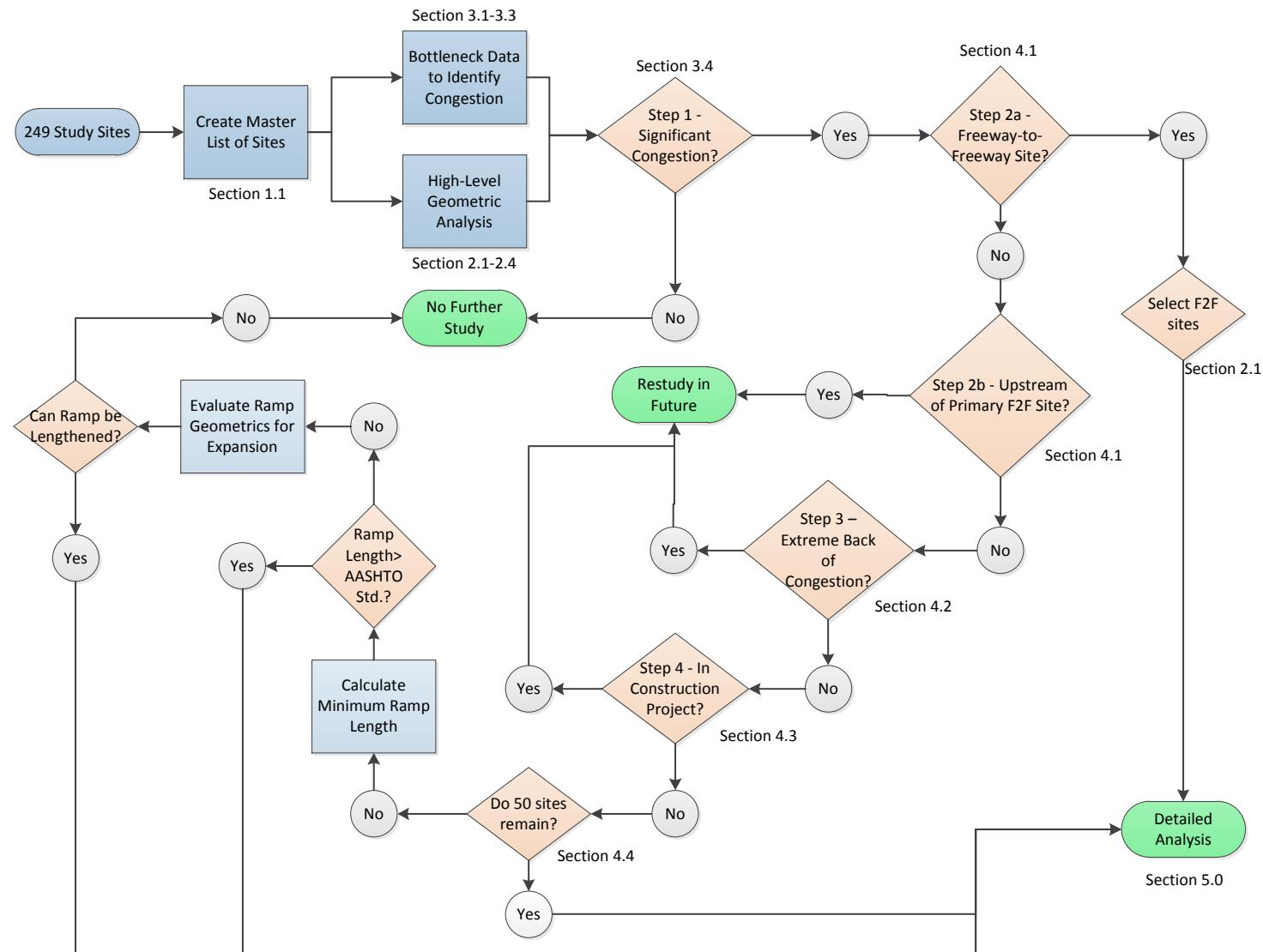


Figure 1. Relationship of Site Selection Subtasks and Report Sections

It is important to identify locations that are suitable in all respects for ramp metering so that the investment in the infrastructure provides positive benefits in relation to cost. In order to identify an entrance ramp that offers such benefits, its geometry, traffic volumes, and ability to improve observed congestion problems must be determined.

This report outlines the work undertaken to identify, from a list of 249 entrance ramps within the study area, those sites that are not suitable for ramp metering, and those that are suitable for implementation. The analysis completed to date has identified sites that can physically operate as ramp metering sites, have suitable traffic volumes, and are adjacent to observed congestion problems that could be improved if the site is implemented.

The sites are further categorized into those that are not currently suitable and those that are suitable and should be taken to the next stage, which consists of a high-level cost-benefit analysis that will be included in the Implementation Plan report. The following sections of this Screening Analysis report describe the tasks carried out to categorize the sites:

- Initial Review
- Screening Analysis
- Recommendations for Freeway to Freeway (F2F) Sites
- Summary
- Conclusions

An excerpt of the Master List summarizing how each of the 249 sites was categorized can be found in Appendix A. Appendix A also contains the high-level geometric data collected.

Appendix B contains the congestion scan data in the master list.

Appendix C contains the congestion scan from the bottleneck ranking application of the VPP Suite.

Appendix D contains a table that shows how the bottleneck scans (C series) were aggregated into the M series bottleneck scans.

Appendix E contains the assumptions made about congestion related to each potential site and the calculations performed based on these assumptions.

1. Master List

The initial review of all candidate sites is shown in Figure 2. The steps in yellow are discussed in this section of the report

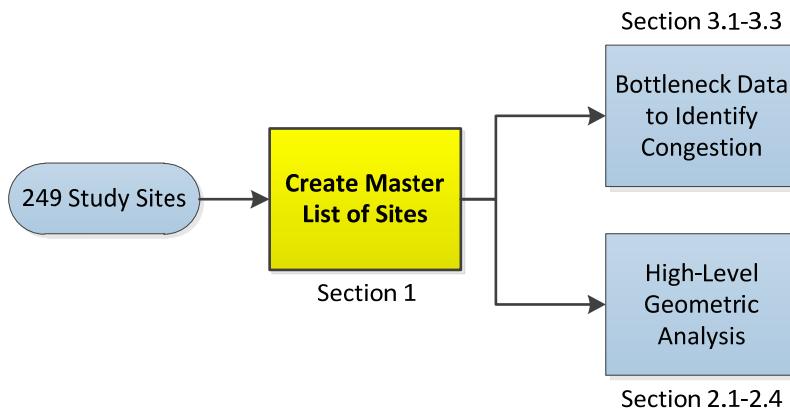


Figure 2. Relationship of Initial Review Subtasks

The initial review, which was performed to enable the screening analysis to take place, is described in the following subsections:

- 1.1. Master List
- 2. Geometric Analysis
- 3. Congestion Analysis

The Master List is a list of all candidate sites identified within the study area at the beginning of the study. This would cover any on ramp onto a limited access freeway, whether it is an Interstate, US or City routes.

There is one row in the master list per on-ramp location; information such as freeway name, cross street name, exit number, direction and county is included. If there are two on-ramps in the same direction at one location, these are recorded in separate rows as 'M1' (merge 1) and 'M2' (merge 2). These can be identified as the first and second merges you would encounter in the direction of travel on the freeway.

The first purpose of the Master List is to agree that all suitable candidate ramps that meet the above description are captured for consideration in the Ramp Metering Feasibility Study.

Once a candidate site has been identified and recorded, it remains in the Master List with a summary of information relating to it. This way, any site can be ruled out from further analysis at any point during the project, but information pertaining to the reasons for this are recorded in the list. This process provides a rigorous audit trail. If information is required in the future relating to any particular site, the Master List acts as a single point of reference for high level information enabling any questions to be answered quickly, accurately and with a minimum of review work.

Once the list of all candidate sites are agreed upon, each on-ramp is assigned a three-digit 'log' number. This is similar to a primary key in a database and allows any information gathered about a particular on-ramp to be recorded and recalled quickly without recourse to exit names, which can be time consuming and error prone. Additionally, the Master List can be extensively sorted and filtered, but easily returned to its original, logical order using the 'log' numbers.

The Master List records the outcomes of each of the different analyses carried out for the candidate sites. At the end of Task 2.1, the Master List currently contains information on field geometry, the congestion review and some further comments that have been made by the steering committee members since the list was finalized.

Figures 3 thru 6 show the study sites by county.

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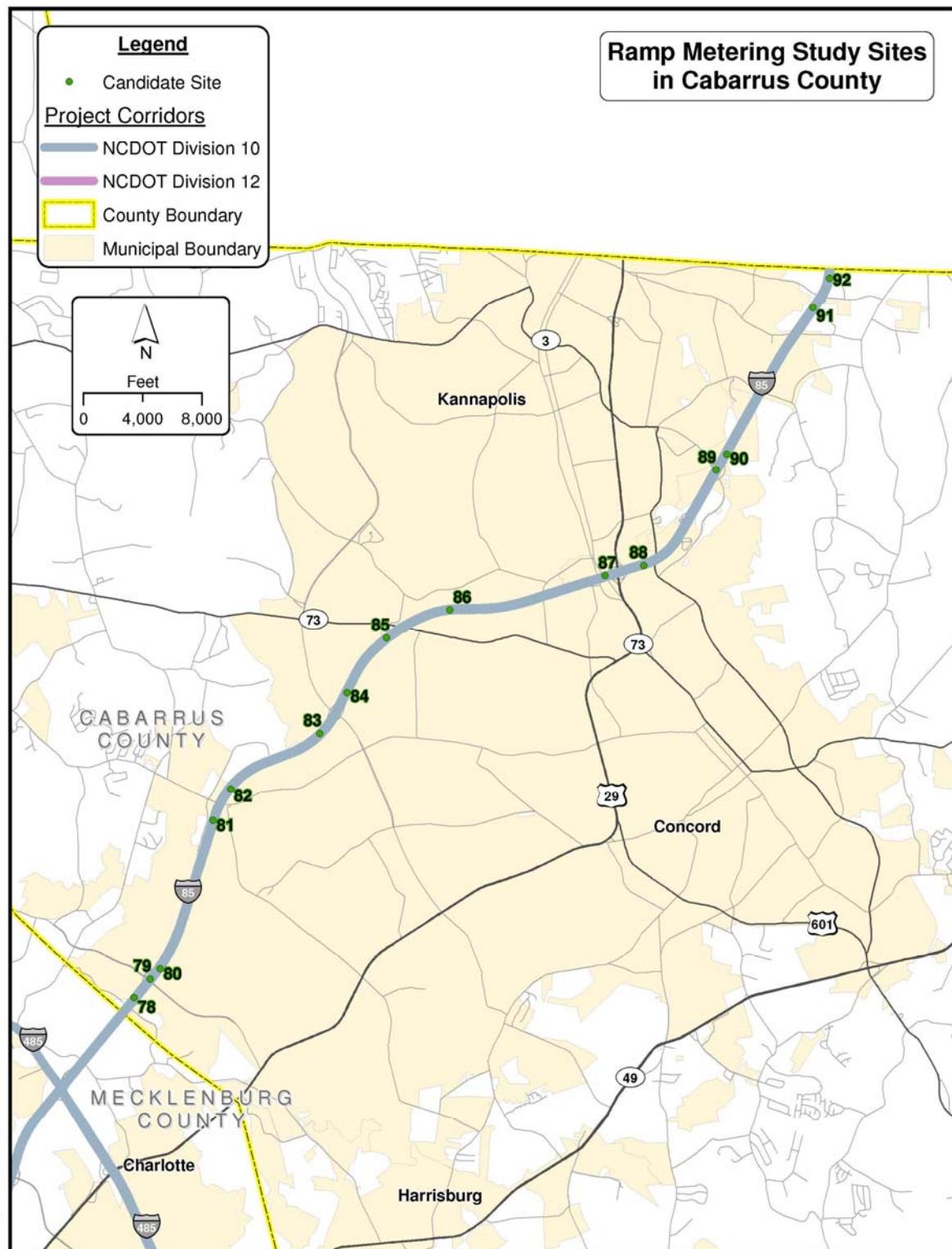


Figure 3. Ramp Meter Study Sites in Cabarrus County

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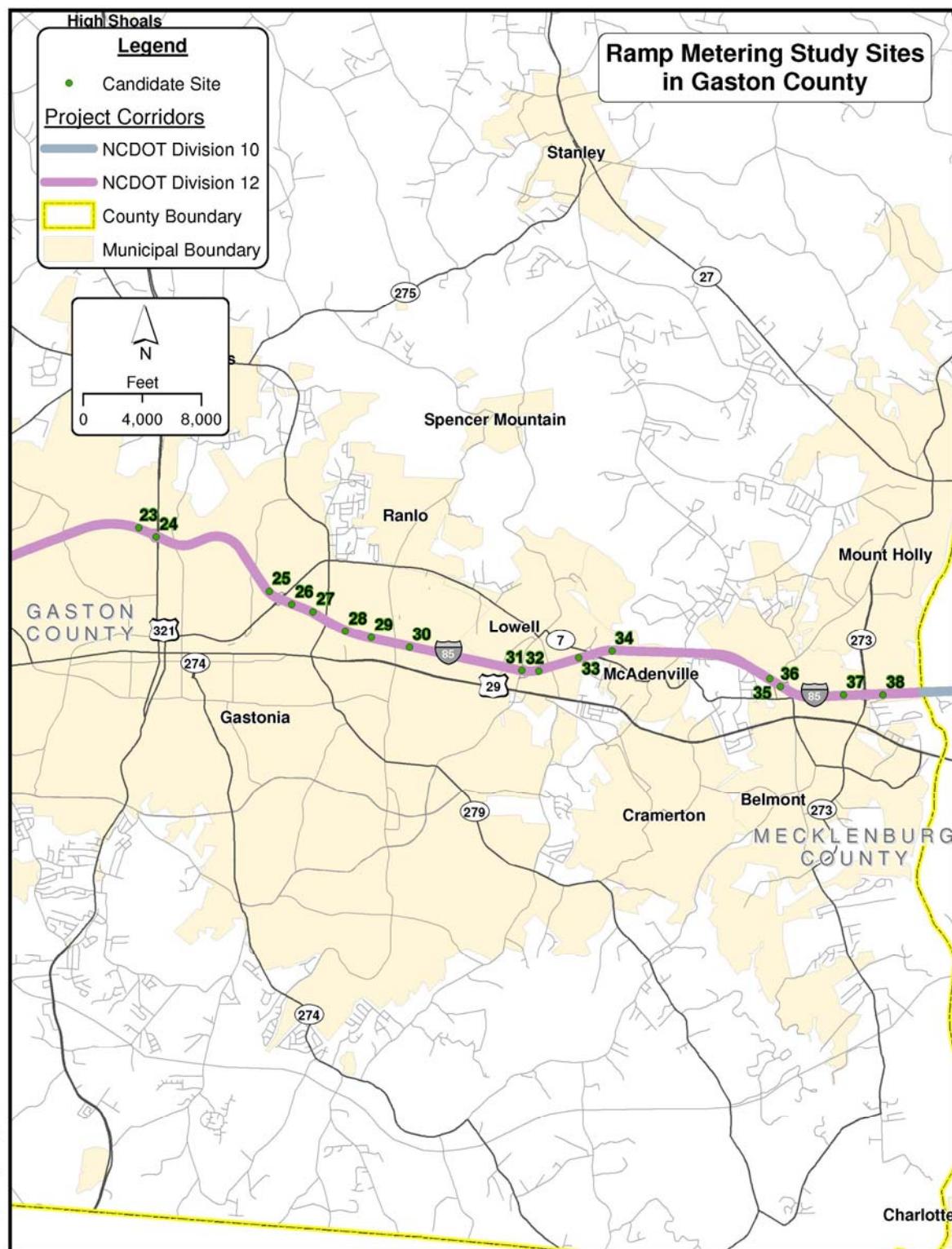


Figure 4. Ramp Meter Study Sites in Gaston County

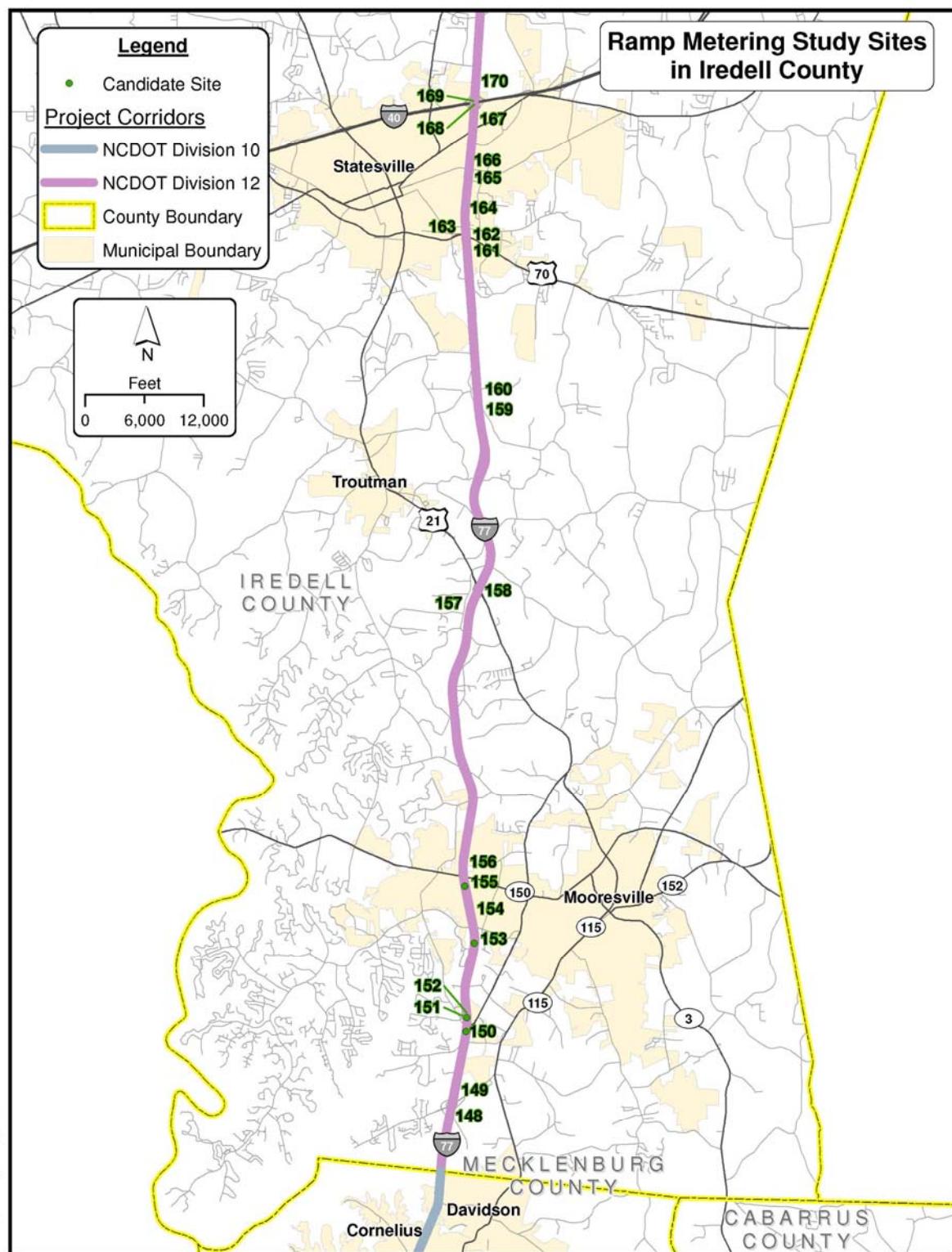
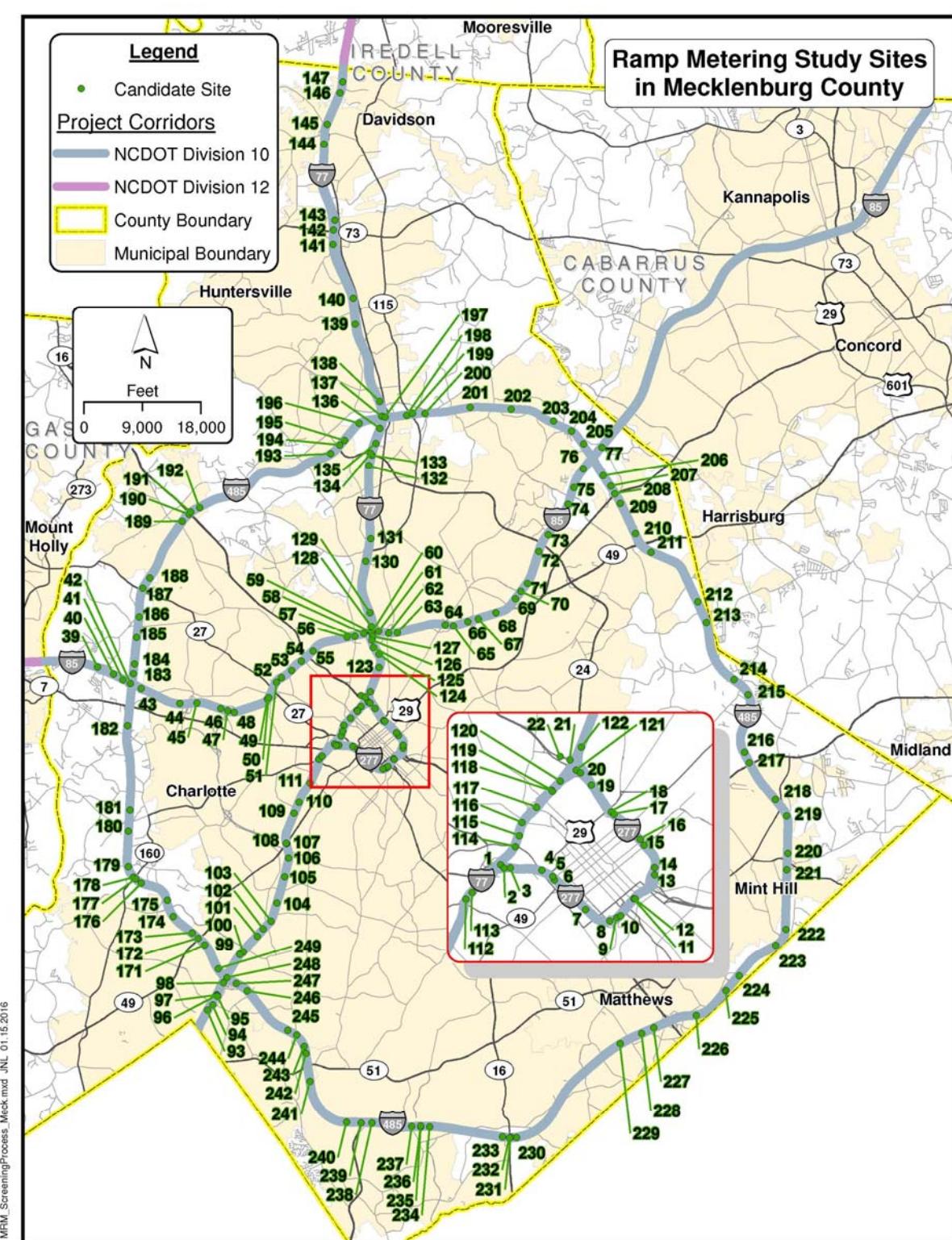


Figure 5. Ramp Meter Study Sites in Iredell County

**Figure 6. Ramp Meter Study Sites in Mecklenburg County**

2. Geometric Analysis

The geometric review was carried out to gather high-level information on each site and included the following tasks:

- Identify and agree the precise locations of each candidate site;
- Classify and confirm the existence of an on-ramp at each location;
- Identify freeway to freeway (F2F) sites;
- Collect high-level geometric data.

The relationship of the geometric analysis steps for all candidate sites is shown in Figure 7. The steps in yellow are discussed in this section of the report.

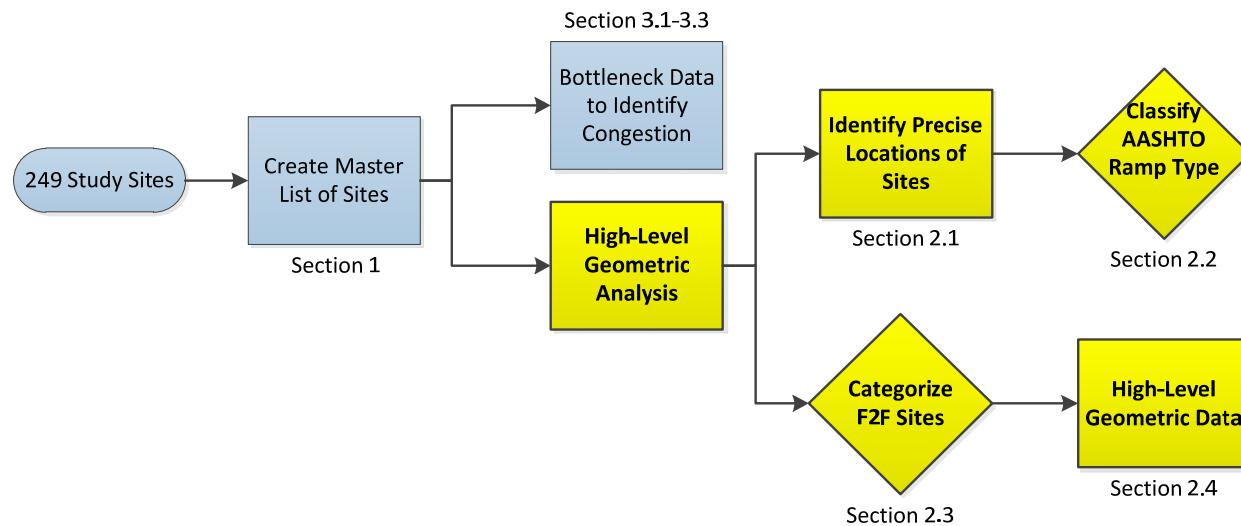


Figure 7. Relationship of Geometric Analysis Subtasks

The data described and collected in this section is included in Appendix A.

2.1. Precise Locations

Based on the descriptions of the candidate sites in the Master List, a Google Map file was produced where a ‘pin’ was placed at the merge point of each candidate on-ramp onto the freeway. One ‘pin’ was placed per row of the Master List, so each ‘pin’ is identified with the ‘log’ number. An example of the ‘pin’ placement is shown in Figure 8 at Site 62, I-85 NBD ramp to NBD ramp to I-85.

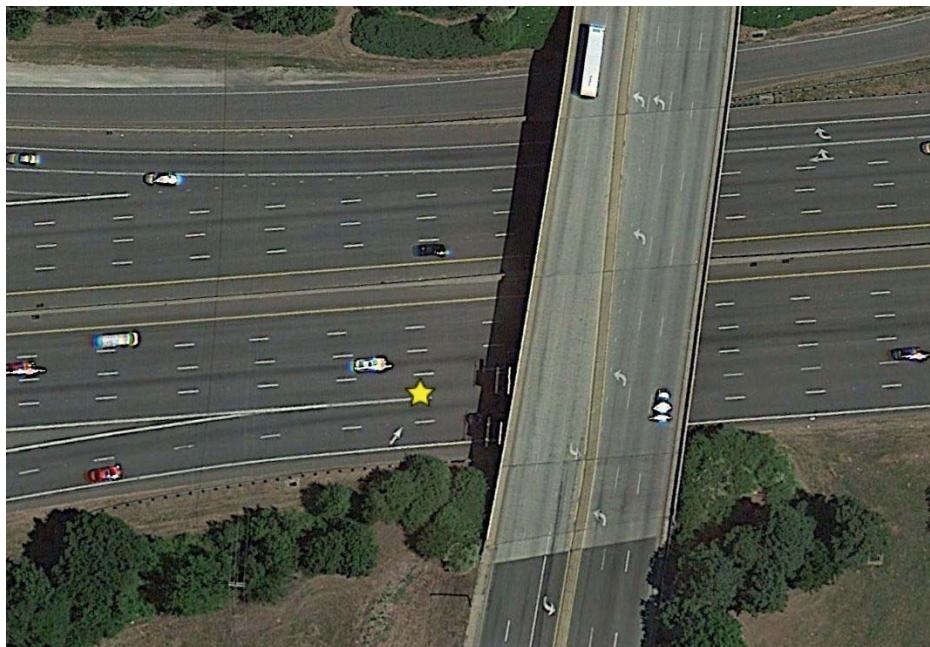


Figure 8. Google Map Example

The outcome of this process is useful as it allows a common understanding of the precise location of any candidate site, avoiding any confusion based on the descriptions. The .kmz file forms the basis for the spatial representation of any further information, such as congestion, which will assist the project team during the feasibility study.

2.2. Classify and Confirm Candidate Sites

Each candidate on-ramp was given a high-level classification based on the American Association of State Highway and Transportation Officials (AASHTO) ramp type definitions as follows:

- Direct ramp – a direct connection does not deviate greatly from its intended direction. Characterized by higher design speed and capacity. This could be anywhere in between a simple entrance ramp at a diamond interchange or a high-speed flyover ramp between two freeways that exits from the left and merges from the left.
- Indirect or loop ramp – low speed maneuver, lower capacity. Driver has to make a significant change in direction/alignment to make his intended maneuver.
- Semi-direct ramp – a semi-direct ramp requires some change in direction before reaching intended direction. An example is a ramp that angles off to the right as it leaves the original roadway and then curves back to the left to the destination roadway. Much higher design speed and capacity than indirect ramp but not as much as direct ramp.

The process of identifying and classifying the on-ramp locations confirmed the existence of an on-ramp at each location. This is important as many intersections have complicated layouts, which means only a detailed study, or existing knowledge of the area can identify whether movements are limited. For example, in the case of a collector distributor (CD) road a number of on-ramps can feed in to the CD road, but it would only be classified as one location

because there would only be one ramp metering location onto the main freeway from the CD road.

2.3. Identify Freeway-to-Freeway (F2F) Sites

NCDOT has specified, as a rule, that no F2F sites should be considered in this study. The following definition of an F2F site was established and agreed upon amongst the project team:

“F2F is a location where access is gained from one limited access highway to another, without the need to yield (apart from merging onto the main freeway) or obey stop signals.”

Using this definition, 47 of the 249 candidate sites were identified as being F2F; this information was recorded in the Master List allowing sites to be easily identified and filtered accordingly.

These sites are identified in the table in Appendix A

2.4. High-Level Geometric Data

In addition to the fundamental information for classifying each candidate site as described above, a high-level geometric review identified the following characteristics for each non-F2F site:

- Origin – a brief description of the interface between the local road and the on-ramp;
- Number of origins – captured the number of entrances onto the main on-ramp;
- Lane gain – whether there is a lane gain from the on-ramp onto the freeway;
- Length of lane addition – recorded the number of feet on the freeway before the lane gain either diverged or passed the next downstream on-ramp;
- Number of on-ramp lanes at the back of the gore – this is the number of lanes on the on-ramp in the approximate location that the Ramp Meter (RM) stop bar would be placed;
- Lane drop on the on-ramp – records whether the number of lanes on the main part of the ramp reduces along its length;
- Number of freeway lanes upstream of the merge;
- Number of freeway lanes downstream of the merge;
- On-ramp length to the back of the gore – records the length of the main section of the ramp up to the approximate location where the RM stop bar would be placed, see Figure 9 below;
- On-ramp length to the tip of the gore – records the length of the main section of the ramp to the location where it is possible to merge onto the freeway, see Figure 9 below;
- Merge length – the number of feet from where it is possible to begin merging to the point of convergence, this is where the merge taper becomes less than the width of a vehicle, see Figure 9 below;
- On-ramp curve – records whether the on-ramp is straight, slightly curved or tightly curved;

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- On-ramp grade – identifies whether the on-ramp is level, uphill or downhill;
- On-ramp shoulder – whether there is a shoulder, discontinuous shoulder or no shoulder on the on-ramp;
- Freeway shoulder – whether there is a shoulder, discontinuous shoulder or no shoulder on the on-ramp;
- Observations – any noteworthy observations on the ramp layout.

The geometric characteristics have been recorded in the Master List and give a useful overview of each candidate ramp meter site. They have not yet been used to filter the sites; however, the information can be used in the future to further filter or rank the sites if particular criteria are identified as being unsuitable or particularly desirable. The distances measured for on-ramp lengths to the back and tip of the gore and the merge lengths are shown in Figure 9.

This high-level geometric data is included in the table in Appendix A.

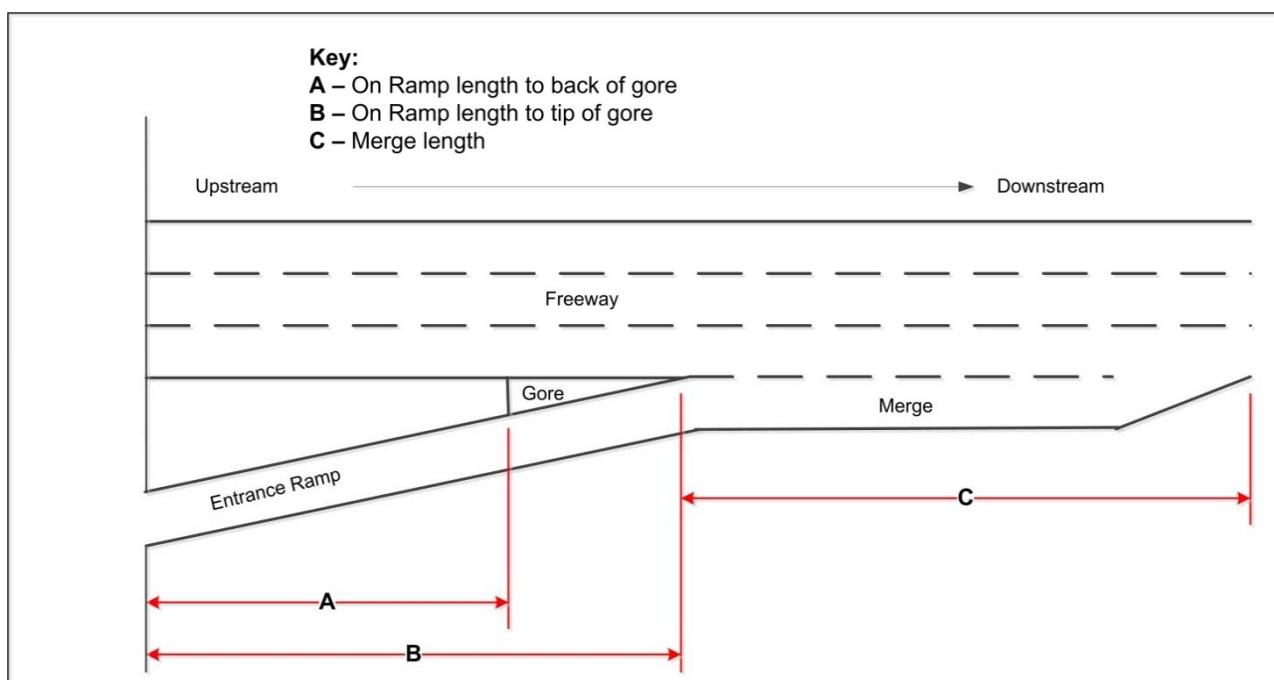


Figure 9. Measurements of Key Distances in Geometric Analysis

3. Stage 1 - Congestion Analysis

The most fundamental requirement for a successful ramp meter site is that the freeway suffers from regular and significant congestion. The congestion review aimed to identify regular and significant congestion on the freeways within the study area so that this can be related back to the candidate ramp meter sites in the Master List.

The relationship of the congestion analysis for all candidate sites with related tasks is shown in Figure 10.

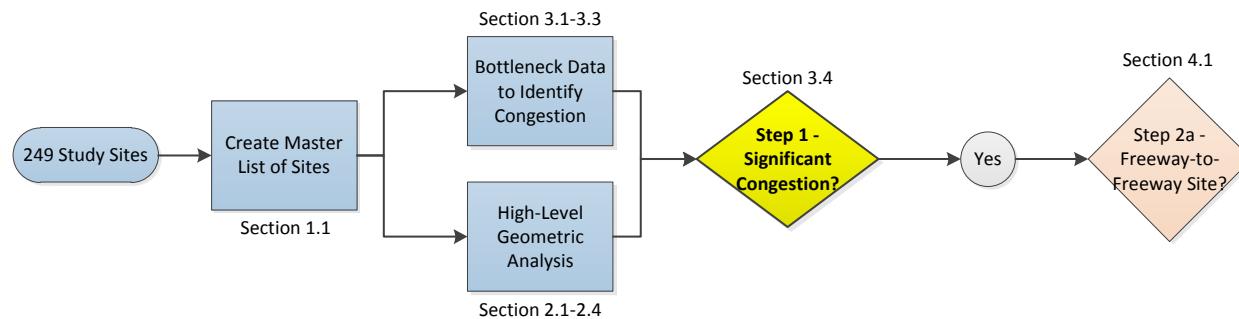


Figure 10. Relationship of Congestion Analysis Task with Other Tasks

3.1. Vehicle Probe Project (VPP) Suite

In North Carolina, congestion data is currently obtained using the VPP Suite, which can be accessed via the RITIS website (www.ritis.org) administered by the University of Maryland CATT Lab and for which a username and password must be obtained. The VPP suite consists of a number of congestion analysis tools based on probe vehicle data. The Bottleneck Ranking Application was used to identify congestion in the study area.

3.2. Bottleneck Ranking Application

Bottleneck conditions are determined by an algorithm comparing the current speed to the reference speed, which is typically the free flow speed at night, for each stretch of road. If the current speed falls below 60% of the reference speed, the location is flagged as a potential bottleneck. This location is observed for five minutes, and if the speed stays below 60%, the bottleneck is confirmed. The bottleneck is not cleared until conditions have risen above the 60% threshold and held for ten minutes. Adjacent locations in bottlenecked conditions are joined together to form the queue.

Table 1 shows congested speeds for various reference speeds, based on the 60% value from the bottleneck algorithm in VPP Suite. These speeds would be indicative of the type of stop-start traffic that the ramp meter system is designed to address.

Table 1. Congested Speed Calculated as 60% of Reference Speed

| Reference Speed (mph) | Congested Speed (mph) |
|-----------------------|-----------------------|
| 70 | 42 |
| 65 | 39 |
| 60 | 36 |
| 50 | 30 |

3.3. Downloading Bottleneck Data

One month of historical bottleneck data was downloaded in the spring and in fall of 2015 separately. Neutral periods selected were April 2015 and in September 2015.

The Bottleneck Ranking Application produces a table of bottlenecks. Each bottleneck can be selected to display a map of the location, an average maximum length of congestion, and a diagram called a Time Spiral, which shows the bottlenecks by day on a clock face. An example of these outputs can be seen in the Figure 11.

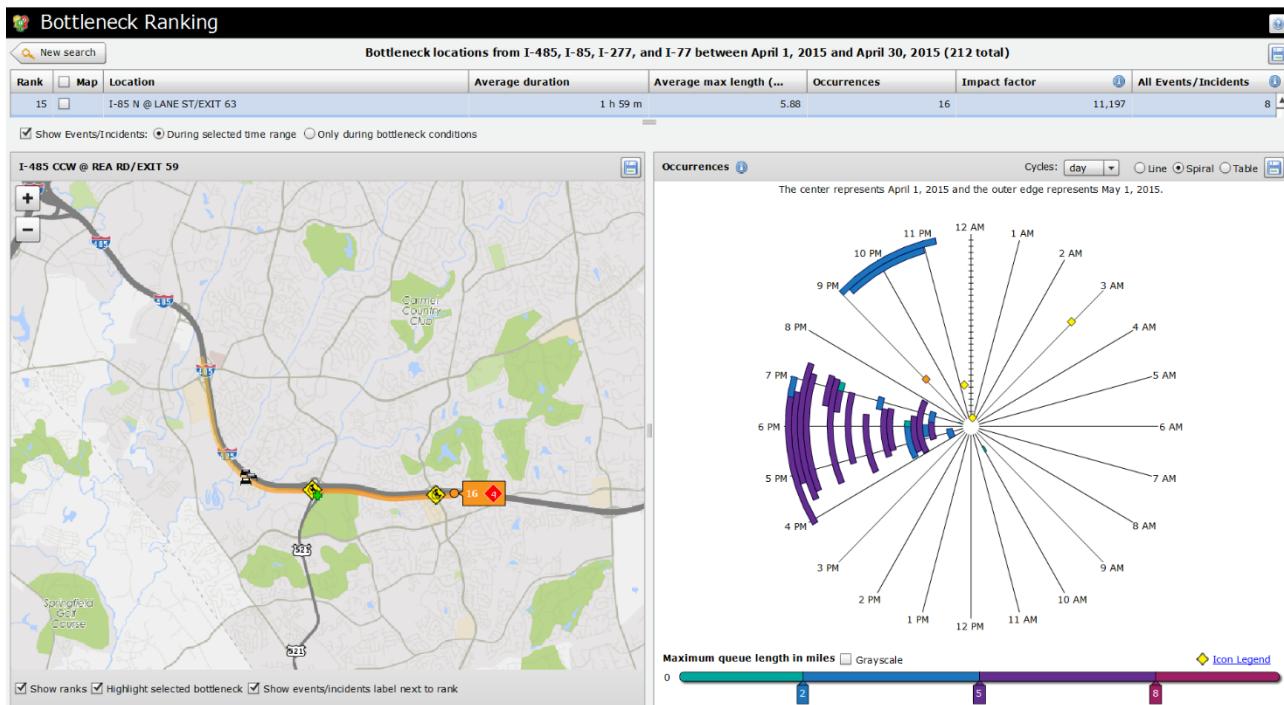


Figure 11. Example Figure Produced by Bottleneck Ranking Application

3.4. Filtering of Bottleneck Data

The Bottleneck Application records all bottlenecks within the sample period; this means that any bottleneck will be displayed even if it is not regular or significant. For this reason, the bottlenecks were filtered in order to identify those areas of congestion, which are regular and

significant enough to be worth considering for ramp meter intervention. Data was downloaded from the application and then analyzed using Microsoft Excel. The data consists of a row per bottleneck with the following column headings:

- Location – this is the location of the front of the queue;
- Average duration – in hours and minutes;
- Average maximum length – in miles;
- Number of occurrences – within the sample period

All bottlenecks identified were given a unique identification reference before filtering, to allow for easy identification and differentiation in any further analysis. Any bottlenecks filtered out can still be identified in the same frame of reference should this be required in future. The congestion reference number starts with a 'C', for congestion followed by a three-digit reference number. The 'C' prevents any confusion between this reference and the log number used for candidate sites. An example congestion reference number would be 'C011'.

Filtering the bottlenecks to ensure that only regular and significant congestion was recorded, required a number of rules to be developed. A combination of engineering judgement, prior experience of site selection and review of methods used in other states was used to filter the bottlenecks. From the project *National Research Report*, the most comparable guidance comes from the 'Arizona Ramp Metering Warrant' flowchart. This recommends that speeds near the ramp should fall below 50 mph for more than 30 minutes on 200 days per year. These figures are a reasonable cut-off to ensure that sites, which do not suffer from regular congestion, are not selected for ramp metering.

The VPP Suite only allows congestion to be identified at speeds that are 60% of reference speed or less, which is a more restrictive threshold than Arizona. The threshold chosen for the number of instances of congestion is two per week, 100 per year, which is a less restrictive threshold than Arizona. While this value was determined based on prior experience, it means the resulting guidelines used in this analysis are approximately equivalent to the Arizona guidelines (the more restrictive criteria balanced by the less restrictive one), and gives added confidence that these guidelines are suitable.

Based on insight from the Arizona warrant and prior experience, the following rules have been applied to the initial filtering of congestion:

- Average duration of bottlenecks must be at least 30 minutes.
- Average maximum length of congestion associated with the bottleneck must be at least 0.5 mile.
- The bottleneck must occur on average at least twice weekly over the sample period.

Bottlenecks meeting the above criteria are recorded as "significant" bottleneck locations. The thresholds used are relaxed just enough so that some of the resulting locations are likely not to have sufficient congestion to justify ramp metering once more detailed analysis, including volumes and installation costs, are considered in the next phase of work. This is preferable to criteria that are too restrictive, which could result in ruling out sites too early in the process.

In order to meet the criteria for being a significant bottleneck location, it must appear in either the spring or fall congestion analysis timeframe; however, the vast majority appears in both. This rule ensures that all potential significant bottlenecks are considered. Again, a detailed review will determine if the level of congestion ultimately proves to be significant enough for ramp metering.

3.4.1. Results

Many of the bottleneck locations coincide with the merge of an on-ramp, suggesting that the merge could be the cause of congestion. Entrance ramps adjacent to the bottleneck and the associated congestion tailing back are considered ‘congested’; these were identified and recorded in the Master List. There were 112 study sites in 57 “significant” congestion bottlenecks. Screenshots of the bottleneck maps and time spirals for each of the significant bottlenecks used to identify “congested” sites and “significant” bottlenecks are located in Appendix C, Bottleneck Information.

As many bottlenecks appeared in the same locations in spring and fall, bottlenecks with the same primary sites were ‘merged’ or condensed. This meant aggregating bottlenecks from the individual C series (e.g. C001) to the M series (e.g. M001). The duration, length, occurrences and impact factor of the bottlenecks with the same primary site were averaged to form data for the merged bottlenecks. Appendix D summarizes this aggregation of the bottleneck data.

Table 2 summarizes the distribution of congested and non-congested sites by county.

Table 2. Congested vs. Non-Congested Sites by County

| County | Study Sites | Not Congested Sites | Congested Sites | Significant Bottlenecks |
|---------------|--------------------|----------------------------|------------------------|--------------------------------|
| Cabarrus | 15 | 7 | 8 | 6 |
| Gaston | 16 | 9 | 7 | 3 |
| Iredell | 23 | 19 | 4 | 1 |
| Mecklenburg | 195 | 102 | 93 | 47 |
| Total | 249 | 137 | 112 | 57 |

Figures 12 thru 15 show the location of the 112 sites in the respective county with significant congestion.

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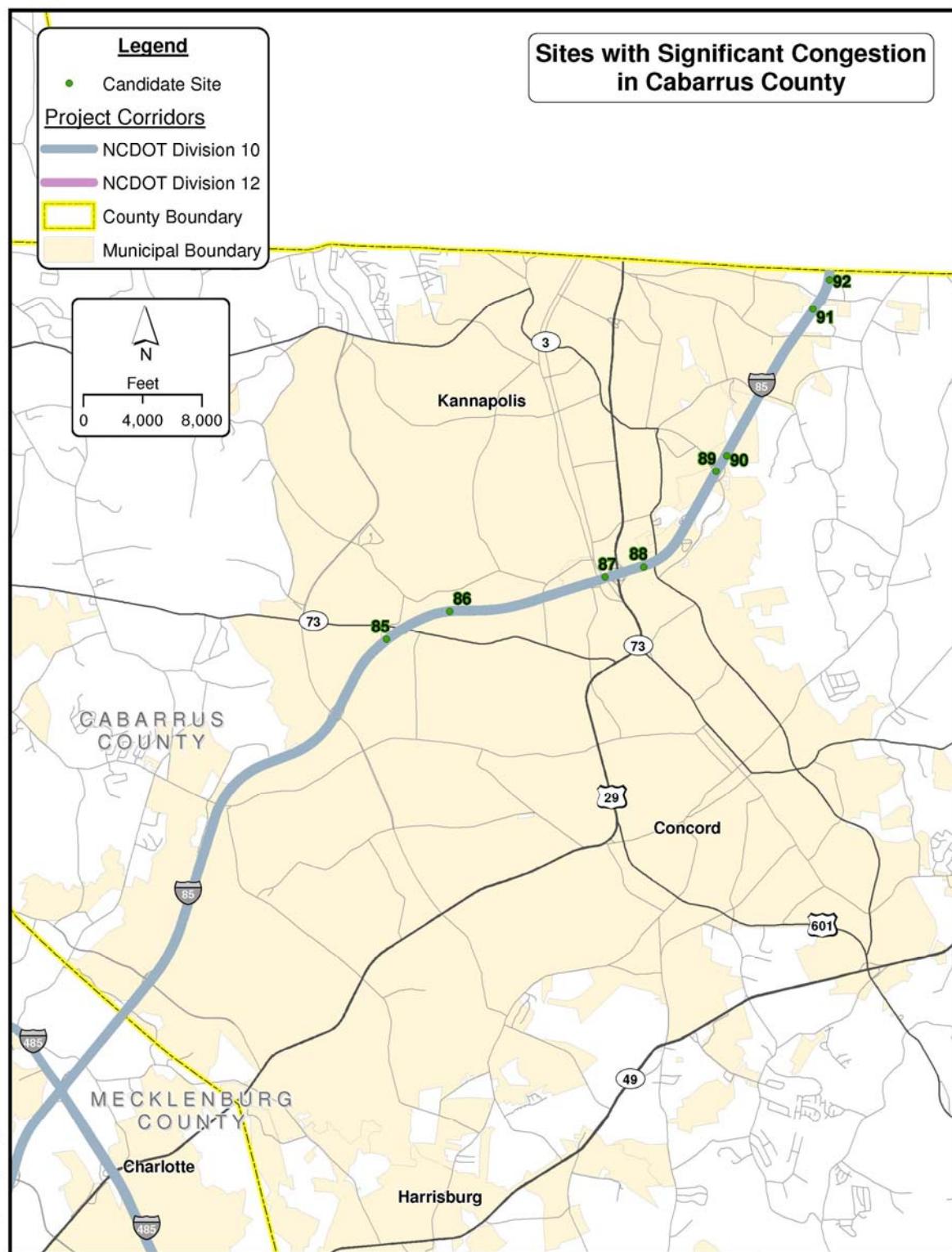


Figure 12. Sites with Significant Congestion in Cabarrus County

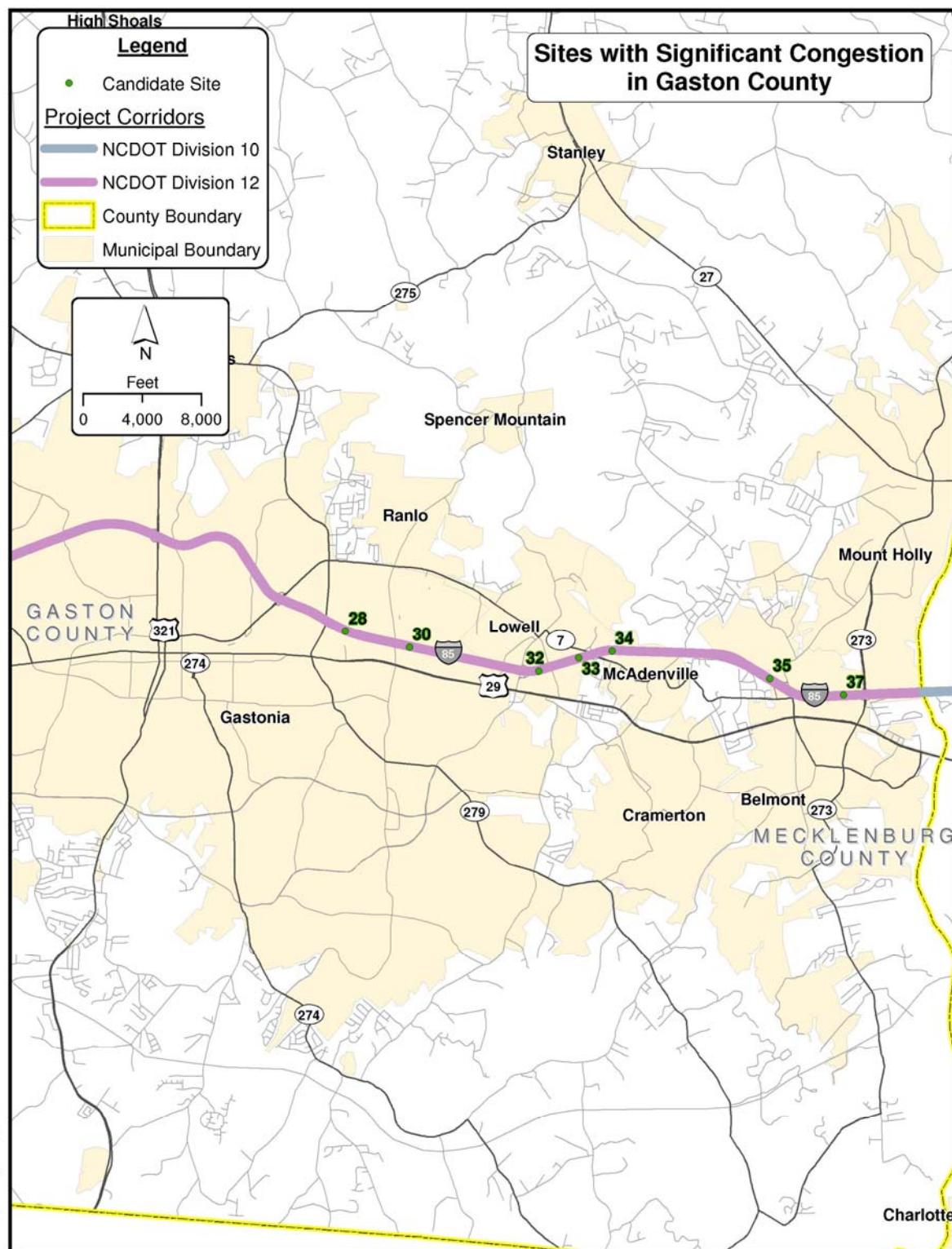


Figure 13. Sites with Significant Congestion in Gaston County

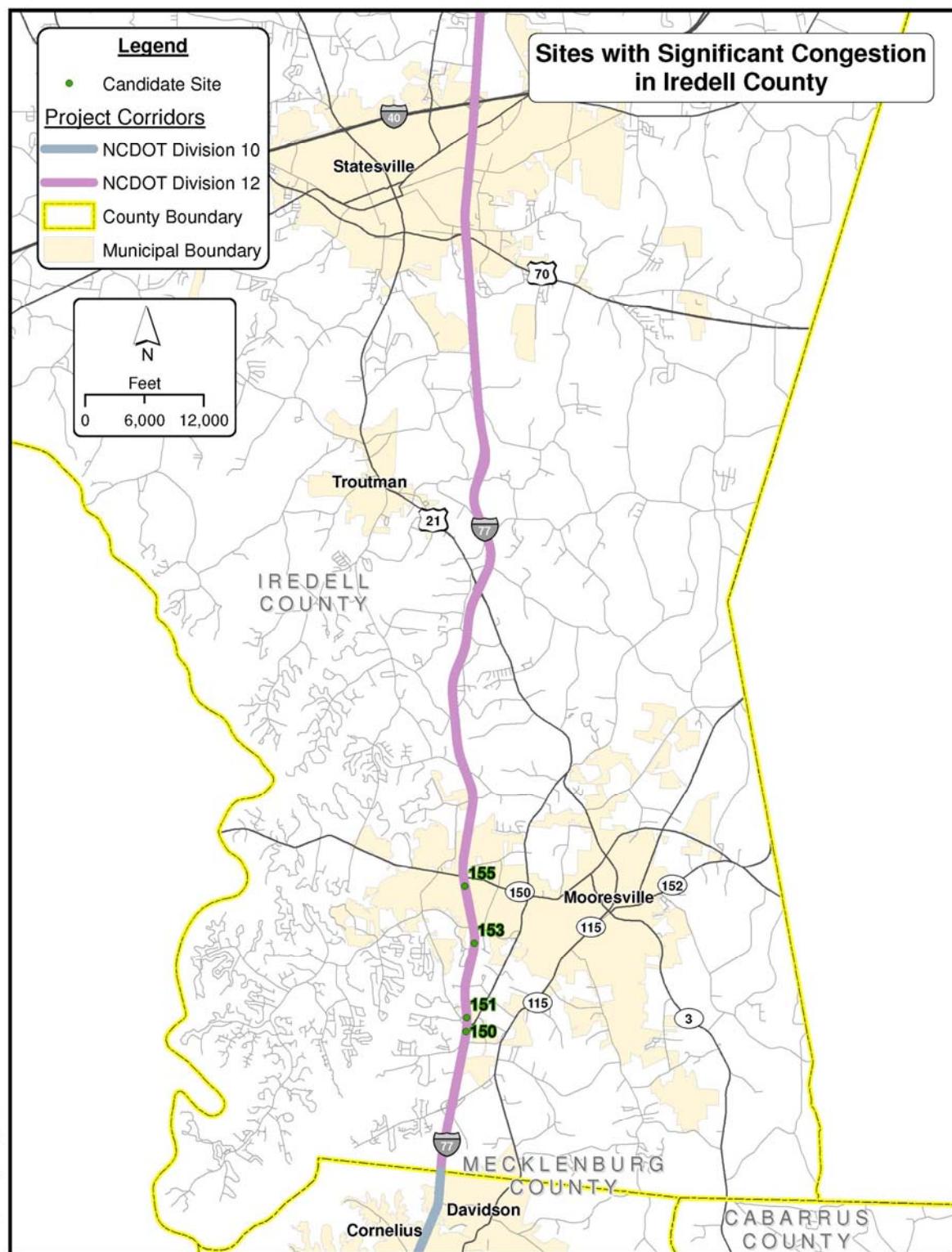


Figure 14. Sites with Significant Congestion in Iredell County

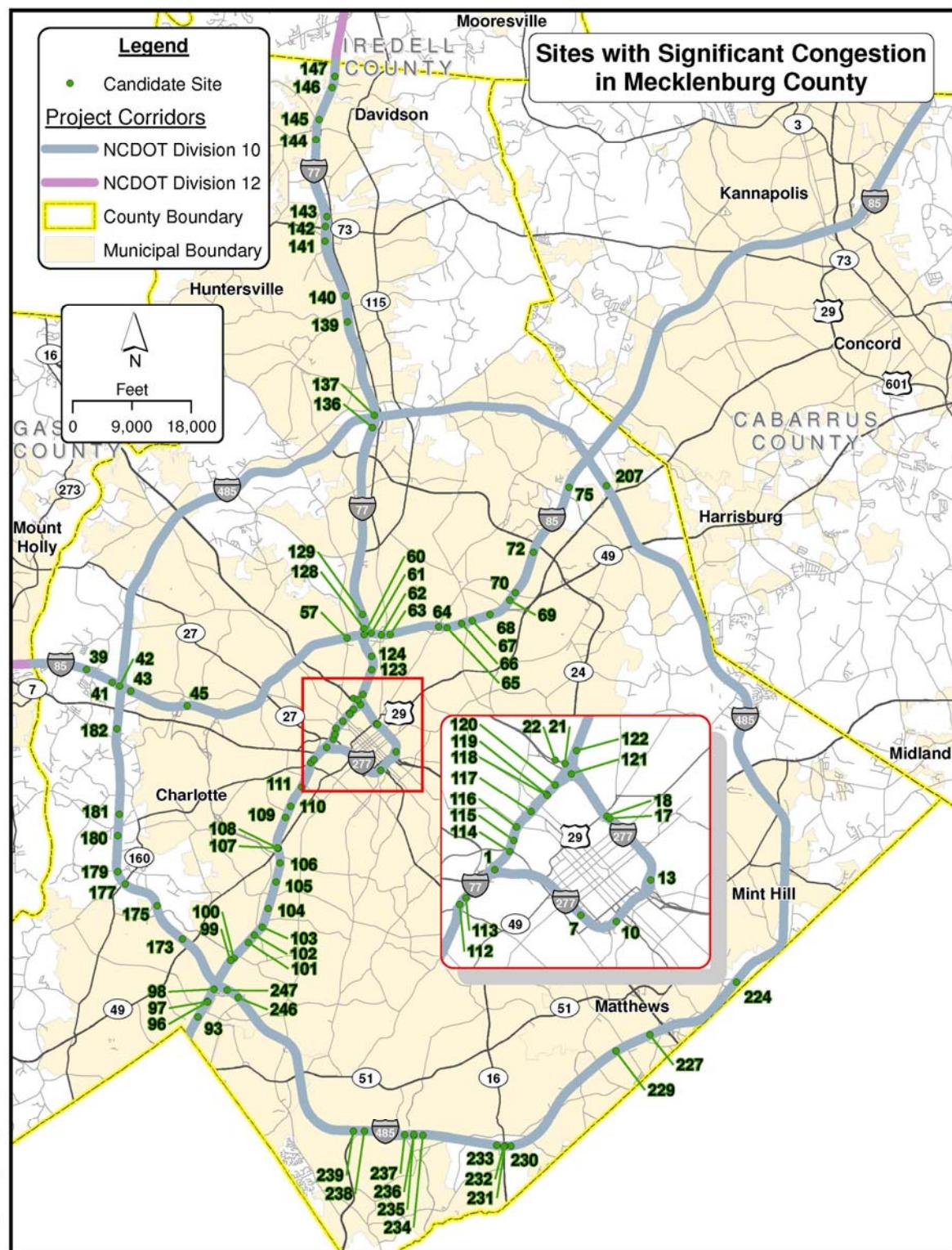


Figure 15. Sites with Significant Congestion in Mecklenburg County

4. Further Screening Analysis

The contractual requirement is to identify 50 potential sites that are recommended to be taken forward for detailed analysis of ramp metering feasibility.

Figure 16 shows the steps highlighted in yellow of the screening analysis described in this section of the report.

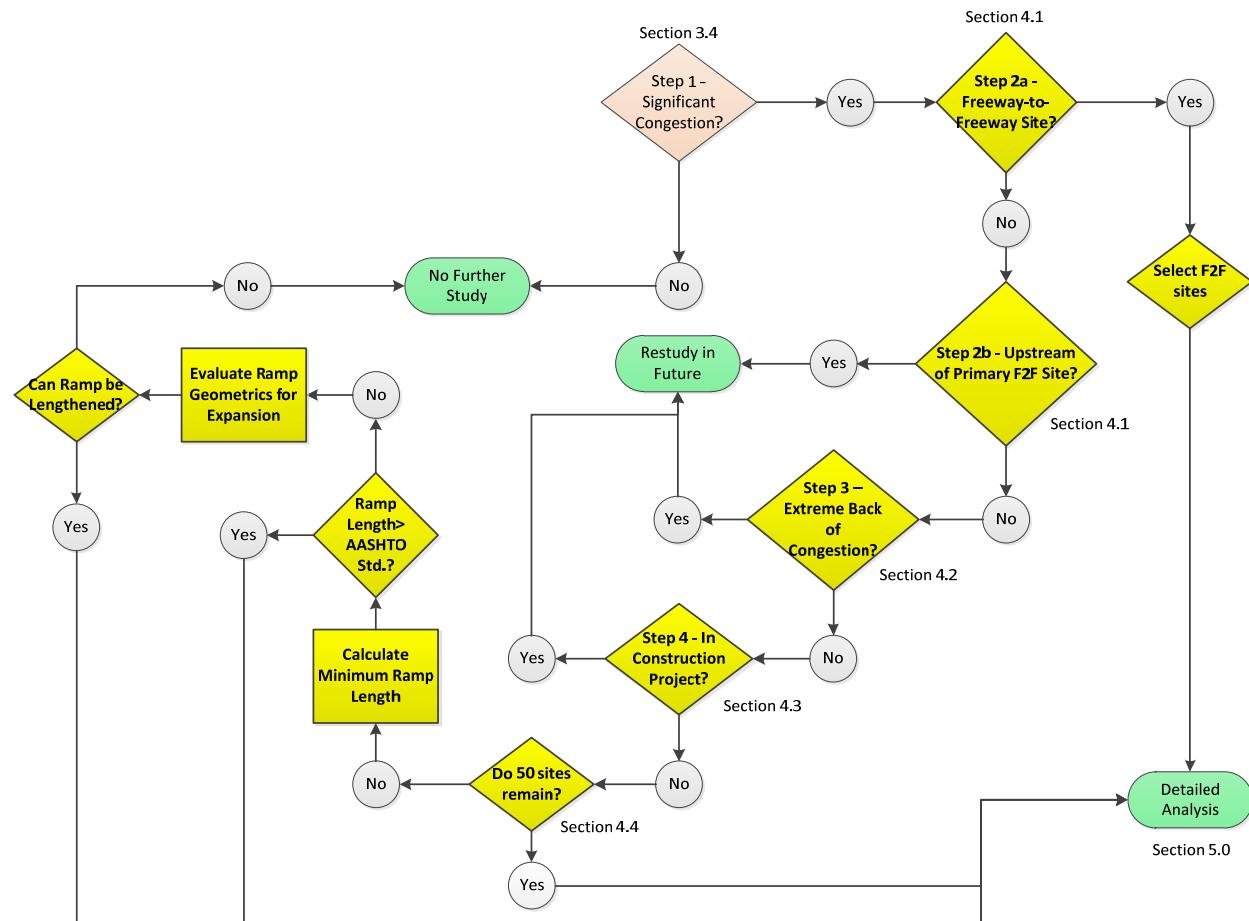


Figure 16. Additional Screening Analysis Steps

4.1. Freeway-to-Freeway Screening

The second screening, or reason for ruling out sites, is that the primary site of a bottleneck congestion is a freeway-to-freeway (F2F) ramp. Congestion at F2F interchanges is generally associated with high volumes on all approaches. Twenty-two F2F sites have been eliminated that were re-categorized as having significant congestion.

Sites that are upstream of F2F sites where the primary cause of congestion is the F2F site were eliminated since metering the ramp at the secondary site would provide only minimal benefits if the primary cause of the congestion is not to be metered. Any site upstream of an

F2F site is likely to have much lower ramp volume. Therefore, an upstream site, with its lower volume, has minimal impact on congestion and its congestion is secondary to the congestion created by the F2F site.

For this reason, 14 sites upstream of an F2F site have been ruled out of further analysis at this stage. This reduced the number of candidate sites to 76 as summarized in Table 3.

Table 3. Congested Sites without Freeway-to Freeway Sites

| County | Congested Sites | Congested F2F Sites | Sites Upstream of Primary F2F Site | Net Total Sites |
|--------------|-----------------|---------------------|------------------------------------|-----------------|
| Cabarrus | 8 | 0 | 0 | 8 |
| Gaston | 7 | 0 | 0 | 7 |
| Iredell | 4 | 0 | 0 | 4 |
| Mecklenburg | 93 | 22 | 14 | 57 |
| Total | 112 | 22 | 14 | 76 |

Figures 17 thru 20 show the congested sites without the F2F sites and without those sites upstream where the primary congestion is a F2F site.

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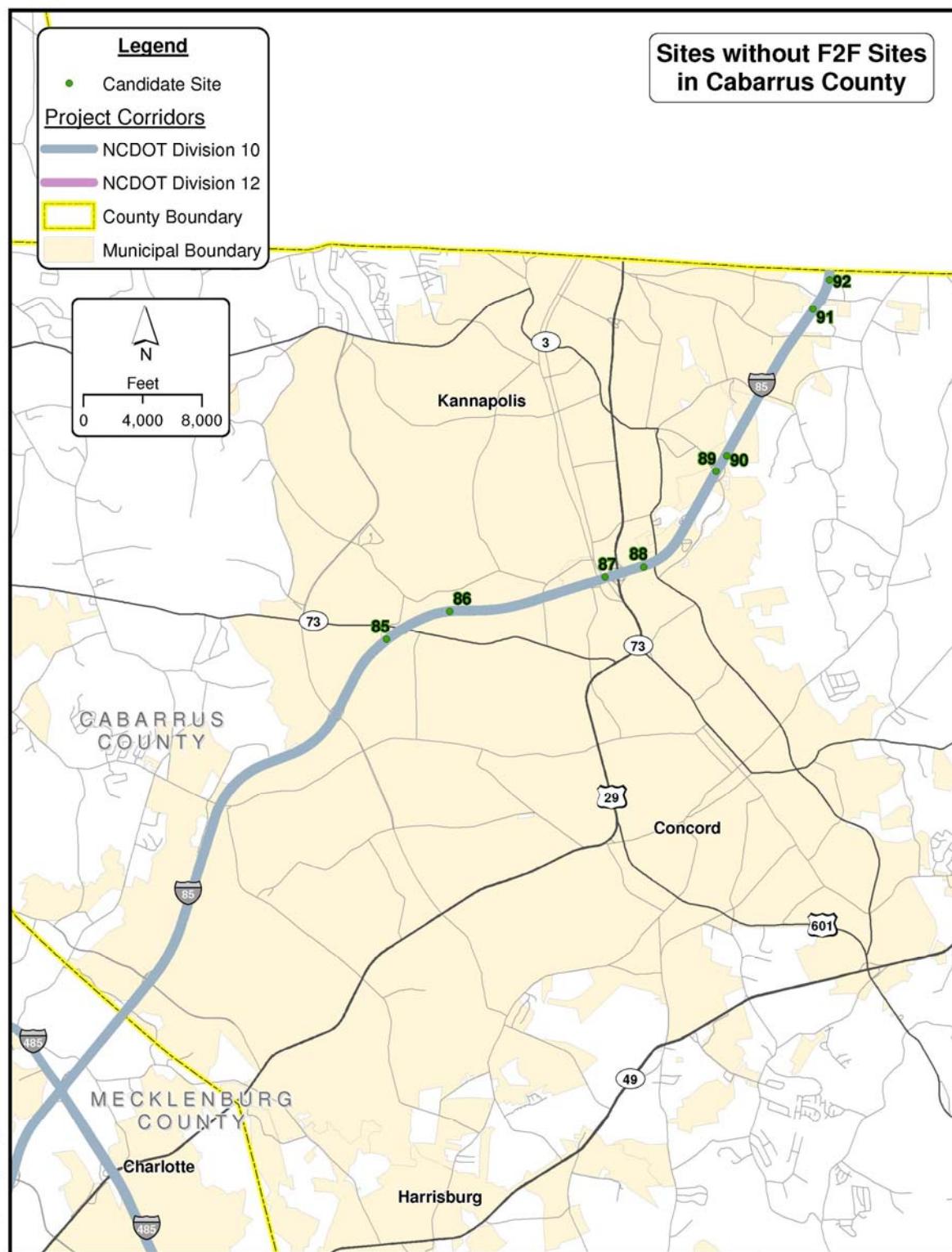


Figure 17. Sites without Freeway-to-Freeway Sites in Cabarrus County

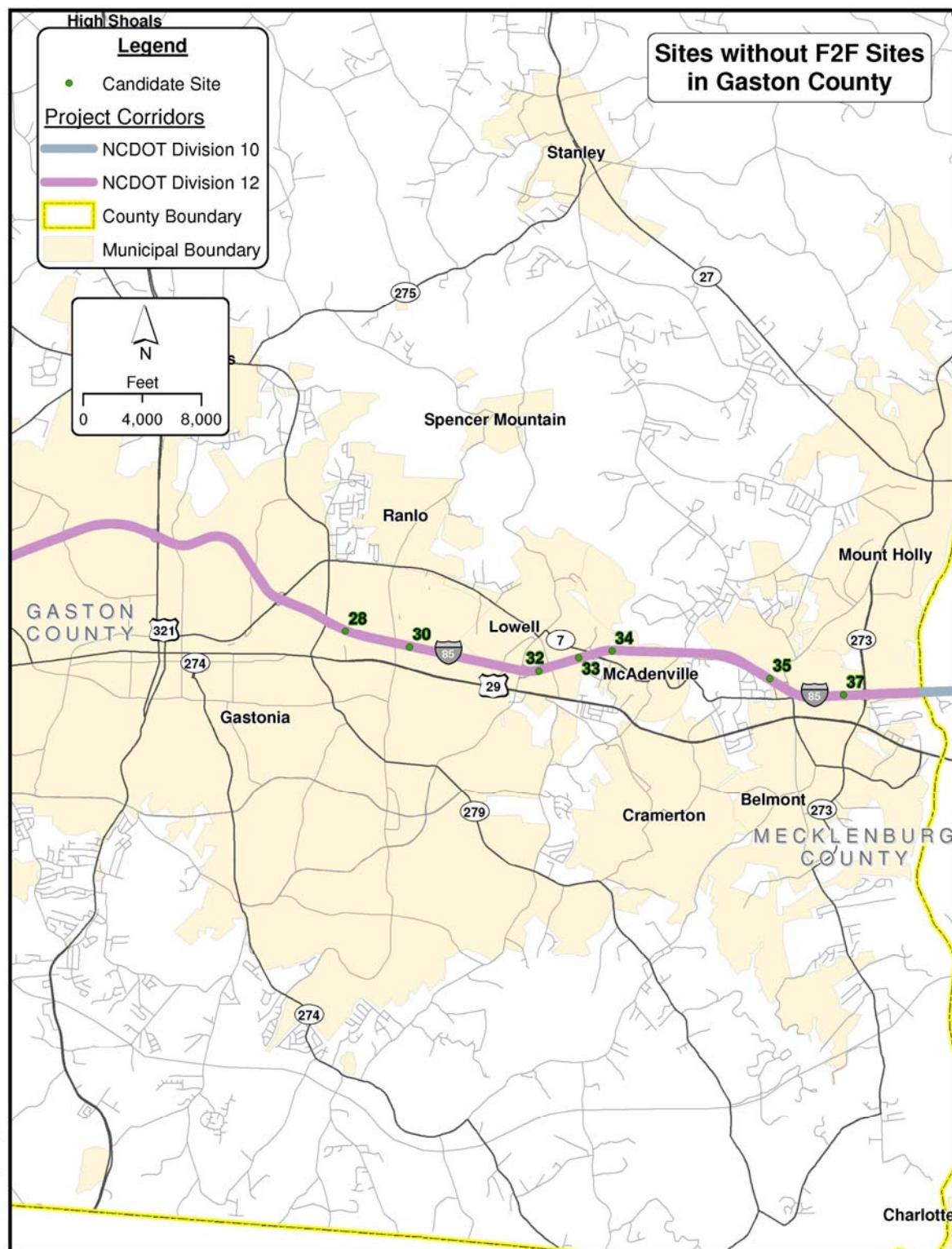


Figure 18. Sites without Freeway-to-Freeway Sites in Gaston County

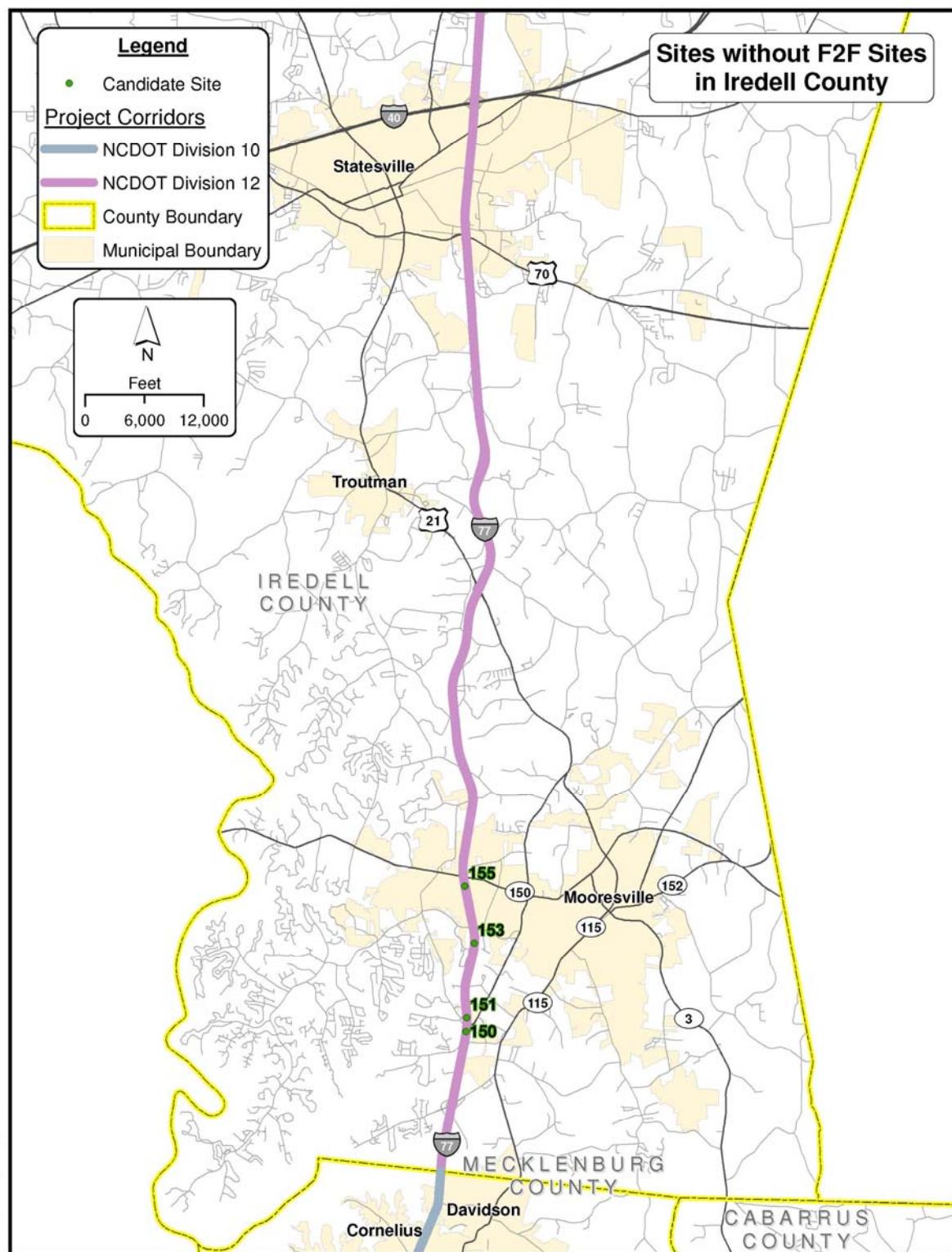


Figure 19. Sites without Freeway-to-Freeway Sites in Iredell County

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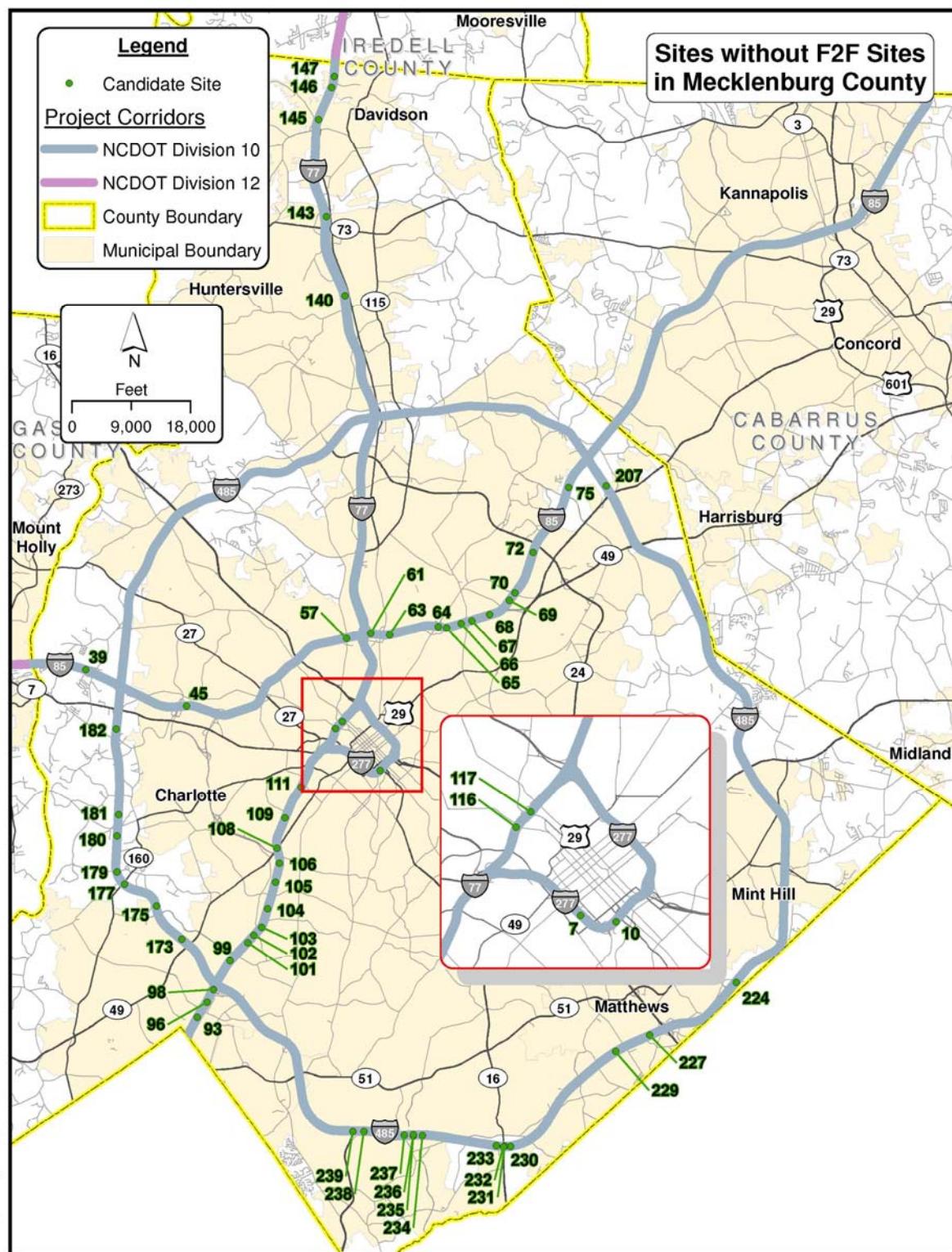


Figure 20. Sites without Freeway-to-Freeway Sites in Mecklenburg County

4.2. Screening for Extreme Back of Congestion

The next step for ruling out further sites as being the weakest candidates is determining their location within the adjacent congestion bottleneck. In the congestion review Atkins conducted, bottleneck data for the study area was filtered to identify sites that met the conditions that ramp meters would provide the most benefit. This data included the locations of the reoccurring bottlenecks and the average length of the congestion. This allowed Atkins to identify the sites located the furthest upstream, toward the back of the congestion. Installing ramp meters at these sites would provide less benefit than other locations that are located further downstream, toward the front of the congestion. The impact of installing ramp meters at these sites toward the back of the congestion would be less because they would not trigger as often in response to recurring congestion. A small number of sites were found to be near the back of the average queue. This means that not every occurrence of congestion caused by the bottleneck will affect these sites. Therefore, a small number of sites were considered unlikely to have a significant impact and were ruled out of further analysis in this stage.

Based upon the screening for extreme back of congestion, eight further sites were deleted as shown in Table 4.

Table 4. Screening for Extreme Back of Congestion

| County | Congested Sites | Extreme Back of Congestion | Net Total Sites |
|--------------|-----------------|----------------------------|-----------------|
| Cabarrus | 8 | 1 | 7 |
| Gaston | 7 | 1 | 6 |
| Iredell | 4 | 0 | 4 |
| Mecklenburg | 57 | 6 | 51 |
| Total | 76 | 8 | 68 |

4.3. Construction Impacts Screening

Site selection can be subject to congestion associated with a construction project or lane closures for roadway projects. NCDOT identified several projects that were completed in 2014 and 2015 that potentially could have affected the congestion scans. These projects included:

- R-4902, I-485 Widening from I-77 to Rea Road completed July 10, 2015
- R-2248E, I-485 Widening from I-77 to I-85 completed June 6, 2015
- I-3803B, I-85 Widening from south of Bruton Smith Blvd. to NC 73 completed April 30, 2014
- I-3802A, I-85 Widening from NC 73 to Cabarrus County Line began June 26, 2015 and will end December 2017. Speed limit was reduced to 55 mph on same day
- R-2123CE, I-485/I85 Interchange Construction completed June 6, 2015
- I-3819A, I-77/I-40 Interchange Reconstruction is scheduled to end March 4, 2107
- Speed limits raised on all of I-485 to 70 mph May 26, 2015
- Speed limits raised on I-85 from south of Bruton Smith Blvd. to NC 73 to 70 mph April 30, 2014

There were 16 sites where the congestion scans showed congestion in either the spring or fall of 2015 but not both which may be related to some of these projects. Eight of the 16 sites are associated with one of the above construction sites. This leaves 60 sites remaining as shown in Table 5 below.

Table 5. Screening for Congestion Projects

| County | Congested Sites | Construction Impacted Sites | Net Total Sites |
|--------------|-----------------|-----------------------------|-----------------|
| Cabarrus | 7 | 7 | 0 |
| Gaston | 6 | 0 | 6 |
| Iredell | 4 | 0 | 4 |
| Mecklenburg | 51 | 1 | 50 |
| Total | 68 | 8 | 60 |

4.4. Screening to 50 Sites

In order to reduce the number of sites to 50 locations, at least ten additional sites need to be screened out. Each of the sites was examined for geometric conditions that would be prohibitively expensive and possible infeasible for a ramp meter type of deployment. The following conditions were examined:

- 1) Required bridge widening. The bridge could have inadequate width for an acceleration on or under the bridge. The bridge could also be a “barrier” to lengthening an existing ramp to achieve the required acceleration distance. In the analysis, we did not find the bridge width to be an issue but there are bridges that limit future lengthening of acceleration lanes.
- 2) Inadequate existing acceleration length that cannot be corrected. Using the AASHTO “A Policy on Geometric Roadway Design of Streets and Highways”, dated 2011, the required acceleration distances for an entrance ramp from a stopped condition to the design speed is:
 - a. 50 mph design speed => 720 feet
 - b. 55 mph design speed => 960 feet
 - c. 60 mph design speed => 1,200 feet
 - d. 65 mph design speed => 1,410 feet
 - e. 70 mph design speed => 1,620 feet

Since the locations of the ramp meters are not yet known, Atkins made an initial assumption of 400' is required for queue storage and 200' for a buffer so the queue does not spill into the upstream intersection. Therefore:

Total full lane width ramp length = queue storage + buffer distance plus acceleration.

From the above acceleration distances the total ramp lengths would be:

- a. 50 mph design speed => 1,320 feet

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- b. 55 mph design speed => 1,560 feet
- c. 60 mph design speed => 1,800 feet
- d. 65 mph design speed => 2,010 feet
- e. 70 mph design speed => 2,220 feet

3) Additional reasons/conditions found include:

- a. No geometric, bridge, or environmental constraints to prevent reasonable lengthening of a ramp to meet the AASHTO acceleration standards. 35 sites have no geometric issues and have been retained.
- b. There is an exit ramp downstream that would require more extensive widening in order to increase the acceleration distance. There are 11 sites with downstream ramps that would limit any increase in acceleration distances; seven of the sites have good geometrics. Therefore, the four sites that don't have good geometrics were eliminated.
- c. There is a downstream bridge that goes over the Interstate and the bridge piers or abutments would restrict increasing acceleration distance. The ramp and Interstate are on a bridge where the bridge deck is not wide enough in order to extend the acceleration distance. This category included seven sites and four of these did not have adequate geometrics.
- d. There is an environmental impact, Lake Norman, that would not allow the increase of the acceleration distance. Two sites were identified but both have good geometrics and were not eliminated.
- e. A barrier wall separating the Interstate facility from an adjacent frontage road or collector-distributor road. There are five sites with a barrier wall conflicts of which one has good geometrics.

Based upon the above screening there are 48 sites remaining. The results are summarized in Table 6 below:

Table 6. Analysis of Ramp Constraints

| County | Sites Passing Geometric Analysis | | | Sites not Passing Geometric Analysis | | | | | |
|--------------|----------------------------------|------------------------------|-----------|--------------------------------------|----------|-------------------|---------------|--------------|-----------|
| | No Geometric Issues | Correctable Geometric Issues | Total | Downstream | | Bridge Deck Width | Enviro-mental | Barrier Wall | Total |
| | | | | Exit Ramp | Overpass | | | | |
| Cabarrus | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Gaston | 6 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 |
| Iredell | 2 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 2 |
| Mecklenburg | 27 | 13 | 40 | 3 | 3 | 0 | 0 | 4 | 10 |
| Total | 35 | 13 | 48 | 4 | 4 | 0 | 0 | 4 | 12 |

5. Recommendations

5.1. Steering Committee Decisions

Through discussions with the Steering Committee subsequent to a recommendation, it was agreed to make the following adjustments to the final list:

- 1) Retain Site 148: I-77 and Langtree Road (northbound ramp)
- 2) Retain Site 149: I-77 and Langtree Road (southbound ramp)
- 3) Drop Site 010: I-277 and Stonewall Street (outer ramp)
- 4) Drop Site 224: I-485 and Idlewild Road (outer ramp)

5.2. Freeway to Freeway Sites

The Steering Committee agreed to study two freeway to freeway sites to round out the total site for the detailed analysis to 50 sites. The goal is to select two sites that are implementable and do not possess geometric or traffic constraints that make the selected sites as impractical. The initial list included all 48 freeway-to-freeway sites. The following strategy was utilized:

- Any site without significant congestion. 22 sites remain.
- Those sites with high ramp volumes (Sites 100, 112, 122, 246 and 247). 17 sites remain.
- Any site with wetlands or right of way issues (Site 114). 16 sites remain.
- Those sites with left side mergers which present problems for trucks and buses merging (Sites 120 and 128). 14 sites remain.
- Those sites which may have noise impacts and significant fill to construct a two-lane ramp meter (Site 122). 13 sites remain.
- Those sites where downstream bridge piers restrict lengthening the ramp to improve acceleration distance (Site 121). 12 sites remain.
- Any site where there is not adequate clear zone protection for the ramp meter poles and cabinet (Site 13 and 119). 10 sites remain.
- Any site where bridge deck widening is required to widen a ramp (Sites 1, 21, and 42). Seven sites remain.
- Any site where sight distance is limited (Site 60). Six sites remain.
- Any remaining sites that are loop ramps (Site 137). Five sites remain.

The following sites remained as follows:

- 1) Site 22: I-77 southbound ramp to I-277 westbound
- 2) Site 43: I-485 inner ramp to I-85 northbound (west Charlotte)
- 3) Site 97: I-485 southbound ramp to I-77 southbound (south Charlotte)
- 4) Site 129: I-85 northbound ramp to I-77 northbound
- 5) Site 136: I-485 inner loop to I-77 southbound ramp (north Charlotte)

From this list, we recommend dropping Sites 22 and 43 as we believe they have light to moderate ramp traffic and would have limited benefit. In order to provide some diversity of

sites it is recommended Site 97 to be included since it has two lanes. It is also recommended to include Site 129 because it appears to have higher volumes than Site 136.

The table in Appendix E summarizes this analysis.

5.3. Conclusions

This sequence of screening or filtering steps reduced the number of candidate sites to 50 with the inclusion of the two freeway sites described above. Table 7 summarizes the results of the Screening Analysis. The table also contains the recommendations for each site relative to the detailed analysis.

Table 7. Number of Sites Following Screening Analysis

| Site Categorization | Number of Sites |
|--------------------------------------------------------|-----------------|
| Total sites | 249 |
| Ruled out for not having significant Congestion | 137 |
| Ruled out F2F and upstream sites of primary F2F sites | 36 |
| Ruled out for being at the extreme back of congestion | 8 |
| Ruled out because construction works caused congestion | 8 |
| Ruled out for not being a primary bottleneck | 10 |
| Number of sites remaining | 50 |

This report outlines the process carried out to conduct the Screening Analysis. The findings indicate those sites that have been ruled out in the screening analysis for their general characteristics, those with specific characteristics that make them unsuitable, those that should be reviewed again in the future, and those that are suitable and should be taken forward to the next stage.

Recommendations for the 50 sites subject to detailed analysis are shown in Table 8. Figures 21 through 24 show the location of these sites recommended for detailed analysis.

The sites selected as suitable for taking forward for ramp metering have demonstrated acceptable or appropriate geometry, acceptable traffic congestion that will allow the system to work, and locations that are positioned to improve existing observed traffic problems.

Table 8. Sites Recommended for Detailed Analysis

| Log | Freeway | Freeway Direction | Cross Street | Approx. Exit | County |
|-----|---------|-------------------|----------------------------------------|--------------|-------------|
| 030 | I-85 | NB | Cox Rd | 21 | Gaston |
| 032 | I-85 | NB | S Main St | 22 | Gaston |
| 033 | I-85 | SB | McAdenville Rd) | 23 | Gaston |
| 034 | I-85 | NB | McAdenville Rd) | 23 | Gaston |
| 035 | I-85 | SB | Belmont-Mt. Holly Rd | 26 | Gaston |
| 037 | I-85 | SB | Beatty Dr / Park St | 27 | Gaston |
| 148 | I-77 | SB | Langtree Rd | 31 | Iredell |
| 149 | I-77 | NB | Langtree Rd | 31 | Iredell |
| 150 | I-77 | SB | Williams Rd / US 21 (Charlotte Hwy) | 33 | Iredell |
| 153 | I-77 | SB | SR 1100 (Brawley School Rd) | 35 | Iredell |
| 045 | I-85 | NB | Little Rock Rd | 32 | Mecklenburg |
| 064 | I-85 | SB | Graham St | 40 | Mecklenburg |
| 067 | I-85 | NB | Sugar Creek Rd | 41 | Mecklenburg |
| 069 | I-85 | SB | University City Blvd | 43 | Mecklenburg |
| 072 | I-85 | SB | Harris Blvd | 45 | Mecklenburg |
| 075 | I-85 | NB | Mallard Creek Rd | 46 | Mecklenburg |
| 093 | I-77 | SB | Westinghouse Blvd | 1A | Mecklenburg |
| 097 | I-77 | SB | I-485 | 1B | Mecklenburg |
| 099 | I-77 | SB | Arrowood Rd | 3 | Mecklenburg |
| 101 | I-77 | NB | Arrowood Rd | 3 | Mecklenburg |
| 102 | I-77 | SB | Nations Ford Rd | 4 | Mecklenburg |
| 103 | I-77 | NB | Nations Ford Rd | 4 | Mecklenburg |
| 104 | I-77 | SB | Tyvola Rd | 5 | Mecklenburg |
| 105 | I-77 | NB | Tyvola Rd | 5 | Mecklenburg |
| 109 | I-77 | SB | Clanton Rd | 7 | Mecklenburg |
| 111 | I-77 | SB | Remount Rd | 8 | Mecklenburg |
| 117 | I-77 | SB | West Trade St | 10 | Mecklenburg |
| 136 | I-77 | SB | I-485 Inner | 19 | Mecklenburg |

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| Log | Freeway | Freeway Direction | Cross Street | Approx. Exit | County |
|-----|---------|-------------------|--------------------------------|--------------|-------------|
| 140 | I-77 | NB | Gilead Rd | 23 | Mecklenburg |
| 143 | I-77 | NB | NC 73 (Sam Furr Rd) | 25 | Mecklenburg |
| 145 | I-77 | NB | US 21 (Catawba Ave) | 29 | Mecklenburg |
| 146 | I-77 | SB | Goodrum Rd / Griffith St | 30 | Mecklenburg |
| 147 | I-77 | NB | Goodrum Rd / Griffith St | 30 | Mecklenburg |
| 175 | I-485 | Inner | Arrowood Rd | 3 | Mecklenburg |
| 177 | I-485 | Inner | Steele Creek Rd | 4 | Mecklenburg |
| 179 | I-485 | Inner | Steele Creek Rd | 4 | Mecklenburg |
| 180 | I-485 | Outer | West Blvd | 6 | Mecklenburg |
| 181 | I-485 | Inner | West Blvd | 6 | Mecklenburg |
| 182 | I-485 | Outer | US 74 / US 29 (Wilkinson Blvd) | 9 | Mecklenburg |
| 229 | I-485 | Inner | E John St | 52 | Mecklenburg |
| 230 | I-485 | Outer | NC 16 (Providence Rd) | 57 | Mecklenburg |
| 231 | I-485 | Inner | NC 16 (Providence Rd) | 57 | Mecklenburg |
| 232 | I-485 | Outer | NC 16 (Providence Rd) | 57 | Mecklenburg |
| 233 | I-485 | Inner | NC 16 (Providence Rd) | 57 | Mecklenburg |
| 234 | I-485 | Outer | Rea Rd | 59 | Mecklenburg |
| 235 | I-485 | Outer | Rea Rd | 59 | Mecklenburg |
| 236 | I-485 | Inner | Rea Rd | 59 | Mecklenburg |
| 237 | I-485 | Inner | Rea Rd | 59 | Mecklenburg |
| 238 | I-485 | Outer | US 521 (Johnston Rd) | 61 | Mecklenburg |
| 239 | I-485 | Outer | US 521 (Johnston Rd) | 61 | Mecklenburg |

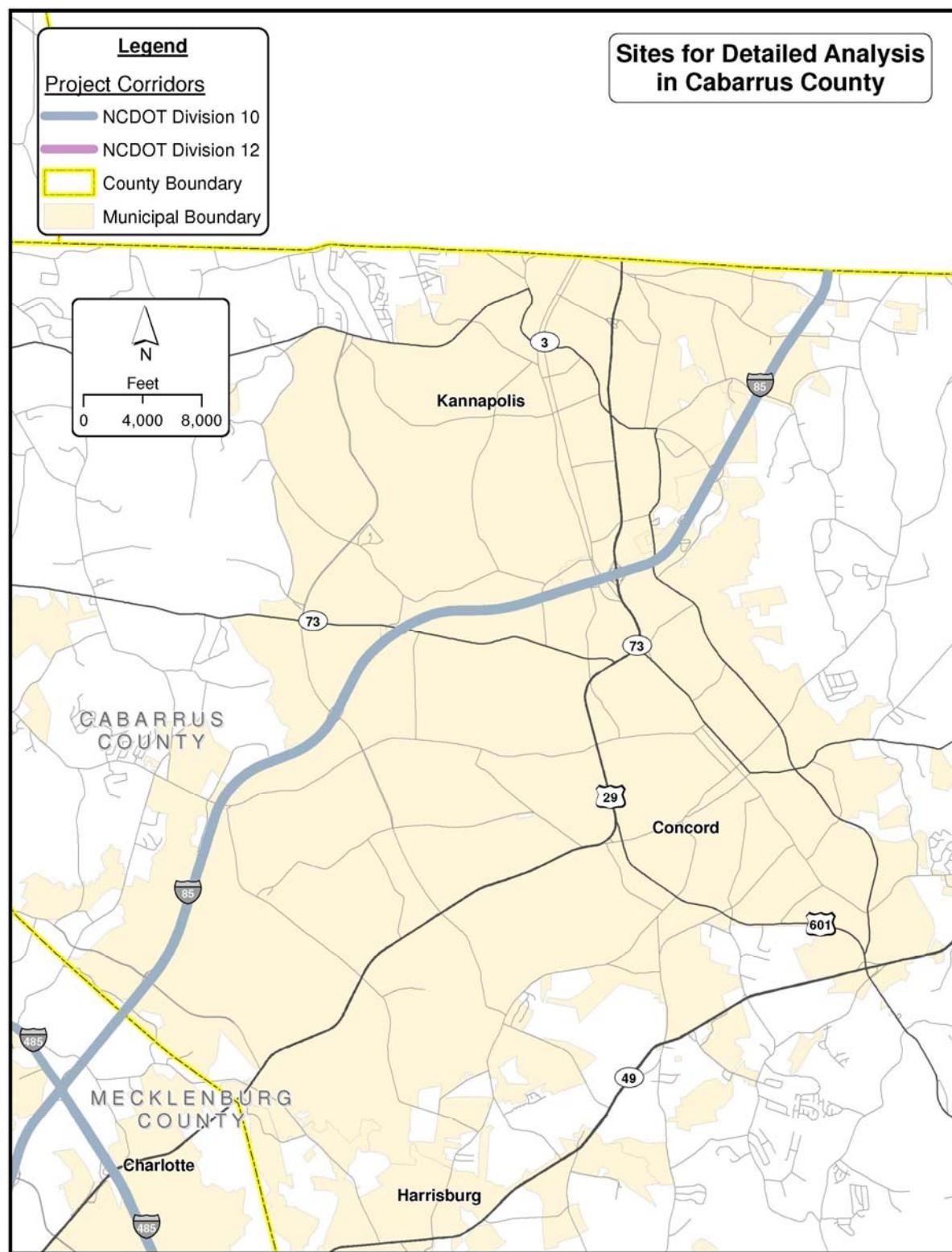


Figure 21. Sites Recommended for Detailed Analysis in Cabarrus County

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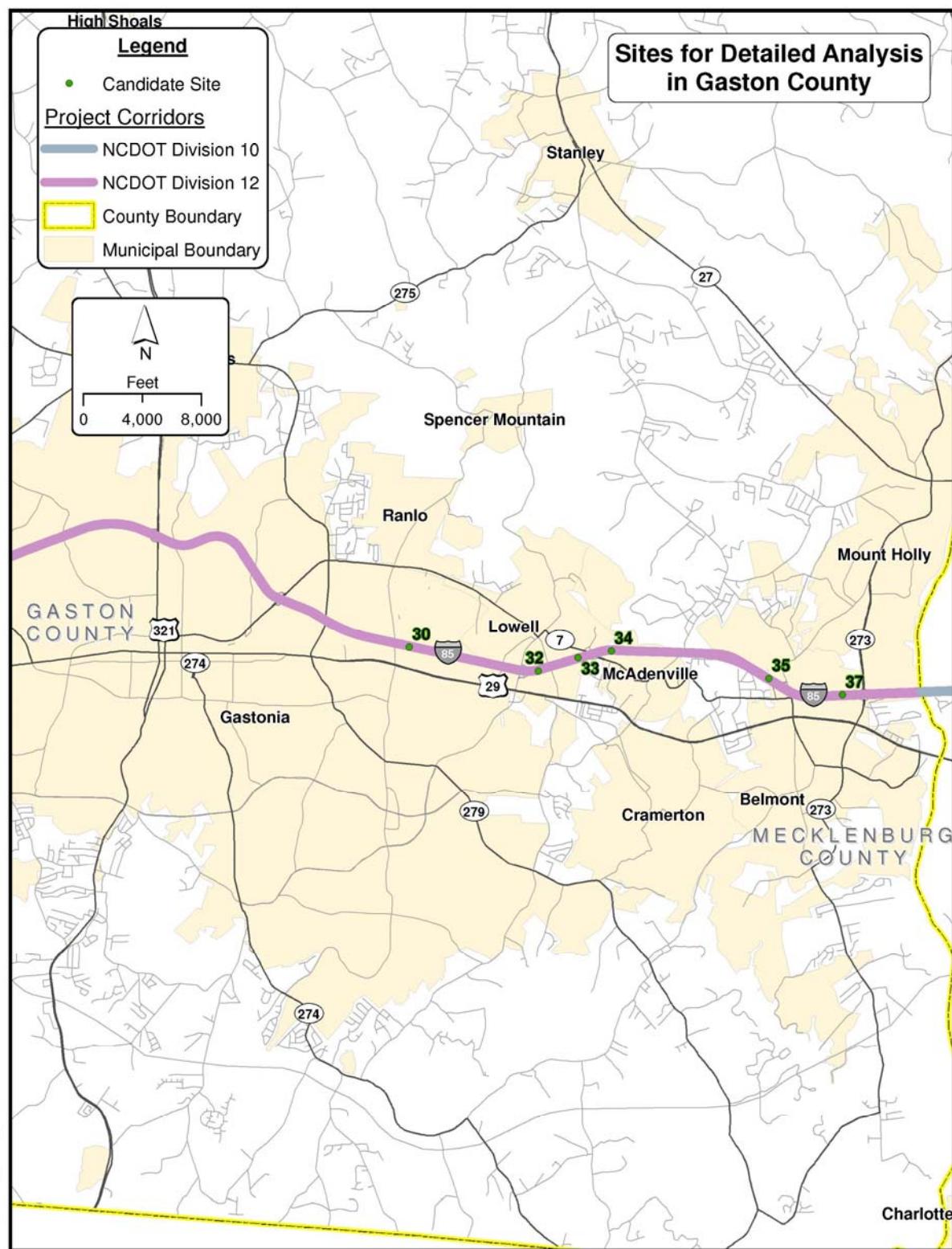


Figure 22. Sites Recommended for Detailed Analysis in Gaston County

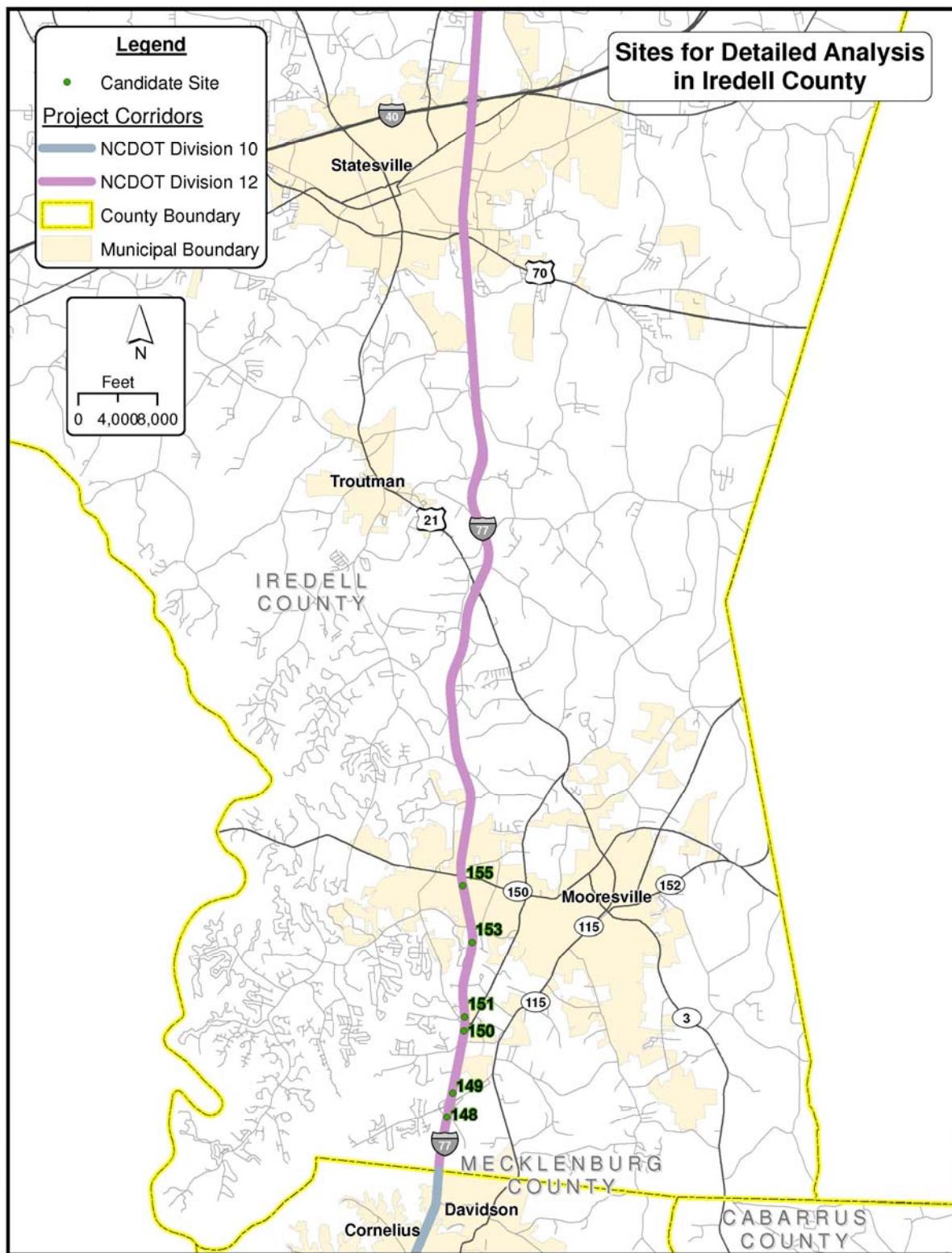


Figure 23. Sites Recommended for Detailed Analysis in Iredell County

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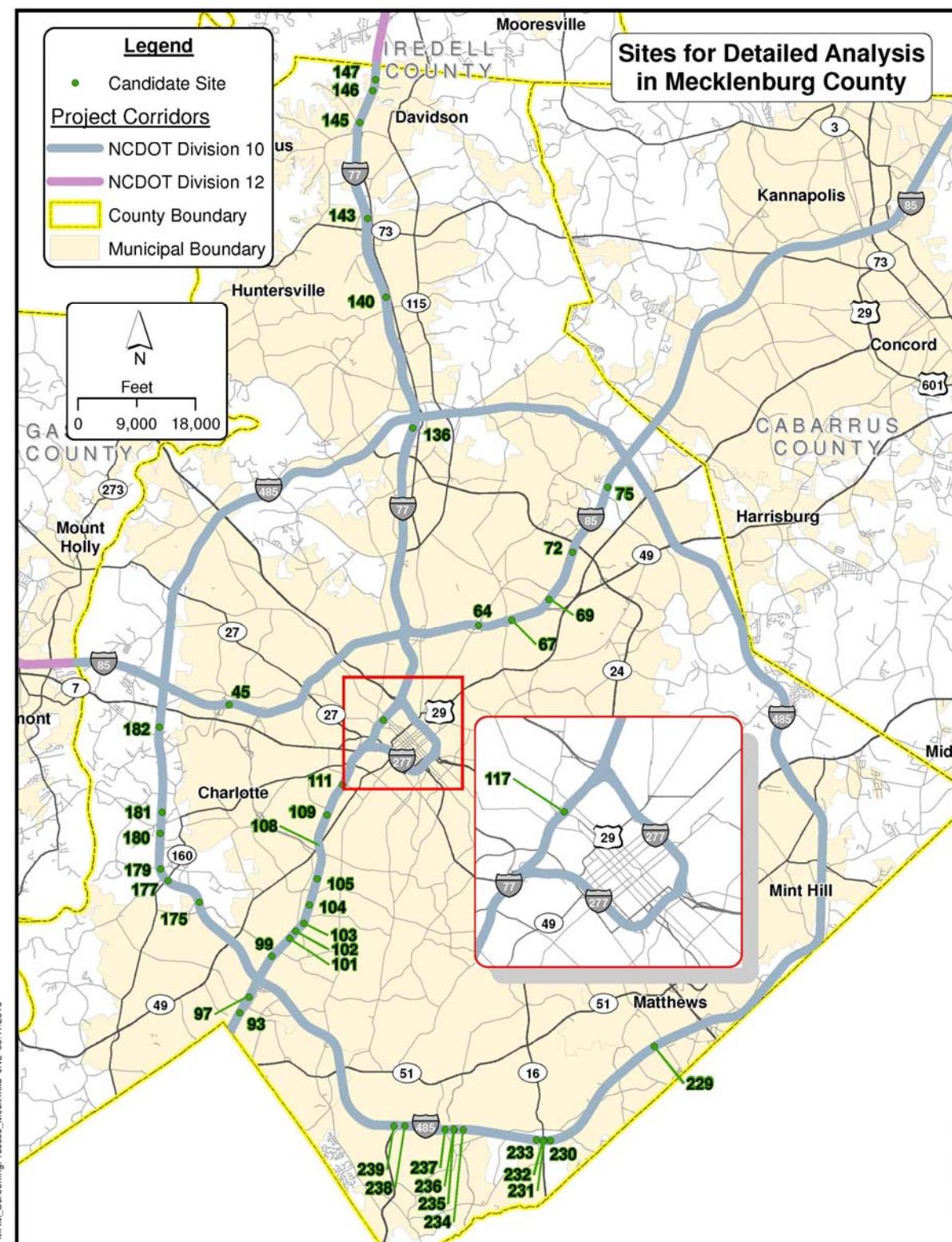


Figure 24. Sites Recommended for Detailed Analysis in Mecklenburg County

6. Next Steps

The next stage of the feasibility study is to conduct more detailed field assessments, site summaries documenting that effort, and then a detailed analysis of each of the 50 sites. This analysis will determine, based upon traffic volumes, what improvements are needed at each site.

The results will be added to the Costs and Benefits section of the Site Summaries. Following this, the most beneficial sites will be identified and prioritized for implementation. In Task 8, Cost Estimates, will be prepared for each of the 50 sites. Task 9, Performance Measures, will consist of estimating the benefits in travel time savings and then calculating the benefit cost ratios for each site for a variety of scenarios. The relationship of future tasks are shown in Figure 25.

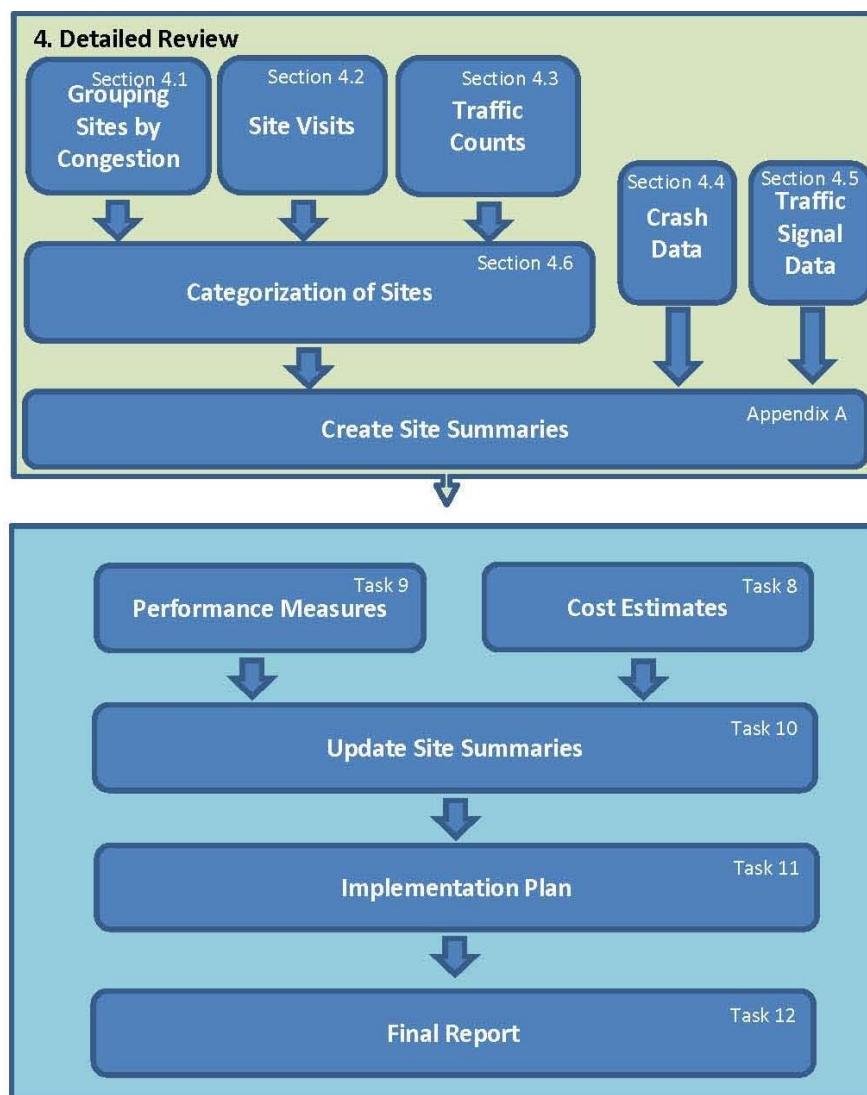


Figure 25. Relationship of Future Tasks

Appendix A - Master List Geometric Data

Appendix A
Master List of Geometric Data

| Site Identification | | | | | | | High Level Summary | | | | | | | | | | | | |
|---------------------|----------------------------------------|------------|-------------------|----------------------|----------|------|---------------------|--------------------|-------------------|------------------------------------------|-------------------------------------------|--------------------------|-----------------------------|-------------------------------------------|---------------------------------------------|---------------------------------|------------------------------------------|--|--|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | F2F? | Current Speed Limit | Speed Limit Change | Widening Complete | General Ramp Layout (AASHTO definitions) | Origin | Number of Upstream Links | Lane Addition onto Freeway? | Length of Lane Addition onto Freeway (ft) | Number of On-Ramp Lanes at Back of the Nose | Lane Drop on Ramp Before Merge? | Number of Freeway Lanes Before the Merge | | |
| 078 | Concord Mills / Bruton Smith Blvd | I-85 | SB | 49 | Cabarrus | | 65 | 4/30/2014 | 4/30/2014 | Direct | Signalized intersection | 1 | Y | 3000 | 1 | N | 5 | | |
| 079 | Concord Mills / Bruton Smith Blvd | I-85 | SB | 49 | Cabarrus | | 65 | 4/30/2014 | 4/30/2014 | Loop | Free Flow Link | 1 | Y | 3000 | 1 | N | 4 | | |
| 080 | Concord Mills / Bruton Smith Blvd | I-85 | NB | 49 | Cabarrus | | 65 | 4/30/2014 | 4/30/2014 | Direct | Signalized intersection | 1 | N | 1935 | 1 | Y | 5 | | |
| 081 | Poplar Tent Rd | I-85 | SB | 52 | Cabarrus | | 65 | 4/30/2014 | 4/30/2014 | Direct | Free Flow Link | 2 | N | 1080 | 1 | N | 4 | | |
| 082 | Poplar Tent Rd | I-85 | NB | 52 | Cabarrus | | 65 | 4/30/2014 | 4/30/2014 | Direct | Free Flow Link | 2 | N | 600 | 1 | N | 4 | | |
| 083 | Kannapolis Pkwy/ George Liles Pkwy | I-85 | SB | 52 | Cabarrus | | 65 | 4/30/2014 | 4/30/2014 | Direct | Signalized intersection | 1 | Y | 880 | 1 | Y | 4 | | |
| 084 | Kannapolis Pkwy/ George Liles Pkwy | I-85 | NB | 54 | Cabarrus | | 65 | 4/30/2014 | 4/30/2014 | Direct | Signalized intersection | 1 | Y | 3000 | 1 | N | 4 | | |
| 085 | NC 73 (Davidson Hwy) | I-85 | SB | 55 | Cabarrus | | 65 | 4/30/2014 | 4/30/2014 | Direct | Free Flow Link | 2 | Y | 3000 | 1 | N | 4 | | |
| 086 | NC 73 (Davidson Hwy) | I-85 | NB | 55 | Cabarrus | | 65 | 4/30/2014 | 4/30/2014 | Direct | Free Flow Link | 2 | N | 1240 | 1 | N | 2 | | |
| 087 | US 29-601 (Concord Pkwy) | I-85 | SB | 58 | Cabarrus | | 55 | 5/1/2015 | 12/1/2017 | Direct | Free Flow Link | 1 | N | 585 | 1 | N | 2 | | |
| 088 | US 29-601 (Concord Pkwy) | I-85 | NB | 58 | Cabarrus | | 55 | 5/1/2015 | 12/1/2017 | Direct | Free Flow Link | 1 | N | 500 | 1 | N | 2 | | |
| 089 | Dale Earnhardt Blvd | I-85 | SB | 60 | Cabarrus | | 55 | 5/1/2015 | 12/1/2017 | Loop | Signalized intersection | 1 | Y | 2025 | 1 | N | 2 | | |
| 090 | Dale Earnhardt Blvd | I-85 | NB | 60 | Cabarrus | | 55 | 5/1/2015 | 12/1/2017 | Direct | Signalized intersection | 1 | N | 725 | 1 | N | 2 | | |
| 091 | Lane St | I-85 | SB | 63 | Cabarrus | | 55 | 5/1/2015 | 12/1/2017 | Direct | Free Flow Link | 2 | N | 350 | 1 | N | 2 | | |
| 092 | Lane St | I-85 | NB | 63 | Cabarrus | | 55 | 5/1/2015 | 12/1/2017 | Loop | Free Flow Link | 2 | N | 310 | 1 | N | 2 | | |
| 023 | N Chester St | I-85 | SB | 17 | Gaston | | 60 | | | Direct | Free Flow Link | 1 | N | 230 | 1 | N | 3 | | |
| 024 | N Chester St | I-85 | NB | 17 | Gaston | | 60 | | | Loop | Free Flow Link | 1 | N | 950 | 1 | N | 3 | | |
| 025 | Ozark Ave | I-85 | SB | 19 | Gaston | | 60 | | | Direct | Free Flow Link | 2 | N | 800 | 2 | Y | 3 | | |
| 026 | Ozark Ave | I-85 | NB | 19 | Gaston | | 60 | | | Direct | Stop-Controlled Intersection + RH FF link | 2 | Y | 1855 | 1 | N | 3 | | |
| 027 | New Hope Rd | I-85 | SB | 20 | Gaston | | 60 | | | Loop | Signalized intersection + RH FF link | 2 | Y | 2400 | 1 | N | 3 | | |
| 028 | New Hope Rd | I-85 | NB | 20 | Gaston | | 60 | | | Direct | Signalized intersection | 2 | N | 160 | 1 | N | 3 | | |
| 029 | Cox Rd | I-85 | SB | 21 | Gaston | | 60 | | | Direct | Signalized intersection | 1 | N | 735 | 1 | N | 3 | | |
| 030 | Cox Rd | I-85 | NB | 21 | Gaston | | 60 | | | Direct | Signalized intersection + RH FF link | 2 | N | 320 | 1 | N | 3 | | |
| 031 | S Main St | I-85 | SB | 22 | Gaston | | 60 | | | Loop | Signalized intersection + RH FF link | 2 | N | 960 | 1 | N | 3 | | |
| 032 | S Main St | I-85 | NB | 22 | Gaston | | 60 | | | Direct | Signalized intersection + RH FF link | 2 | N | 250 | 1 | N | 3 | | |
| 033 | McAdenville Rd) | I-85 | SB | 23 | Gaston | | 60 | | | Direct | Free Flow Link | 2 | N | 525 | 1 | N | 3 | | |
| 034 | McAdenville Rd) | I-85 | NB | 23 | Gaston | | 60 | | | Direct | Signalized intersection + RH FF link | 2 | N | 512 | 1 | N | 3 | | |
| 035 | Belmont-Mt. Holly Rd | I-85 | SB | 26 | Gaston | | 60 | | | Direct | Signalized intersection + RH FF link | 2 | N | 580 | 1 | N | 3 | | |
| 036 | Belmont-Mt. Holly Rd | I-85 | NB | 26 | Gaston | | 60 | | | Loop | Free Flow Link | 2 | N | 560 | 1 | N | 3 | | |
| 037 | Beatty Dr / Park St | I-85 | SB | 27 | Gaston | | 60 | | | Direct | Signalized intersection + RH FF link | 2 | N | 785 | 1 | Y | 4 | | |
| 038 | Beatty Dr / Park St | I-85 | NB | 27 | Gaston | | 60 | | | Direct | Signalized intersection + RH FF link | 2 | N | 1080 | 1 | Y | 4 | | |
| 148 | Langtree Rd | I-77 | SB | 31 | Iredell | | 65 | | | Direct | Signalized intersection | 1 | N | 965 | 1 | Y | 2 | | |
| 149 | Langtree Rd | I-77 | NB | 31 | Iredell | | 65 | | | Direct | Signalized intersection | 1 | Y | 3000 | 1 | N | 2 | | |
| 150 | Williams Rd / US 21 (Charlotte Hwy) | I-77 | SB | 33 | Iredell | | 65 | | | Direct | Free Flow Link | 1 | N | 720 | 1 | N | 3 | | |
| 151 | Williams Rd / US 21 (Charlotte Hwy) | I-77 | SB | 33 | Iredell | | 65 | | | Loop | Free Flow Link | 1 | Y | 3000 | 1 | N | 2 | | |
| 152 | Williams Rd / US 21 (Charlotte Hwy) | I-77 | NB | 33 | Iredell | | 65 | | | Direct | Signalized intersection | 1 | N | 350 | 1 | N | 2 | | |
| 153 | SR 1100 (Brawley School Rd) | I-77 | SB | 35 | Iredell | | 65 | | | Direct | Signalized intersection + RH FF link | 2 | N | 700 | 1 | N | 2 | | |
| 154 | SR 1100 (Brawley School Rd) | I-77 | NB | 35 | Iredell | | 65 | | | Direct | Signalized intersection + RH FF link | 2 | Y | 2180 | 1 | Y | 2 | | |
| 155 | NC 150 (W Plaza Dr) | I-77 | SB | 36 | Iredell | | 65 | | | Direct | Signalized intersection | 1 | Y | 2120 | 1 | Y | 2 | | |
| 156 | NC 150 (W Plaza Dr) | I-77 | NB | 36 | Iredell | | 65 | | | Direct | Signalized intersection + RH FF link | 2 | N | 400 | 1 | N | 2 | | |
| 157 | US 21-NC 115 (Main St / Charlotte Hwy) | I-77 | SB | 42 | Iredell | | 65 | | | Direct | Signalized intersection + RH FF link | 2 | N | 350 | 1 | N | 2 | | |
| 158 | US 21-NC 115 (Main St / Charlotte Hwy) | I-77 | NB | 42 | Iredell | | 65 | | | Loop | Signalized intersection + RH FF link | 2 | N | 655 | 1 | N | 2 | | |
| 159 | Amity Hill Rd | I-77 | NB | 45 | Iredell | | 65 | | | Direct | Stop-Controlled Intersection + RH FF link | 1 | N | 180 | 1 | N | 2 | | |
| 160 | Amity Hill Rd | I-77 | SB | 45 | Iredell | | 65 | | | Direct | Stop-Controlled Intersection + RH FF link | 2 | N | 250 | 1 | N | 2 | | |
| 161 | US 70 (Garner Bagnal Blvd) | I-77 | SB | 49 | Iredell | | 55 | | | Direct | Signalized intersection + RH FF link | 2 | N | 180 | 1 | N | 2 | | |
| 162 | US 70 (Garner Bagnal Blvd) | I-77 | NB | 49 | Iredell | | 55 | | | Loop | Signalized intersection + RH FF link | 2 | N | 1225 | 1 | N | 2 | | |
| 163 | Salisbury Rd | I-77 | SB | 49 | Iredell | | 55 | | | Loop | Free Flow Link | 2 | N | 1170 | 1 | N | 2 | | |

Appendix A
Master List of Geometric Data

| Site Identification | | | | | | High Level Summary | | | | | | | | | | | | |
|---------------------|------------------------------|------------|-------------------|----------------------|-------------|--------------------|---------------------|--------------------|-------------------|------------------------------------------|--------------------------------------|--------------------------|-----------------------------|-------------------------------------------|---------------------------------------------|---------------------------------|------------------------------------------|--|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | F2F? | Current Speed Limit | Speed Limit Change | Widening Complete | General Ramp Layout (AASHTO definitions) | Origin | Number of Upstream Links | Lane Addition onto Freeway? | Length of Lane Addition onto Freeway (ft) | Number of On-Ramp Lanes at Back of the Nose | Lane Drop on Ramp Before Merge? | Number of Freeway Lanes Before the Merge | |
| 164 | Salisbury Rd | I-77 | NB | 49 | Iredell | | 55 | | | Direct | Signalized intersection | 2 | N | 250 | 1 | N | 2 | |
| 165 | East Broad St | I-77 | NB | 50 | Iredell | | 55 | | | Loop | Signalized intersection + RH FF link | 1 | N | 445 | 1 | N | 2 | |
| 166 | East Broad St | I-77 | SB | 50 | Iredell | | 55 | | | Loop | Signalized intersection + RH FF link | 1 | N | 530 | 1 | N | 2 | |
| 167 | I-40 EB | I-77 | SB | 51 | Iredell | F2F | 55 | | 3/30/2017 | Direct | Free Flow Link | 1 | N | 775 | 1 | N | 2 | |
| 168 | I-40 EB | I-77 | NB | 51 | Iredell | F2F | 55 | | 3/30/2017 | Loop | Free Flow Link | 1 | N | 430 | 1 | N | 2 | |
| 169 | I-40 WB | I-77 | SB | 51 | Iredell | F2F | 55 | | 3/30/2017 | Loop | Free Flow Link | 1 | N | 385 | 1 | N | 2 | |
| 170 | I-40 WB | I-77 | NB | 51 | Iredell | F2F | 55 | | 3/30/2017 | Direct | Free Flow Link | 1 | | | | | | |
| 001 | I-77 NB | I-277 | Inner | 1 | Mecklenburg | F2F | 50 | | | Loop | Free Flow Link | 1 | N | 375 | 1 | N | 2 | |
| 002 | Clarkson St | I-277 | Outer | 1 | Mecklenburg | | 50 | | | Direct | Free Flow Link | 2 | Y | 2800 | 1 | N | 2 | |
| 003 | I-77 NB | I-277 | Outer | 1 | Mecklenburg | F2F | 50 | | | CD | Free Flow Link | 1 | Y | 3000 | 1 | N | 2 | |
| 004 | Church St | I-277 | Inner | 1E | Mecklenburg | | 50 | | | Direct | Free Flow Link | 1 | N | 290 | 1 | N | 4 | |
| 005 | South Blvd | I-277 | Inner | 1E | Mecklenburg | | 50 | | | Direct | Free Flow Link | 2 | N | 1895 | 2 | Y | 3 | |
| 006 | Church St | I-277 | Outer | 1E | Mecklenburg | | 50 | | | CD | Free Flow Link | 2 | N | 600 | 1 | N | 2 | |
| 007 | South Blvd | I-277 | Outer | 1E | Mecklenburg | | 50 | | | Direct | Signalized intersection | 1 | N | 750 | 1 | Y | 4 | |
| 008 | Stonewall St | I-277 | Inner | 2A | Mecklenburg | | 50 | | | Loop | Free Flow Link | 1 | N | 230 | 1 | N | 3 | |
| 009 | E 3rd St / E 4th St | I-277 | Inner | 2A | Mecklenburg | | 50 | | | Direct | Signalized intersection | 1 | N | 150 | 1 | N | 3 | |
| 010 | Stonewall St | I-277 | Outer | 2A | Mecklenburg | | 50 | | | Direct | Free Flow Link | 1 | N | 450 | 3 | N | 3 | |
| 011 | US 74 (Independence Blvd.) | I-277 | Inner | 2B | Mecklenburg | F2F | 50 | | | Direct | Free Flow Link | 1 | N | 575 | 2 | N | 2 | |
| 012 | E 3rd / 4th St | I-277 | Outer | 2A | Mecklenburg | | 50 | | | Direct | Free Flow Link | 1 | N | | 1 | N | 3 | |
| 013 | US 74 (Independence Blvd.) | I-277 | Outer | 2B | Mecklenburg | F2F | 50 | | | Direct | Free Flow Link | 1 | N | 724 | 2 | N | 2 | |
| 014 | N Davidson St | I-277 | Inner | 3A | Mecklenburg | | 50 | | | Direct | Free Flow Link | 1 | N | 125 | 1 | N | 3 | |
| 015 | N Brevard St | I-277 | Inner | 3A | Mecklenburg | | 50 | | | Direct | Signalized intersection | 1 | N | 530 | 1 | N | 3 | |
| 016 | N Caldwell St | I-277 | Outer | 3A | Mecklenburg | | 50 | | | Direct | Signalized intersection | 1 | N | 400 | 1 | N | 3 | |
| 017 | N Church St | I-277 | Outer | 3B | Mecklenburg | | 50 | | | Direct | Signalized intersection | 1 | Y | 2675 | 1 | N | 3 | |
| 018 | N Graham St | I-277 | Outer | 4 | Mecklenburg | | 50 | | | Loop | Signalized intersection + RH FF link | 2 | N | 550 | 1 | Y | 4 | |
| 019 | I-77 NB | I-277 | Inner | 5A | Mecklenburg | F2F | 50 | | | Direct | Free Flow Link | 1 | Y | 2675 | 1 | Y | 3 | |
| 020 | I-77 SB | I-277 | Inner | 5A | Mecklenburg | F2F | 50 | | | Direct | Free Flow Link | 1 | Y | 3000 | 2 | Y | 2 | |
| 021 | I-77 NB | I-277 | Outer | 5 | Mecklenburg | F2F | 50 | | | Direct | Free Flow Link | 1 | N | 570 | 1 | N | 2 | |
| 022 | I-77 SB | I-277 | Outer | 5A | Mecklenburg | F2F | 50 | | | Direct | Free Flow Link | 1 | N | 450 | 1 | Y | 3 | |
| 039 | Sam Wilson Rd | I-85 | SB | 29 | Mecklenburg | | 60 | | | Direct | Free Flow Link | 1 | N | 610 | 1 | N | 4 | |
| 040 | I-485 Inner / Wilkinson Blvd | I-85 | SB | 30 | Mecklenburg | F2F | 60 | | | Direct | Free Flow Link | 1 | N | 935 | 1 | Y | 4 | |
| 041 | Sam Wilson Rd | I-85 | NB | 30 | Mecklenburg | | 60 | | | Direct | Free Flow Link | 1 | N | 775 | 1 | N | 4 | |
| 042 | I-485 Outer | I-85 | NB | 30 | Mecklenburg | F2F | 60 | | | Loop | Free Flow Link | 1 | N | 1200 | 1 | N | 4 | |
| 043 | I-485 Inner | I-85 | NB | 30 | Mecklenburg | F2F | 60 | | | Direct | Free Flow Link | 1 | N | 1085 | 1 | N | 4 | |
| 044 | Little Rock Rd | I-85 | SB | 32 | Mecklenburg | | 60 | | | Direct | Free Flow Link | 2 | N | 450 | 1 | Y | 4 | |
| 045 | Little Rock Rd | I-85 | NB | 32 | Mecklenburg | | 60 | | | Direct | Free Flow Link | 2 | N | 400 | 1 | Y | 4 | |
| 046 | Billy Graham Pkwy | I-85 | SB | 33 | Mecklenburg | | 60 | | | Direct | Signalized intersection | 1 | N | 600 | 1 | N | 4 | |
| 047 | Billy Graham Pkwy | I-85 | SB | 33 | Mecklenburg | | 60 | | | Loop | Free Flow Link | 1 | N | 600 | 1 | N | 4 | |
| 048 | Billy Graham Pkwy | I-85 | NB | 33 | Mecklenburg | | 60 | | | Direct | Signalized intersection | 1 | Y | 3000 | 1 | N | 4 | |
| 049 | Tuckaseegee Rd | I-85 | SB | 34 | Mecklenburg | | 60 | | | Direct | Free Flow Link | 1 | N | 510 | 1 | N | 5 | |
| 050 | Freedom Dr | I-85 | SB | 34 | Mecklenburg | | 60 | | | Direct | Free Flow Link | 2 | Y | 3000 | 2 | Y | 4 | |
| 051 | Freedom Dr | I-85 | NB | 34 | Mecklenburg | | 60 | | | Direct | Free Flow Link | 2 | N | 2000 | 2 | N | 4 | |
| 052 | Glenwood Dr | I-85 | SB | 35 | Mecklenburg | | 60 | | | Direct | Free Flow Link | 1 | N | 350 | 1 | N | 4 | |
| 053 | Glenwood Dr | I-85 | NB | 35 | Mecklenburg | | 60 | | | Direct | Free Flow Link | 1 | N | 1480 | 1 | N | 4 | |
| 054 | NC 16 (Brookshire Blvd) | I-85 | SB | 36 | Mecklenburg | | 60 | | | Direct | Free Flow Link | 2 | N | 3000 | 1 | Y | 4 | |
| 055 | NC 16 (Brookshire Blvd) | I-85 | NB | 36 | Mecklenburg | | 60 | | | Direct | Free Flow Link | 2 | N | 2250 | 1 | Y | 4 | |
| 056 | Beatties Ford Rd | I-85 | SB | 37 | Mecklenburg | | 60 | | | Direct | Signalized intersection | 1 | N | 350 | 1 | N | 4 | |

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Master List of Geometric Data

| Site Identification | | | | | | High Level Summary | | | | | | | | | | | | |
|---------------------|----------------------------------------------------------------------|------------|-------------------|----------------------|-------------|--------------------|---------------------|--------------------|-------------------|------------------------------------------|--------------------------------------|--------------------------|-----------------------------|-------------------------------------------|---------------------------------------------|---------------------------------|------------------------------------------|--|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | F2F? | Current Speed Limit | Speed Limit Change | Widening Complete | General Ramp Layout (AASHTO definitions) | Origin | Number of Upstream Links | Lane Addition onto Freeway? | Length of Lane Addition onto Freeway (ft) | Number of On-Ramp Lanes at Back of the Nose | Lane Drop on Ramp Before Merge? | Number of Freeway Lanes Before the Merge | |
| 057 | Beatties Ford Rd | I-85 | NB | 37 | Mecklenburg | | 60 | | | Direct | Signalized intersection | 1 | N | 450 | 1 | N | 4 | |
| 058 | I-77 SB | I-85 | SB | 38 | Mecklenburg | F2F | 60 | | | Direct | Free Flow Link | 1 | N | 1000 | 1 | Y | 4 | |
| 059 | I-77 NB | I-85 | SB | 38 | Mecklenburg | F2F | 60 | | | Loop | Free Flow Link | 1 | N | 475 | 1 | N | 4 | |
| 060 | I-77 SB | I-85 | NB | 38 | Mecklenburg | F2F | 60 | | | Loop | Free Flow Link | 1 | N | 625 | 1 | N | 4 | |
| 061 | Statesville Ave | I-85 | SB | 39 | Mecklenburg | | 60 | | | Direct | Signalized intersection | 1 | N | 450 | 1 | Y | 4 | |
| 062 | I-77 NB | I-85 | NB | 38 | Mecklenburg | F2F | 60 | | | Direct | Free Flow Link | 1 | N | 780 | 2 | Y | 4 | |
| 063 | Statesville Ave | I-85 | NB | 39 | Mecklenburg | | 60 | | | Direct | Free Flow Link | 1 | N | 715 | 1 | N | 5 | |
| 064 | Graham St | I-85 | SB | 40 | Mecklenburg | | 60 | | | Loop | Signalized intersection + RH FF link | 2 | N | 1250 | 1 | N | 4 | |
| 065 | Graham St | I-85 | NB | 40 | Mecklenburg | | 60 | | | Direct | Signalized intersection | 1 | Y | 2330 | 1 | N | 4 | |
| 066 | Sugar Creek Rd | I-85 | SB | 40 | Mecklenburg | | 60 | | | Direct | Signalized intersection | 1 | Y | 2305 | 2 | Y | 4 | |
| 067 | Sugar Creek Rd | I-85 | NB | 41 | Mecklenburg | | 60 | | | Direct | Signalized intersection | 1 | N | 340 | 1 | N | 4 | |
| 068 | US 29 Connector (US 29/49) | I-85 | SB | 42 | Mecklenburg | | 60 | | | Direct | Signalized intersection | 1 | Y | 2250 | 2 | Y | 4 | |
| 069 | University City Blvd | I-85 | SB | 43 | Mecklenburg | | 65 | | | Direct | Signalized intersection | 1 | N | 680 | 1 | N | 5 | |
| 070 | University City Blvd | I-85 | SB | 43 | Mecklenburg | | 65 | | | Loop | Free Flow Link | 1 | Y | 3000 | 1 | N | 4 | |
| 071 | University City Blvd | I-85 | NB | 43 | Mecklenburg | | 65 | | | Direct | Signalized intersection + RH FF link | 2 | Y | 3000 | 1 | Y | 4 | |
| 072 | Harris Blvd | I-85 | SB | 45 | Mecklenburg | | 65 | | | Direct | Signalized intersection | 1 | Y | 3000 | 2 | N | 4 | |
| 073 | Harris Blvd | I-85 | NB | 45 | Mecklenburg | | 65 | | | Direct | Signalized intersection | 1 | Y | 3000 | 2 | N | 4 | |
| 074 | Mallard Creek Rd | I-85 | SB | 46 | Mecklenburg | | 65 | | | Direct | Free Flow Link | 1 | Y | 3000 | 1 | N | 4 | |
| 075 | Mallard Creek Rd | I-85 | NB | 46 | Mecklenburg | | 65 | | | Direct | Free Flow Link | 1 | N | 1450 | 1 | N | 4 | |
| 076 | I-485 Outer | I-85 | SB | 48 | Mecklenburg | F2F | 65 | 6/6/2015 | 6/6/2015 | Direct | Free Flow Link | 1 | Y | 2370 | 3 | Y | 3 | |
| 077 | I-485 Inner | I-85 | NB | 48 | Mecklenburg | F2F | 65 | 6/6/2015 | 6/6/2015 | Direct | Free Flow Link | 1 | Y | 3000 | 4 | Y | 3 | |
| 093 | Westinghouse Blvd | I-77 | SB | 1A | Mecklenburg | | 55 | | | Direct | Free Flow Link | 2 | N | 520 | 1 | N | 4 | |
| 094 | Westinghouse Blvd | I-77 | CD | NB | 1B | Mecklenburg | | 55 | | Loop | Free Flow Link | 1 | N | 920 | 1 | N | 2 | |
| 095 | Westinghouse Blvd | I-77 | CD | NB | 1A | Mecklenburg | | 55 | | Direct | Free Flow Link | 1 | N | 890 | 1 | N | 2 | |
| 096 | Westinghouse Blvd | I-77 | NB | 1A | Mecklenburg | | 55 | | | Direct | Free Flow Link | 1 | N | 910 | 1 | N | 3 | |
| 097 | I-485 | I-77 | SB | 1B | Mecklenburg | F2F | 55 | | | Direct | Free Flow Link | 1 | Y | 3000 | 2 | Y | 3 | |
| 098 | Welcome Center | I-77 | NB | 1B | Mecklenburg | | 55 | | | Direct | Free Flow Link | 1 | N | 715 | 1 | N | 3 | |
| 099 | Arrowood Rd | I-77 | SB | 3 | Mecklenburg | | 55 | | | Direct | Free Flow Link | 2 | Y | 1640 | 1 | Y | 2 | |
| 100 | I-485 | I-77 | NB | 1B | Mecklenburg | F2F | 55 | | | CD | Free Flow Link | 1 | N | | 3 | N | 3 | |
| 101 | Arrowood Rd | I-77 | NB | 3 | Mecklenburg | | 55 | | | Direct | Free Flow Link | 2 | N | 950 | 1 | Y | 3 | |
| 102 | Nations Ford Rd | I-77 | SB | 4 | Mecklenburg | | 55 | | | Direct | Signalized intersection | 2 | Y | 2560 | 1 | N | 3 | |
| 103 | Nations Ford Rd | I-77 | NB | 4 | Mecklenburg | | 55 | | | Direct | Free Flow Link | 2 | N | 560 | 1 | N | 3 | |
| 104 | Tyvola Rd | I-77 | SB | 5 | Mecklenburg | | 55 | | | Direct | Free Flow Link | 2 | N | 500 | 1 | Y | 3 | |
| 105 | Tyvola Rd | I-77 | NB | 5 | Mecklenburg | | 55 | | | Direct | Free Flow Link | 2 | N | 230 | 2 | Y | 3 | |
| 106 | Woodlawn Rd | I-77 | SB | 6A | Mecklenburg | | 55 | | | Direct | Free Flow Link | 2 | N | 170 | 1 | N | 3 | |
| 107 | S Tryon St | I-77 | NB | 6B | Mecklenburg | | 55 | | | Loop | Free Flow Link | 1 | N | 450 | 1 | N | 3 | |
| 108 | S Tryon St | I-77 | SB | 6B | Mecklenburg | | 55 | | | Loop | Free Flow Link | 1 | N | 850 | 1 | N | 3 | |
| 109 | Clanton Rd | I-77 | SB | 7 | Mecklenburg | | 55 | | | Direct | Signalized intersection + RH FF link | 2 | N | 960 | 1 | N | 3 | |
| 110 | Clanton Rd | I-77 | NB | 7 | Mecklenburg | | 55 | | | Direct | Signalized intersection + RH FF link | 2 | N | 325 | 1 | Y | 3 | |
| 111 | Remount Rd | I-77 | SB | 8 | Mecklenburg | | 55 | | | Direct | Free Flow Link | 2 | N | 900 | 1 | N | 3 | |
| 112 | I-77 CD (US 74 (Wilkinson Blvd)/Freedom Dr / I-277 (John Belk Frwy)) | I-77 | SB | 9 | Mecklenburg | F2F | 55 | | | CD | Free Flow Link | 1 | N | 775 | 1 | Y | 3 | |
| 113 | West Blvd | I-77 | NB | 9A | Mecklenburg | | 55 | | | Direct | Free Flow Link | 1 | N | 350 | 1 | Y | 3 | |
| 114 | I-77 CD (US 74 (Wilkinson Blvd)/Freedom Dr / I-277 (John Belk Frwy)) | I-77 | NB | 9B | Mecklenburg | F2F | 55 | | | Direct | Free Flow Link | 1 | Y | 3000 | 1 | N | 3 | |
| 115 | US 29-NC 27 (Morehead St) | I-77 | NB | 10 | Mecklenburg | | 55 | | | Direct | Free Flow Link | 2 | N | 1300 | 1 | N | 4 | |
| 116 | West Trade St | I-77 | SB | 10 | Mecklenburg | | 55 | | | Direct | Free Flow Link | 1 | N | 845 | 1 | N | 4 | |

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| Site Identification | | | | | | High Level Summary | | | | | | | | | | | | |
|---------------------|--------------------------------|------------|-------------------|----------------------|-------------|--------------------|---------------------|--------------------|-------------------|------------------------------------------|-------------------------------------------|--------------------------|-----------------------------|-------------------------------------------|---------------------------------------------|---------------------------------|------------------------------------------|--|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | F2F? | Current Speed Limit | Speed Limit Change | Widening Complete | General Ramp Layout (AASHTO definitions) | Origin | Number of Upstream Links | Lane Addition onto Freeway? | Length of Lane Addition onto Freeway (ft) | Number of On-Ramp Lanes at Back of the Nose | Lane Drop on Ramp Before Merge? | Number of Freeway Lanes Before the Merge | |
| 117 | West Trade St | I-77 | SB | 10 | Mecklenburg | | 55 | | | Loop | Free Flow Link | 1 | N | 400 | 1 | N | 4 | |
| 118 | 5th St | I-77 | NB | 10 | Mecklenburg | | 55 | | | Direct | Signalized intersection | 2 | N | 600 | 1 | N | 4 | |
| 119 | NC 16 (Brookshire Fwy) | I-77 | SB | 11 | Mecklenburg | F2F | 55 | | | CD | Free Flow Link | 2 | N | 480 | 1 | N | 4 | |
| 120 | I-277 Outer | I-77 | SB | 11 | Mecklenburg | F2F | 55 | | | Direct | Free Flow Link | 1 | Y | 3000 | 1 | Y | 3 | |
| 121 | NC 16 (Brookshire Fwy) | I-77 | NB | 11 | Mecklenburg | F2F | 55 | | | Loop | Free Flow Link | 1 | N | 500 | 1 | N | 4 | |
| 122 | I-277 Outer | I-77 | NB | 11 | Mecklenburg | F2F | 55 | | | Direct | Free Flow Link | 1 | N | 730 | 1 | N | 4 | |
| 123 | LaSalle St / Atando Ave | I-77 | SB | 12 | Mecklenburg | | 55 | | | Direct | Free Flow Link | 1 | N | 1250 | 1 | N | 5 | |
| 124 | LaSalle St / Atando Ave | I-77 | NB | 12 | Mecklenburg | | 55 | | | Direct | Signalized intersection | 1 | N | 85 | 1 | N | 4 | |
| 125 | I-85 NB | I-77 | SB | 13 | Mecklenburg | F2F | 55 | | | Direct | Free Flow Link | 1 | N | 800 | 1 | Y | 5 | |
| 126 | I-77 SB HOV | I-77 | SB | 13 | Mecklenburg | F2F | 55 | | | Direct | Free Flow Link | 1 | Y | 3000 | 1 | N | 4 | |
| 127 | I-85 SB / Statesville Rd | I-77 | SB | 13 | Mecklenburg | F2F | 55 | | | Loop | Free Flow Link | 1 | Y | 20000 | 2 | Y | 4 | |
| 128 | I-85 NB | I-77 | NB | 13 | Mecklenburg | F2F | 55 | | | Loop | Free Flow Link | 1 | Y | 3000 | 1 | N | 3 | |
| 129 | I-85 SB | I-77 | NB | 13 | Mecklenburg | F2F | 55 | | | Direct | Free Flow Link | 1 | Y | 410 | 1 | Y | 4 | |
| 130 | Sunset Rd | I-77 | SB | 18 | Mecklenburg | | 65 | | | Loop | Signalized intersection | 1 | N | 1060 | 1 | N | 4 | |
| 131 | Sunset Rd | I-77 | NB | 18 | Mecklenburg | | 65 | | | Direct | Free Flow Link | 2 | N | 300 | 1 | N | 4 | |
| 132 | WT Harris Blvd | I-77 | SB | 18 | Mecklenburg | | 65 | | | Direct | Signalized intersection | 1 | Y | 430 | 1 | N | 4 | |
| 133 | WT Harris Blvd | I-77 | NB | 18 | Mecklenburg | | 65 | | | Loop | Free Flow Link | 1 | N | 1000 | 1 | N | 4 | |
| 134 | WT Harris Blvd | I-77 | SB | 19 | Mecklenburg | | 65 | | | Loop | Free Flow Link | 1 | N | 415 | 1 | N | 4 | |
| 135 | WT Harris Blvd | I-77 | NB | 18 | Mecklenburg | | 65 | | | Direct | Signalized intersection | 1 | Y | 2000 | 1 | N | 4 | |
| 136 | I-485 Inner | I-77 | SB | 19 | Mecklenburg | F2F | 65 | | | Direct | Free Flow Link | 1 | Y | 2800 | 1 | N | 4 | |
| 137 | I-485 Outer | I-77 | SB | 19 | Mecklenburg | F2F | 65 | | | Loop | Free Flow Link | 1 | N | 1110 | 1 | N | 4 | |
| 138 | I-485 Outer | I-77 | NB | 19 | Mecklenburg | F2F | 65 | | | Direct | Free Flow Link | 1 | N | 1865 | 2 | Y | 4 | |
| 139 | Gilead Rd | I-77 | SB | 25 | Mecklenburg | | 65 | | | Direct | Signalized intersection | 1 | N | 175 | 1 | N | 2 | |
| 140 | Gilead Rd | I-77 | NB | 23 | Mecklenburg | | 65 | | | Direct | Signalized intersection | 2 | N | 200 | 1 | N | 2 | |
| 141 | NC 73 (Sam Furr Rd) | I-77 | SB | 26 | Mecklenburg | | 65 | | | Direct | Signalized intersection + RH FF link | 1 | N | 725 | 1 | N | 2 | |
| 142 | NC 73 (Sam Furr Rd) | I-77 | SB | 26 | Mecklenburg | | 65 | | | Loop | Free Flow Link | 1 | N | 1385 | 1 | N | 2 | |
| 143 | NC 73 (Sam Furr Rd) | I-77 | NB | 25 | Mecklenburg | | 65 | | | Direct | Signalized intersection + RH FF link | 1 | N | 615 | 1 | N | 2 | |
| 144 | US 21 (Catawba Ave) | I-77 | SB | 29 | Mecklenburg | | 65 | | | Direct | Signalized intersection + RH FF link | 2 | N | 250 | 1 | Y | 2 | |
| 145 | US 21 (Catawba Ave) | I-77 | NB | 29 | Mecklenburg | | 65 | | | Direct | Signalized intersection + RH FF link | 2 | N | 160 | 1 | Y | 2 | |
| 146 | Goodrum Rd / Griffith St | I-77 | SB | 30 | Mecklenburg | | 65 | | | Direct | Stop-Controlled Intersection + RH FF link | 2 | N | 440 | 1 | N | 2 | |
| 147 | Goodrum Rd / Griffith St | I-77 | NB | 30 | Mecklenburg | | 65 | | | Direct | Free Flow Link | 1 | N | 195 | 1 | N | 2 | |
| 171 | S Tryon St | I-485 | Outer | 1 | Mecklenburg | | 70 | 5/26/2015 | | Direct | Signalized intersection | 1 | Y | 3000 | 1 | N | 3 | |
| 172 | S Tryon St | I-485 | Outer | 1 | Mecklenburg | | 70 | 5/26/2015 | | Loop | Free Flow Link | 1 | N | 750 | 1 | N | 3 | |
| 173 | S Tryon St | I-485 | Inner | 1 | Mecklenburg | | 70 | 5/26/2015 | | Direct | Signalized intersection | 1 | Y | 3000 | 1 | N | 3 | |
| 174 | Arrowood Rd | I-485 | Outer | 3 | Mecklenburg | | 70 | 5/26/2015 | | Direct | Signalized intersection + RH FF link | 1 | Y | 3000 | 1 | N | 3 | |
| 175 | Arrowood Rd | I-485 | Inner | 3 | Mecklenburg | | 70 | 5/26/2015 | | Direct | Signalized intersection + RH FF link | 1 | Y | 3000 | 1 | N | 3 | |
| 176 | Steele Creek Rd | I-485 | Outer | 4 | Mecklenburg | | 70 | 5/26/2015 | | Direct | Signalized intersection | 2 | N | 915 | 1 | N | 4 | |
| 177 | Steele Creek Rd | I-485 | Inner | 4 | Mecklenburg | | 70 | 5/26/2015 | | Loop | Free Flow Link | 1 | Y | 1350 | 1 | N | 3 | |
| 178 | Steele Creek Rd | I-485 | Outer | 4 | Mecklenburg | | 70 | 5/26/2015 | | Loop | Free Flow Link | 1 | N | 915 | 1 | N | 4 | |
| 179 | Steele Creek Rd | I-485 | Inner | 4 | Mecklenburg | | 70 | 5/26/2015 | | Direct | Signalized intersection | 1 | N | 1165 | 1 | N | 3 | |
| 180 | West Blvd | I-485 | Outer | 6 | Mecklenburg | | 70 | 5/26/2015 | | Direct | Stop-Controlled Intersection + RH FF link | 2 | N | 1350 | 1 | N | 3 | |
| 181 | West Blvd | I-485 | Inner | 6 | Mecklenburg | | 70 | 5/26/2015 | | Direct | Stop-Controlled Intersection + RH FF link | 2 | N | 3600 | 1 | N | 3 | |
| 182 | US 74 / US 29 (Wilkinson Blvd) | I-485 | Outer | 9 | Mecklenburg | | 70 | 5/26/2015 | | Direct | Free Flow Link | 2 | Y | 2975 | 3 | Y | 3 | |
| 183 | I-485 CD (Wilkinson Blvd) | I-485 | Inner | 10 | Mecklenburg | F2F | 70 | 5/26/2015 | | CD | Free Flow Link | 1 | N | 1015 | 1 | N | 3 | |
| 184 | I-85 | I-485 | Inner | 10 | Mecklenburg | F2F | 70 | 5/26/2015 | | Direct | Free Flow Link | 1 | Y | 3000 | 2 | Y | 3 | |
| 185 | Moores Chapel Rd | I-485 | Outer | 12 | Mecklenburg | | 70 | 5/26/2015 | | Direct | Free Flow Link | 1 | Y | 1850 | 1 | N | 3 | |
| 186 | Moores Chapel Rd | I-485 | Inner | 12 | Mecklenburg | | 70 | 5/26/2015 | | Direct | Free Flow Link | 1 | N | 860 | 1 | N | 3 | |

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|---------------------|-----------------------|------------|-------------------|----------------------|-------------|--------------------|---------------------|--------------------|-------------------|------------------------------------------|-------------------------------------------|--------------------------|-----------------------------|-------------------------------------------|---------------------------------------------|---------------------------------|------------------------------------------|--|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | F2F? | Current Speed Limit | Speed Limit Change | Widening Complete | General Ramp Layout (AASHTO definitions) | Origin | Number of Upstream Links | Lane Addition onto Freeway? | Length of Lane Addition onto Freeway (ft) | Number of On-Ramp Lanes at Back of the Nose | Lane Drop on Ramp Before Merge? | Number of Freeway Lanes Before the Merge | |
| 187 | Mt Holly Rd | I-485 | Outer | 12 | Mecklenburg | | 70 | 5/26/2015 | | Direct | Signalized intersection + RH FF link | 1 | N | 1350 | 1 | N | 3 | |
| 188 | Mt Holly Rd | I-485 | Inner | 14 | Mecklenburg | | 70 | 5/26/2015 | | Direct | Signalized intersection + RH FF link | 1 | N | 555 | 1 | N | 3 | |
| 189 | NC16 | I-485 | Outer | 16 | Mecklenburg | | 70 | 5/26/2015 | | Direct | Signalized intersection | 1 | N | 705 | 1 | N | 3 | |
| 190 | NC 16 | I-485 | Inner | 16 | Mecklenburg | | 70 | 5/26/2015 | | Loop | Free Flow Link | 1 | N | 960 | 1 | N | 3 | |
| 191 | NC 16 | I-485 | Outer | 16 | Mecklenburg | | 70 | 5/26/2015 | | Loop | Free Flow Link | 1 | N | 930 | 1 | N | 3 | |
| 192 | NC 16 | I-485 | Inner | 16 | Mecklenburg | | 70 | 5/26/2015 | | Direct | Signalized intersection | 1 | N | 720 | 1 | N | 3 | |
| 193 | WT Harris Blvd | I-485 | Outer | 21 | Mecklenburg | | 70 | 5/26/2015 | | Direct | Free Flow Link | 1 | N | 645 | 1 | N | 3 | |
| 194 | WT Harris Blvd | I-485 | Outer | 21 | Mecklenburg | | 70 | 5/26/2015 | | Loop | Free Flow Link | 1 | N | 975 | 1 | N | 3 | |
| 195 | WT Harris Blvd | I-485 | Inner | 21 | Mecklenburg | | 70 | 5/26/2015 | | Direct | Signalized intersection | 1 | Y | 2870 | 1 | N | 3 | |
| 196 | I-77 (North) | I-485 | Outer | 23 | Mecklenburg | F2F | 70 | 6/6/2015 | | CD | Free Flow Link | 2 | N | 2890 | 2 | Y | 3 | |
| 197 | I-77 (North) | I-485 | Outer | 23 | Mecklenburg | F2F | 70 | 6/6/2015 | | Loop | Free Flow Link | 1 | N | 850 | 1 | N | 2 | |
| 198 | I-77 (North) | I-485 | Inner | 23 | Mecklenburg | F2F | 70 | 6/6/2015 | | CD | Free Flow Link | 2 | Y | 3000 | 2 | Y | 3 | |
| 199 | Old Statesville Rd | I-485 | Outer | 23 | Mecklenburg | | 70 | 6/6/2015 | | Loop | Signalized intersection + RH FF link | 1 | Y | 2720 | 1 | N | 2 | |
| 200 | Old Statesville Rd | I-485 | Inner | 23 | Mecklenburg | | 70 | 6/6/2015 | 6/6/2015 | Direct | Signalized intersection | 1 | N | 670 | 1 | N | 4 | |
| 201 | Prosperity Church Rd | I-485 | Outer | 26 | Mecklenburg | | 70 | 6/6/2015 | 6/6/2015 | Direct | Free Flow Link | 1 | N | 1015 | 1 | N | 4 | |
| 202 | Prosperity Church Rd | I-485 | Inner | 26 | Mecklenburg | | 70 | 6/6/2015 | 6/6/2015 | Direct | Free Flow Link | 1 | N | 700 | 1 | N | 4 | |
| 203 | Mallard Creek Rd | I-485 | Outer | 28 | Mecklenburg | | 70 | 6/6/2015 | 6/6/2015 | Direct | Free Flow Link | 2 | N | 2280 | 2 | Y | 4 | |
| 204 | Mallard Creek Rd | I-485 | Inner | 28 | Mecklenburg | | 70 | 6/6/2015 | 6/6/2015 | Direct | Free Flow Link | 2 | Y | 2425 | 2 | N | 4 | |
| 205 | I-85 | I-485 | Outer | 31 | Mecklenburg | F2F | 70 | 6/6/2015 | 6/6/2015 | Direct | Free Flow Link | 2 | Y | 2110 | 4 | N | 3 | |
| 206 | I-85 | I-485 | Inner | 31 | Mecklenburg | F2F | 70 | 6/6/2015 | 6/6/2015 | Direct | Free Flow Link | 1 | Y | 1780 | 2 | Y | 3 | |
| 207 | US 29 | I-485 | Outer | 32 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Signalized intersection | 1 | Y | 1910 | 1 | Y | 4 | |
| 208 | US 29 | I-485 | Inner | 32 | Mecklenburg | | 70 | 6/6/2015 | | Loop | Free Flow Link | 1 | Y | 845 | 1 | N | 4 | |
| 209 | US 29 | I-485 | Inner | 32 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Free Flow Link | 1 | N | 600 | 1 | N | 4 | |
| 210 | University City Blvd | I-485 | Outer | 33 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Signalized intersection + RH FF link | 2 | Y | 3000 | 2 | Y | 3 | |
| 211 | University City Blvd | I-485 | Inner | 33 | Mecklenburg | | 70 | 6/6/2015 | | Loop | Signalized intersection + RH FF link | 1 | N | 1140 | 1 | Y | 3 | |
| 212 | Rocky River Rd | I-485 | Outer | 36 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Signalized intersection | 1 | N | 700 | 1 | Y | 3 | |
| 213 | Rocky River Rd | I-485 | Inner | 36 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Signalized intersection | 1 | N | 400 | 1 | N | 3 | |
| 214 | Harrisburg Rd | I-485 | Outer | 39 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Signalized intersection + RH FF link | 1 | Y | 2375 | 2 | Y | 3 | |
| 215 | Harrisburg Rd | I-485 | Inner | 39 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Signalized intersection + RH FF link | 1 | N | 710 | 1 | Y | 3 | |
| 216 | NC 24-27 Albemarle Rd | I-485 | Outer | 41 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Signalized intersection | 1 | Y | 3000 | 2 | Y | 2 | |
| 217 | NC 24-27 Albemarle Rd | I-485 | Inner | 41 | Mecklenburg | | 70 | 6/6/2015 | | Loop | Signalized intersection | 1 | N | 785 | 1 | N | 2 | |
| 218 | NC 51 | I-485 | Outer | 43 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Stop-Controlled Intersection + RH FF link | 1 | N | 675 | 1 | N | 2 | |
| 219 | NC 51 | I-485 | Inner | 43 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Stop-Controlled Intersection + RH FF link | 1 | N | 820 | 1 | N | 2 | |
| 220 | NC 218 (Fairview Rd) | I-485 | Outer | 44 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Signalized intersection | 1 | N | 765 | 1 | N | 2 | |
| 221 | NC 218 (Fairview Rd) | I-485 | Inner | 44 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Stop-Controlled Intersection + RH FF link | 1 | N | 560 | 1 | N | 2 | |
| 222 | Lawyers Rd | I-485 | Outer | 47 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Signalized intersection | 1 | N | 715 | 1 | N | 2 | |
| 223 | Lawyers Rd | I-485 | Inner | 47 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Signalized intersection | 1 | N | 680 | 1 | N | 2 | |
| 224 | Idlewild Rd | I-485 | Outer | 49 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Signalized intersection | 1 | N | 815 | 1 | N | 2 | |
| 225 | Idlewild Rd | I-485 | Inner | 49 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Signalized intersection | 1 | N | 715 | 1 | N | 2 | |
| 226 | US 74 | I-485 | Outer | 51 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Free Flow Link | 2 | Y | 2228 | 1 | Y | 2 | |
| 227 | US 74 | I-485 | Inner | 51 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Free Flow Link | 1 | Y | 2230 | 2 | Y | 2 | |
| 228 | E John St | I-485 | Outer | 52 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Signalized intersection | 1 | N | 1350 | 1 | N | 2 | |
| 229 | E John St | I-485 | Inner | 52 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Signalized intersection | 1 | N | 640 | 1 | N | 2 | |
| 230 | NC 16 (Providence Rd) | I-485 | Outer | 57 | Mecklenburg | | 70 | 6/6/2015 | | Direct | Signalized intersection | 1 | Y | 800 | 1 | N | 2 | |
| 231 | NC 16 (Providence Rd) | I-485 | Inner | 57 | Mecklenburg | | 70 | 6/6/2015 | | Loop | Free Flow Link | 1 | N | 640 | 1 | N | 2 | |
| 232 | NC 16 (Providence Rd) | I-485 | Outer | 57 | Mecklenburg | | 70 | 6/6/2015 | | Loop | Free Flow Link | 1 | N | 660 | 1 | N | 2 | |
| 233 | NC 16 (Providence Rd) | I-485 | Inner | 57 | Mecklenburg | | 70 | 7/10/2015 | 7/10/2015 | Direct | Signalized intersection | 1 | N | 745 | 1 | N | 2 | |

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| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | F2F? | Current Speed Limit | Speed Limit Change | Widening Complete | General Ramp Layout (AASHTO definitions) | Origin | Number of Upstream Links | Lane Addition onto Freeway? | Length of Lane Addition onto Freeway (ft) | Number of On-Ramp Lanes at Back of the Nose | Lane Drop on Ramp Before Merge? | Number of Freeway Lanes Before the Merge | |
| 234 | Rea Rd | I-485 | Outer | 59 | Mecklenburg | | 70 | 7/10/2015 | 7/10/2015 | Direct | Free Flow Link | 1 | N | 735 | 1 | N | 2 | |
| 235 | Rea Rd | I-485 | Outer | 59 | Mecklenburg | | 70 | 7/10/2015 | 7/10/2015 | Loop | Free Flow Link | 1 | N | 600 | 1 | N | 2 | |
| 236 | Rea Rd | I-485 | Inner | 59 | Mecklenburg | | 70 | 7/10/2015 | 7/10/2015 | Loop | Free Flow Link | 1 | Y | 3000 | 1 | N | 2 | |
| 237 | Rea Rd | I-485 | Inner | 59 | Mecklenburg | | 70 | 7/10/2015 | 7/10/2015 | Direct | Free Flow Link | 1 | N | 675 | 1 | N | 3 | |
| 238 | US 521 (Johnston Rd) | I-485 | Outer | 61 | Mecklenburg | | 70 | 7/10/2015 | 7/10/2015 | Direct | Free Flow Link | 1 | N | 700 | 1 | N | 3 | |
| 239 | US 521 (Johnston Rd) | I-485 | Outer | 61 | Mecklenburg | | 70 | 7/10/2015 | 7/10/2015 | Loop | Free Flow Link | 1 | N | 505 | 1 | N | 3 | |
| 240 | US 521 (Johnston Rd) | I-485 | Inner | 61 | Mecklenburg | | 70 | 7/10/2015 | 7/10/2015 | Direct | Free Flow Link | 1 | Y | 3000 | 2 | Y | 3 | |
| 241 | NC 51 | I-485 | Outer | 66 | Mecklenburg | | 70 | 7/10/2015 | 7/10/2015 | Direct | Free Flow Link | 2 | N | 890 | 1 | Y | 3 | |
| 242 | NC 51 | I-485 | Inner | 64 | Mecklenburg | | 70 | 7/10/2015 | 7/10/2015 | Direct | Signalized intersection + RH FF link | 2 | Y | 1700 | 1 | Y | 3 | |
| 243 | Pineville Rd / South Blvd | I-485 | Outer | 65 | Mecklenburg | | 70 | 7/10/2015 | 7/10/2015 | Direct | Signalized intersection + RH FF link | 2 | Y | 3000 | 1 | Y | 3 | |
| 244 | Pineville Rd / South Blvd | I-485 | Inner | 65 | Mecklenburg | | 70 | 7/10/2015 | 7/10/2015 | Direct | Free Flow Link | 1 | N | 680 | 1 | N | 4 | |
| 245 | Pineville Rd / South Blvd | I-485 | Inner | 65 | Mecklenburg | | 70 | 7/10/2015 | 7/10/2015 | Direct | Free Flow Link | 1 | N | 675 | 1 | N | 4 | |
| 246 | I-77 NB CD / Westinghouse Rd | I-485 | Outer | 67 | Mecklenburg | F2F | 70 | 6/6/2015 | | Direct | Free Flow Link | 1 | N | 950 | 1 | Y | 4 | |
| 247 | I-77 SB CD / Arrowood Rd | I-485 | Outer | 67 | Mecklenburg | F2F | 70 | 6/6/2015 | | Loop | Free Flow Link | 1 | N | 1060 | 1 | Y | 4 | |
| 248 | I-77 NB CD / Westinghouse Rd | I-485 | Inner | 67 | Mecklenburg | F2F | 70 | 6/6/2015 | | Loop | Free Flow Link | 1 | N | 675 | 1 | N | 3 | |
| 249 | I-77 SB CD / Arrowood Rd | I-485 | Inner | 67 | Mecklenburg | F2F | 70 | 6/6/2015 | | Direct | Free Flow Link | 1 | Y | 3000 | 1 | Y | 3 | |

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|---------------------|----------------------------------------|------------|-------------------|----------------------|----------|-----------------------------------------|-------------------------------------|------------------------------------|--------------------|------------------------|------------------------------|----------------------|--------------------|-------------------------------------------|-------------------------------------|-------------------|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | Number of Freeway Lanes After the Merge | On Ramp Length to Back of Gore (ft) | On Ramp Length to Tip of Gore (ft) | Merge Length (ft.) | Total Ramp Length (ft) | Adequate Acceleration Length | On Ramp Curve Radius | Approx. Ramp Grade | On Ramp Shoulder? (Paved full-lane width) | Freeway Grade Downstream of On Ramp | Freeway Shoulder? |
| 078 | Concord Mills / Bruton Smith Blvd | I-85 | SB | 49 | Cabarrus | 6 | 1290 | 1600 | | | | Straight | | No | | Yes |
| 079 | Concord Mills / Bruton Smith Blvd | I-85 | SB | 49 | Cabarrus | 5 | 865 | 975 | | | | Slight Curve | | No | | Yes |
| 080 | Concord Mills / Bruton Smith Blvd | I-85 | NB | 49 | Cabarrus | 5 | 910 | 1090 | | | | Straight | | No | | Yes |
| 081 | Poplar Tent Rd | I-85 | SB | 52 | Cabarrus | 4 | 1145 | 1300 | | | | Straight | | No | | Yes |
| 082 | Poplar Tent Rd | I-85 | NB | 52 | Cabarrus | 4 | 960 | 1115 | | | | Straight | | No | | Yes |
| 083 | Kannapolis Pkwy/ George Liles Pkwy | I-85 | SB | 52 | Cabarrus | 4 | 1635 | 1775 | | | | Straight | | No | | Yes |
| 084 | Kannapolis Pkwy/ George Liles Pkwy | I-85 | NB | 54 | Cabarrus | 5 | 1500 | 1685 | | | | Straight | | No | | Yes |
| 085 | NC 73 (Davidson Hwy) | I-85 | SB | 55 | Cabarrus | 5 | 850 | 1045 | 3935 | 4935 | No | Straight | | No | | Yes |
| 086 | NC 73 (Davidson Hwy) | I-85 | NB | 55 | Cabarrus | 2 | 1040 | 2980 | | | | Straight | | No | | Yes |
| 087 | US 29-601 (Concord Pkwy) | I-85 | SB | 58 | Cabarrus | 2 | 1400 | 1530 | | | | Straight | | No | | No |
| 088 | US 29-601 (Concord Pkwy) | I-85 | NB | 58 | Cabarrus | 2 | 1395 | 2350 | | | | Straight | | No | | No |
| 089 | Dale Earnhardt Blvd | I-85 | SB | 60 | Cabarrus | 3 | 485 | 685 | | | | Tight Curve | | No | | Discontinuous |
| 090 | Dale Earnhardt Blvd | I-85 | NB | 60 | Cabarrus | 2 | 1610 | 1800 | | | | Slight Curve | | No | | Yes |
| 091 | Lane St | I-85 | SB | 63 | Cabarrus | 2 | 770 | 940 | | | | Straight | | No | | Yes |
| 092 | Lane St | I-85 | NB | 63 | Cabarrus | 2 | 1015 | 1275 | | | | Straight | | No | | Yes |
| 023 | N Chester St | I-85 | SB | 17 | Gaston | 3 | 1100 | 1390 | | | | Straight | | No | | No |
| 024 | N Chester St | I-85 | NB | 17 | Gaston | 3 | 700 | 840 | | | | Tight Curve | | No | | No |
| 025 | Ozark Ave | I-85 | SB | 19 | Gaston | 3 | 912 | 1265 | | | | Tight Curve | | No | | Yes |
| 026 | Ozark Ave | I-85 | NB | 19 | Gaston | 4 | 705 | 1280 | | | | Tight Curve | | No | | Yes |
| 027 | New Hope Rd | I-85 | SB | 20 | Gaston | 4 | 610 | 960 | | | | Straight | | No | | No |
| 028 | New Hope Rd | I-85 | NB | 20 | Gaston | 3 | 610 | 1380 | | | | Straight | | No | | No |
| 029 | Cox Rd | I-85 | SB | 21 | Gaston | 3 | 1000 | 1570 | | | | Straight | | No | | No |
| 030 | Cox Rd | I-85 | NB | 21 | Gaston | 3 | 640 | 945 | 280 | 1120 | Yes | Straight | | No | | Yes |
| 031 | S Main St | I-85 | SB | 22 | Gaston | 3 | 540 | 715 | | | | Tight Curve | | No | | Yes |
| 032 | S Main St | I-85 | NB | 22 | Gaston | 3 | 1020 | 1420 | 360 | 1610 | Yes | Slight Curve | | No | | No |
| 033 | McAdenville Rd) | I-85 | SB | 23 | Gaston | 3 | 535 | 735 | 310 | 1040 | Yes | Straight | | No | | No |
| 034 | McAdenville Rd) | I-85 | NB | 23 | Gaston | 3 | 615 | 940 | 510 | 1455 | Yes | Straight | | No | | No |
| 035 | Belmont-Mt. Holly Rd | I-85 | SB | 26 | Gaston | 3 | 815 | 1260 | 390 | 1480 | Yes | Straight | | No | | Yes |
| 036 | Belmont-Mt. Holly Rd | I-85 | NB | 26 | Gaston | 3 | 1024 | 1205 | | | | Tight Curve | | No | | Yes |
| 037 | Beatty Dr / Park St | I-85 | SB | 27 | Gaston | 4 | 1037 | 1565 | 515 | 1770 | Yes | Straight | | No | | Yes |
| 038 | Beatty Dr / Park St | I-85 | NB | 27 | Gaston | 4 | 1000 | 1290 | | | | Straight | | No | | Yes |
| 148 | Langtree Rd | I-77 | SB | 31 | Iredell | 2 | 835 | 1070 | 435 | 1490 | Yes | No - Lake | | Yes | | Yes |
| 149 | Langtree Rd | I-77 | NB | 31 | Iredell | 3 | 600 | 800 | 3335 | 4100 | No | No - Lake | | Yes | | Yes |
| 150 | Williams Rd / US 21 (Charlotte Hwy) | I-77 | SB | 33 | Iredell | 3 | 950 | 1190 | 360 | 1525 | Yes | Straight | | Discontinuous | | Yes |
| 151 | Williams Rd / US 21 (Charlotte Hwy) | I-77 | SB | 33 | Iredell | 3 | 675 | 780 | 4760 | 5570 | No | Tight Curve | | No | | Yes |
| 152 | Williams Rd / US 21 (Charlotte Hwy) | I-77 | NB | 33 | Iredell | 2 | 950 | 1165 | | | | Straight | | No | | Yes |
| 153 | SR 1100 (Brawley School Rd) | I-77 | SB | 35 | Iredell | 2 | 935 | 1560 | 350 | 1825 | Yes | Straight | | No | | Yes |
| 154 | SR 1100 (Brawley School Rd) | I-77 | NB | 35 | Iredell | 3 | 1015 | 1600 | | | | Straight | | No | | Yes |
| 155 | NC 150 (W Plaza Dr) | I-77 | SB | 36 | Iredell | 3 | 940 | 1165 | 2065 | 3240 | No | Straight | | Discontinuous | | Yes |
| 156 | NC 150 (W Plaza Dr) | I-77 | NB | 36 | Iredell | 2 | 950 | 1185 | | | | Straight | | No | | Yes |
| 157 | US 21-NC 115 (Main St / Charlotte Hwy) | I-77 | SB | 42 | Iredell | 2 | 1695 | 1940 | | | | Slight Curve | | No | | Yes |
| 158 | US 21-NC 115 (Main St / Charlotte Hwy) | I-77 | NB | 42 | Iredell | 2 | 715 | 845 | | | | Tight Curve | | No | | Yes |

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| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | Number of Freeway Lanes After the Merge | On Ramp Length to Back of Gore (ft) | On Ramp Length to Tip of Gore (ft) | Merge Length (ft.) | Total Ramp Length (ft) | Adequate Acceleration Length | On Ramp Curve Radius | Approx. Ramp Grade | On Ramp Shoulder? (Paved full-lane width) | Freeway Grade Downstream of On Ramp | Freeway Shoulder? |
| 159 | Amity Hill Rd | I-77 | NB | 45 | Iredell | 2 | 1055 | 1300 | | | | Straight | | No | | Yes |
| 160 | Amity Hill Rd | I-77 | SB | 45 | Iredell | 2 | 980 | 1270 | | | | Straight | | No | | Yes |
| 161 | US 70 (Garner Bagnal Blvd) | I-77 | SB | 49 | Iredell | 2 | 1395 | 1625 | | | | Straight | | No | | Yes |
| 162 | US 70 (Garner Bagnal Blvd) | I-77 | NB | 49 | Iredell | 2 | 600 | 730 | | | | Tight Curve | | No | | Yes |
| 163 | Salisbury Rd | I-77 | SB | 49 | Iredell | 2 | 520 | 675 | | | | Tight Curve | | No | | Yes |
| 164 | Salisbury Rd | I-77 | NB | 49 | Iredell | 2 | 1345 | 1615 | | | | Slight Curve | | No | | Yes |
| 165 | East Broad St | I-77 | NB | 50 | Iredell | 2 | 895 | 1112 | | | | Tight Curve | | No | | Yes |
| 166 | East Broad St | I-77 | SB | 50 | Iredell | 2 | 705 | 850 | | | | Tight Curve | | Yes | | Yes |
| 167 | I-40 EB | I-77 | SB | 51 | Iredell | 2 | 1500 | 1805 | | | | Straight | | No | | Discontinuous |
| 168 | I-40 EB | I-77 | NB | 51 | Iredell | 2 | 1210 | 1470 | | | | Tight Curve | | No | | Discontinuous |
| 169 | I-40 WB | I-77 | SB | 51 | Iredell | 2 | 1075 | 1285 | | | | Tight Curve | | No | | Discontinuous |
| 170 | I-40 WB | I-77 | NB | 51 | Iredell | | | | | | | | | | | |
| 001 | I-77 NB | I-277 | Inner | 1 | Mecklenburg | 3 | 596 | 618 | | | | Tight Curve | Slight Uphill | No | Level | No |
| 002 | Clarkson St | I-277 | Outer | 1 | Mecklenburg | 4 | 620 | 801 | | | | Slight Curve | Slight Downhill | No | Slight Uphill | No |
| 003 | I-77 NB | I-277 | Outer | 1 | Mecklenburg | 3 | 975 | 1100 | | | | Slight Curve | | No | | No |
| 004 | Church St | I-277 | Inner | 1E | Mecklenburg | 4 | 609 | 1053 | | | | Straight | | No | | No |
| 005 | South Blvd | I-277 | Inner | 1E | Mecklenburg | 3 | 1735 | 2155 | | | | Slight Curve | | No | | No |
| 006 | Church St | I-277 | Outer | 1E | Mecklenburg | 2 | 350 | 682 | | | | Tight Curve | | No | | No |
| 007 | South Blvd | I-277 | Outer | 1E | Mecklenburg | 4 | 1221 | 1430 | | | | Slight Curve | | No | | Yes |
| 008 | Stonewall St | I-277 | Inner | 2A | Mecklenburg | 3 | 745 | 900 | | | | Tight Curve | | No | | No |
| 009 | E 3rd St / E 4th St | I-277 | Inner | 2A | Mecklenburg | 3 | 910 | 1215 | | | | Slight Curve | Slight Uphill | No | Slight Uphill | Yes |
| 010 | Stonewall St | I-277 | Outer | 2A | Mecklenburg | 3 | 480 | 808 | 570 | 1090 | Yes | Straight | | No | | No |
| 011 | US 74 (Independence Blvd.) | I-277 | Inner | 2B | Mecklenburg | 2 | 2210 | 2520 | | | | Slight Curve | | No | | No |
| 012 | E 3rd / 4th St | I-277 | Outer | 2A | Mecklenburg | 4 | 450 | 700 | | | | Straight | | No | | No |
| 013 | US 74 (Independence Blvd.) | I-277 | Outer | 2B | Mecklenburg | 3 | 1760 | 1970 | | | | Slight Curve | | | | |
| 014 | N Davidson St | I-277 | Inner | 3A | Mecklenburg | 2 | 830 | 1280 | | | | Slight Curve | | No | | |
| 015 | N Brevard St | I-277 | Inner | 3A | Mecklenburg | 3 | 280 | 415 | | | | Straight | | No | | No |
| 016 | N Caldwell St | I-277 | Outer | 3A | Mecklenburg | 3 | 295 | 435 | | | | Straight | | No | | No |
| 017 | N Church St | I-277 | Outer | 3B | Mecklenburg | 4 | 475 | 775 | | | | Straight | | Discontinuous | | No |
| 018 | N Graham St | I-277 | Outer | 4 | Mecklenburg | 4 | 620 | 738 | | | | Tight Curve | | No | | No |
| 019 | I-77 NB | I-277 | Inner | 5A | Mecklenburg | 4 | 1715 | 2025 | | | | Slight Curve | | No | | Yes |
| 020 | I-77 SB | I-277 | Inner | 5A | Mecklenburg | 3 | 1340 | 2045 | | | | Slight Curve | | No | | No |
| 021 | I-77 NB | I-277 | Outer | 5 | Mecklenburg | 2 | 960 | 1145 | | | | Slight Curve | | No | | No |
| 022 | I-77 SB | I-277 | Outer | 5A | Mecklenburg | 2 | 1100 | 1295 | | | | Slight Curve | | No | | No |
| 039 | Sam Wilson Rd | I-85 | SB | 29 | Mecklenburg | 4 | 745 | 1355 | | | | Straight | | No | | Yes |
| 040 | I-485 Inner / Wilkinson Blvd | I-85 | SB | 30 | Mecklenburg | 4 | 3555 | 3925 | | | | Tight Curve | | No | | Yes |
| 041 | Sam Wilson Rd | I-85 | NB | 30 | Mecklenburg | 4 | 2635 | 2925 | | | | Straight | | No | | Discontinuous |
| 042 | I-485 Outer | I-85 | NB | 30 | Mecklenburg | 4 | 1220 | 1370 | | | | Tight Curve | | No | | No |
| 043 | I-485 Inner | I-85 | NB | 30 | Mecklenburg | 4 | 1655 | 1925 | | | | Tight Curve | | No | | No |
| 044 | Little Rock Rd | I-85 | SB | 32 | Mecklenburg | 4 | 1120 | 1600 | | | | Straight | | Yes | | Yes |
| 045 | Little Rock Rd | I-85 | NB | 32 | Mecklenburg | 4 | 840 | 1188 | 220 | 1315 | Yes | Straight | | Yes | | Yes |
| 046 | Billy Graham Pkwy | I-85 | SB | 33 | Mecklenburg | 4 | 760 | 950 | | | | Straight | | Yes | | Yes |

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| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | Number of Freeway Lanes After the Merge | On Ramp Length to Back of Gore (ft) | On Ramp Length to Tip of Gore (ft) | Merge Length (ft.) | Total Ramp Length (ft) | Adequate Acceleration Length | On Ramp Curve Radius | Approx. Ramp Grade | On Ramp Shoulder? (Paved full-lane width) | Freeway Grade Downstream of On Ramp | Freeway Shoulder? |
| 047 | Billy Graham Pkwy | I-85 | SB | 33 | Mecklenburg | 4 | 770 | 910 | | | | Tight Curve | | No | | Yes |
| 048 | Billy Graham Pkwy | I-85 | NB | 33 | Mecklenburg | 5 | 700 | 1210 | | | | Straight | | Yes | | Yes |
| 049 | Tuckaseegee Rd | I-85 | SB | 34 | Mecklenburg | 5 | 620 | 855 | | | | Straight | | Yes | | Discontinuous |
| 050 | Freedom Dr | I-85 | SB | 34 | Mecklenburg | 5 | 755 | 1435 | | | | Straight | | No | | Yes |
| 051 | Freedom Dr | I-85 | NB | 34 | Mecklenburg | 4 | 920 | 1340 | | | | Straight | | No | | Yes |
| 052 | Glenwood Dr | I-85 | SB | 35 | Mecklenburg | 4 | 680 | 950 | | | | Straight | | Yes | | Yes |
| 053 | Glenwood Dr | I-85 | NB | 35 | Mecklenburg | 4 | 550 | 965 | | | | Straight | | Yes | | Yes |
| 054 | NC 16 (Brookshire Blvd) | I-85 | SB | 36 | Mecklenburg | 4 | 865 | 1140 | | | | Straight | | No | | Discontinuous |
| 055 | NC 16 (Brookshire Blvd) | I-85 | NB | 36 | Mecklenburg | 4 | 790 | 1155 | | | | Straight | | No | | Yes |
| 056 | Beatties Ford Rd | I-85 | SB | 37 | Mecklenburg | 4 | 1080 | 1360 | | | | Straight | | No | | Yes |
| 057 | Beatties Ford Rd | I-85 | NB | 37 | Mecklenburg | 4 | 525 | 710 | | | | Tight Curve | | No | | No |
| 058 | I-77 SB | I-85 | SB | 38 | Mecklenburg | 4 | 2885 | 3075 | | | | Slight Curve | | No | | No |
| 059 | I-77 NB | I-85 | SB | 38 | Mecklenburg | 4 | 825 | 1075 | | | | Tight Curve | | No | | No |
| 060 | I-77 SB | I-85 | NB | 38 | Mecklenburg | 4 | 850 | 980 | | | | Tight Curve | | No | | No |
| 061 | Statesville Ave | I-85 | SB | 39 | Mecklenburg | 4 | 1420 | 1850 | 665 | 2225 | No | Straight | | No | | Discontinuous |
| 062 | I-77 NB | I-85 | NB | 38 | Mecklenburg | 5 | 1410 | 1805 | | | | Slight Curve | | No | | No |
| 063 | Statesville Ave | I-85 | NB | 39 | Mecklenburg | 5 | 1110 | 1320 | 675 | 1965 | No | Straight | | No | | No |
| 064 | Graham St | I-85 | SB | 40 | Mecklenburg | 4 | 680 | 885 | 840 | 1670 | Yes | Tight Curve | | No | | Yes |
| 065 | Graham St | I-85 | NB | 40 | Mecklenburg | 5 | 1270 | 1760 | 2380 | 4040 | No | Straight | | No | | Yes |
| 066 | Sugar Creek Rd | I-85 | SB | 40 | Mecklenburg | 4 | 525 | 910 | 2360 | 3175 | No | Straight | | No | | Yes |
| 067 | Sugar Creek Rd | I-85 | NB | 41 | Mecklenburg | 4 | 570 | 595 | 400 | 1290 | Yes | Straight | | Yes | | Yes |
| 068 | US 29 Connector (US 29/49) | I-85 | SB | 42 | Mecklenburg | 4 | 4960 | 5500 | 2780 | 5000 | No | Straight | | Discontinuous | | Yes |
| 069 | University City Blvd | I-85 | SB | 43 | Mecklenburg | 5 | 960 | 1260 | 440 | 1600 | Yes | Straight | | No | | Yes |
| 070 | University City Blvd | I-85 | SB | 43 | Mecklenburg | 5 | 770 | 915 | 2865 | 3730 | No | Tight Curve | | No | | Yes |
| 071 | University City Blvd | I-85 | NB | 43 | Mecklenburg | 5 | 1215 | 1650 | | | | Slight Curve | | Yes | | Yes |
| 072 | Harris Blvd | I-85 | SB | 45 | Mecklenburg | 5 | 1200 | 1570 | 4055 | 5486 | No | Straight | | No | | Yes |
| 073 | Harris Blvd | I-85 | NB | 45 | Mecklenburg | 5 | 1380 | 1760 | | | | Straight | | No | | Yes |
| 074 | Mallard Creek Rd | I-85 | SB | 46 | Mecklenburg | 5 | 1175 | 1435 | | | | Straight | | No | | Yes |
| 075 | Mallard Creek Rd | I-85 | NB | 46 | Mecklenburg | 3 | 1235 | 1510 | 5025 | 6670 | No | Straight | | No | | Yes |
| 076 | I-485 Outer | I-85 | SB | 48 | Mecklenburg | 5 | 2690 | 3128 | | | | Slight Curve | | No | | Yes |
| 077 | I-485 Inner | I-85 | NB | 48 | Mecklenburg | 6 | 2795 | 3215 | | | | Straight | | No | | Yes |
| 093 | Westinghouse Blvd | I-77 | SB | 1A | Mecklenburg | 4 | 930 | 1570 | 325 | 1430 | Yes | Straight | | Discontinuous | | Yes |
| 094 | Westinghouse Blvd | I-77 CD | NB | 1B | Mecklenburg | 2 | 1030 | 1210 | | | | Tight Curve | | No | | Yes |
| 095 | Westinghouse Blvd | I-77 CD | NB | 1A | Mecklenburg | 2 | 975 | 1275 | | | | Straight | | Discontinuous | | Discontinuous |
| 096 | Westinghouse Blvd | I-77 | NB | 1A | Mecklenburg | 3 | 945 | 1250 | 910 | 2130 | No | Straight | | No | | Yes |
| 097 | I-485 | I-77 | SB | 1B | Mecklenburg | 4 | 585 | 1290 | | | | Slight Curve | | Discontinuous | | Yes |
| 098 | Welcome Center | I-77 | NB | 1B | Mecklenburg | 3 | 640 | 835 | | | | Slight Curve | | No | | Yes |
| 099 | Arrowood Rd | I-77 | SB | 3 | Mecklenburg | 3 | 790 | 1285 | 1695 | 2900 | No | Slight Curve | | Discontinuous | | Yes |
| 100 | I-485 | I-77 | NB | 1B | Mecklenburg | 3 | 2600 | 2851 | | | | Straight | | Yes | | Yes |
| 101 | Arrowood Rd | I-77 | NB | 3 | Mecklenburg | 3 | 2280 | 2555 | 475 | 2660 | No | Straight | | No | | Yes |
| 102 | Nations Ford Rd | I-77 | SB | 4 | Mecklenburg | 4 | 810 | 1060 | 1645 | 3140 | No | Straight | | No | | Yes |
| 103 | Nations Ford Rd | I-77 | NB | 4 | Mecklenburg | 3 | 485 | 770 | 325 | 1105 | Yes | Straight | | No | | Yes |

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| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | Number of Freeway Lanes After the Merge | On Ramp Length to Back of Gore (ft) | On Ramp Length to Tip of Gore (ft) | Merge Length (ft.) | Total Ramp Length (ft) | Adequate Acceleration Length | On Ramp Curve Radius | Approx. Ramp Grade | On Ramp Shoulder? (Paved full-lane width) | Freeway Grade Downstream of On Ramp | Freeway Shoulder? |
| 104 | Tyvol Rd | I-77 | SB | 5 | Mecklenburg | 3 | 960 | 2195 | 765 | 2170 | No | Straight | | Discontinuous | | Yes |
| 105 | Tyvol Rd | I-77 | NB | 5 | Mecklenburg | 3 | 900 | 2130 | 795 | 2070 | Yes | Straight | | No | | Yes |
| 106 | Woodlawn Rd | I-77 | SB | 6A | Mecklenburg | 3 | 1360 | 1610 | 150 | 1695 | No | Slight Curve | | No | | Yes |
| 107 | S Tryon St | I-77 | NB | 6B | Mecklenburg | 3 | 1000 | 1210 | | | | Tight Curve | | No | | Yes |
| 108 | S Tryon St | I-77 | SB | 6B | Mecklenburg | 3 | 840 | 955 | 920 | 1860 | No | Tight Curve | | No | | Yes |
| 109 | Clanton Rd | I-77 | SB | 7 | Mecklenburg | 3 | 720 | 960 | 525 | 1425 | Yes | Straight | | No | | Yes |
| 110 | Clanton Rd | I-77 | NB | 7 | Mecklenburg | 3 | 715 | 990 | | | | Straight | | No | | Yes |
| 111 | Remount Rd | I-77 | SB | 8 | Mecklenburg | 3 | 995 | 1285 | 400 | 1590 | No | Slight Curve | | No | | Yes |
| 112 | I-77 CD (US 74 (Wilkinson Blvd)/ Freedom Dr / I-277 (John Belk Frwy)) | I-77 | SB | 9 | Mecklenburg | 3 | 2400 | 2700 | | | | Tight Curve | | Yes | | Yes |
| 113 | West Blvd | I-77 | NB | 9A | Mecklenburg | 3 | 630 | 895 | | | | Straight | | No | | Yes |
| 114 | I-77 CD (US 74 (Wilkinson Blvd)/ Freedom Dr / I-277 (John Belk Frwy)) | I-77 | NB | 9B | Mecklenburg | 4 | 780 | 1685 | | | | Slight Curve | | No | | Yes |
| 115 | US 29-NC 27 (Morehead St) | I-77 | NB | 10 | Mecklenburg | 4 | 470 | 730 | | | | Straight | | No | | Yes |
| 116 | West Trade St | I-77 | SB | 10 | Mecklenburg | 4 | 860 | 1210 | 910 | 2085 | No | Straight | | No | | Yes |
| 117 | West Trade St | I-77 | SB | 10 | Mecklenburg | 4 | 865 | 1060 | 465 | 1530 | Yes | Tight Curve | | No | | Yes |
| 118 | 5th St | I-77 | NB | 10 | Mecklenburg | 4 | 580 | 838 | | | | Straight | | No | | Yes |
| 119 | NC 16 (Brookshire Fwy) | I-77 | SB | 11 | Mecklenburg | 4 | 585 | 775 | | | | Straight | | Yes | | Yes |
| 120 | I-277 Outer | I-77 | SB | 11 | Mecklenburg | 4 | 2180 | 2700 | | | | Slight Curve | | No | | Yes |
| 121 | NC 16 (Brookshire Fwy) | I-77 | NB | 11 | Mecklenburg | 4 | 760 | 970 | | | | Tight Curve | | No | | Discontinuous |
| 122 | I-277 Outer | I-77 | NB | 11 | Mecklenburg | 4 | 1100 | 1630 | | | | Straight | | No | | Yes |
| 123 | LaSalle St / Atando Ave | I-77 | SB | 12 | Mecklenburg | 5 | 810 | 1090 | | | | Straight | | No | | Yes |
| 124 | LaSalle St / Atando Ave | I-77 | NB | 12 | Mecklenburg | 4 | 825 | 1125 | | | | Straight | | No | | Yes |
| 125 | I-85 NB | I-77 | SB | 13 | Mecklenburg | 5 | 2560 | 2925 | | | | Straight | | No | | Discontinuous |
| 126 | I-77 SB HOV | I-77 | SB | 13 | Mecklenburg | 5 | 4000 | 4575 | | | | Straight | | Yes | | Yes |
| 127 | I-85 SB / Statesville Rd | I-77 | SB | 13 | Mecklenburg | 5 | 1930 | 2235 | | | | Tight Curve | | Discontinuous | | Yes |
| 128 | I-85 NB | I-77 | NB | 13 | Mecklenburg | 4 | 2252 | 2615 | | | | Slight Curve | | Discontinuous | | Yes |
| 129 | I-85 SB | I-77 | NB | 13 | Mecklenburg | 4 | 3650 | 4265 | | | | Slight Curve | | No | | Yes |
| 130 | Sunset Rd | I-77 | SB | 18 | Mecklenburg | 4 | 1145 | 1515 | | | | Straight | | Yes | | Yes |
| 131 | Sunset Rd | I-77 | NB | 18 | Mecklenburg | 4 | 1235 | 1955 | | | | Straight | | Discontinuous | | Yes |
| 132 | WT Harris Blvd | I-77 | SB | 18 | Mecklenburg | 4 | 1375 | 1900 | | | | Straight | | No | | Yes |
| 133 | WT Harris Blvd | I-77 | NB | 18 | Mecklenburg | 4 | 575 | 720 | | | | Tight Curve | | No | | Yes |
| 134 | WT Harris Blvd | I-77 | SB | 19 | Mecklenburg | 4 | 630 | 820 | | | | Tight Curve | | No | | Yes |
| 135 | WT Harris Blvd | I-77 | NB | 18 | Mecklenburg | 5 | 1050 | 1815 | | | | Straight | | No | | Discontinuous |
| 136 | I-485 Inner | I-77 | SB | 19 | Mecklenburg | 5 | 3600 | 3845 | | | | Tight Curve | | No | | Yes |
| 137 | I-485 Outer | I-77 | SB | 19 | Mecklenburg | 4 | 1460 | 1585 | | | | Tight Curve | | No | | Yes |
| 138 | I-485 Outer | I-77 | NB | 19 | Mecklenburg | 4 | 2800 | 3345 | | | | Slight Curve | | Discontinuous | | Yes |
| 139 | Gilead Rd | I-77 | SB | 25 | Mecklenburg | 2 | 1120 | 2000 | | | | Straight | | No | | Yes |
| 140 | Gilead Rd | I-77 | NB | 23 | Mecklenburg | 2 | 1250 | 1915 | 440 | 1890 | Yes | Straight | | No | | Yes |
| 141 | NC 73 (Sam Furr Rd) | I-77 | SB | 26 | Mecklenburg | 2 | 1625 | 2065 | | | | Straight | | No | | Yes |
| 142 | NC 73 (Sam Furr Rd) | I-77 | SB | 26 | Mecklenburg | 2 | 870 | 970 | | | | Tight Curve | | No | | Discontinuous |
| 143 | NC 73 (Sam Furr Rd) | I-77 | NB | 25 | Mecklenburg | 2 | 1255 | 1820 | 590 | 2345 | No | Straight | | No | | Yes |

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| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | Number of Freeway Lanes After the Merge | On Ramp Length to Back of Gore (ft) | On Ramp Length to Tip of Gore (ft) | Merge Length (ft.) | Total Ramp Length (ft) | Adequate Acceleration Length | On Ramp Curve Radius | Approx. Ramp Grade | On Ramp Shoulder? (Paved full-lane width) | Freeway Grade Downstream of On Ramp | Freeway Shoulder? |
| 144 | US 21 (Catawba Ave) | I-77 | SB | 29 | Mecklenburg | 2 | 740 | 1530 | | | | Straight | | No | | Yes |
| 145 | US 21 (Catawba Ave) | I-77 | NB | 29 | Mecklenburg | 2 | 900 | 1590 | 410 | 1440 | Yes | Straight | | No | | Yes |
| 146 | Goodrum Rd / Griffith St | I-77 | SB | 30 | Mecklenburg | 2 | 885 | 1125 | 435 | 1495 | Yes | Straight | | No | | Yes |
| 147 | Goodrum Rd / Griffith St | I-77 | NB | 30 | Mecklenburg | 2 | 740 | 985 | 195 | 1055 | Yes | Straight | | No | | Yes |
| 171 | S Tryon St | I-485 | Outer | 1 | Mecklenburg | 4 | 1230 | 1400 | | | | Straight | | No | | Yes |
| 172 | S Tryon St | I-485 | Outer | 1 | Mecklenburg | 3 | 850 | 1075 | | | | Tight Curve | | No | | Yes |
| 173 | S Tryon St | I-485 | Inner | 1 | Mecklenburg | 4 | 1315 | 1555 | | | | Straight | | No | | Yes |
| 174 | Arrowood Rd | I-485 | Outer | 3 | Mecklenburg | 4 | 1170 | 1450 | | | | Straight | | No | | Yes |
| 175 | Arrowood Rd | I-485 | Inner | 3 | Mecklenburg | 4 | 895 | 1265 | 1840 | 3065 | No | Straight | | No | | Yes |
| 176 | Steele Creek Rd | I-485 | Outer | 4 | Mecklenburg | 4 | 1250 | 1500 | | | | Straight | | Yes | | Yes |
| 177 | Steele Creek Rd | I-485 | Inner | 4 | Mecklenburg | 3 | 1020 | 1180 | 510 | 1795 | Yes | Tight Curve | | No | | Yes |
| 178 | Steele Creek Rd | I-485 | Outer | 4 | Mecklenburg | 4 | 1000 | 1150 | | | | Tight Curve | | No | | Yes |
| 179 | Steele Creek Rd | I-485 | Inner | 4 | Mecklenburg | 3 | 1395 | 1865 | 610 | 2450 | No | Slight Curve | | Yes | | Yes |
| 180 | West Blvd | I-485 | Outer | 6 | Mecklenburg | 3 | 1400 | 1610 | 780 | 2365 | No | Straight | | Yes | | Yes |
| 181 | West Blvd | I-485 | Inner | 6 | Mecklenburg | 3 | 1490 | 1700 | 585 | 2220 | No | Straight | | Yes | | Yes |
| 182 | US 74 / US 29 (Wilkinson Blvd) | I-485 | Outer | 9 | Mecklenburg | 3 | 2600 | 3050 | 2975 | 4105 | Yes | Straight | | Yes | | Yes |
| 183 | I-485 CD (Wilkinson Blvd) | I-485 | Inner | 10 | Mecklenburg | 3 | 1160 | 1500 | | | | Slight Curve | | No | | Yes |
| 184 | I-85 | I-485 | Inner | 10 | Mecklenburg | 4 | 4070 | 4515 | | | | Slight Curve | | Yes | | Yes |
| 185 | Moores Chapel Rd | I-485 | Outer | 12 | Mecklenburg | 4 | 1460 | 1895 | | | | Straight | | Yes | | Yes |
| 186 | Moores Chapel Rd | I-485 | Inner | 12 | Mecklenburg | 3 | 1105 | 1450 | | | | Straight | | No | | Yes |
| 187 | Mt Holly Rd | I-485 | Outer | 12 | Mecklenburg | 3 | 1275 | 1570 | | | | Tight Curve | | No | | Yes |
| 188 | Mt Holly Rd | I-485 | Inner | 14 | Mecklenburg | 3 | 1910 | 2315 | | | | Straight | | No | | Yes |
| 189 | NC16 | I-485 | Outer | 16 | Mecklenburg | 3 | 1460 | 1878 | | | | Straight | | No | | Yes |
| 190 | NC 16 | I-485 | Inner | 16 | Mecklenburg | 3 | 1120 | 1290 | | | | Tight Curve | | No | | Yes |
| 191 | NC 16 | I-485 | Outer | 16 | Mecklenburg | 3 | 1175 | 1390 | | | | Tight Curve | | No | | Yes |
| 192 | NC 16 | I-485 | Inner | 16 | Mecklenburg | 3 | 1360 | 1655 | | | | Straight | | No | | Yes |
| 193 | WT Harris Blvd | I-485 | Outer | 21 | Mecklenburg | 3 | 1190 | 1640 | | | | Straight | | No | | Yes |
| 194 | WT Harris Blvd | I-485 | Outer | 21 | Mecklenburg | 3 | 1070 | 1260 | | | | Tight Curve | | No | | Yes |
| 195 | WT Harris Blvd | I-485 | Inner | 21 | Mecklenburg | 4 | 1200 | 1470 | | | | Straight | | Yes | | Yes |
| 196 | I-77 (North) | I-485 | Outer | 23 | Mecklenburg | 3 | 4670 | 5825 | | | | Slight Curve | | Yes | | Yes |
| 197 | I-77 (North) | I-485 | Outer | 23 | Mecklenburg | 2 | 1460 | 1590 | | | | Tight Curve | | No | | Yes |
| 198 | I-77 (North) | I-485 | Inner | 23 | Mecklenburg | 4 | 930 | 1430 | | | | Slight Curve | | Yes | | Yes |
| 199 | Old Statesville Rd | I-485 | Outer | 23 | Mecklenburg | 3 | 1220 | 1365 | | | | Tight Curve | | No | | Yes |
| 200 | Old Statesville Rd | I-485 | Inner | 23 | Mecklenburg | 4 | 1505 | 1775 | | | | Straight | | Yes | | Yes |
| 201 | Prosperity Church Rd | I-485 | Outer | 26 | Mecklenburg | 4 | 850 | 1100 | | | | Straight | | Yes | | Yes |
| 202 | Prosperity Church Rd | I-485 | Inner | 26 | Mecklenburg | 4 | 875 | 1205 | | | | Straight | | Yes | | Yes |
| 203 | Mallard Creek Rd | I-485 | Outer | 28 | Mecklenburg | 4 | 1550 | 1835 | | | | Straight | | No | | Yes |
| 204 | Mallard Creek Rd | I-485 | Inner | 28 | Mecklenburg | 6 | 1660 | 2060 | | | | Straight | | Yes | | Yes |
| 205 | I-85 | I-485 | Outer | 31 | Mecklenburg | 5 | 2660 | 2955 | | | | Slight Curve | | Yes | | Yes |
| 206 | I-85 | I-485 | Inner | 31 | Mecklenburg | 4 | 4170 | 4620 | | | | Slight Curve | | Yes | | Yes |
| 207 | US 29 | I-485 | Outer | 32 | Mecklenburg | 5 | 1135 | 1400 | | | | Straight | | Discontinuous | | Yes |
| 208 | US 29 | I-485 | Inner | 32 | Mecklenburg | 4 | 1110 | 1305 | | | | Tight Curve | | No | | Yes |

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| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | Number of Freeway Lanes After the Merge | On Ramp Length to Back of Gore (ft) | On Ramp Length to Tip of Gore (ft) | Merge Length (ft.) | Total Ramp Length (ft) | Adequate Acceleration Length | On Ramp Curve Radius | Approx. Ramp Grade | On Ramp Shoulder? (Paved full-lane width) | Freeway Grade Downstream of On Ramp | Freeway Shoulder? |
| 209 | US 29 | I-485 | Inner | 32 | Mecklenburg | 4 | 1165 | 1740 | | | | Slight Curve | | No | | Yes |
| 210 | University City Blvd | I-485 | Outer | 33 | Mecklenburg | 4 | 1930 | 2085 | | | | Slight Curve | | No | | Yes |
| 211 | University City Blvd | I-485 | Inner | 33 | Mecklenburg | 3 | 2870 | 3680 | | | | Tight Curve | | No | | Yes |
| 212 | Rocky River Rd | I-485 | Outer | 36 | Mecklenburg | 3 | 1500 | 1795 | | | | Straight | | No | | Yes |
| 213 | Rocky River Rd | I-485 | Inner | 36 | Mecklenburg | 3 | 1445 | 1865 | | | | Straight | | No | | Yes |
| 214 | Harrisburg Rd | I-485 | Outer | 39 | Mecklenburg | 3 | 830 | 1265 | | | | Straight | | No | | Yes |
| 215 | Harrisburg Rd | I-485 | Inner | 39 | Mecklenburg | 3 | 1250 | 1625 | | | | Straight | | No | | Yes |
| 216 | NC 24-27 Albemarle Rd | I-485 | Outer | 41 | Mecklenburg | 3 | 1775 | 2155 | | | | Straight | | Discontinuous | | Yes |
| 217 | NC 24-27 Albemarle Rd | I-485 | Inner | 41 | Mecklenburg | 2 | 1020 | 1222 | | | | Tight Curve | | No | | Yes |
| 218 | NC 51 | I-485 | Outer | 43 | Mecklenburg | 2 | 720 | 1020 | | | | Straight | | No | | Yes |
| 219 | NC 51 | I-485 | Inner | 43 | Mecklenburg | 2 | 1215 | 1540 | | | | Straight | | No | | Yes |
| 220 | NC 218 (Fairview Rd) | I-485 | Outer | 44 | Mecklenburg | 2 | 1235 | 1485 | | | | Straight | | No | | Yes |
| 221 | NC 218 (Fairview Rd) | I-485 | Inner | 44 | Mecklenburg | 2 | 1390 | 1640 | | | | Straight | | No | | Yes |
| 222 | Lawyers Rd | I-485 | Outer | 47 | Mecklenburg | 2 | 1160 | 1480 | | | | Straight | | No | | Yes |
| 223 | Lawyers Rd | I-485 | Inner | 47 | Mecklenburg | 2 | 1385 | 1810 | | | | Straight | | No | | Yes |
| 224 | Idlewild Rd | I-485 | Outer | 49 | Mecklenburg | 2 | 1315 | 1585 | 500 | 2020 | Yes | Straight | | No | | Yes |
| 225 | Idlewild Rd | I-485 | Inner | 49 | Mecklenburg | 2 | 1310 | 1565 | | | | Straight | | No | | Yes |
| 226 | US 74 | I-485 | Outer | 51 | Mecklenburg | 2 | 4490 | 5045 | | | | Slight Curve | | No | | Yes |
| 227 | US 74 | I-485 | Inner | 51 | Mecklenburg | 2 | 2555 | 2875 | | | | Slight Curve | | Yes | | Yes |
| 228 | E John St | I-485 | Outer | 52 | Mecklenburg | 2 | 1560 | 2000 | | | | Straight | | No | | Yes |
| 229 | E John St | I-485 | Inner | 52 | Mecklenburg | 2 | 1370 | 1640 | 640 | 2215 | Yes | Straight | | No | | Yes |
| 230 | NC 16 (Providence Rd) | I-485 | Outer | 57 | Mecklenburg | 2 | 890 | 1100 | 520 | 1570 | Yes | Straight | | No | | Yes |
| 231 | NC 16 (Providence Rd) | I-485 | Inner | 57 | Mecklenburg | 2 | 600 | 720 | 365 | 1150 | Yes | Tight Curve | | No | | Yes |
| 232 | NC 16 (Providence Rd) | I-485 | Outer | 57 | Mecklenburg | 2 | 630 | 795 | 360 | 1195 | Yes | Tight Curve | | No | | Yes |
| 233 | NC 16 (Providence Rd) | I-485 | Inner | 57 | Mecklenburg | 2 | 905 | 1100 | 735 | 1790 | Yes | Straight | | No | | Yes |
| 234 | Rea Rd | I-485 | Outer | 59 | Mecklenburg | 2 | 1000 | 1205 | 73.5 | 1945 | Yes | Straight | | Yes | | Yes |
| 235 | Rea Rd | I-485 | Outer | 59 | Mecklenburg | 2 | 730 | 900 | 580 | 1525 | Yes | Tight Curve | | No | | Yes |
| 236 | Rea Rd | I-485 | Inner | 59 | Mecklenburg | 3 | 755 | 950 | 315 | 1230 | Yes | Tight Curve | | No | | Yes |
| 237 | Rea Rd | I-485 | Inner | 59 | Mecklenburg | 3 | 990 | 1250 | 355 | 1565 | Yes | Straight | | No | | Yes |
| 238 | US 521 (Johnston Rd) | I-485 | Outer | 61 | Mecklenburg | 3 | 2735 | 3035 | 435 | 2580 | No | Slight Curve | | No | | Yes |
| 239 | US 521 (Johnston Rd) | I-485 | Outer | 61 | Mecklenburg | 3 | 700 | 905 | 300 | 1310 | Yes | Tight Curve | | Yes | | Yes |
| 240 | US 521 (Johnston Rd) | I-485 | Inner | 61 | Mecklenburg | 4 | 2365 | 2890 | | | | Slight Curve | | No | | Yes |
| 241 | NC 51 | I-485 | Outer | 66 | Mecklenburg | 3 | 1775 | 1985 | | | | Straight | | No | | Yes |
| 242 | NC 51 | I-485 | Inner | 64 | Mecklenburg | 4 | 1645 | 1915 | | | | Straight | | No | | Yes |
| 243 | Pineville Rd / South Blvd | I-485 | Outer | 65 | Mecklenburg | 4 | 1640 | 1885 | | | | Straight | | No | | Yes |
| 244 | Pineville Rd / South Blvd | I-485 | Inner | 65 | Mecklenburg | 4 | 1225 | 1400 | | | | Straight | | Discontinuous | | Yes |
| 245 | Pineville Rd / South Blvd | I-485 | Inner | 65 | Mecklenburg | 4 | 820 | 1060 | | | | Straight | | Discontinuous | | Yes |
| 246 | I-77 NB CD / Westinghouse Rd | I-485 | Outer | 67 | Mecklenburg | 4 | 2355 | 2605 | | | | Slight Curve | | Discontinuous | | Yes |
| 247 | I-77 SB CD / Arrowood Rd | I-485 | Outer | 67 | Mecklenburg | 4 | 2355 | 2610 | | | | Slight Curve | | Discontinuous | | Yes |
| 248 | I-77 NB CD / Westinghouse Rd | I-485 | Inner | 67 | Mecklenburg | 3 | 2680 | 2930 | | | | Tight Curve | | Discontinuous | | Yes |
| 249 | I-77 SB CD / Arrowood Rd | I-485 | Inner | 67 | Mecklenburg | 4 | 1575 | 1910 | | | | Slight Curve | | Discontinuous | | Yes |

Appendix B - Master List of Congestion Scan Data

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Master List of Congestion Scan Data

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|---------------------|-------------------------------------|------------|-------------------|----------------------|----------|----------------------------------------------------------------|---------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-------------------------|---------------------------|--------------------------------|-------------------------------|--|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | Initial Bottleneck Numbers (Both Seasons, Primary & Secondary) | Fall 2015 Primary Site for Bottleneck | Fall 2015 Secondary Site for Bottleneck | Fall 2015 Secondary Site for Bottleneck | Fall 2015 Secondary Site for Bottleneck | Fall 2015 Primary Site? | Fall 2015 Secondary Site? | Fall 2015 Primary or Secondary | Total Fall 2015 Impact Factor | |
| 078 | Concord Mills / Bruton Smith Blvd | I-85 | SB | 49 | Cabarrus | | | | | | | | | | |
| 079 | Concord Mills / Bruton Smith Blvd | I-85 | SB | 49 | Cabarrus | | | | | | | | | | |
| 080 | Concord Mills / Bruton Smith Blvd | I-85 | NB | 49 | Cabarrus | | | | | | | | | | |
| 081 | Poplar Tent Rd | I-85 | SB | 52 | Cabarrus | | | | | | | | | | |
| 082 | Poplar Tent Rd | I-85 | NB | 52 | Cabarrus | | | | | | | | | | |
| 083 | Kannapolis Pkwy/ George Liles Pkwy | I-85 | SB | 52 | Cabarrus | | | | | | | | | | |
| 084 | Kannapolis Pkwy/ George Liles Pkwy | I-85 | NB | 54 | Cabarrus | | | | | | | | | | |
| 085 | NC 73 (Davidson Hwy) | I-85 | SB | 55 | Cabarrus | C215 | M014 | | | | Y | | Y | 35,961 | |
| 086 | NC 73 (Davidson Hwy) | I-85 | NB | 55 | Cabarrus | C032, C233 | M015 | | | | Y | | Y | 5,399 | |
| 087 | US 29-601 (Concord Pkwy) | I-85 | SB | 58 | Cabarrus | C008, C215, C234 | M016 | M014 | | | Y | Y | Y | 15,021 | |
| 088 | US 29-601 (Concord Pkwy) | I-85 | NB | 58 | Cabarrus | C015, C007, C218, C051, C248 | | M018 | M019 | | | Y | Y | 23,271 | |
| 089 | Dale Earnhardt Blvd | I-85 | SB | 60 | Cabarrus | C215, C008, C234, C280 | M017 | M014 | M016 | | Y | Y | Y | 51,703 | |
| 090 | Dale Earnhardt Blvd | I-85 | NB | 60 | Cabarrus | C015, C007, C218, C051, C248 | M018 | M019 | | | Y | Y | Y | 23,271 | |
| 091 | Lane St | I-85 | SB | 63 | Cabarrus | C215 | | M014 | | | | Y | Y | 35,961 | |
| 092 | Lane St | I-85 | NB | 63 | Cabarrus | C015, C007, C218 | M019 | | | | Y | | Y | 21,525 | |
| 023 | N Chester St | I-85 | SB | 17 | Gaston | | | | | | | | | | |
| 024 | N Chester St | I-85 | NB | 17 | Gaston | | | | | | | | | | |
| 025 | Ozark Ave | I-85 | SB | 19 | Gaston | | | | | | | | | | |
| 026 | Ozark Ave | I-85 | NB | 19 | Gaston | | | | | | | | | | |
| 027 | New Hope Rd | I-85 | SB | 20 | Gaston | | | | | | | | | | |
| 028 | New Hope Rd | I-85 | NB | 20 | Gaston | C033, C238 | | M005 | | | | Y | Y | 4,142 | |
| 029 | Cox Rd | I-85 | SB | 21 | Gaston | | | | | | | | | | |
| 030 | Cox Rd | I-85 | NB | 21 | Gaston | C033, C238 | | M005 | | | | Y | Y | 4,142 | |
| 031 | S Main St | I-85 | SB | 22 | Gaston | | | | | | | | | | |
| 032 | S Main St | I-85 | NB | 22 | Gaston | C033, C238 | | M005 | | | | Y | Y | 4,142 | |
| 033 | McAdenville Rd) | I-85 | SB | 23 | Gaston | C021, C230 | M004 | | | | Y | | Y | 9,367 | |
| 034 | McAdenville Rd) | I-85 | NB | 23 | Gaston | C033, C238 | M005 | | | | Y | | Y | 4,142 | |
| 035 | Belmont-Mt. Holly Rd | I-85 | SB | 26 | Gaston | C021, C026, C230 | | M004 | | | | Y | Y | 9,367 | |
| 036 | Belmont-Mt. Holly Rd | I-85 | NB | 26 | Gaston | | | | | | | | | | |
| 037 | Beatty Dr / Park St | I-85 | SB | 27 | Gaston | C021, C026, C230 | | M004 | | | | Y | Y | 9,367 | |
| 038 | Beatty Dr / Park St | I-85 | NB | 27 | Gaston | | | | | | | | | | |
| 148 | Langtree Rd | I-77 | SB | 31 | Iredell | | | | | | | | | | |
| 149 | Langtree Rd | I-77 | NB | 31 | Iredell | | | | | | | | | | |
| 150 | Williams Rd / US 21 (Charlotte Hwy) | I-77 | SB | 33 | Iredell | C020 | | | | | | | | | |
| 151 | Williams Rd / US 21 (Charlotte Hwy) | I-77 | SB | 33 | Iredell | C020 | | | | | | | | | |
| 152 | Williams Rd / US 21 (Charlotte Hwy) | I-77 | NB | 33 | Iredell | | | | | | | | | | |
| 153 | SR 1100 (Brawley School Rd) | I-77 | SB | 35 | Iredell | C020 | | | | | | | | | |
| 154 | SR 1100 (Brawley School Rd) | I-77 | NB | 35 | Iredell | | | | | | | | | | |
| 155 | NC 150 (W Plaza Dr) | I-77 | SB | 36 | Iredell | C020 | | | | | | | | | |

Appendix B
Master List of Congestion Scan Data

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|---------------------|----------------------------------------|------------|-------------------|----------------------|-------------|----------------------------------------------------------------|---------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-------------------------|---------------------------|--------------------------------|-------------------------------|--|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | Initial Bottleneck Numbers (Both Seasons, Primary & Secondary) | Fall 2015 Primary Site for Bottleneck | Fall 2015 Secondary Site for Bottleneck | Fall 2015 Secondary Site for Bottleneck | Fall 2015 Secondary Site for Bottleneck | Fall 2015 Primary Site? | Fall 2015 Secondary Site? | Fall 2015 Primary or Secondary | Total Fall 2015 Impact Factor | |
| 156 | NC 150 (W Plaza Dr) | I-77 | NB | 36 | Iredell | | | | | | | | | | |
| 157 | US 21-NC 115 (Main St / Charlotte Hwy) | I-77 | SB | 42 | Iredell | | | | | | | | | | |
| 158 | US 21-NC 115 (Main St / Charlotte Hwy) | I-77 | NB | 42 | Iredell | | | | | | | | | | |
| 159 | Amity Hill Rd | I-77 | NB | 45 | Iredell | | | | | | | | | | |
| 160 | Amity Hill Rd | I-77 | SB | 45 | Iredell | | | | | | | | | | |
| 161 | US 70 (Garner Bagnal Blvd) | I-77 | SB | 49 | Iredell | | | | | | | | | | |
| 162 | US 70 (Garner Bagnal Blvd) | I-77 | NB | 49 | Iredell | | | | | | | | | | |
| 163 | Salisbury Rd | I-77 | SB | 49 | Iredell | | | | | | | | | | |
| 164 | Salisbury Rd | I-77 | NB | 49 | Iredell | | | | | | | | | | |
| 165 | East Broad St | I-77 | NB | 50 | Iredell | | | | | | | | | | |
| 166 | East Broad St | I-77 | SB | 50 | Iredell | | | | | | | | | | |
| 167 | I-40 EB | I-77 | SB | 51 | Iredell | | | | | | | | | | |
| 168 | I-40 EB | I-77 | NB | 51 | Iredell | | | | | | | | | | |
| 169 | I-40 WB | I-77 | SB | 51 | Iredell | | | | | | | | | | |
| 170 | I-40 WB | I-77 | NB | 51 | Iredell | | | | | | | | | | |
| 001 | I-77 NB | I-277 | Inner | 1 | Mecklenburg | C046, C269 | M001 | | | | Y | | Y | 1,208 | |
| 002 | Clarkson St | I-277 | Outer | 1 | Mecklenburg | | | | | | | | | | |
| 003 | I-77 NB | I-277 | Outer | 1 | Mecklenburg | | | | | | | | | | |
| 004 | Church St | I-277 | Inner | 1E | Mecklenburg | | | | | | | | | | |
| 005 | South Blvd | I-277 | Inner | 1E | Mecklenburg | | | | | | | | | | |
| 006 | Church St | I-277 | Outer | 1E | Mecklenburg | | | | | | | | | | |
| 007 | South Blvd | I-277 | Outer | 1E | Mecklenburg | C083 | | | | | | | | | |
| 008 | Stonewall St | I-277 | Inner | 2A | Mecklenburg | | | | | | | | | | |
| 009 | E 3rd St / E 4th St | I-277 | Inner | 2A | Mecklenburg | | | | | | | | | | |
| 010 | Stonewall St | I-277 | Outer | 2A | Mecklenburg | C083 | | | | | | | | | |
| 011 | US 74 (Independence Blvd.) | I-277 | Inner | 2B | Mecklenburg | | | | | | | | | | |
| 012 | E 3rd / 4th St | I-277 | Outer | 2A | Mecklenburg | | | | | | | | | | |
| 013 | US 74 (Independence Blvd.) | I-277 | Outer | 2B | Mecklenburg | C058, C094, C281 | M003 | | | | Y | | Y | 526 | |
| 014 | N Davidson St | I-277 | Inner | 3A | Mecklenburg | | | | | | | | | | |
| 015 | N Brevard St | I-277 | Inner | 3A | Mecklenburg | | | | | | | | | | |
| 016 | N Caldwell St | I-277 | Outer | 3A | Mecklenburg | | | | | | | | | | |
| 017 | N Church St | I-277 | Outer | 3B | Mecklenburg | C025, C239 | | M050 | | | Y | | Y | 5,233 | |
| 018 | N Graham St | I-277 | Outer | 4 | Mecklenburg | C025, C239 | | M050 | | | Y | | Y | 5,233 | |
| 019 | I-77 NB | I-277 | Inner | 5A | Mecklenburg | | | | | | | | | | |
| 020 | I-77 SB | I-277 | Inner | 5A | Mecklenburg | | | | | | | | | | |
| 021 | I-77 NB | I-277 | Outer | 5 | Mecklenburg | C025, C239 | M050 | | | | Y | | Y | 5,233 | |
| 022 | I-77 SB | I-277 | Outer | 5A | Mecklenburg | C025, C239 | M050 | | | | Y | | Y | 5,233 | |
| 039 | Sam Wilson Rd | I-85 | SB | 29 | Mecklenburg | C026 | | | | | | | | | |
| 040 | I-485 Inner / Wilkinson Blvd | I-85 | SB | 30 | Mecklenburg | | | | | | | | | | |
| 041 | Sam Wilson Rd | I-85 | NB | 30 | Mecklenburg | C059 | | | | | | | | | |

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|---------------------|----------------------------|------------|-------------------|----------------------|-------------|-------------------------------------------------------------------|---------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-------------------------|---------------------------|--------------------------------|-------------------------------|--|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | Initial Bottleneck Numbers (Both Seasons, Primary & Secondary) | Fall 2015 Primary Site for Bottleneck | Fall 2015 Secondary Site for Bottleneck | Fall 2015 Secondary Site for Bottleneck | Fall 2015 Secondary Site for Bottleneck | Fall 2015 Primary Site? | Fall 2015 Secondary Site? | Fall 2015 Primary or Secondary | Total Fall 2015 Impact Factor | |
| 042 | I-485 Outer | I-85 | NB | 30 | Mecklenburg | C059 | | | | | | | | | |
| 043 | I-485 Inner | I-85 | NB | 30 | Mecklenburg | C059 | | | | | | | | | |
| 044 | Little Rock Rd | I-85 | SB | 32 | Mecklenburg | | | | | | | | | | |
| 045 | Little Rock Rd | I-85 | NB | 32 | Mecklenburg | C275 | M007 | | | | Y | | Y | 893 | |
| 046 | Billy Graham Pkwy | I-85 | SB | 33 | Mecklenburg | | | | | | | | | | |
| 047 | Billy Graham Pkwy | I-85 | SB | 33 | Mecklenburg | | | | | | | | | | |
| 048 | Billy Graham Pkwy | I-85 | NB | 33 | Mecklenburg | | | | | | | | | | |
| 049 | Tuckaseegee Rd | I-85 | SB | 34 | Mecklenburg | | | | | | | | | | |
| 050 | Freedom Dr | I-85 | SB | 34 | Mecklenburg | | | | | | | | | | |
| 051 | Freedom Dr | I-85 | NB | 34 | Mecklenburg | | | | | | | | | | |
| 052 | Glenwood Dr | I-85 | SB | 35 | Mecklenburg | | | | | | | | | | |
| 053 | Glenwood Dr | I-85 | NB | 35 | Mecklenburg | | | | | | | | | | |
| 054 | NC 16 (Brookshire Blvd) | I-85 | SB | 36 | Mecklenburg | | | | | | | | | | |
| 055 | NC 16 (Brookshire Blvd) | I-85 | NB | 36 | Mecklenburg | | | | | | | | | | |
| 056 | Beatties Ford Rd | I-85 | SB | 37 | Mecklenburg | | | | | | | | | | |
| 057 | Beatties Ford Rd | I-85 | NB | 37 | Mecklenburg | C014, C259 | | M011 | | | Y | Y | 6,291 | | |
| 058 | I-77 SB | I-85 | SB | 38 | Mecklenburg | | | | | | | | | | |
| 059 | I-77 NB | I-85 | SB | 38 | Mecklenburg | | | | | | | | | | |
| 060 | I-77 SB | I-85 | NB | 38 | Mecklenburg | C014, C259 | | M011 | | | Y | Y | 6,291 | | |
| 061 | Statesville Ave | I-85 | SB | 39 | Mecklenburg | C027, C241 | M008 | | | | Y | | Y | 4,794 | |
| 062 | I-77 NB | I-85 | NB | 38 | Mecklenburg | C014, C259 | | M011 | | | Y | Y | 6,291 | | |
| 063 | Statesville Ave | I-85 | NB | 39 | Mecklenburg | C014, C036, C259 | | M011 | | | Y | Y | 6,291 | | |
| 064 | Graham St | I-85 | SB | 40 | Mecklenburg | C027, C042, C241 | | M008 | | | Y | Y | 4,794 | | |
| 065 | Graham St | I-85 | NB | 40 | Mecklenburg | C014, C036, C259 | | M011 | | | Y | Y | 6,291 | | |
| 066 | Sugar Creek Rd | I-85 | SB | 40 | Mecklenburg | C027, C042, C241 | | M008 | | | Y | Y | 4,794 | | |
| 067 | Sugar Creek Rd | I-85 | NB | 41 | Mecklenburg | C014, C259 | M011 | | | | Y | | 6,291 | | |
| 068 | US 29 Connector (US 29/49) | I-85 | SB | 42 | Mecklenburg | C027, C037, C042, C241 | | M008 | | | Y | Y | 4,794 | | |
| 069 | University City Blvd | I-85 | SB | 43 | Mecklenburg | C027, C037, C042, C241 | | M008 | | | Y | Y | 4,794 | | |
| 070 | University City Blvd | I-85 | SB | 43 | Mecklenburg | C027, C037, C042, C241 | | M008 | | | Y | Y | 4,794 | | |
| 071 | University City Blvd | I-85 | NB | 43 | Mecklenburg | | | | | | | | | | |
| 072 | Harris Blvd | I-85 | SB | 45 | Mecklenburg | C037 | | | | | | | | | |
| 073 | Harris Blvd | I-85 | NB | 45 | Mecklenburg | | | | | | | | | | |
| 074 | Mallard Creek Rd | I-85 | SB | 46 | Mecklenburg | | | | | | | | | | |
| 075 | Mallard Creek Rd | I-85 | NB | 46 | Mecklenburg | C065, C285 | M013 | | | | Y | | Y | 503 | |
| 076 | I-485 Outer | I-85 | SB | 48 | Mecklenburg | | | | | | | | | | |
| 077 | I-485 Inner | I-85 | NB | 48 | Mecklenburg | | | | | | | | | | |

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| 093 | Westinghouse Blvd | I-77 | SB | 1A | Mecklenburg | C006, C219 | M020 | | | | Y | | Y | 24,870 | |
| 094 | Westinghouse Blvd | I-77 CD | NB | 1B | Mecklenburg | | | | | | | | | | |
| 095 | Westinghouse Blvd | I-77 CD | NB | 1A | Mecklenburg | | | | | | | | | | |
| 096 | Westinghouse Blvd | I-77 | NB | 1A | Mecklenburg | C043 | | | | | | | | | |
| 097 | I-485 | I-77 | SB | 1B | Mecklenburg | C006, C219 | | M020 | | | | Y | Y | 24,870 | |
| 098 | Welcome Center | I-77 | NB | 1B | Mecklenburg | C043, C024, C236, C010, C229, C009, C216 | | M024 | M028 | | | Y | Y | 36,898 | |
| 099 | Arrowood Rd | I-77 | SB | 3 | Mecklenburg | C006, C219 | | M020 | | | | Y | Y | 24,870 | |
| 100 | I-485 | I-77 | NB | 1B | Mecklenburg | C043, C024, C236, C010, C229, C009, C216 | | M024 | M028 | | | Y | Y | 36,898 | |
| 101 | Arrowood Rd | I-77 | NB | 3 | Mecklenburg | C024, C236, C010, C229, C029, C265, C009, C216, C043 | | M024 | M025 | M028 | | Y | Y | 39,634 | |
| 102 | Nations Ford Rd | I-77 | SB | 4 | Mecklenburg | C012, C225, C006, C219 | M021 | M020 | | | Y | Y | Y | 39,326 | |
| 103 | Nations Ford Rd | I-77 | NB | 4 | Mecklenburg | C024, C236, C010, C229, C029, C265, C009, C216, C043 | | M024 | M025 | M028 | | Y | Y | 39,634 | |
| 104 | Tyvola Rd | I-77 | SB | 5 | Mecklenburg | C012, C225, C006, C219 | | M021 | M020 | | | Y | Y | 39,326 | |
| 105 | Tyvola Rd | I-77 | NB | 5 | Mecklenburg | C009, C010, C022, C024, C216, C229, C231, C236, C265 | M024 | M025 | M026 | M028 | Y | Y | Y | 50,000 | |
| 106 | Woodlawn Rd | I-77 | SB | 6A | Mecklenburg | C006, C219, C012, C225, C028, C261 | M023 | M021 | M020 | | Y | Y | Y | 43,037 | |
| 107 | S Tryon St | I-77 | NB | 6B | Mecklenburg | C029, C265, C022, C231, C009, C216, C002 | M025 | M026 | M028 | | Y | Y | Y | 39,547 | |
| 108 | S Tryon St | I-77 | SB | 6B | Mecklenburg | C006, C219, C012, C225, C028, C261 | | M021 | M023 | M020 | | Y | Y | 43,037 | |
| 109 | Clanton Rd | I-77 | SB | 7 | Mecklenburg | C012, C225, C028, C261 | | M021 | M023 | | | Y | Y | 18,167 | |
| 110 | Clanton Rd | I-77 | NB | 7 | Mecklenburg | C022, C231, C009, C216, C237, C002, C226 | M026 | M028 | M030 | M045 | Y | Y | Y | 55,295 | |
| 111 | Remount Rd | I-77 | SB | 8 | Mecklenburg | C012, C017, C221, C225 | M027 | M021 | | | Y | Y | Y | 28,683 | |
| 112 | I-77 CD (US 74 (Wilkinson Blvd)/ Freedom Dr / I-277 (John Belk Frwy)) | I-77 | SB | 9 | Mecklenburg | C017, C221 | | M027 | | | | Y | Y | 14,227 | |
| 113 | West Blvd | I-77 | NB | 9A | Mecklenburg | C002, C216, C226, C237 | M028 | M030 | M045 | | Y | Y | Y | 44,929 | |
| 114 | I-77 CD (US 74 (Wilkinson Blvd)/ Freedom Dr / I-277 (John Belk Frwy)) | I-77 | NB | 9B | Mecklenburg | C237, C002, C226 | | M030 | M045 | | | Y | Y | 18,484 | |
| 115 | US 29-NC 27 (Morehead St) | I-77 | NB | 10 | Mecklenburg | C237, C002, C226 | | M030 | M045 | | | Y | Y | 18,484 | |
| 116 | West Trade St | I-77 | SB | 10 | Mecklenburg | C017, C221 | | M027 | | | | Y | Y | 14,227 | |

Appendix B
Master List of Congestion Scan Data

| Site Identification | | | | | | | | | | | | | | |
|---------------------|--------------------------|------------|-------------------|----------------------|-------------|-------------------------------------------------------------------|---------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-------------------------|---------------------------|--------------------------------|-------------------------------|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | Initial Bottleneck Numbers (Both Seasons, Primary & Secondary) | Fall 2015 Primary Site for Bottleneck | Fall 2015 Secondary Site for Bottleneck | Fall 2015 Secondary Site for Bottleneck | Fall 2015 Secondary Site for Bottleneck | Fall 2015 Primary Site? | Fall 2015 Secondary Site? | Fall 2015 Primary or Secondary | Total Fall 2015 Impact Factor |
| 117 | West Trade St | I-77 | SB | 10 | Mecklenburg | C017, C221 | | M027 | | | | Y | Y | 14,227 |
| 118 | 5th St | I-77 | NB | 10 | Mecklenburg | C237, C002, C226 | | M030 | M045 | | | Y | Y | 18,484 |
| 119 | NC 16 (Brookshire Fwy) | I-77 | SB | 11 | Mecklenburg | C017, C221, C268 | M044 | M027 | | | Y | Y | Y | 15,313 |
| 120 | I-277 Outer | I-77 | SB | 11 | Mecklenburg | C017, C221, C268 | | M044 | M027 | | | Y | Y | 15,313 |
| 121 | NC 16 (Brookshire Fwy) | I-77 | NB | 11 | Mecklenburg | C237, C002, C226 | | M030 | M045 | | | Y | Y | 18,484 |
| 122 | I-277 Outer | I-77 | NB | 11 | Mecklenburg | C237, C002, C226 | | M030 | M045 | | | Y | Y | 18,484 |
| 123 | LaSalle St / Atando Ave | I-77 | SB | 12 | Mecklenburg | C053, C268 | | M044 | | | | Y | Y | 1,086 |
| 124 | LaSalle St / Atando Ave | I-77 | NB | 12 | Mecklenburg | C002, C226 | M030 | M045 | | | Y | Y | Y | 18,484 |
| 125 | I-85 NB | I-77 | SB | 13 | Mecklenburg | | | | | | | | | |
| 126 | I-77 SB HOV | I-77 | SB | 13 | Mecklenburg | | | | | | | | | |
| 127 | I-85 SB / Statesville Rd | I-77 | SB | 13 | Mecklenburg | | | | | | | | | |
| 128 | I-85 NB | I-77 | NB | 13 | Mecklenburg | C002, C226 | M045 | | | | Y | | Y | 13,137 |
| 129 | I-85 SB | I-77 | NB | 13 | Mecklenburg | C002, C226 | M045 | | | | Y | | Y | 13,137 |
| 130 | Sunset Rd | I-77 | SB | 18 | Mecklenburg | | | | | | | | | |
| 131 | Sunset Rd | I-77 | NB | 18 | Mecklenburg | | | | | | | | | |
| 132 | WT Harris Blvd | I-77 | SB | 18 | Mecklenburg | | | | | | | | | |
| 133 | WT Harris Blvd | I-77 | NB | 18 | Mecklenburg | | | | | | | | | |
| 134 | WT Harris Blvd | I-77 | SB | 19 | Mecklenburg | | | | | | | | | |
| 135 | WT Harris Blvd | I-77 | NB | 18 | Mecklenburg | | | | | | | | | |
| 136 | I-485 Inner | I-77 | SB | 19 | Mecklenburg | C004 | | | | | | | | |
| 137 | I-485 Outer | I-77 | SB | 19 | Mecklenburg | C004 | | | | | | | | |
| 138 | I-485 Outer | I-77 | NB | 19 | Mecklenburg | | | | | | | | | |
| 139 | Gilead Rd | I-77 | SB | 25 | Mecklenburg | C003, C213, C214, C004 | M032 | | | | Y | | Y | 55,959 |
| 140 | Gilead Rd | I-77 | NB | 23 | Mecklenburg | C048, C245, C018, C001, C220, C222 | | M038 | M035 | | | Y | Y | 48,264 |
| 141 | NC 73 (Sam Furr Rd) | I-77 | SB | 26 | Mecklenburg | C003, C213, C214, C004, C039, C273 | M034 | M032 | | | Y | Y | Y | 56,908 |
| 142 | NC 73 (Sam Furr Rd) | I-77 | SB | 26 | Mecklenburg | C003, C213, C214, C004, C039, C273 | M034 | M032 | | | Y | Y | Y | 56,908 |
| 143 | NC 73 (Sam Furr Rd) | I-77 | NB | 25 | Mecklenburg | C048, C245, C005, C232, C018, C001, C220, C222 | M035 | M036 | M038 | | Y | Y | Y | 67,471 |
| 144 | US 21 (Catawba Ave) | I-77 | SB | 29 | Mecklenburg | C003, C213, C214, C004, C039 | | M032 | | | | Y | Y | 55,959 |
| 145 | US 21 (Catawba Ave) | I-77 | NB | 29 | Mecklenburg | C001, C018, C220, C222 | | M038 | | | | Y | Y | 46,401 |
| 146 | Goodrum Rd / Griffith St | I-77 | SB | 30 | Mecklenburg | C034, C274 | M037 | | | | Y | | Y | 1,914 |
| 147 | Goodrum Rd / Griffith St | I-77 | NB | 30 | Mecklenburg | C001, C018, C220, C222 | M038 | | | | Y | | Y | 46,401 |
| 171 | S Tryon St | I-485 | Outer | 1 | Mecklenburg | | | | | | | | | |
| 172 | S Tryon St | I-485 | Outer | 1 | Mecklenburg | | | | | | | | | |
| 173 | S Tryon St | I-485 | Inner | 1 | Mecklenburg | C030, C243 | | M049 | | | | Y | Y | 3,831 |

Appendix B
Master List of Congestion Scan Data

| Site Identification | | | | | | Congestion Scan Data | | | | | | | | | |
|---------------------|--------------------------------|------------|-------------------|----------------------|-------------|-------------------------------------------------------------------|---------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-------------------------|---------------------------|--------------------------------|-------------------------------|--|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | Initial Bottleneck Numbers (Both Seasons, Primary & Secondary) | Fall 2015 Primary Site for Bottleneck | Fall 2015 Secondary Site for Bottleneck | Fall 2015 Secondary Site for Bottleneck | Fall 2015 Secondary Site for Bottleneck | Fall 2015 Primary Site? | Fall 2015 Secondary Site? | Fall 2015 Primary or Secondary | Total Fall 2015 Impact Factor | |
| 174 | Arrowood Rd | I-485 | Outer | 3 | Mecklenburg | | | | | | | | | | |
| 175 | Arrowood Rd | I-485 | Inner | 3 | Mecklenburg | C030, C243 | | M049 | | | | Y | Y | 3,831 | |
| 176 | Steele Creek Rd | I-485 | Outer | 4 | Mecklenburg | | | | | | | | | | |
| 177 | Steele Creek Rd | I-485 | Inner | 4 | Mecklenburg | C030, C243 | M049 | | | | Y | | Y | 3,831 | |
| 178 | Steele Creek Rd | I-485 | Outer | 4 | Mecklenburg | | | | | | | | | | |
| 179 | Steele Creek Rd | I-485 | Inner | 4 | Mecklenburg | C030, C243 | M049 | | | | Y | | Y | 3,831 | |
| 180 | West Blvd | I-485 | Outer | 6 | Mecklenburg | C258 | M039 | | | | Y | | Y | 1,818 | |
| 181 | West Blvd | I-485 | Inner | 6 | Mecklenburg | C266 | M040 | | | | Y | | Y | 1,135 | |
| 182 | US 74 / US 29 (Wilkinson Blvd) | I-485 | Outer | 9 | Mecklenburg | C057, C249 | M041 | | | | Y | | Y | 1,460 | |
| 183 | I-485 CD (Wilkinson Blvd) | I-485 | Inner | 10 | Mecklenburg | | | | | | | | | | |
| 184 | I-85 | I-485 | Inner | 10 | Mecklenburg | | | | | | | | | | |
| 185 | Moores Chapel Rd | I-485 | Outer | 12 | Mecklenburg | | | | | | | | | | |
| 186 | Moores Chapel Rd | I-485 | Inner | 12 | Mecklenburg | | | | | | | | | | |
| 187 | Mt Holly Rd | I-485 | Outer | 12 | Mecklenburg | | | | | | | | | | |
| 188 | Mt Holly Rd | I-485 | Inner | 14 | Mecklenburg | | | | | | | | | | |
| 189 | NC16 | I-485 | Outer | 16 | Mecklenburg | | | | | | | | | | |
| 190 | NC 16 | I-485 | Inner | 16 | Mecklenburg | | | | | | | | | | |
| 191 | NC 16 | I-485 | Outer | 16 | Mecklenburg | | | | | | | | | | |
| 192 | NC 16 | I-485 | Inner | 16 | Mecklenburg | | | | | | | | | | |
| 193 | WT Harris Blvd | I-485 | Outer | 21 | Mecklenburg | | | | | | | | | | |
| 194 | WT Harris Blvd | I-485 | Outer | 21 | Mecklenburg | | | | | | | | | | |
| 195 | WT Harris Blvd | I-485 | Inner | 21 | Mecklenburg | | | | | | | | | | |
| 196 | I-77 (North) | I-485 | Outer | 23 | Mecklenburg | | | | | | | | | | |
| 197 | I-77 (North) | I-485 | Outer | 23 | Mecklenburg | | | | | | | | | | |
| 198 | I-77 (North) | I-485 | Inner | 23 | Mecklenburg | | | | | | | | | | |
| 199 | Old Statesville Rd | I-485 | Outer | 23 | Mecklenburg | | | | | | | | | | |
| 200 | Old Statesville Rd | I-485 | Inner | 23 | Mecklenburg | | | | | | | | | | |
| 201 | Prosperity Church Rd | I-485 | Outer | 26 | Mecklenburg | | | | | | | | | | |
| 202 | Prosperity Church Rd | I-485 | Inner | 26 | Mecklenburg | | | | | | | | | | |
| 203 | Mallard Creek Rd | I-485 | Outer | 28 | Mecklenburg | | | | | | | | | | |
| 204 | Mallard Creek Rd | I-485 | Inner | 28 | Mecklenburg | | | | | | | | | | |
| 205 | I-85 | I-485 | Outer | 31 | Mecklenburg | | | | | | | | | | |
| 206 | I-85 | I-485 | Inner | 31 | Mecklenburg | | | | | | | | | | |
| 207 | US 29 | I-485 | Outer | 32 | Mecklenburg | C097 | | | | | | | | | |
| 208 | US 29 | I-485 | Inner | 32 | Mecklenburg | | | | | | | | | | |
| 209 | US 29 | I-485 | Inner | 32 | Mecklenburg | | | | | | | | | | |
| 210 | University City Blvd | I-485 | Outer | 33 | Mecklenburg | | | | | | | | | | |
| 211 | University City Blvd | I-485 | Inner | 33 | Mecklenburg | | | | | | | | | | |
| 212 | Rocky River Rd | I-485 | Outer | 36 | Mecklenburg | | | | | | | | | | |
| 213 | Rocky River Rd | I-485 | Inner | 36 | Mecklenburg | | | | | | | | | | |
| 214 | Harrisburg Rd | I-485 | Outer | 39 | Mecklenburg | | | | | | | | | | |

Appendix B
Master List of Congestion Scan Data

| Site Identification | | | | | | Congestion Scan Data | | | | | | | | | |
|---------------------|------------------------------|------------|-------------------|----------------------|-------------|----------------------------------------------------------------|---------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-------------------------|---------------------------|--------------------------------|-------------------------------|--|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | Initial Bottleneck Numbers (Both Seasons, Primary & Secondary) | Fall 2015 Primary Site for Bottleneck | Fall 2015 Secondary Site for Bottleneck | Fall 2015 Secondary Site for Bottleneck | Fall 2015 Secondary Site for Bottleneck | Fall 2015 Primary Site? | Fall 2015 Secondary Site? | Fall 2015 Primary or Secondary | Total Fall 2015 Impact Factor | |
| 215 | Harrisburg Rd | I-485 | Inner | 39 | Mecklenburg | | | | | | | | | | |
| 216 | NC 24-27 Albemarle Rd | I-485 | Outer | 41 | Mecklenburg | | | | | | | | | | |
| 217 | NC 24-27 Albemarle Rd | I-485 | Inner | 41 | Mecklenburg | | | | | | | | | | |
| 218 | NC 51 | I-485 | Outer | 43 | Mecklenburg | | | | | | | | | | |
| 219 | NC 51 | I-485 | Inner | 43 | Mecklenburg | | | | | | | | | | |
| 220 | NC 218 (Fairview Rd) | I-485 | Outer | 44 | Mecklenburg | | | | | | | | | | |
| 221 | NC 218 (Fairview Rd) | I-485 | Inner | 44 | Mecklenburg | | | | | | | | | | |
| 222 | Lawyers Rd | I-485 | Outer | 47 | Mecklenburg | | | | | | | | | | |
| 223 | Lawyers Rd | I-485 | Inner | 47 | Mecklenburg | | | | | | | | | | |
| 224 | Idlewild Rd | I-485 | Outer | 49 | Mecklenburg | C277 | M043 | | | | Y | | Y | 737 | |
| 225 | Idlewild Rd | I-485 | Inner | 49 | Mecklenburg | | | | | | | | | | |
| 226 | US 74 | I-485 | Outer | 51 | Mecklenburg | | | | | | | | | | |
| 227 | US 74 | I-485 | Inner | 51 | Mecklenburg | C011, C227 | | M052 | | | | Y | Y | 14,132 | |
| 228 | E John St | I-485 | Outer | 52 | Mecklenburg | | | | | | | | | | |
| 229 | E John St | I-485 | Inner | 52 | Mecklenburg | C011, C227 | | M052 | | | | Y | Y | 14,132 | |
| 230 | NC 16 (Providence Rd) | I-485 | Outer | 57 | Mecklenburg | C011, C223 | M051 | | | | Y | | Y | 13,391 | |
| 231 | NC 16 (Providence Rd) | I-485 | Inner | 57 | Mecklenburg | C011, C227, C023, C240 | M052 | M054 | | | Y | Y | Y | 19,031 | |
| 232 | NC 16 (Providence Rd) | I-485 | Outer | 57 | Mecklenburg | C011, C223 | M051 | | | | Y | | Y | 13,391 | |
| 233 | NC 16 (Providence Rd) | I-485 | Inner | 57 | Mecklenburg | C011, C227, C023, C240 | M052 | M054 | | | Y | Y | Y | 19,031 | |
| 234 | Rea Rd | I-485 | Outer | 59 | Mecklenburg | C016, C019, C223, C262 | M053 | M051 | | | Y | Y | Y | 19,144 | |
| 235 | Rea Rd | I-485 | Outer | 59 | Mecklenburg | C016, C019, C223, C262 | M053 | M051 | | | Y | Y | Y | 19,144 | |
| 236 | Rea Rd | I-485 | Inner | 59 | Mecklenburg | C023, C240 | M054 | | | | Y | | Y | 5,640 | |
| 237 | Rea Rd | I-485 | Inner | 59 | Mecklenburg | C023, C240 | M054 | | | | Y | | Y | 5,640 | |
| 238 | US 521 (Johnston Rd) | I-485 | Outer | 61 | Mecklenburg | C016, C019, C038, C223, C262 | | M053 | M051 | | | Y | Y | 19,144 | |
| 239 | US 521 (Johnston Rd) | I-485 | Outer | 61 | Mecklenburg | C016, C019, C038, C223, C262 | | M053 | M051 | | | Y | Y | 19,144 | |
| 240 | US 521 (Johnston Rd) | I-485 | Inner | 61 | Mecklenburg | | | | | | | | | | |
| 241 | NC 51 | I-485 | Outer | 66 | Mecklenburg | | | | | | | | | | |
| 242 | NC 51 | I-485 | Inner | 64 | Mecklenburg | | | | | | | | | | |
| 243 | Pineville Rd / South Blvd | I-485 | Outer | 65 | Mecklenburg | | | | | | | | | | |
| 244 | Pineville Rd / South Blvd | I-485 | Inner | 65 | Mecklenburg | | | | | | | | | | |
| 245 | Pineville Rd / South Blvd | I-485 | Inner | 65 | Mecklenburg | | | | | | | | | | |
| 246 | I-77 NB CD / Westinghouse Rd | I-485 | Outer | 67 | Mecklenburg | C044, C263 | M056 | | | | Y | | Y | 1,554 | |
| 247 | I-77 SB CD / Arrowood Rd | I-485 | Outer | 67 | Mecklenburg | C044, C263 | M056 | | | | Y | | Y | 1,554 | |
| 248 | I-77 NB CD / Westinghouse Rd | I-485 | Inner | 67 | Mecklenburg | | | | | | | | | | |
| 249 | I-77 SB CD / Arrowood Rd | I-485 | Inner | 67 | Mecklenburg | | | | | | | | | | |

Appendix B
Master List of Congestion Scan Data

| Site Identification | | | | | | High Level Congestion Screening | | | | | | | | | | | | Task 3: Screening Analysis | | |
|---------------------|-------------------------------------|------------|-------------------|----------------------|----------|-----------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------|-----------------------------|----------------------------------|---------------------------------|--------------------------------|-------------------------------------|---|--|----------------------------|--|--|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | Spring 2015 Primary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Primary Site? | Spring 2015 Secondary Site? | Spring 2015 Primary or Secondary | Total Spring 2015 Impact Factor | Total Impact Factor per Season | Adjacent to Significant Congestion? | | | | | |
| 078 | Concord Mills / Bruton Smith Blvd | I-85 | SB | 49 | Cabarrus | | | | | | | | | | | | | | | |
| 079 | Concord Mills / Bruton Smith Blvd | I-85 | SB | 49 | Cabarrus | | | | | | | | | | | | | | | |
| 080 | Concord Mills / Bruton Smith Blvd | I-85 | NB | 49 | Cabarrus | | | | | | | | | | | | | | | |
| 081 | Poplar Tent Rd | I-85 | SB | 52 | Cabarrus | | | | | | | | | | | | | | | |
| 082 | Poplar Tent Rd | I-85 | NB | 52 | Cabarrus | | | | | | | | | | | | | | | |
| 083 | Kannapolis Pkwy/ George Liles Pkwy | I-85 | SB | 52 | Cabarrus | | | | | | | | | | | | | | | |
| 084 | Kannapolis Pkwy/ George Liles Pkwy | I-85 | NB | 54 | Cabarrus | | | | | | | | | | | | | | | |
| 085 | NC 73 (Davidson Hwy) | I-85 | SB | 55 | Cabarrus | | | | | | | | | | 35,961 | Y | | | | |
| 086 | NC 73 (Davidson Hwy) | I-85 | NB | 55 | Cabarrus | M015 | | | | Y | | Y | 5399 | 5,399 | Y | | | | | |
| 087 | US 29-601 (Concord Pkwy) | I-85 | SB | 58 | Cabarrus | M016 | | | | Y | | Y | 15,021 | 15,021 | Y | | | | | |
| 088 | US 29-601 (Concord Pkwy) | I-85 | NB | 58 | Cabarrus | | M018 | M019 | | | Y | Y | 23,271 | 23,271 | Y | | | | | |
| 089 | Dale Earnhardt Blvd | I-85 | SB | 60 | Cabarrus | | M016 | | | | Y | Y | 15,021 | 33,362 | Y | | | | | |
| 090 | Dale Earnhardt Blvd | I-85 | NB | 60 | Cabarrus | M018 | M019 | | | Y | Y | Y | 23,271 | 23,271 | Y | | | | | |
| 091 | Lane St | I-85 | SB | 63 | Cabarrus | | | | | | | | | | 35,961 | Y | | | | |
| 092 | Lane St | I-85 | NB | 63 | Cabarrus | M019 | | | | Y | | Y | 21,525 | 21,525 | Y | | | | | |
| 023 | N Chester St | I-85 | SB | 17 | Gaston | | | | | | | | | | | | | | | |
| 024 | N Chester St | I-85 | NB | 17 | Gaston | | | | | | | | | | | | | | | |
| 025 | Ozark Ave | I-85 | SB | 19 | Gaston | | | | | | | | | | | | | | | |
| 026 | Ozark Ave | I-85 | NB | 19 | Gaston | | | | | | | | | | | | | | | |
| 027 | New Hope Rd | I-85 | SB | 20 | Gaston | | | | | | | | | | | | | | | |
| 028 | New Hope Rd | I-85 | NB | 20 | Gaston | | M005 | | | | Y | Y | 4142 | 4,142 | Y | | | | | |
| 029 | Cox Rd | I-85 | SB | 21 | Gaston | | | | | | | | | | | | | | | |
| 030 | Cox Rd | I-85 | NB | 21 | Gaston | | M005 | | | | Y | Y | 4,142 | 4,142 | Y | | | | | |
| 031 | S Main St | I-85 | SB | 22 | Gaston | | | | | | | | | | | | | | | |
| 032 | S Main St | I-85 | NB | 22 | Gaston | | M005 | | | | Y | Y | 4,142 | 4,142 | Y | | | | | |
| 033 | McAdenville Rd) | I-85 | SB | 23 | Gaston | M004 | | | | Y | | Y | 9,367 | 9,367 | Y | | | | | |
| 034 | McAdenville Rd) | I-85 | NB | 23 | Gaston | M005 | | | | Y | | Y | 4,142 | 4,142 | Y | | | | | |
| 035 | Belmont-Mt. Holly Rd | I-85 | SB | 26 | Gaston | M006 | M004 | | | Y | Y | Y | 15,443 | 12,405 | Y | | | | | |
| 036 | Belmont-Mt. Holly Rd | I-85 | NB | 26 | Gaston | | | | | | | | | | | | | | | |
| 037 | Beatty Dr / Park St | I-85 | SB | 27 | Gaston | | M006 | M004 | | | Y | Y | 15,443 | 12,405 | Y | | | | | |
| 038 | Beatty Dr / Park St | I-85 | NB | 27 | Gaston | | | | | | | | | | | | | | | |
| 148 | Langtree Rd | I-77 | SB | 31 | Iredell | | | | | | | | | | | | | | | |
| 149 | Langtree Rd | I-77 | NB | 31 | Iredell | | | | | | | | | | | | | | | |
| 150 | Williams Rd / US 21 (Charlotte Hwy) | I-77 | SB | 33 | Iredell | M048 | | | | Y | | Y | 9,847 | 9,847 | Y | | | | | |
| 151 | Williams Rd / US 21 (Charlotte Hwy) | I-77 | SB | 33 | Iredell | M048 | | | | Y | | Y | 9,847 | 9,847 | Y | | | | | |
| 152 | Williams Rd / US 21 (Charlotte Hwy) | I-77 | NB | 33 | Iredell | | | | | | | | | | | | | | | |
| 153 | SR 1100 (Brawley School Rd) | I-77 | SB | 35 | Iredell | | M048 | | | | Y | Y | 9,847 | 9,847 | Y | | | | | |

Appendix B
Master List of Congestion Scan Data

| Site Identification | | | | | | High Level Congestion Screening | | | | | | | | | | | | Task 3: Screening Analysis | |
|---------------------|----------------------------------------|------------|-------------------|----------------------|-------------|-----------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------|-----------------------------|----------------------------------|---------------------------------|--------------------------------|-------------------------------------|--|--|----------------------------|--|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | Spring 2015 Primary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Primary Site? | Spring 2015 Secondary Site? | Spring 2015 Primary or Secondary | Total Spring 2015 Impact Factor | Total Impact Factor per Season | Adjacent to Significant Congestion? | | | | |
| 154 | SR 1100 (Brawley School Rd) | I-77 | NB | 35 | Iredell | | | | | | | | | | | | | | |
| 155 | NC 150 (W Plaza Dr) | I-77 | SB | 36 | Iredell | | M048 | | | | Y | Y | 9,847 | 9,847 | Y | | | | |
| 156 | NC 150 (W Plaza Dr) | I-77 | NB | 36 | Iredell | | | | | | | | | | | | | | |
| 157 | US 21-NC 115 (Main St / Charlotte Hwy) | I-77 | SB | 42 | Iredell | | | | | | | | | | | | | | |
| 158 | US 21-NC 115 (Main St / Charlotte Hwy) | I-77 | NB | 42 | Iredell | | | | | | | | | | | | | | |
| 159 | Amity Hill Rd | I-77 | NB | 45 | Iredell | | | | | | | | | | | | | | |
| 160 | Amity Hill Rd | I-77 | SB | 45 | Iredell | | | | | | | | | | | | | | |
| 161 | US 70 (Garner Bagnal Blvd) | I-77 | SB | 49 | Iredell | | | | | | | | | | | | | | |
| 162 | US 70 (Garner Bagnal Blvd) | I-77 | NB | 49 | Iredell | | | | | | | | | | | | | | |
| 163 | Salisbury Rd | I-77 | SB | 49 | Iredell | | | | | | | | | | | | | | |
| 164 | Salisbury Rd | I-77 | NB | 49 | Iredell | | | | | | | | | | | | | | |
| 165 | East Broad St | I-77 | NB | 50 | Iredell | | | | | | | | | | | | | | |
| 166 | East Broad St | I-77 | SB | 50 | Iredell | | | | | | | | | | | | | | |
| 167 | I-40 EB | I-77 | SB | 51 | Iredell | | | | | | | | | | | | | | |
| 168 | I-40 EB | I-77 | NB | 51 | Iredell | | | | | | | | | | | | | | |
| 169 | I-40 WB | I-77 | SB | 51 | Iredell | | | | | | | | | | | | | | |
| 170 | I-40 WB | I-77 | NB | 51 | Iredell | | | | | | | | | | | | | | |
| 001 | I-77 NB | I-277 | Inner | 1 | Mecklenburg | M001 | | | | Y | | Y | 1208 | 1,208 | Y | | | | |
| 002 | Clarkson St | I-277 | Outer | 1 | Mecklenburg | | | | | | | | | | | | | | |
| 003 | I-77 NB | I-277 | Outer | 1 | Mecklenburg | | | | | | | | | | | | | | |
| 004 | Church St | I-277 | Inner | 1E | Mecklenburg | | | | | | | | | | | | | | |
| 005 | South Blvd | I-277 | Inner | 1E | Mecklenburg | | | | | | | | | | | | | | |
| 006 | Church St | I-277 | Outer | 1E | Mecklenburg | | | | | | | | | | | | | | |
| 007 | South Blvd | I-277 | Outer | 1E | Mecklenburg | M002 | | | | Y | Y | 280 | 280 | 280 | Y | | | | |
| 008 | Stonewall St | I-277 | Inner | 2A | Mecklenburg | | | | | | | | | | | | | | |
| 009 | E 3rd St / E 4th St | I-277 | Inner | 2A | Mecklenburg | | | | | | | | | | | | | | |
| 010 | Stonewall St | I-277 | Outer | 2A | Mecklenburg | M002 | | | | Y | Y | 280 | 280 | 280 | Y | | | | |
| 011 | US 74 (Independence Blvd.) | I-277 | Inner | 2B | Mecklenburg | | | | | | | | | | | | | | |
| 012 | E 3rd / 4th St | I-277 | Outer | 2A | Mecklenburg | | | | | | | | | | | | | | |
| 013 | US 74 (Independence Blvd.) | I-277 | Outer | 2B | Mecklenburg | M003 | | | | Y | | Y | 526 | 526 | Y | | | | |
| 014 | N Davidson St | I-277 | Inner | 3A | Mecklenburg | | | | | | | | | | | | | | |
| 015 | N Brevard St | I-277 | Inner | 3A | Mecklenburg | | | | | | | | | | | | | | |
| 016 | N Caldwell St | I-277 | Outer | 3A | Mecklenburg | | | | | | | | | | | | | | |
| 017 | N Church St | I-277 | Outer | 3B | Mecklenburg | M050 | | | | Y | Y | 5233 | 5,233 | 5,233 | Y | | | | |
| 018 | N Graham St | I-277 | Outer | 4 | Mecklenburg | M050 | | | | Y | Y | 5233 | 5,233 | 5,233 | Y | | | | |
| 019 | I-77 NB | I-277 | Inner | 5A | Mecklenburg | | | | | | | | | | | | | | |

Appendix B
Master List of Congestion Scan Data

| Site Identification | | | | | | High Level Congestion Screening | | | | | | | | | | | | Task 3: Screening Analysis | |
|---------------------|------------------------------|------------|-------------------|----------------------|-------------|-----------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------|-----------------------------|----------------------------------|---------------------------------|--------------------------------|-------------------------------------|---|--|----------------------------|--|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | Spring 2015 Primary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Primary Site? | Spring 2015 Secondary Site? | Spring 2015 Primary or Secondary | Total Spring 2015 Impact Factor | Total Impact Factor per Season | Adjacent to Significant Congestion? | | | | |
| 020 | I-77 SB | I-277 | Inner | 5A | Mecklenburg | | | | | | | | | | | | | | |
| 021 | I-77 NB | I-277 | Outer | 5 | Mecklenburg | M050 | | | | Y | | Y | 5233 | 5,233 | Y | | | | |
| 022 | I-77 SB | I-277 | Outer | 5A | Mecklenburg | M050 | | | | Y | | Y | 5233 | 5,233 | Y | | | | |
| 039 | Sam Wilson Rd | I-85 | SB | 29 | Mecklenburg | | M006 | | | | Y | Y | 6076 | 6,076 | Y | | | | |
| 040 | I-485 Inner / Wilkinson Blvd | I-85 | SB | 30 | Mecklenburg | | | | | | | | | | | | | | |
| 041 | Sam Wilson Rd | I-85 | NB | 30 | Mecklenburg | | M057 | | | | Y | Y | 694 | 694 | Y | | | | |
| 042 | I-485 Outer | I-85 | NB | 30 | Mecklenburg | M057 | | | | Y | | Y | 694 | 694 | Y | | | | |
| 043 | I-485 Inner | I-85 | NB | 30 | Mecklenburg | M057 | | | | Y | | Y | 694 | 694 | Y | | | | |
| 044 | Little Rock Rd | I-85 | SB | 32 | Mecklenburg | | | | | | | | | | | | | | |
| 045 | Little Rock Rd | I-85 | NB | 32 | Mecklenburg | | | | | | | | | 893 | 893 | Y | | | |
| 046 | Billy Graham Pkwy | I-85 | SB | 33 | Mecklenburg | | | | | | | | | | | | | | |
| 047 | Billy Graham Pkwy | I-85 | SB | 33 | Mecklenburg | | | | | | | | | | | | | | |
| 048 | Billy Graham Pkwy | I-85 | NB | 33 | Mecklenburg | | | | | | | | | | | | | | |
| 049 | Tuckaseegee Rd | I-85 | SB | 34 | Mecklenburg | | | | | | | | | | | | | | |
| 050 | Freedom Dr | I-85 | SB | 34 | Mecklenburg | | | | | | | | | | | | | | |
| 051 | Freedom Dr | I-85 | NB | 34 | Mecklenburg | | | | | | | | | | | | | | |
| 052 | Glenwood Dr | I-85 | SB | 35 | Mecklenburg | | | | | | | | | | | | | | |
| 053 | Glenwood Dr | I-85 | NB | 35 | Mecklenburg | | | | | | | | | | | | | | |
| 054 | NC 16 (Brookshire Blvd) | I-85 | SB | 36 | Mecklenburg | | | | | | | | | | | | | | |
| 055 | NC 16 (Brookshire Blvd) | I-85 | NB | 36 | Mecklenburg | | | | | | | | | | | | | | |
| 056 | Beatties Ford Rd | I-85 | SB | 37 | Mecklenburg | | | | | | | | | | | | | | |
| 057 | Beatties Ford Rd | I-85 | NB | 37 | Mecklenburg | | M011 | | | | Y | Y | 6291 | 6,291 | Y | | | | |
| 058 | I-77 SB | I-85 | SB | 38 | Mecklenburg | | | | | | | | | | | | | | |
| 059 | I-77 NB | I-85 | SB | 38 | Mecklenburg | | | | | | | | | | | | | | |
| 060 | I-77 SB | I-85 | NB | 38 | Mecklenburg | | M011 | | | | Y | Y | 6291 | 6,291 | Y | | | | |
| 061 | Statesville Ave | I-85 | SB | 39 | Mecklenburg | M008 | | | | Y | | Y | 4,794 | 4,794 | Y | | | | |
| 062 | I-77 NB | I-85 | NB | 38 | Mecklenburg | | M011 | | | | Y | Y | 6291 | 6,291 | Y | | | | |
| 063 | Statesville Ave | I-85 | NB | 39 | Mecklenburg | | M010 | M011 | | | Y | Y | 8,997 | 7,644 | Y | | | | |
| 064 | Graham St | I-85 | SB | 40 | Mecklenburg | M009 | M008 | | | Y | Y | Y | 6,872 | 5,833 | Y | | | | |
| 065 | Graham St | I-85 | NB | 40 | Mecklenburg | M010 | M011 | | | Y | Y | Y | 8,997 | 7,644 | Y | | | | |
| 066 | Sugar Creek Rd | I-85 | SB | 40 | Mecklenburg | | M009 | M008 | | | Y | Y | 6,872 | 5,833 | Y | | | | |
| 067 | Sugar Creek Rd | I-85 | NB | 41 | Mecklenburg | M011 | | | | Y | | Y | 6,291 | 6,291 | Y | | | | |
| 068 | US 29 Connector (US 29/49) | I-85 | SB | 42 | Mecklenburg | M012 | M009 | M008 | | Y | Y | Y | 9,403 | 7,099 | Y | | | | |

Appendix B
Master List of Congestion Scan Data

| Site Identification | | | | | | High Level Congestion Screening | | | | | | | | | | | | Task 3: Screening Analysis | | |
|---------------------|--------------------------------------------------------------------------------|------------|-------------------|----------------------|-------------|-----------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------|-----------------------------|----------------------------------|---------------------------------|--------------------------------|-------------------------------------|--|--|----------------------------|--|--|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | Spring 2015 Primary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Primary Site? | Spring 2015 Secondary Site? | Spring 2015 Primary or Secondary | Total Spring 2015 Impact Factor | Total Impact Factor per Season | Adjacent to Significant Congestion? | | | | | |
| 069 | University City Blvd | I-85 | SB | 43 | Mecklenburg | | M012 | M009 | M008 | | Y | Y | 9,403 | 7,099 | Y | | | | | |
| 070 | University City Blvd | I-85 | SB | 43 | Mecklenburg | | M012 | M009 | M008 | | Y | Y | 9,403 | 7,099 | Y | | | | | |
| 071 | University City Blvd | I-85 | NB | 43 | Mecklenburg | | | | | | | | | | | | | | | |
| 072 | Harris Blvd | I-85 | SB | 45 | Mecklenburg | | M012 | | | | Y | Y | 2,531 | 2,531 | Y | | | | | |
| 073 | Harris Blvd | I-85 | NB | 45 | Mecklenburg | | | | | | | | | | | | | | | |
| 074 | Mallard Creek Rd | I-85 | SB | 46 | Mecklenburg | | | | | | | | | | | | | | | |
| 075 | Mallard Creek Rd | I-85 | NB | 46 | Mecklenburg | M013 | | | | Y | | Y | 503 | 503 | Y | | | | | |
| 076 | I-485 Outer | I-85 | SB | 48 | Mecklenburg | | | | | | | | | | | | | | | |
| 077 | I-485 Inner | I-85 | NB | 48 | Mecklenburg | | | | | | | | | | | | | | | |
| 093 | Westinghouse Blvd | I-77 | SB | 1A | Mecklenburg | M020 | | | | Y | | Y | 24,870 | 24,870 | Y | | | | | |
| 094 | Westinghouse Blvd | I-77 CD | NB | 1B | Mecklenburg | | | | | | | | | | | | | | | |
| 095 | Westinghouse Blvd | I-77 CD | NB | 1A | Mecklenburg | | | | | | | | | | | | | | | |
| 096 | Westinghouse Blvd | I-77 | NB | 1A | Mecklenburg | | M022 | | | | Y | Y | 1,857 | 1,857 | Y | | | | | |
| 097 | I-485 | I-77 | SB | 1B | Mecklenburg | | M020 | | | | Y | Y | 24870 | 24,870 | Y | | | | | |
| 098 | Welcome Center | I-77 | NB | 1B | Mecklenburg | | M024 | M028 | M022 | | Y | Y | 38,755 | 37,827 | Y | | | | | |
| 099 | Arrowood Rd | I-77 | SB | 3 | Mecklenburg | | M020 | | | | Y | Y | 24870 | 24,870 | Y | | | | | |
| 100 | I-485 | I-77 | NB | 1B | Mecklenburg | | M024 | M028 | M022 | | Y | Y | 38,755 | 37,827 | Y | | | | | |
| 101 | Arrowood Rd | I-77 | NB | 3 | Mecklenburg | | M024 | M025 | M028, M022 | | Y | Y | 41,491 | 40,563 | Y | | | | | |
| 102 | Nations Ford Rd | I-77 | SB | 4 | Mecklenburg | M021 | M020 | | | Y | Y | Y | 39,326 | 39,326 | Y | | | | | |
| 103 | Nations Ford Rd | I-77 | NB | 4 | Mecklenburg | M022 | M024 | M025 | M028 | Y | Y | Y | 41,491 | 40,563 | Y | | | | | |
| 104 | Tyvola Rd | I-77 | SB | 5 | Mecklenburg | | M021 | M020 | | | Y | Y | 39,326 | 39,326 | Y | | | | | |
| 105 | Tyvola Rd | I-77 | NB | 5 | Mecklenburg | M024 | M025 | M026 | M028 | Y | Y | Y | 50,000 | 50,000 | Y | | | | | |
| 106 | Woodlawn Rd | I-77 | SB | 6A | Mecklenburg | M023 | M021 | M020 | | Y | Y | Y | 43,037 | 43,037 | Y | | | | | |
| 107 | S Tryon St | I-77 | NB | 6B | Mecklenburg | M025 | M026 | M028 | M031 | Y | Y | Y | 102340 | 70,944 | Y | | | | | |
| 108 | S Tryon St | I-77 | SB | 6B | Mecklenburg | | M021 | M023 | M020 | | Y | Y | 43037 | 43,037 | Y | | | | | |
| 109 | Clanton Rd | I-77 | SB | 7 | Mecklenburg | | M021 | M023 | | | Y | Y | 18167 | 18,167 | Y | | | | | |
| 110 | Clanton Rd | I-77 | NB | 7 | Mecklenburg | M026 | M028 | M031 | | Y | Y | Y | 99604 | 77,450 | Y | | | | | |
| 111 | Remount Rd | I-77 | SB | 8 | Mecklenburg | M027 | M021 | | | Y | Y | Y | 28,683 | 28,683 | Y | | | | | |
| 112 | I-77 CD (US 74 (Williamson Blvd) / Freedom Dr. / I-277 (John Polk Expressway)) | I-77 | SB | 9 | Mecklenburg | | M027 | | | | Y | Y | 14227 | 14,227 | Y | | | | | |
| 113 | West Blvd | I-77 | NB | 9A | Mecklenburg | M028 | M031 | | | Y | Y | Y | 89238 | 67,084 | Y | | | | | |
| 114 | I-77 CD (US 74 (Williamson Blvd) / Freedom Dr. / I-277 (John Polk Expressway)) | I-77 | NB | 9B | Mecklenburg | | M031 | | | | Y | Y | 62793 | 40,639 | Y | | | | | |
| 115 | US 29-NC 27 (Morehead St) | I-77 | NB | 10 | Mecklenburg | | M031 | | | | Y | Y | 62793 | 40,639 | Y | | | | | |

Appendix B
Master List of Congestion Scan Data

| Site Identification | | | | | | High Level Congestion Screening | | | | | | | | | | | | Task 3: Screening Analysis | |
|---------------------|--------------------------|------------|-------------------|----------------------|-------------|-----------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------|-----------------------------|----------------------------------|---------------------------------|--------------------------------|-------------------------------------|--|--|----------------------------|--|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | Spring 2015 Primary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Primary Site? | Spring 2015 Secondary Site? | Spring 2015 Primary or Secondary | Total Spring 2015 Impact Factor | Total Impact Factor per Season | Adjacent to Significant Congestion? | | | | |
| 116 | West Trade St | I-77 | SB | 10 | Mecklenburg | | M027 | | | | Y | Y | 14,227 | 14,227 | Y | | | | |
| 117 | West Trade St | I-77 | SB | 10 | Mecklenburg | | M027 | | | | Y | Y | 14,227 | 14,227 | Y | | | | |
| 118 | 5th St | I-77 | NB | 10 | Mecklenburg | | M031 | | | | Y | Y | 62793 | 40,639 | Y | | | | |
| 119 | NC 16 (Brookshire Fwy) | I-77 | SB | 11 | Mecklenburg | | M027 | | | | Y | Y | 14227 | 14,770 | Y | | | | |
| 120 | I-277 Outer | I-77 | SB | 11 | Mecklenburg | | M027 | | | | Y | Y | 14227 | 14,770 | Y | | | | |
| 121 | NC 16 (Brookshire Fwy) | I-77 | NB | 11 | Mecklenburg | | M031 | | | | Y | Y | 62793 | 40,639 | Y | | | | |
| 122 | I-277 Outer | I-77 | NB | 11 | Mecklenburg | | M031 | | | | Y | Y | 62793 | 40,639 | Y | | | | |
| 123 | LaSalle St / Atando Ave | I-77 | SB | 12 | Mecklenburg | M029 | | | | Y | | Y | 915 | 1,001 | Y | | | | |
| 124 | LaSalle St / Atando Ave | I-77 | NB | 12 | Mecklenburg | | M031 | | | | Y | Y | 62793 | 40,639 | Y | | | | |
| 125 | I-85 NB | I-77 | SB | 13 | Mecklenburg | | | | | | | | | | | | | | |
| 126 | I-77 SB HOV | I-77 | SB | 13 | Mecklenburg | | | | | | | | | | | | | | |
| 127 | I-85 SB / Statesville Rd | I-77 | SB | 13 | Mecklenburg | | | | | | | | | | | | | | |
| 128 | I-85 NB | I-77 | NB | 13 | Mecklenburg | M031 | | | | Y | | Y | 62793 | 37,965 | Y | | | | |
| 129 | I-85 SB | I-77 | NB | 13 | Mecklenburg | M031 | | | | Y | | Y | 62793 | 37,965 | Y | | | | |
| 130 | Sunset Rd | I-77 | SB | 18 | Mecklenburg | | | | | | | | | | | | | | |
| 131 | Sunset Rd | I-77 | NB | 18 | Mecklenburg | | | | | | | | | | | | | | |
| 132 | WT Harris Blvd | I-77 | SB | 18 | Mecklenburg | | | | | | | | | | | | | | |
| 133 | WT Harris Blvd | I-77 | NB | 18 | Mecklenburg | | | | | | | | | | | | | | |
| 134 | WT Harris Blvd | I-77 | SB | 19 | Mecklenburg | | | | | | | | | | | | | | |
| 135 | WT Harris Blvd | I-77 | NB | 18 | Mecklenburg | | | | | | | | | | | | | | |
| 136 | I-485 Inner | I-77 | SB | 19 | Mecklenburg | M046 | | | | Y | | Y | 36363 | 36,363 | Y | | | | |
| 137 | I-485 Outer | I-77 | SB | 19 | Mecklenburg | M046 | | | | Y | | Y | 36363 | 36,363 | Y | | | | |
| 138 | I-485 Outer | I-77 | NB | 19 | Mecklenburg | | | | | | | | | | | | | | |
| 139 | Gilead Rd | I-77 | SB | 25 | Mecklenburg | M032 | M046 | | | Y | Y | Y | 92322 | 74,141 | Y | | | | |
| 140 | Gilead Rd | I-77 | NB | 23 | Mecklenburg | | M038 | M035 | | | Y | Y | 48264 | 48,264 | Y | | | | |
| 141 | NC 73 (Sam Furr Rd) | I-77 | SB | 26 | Mecklenburg | M047 | M032 | M046 | | Y | Y | Y | 94820 | 75,864 | Y | | | | |
| 142 | NC 73 (Sam Furr Rd) | I-77 | SB | 26 | Mecklenburg | M047 | M032 | M046 | | Y | Y | Y | 94820 | 75,864 | Y | | | | |
| 143 | NC 73 (Sam Furr Rd) | I-77 | NB | 25 | Mecklenburg | M035 | M036 | M038 | | Y | Y | Y | 67471 | 67,471 | Y | | | | |
| 144 | US 21 (Catawba Ave) | I-77 | SB | 29 | Mecklenburg | | M032 | M047 | M046 | | Y | Y | 94820 | 75,390 | Y | | | | |
| 145 | US 21 (Catawba Ave) | I-77 | NB | 29 | Mecklenburg | | M038 | | | | Y | Y | 46,401 | 46,401 | Y | | | | |
| 146 | Goodrum Rd / Griffith St | I-77 | SB | 30 | Mecklenburg | M037 | | | | Y | | Y | 1,914 | 1,914 | Y | | | | |
| 147 | Goodrum Rd / Griffith St | I-77 | NB | 30 | Mecklenburg | M038 | | | | Y | | Y | 46,401 | 46,401 | Y | | | | |
| 171 | S Tryon St | I-485 | Outer | 1 | Mecklenburg | | | | | | | | | | | | | | |
| 172 | S Tryon St | I-485 | Outer | 1 | Mecklenburg | | | | | | | | | | | | | | |
| 173 | S Tryon St | I-485 | Inner | 1 | Mecklenburg | | M049 | | | | Y | Y | 3831 | 3,831 | Y | | | | |
| 174 | Arrowood Rd | I-485 | Outer | 3 | Mecklenburg | | | | | | | | | | | | | | |

Appendix B
Master List of Congestion Scan Data

| Site Identification | | | | | | Task 3: Screening Analysis | | | | | | | | | | | |
|---------------------|--------------------------------|------------|-------------------|----------------------|-------------|-----------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------|-----------------------------|----------------------------------|---------------------------------|--------------------------------|-------------------------------------|---|--|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | Spring 2015 Primary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Primary Site? | Spring 2015 Secondary Site? | Spring 2015 Primary or Secondary | Total Spring 2015 Impact Factor | Total Impact Factor per Season | Adjacent to Significant Congestion? | | |
| | | | | | | | | | | | | | | | | | |
| 175 | Arrowood Rd | I-485 | Inner | 3 | Mecklenburg | | M049 | | | | Y | Y | 3831 | 3,831 | Y | | |
| 176 | Steele Creek Rd | I-485 | Outer | 4 | Mecklenburg | | | | | | | | | | | | |
| 177 | Steele Creek Rd | I-485 | Inner | 4 | Mecklenburg | M049 | | | | Y | | Y | 3831 | 3,831 | Y | | |
| 178 | Steele Creek Rd | I-485 | Outer | 4 | Mecklenburg | | | | | | | | | | | | |
| 179 | Steele Creek Rd | I-485 | Inner | 4 | Mecklenburg | M049 | | | | Y | | Y | 3831 | 3,831 | Y | | |
| 180 | West Blvd | I-485 | Outer | 6 | Mecklenburg | | | | | | | | | | 1,818 | Y | |
| 181 | West Blvd | I-485 | Inner | 6 | Mecklenburg | | | | | | | | | | 1,135 | Y | |
| 182 | US 74 / US 29 (Wilkinson Blvd) | I-485 | Outer | 9 | Mecklenburg | M041 | | | | Y | | Y | 1,460 | 1,460 | Y | | |
| 183 | I-485 CD (Wilkinson Blvd) | I-485 | Inner | 10 | Mecklenburg | | | | | | | | | | | | |
| 184 | I-85 | I-485 | Inner | 10 | Mecklenburg | | | | | | | | | | | | |
| 185 | Moores Chapel Rd | I-485 | Outer | 12 | Mecklenburg | | | | | | | | | | | | |
| 186 | Moores Chapel Rd | I-485 | Inner | 12 | Mecklenburg | | | | | | | | | | | | |
| 187 | Mt Holly Rd | I-485 | Outer | 12 | Mecklenburg | | | | | | | | | | | | |
| 188 | Mt Holly Rd | I-485 | Inner | 14 | Mecklenburg | | | | | | | | | | | | |
| 189 | NC16 | I-485 | Outer | 16 | Mecklenburg | | | | | | | | | | | | |
| 190 | NC 16 | I-485 | Inner | 16 | Mecklenburg | | | | | | | | | | | | |
| 191 | NC 16 | I-485 | Outer | 16 | Mecklenburg | | | | | | | | | | | | |
| 192 | NC 16 | I-485 | Inner | 16 | Mecklenburg | | | | | | | | | | | | |
| 193 | WT Harris Blvd | I-485 | Outer | 21 | Mecklenburg | | | | | | | | | | | | |
| 194 | WT Harris Blvd | I-485 | Outer | 21 | Mecklenburg | | | | | | | | | | | | |
| 195 | WT Harris Blvd | I-485 | Inner | 21 | Mecklenburg | | | | | | | | | | | | |
| 196 | I-77 (North) | I-485 | Outer | 23 | Mecklenburg | | | | | | | | | | | | |
| 197 | I-77 (North) | I-485 | Outer | 23 | Mecklenburg | | | | | | | | | | | | |
| 198 | I-77 (North) | I-485 | Inner | 23 | Mecklenburg | | | | | | | | | | | | |
| 199 | Old Statesville Rd | I-485 | Outer | 23 | Mecklenburg | | | | | | | | | | | | |
| 200 | Old Statesville Rd | I-485 | Inner | 23 | Mecklenburg | | | | | | | | | | | | |
| 201 | Prosperity Church Rd | I-485 | Outer | 26 | Mecklenburg | | | | | | | | | | | | |
| 202 | Prosperity Church Rd | I-485 | Inner | 26 | Mecklenburg | | | | | | | | | | | | |
| 203 | Mallard Creek Rd | I-485 | Outer | 28 | Mecklenburg | | | | | | | | | | | | |
| 204 | Mallard Creek Rd | I-485 | Inner | 28 | Mecklenburg | | | | | | | | | | | | |
| 205 | I-85 | I-485 | Outer | 31 | Mecklenburg | | | | | | | | | | | | |
| 206 | I-85 | I-485 | Inner | 31 | Mecklenburg | | | | | | | | | | | | |
| 207 | US 29 | I-485 | Outer | 32 | Mecklenburg | M042 | | | | Y | | Y | 185 | 185 | Y | | |
| 208 | US 29 | I-485 | Inner | 32 | Mecklenburg | | | | | | | | | | | | |
| 209 | US 29 | I-485 | Inner | 32 | Mecklenburg | | | | | | | | | | | | |
| 210 | University City Blvd | I-485 | Outer | 33 | Mecklenburg | | | | | | | | | | | | |
| 211 | University City Blvd | I-485 | Inner | 33 | Mecklenburg | | | | | | | | | | | | |

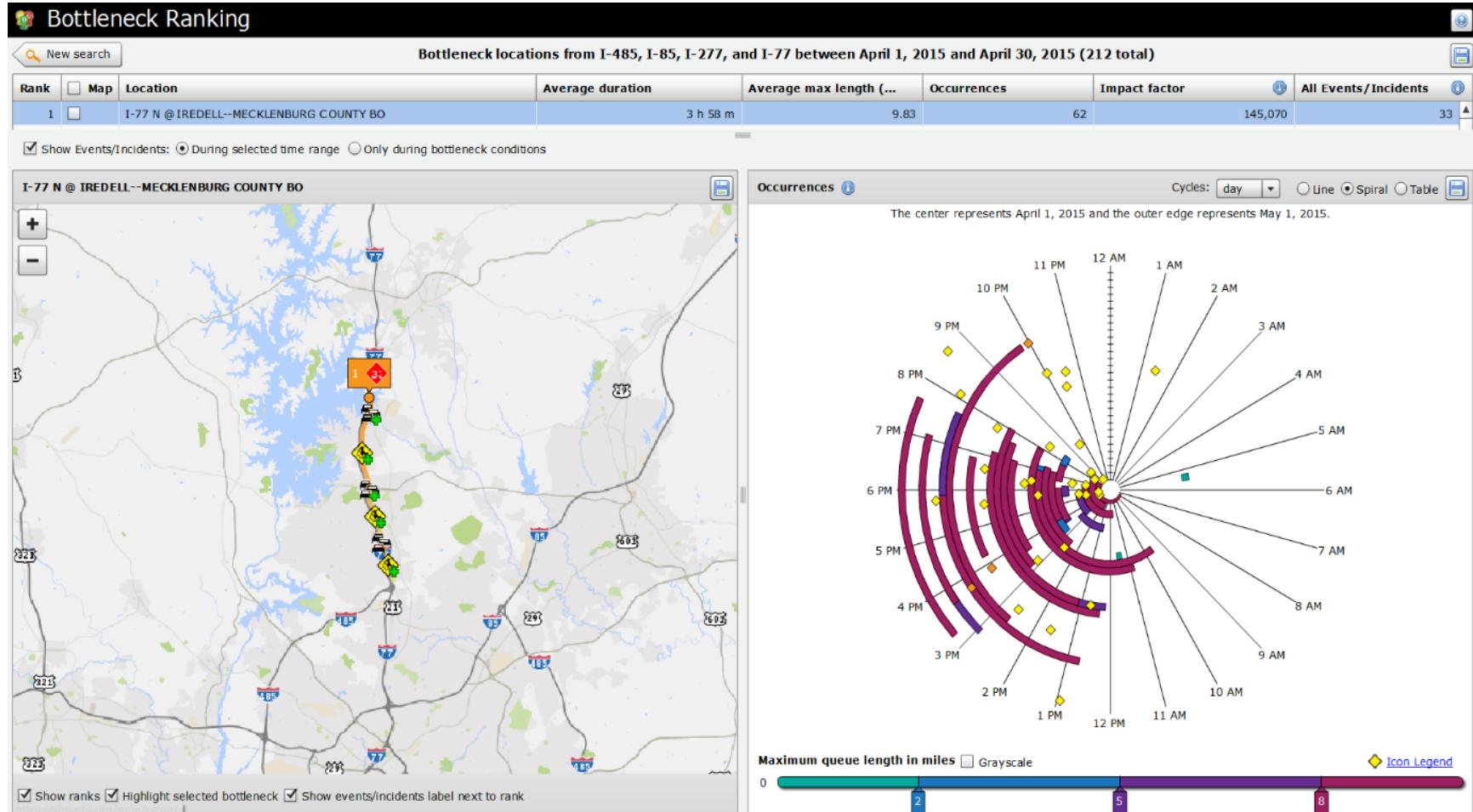
Appendix B
Master List of Congestion Scan Data

| Site Identification | | | | | | Task 3: Screening Analysis | | | | | | | | | | | |
|---------------------|------------------------------|------------|-------------------|----------------------|-------------|-----------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------|-----------------------------|----------------------------------|---------------------------------|--------------------------------|-------------------------------------|---|--|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | Spring 2015 Primary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Secondary Site for Bottleneck | Spring 2015 Primary Site? | Spring 2015 Secondary Site? | Spring 2015 Primary or Secondary | Total Spring 2015 Impact Factor | Total Impact Factor per Season | Adjacent to Significant Congestion? | | |
| | | | | | | | High Level Congestion Screening | | | | | | | | | | |
| 212 | Rocky River Rd | I-485 | Outer | 36 | Mecklenburg | | | | | | | | | | | | |
| 213 | Rocky River Rd | I-485 | Inner | 36 | Mecklenburg | | | | | | | | | | | | |
| 214 | Harrisburg Rd | I-485 | Outer | 39 | Mecklenburg | | | | | | | | | | | | |
| 215 | Harrisburg Rd | I-485 | Inner | 39 | Mecklenburg | | | | | | | | | | | | |
| 216 | NC 24-27 Albemarle Rd | I-485 | Outer | 41 | Mecklenburg | | | | | | | | | | | | |
| 217 | NC 24-27 Albemarle Rd | I-485 | Inner | 41 | Mecklenburg | | | | | | | | | | | | |
| 218 | NC 51 | I-485 | Outer | 43 | Mecklenburg | | | | | | | | | | | | |
| 219 | NC 51 | I-485 | Inner | 43 | Mecklenburg | | | | | | | | | | | | |
| 220 | NC 218 (Fairview Rd) | I-485 | Outer | 44 | Mecklenburg | | | | | | | | | | | | |
| 221 | NC 218 (Fairview Rd) | I-485 | Inner | 44 | Mecklenburg | | | | | | | | | | | | |
| 222 | Lawyers Rd | I-485 | Outer | 47 | Mecklenburg | | | | | | | | | | | | |
| 223 | Lawyers Rd | I-485 | Inner | 47 | Mecklenburg | | | | | | | | | | | | |
| 224 | Idlewild Rd | I-485 | Outer | 49 | Mecklenburg | | | | | | | | | | 737 | Y | |
| 225 | Idlewild Rd | I-485 | Inner | 49 | Mecklenburg | | | | | | | | | | | | |
| 226 | US 74 | I-485 | Outer | 51 | Mecklenburg | | | | | | | | | | | | |
| 227 | US 74 | I-485 | Inner | 51 | Mecklenburg | | M052 | | | | | Y | Y | 14132 | 14,132 | Y | |
| 228 | E John St | I-485 | Outer | 52 | Mecklenburg | | | | | | | | | | | | |
| 229 | E John St | I-485 | Inner | 52 | Mecklenburg | | M052 | | | | | Y | Y | 14132 | 14,132 | Y | |
| 230 | NC 16 (Providence Rd) | I-485 | Outer | 57 | Mecklenburg | M051 | | | | | Y | | Y | 13,391 | 13,391 | Y | |
| 231 | NC 16 (Providence Rd) | I-485 | Inner | 57 | Mecklenburg | M052 | M054 | | | | Y | Y | Y | 19031 | 19,031 | Y | |
| 232 | NC 16 (Providence Rd) | I-485 | Outer | 57 | Mecklenburg | M051 | | | | | Y | | Y | 13,391 | 13,391 | Y | |
| 233 | NC 16 (Providence Rd) | I-485 | Inner | 57 | Mecklenburg | M052 | M054 | | | | Y | Y | Y | 19031 | 19,031 | Y | |
| 234 | Rea Rd | I-485 | Outer | 59 | Mecklenburg | M053 | M051 | | | | Y | Y | Y | 19,144 | 19,144 | Y | |
| 235 | Rea Rd | I-485 | Outer | 59 | Mecklenburg | M053 | M051 | | | | Y | Y | Y | 19,144 | 19,144 | Y | |
| 236 | Rea Rd | I-485 | Inner | 59 | Mecklenburg | M054 | | | | | Y | | Y | 5640 | 5,640 | Y | |
| 237 | Rea Rd | I-485 | Inner | 59 | Mecklenburg | M054 | | | | | Y | | Y | 5640 | 5,640 | Y | |
| 238 | US 521 (Johnston Rd) | I-485 | Outer | 61 | Mecklenburg | M055 | M053 | M051 | | | Y | Y | Y | 21,666 | 20,405 | Y | |
| 239 | US 521 (Johnston Rd) | I-485 | Outer | 61 | Mecklenburg | M055 | M053 | M051 | | | Y | Y | Y | 21,666 | 20,405 | Y | |
| 240 | US 521 (Johnston Rd) | I-485 | Inner | 61 | Mecklenburg | | | | | | | | | | | | |
| 241 | NC 51 | I-485 | Outer | 66 | Mecklenburg | | | | | | | | | | | | |
| 242 | NC 51 | I-485 | Inner | 64 | Mecklenburg | | | | | | | | | | | | |
| 243 | Pineville Rd / South Blvd | I-485 | Outer | 65 | Mecklenburg | | | | | | | | | | | | |
| 244 | Pineville Rd / South Blvd | I-485 | Inner | 65 | Mecklenburg | | | | | | | | | | | | |
| 245 | Pineville Rd / South Blvd | I-485 | Inner | 65 | Mecklenburg | | | | | | | | | | | | |
| 246 | I-77 NB CD / Westinghouse Rd | I-485 | Outer | 67 | Mecklenburg | M056 | | | | | Y | | Y | 1554 | 1,554 | Y | |
| 247 | I-77 SB CD / Arrowood Rd | I-485 | Outer | 67 | Mecklenburg | M056 | | | | | Y | | Y | 1554 | 1,554 | Y | |
| 248 | I-77 NB CD / Westinghouse Rd | I-485 | Inner | 67 | Mecklenburg | | | | | | | | | | | | |
| 249 | I-77 SB CD / Arrowood Rd | I-485 | Inner | 67 | Mecklenburg | | | | | | | | | | | | |

Appendix C – Congestion Scans

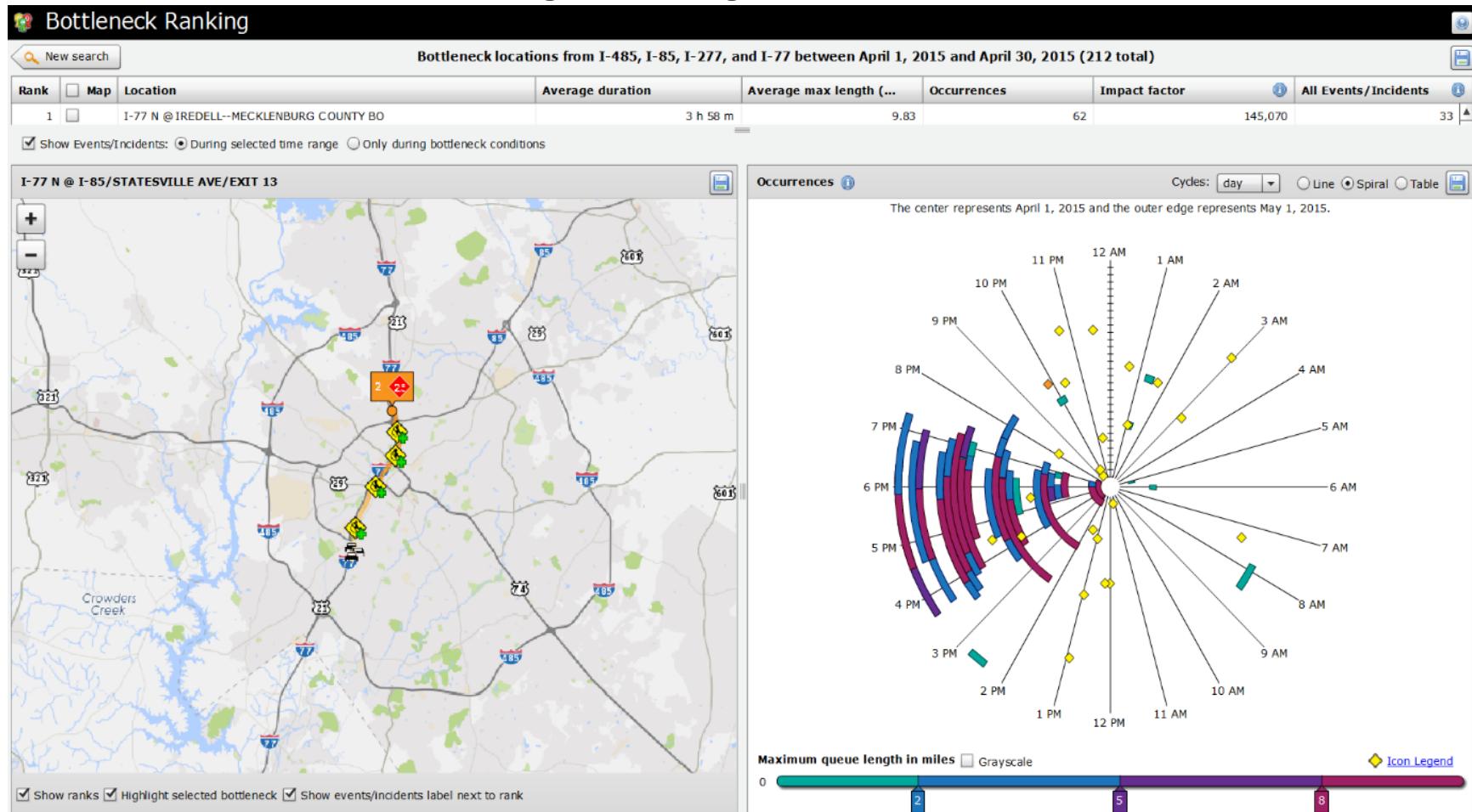
Print screens of all significant and regular bottlenecks recorded in RITIS

Figure 26. Congestion Scan C001



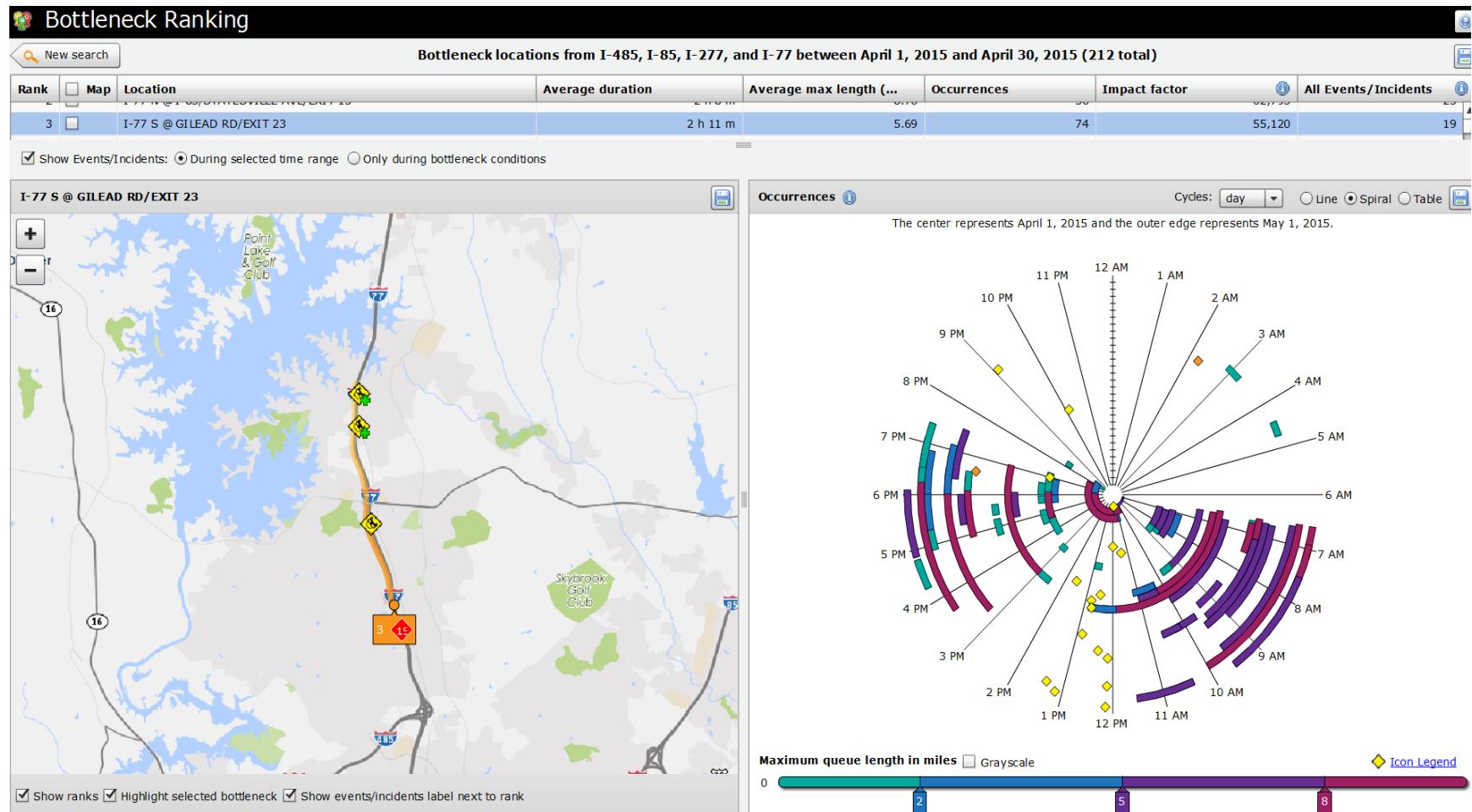
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 27. Congestion Scan C002



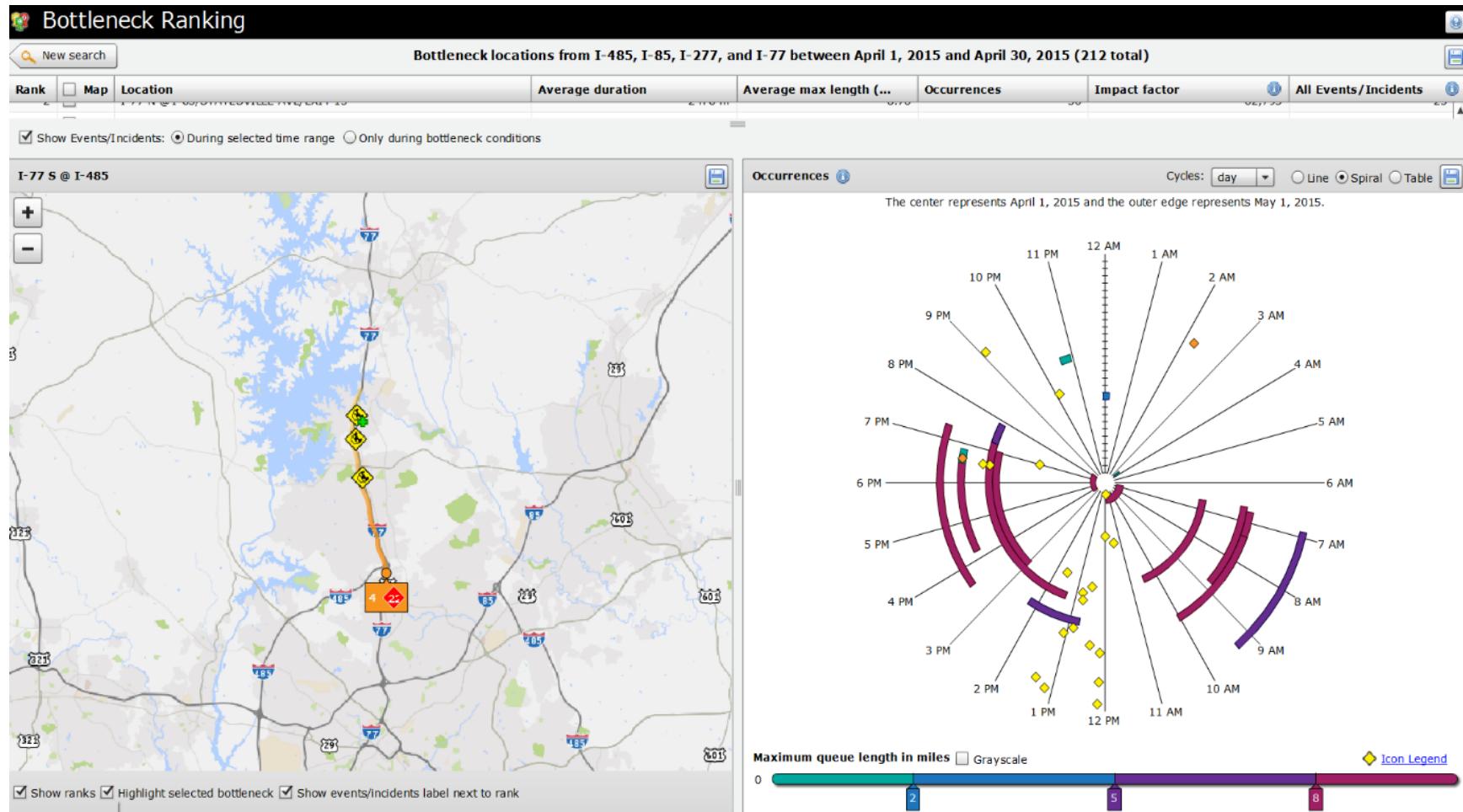
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 28. Congestion Scan C003



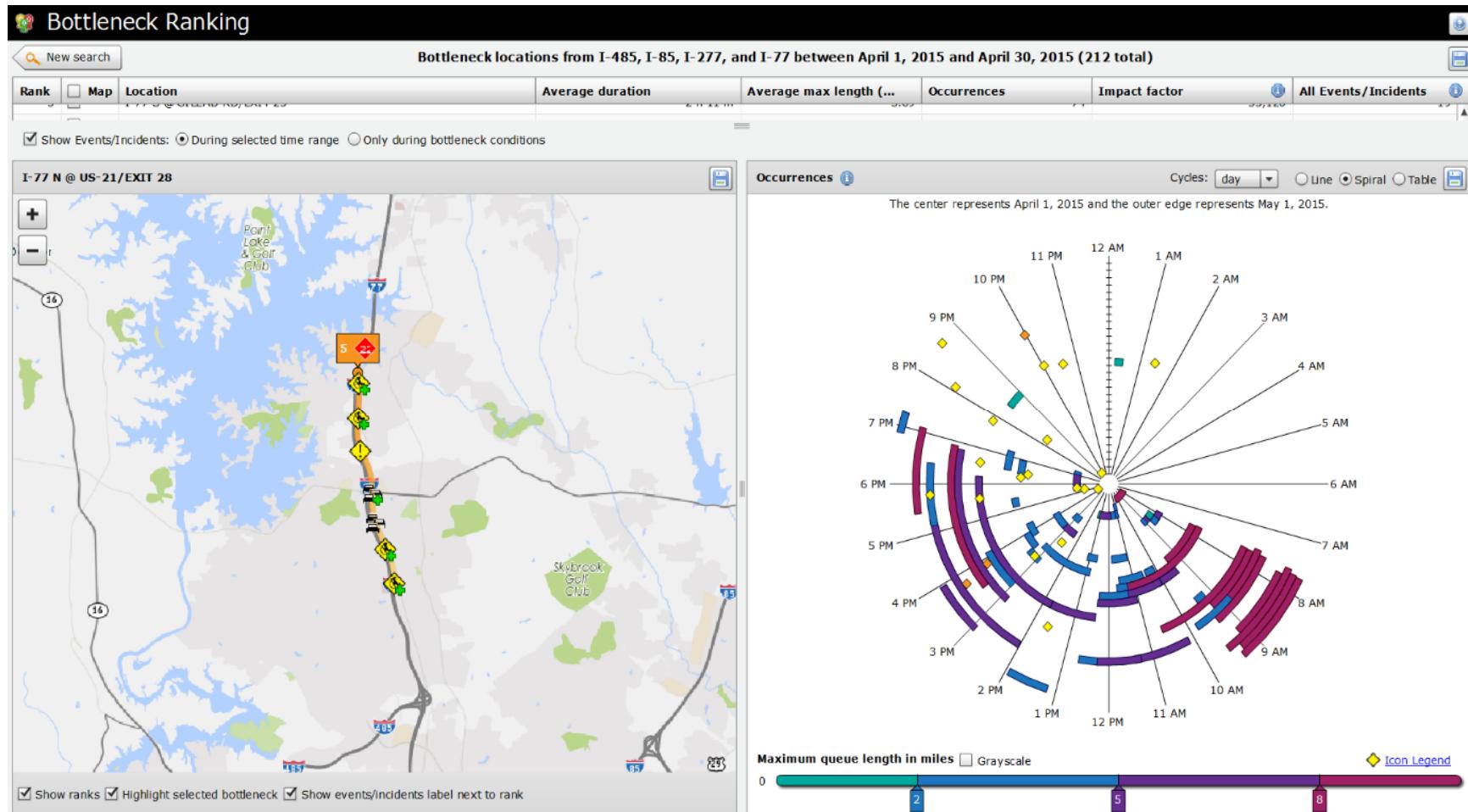
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 29. Congestion Scan C004



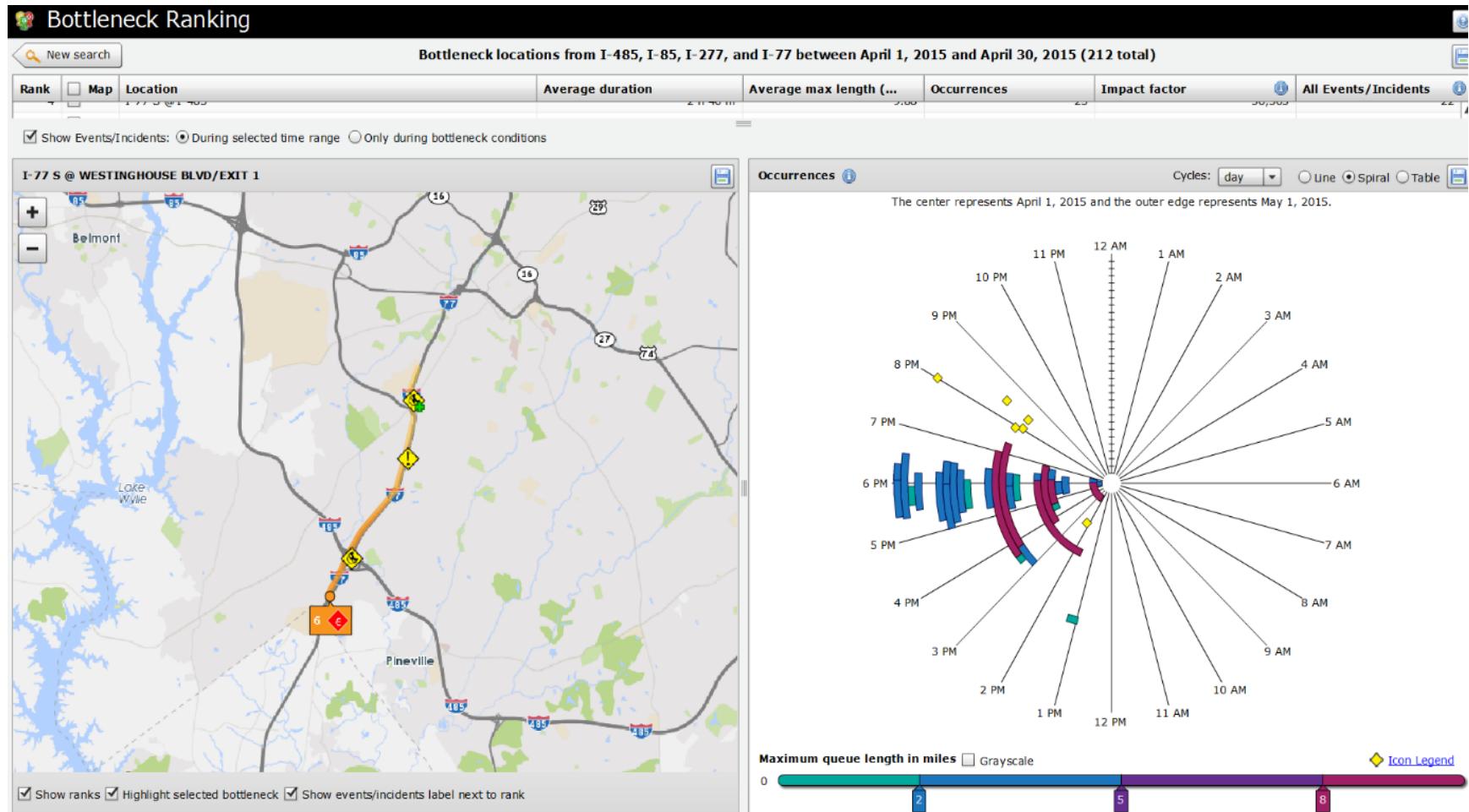
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 30. Congestion Scan C005



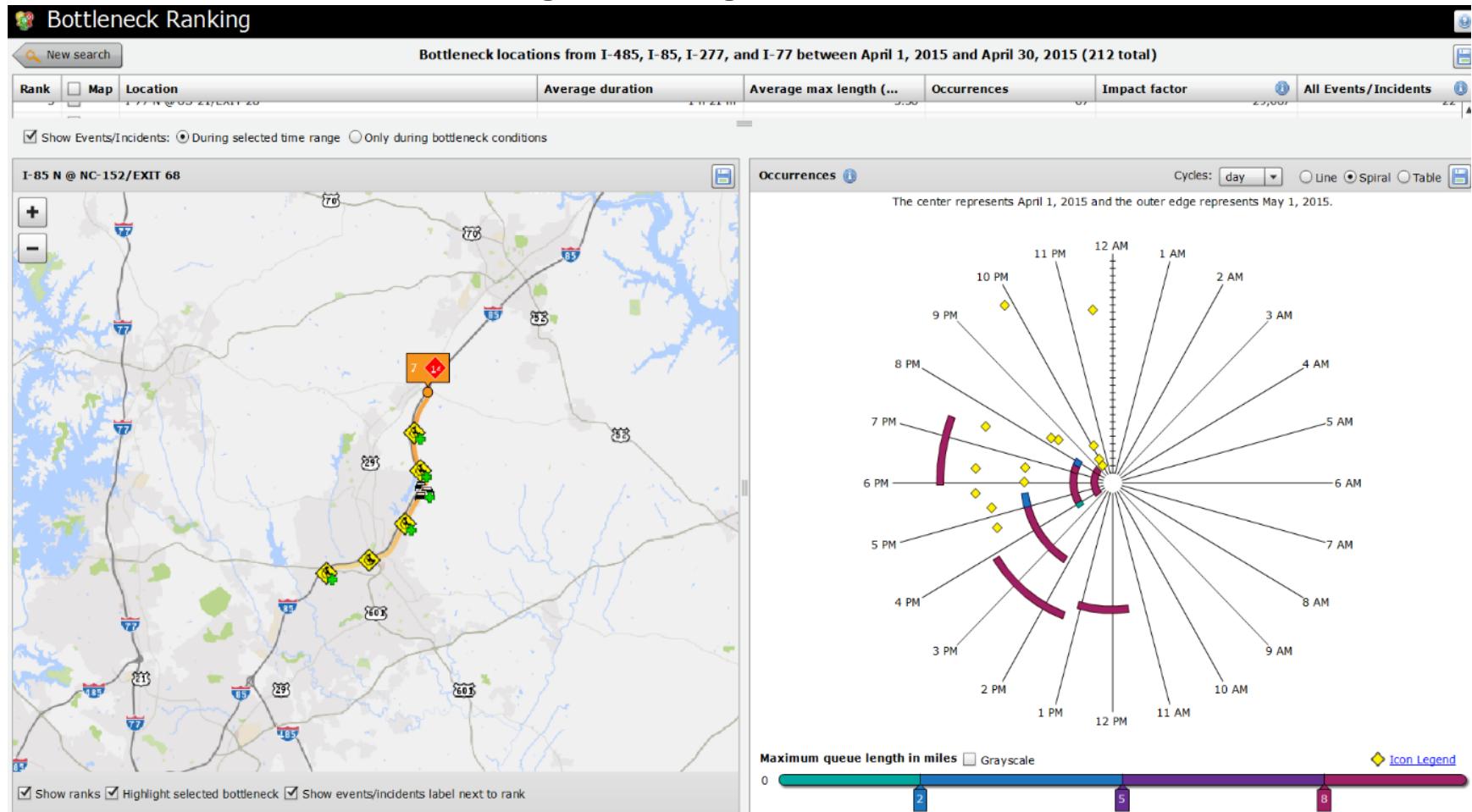
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 31. Congestion Scan C006



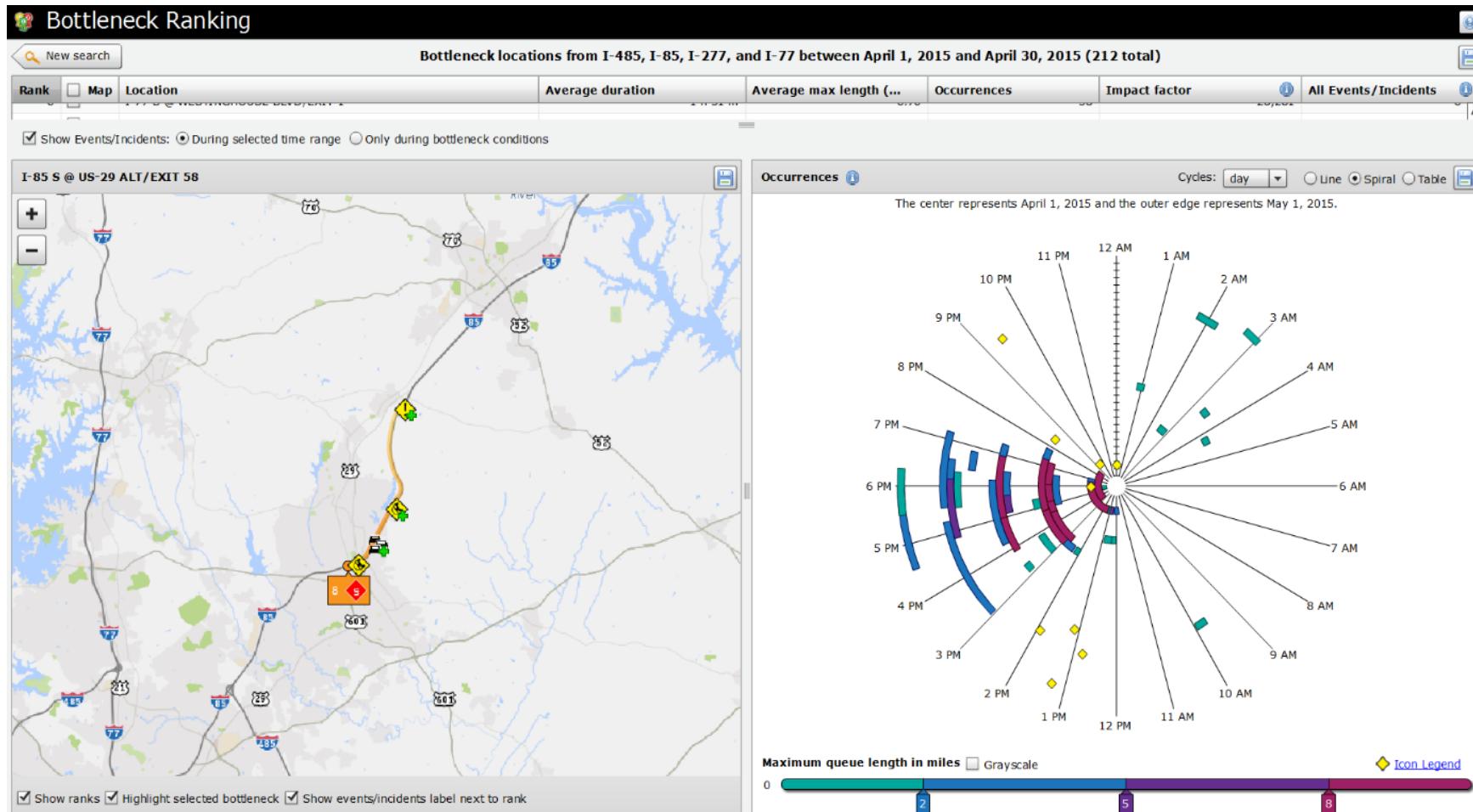
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 32. Congestion Scan C007



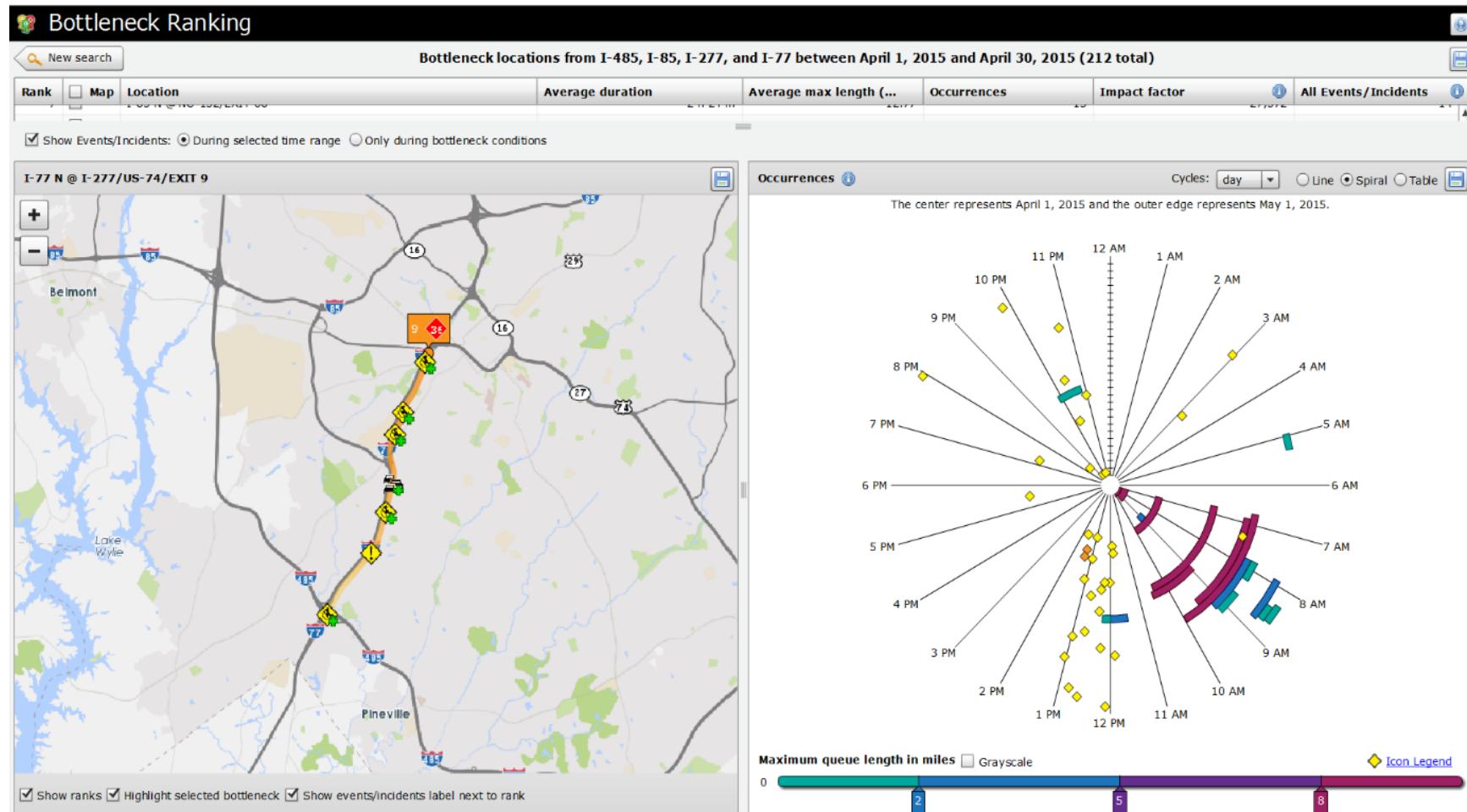
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 33. Congestion Scan C008



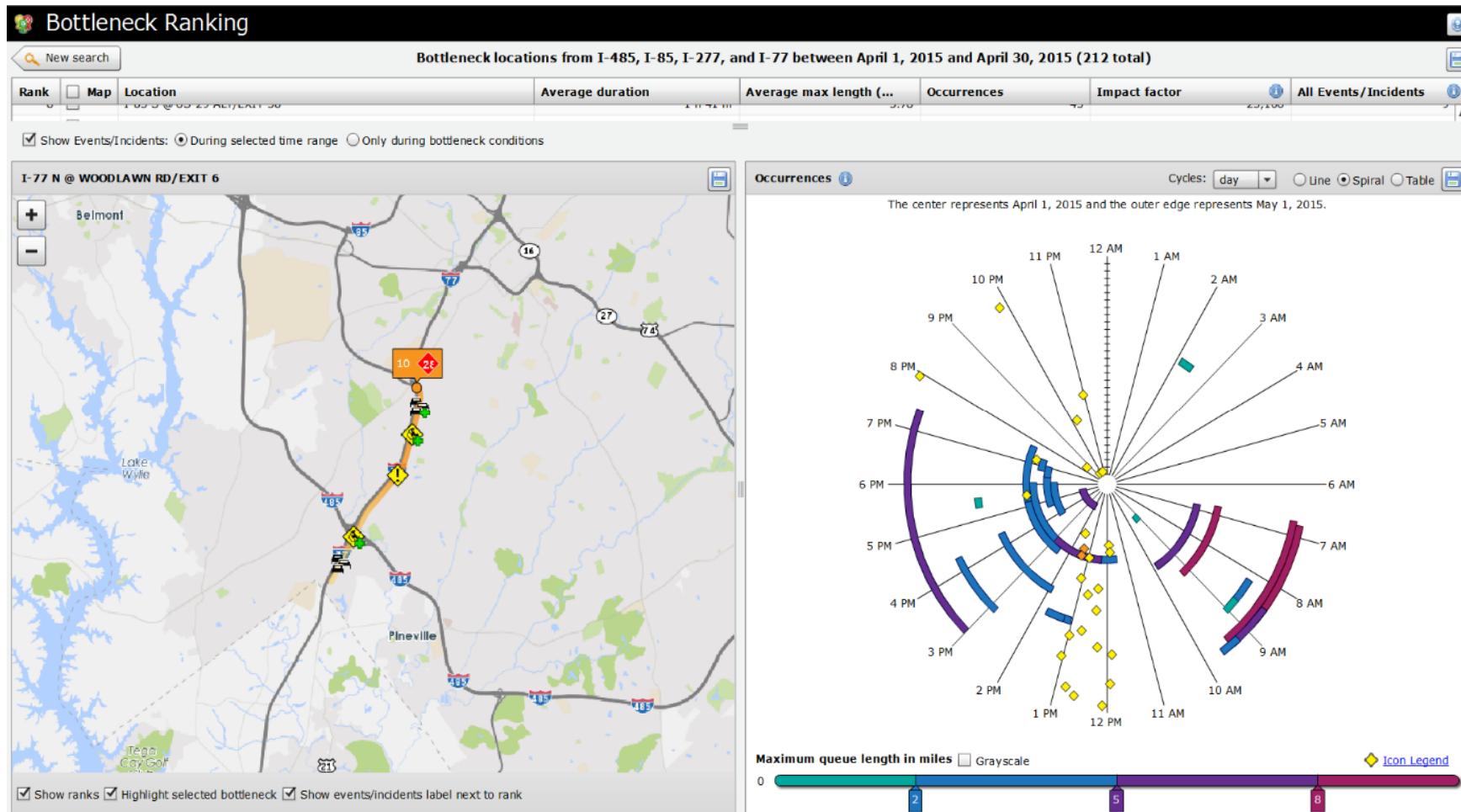
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 34. Congestion Scan C009



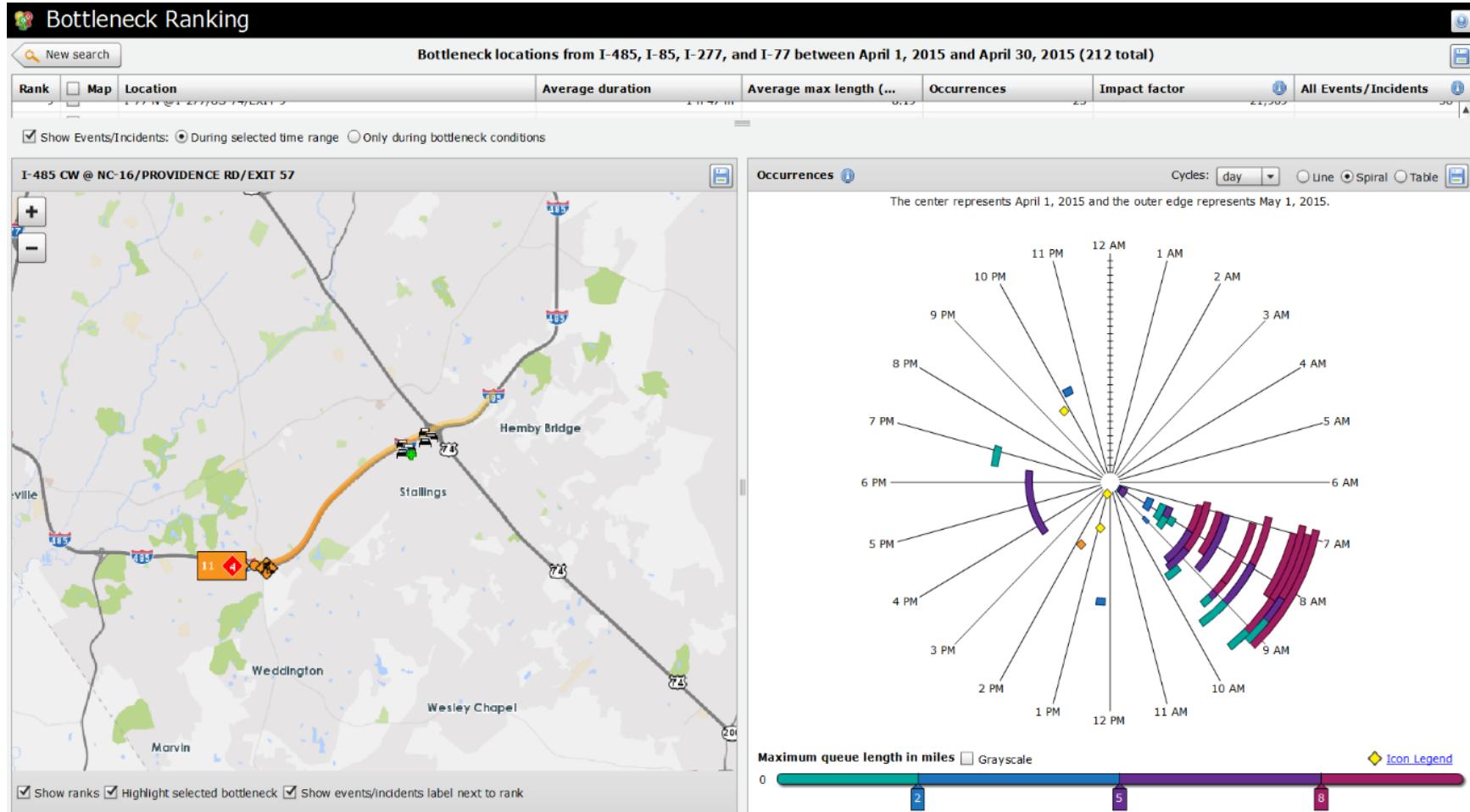
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 35. Congestion Scan C010



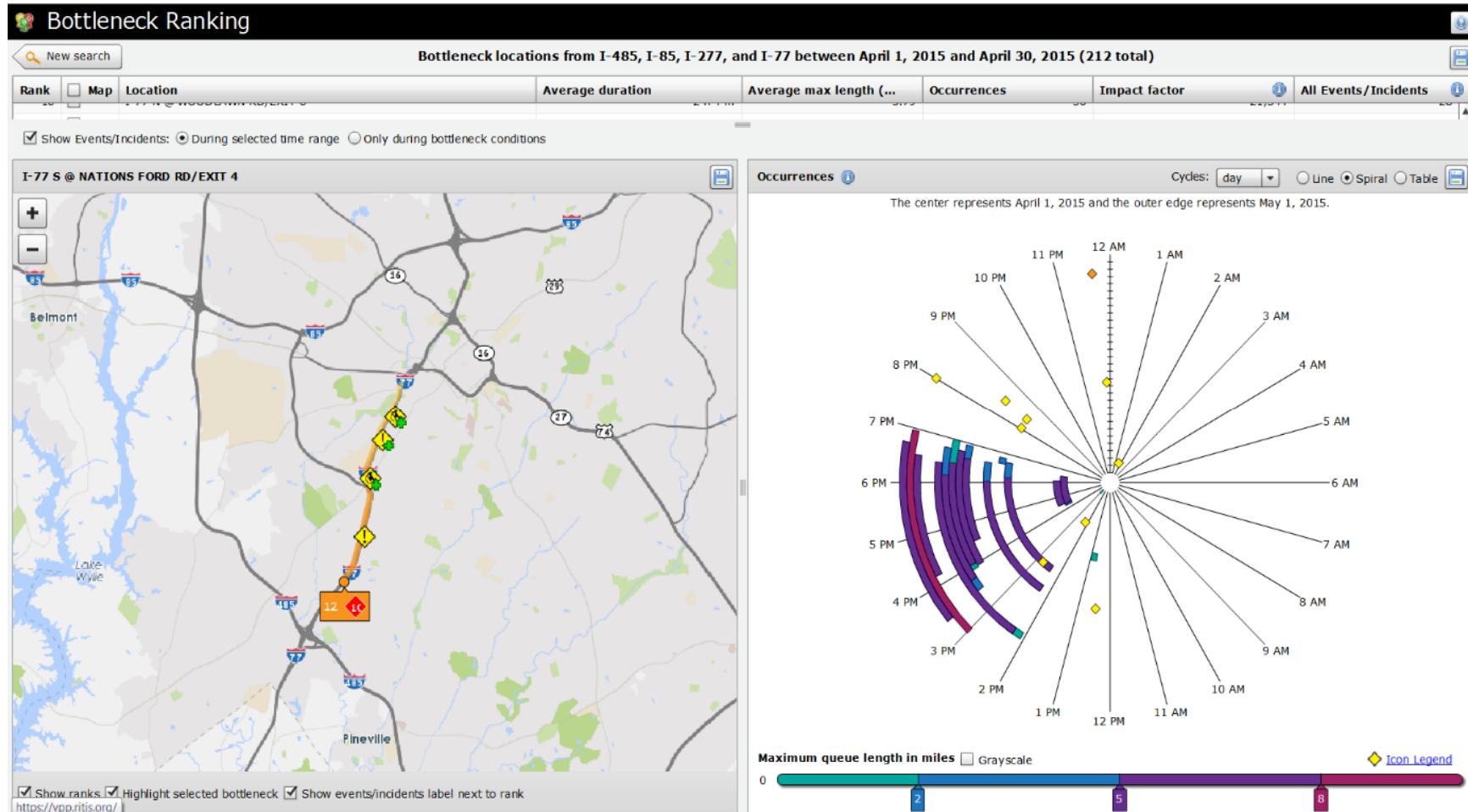
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 36. Congestion Scan C011



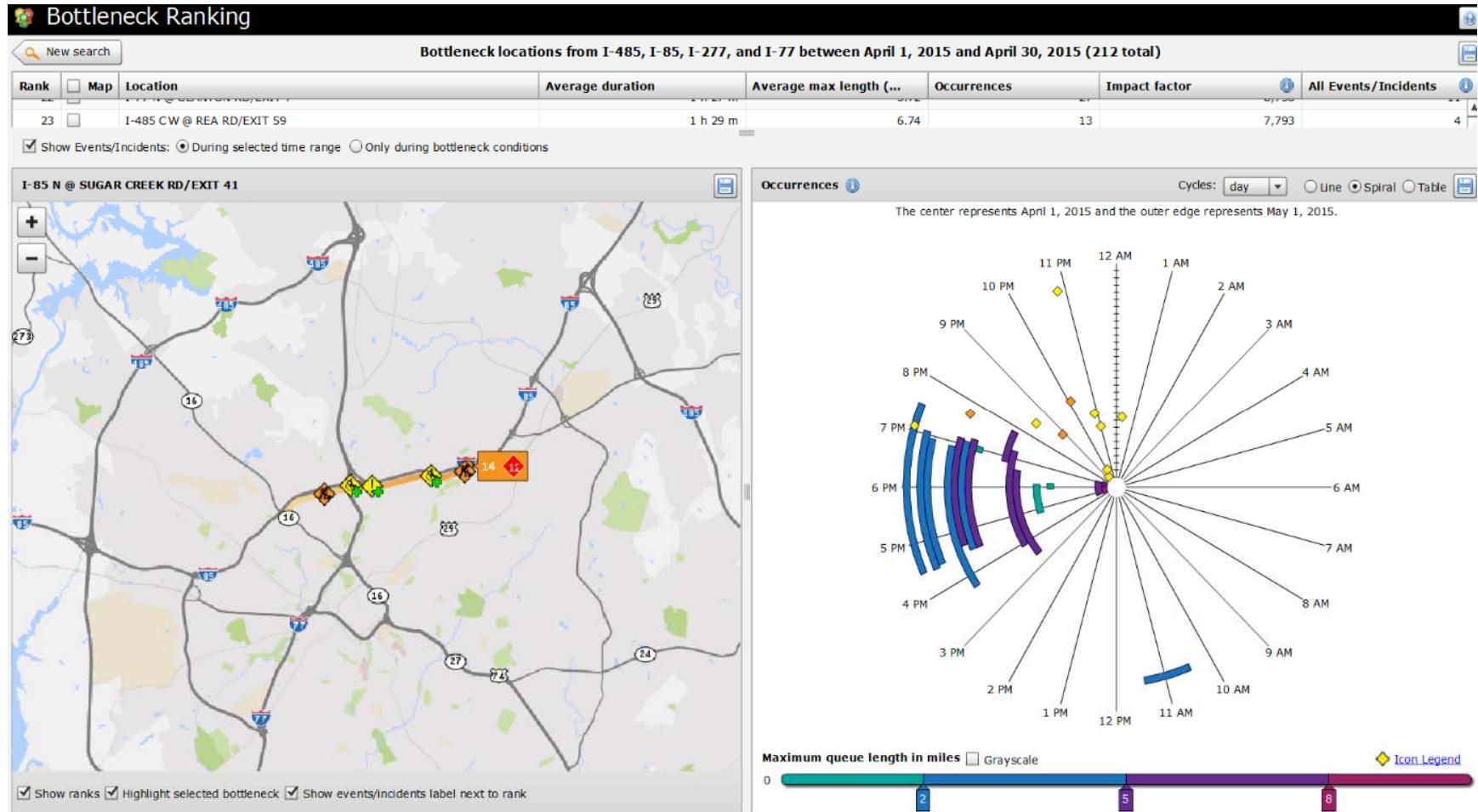
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 37. Congestion Scan C012



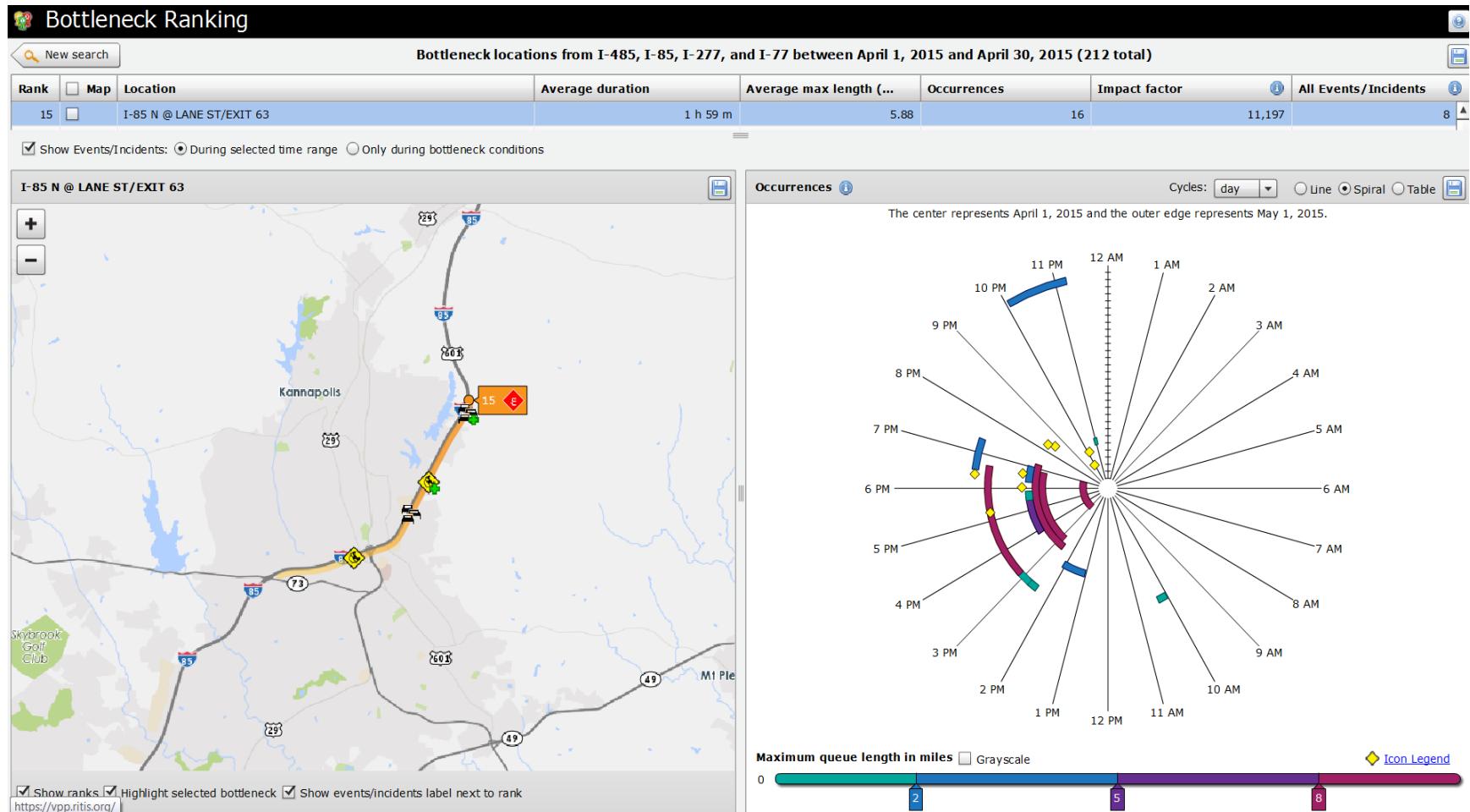
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 38. Congestion Scan C014



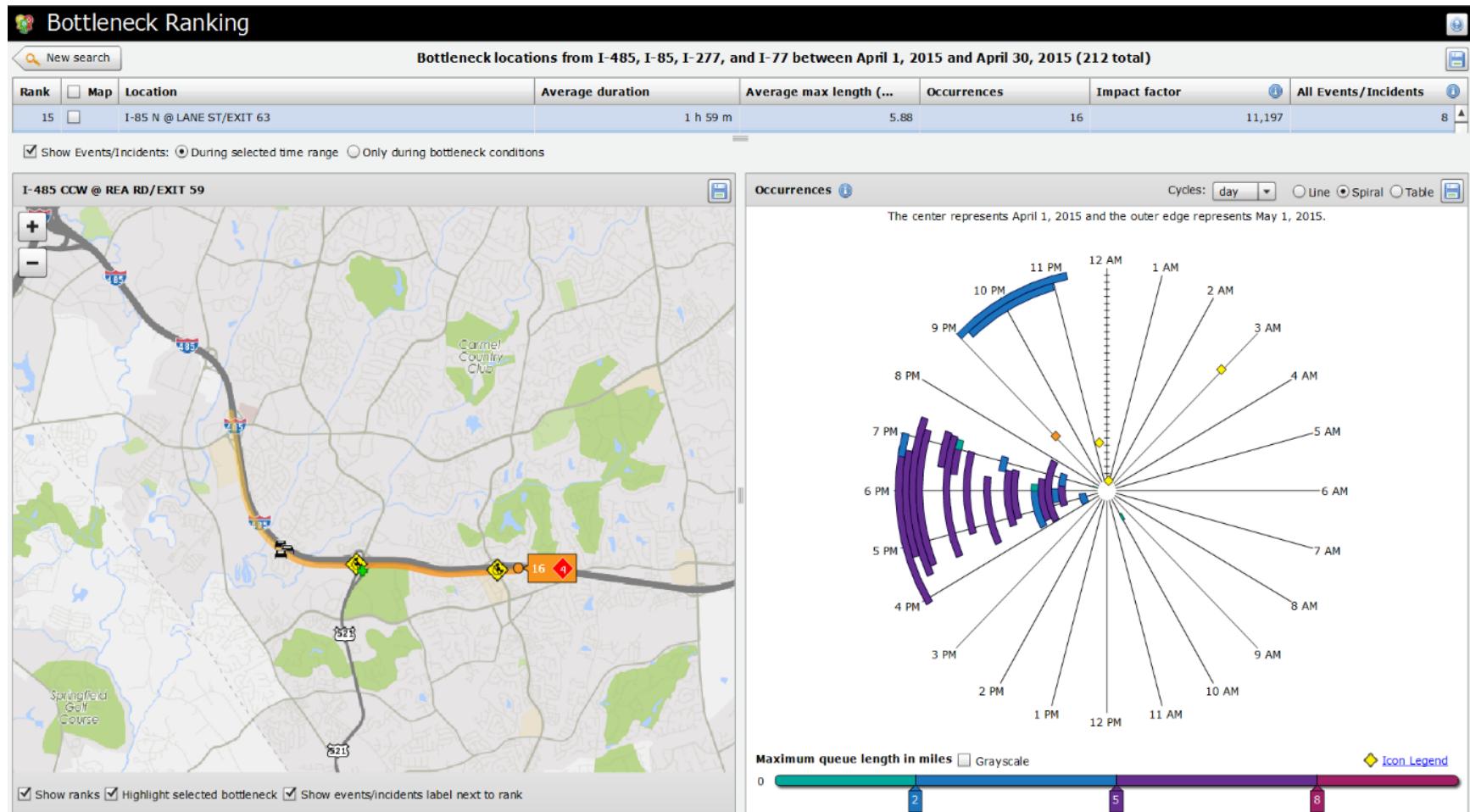
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 39. Congestion Scan C015



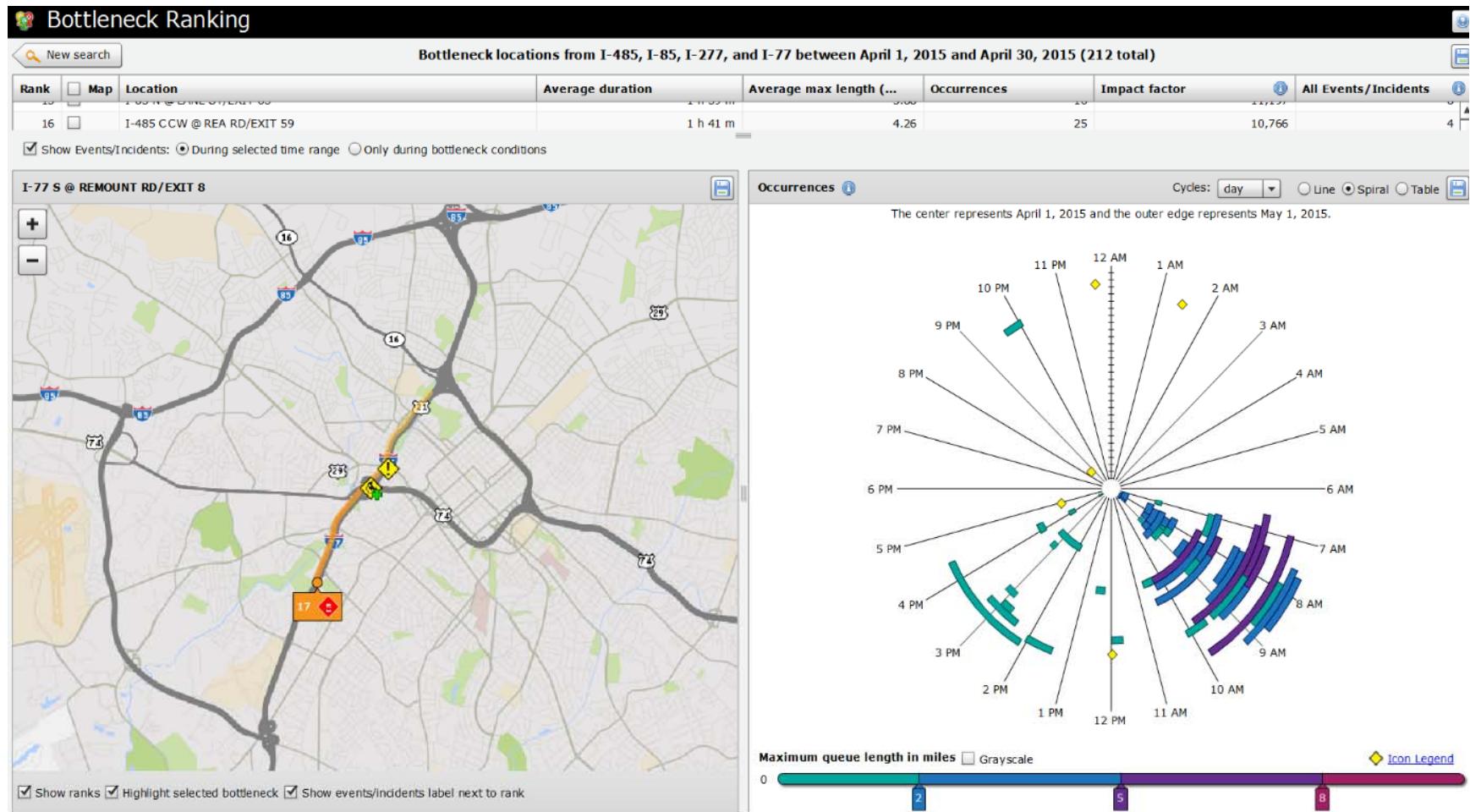
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 40. Congestion Scan C016



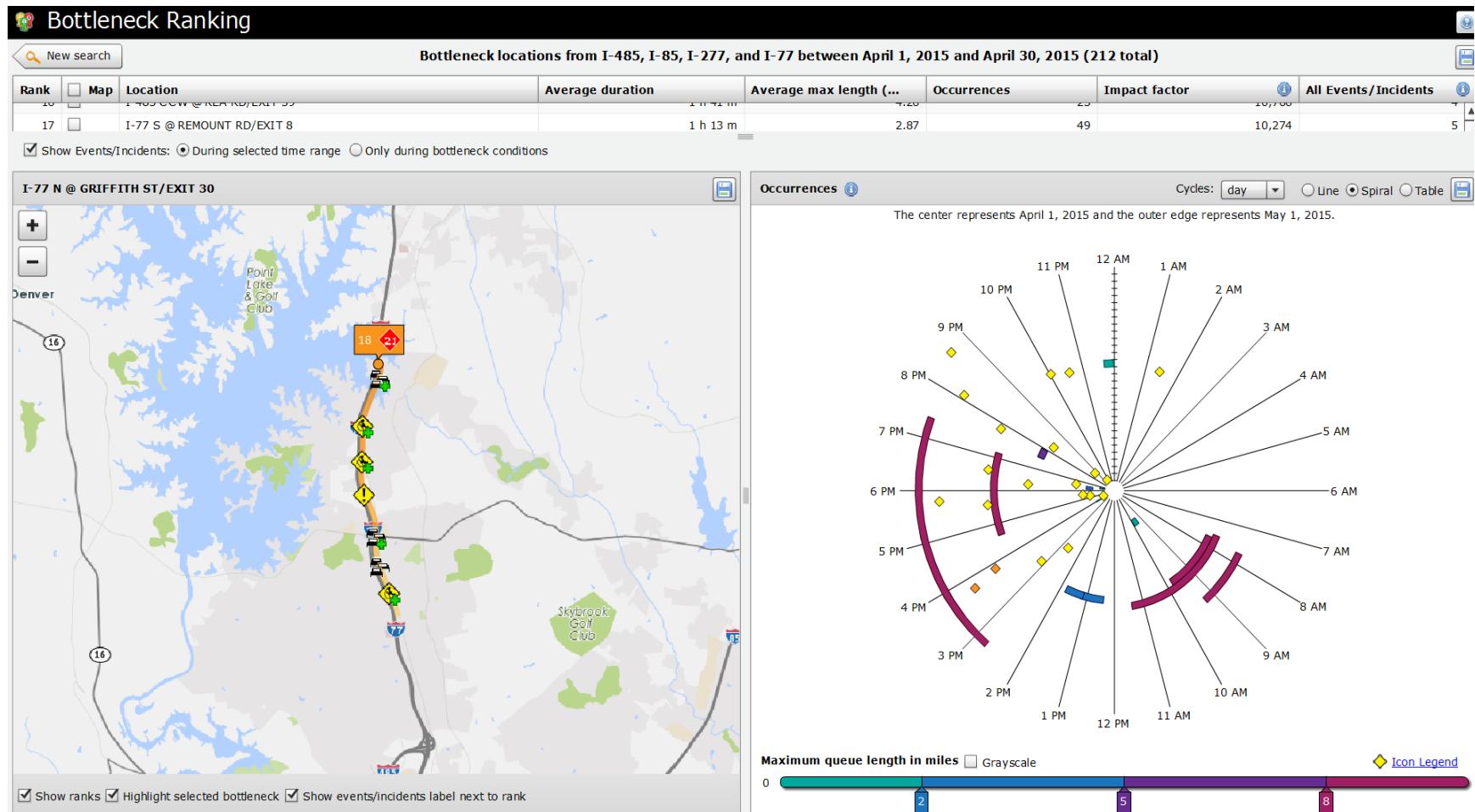
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 41. Congestion Scan C017



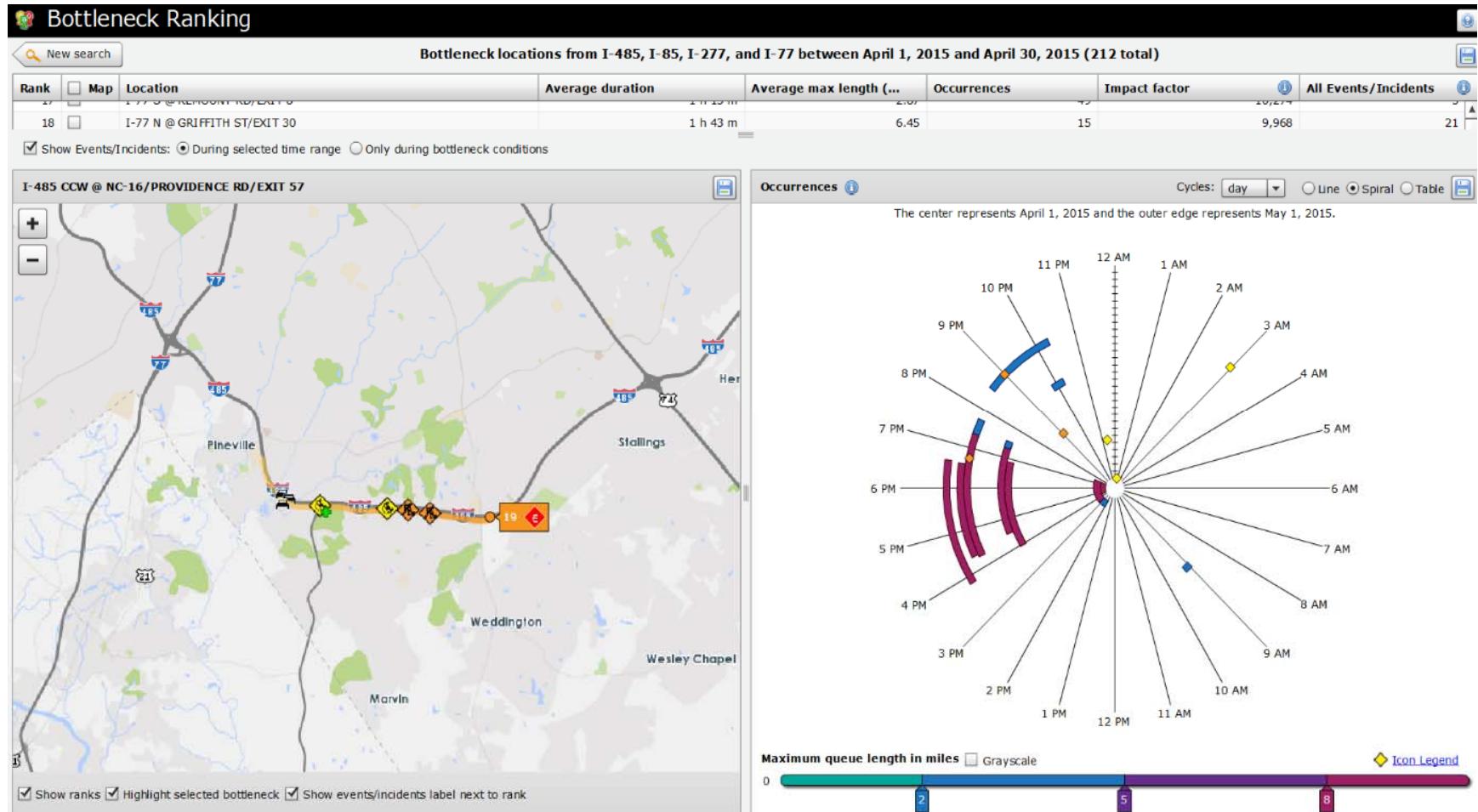
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 42. Congestion Scan C018



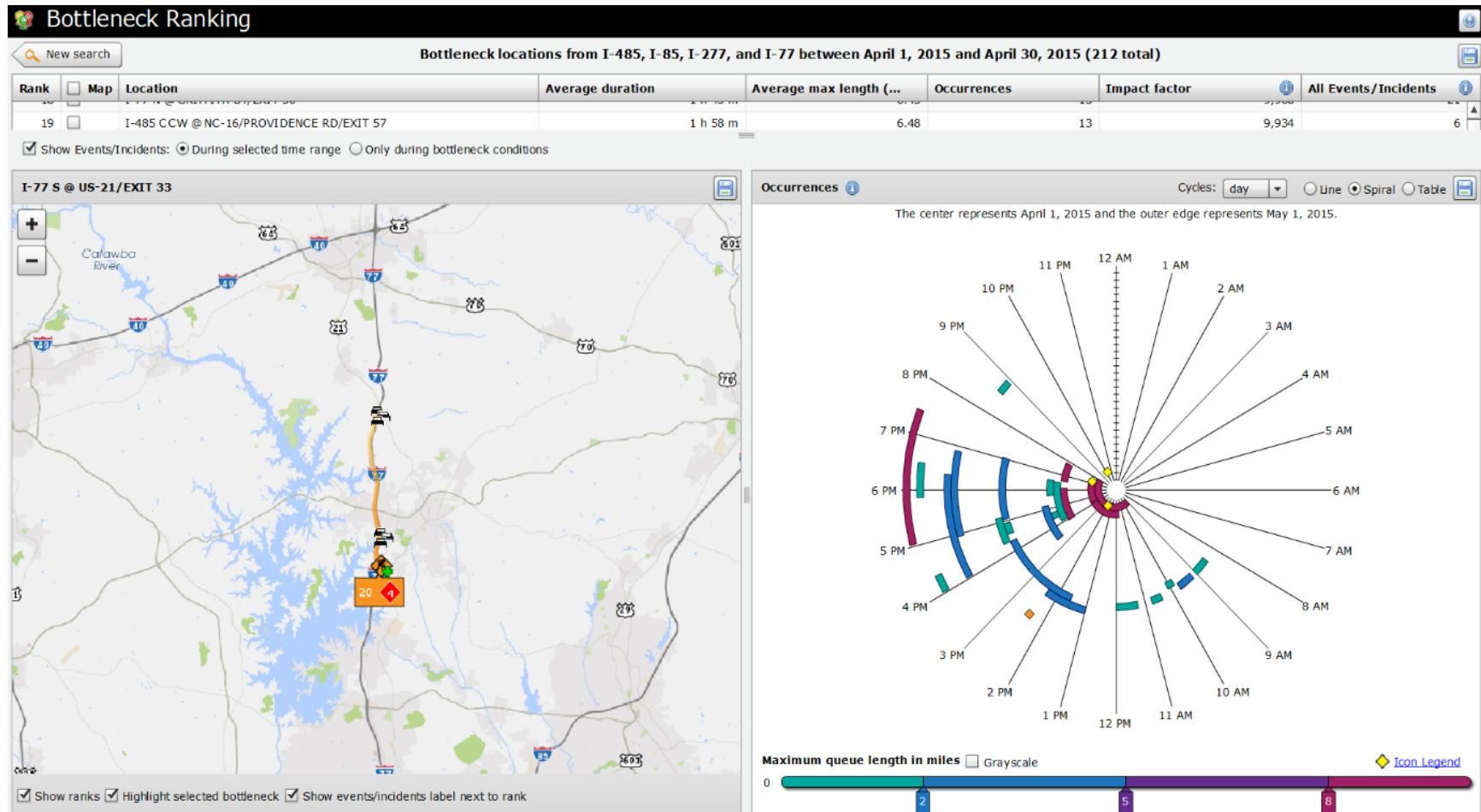
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 43. Congestion Scan C019



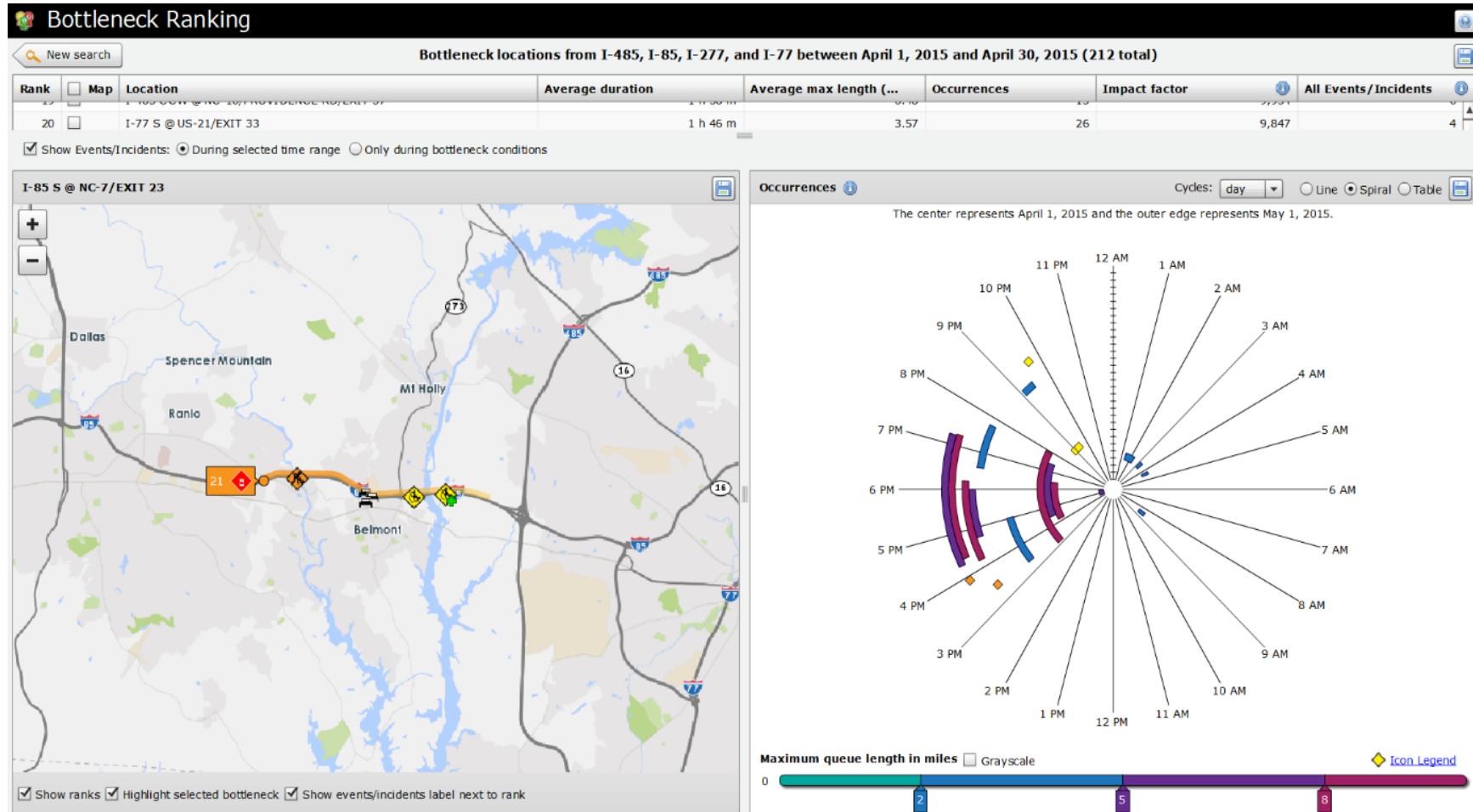
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 44. Congestion Scan C020



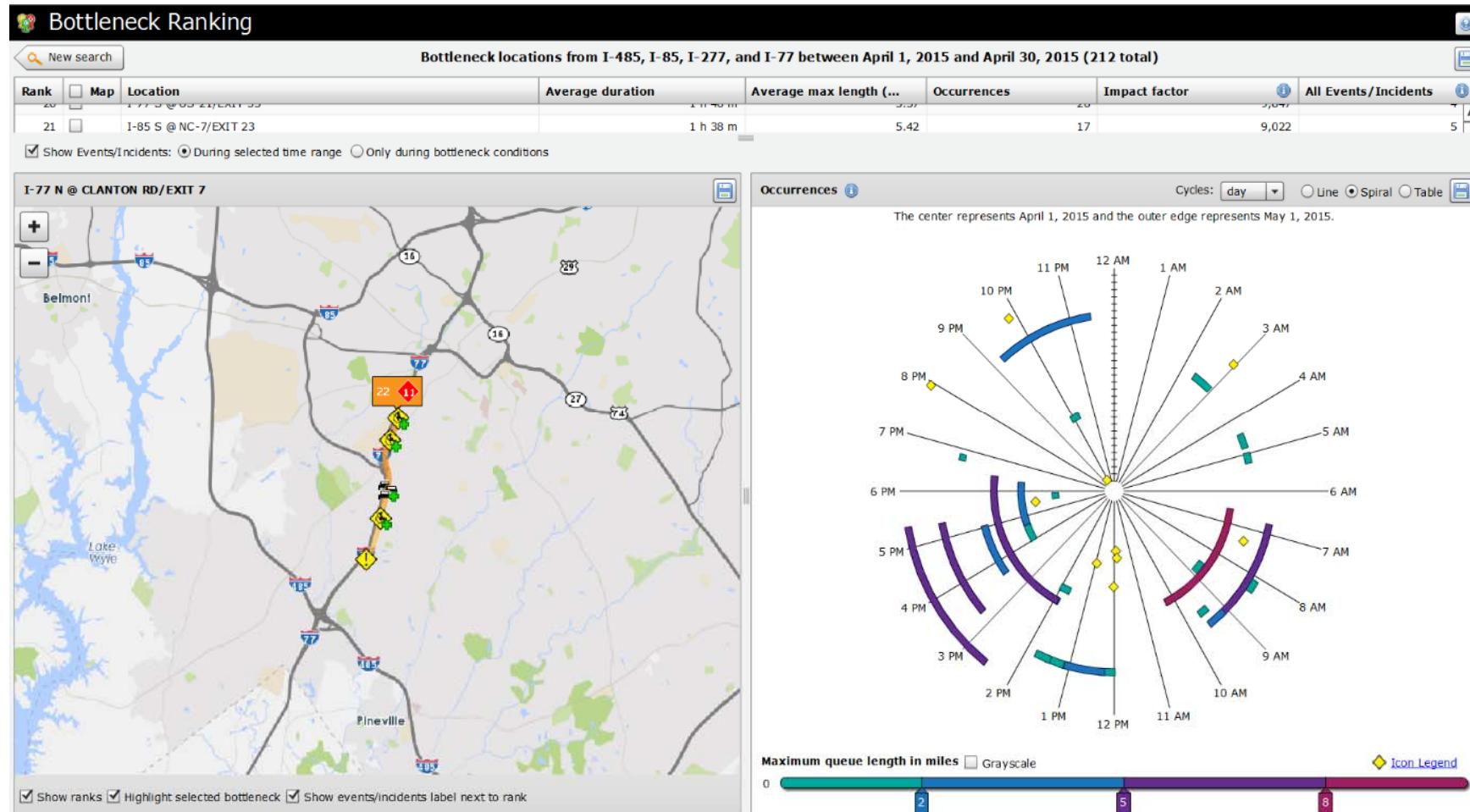
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 45. Congestion Scan C021



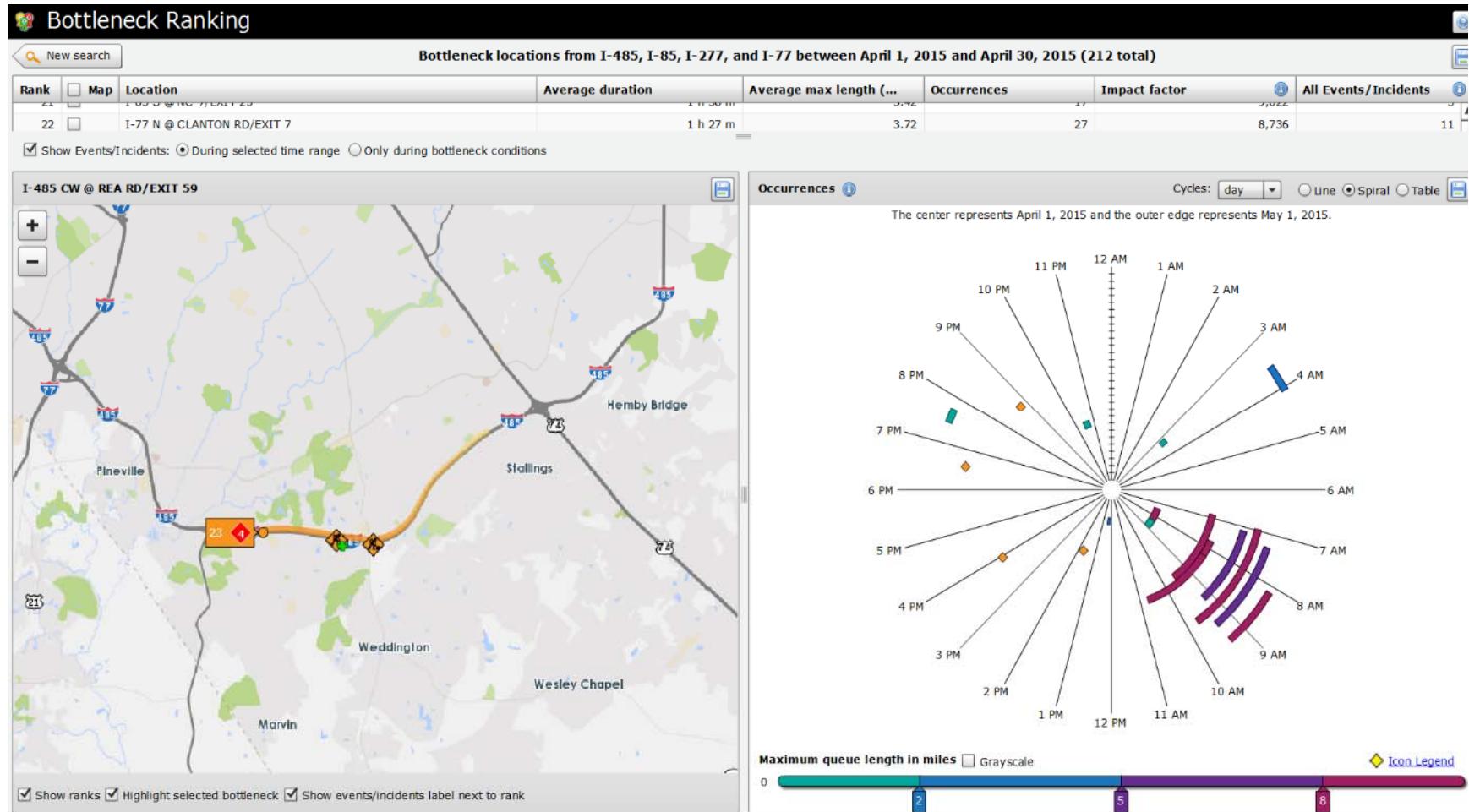
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 46. Congestion Scan C022



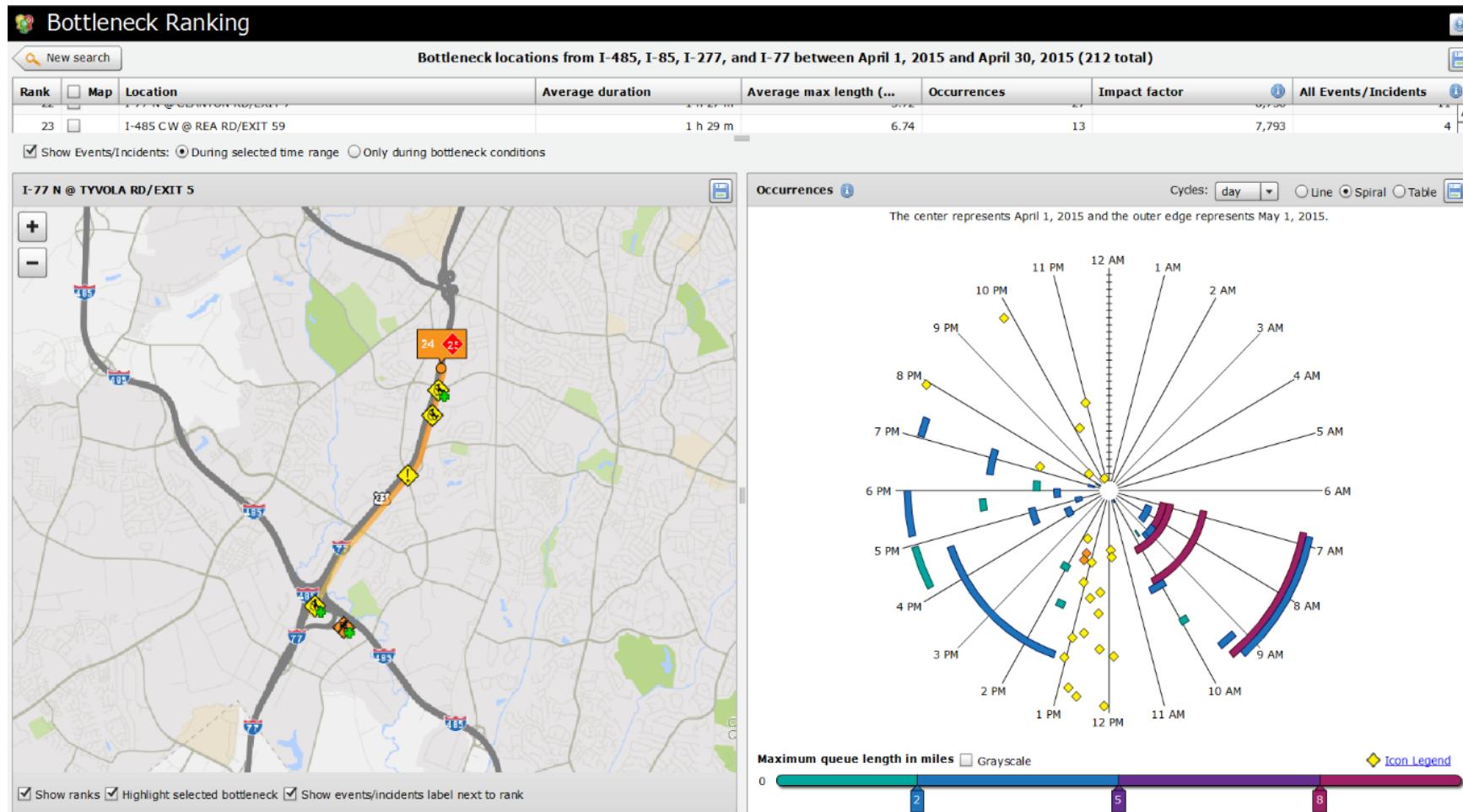
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 47. Congestion Scan C023



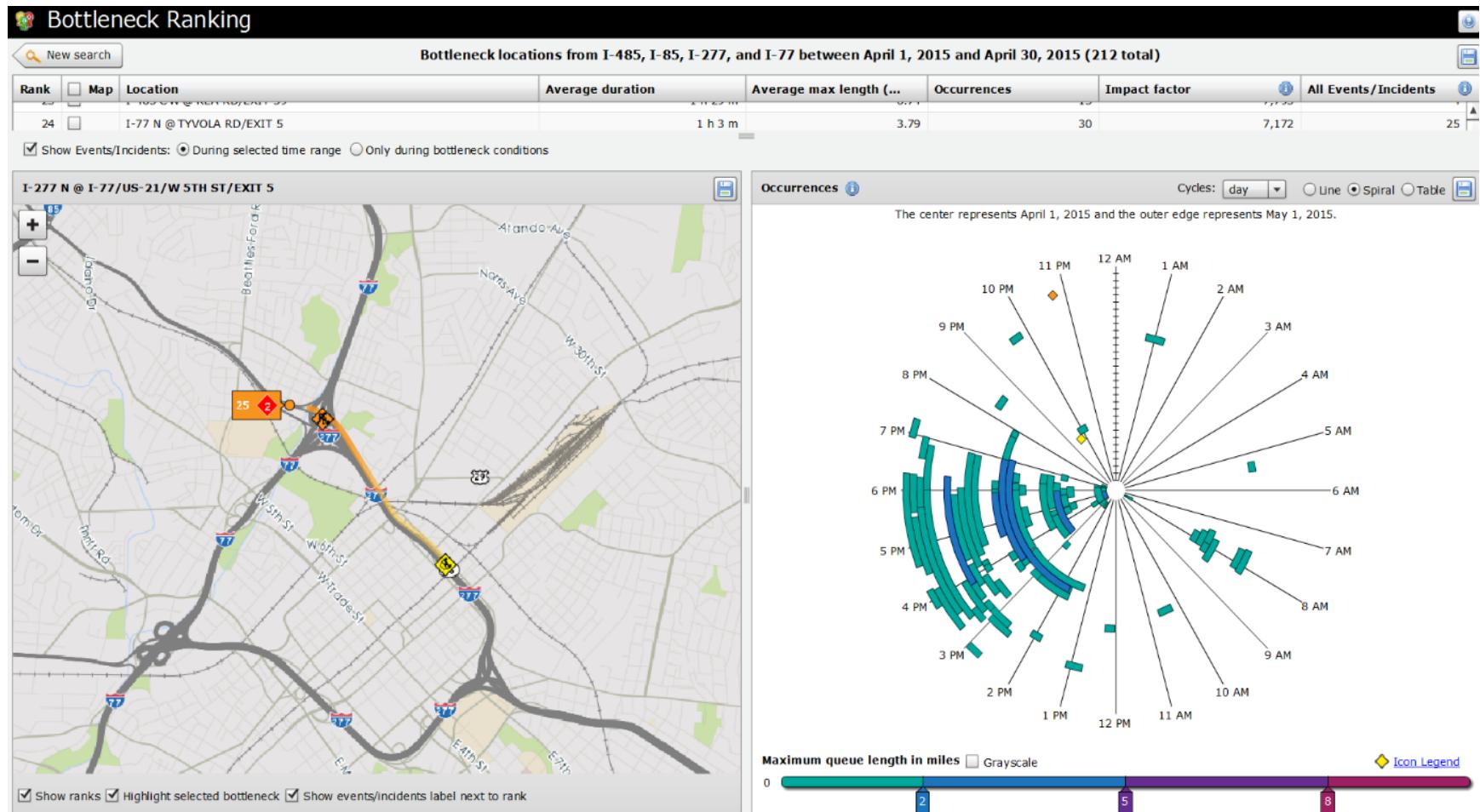
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 48. Congestion Scan C024



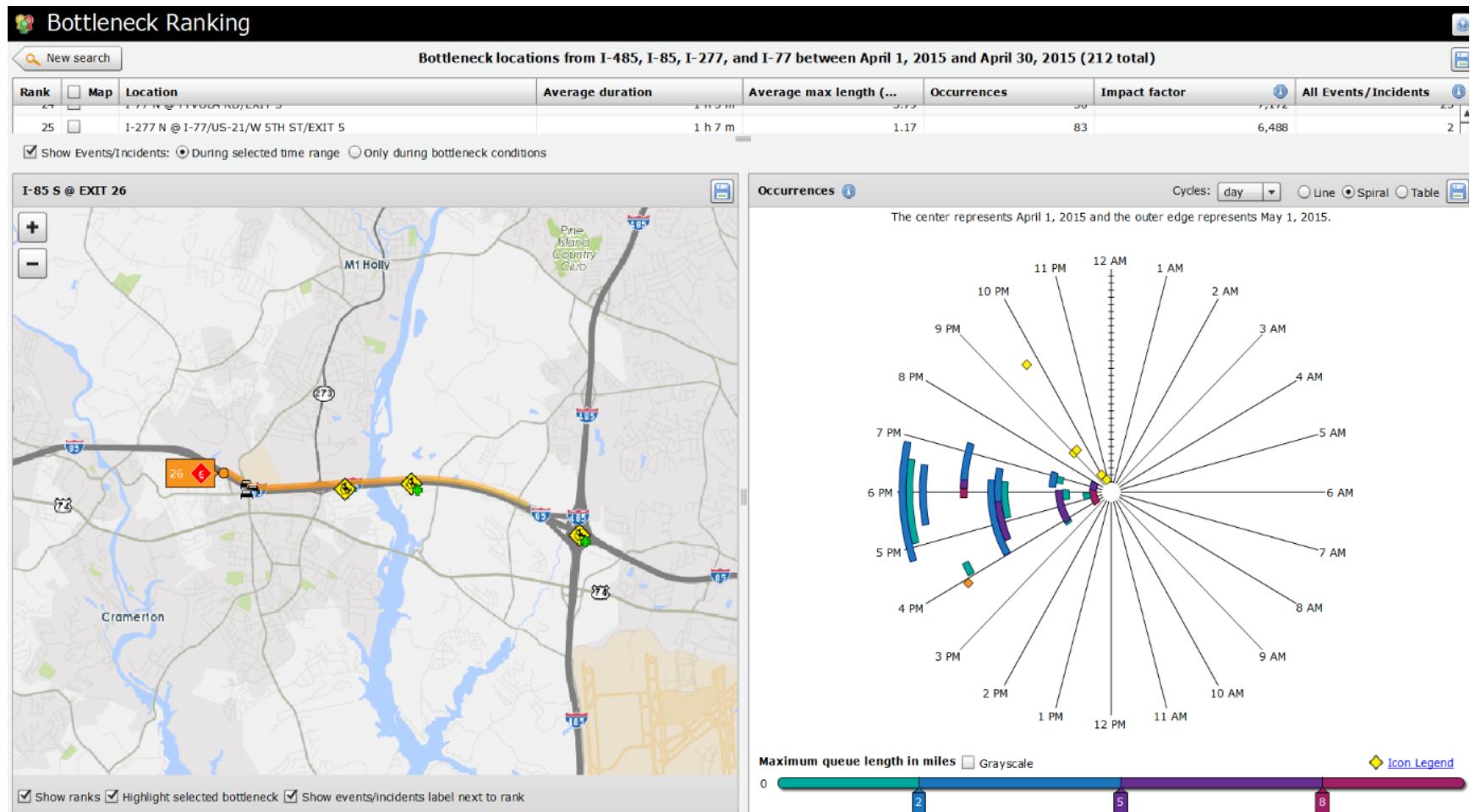
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 49. Congestion Scan C025



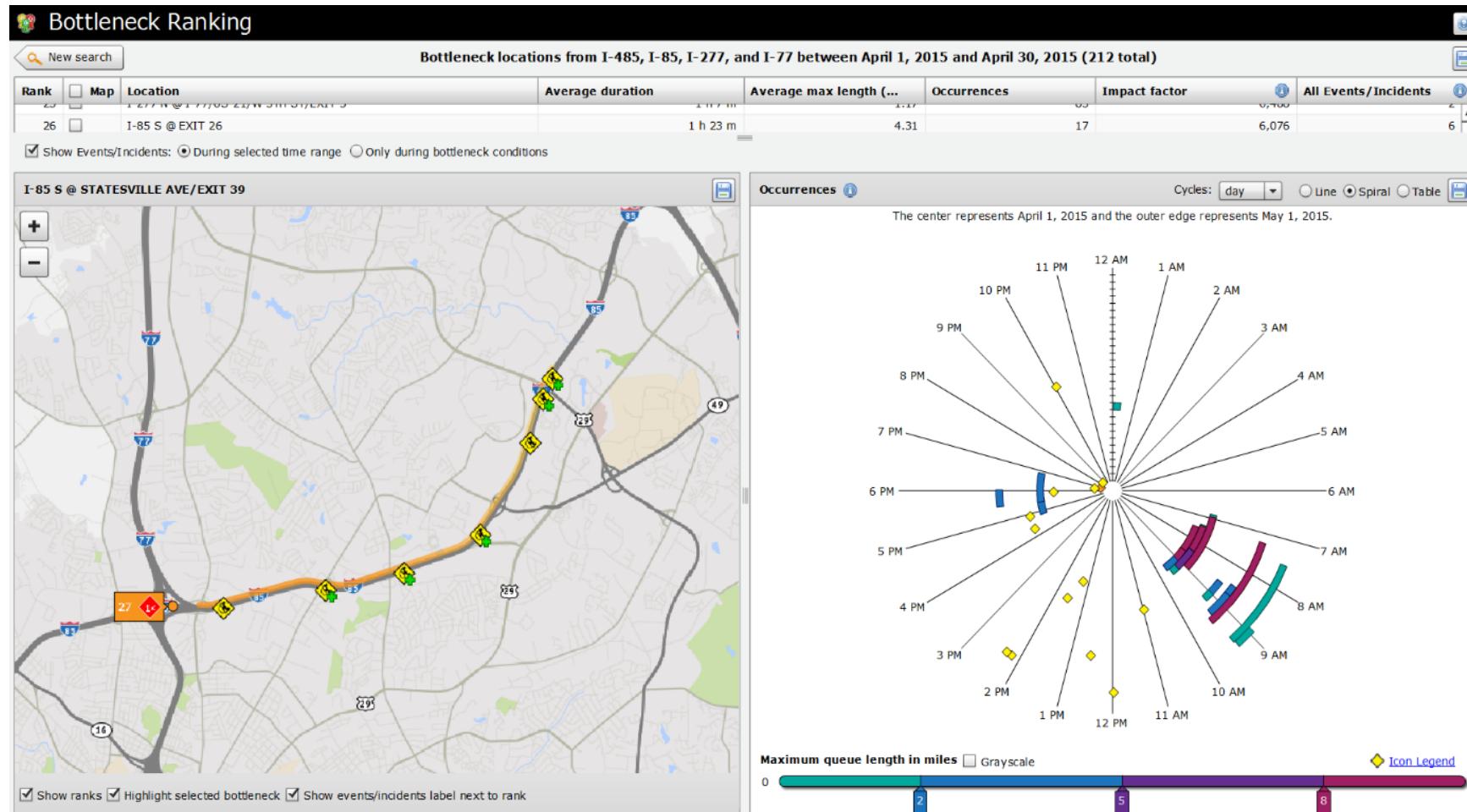
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 50. Congestion Scan C026



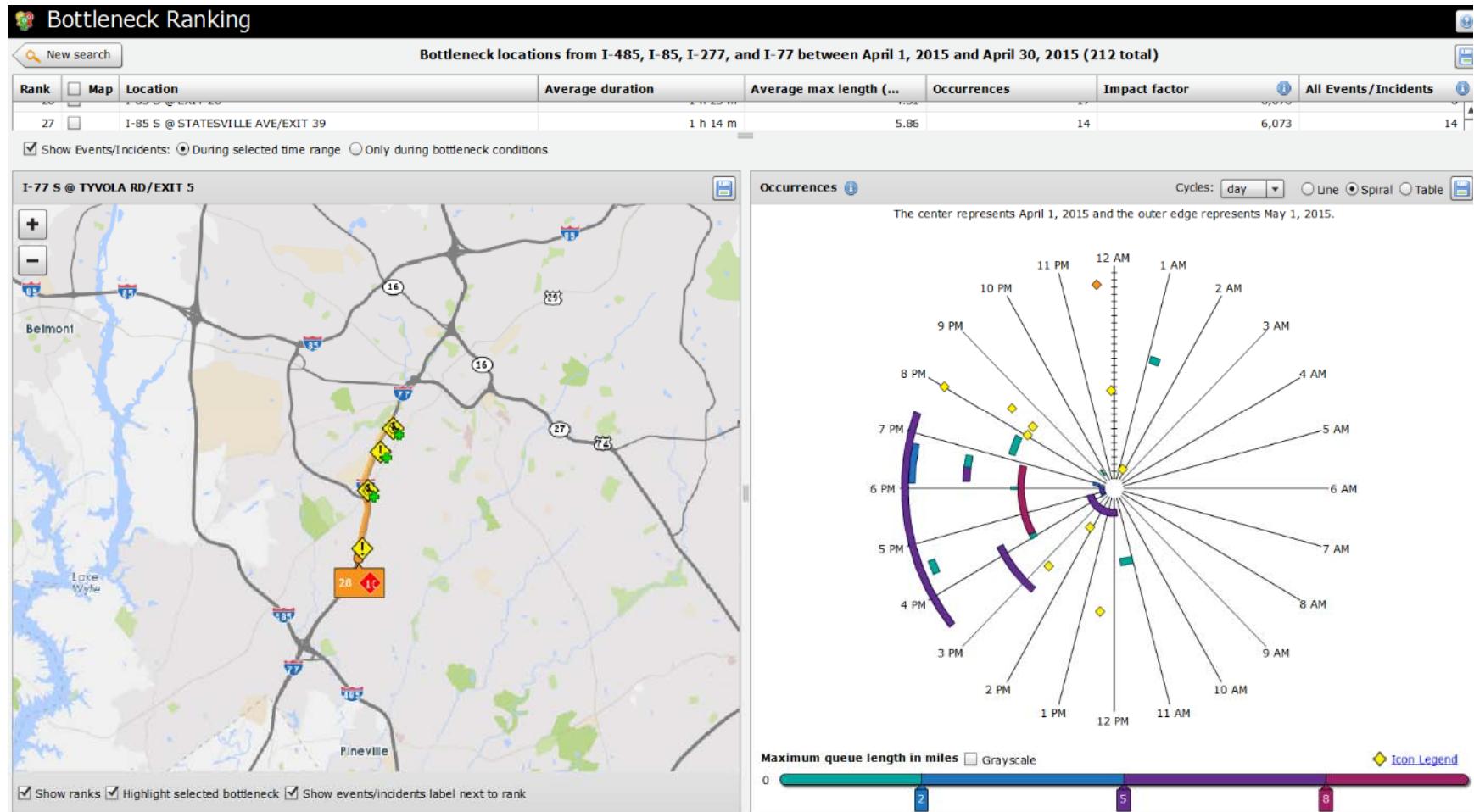
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 51. Congestion Scan C027



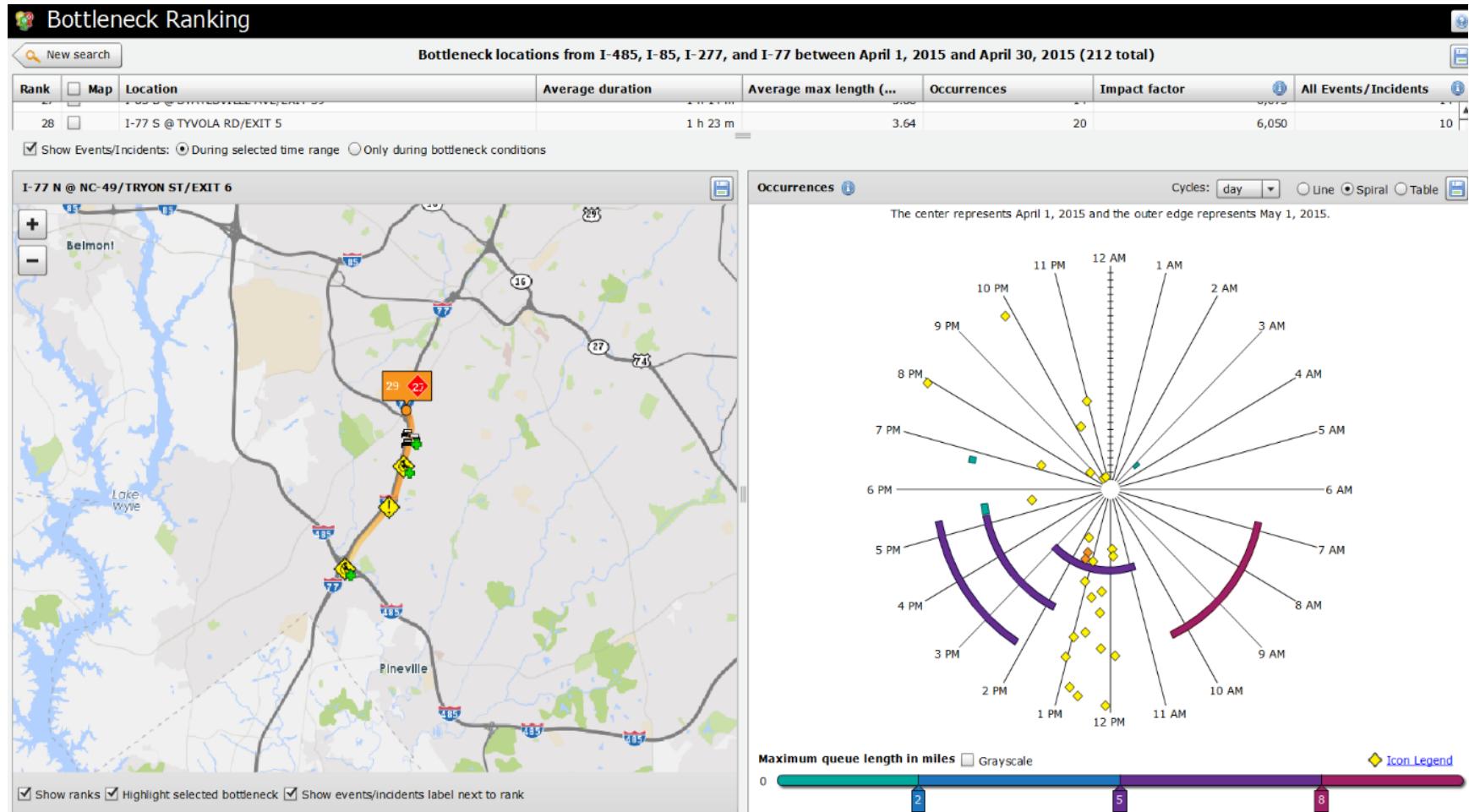
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 52. Congestion Scan C028



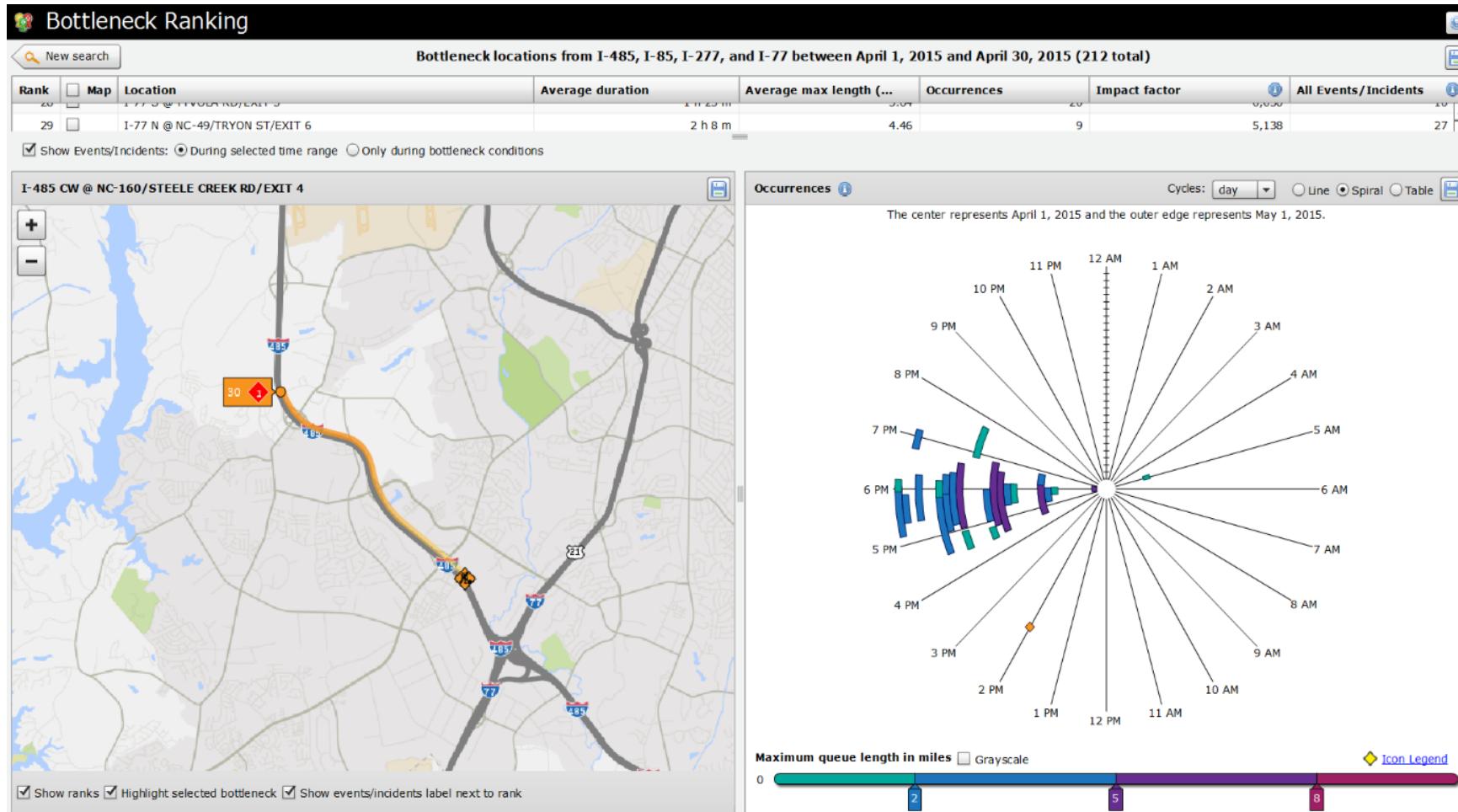
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 53. Congestion Scan C029



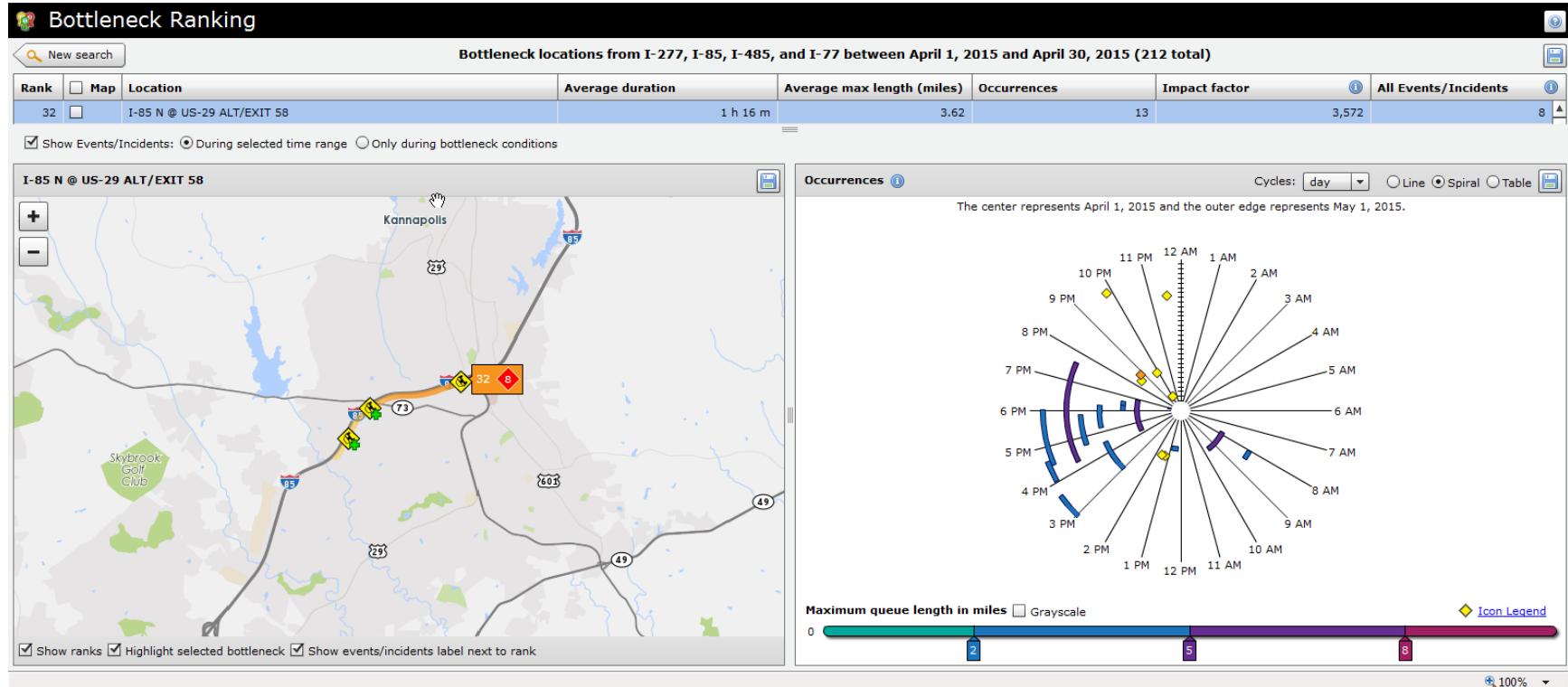
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 54. Congestion Scan C030



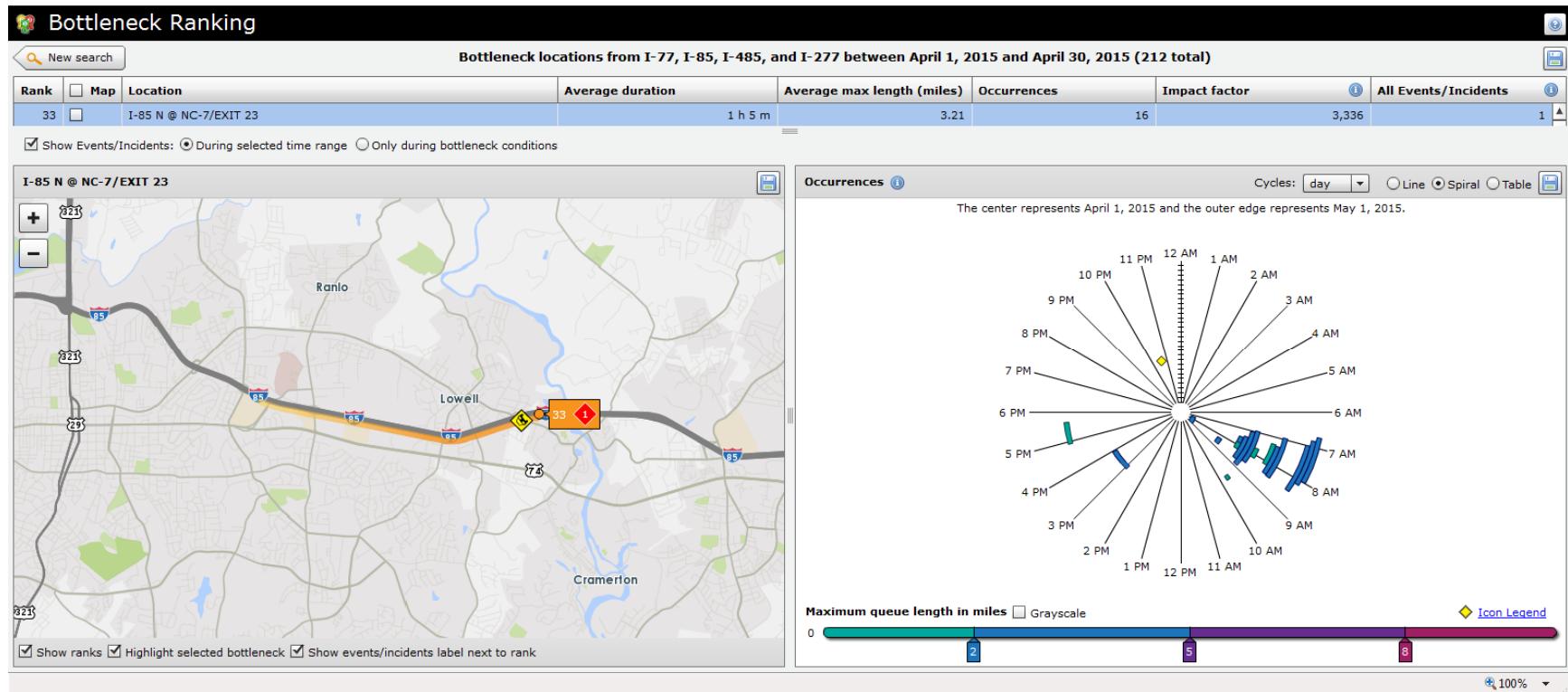
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 55. Congestion Scan C032



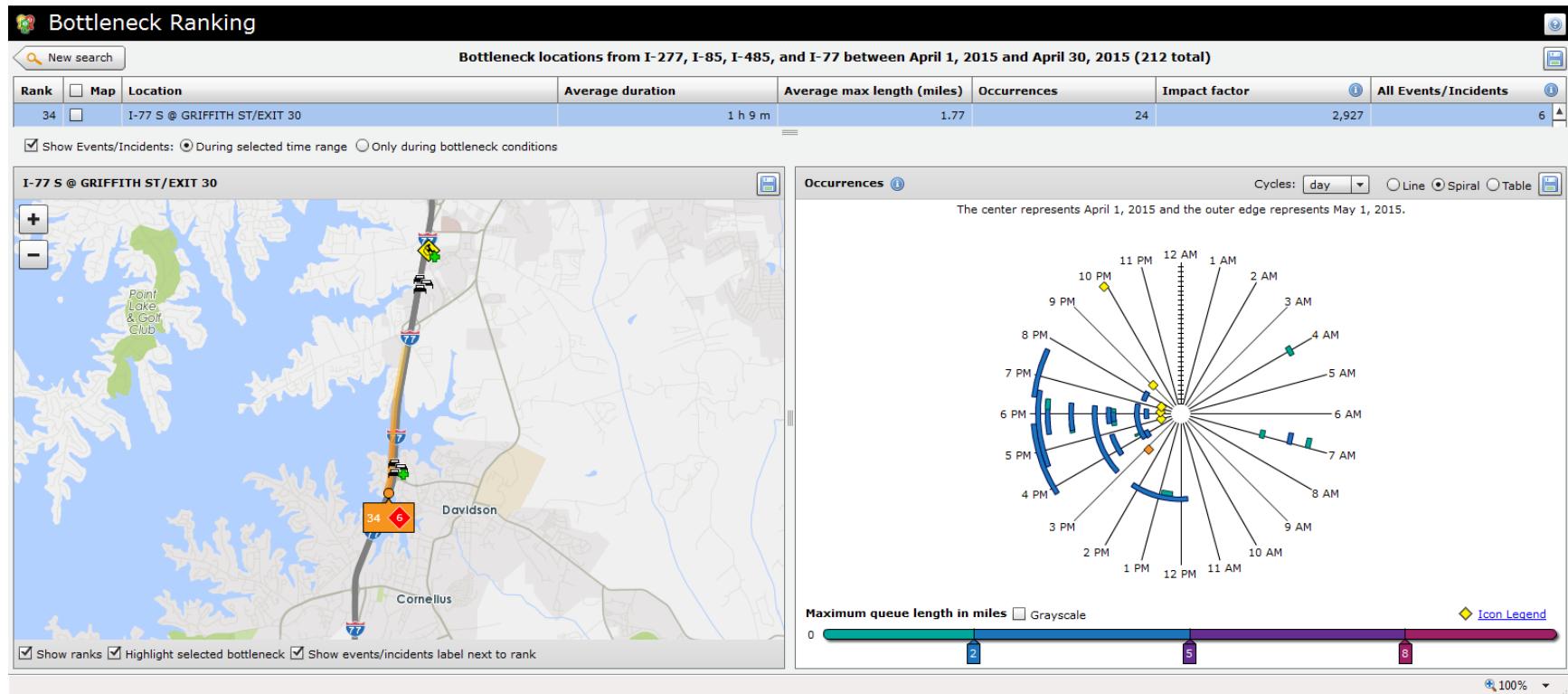
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 56. Congestion Scan C033



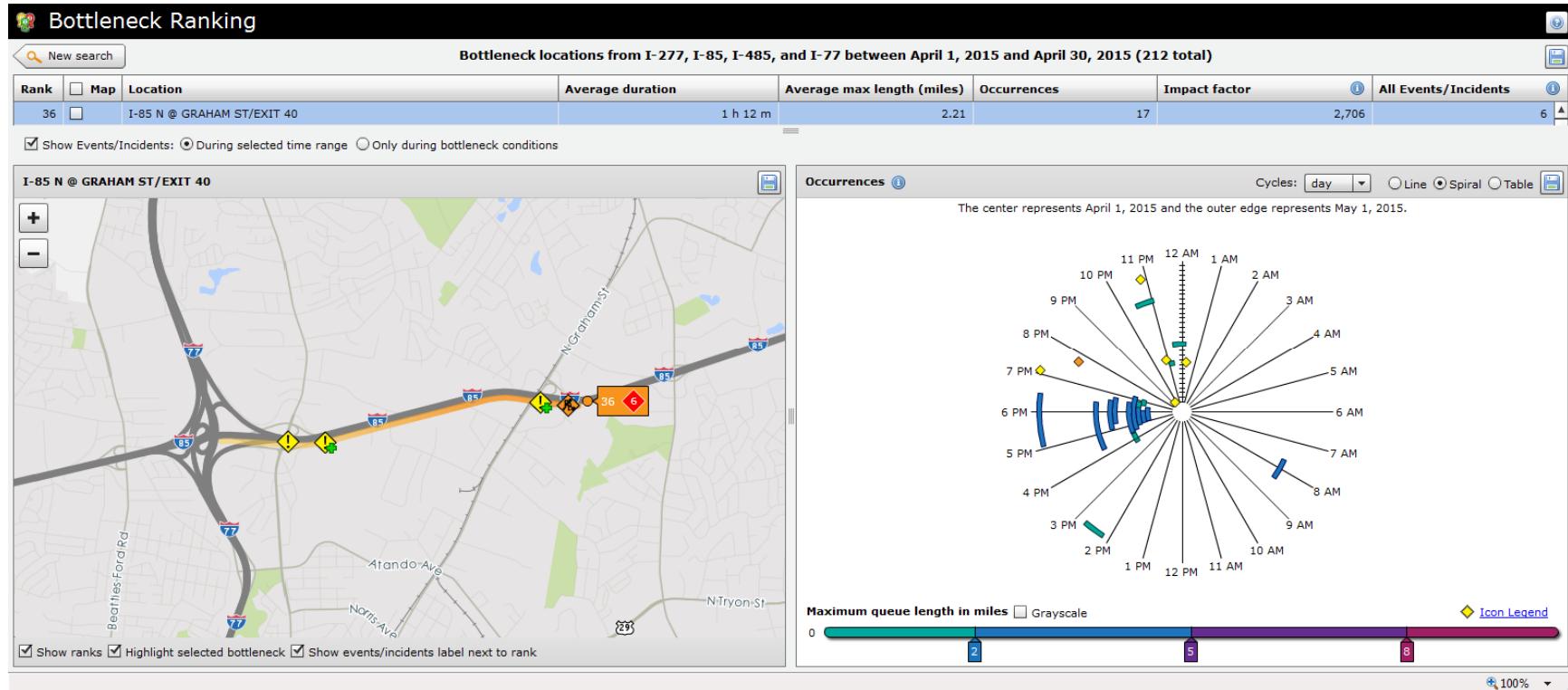
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 57. Congestion Scan C034



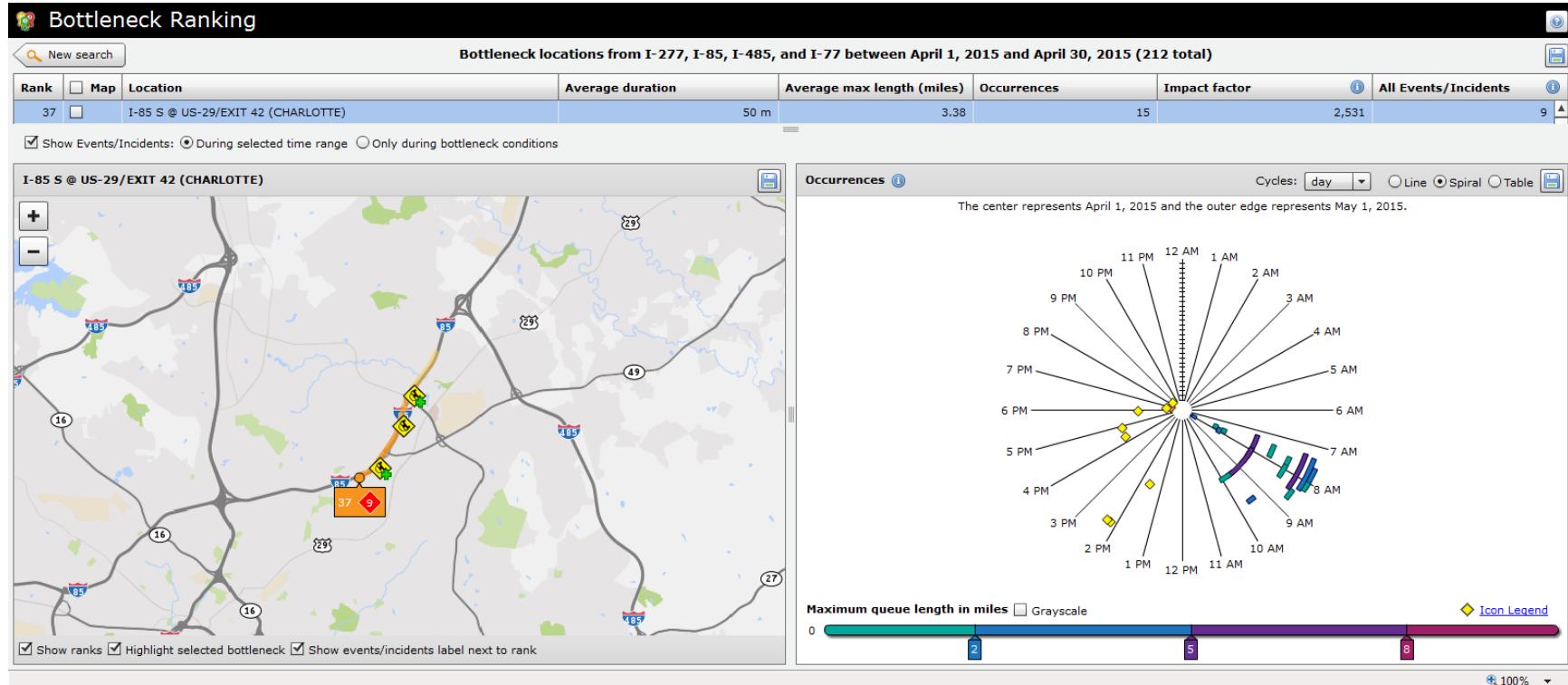
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 58. Congestion Scan C036



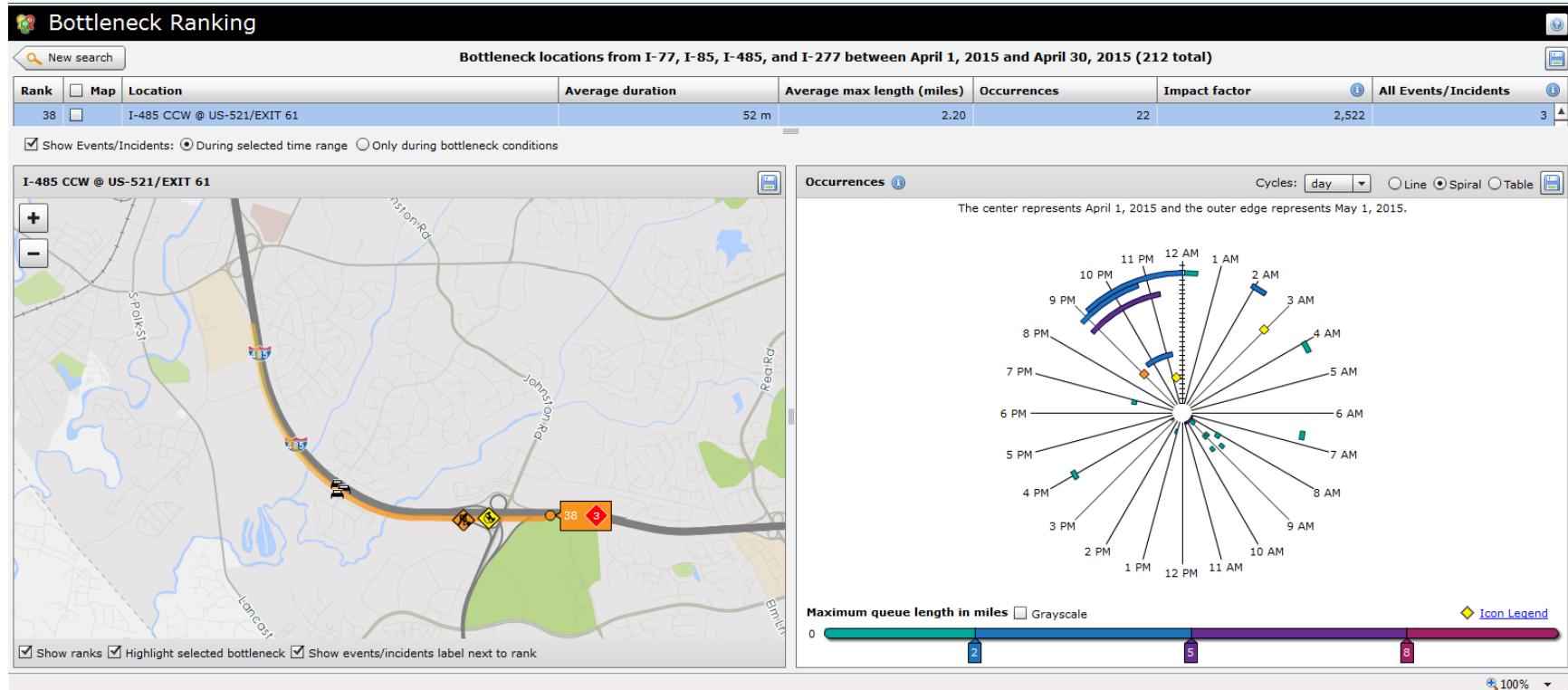
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 59. Congestion Scan C037



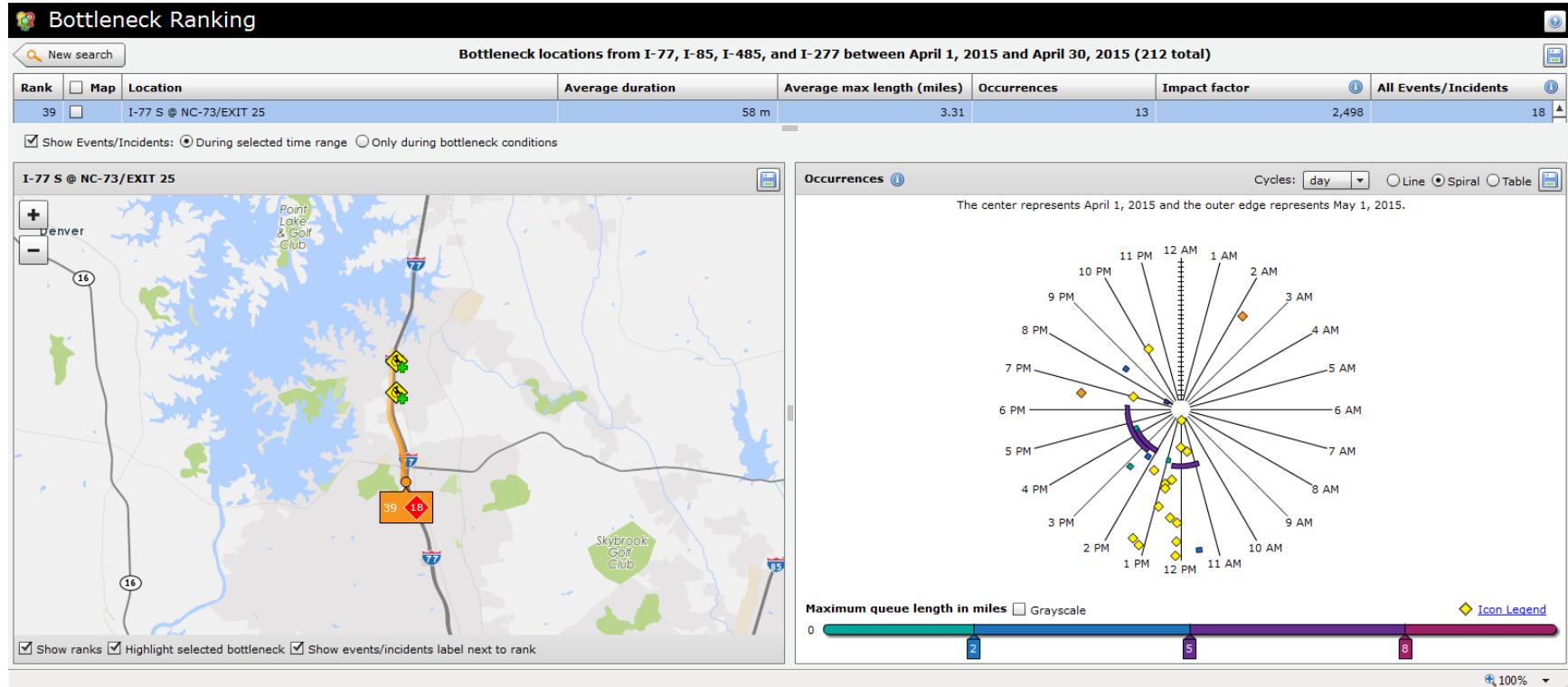
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 60. Congestion Scan C038



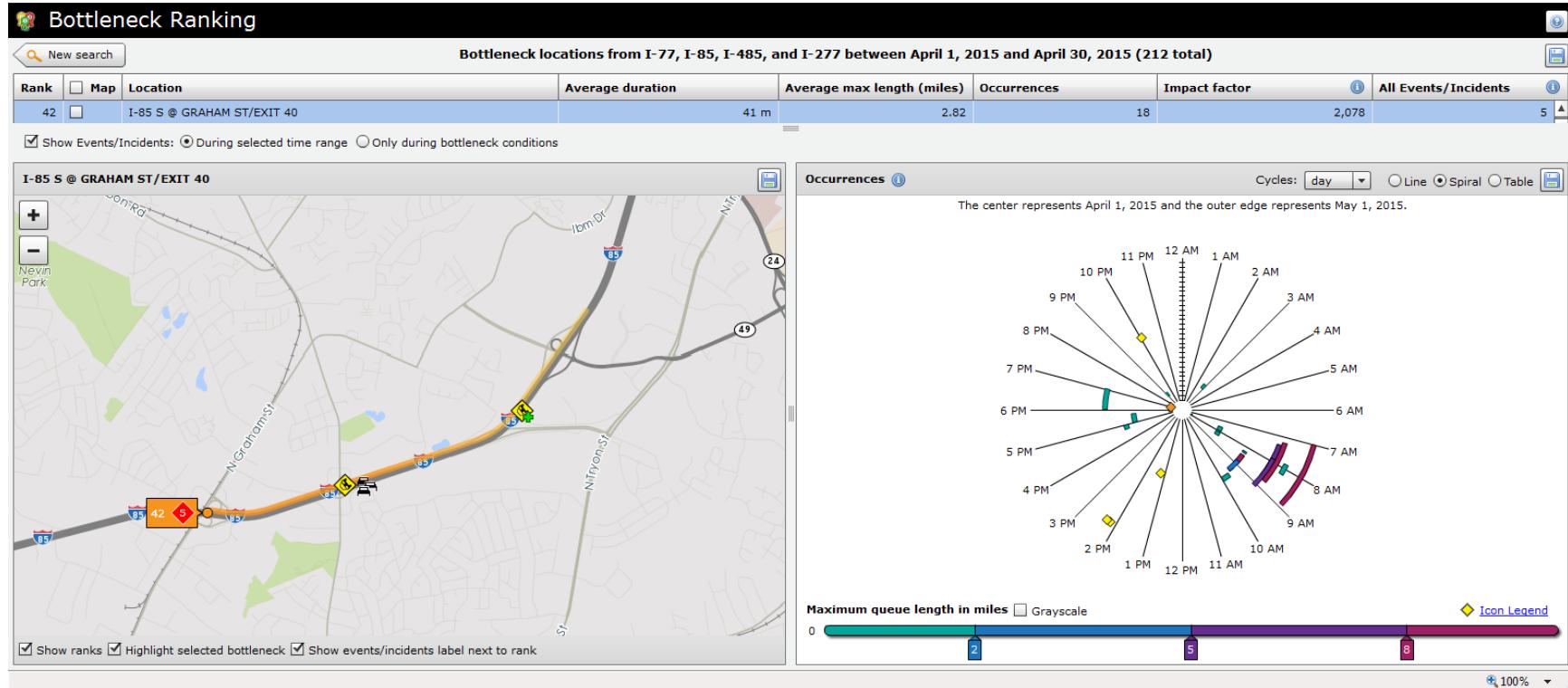
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 61. Congestion Scan C039



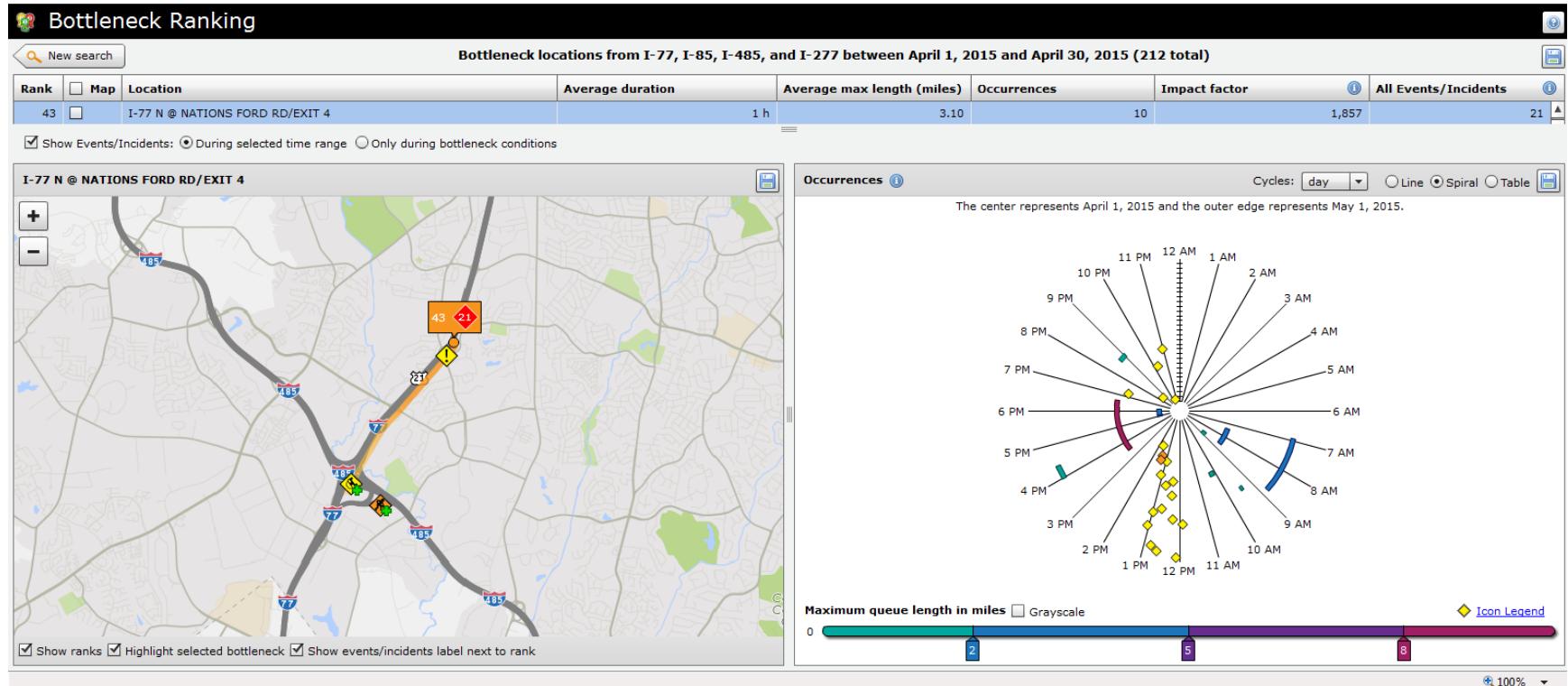
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 62. Congestion Scan C042



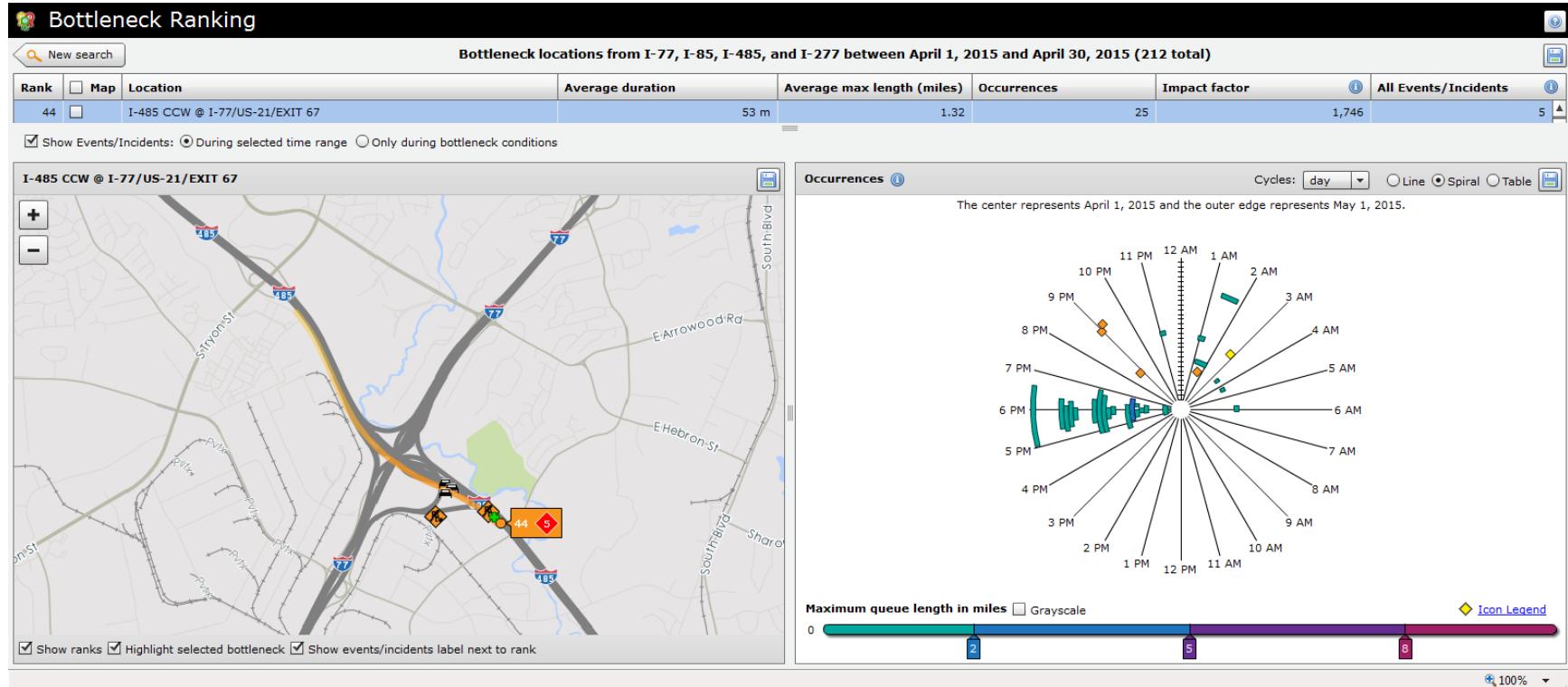
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 63. Congestion Scan C043



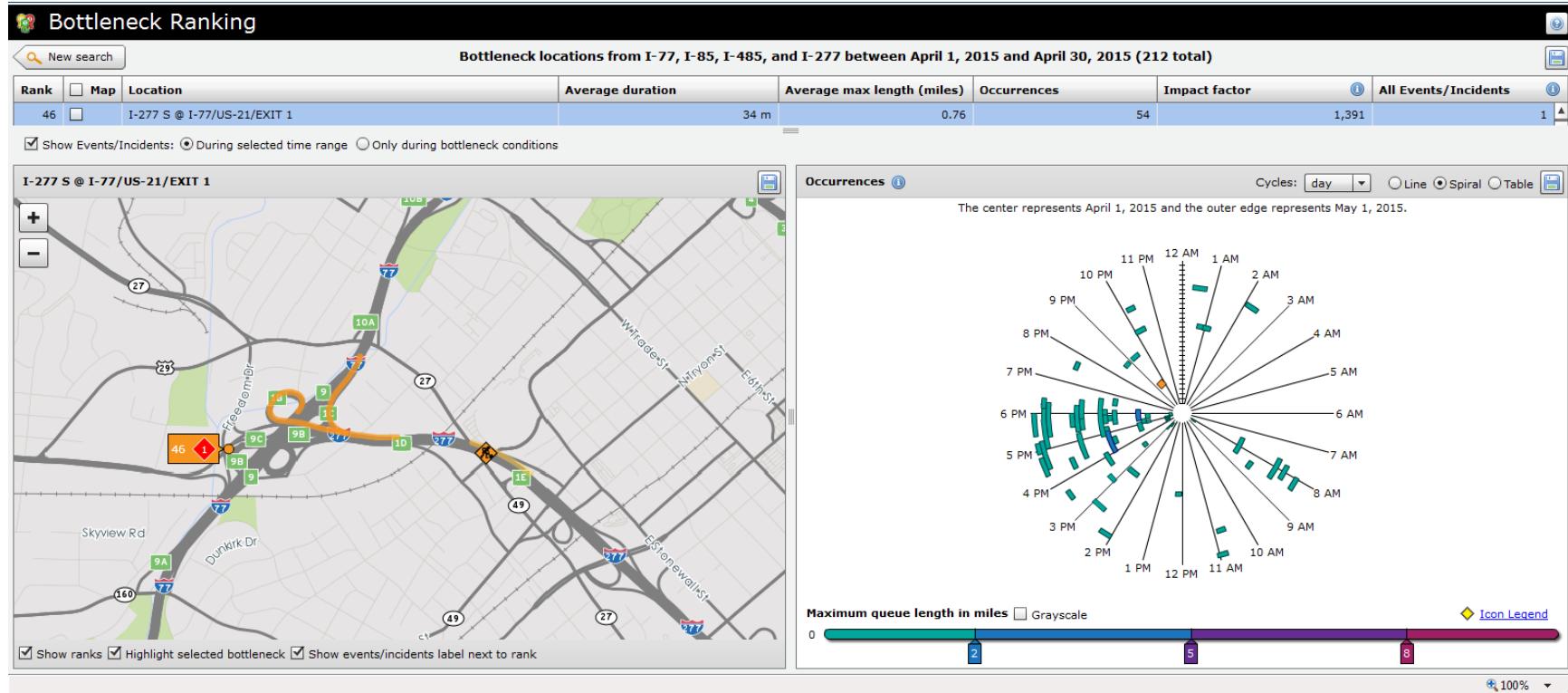
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 64. Congestion Scan C044



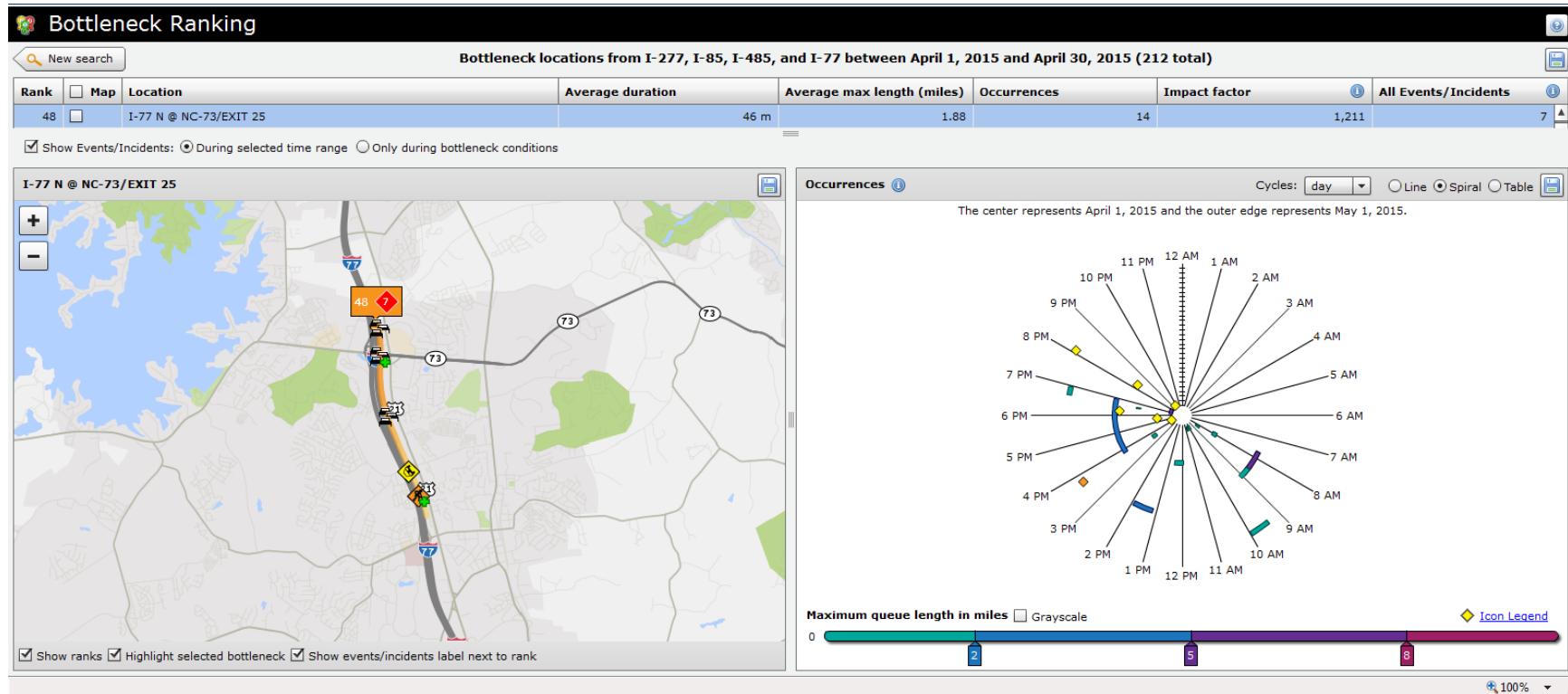
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 65. Congestion Scan C046



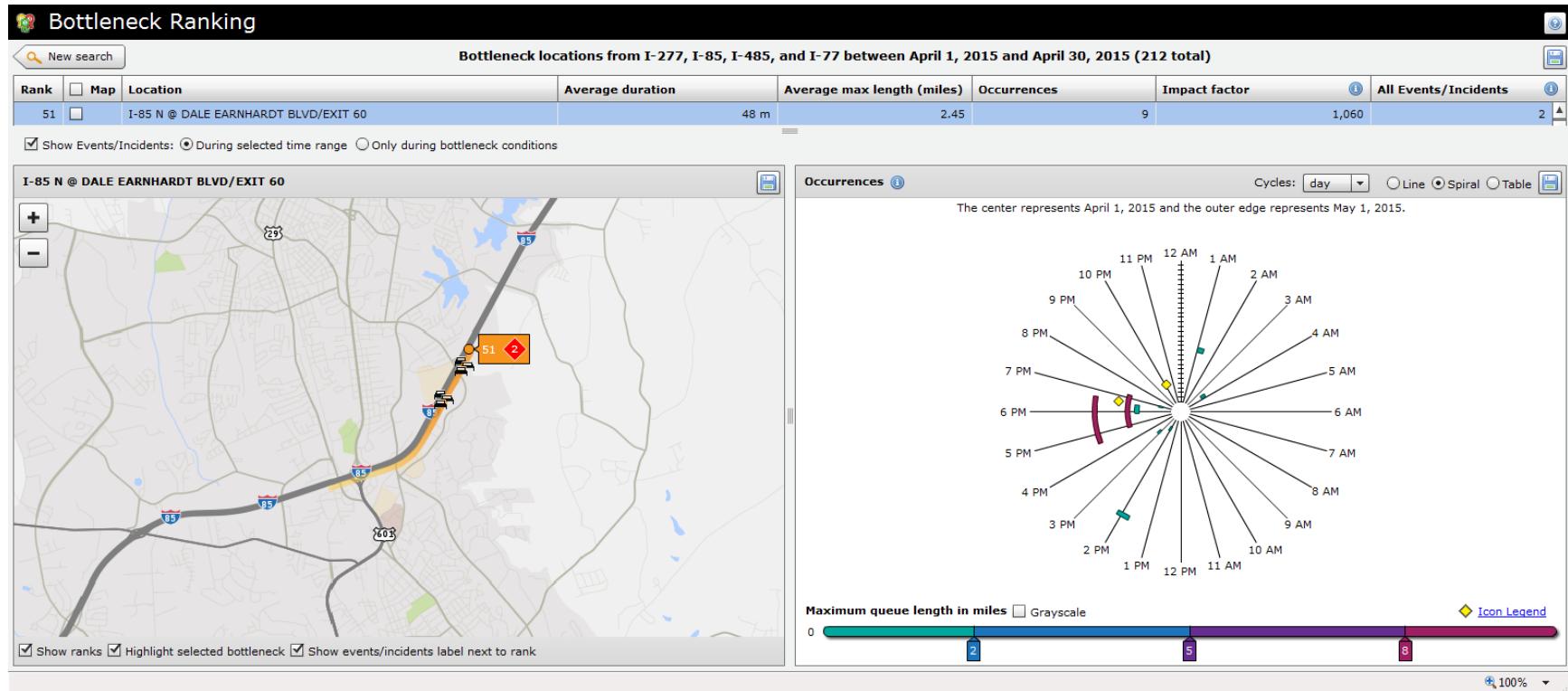
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 66. Congestion Scan C048



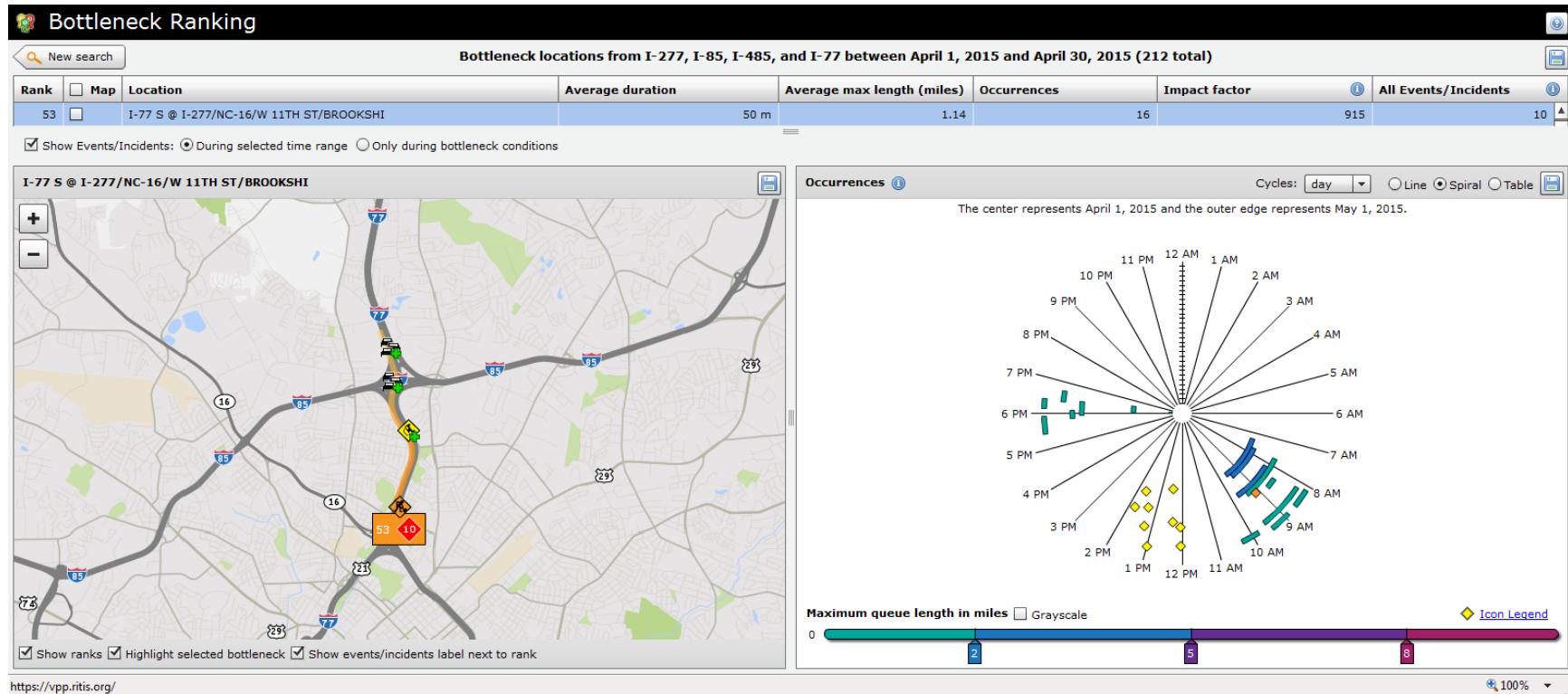
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 67. Congestion Scan C051



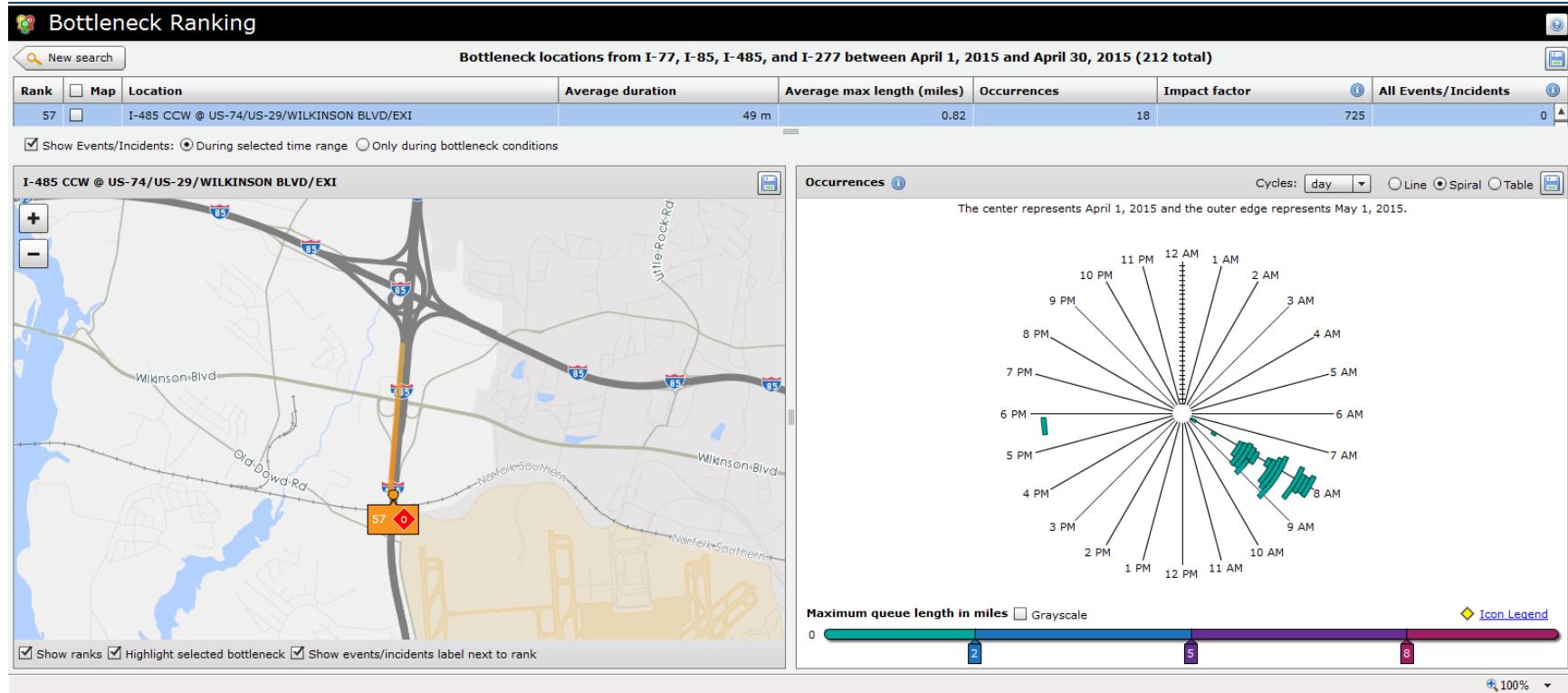
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 68. Congestion Scan C053



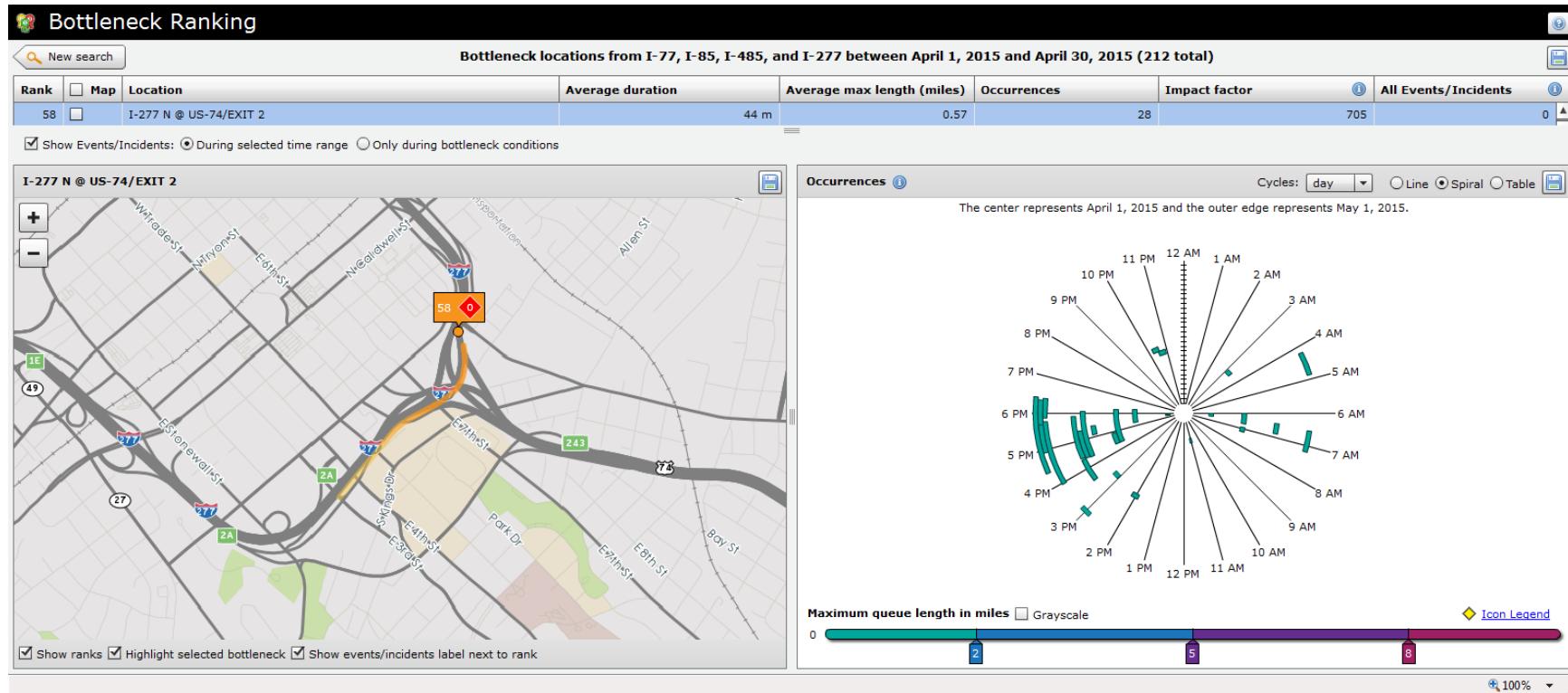
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 69. Congestion Scan C057



M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 70. Congestion Scan C058



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Figure 71. Congestion Scan C059

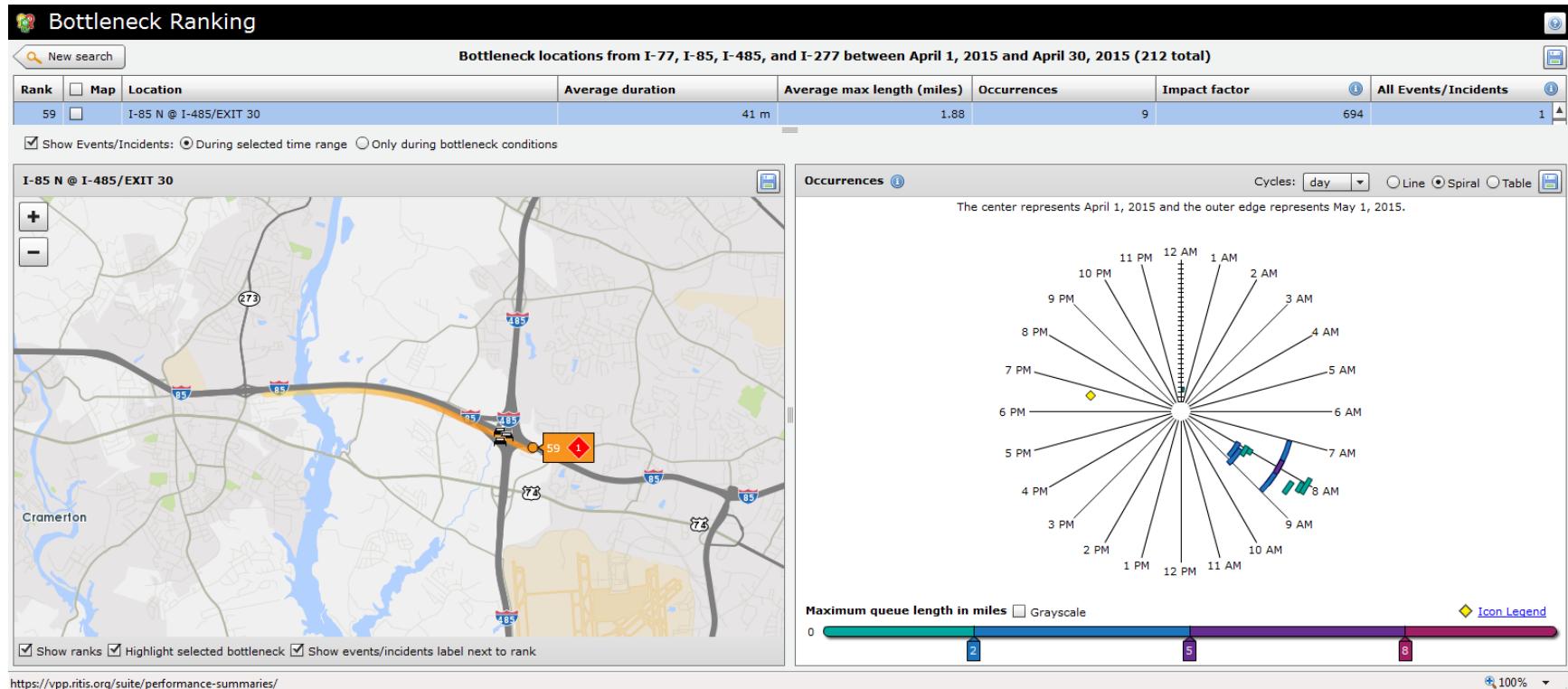
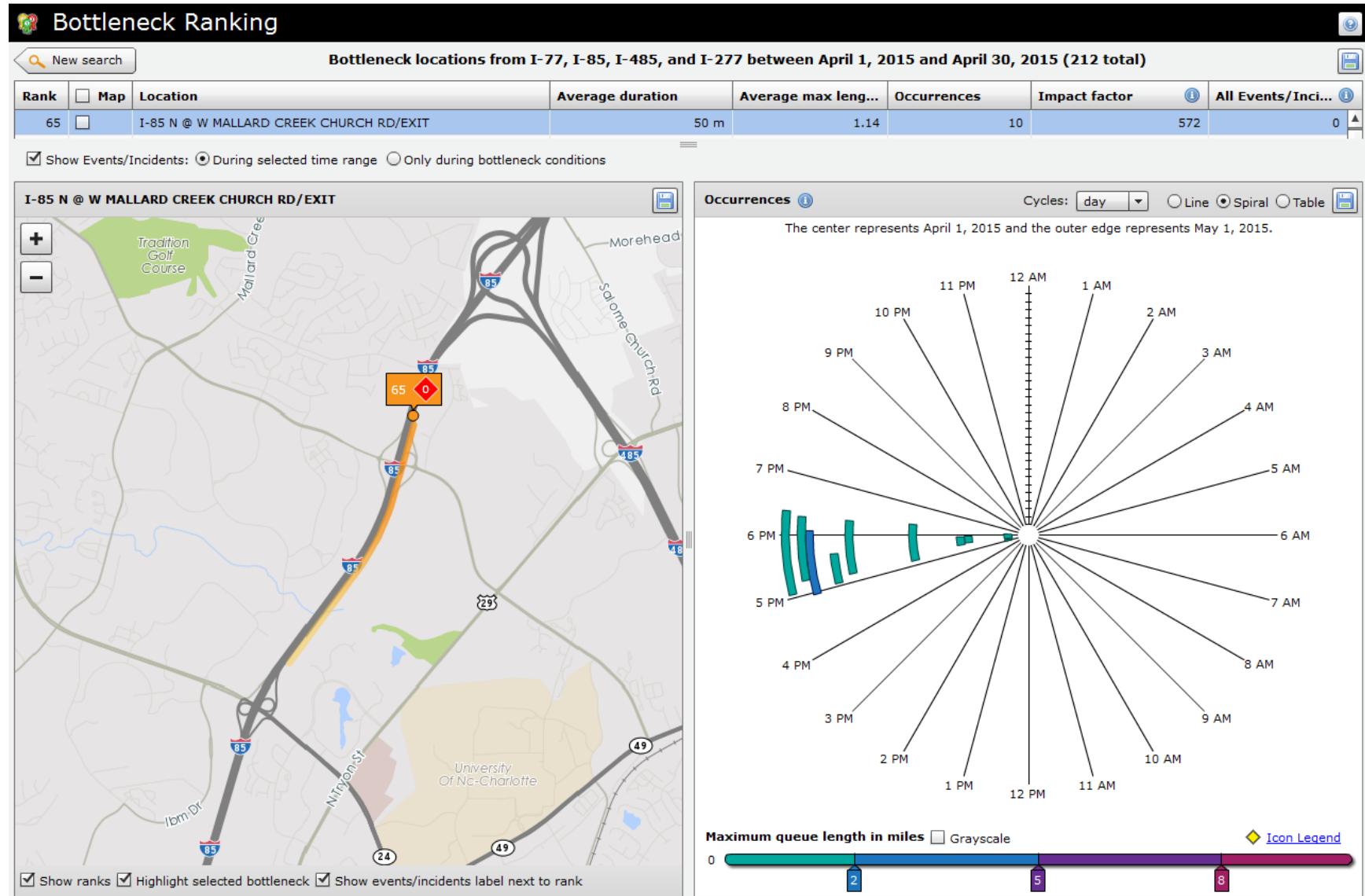


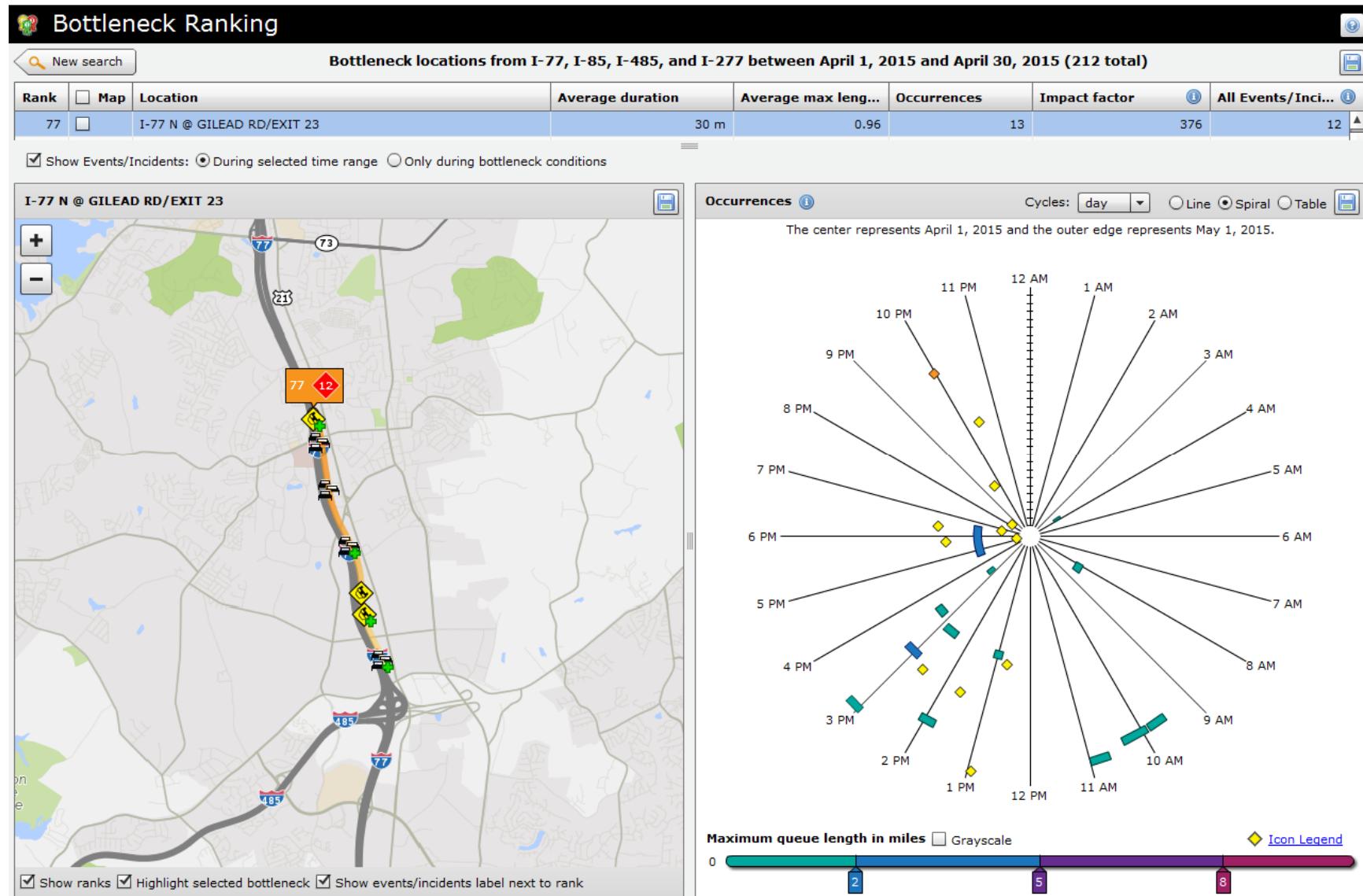
Figure 72. Congestion Scan C065

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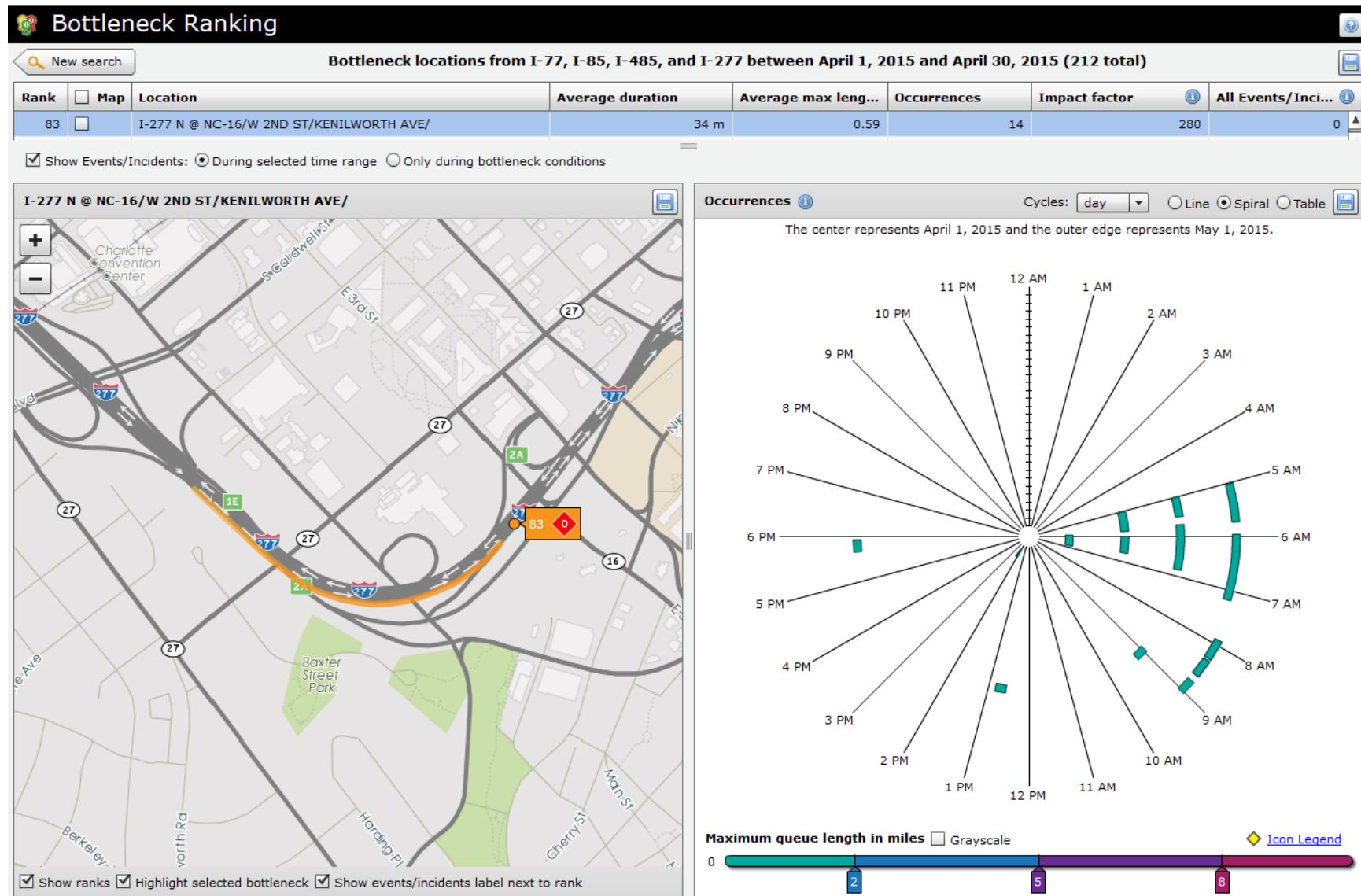
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 73. Congestion Scan C077



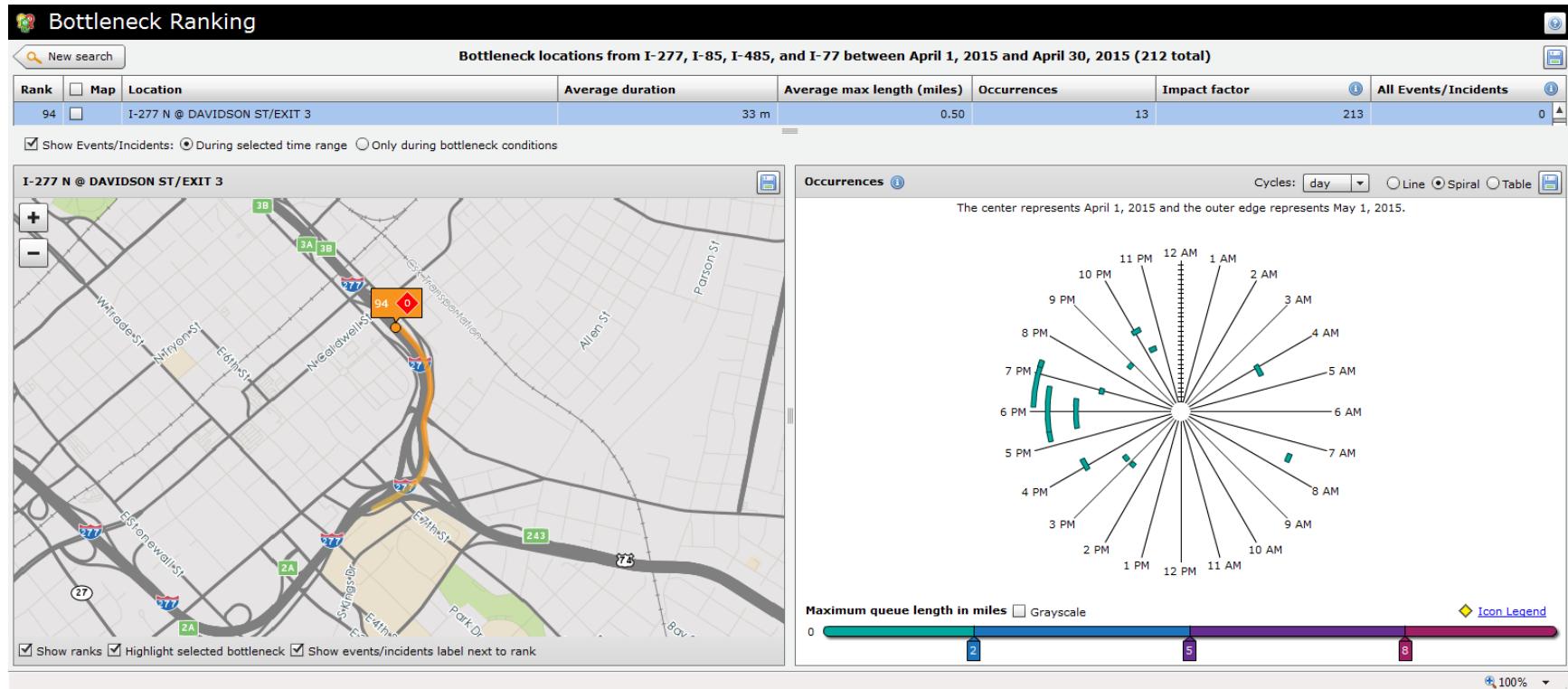
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 74. Congestion Scan C083



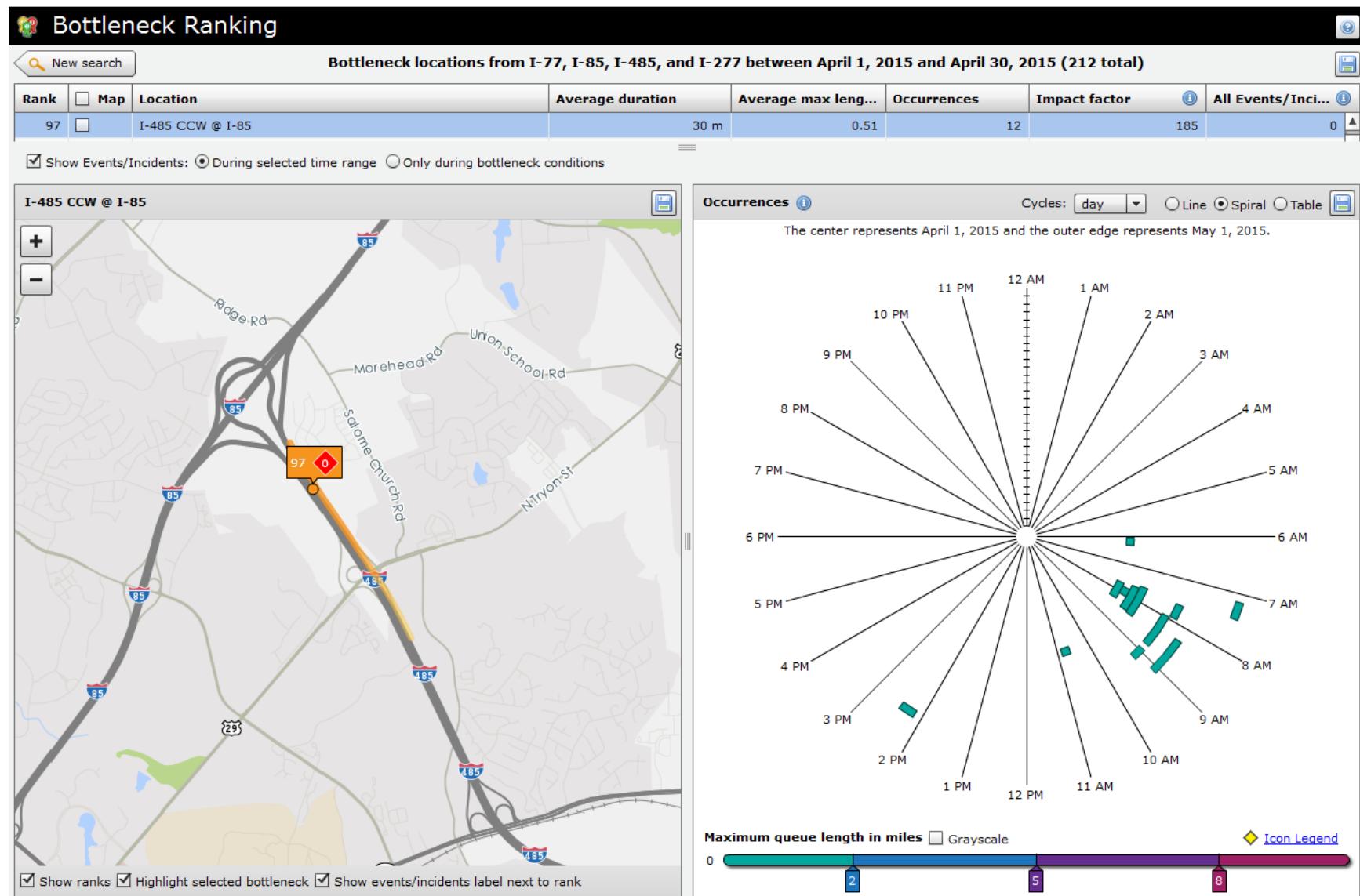
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
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Figure 75. Congestion Scan C094



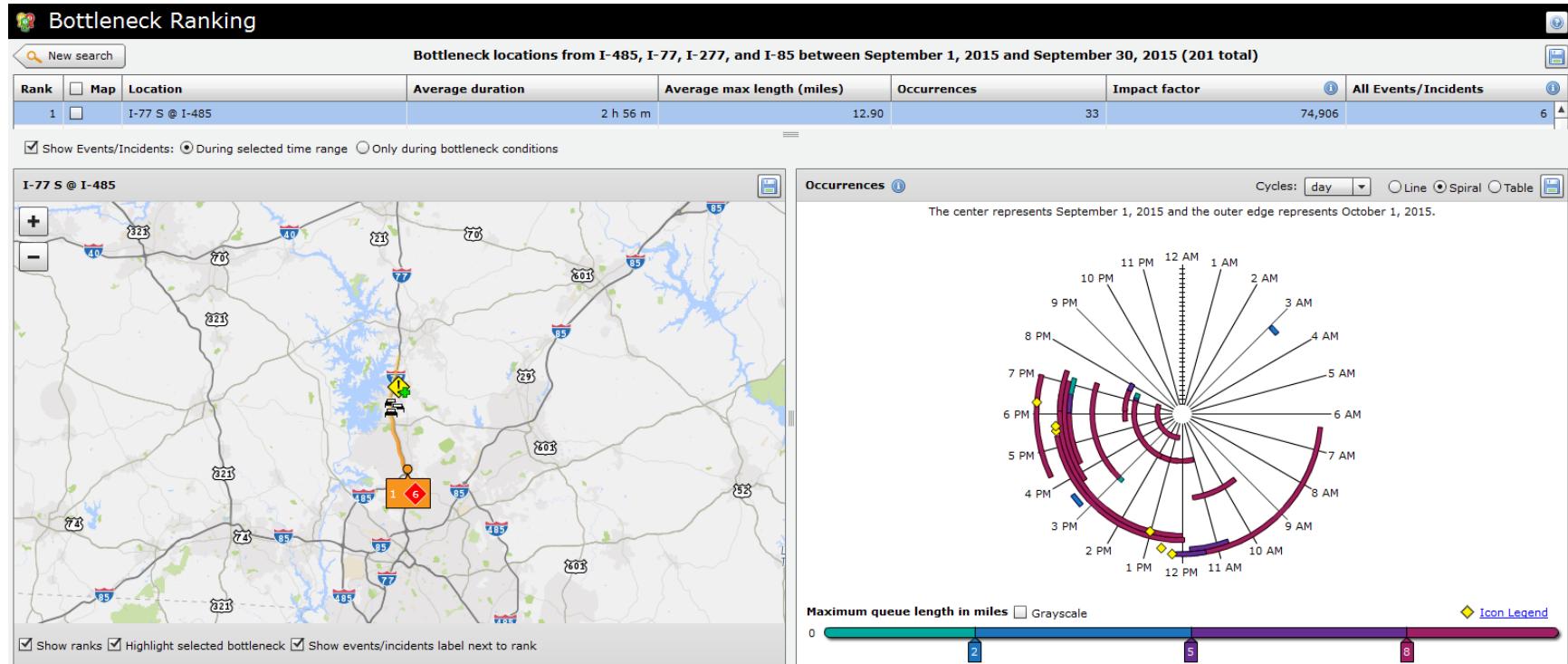
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 76. Congestion Scan C097



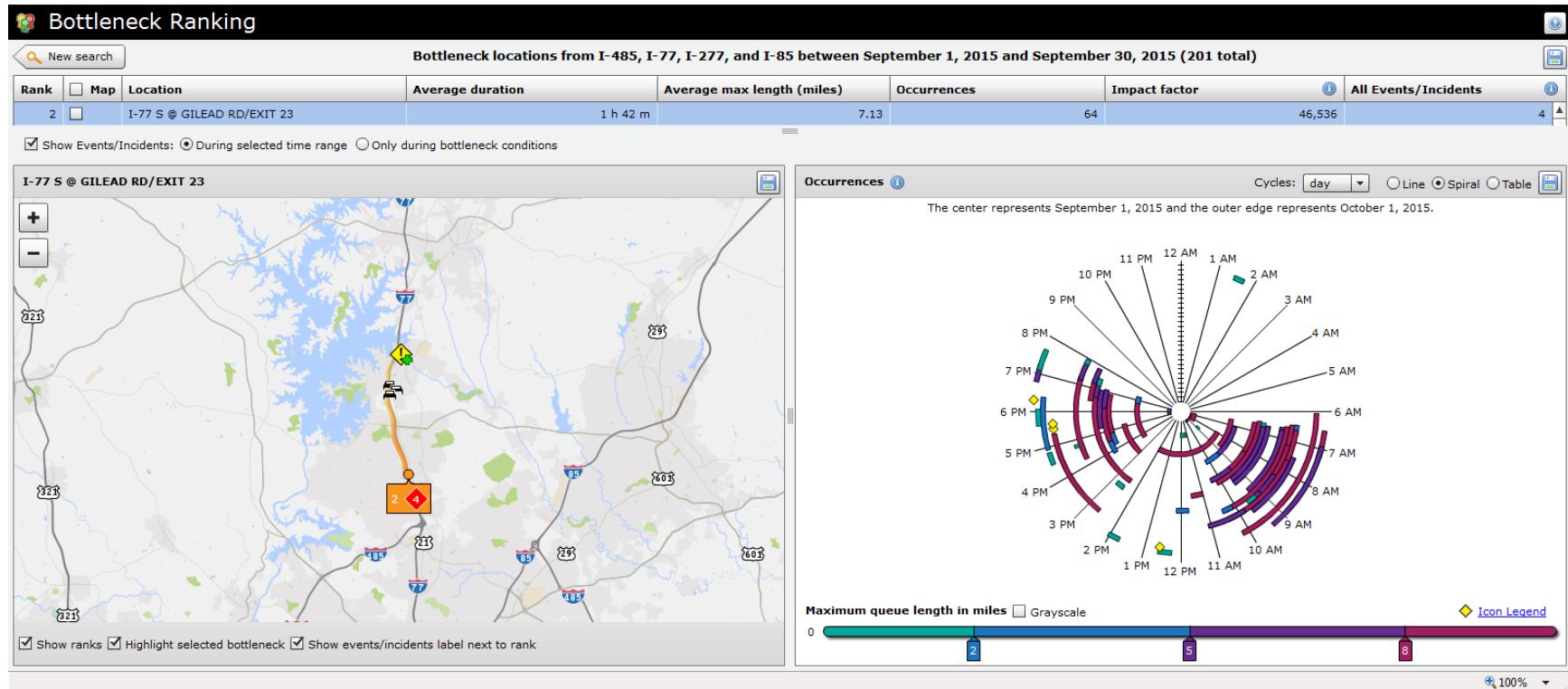
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 77. Congestion Scan C213



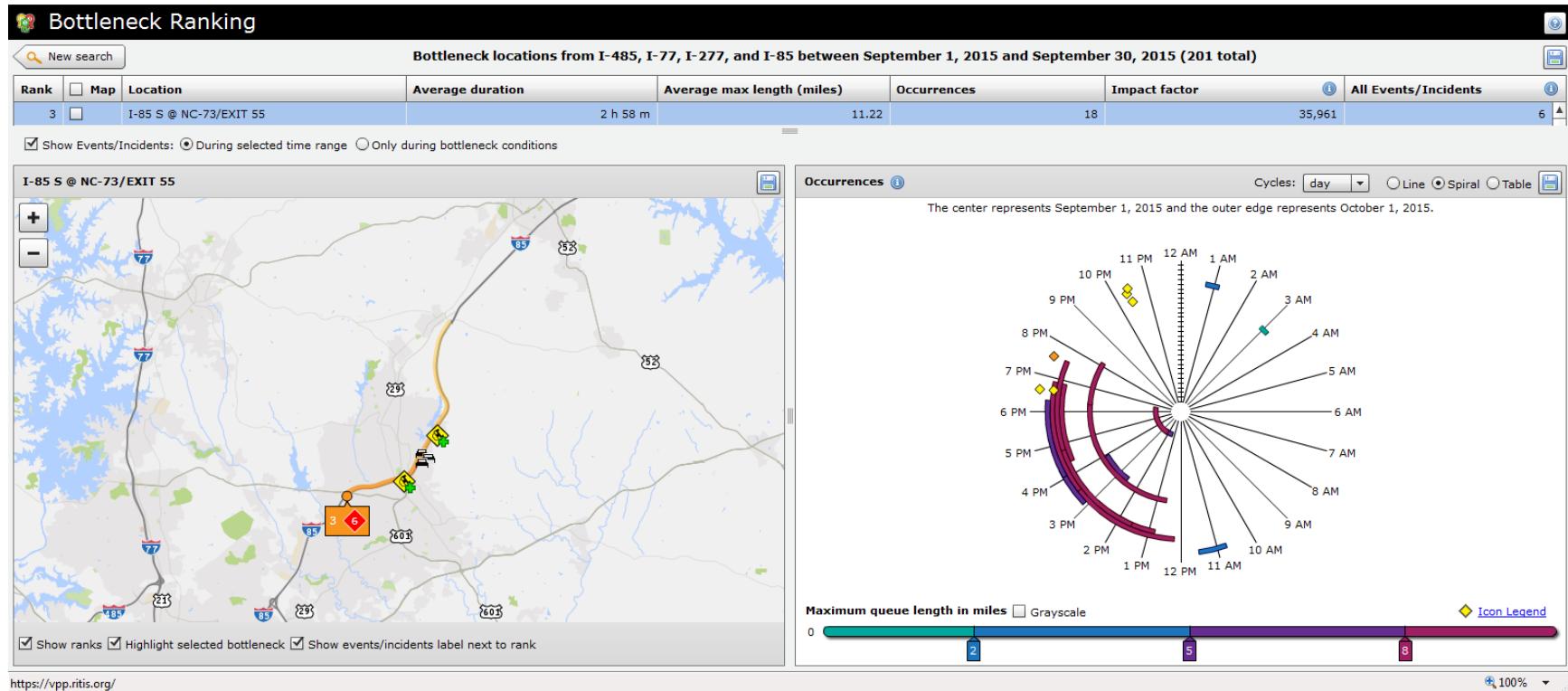
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 78. Congestion Scan C214



M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 79. Congestion Scan C215



M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 80. Congestion Scan C216

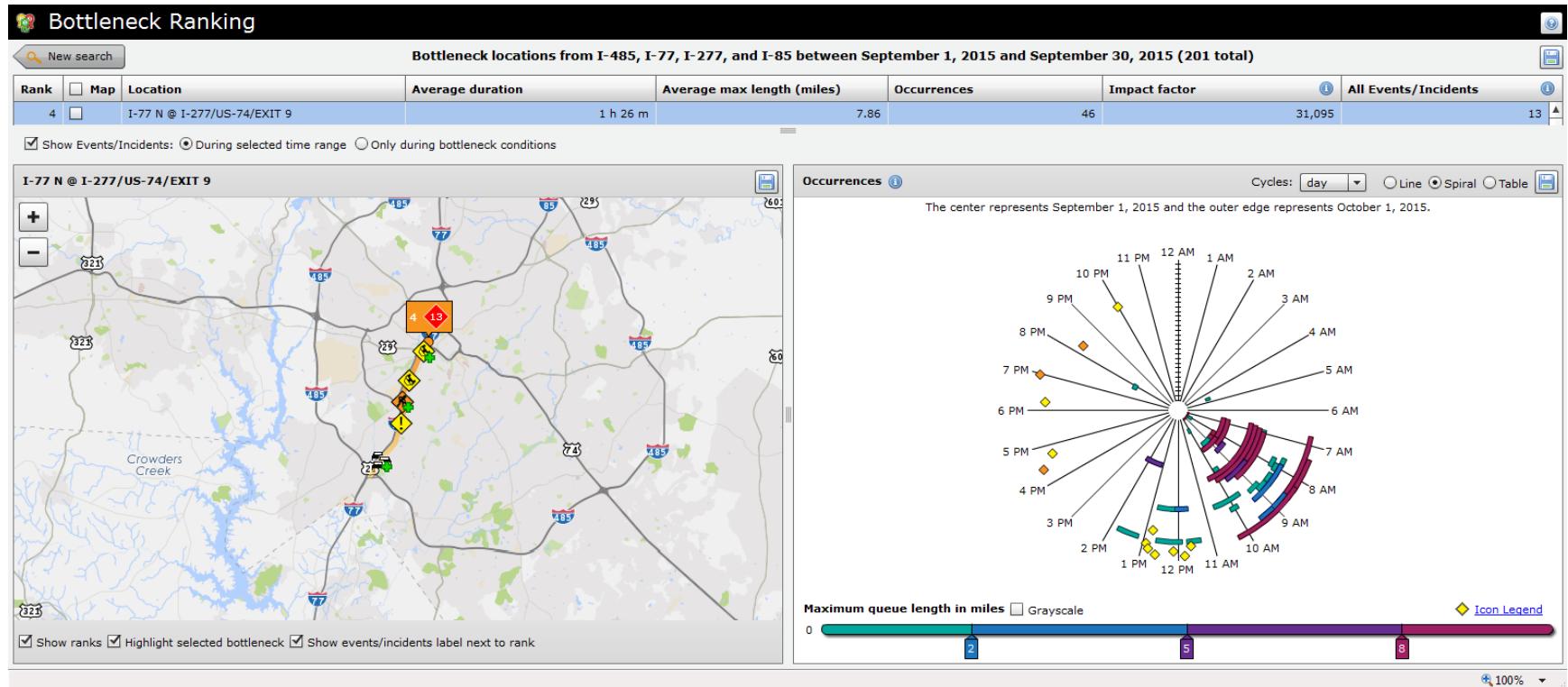
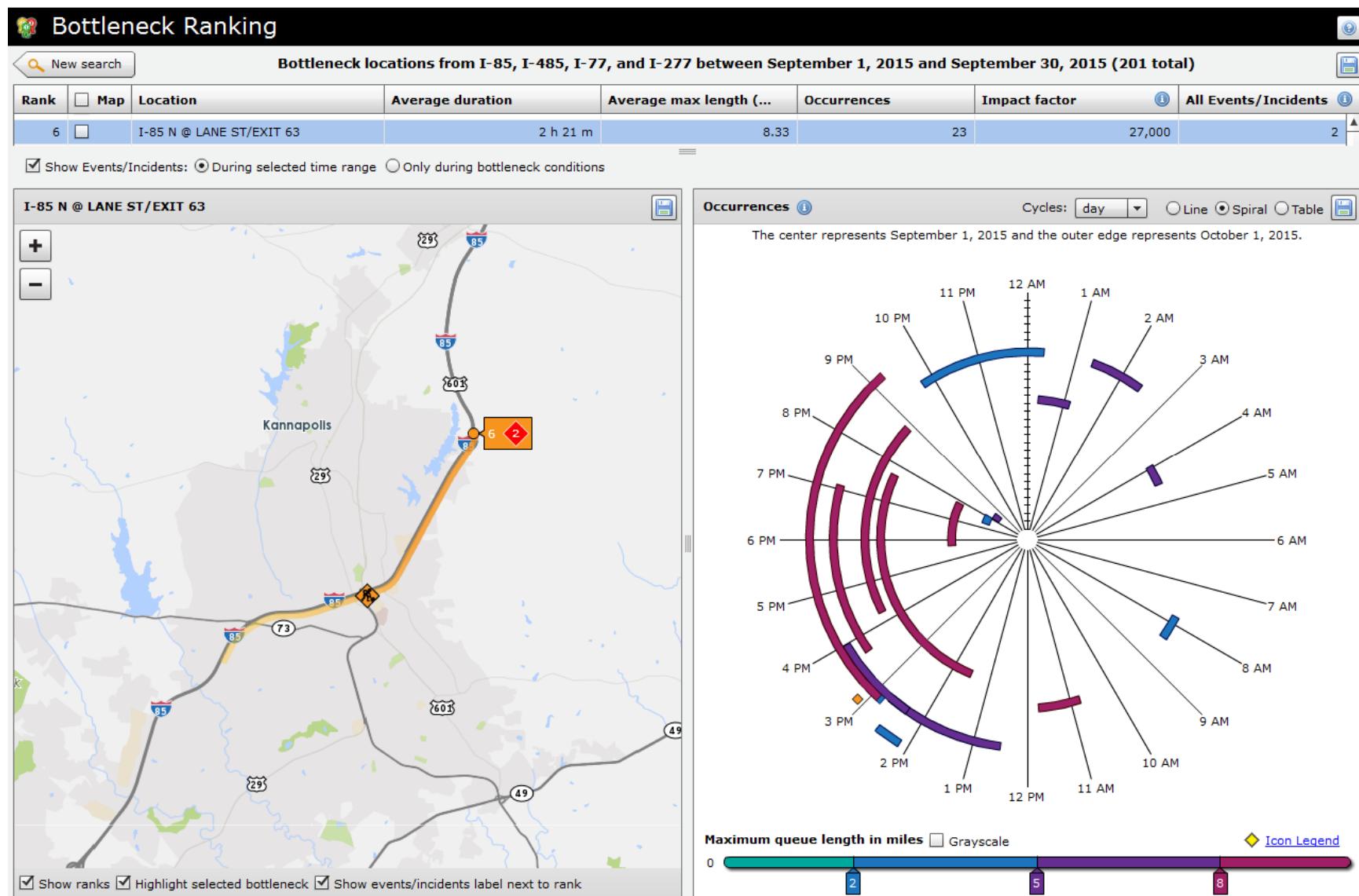
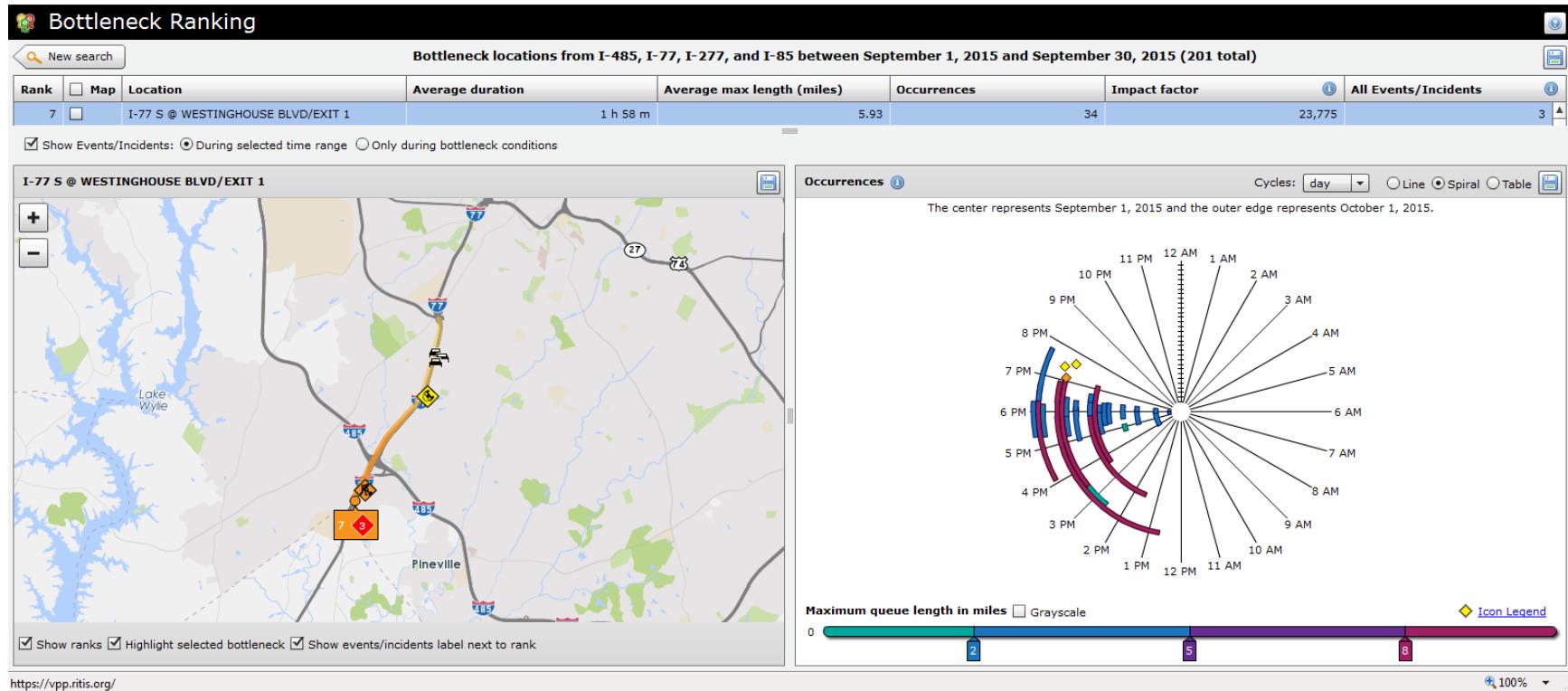


Figure 81. Congestion Scan C218



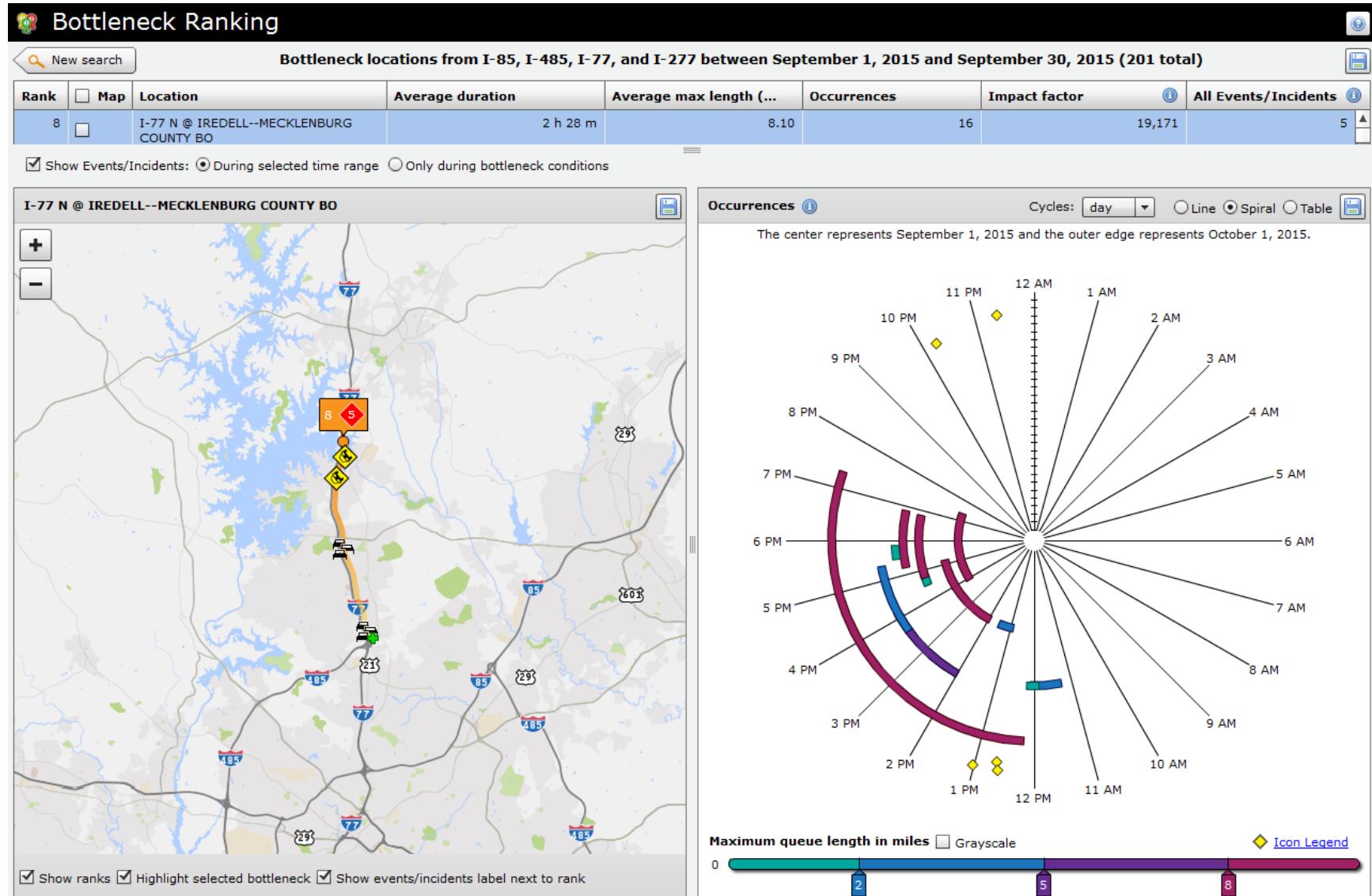
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 82. Congestion Scan C219



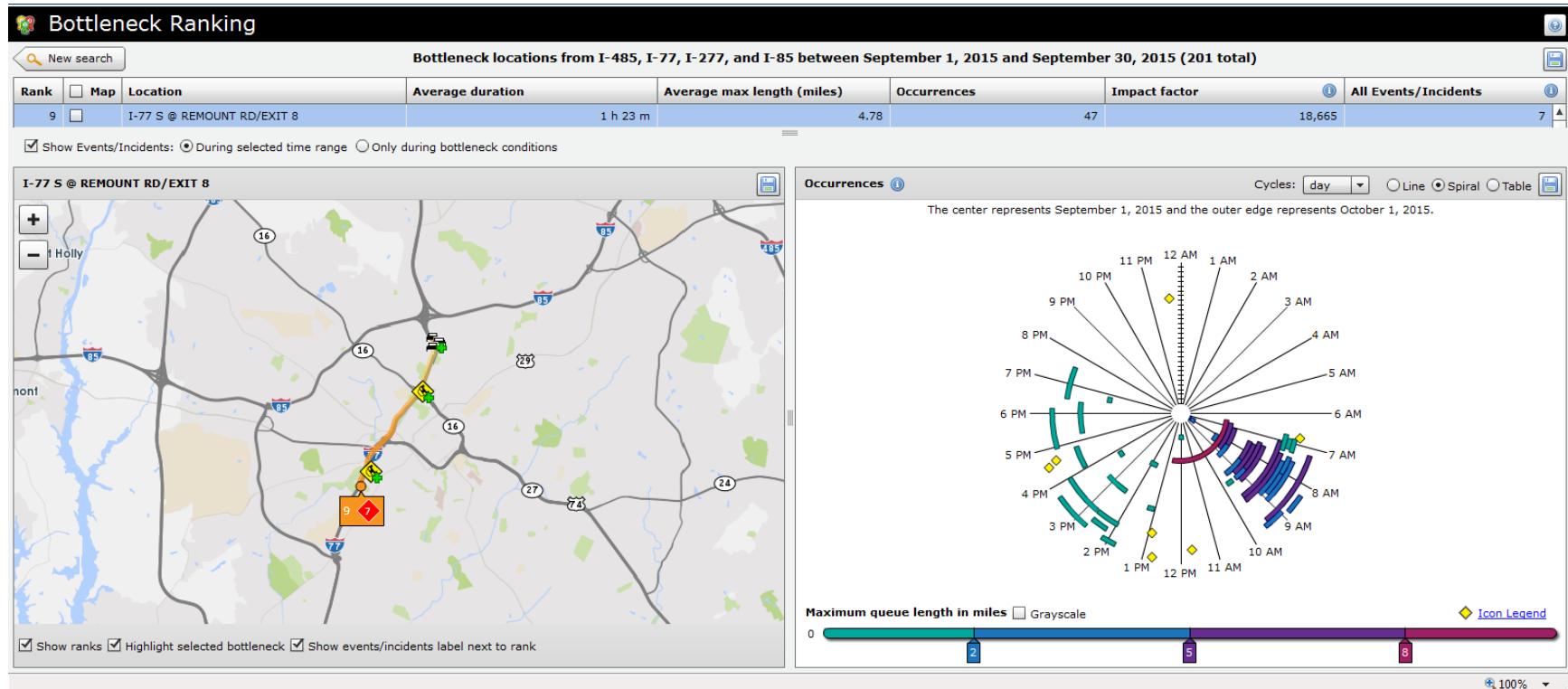
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 83. Congestion Scan C220



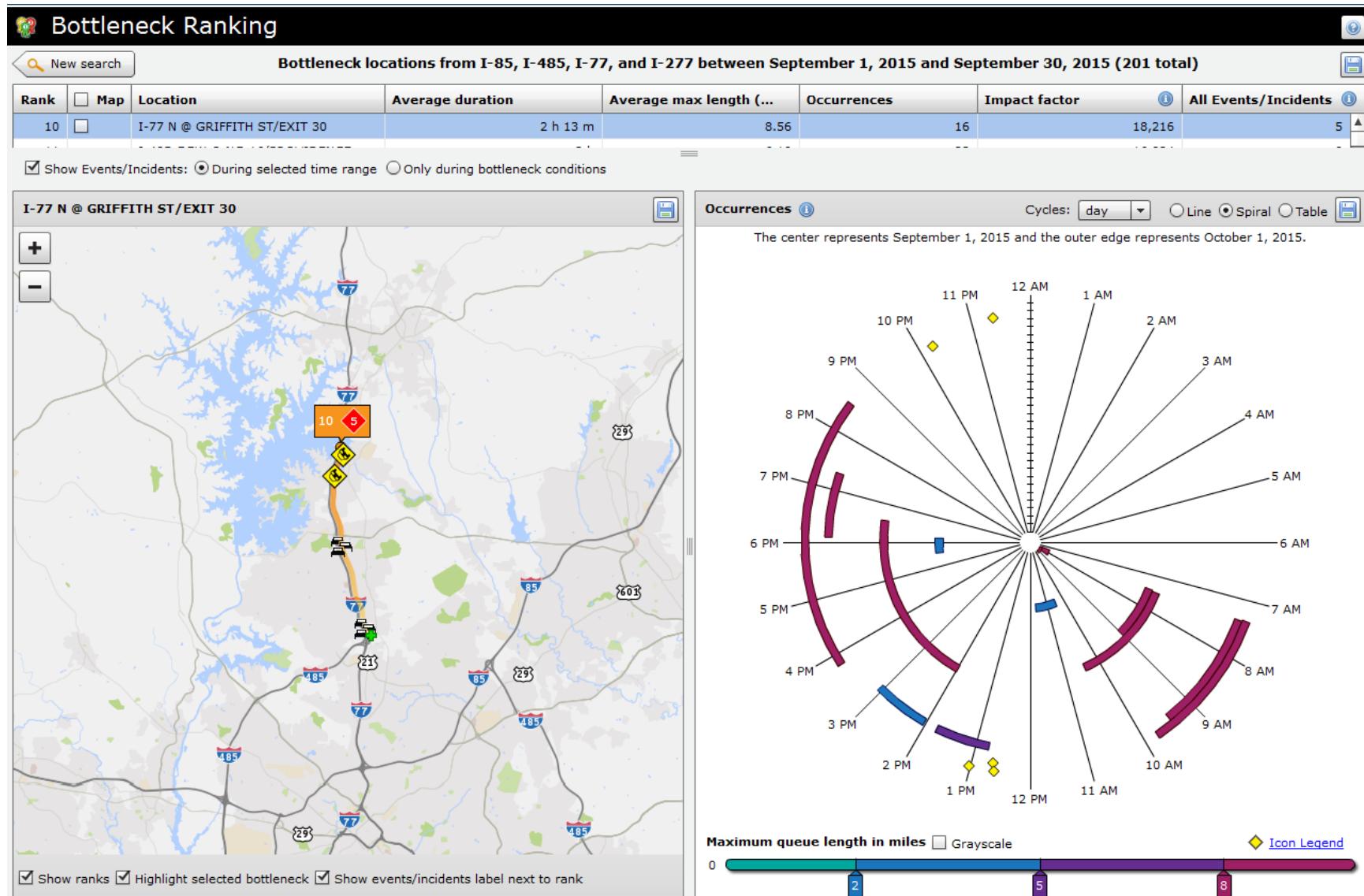
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 84. Congestion Scan C221



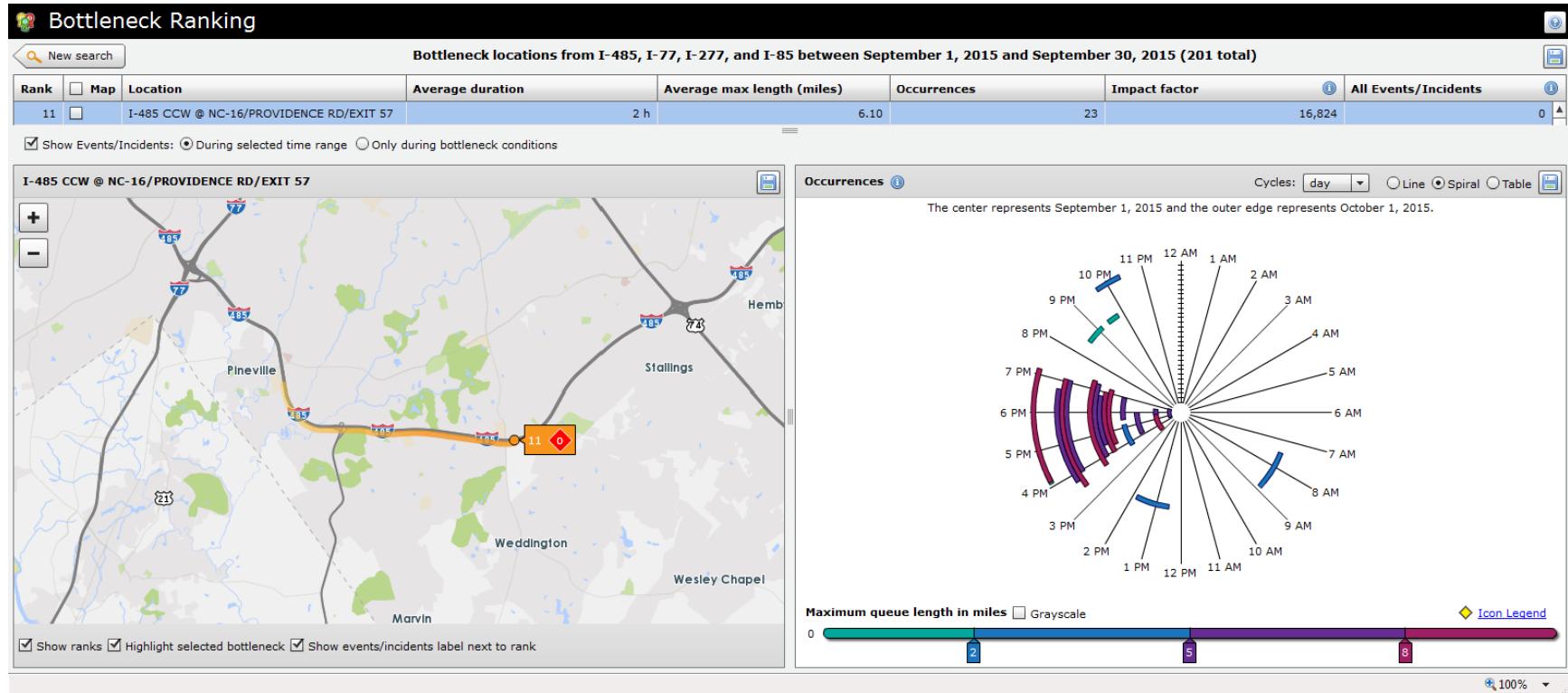
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 85. Congestion Scan C222



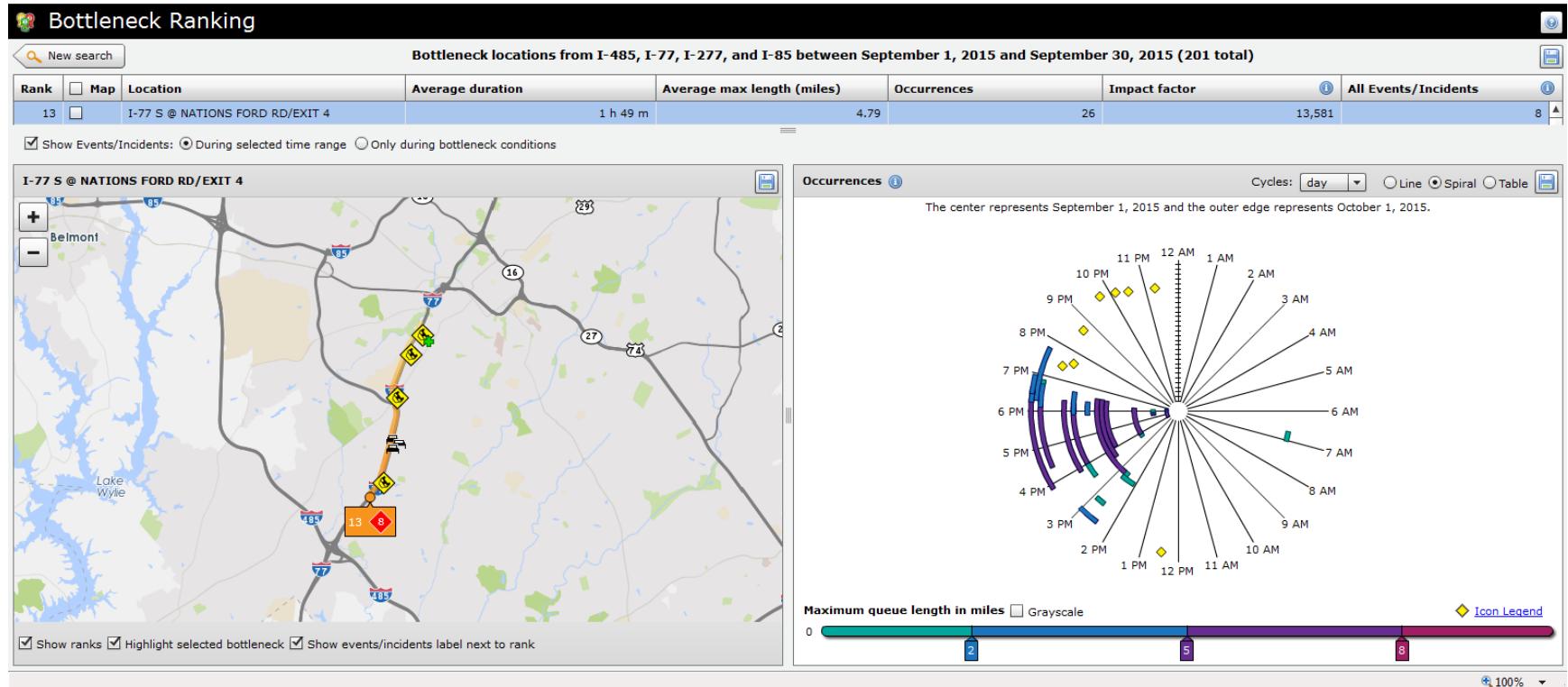
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 86. Congestion Scan C223



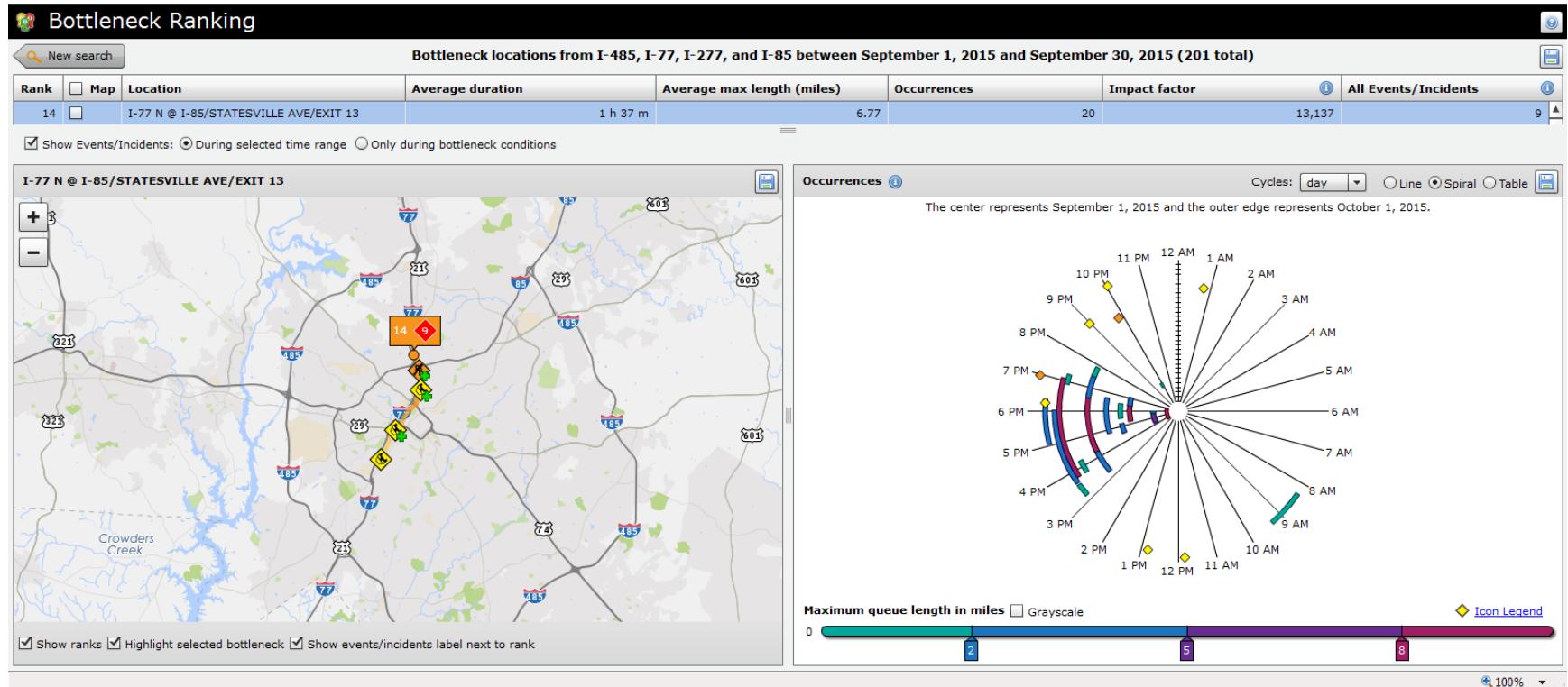
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 87. Congestion Scan C225



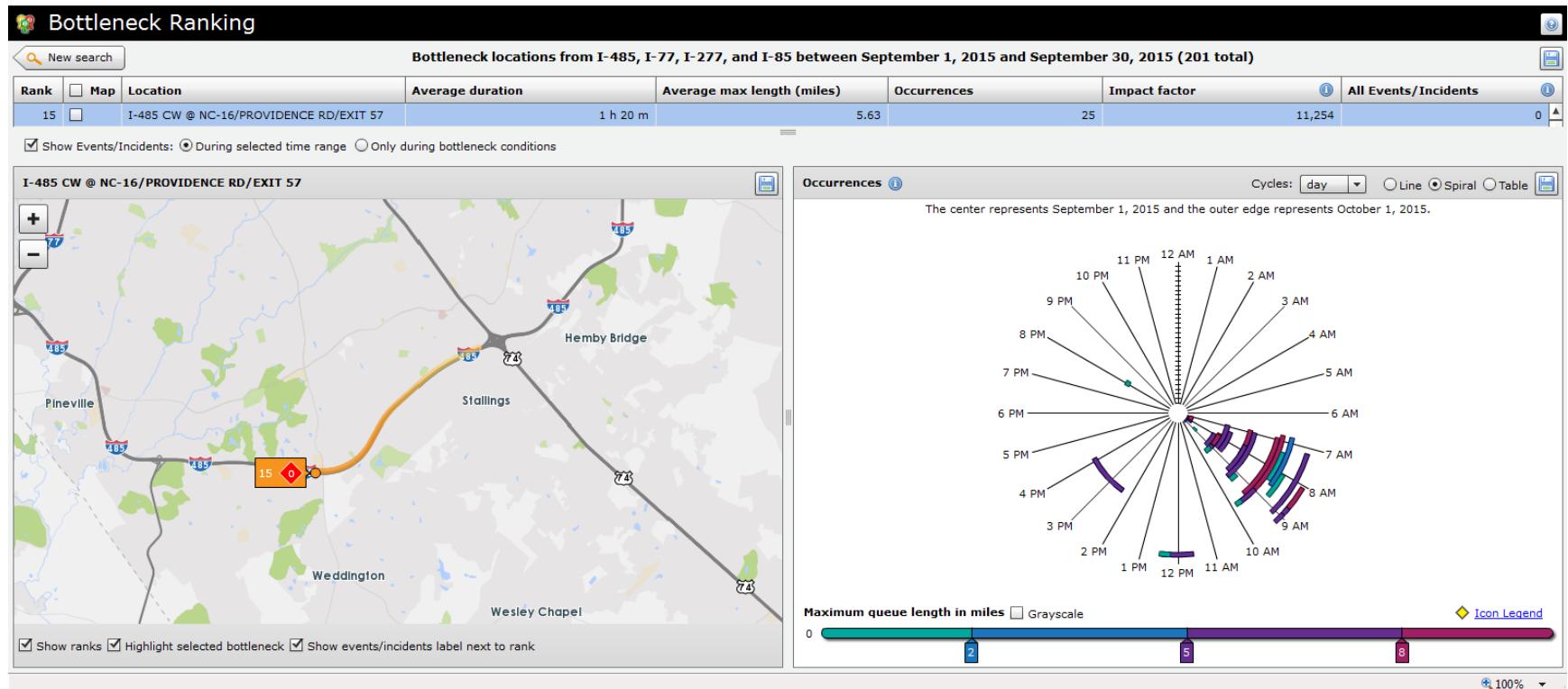
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 88. Congestion Scan C226



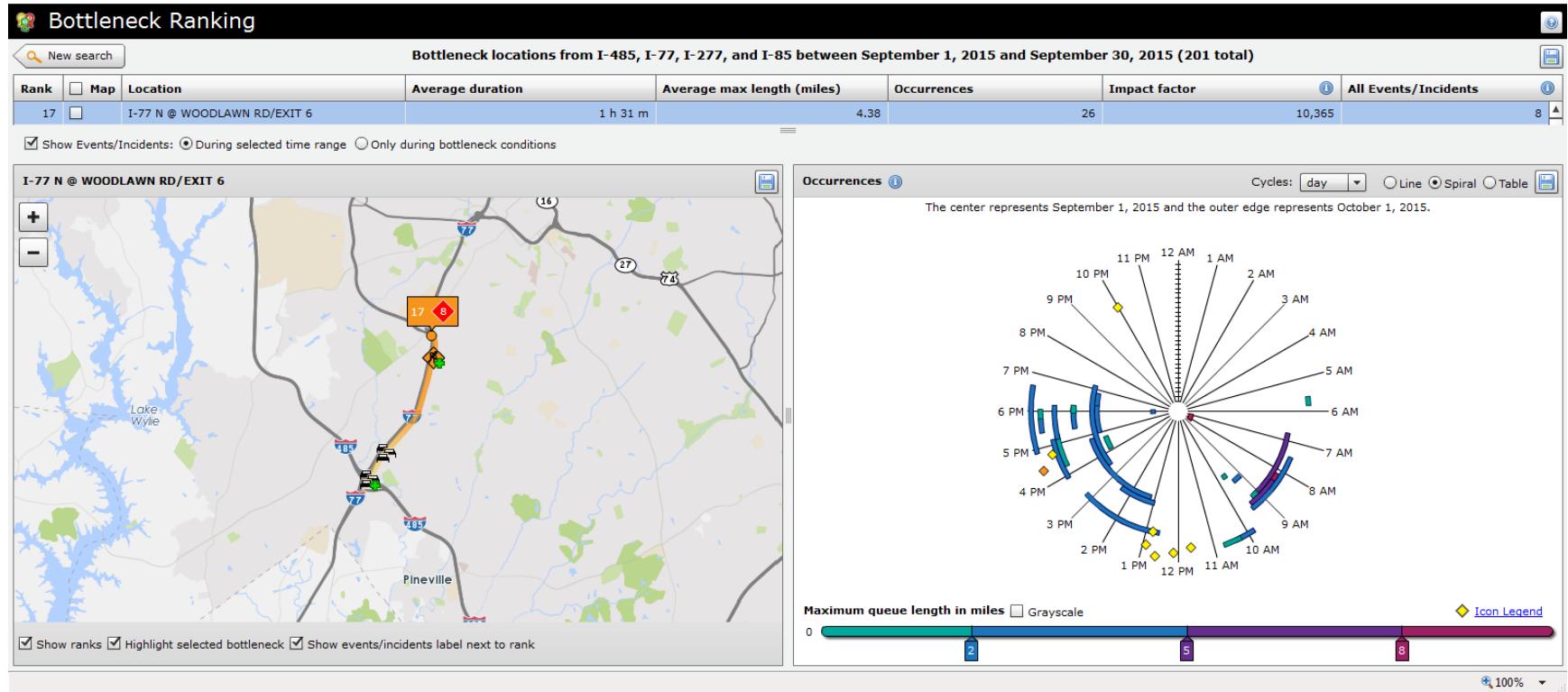
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 89. Congestion Scan C227



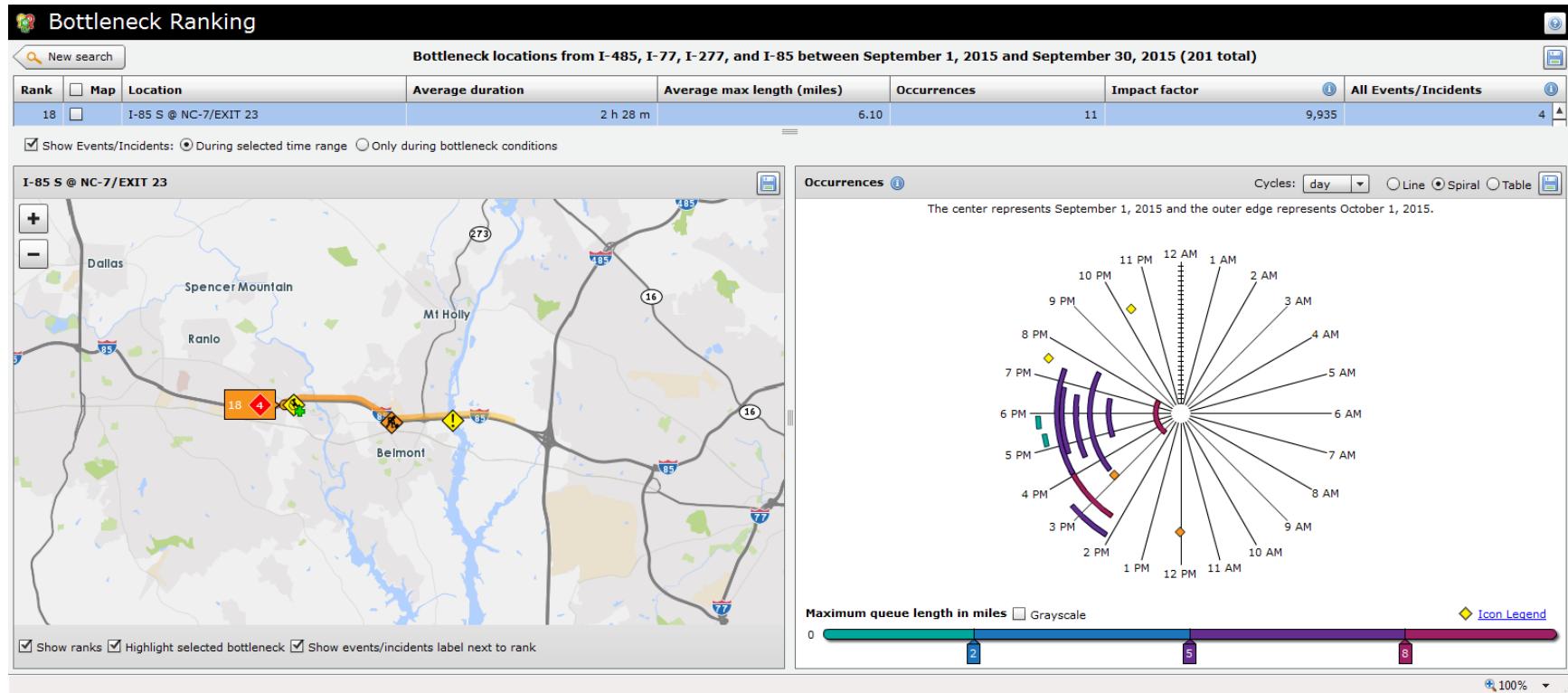
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 90. Congestion Scan C229



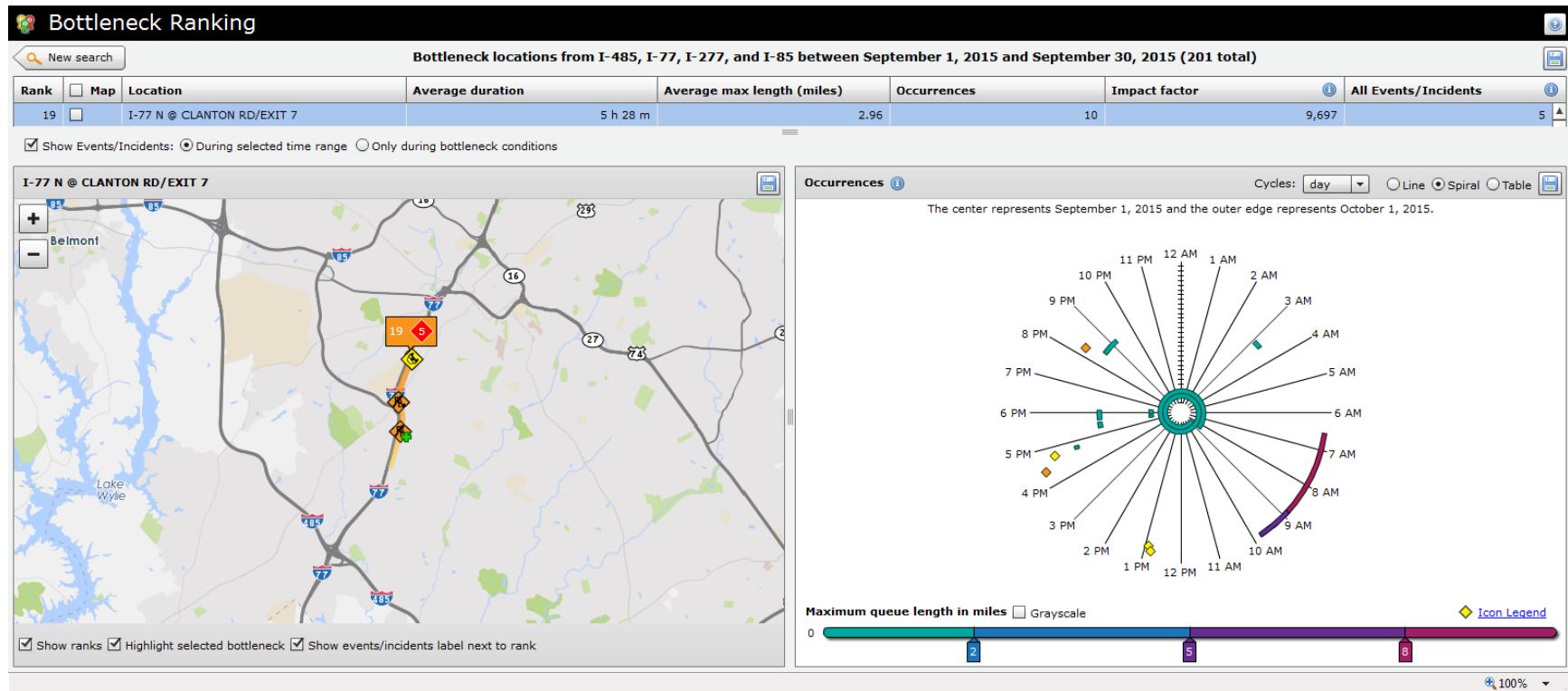
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 91. Congestion Scan C230



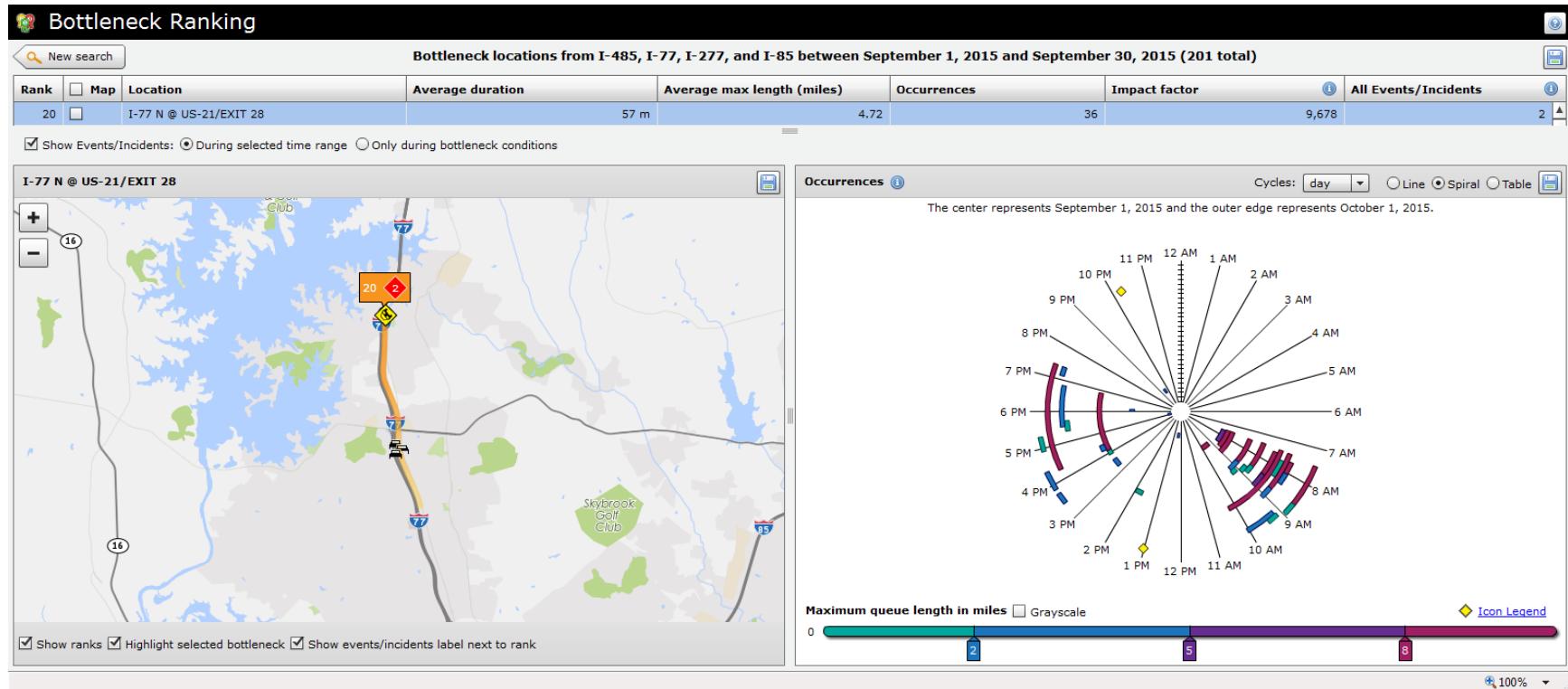
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 92. Congestion Scan C231



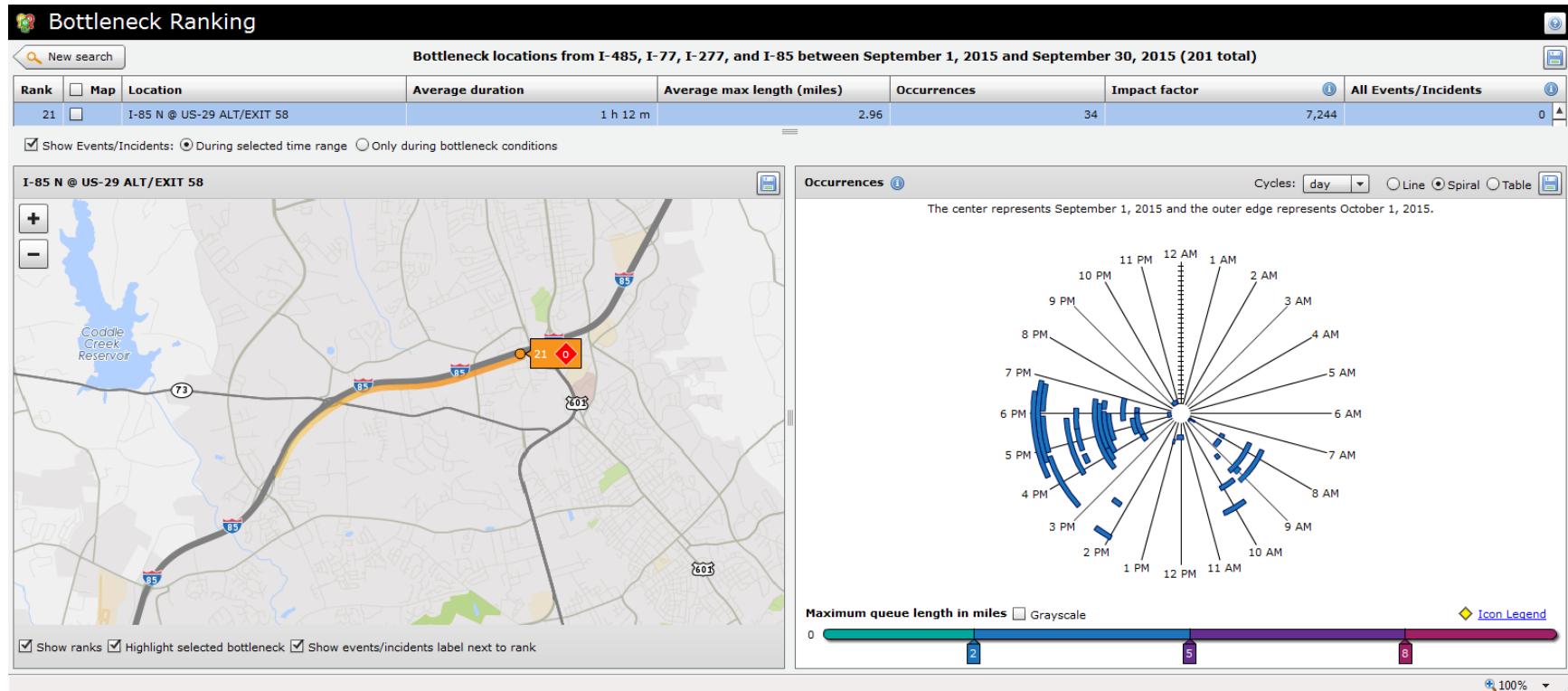
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 93. Congestion Scan C232



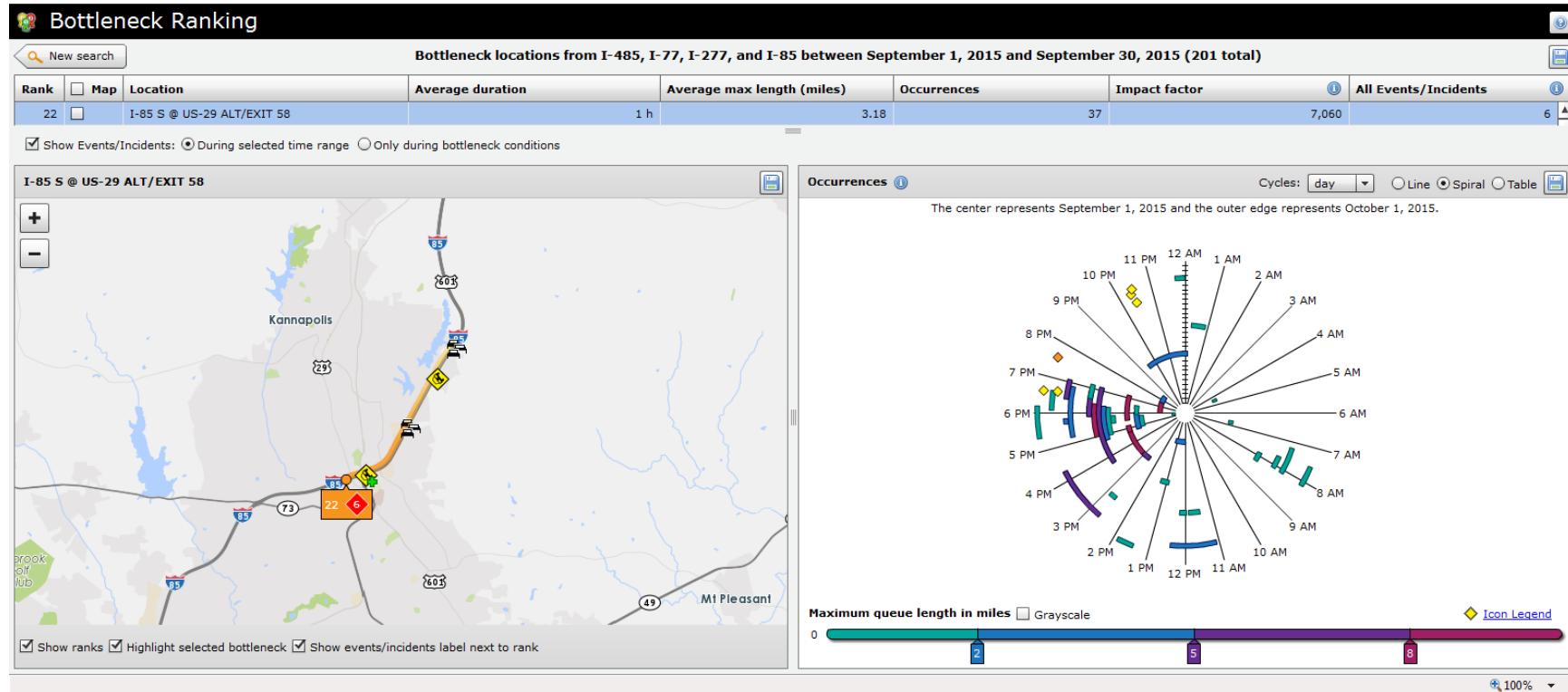
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 94. Congestion Scan C233



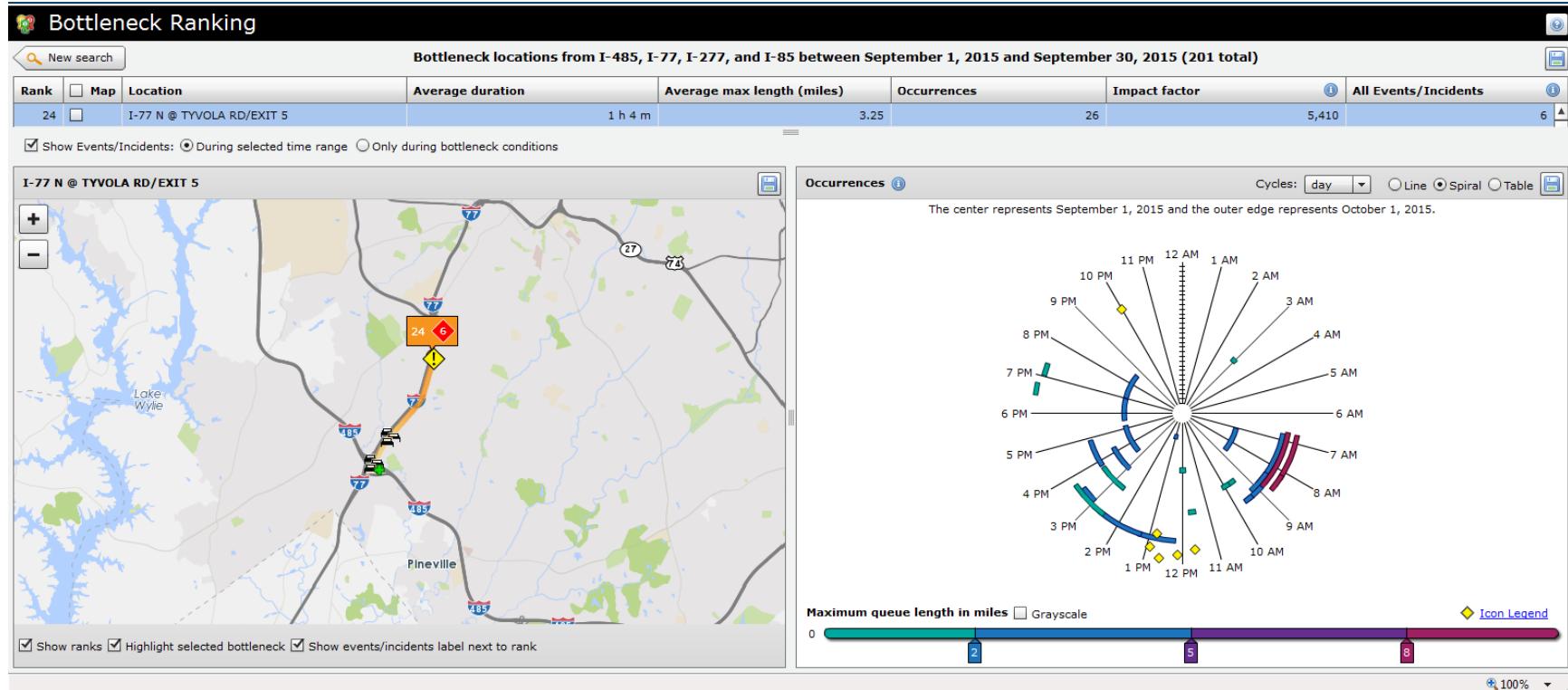
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 95. Congestion Scan C234



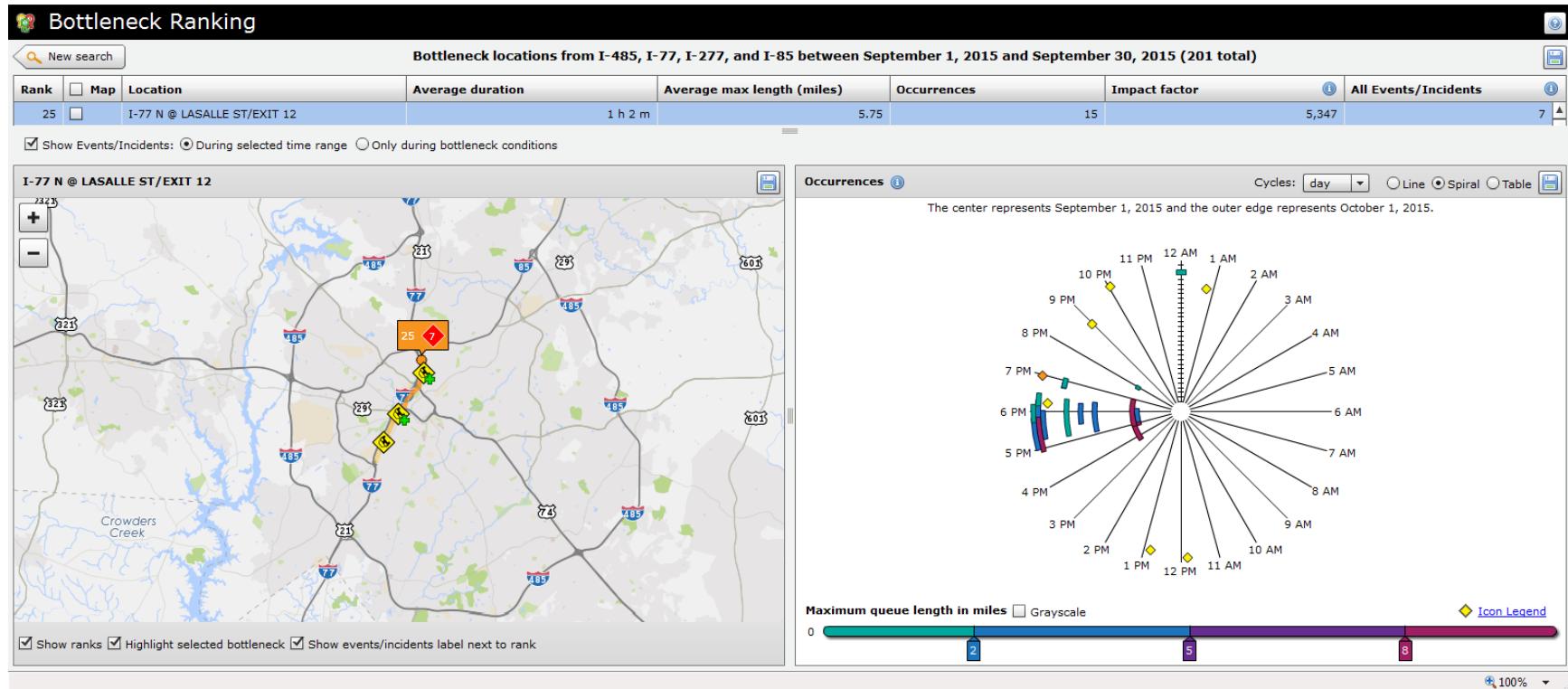
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 96. Congestion Scan C236



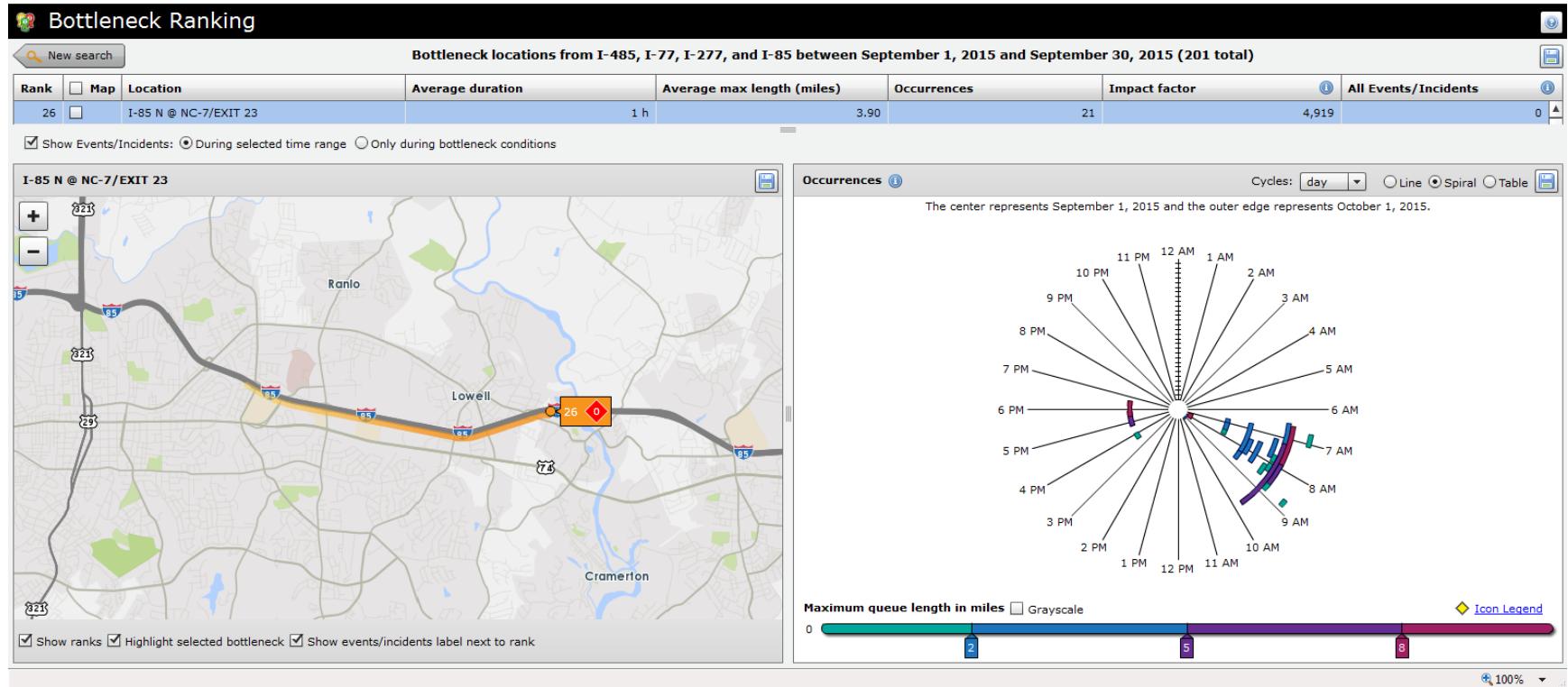
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 97. Congestion Scan C237



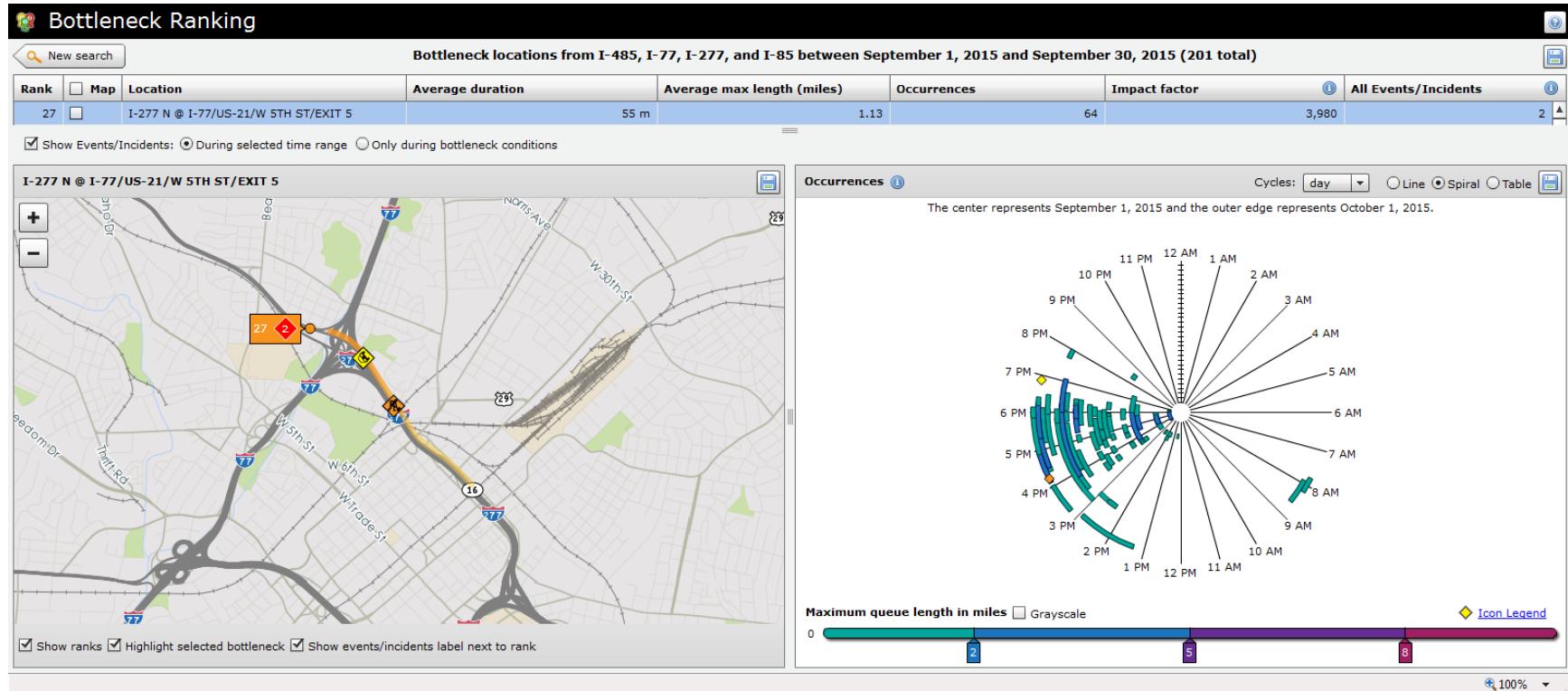
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 98. Congestion Scan C238



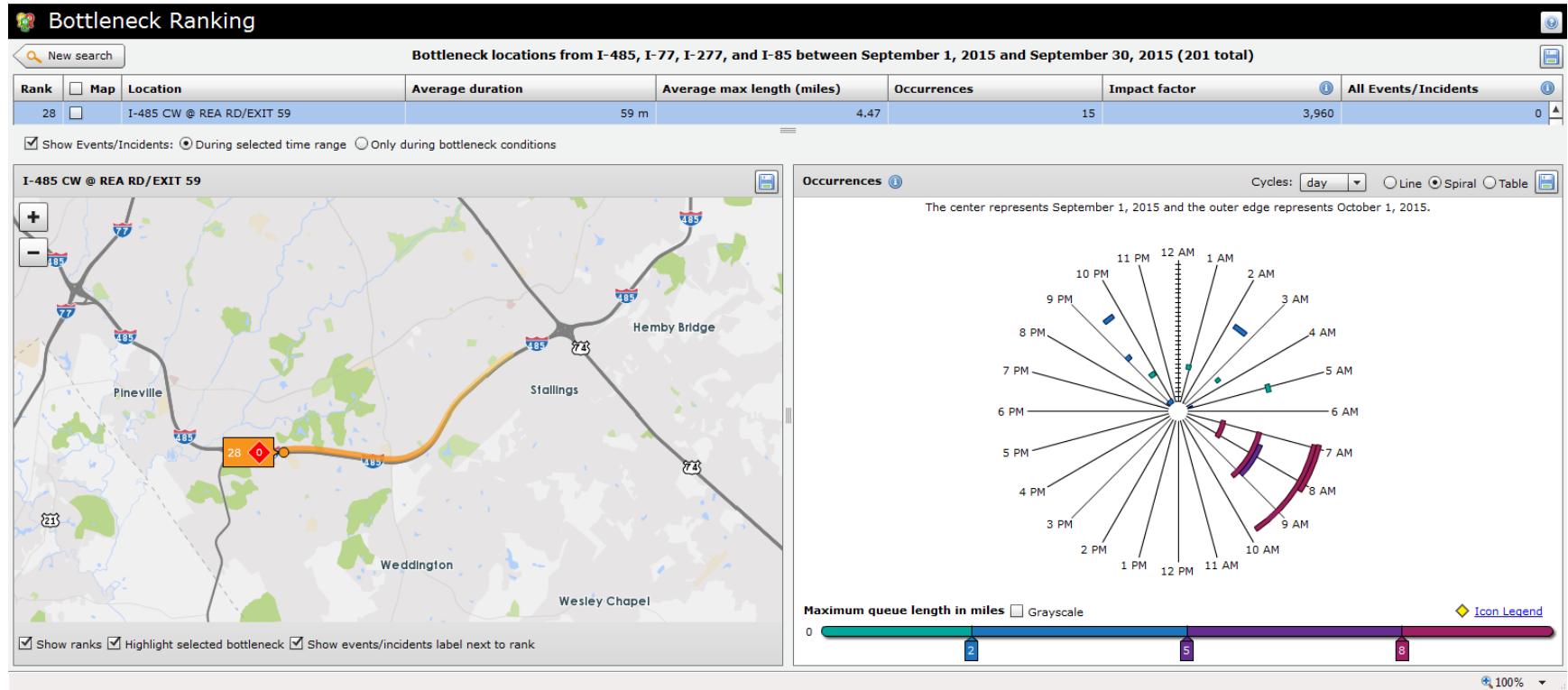
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 99. Congestion Scan C239



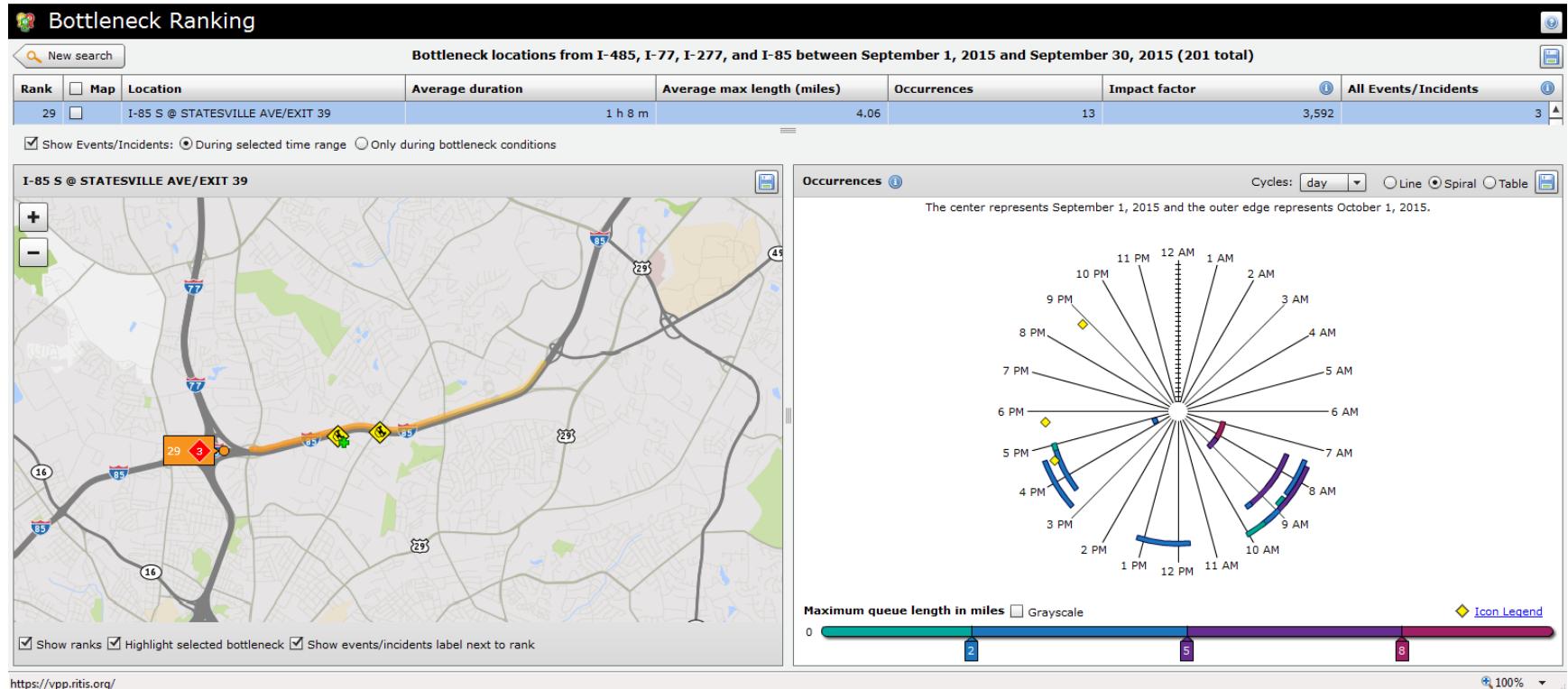
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 100. Congestion Scan C240



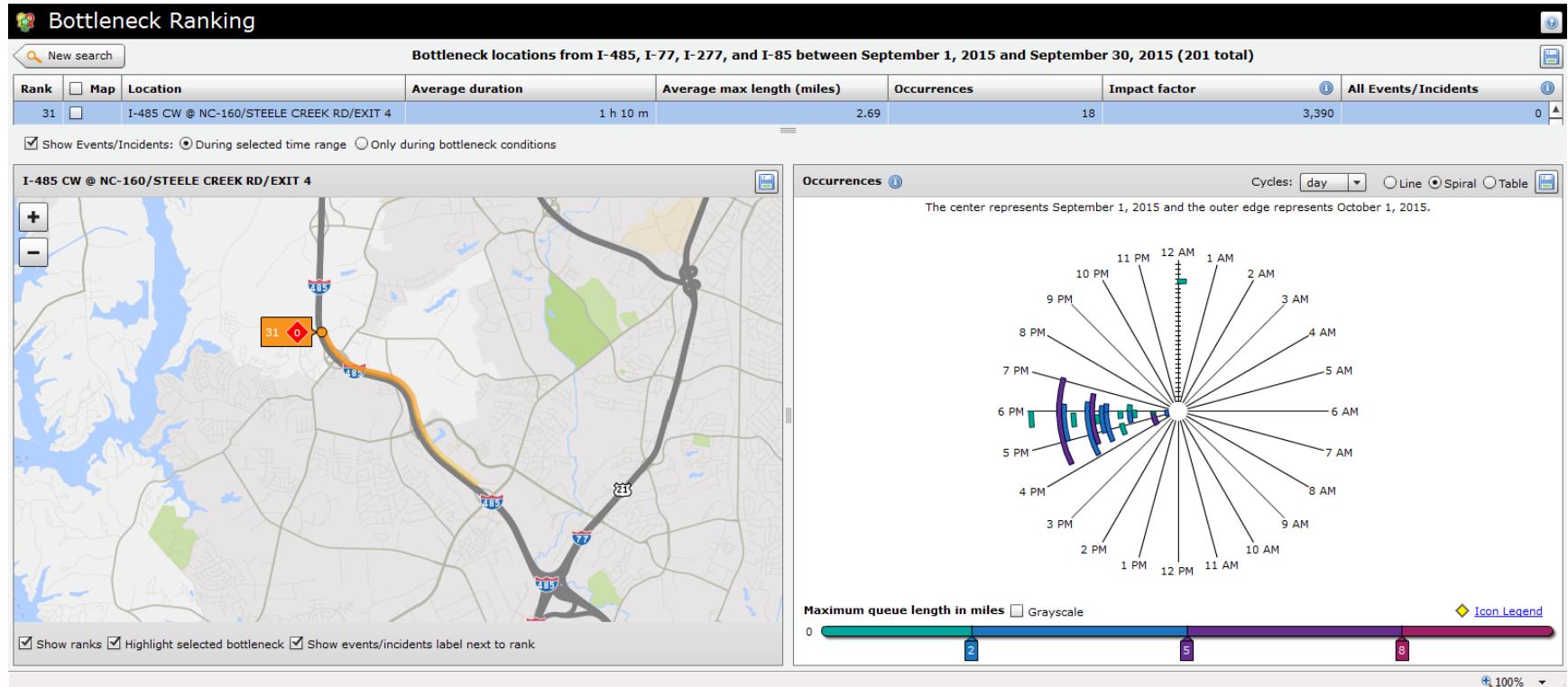
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 101. Congestion Scan C241



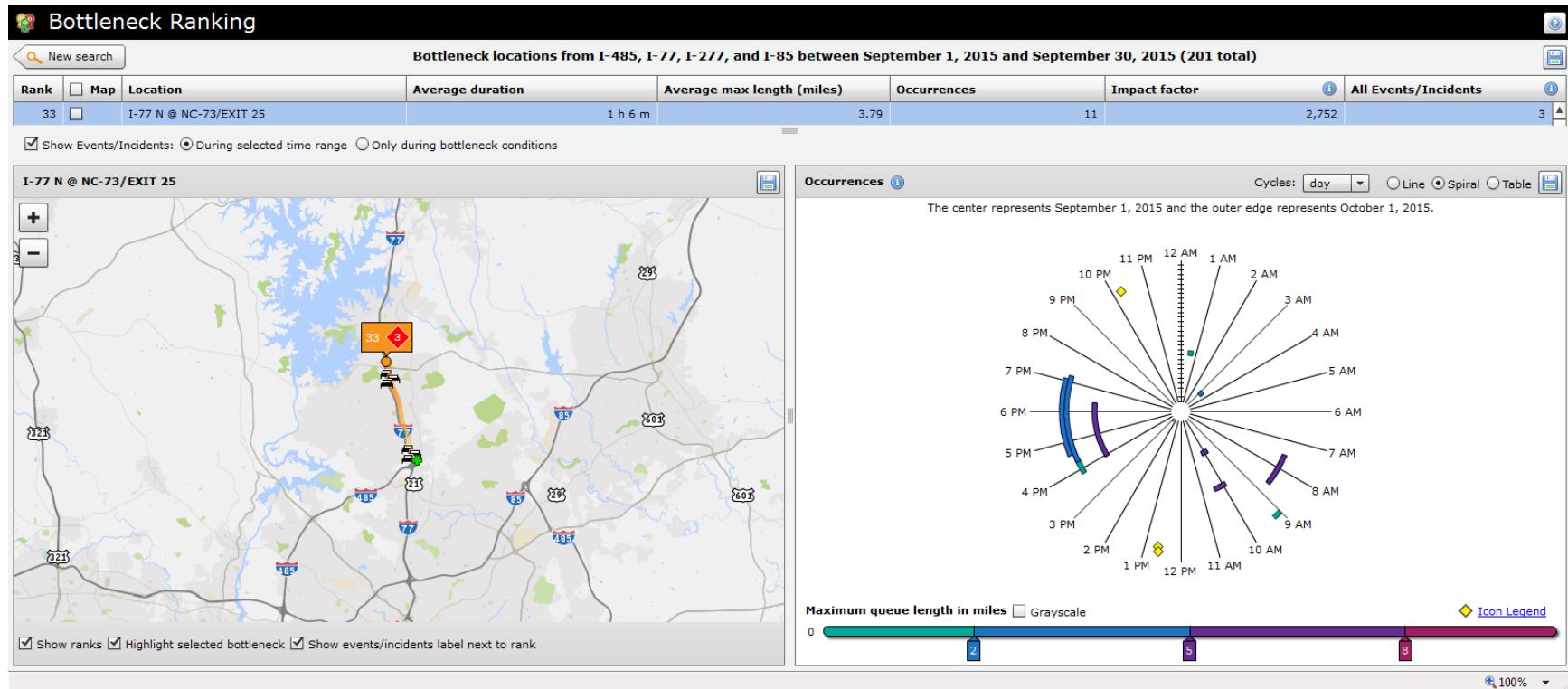
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 102. Congestion Scan C243



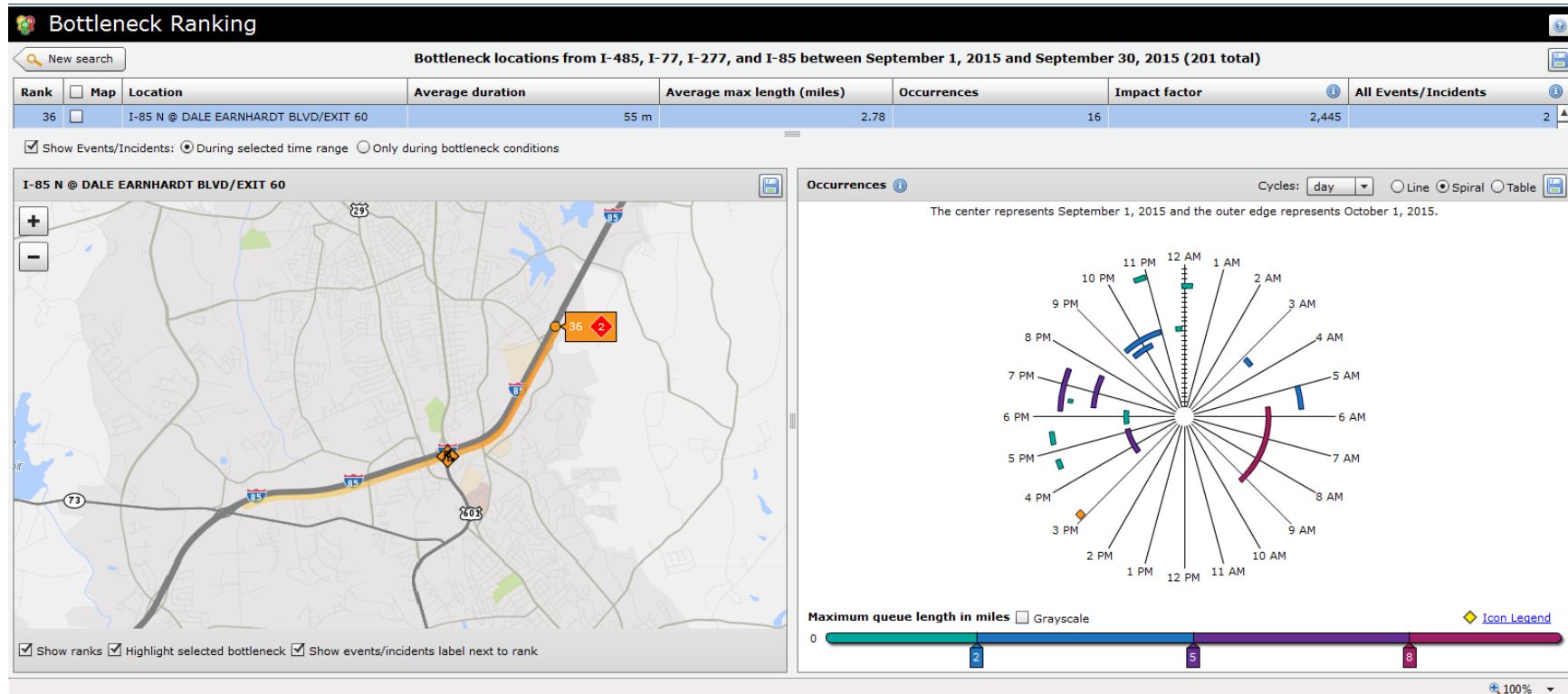
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 103. Congestion Scan C245



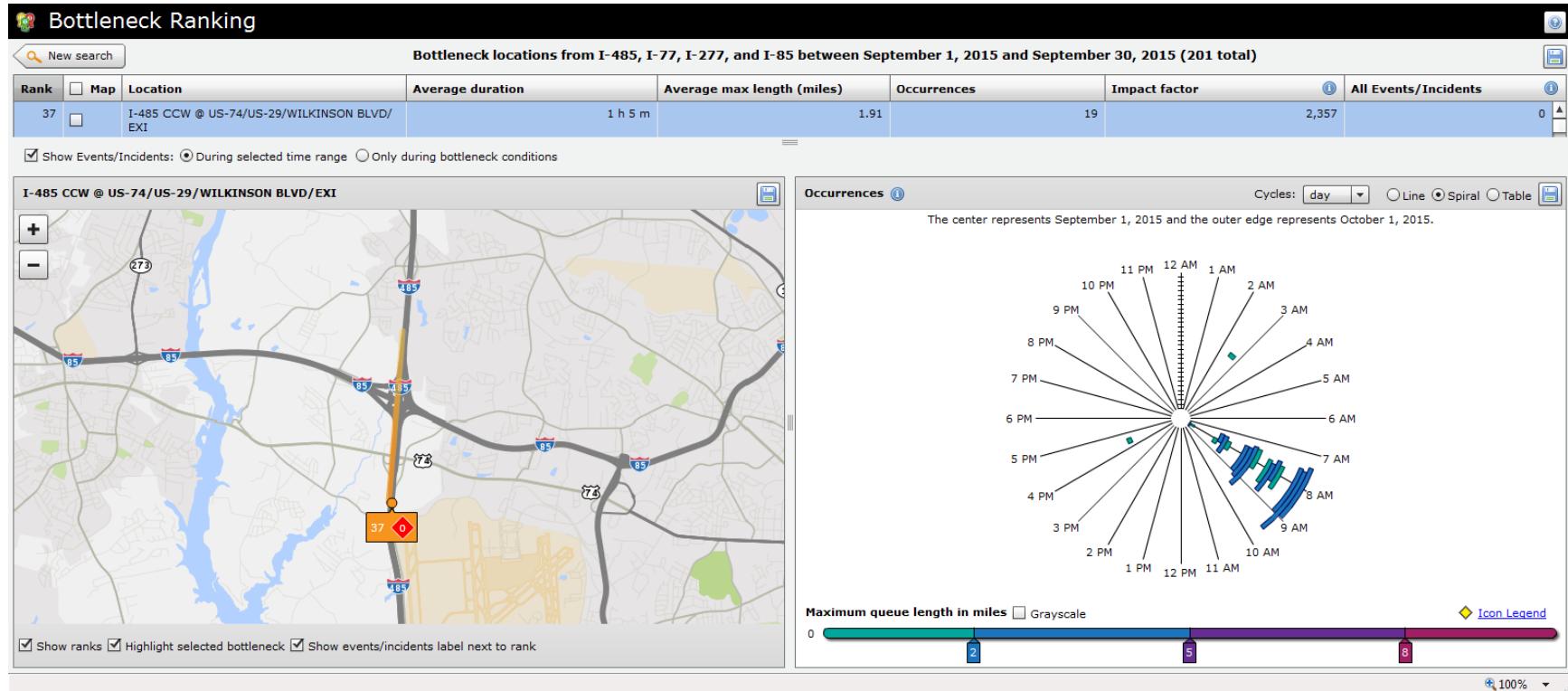
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 104. Congestion Scan C248



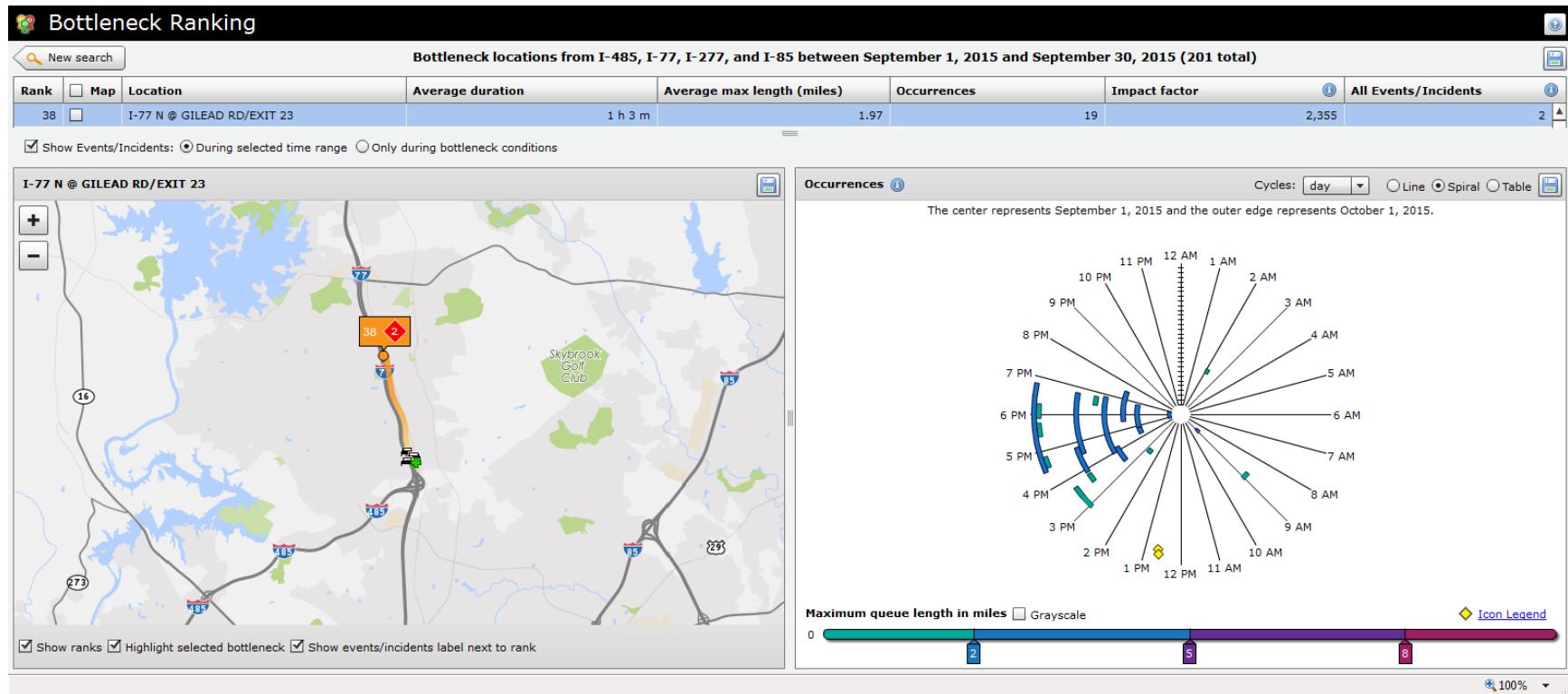
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 105. Congestion Scan C249



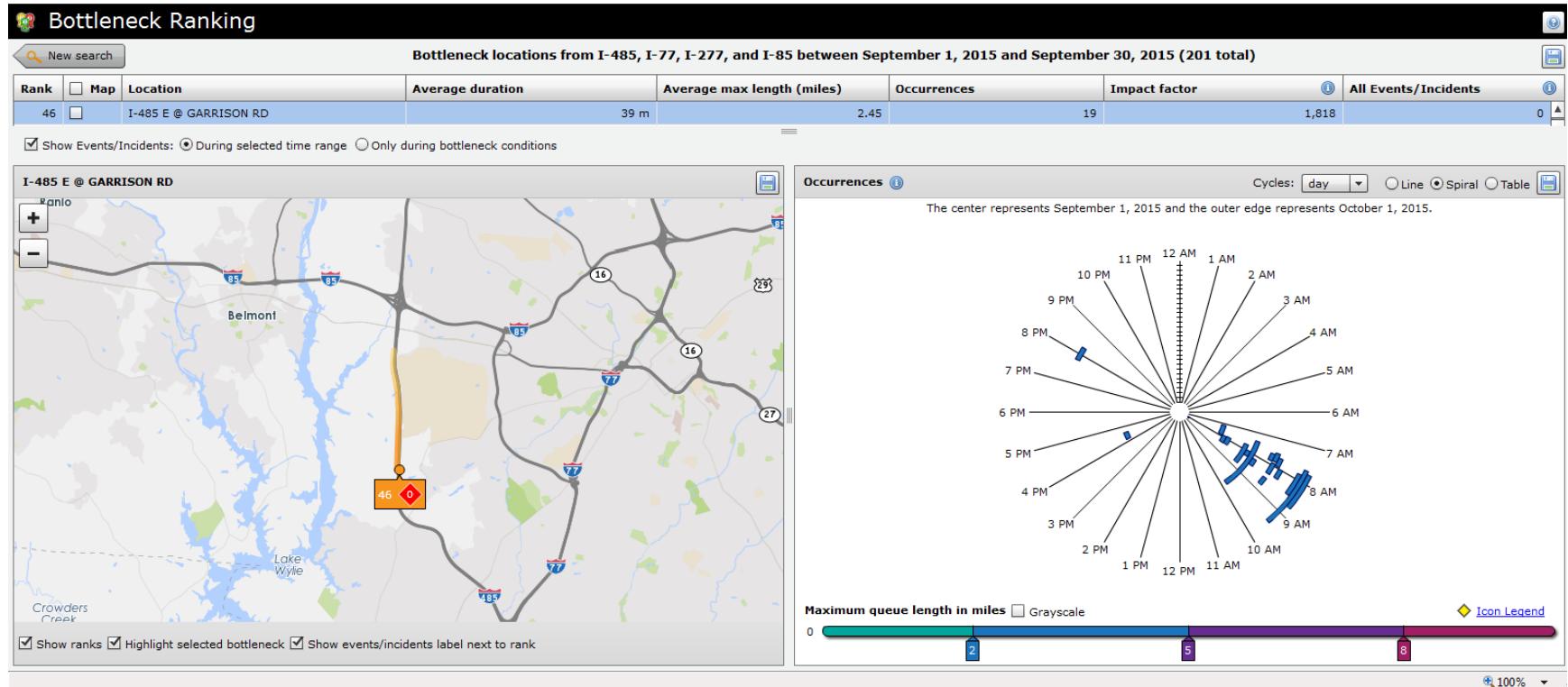
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 106. Congestion Scan C250



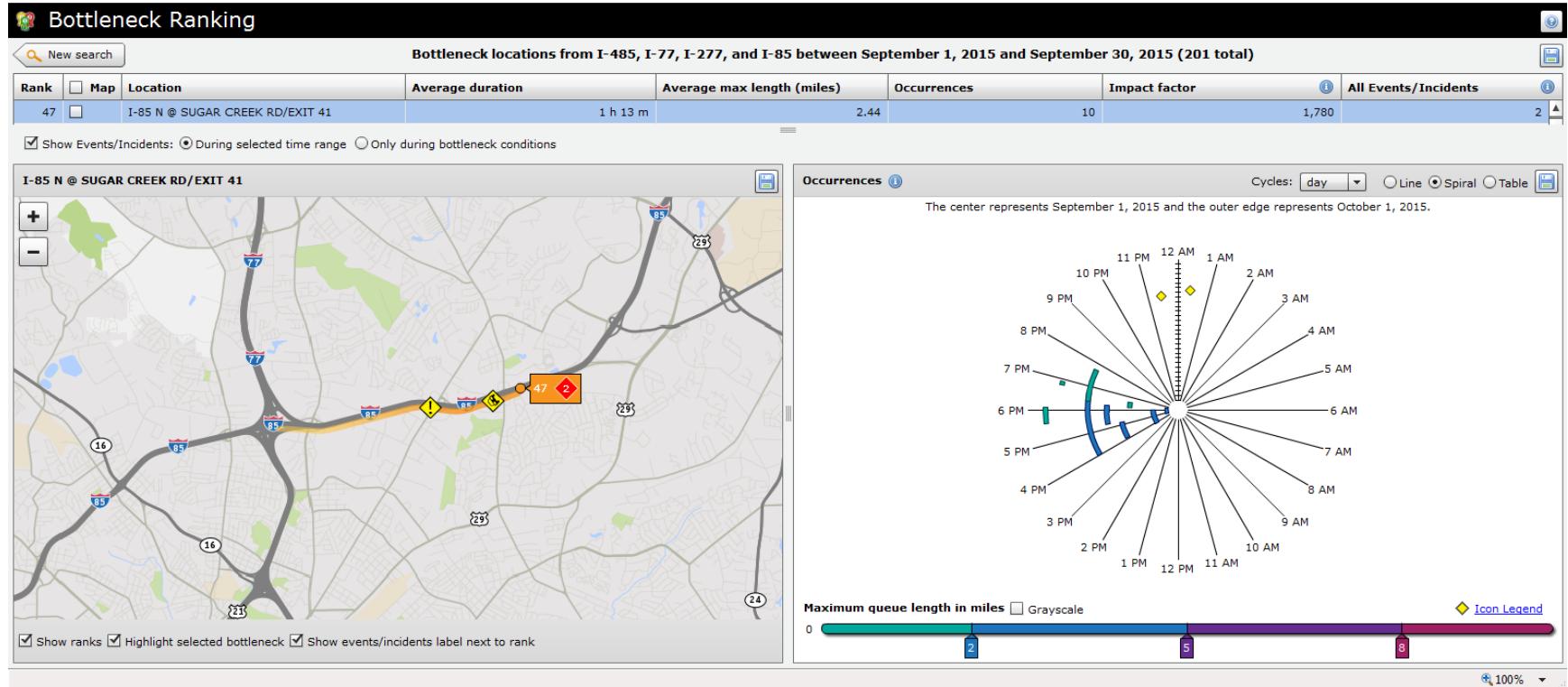
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 107. Congestion Scan C258



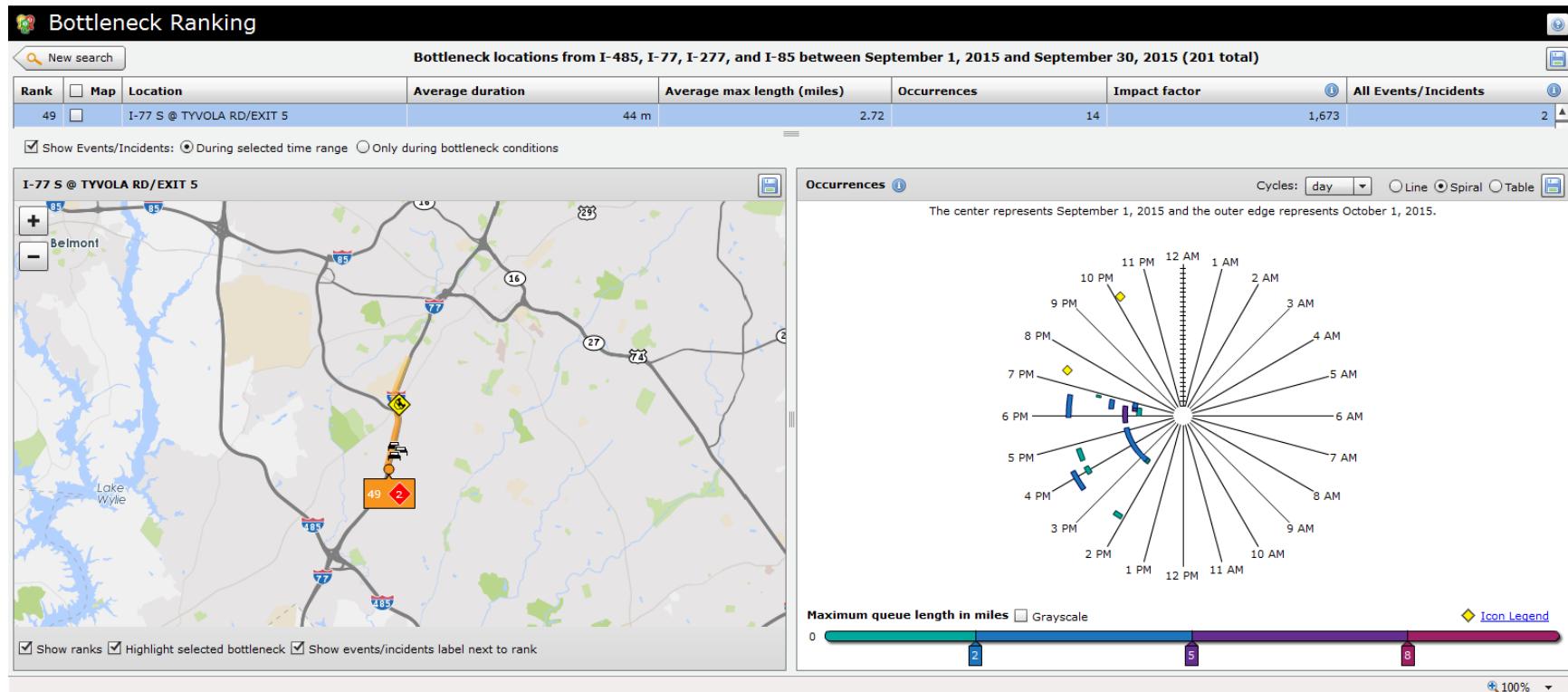
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 108. Congestion Scan C259



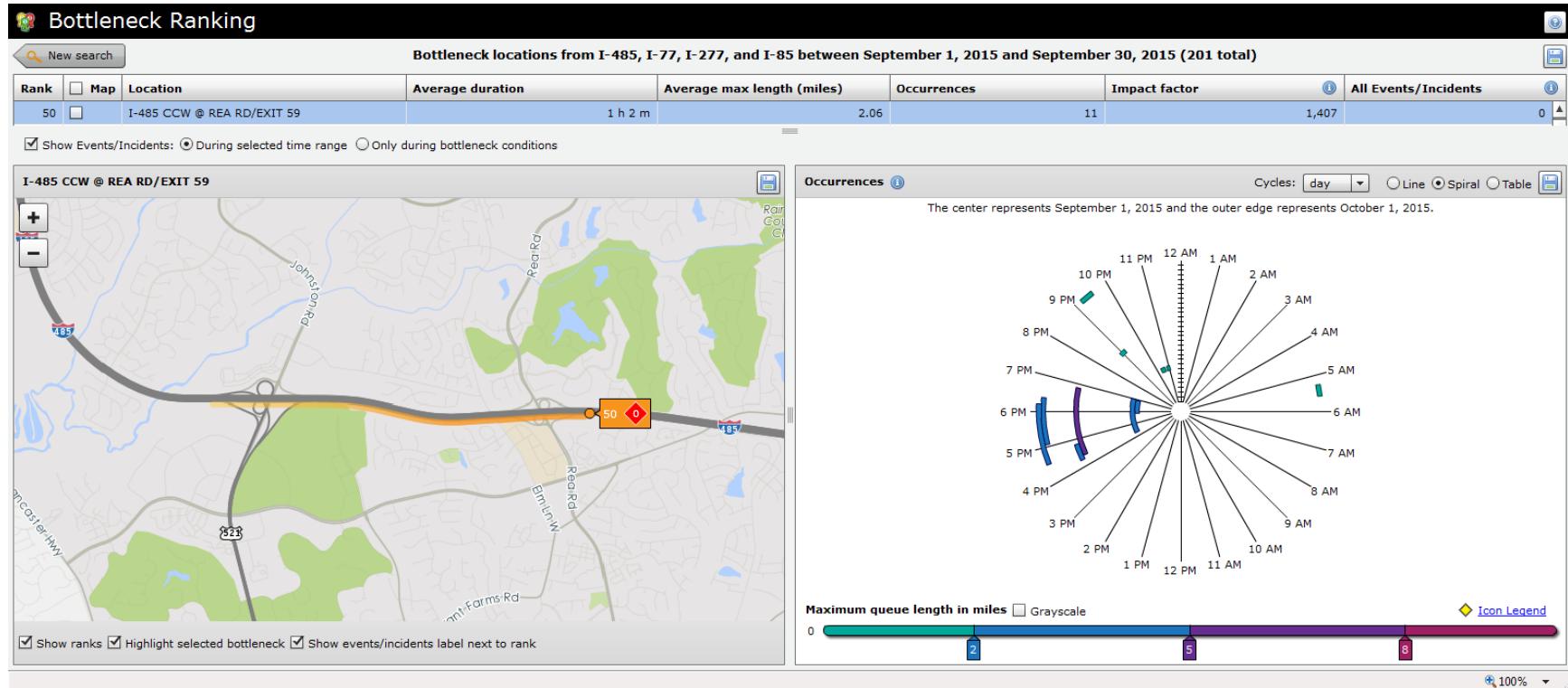
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 109. Congestion Scan C261



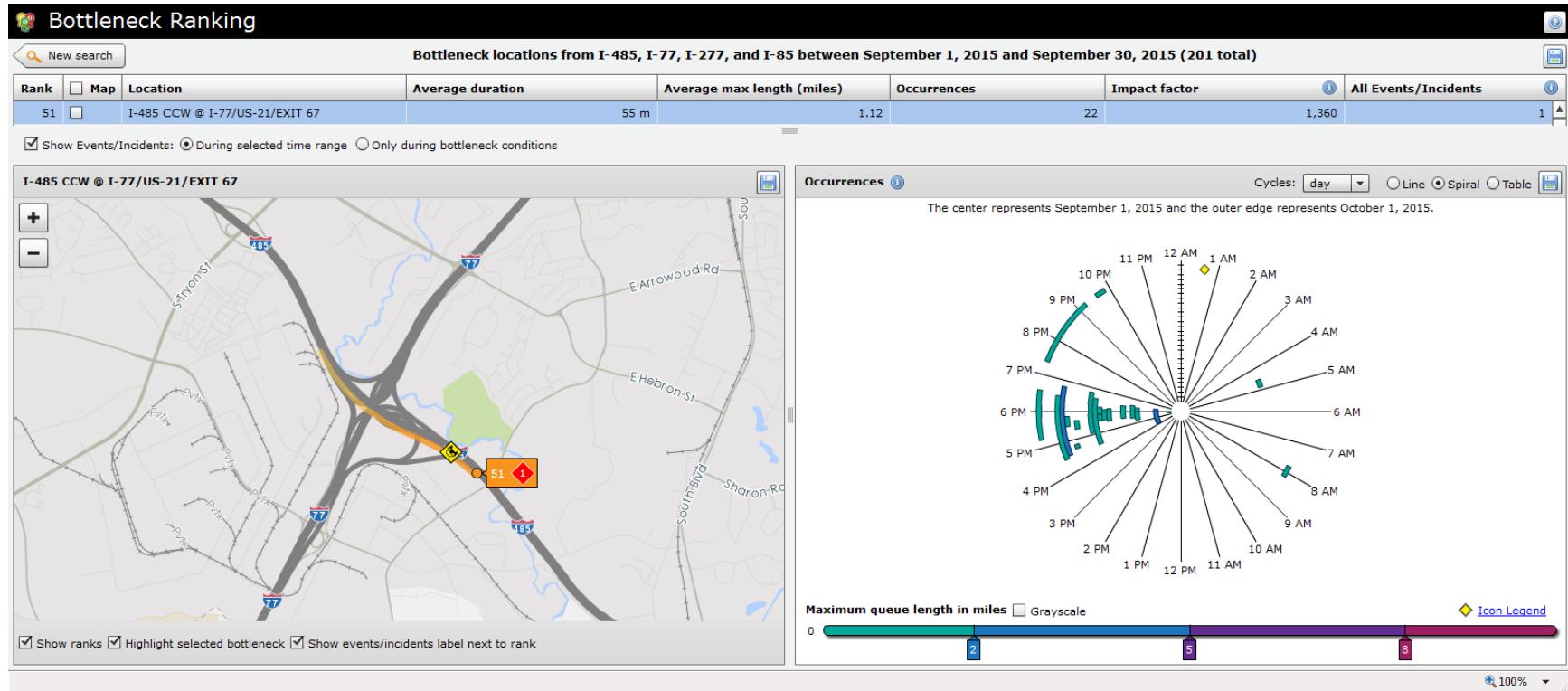
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 110. Congestion Scan C262



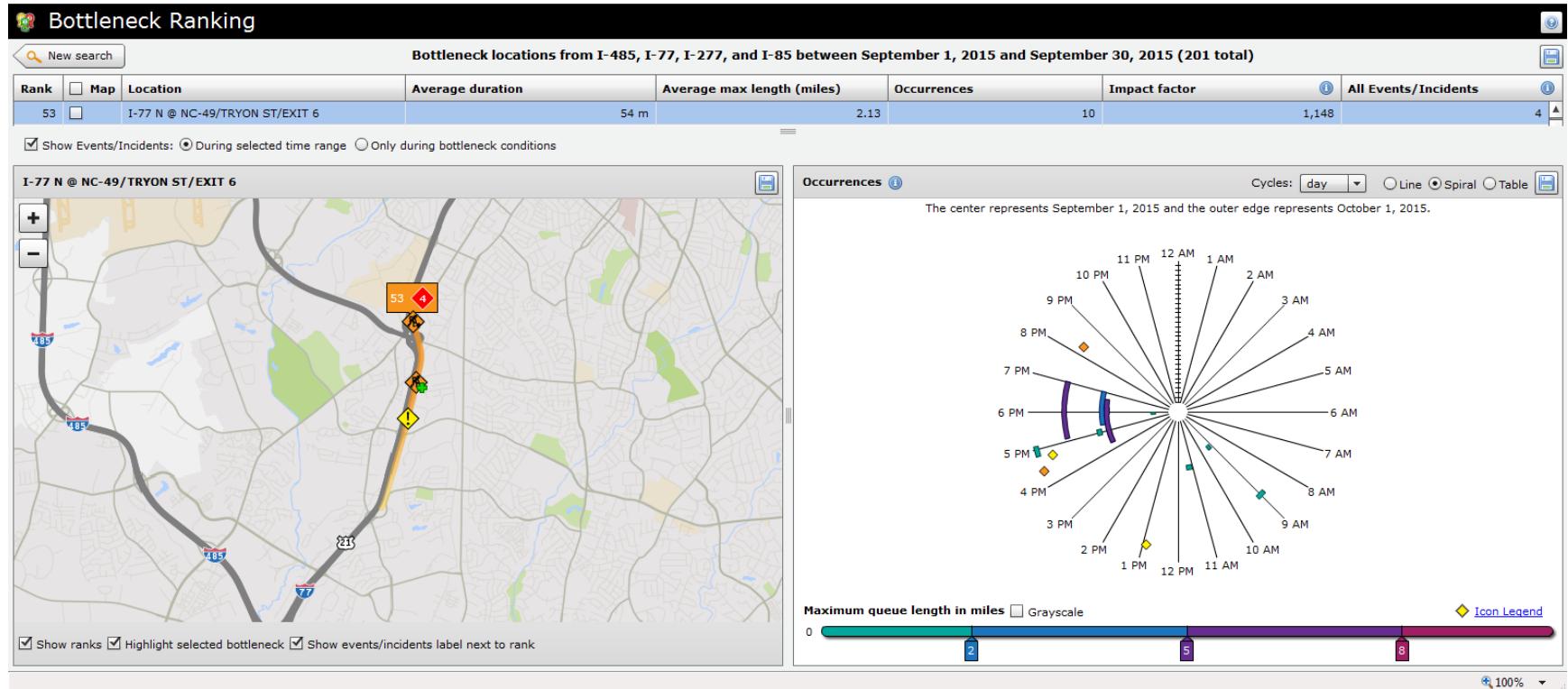
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 111. Congestion Scan C263



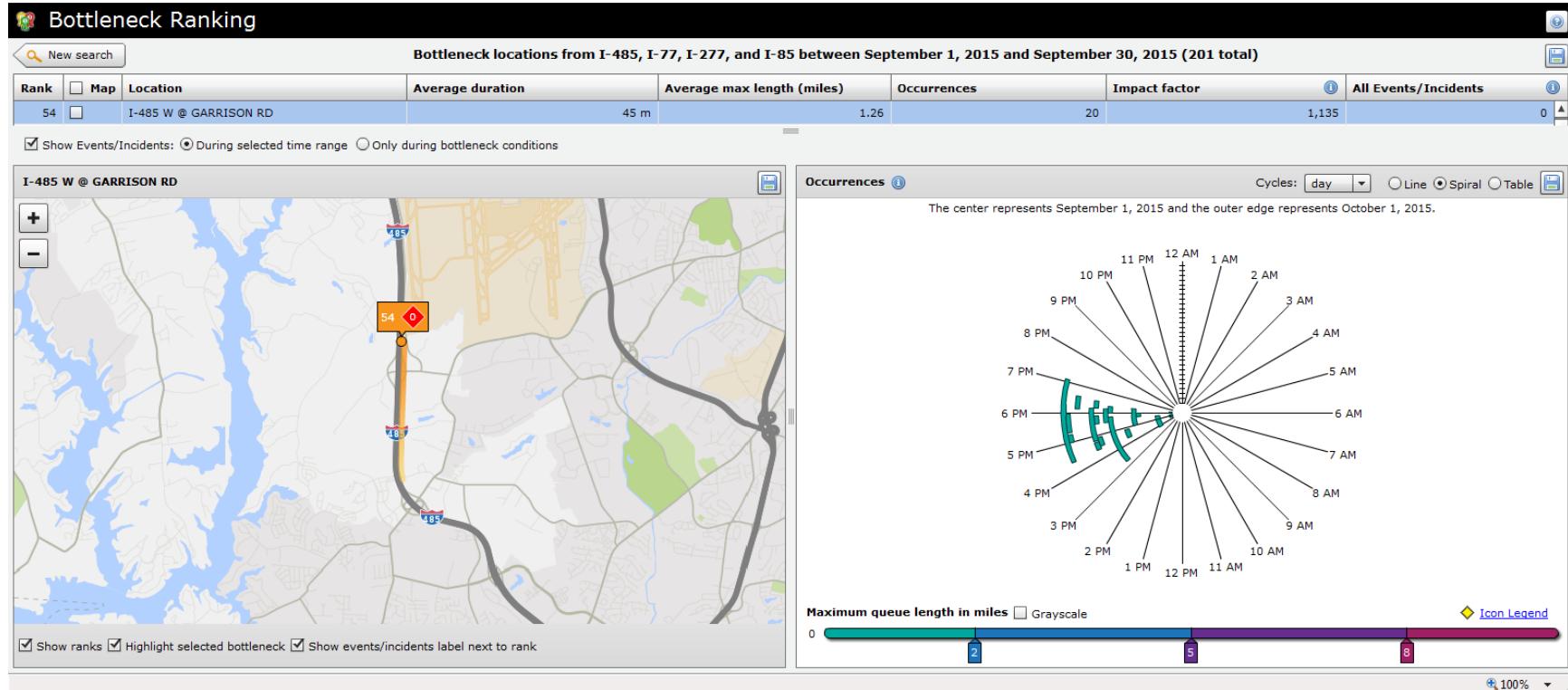
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 112. Congestion Scan C265



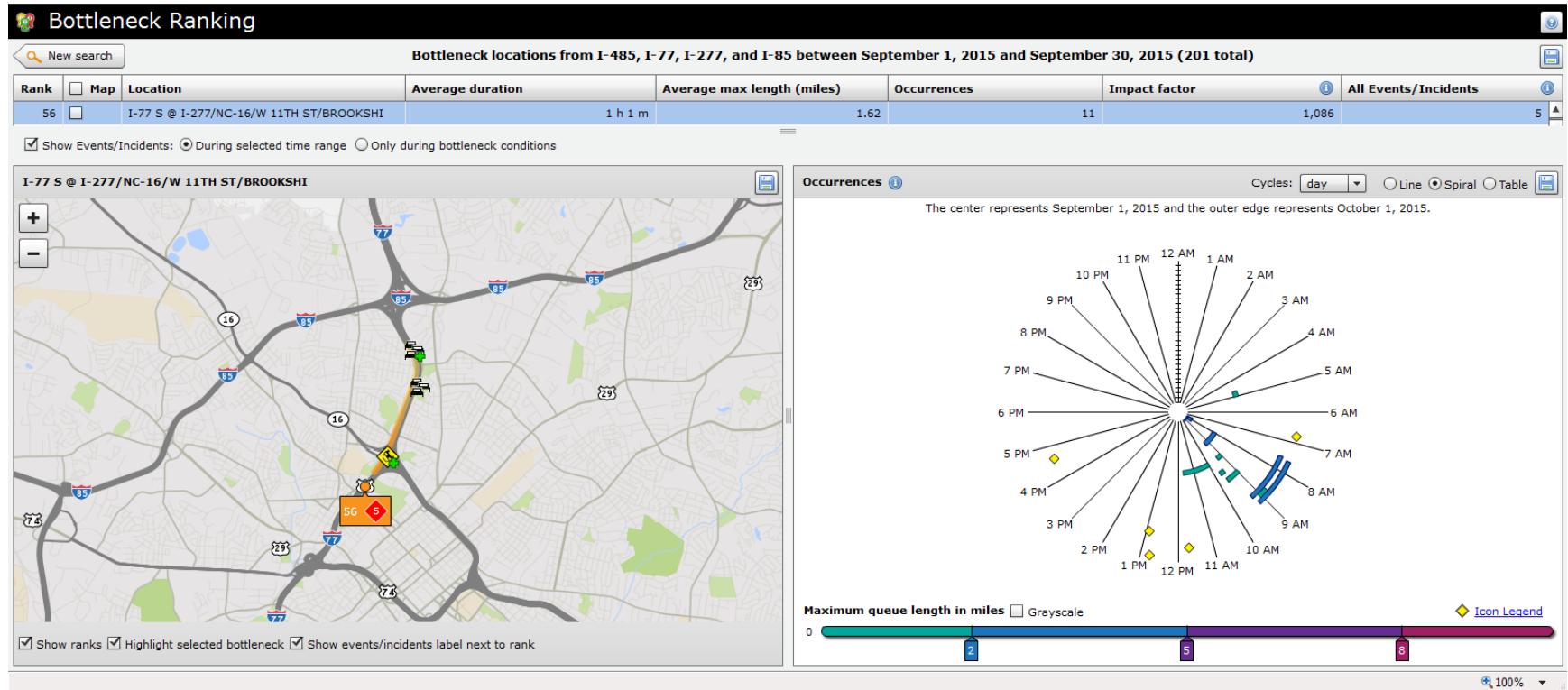
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 113. Congestion Scan C266



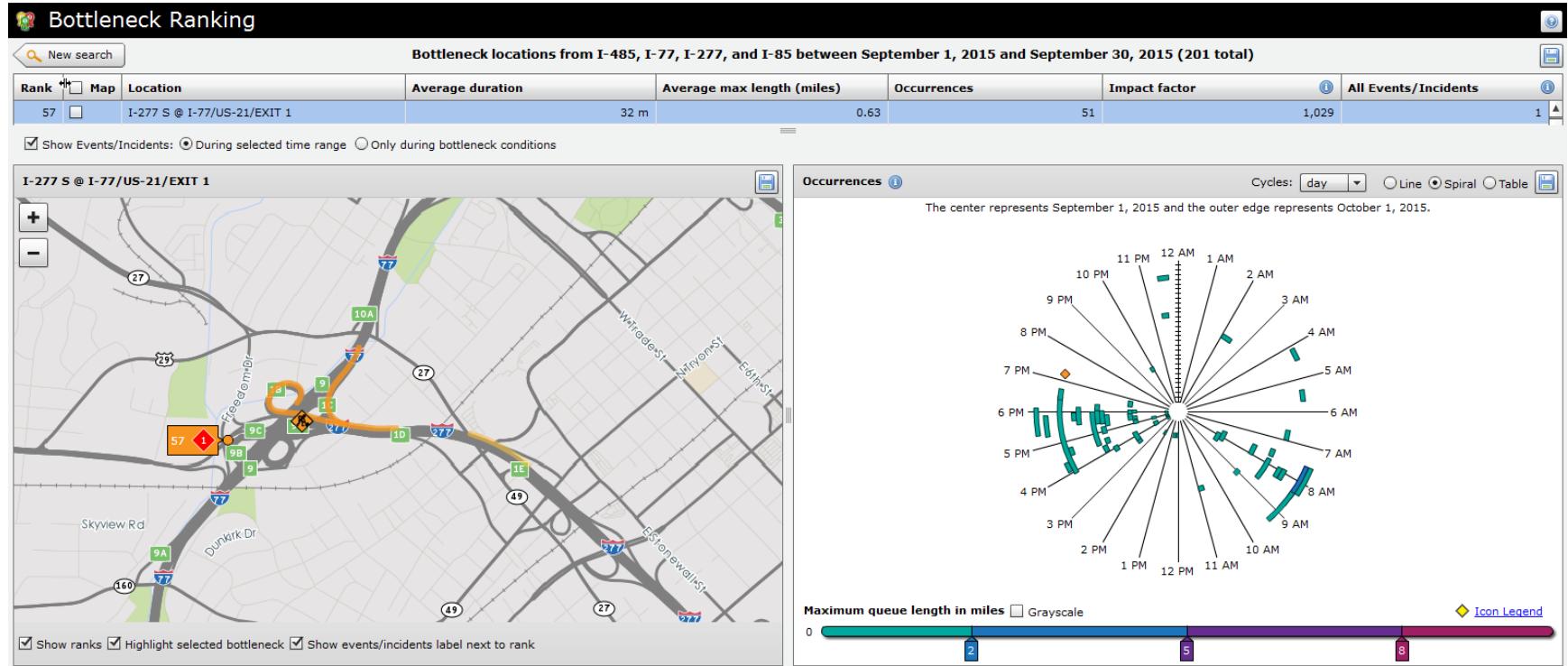
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 114. Congestion Scan C268



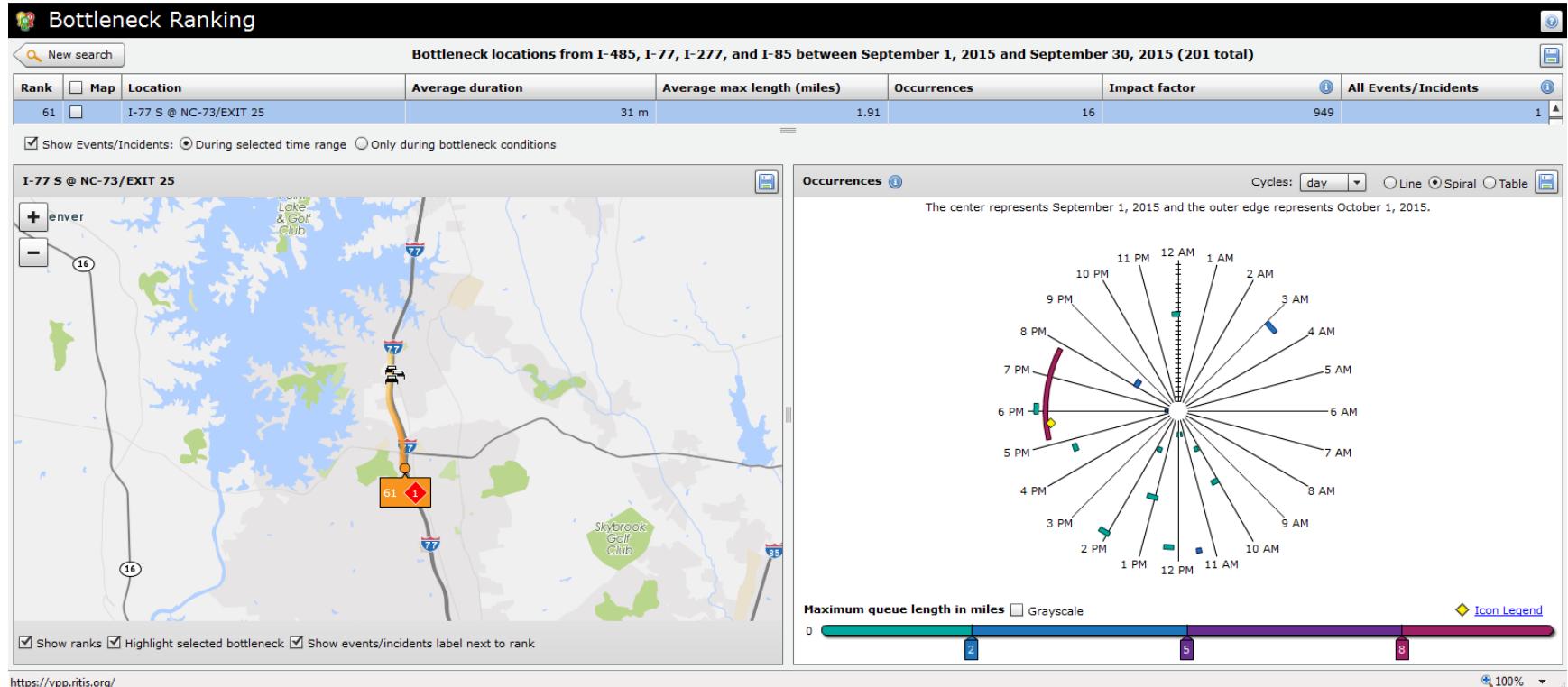
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 115. Congestion Scan C269



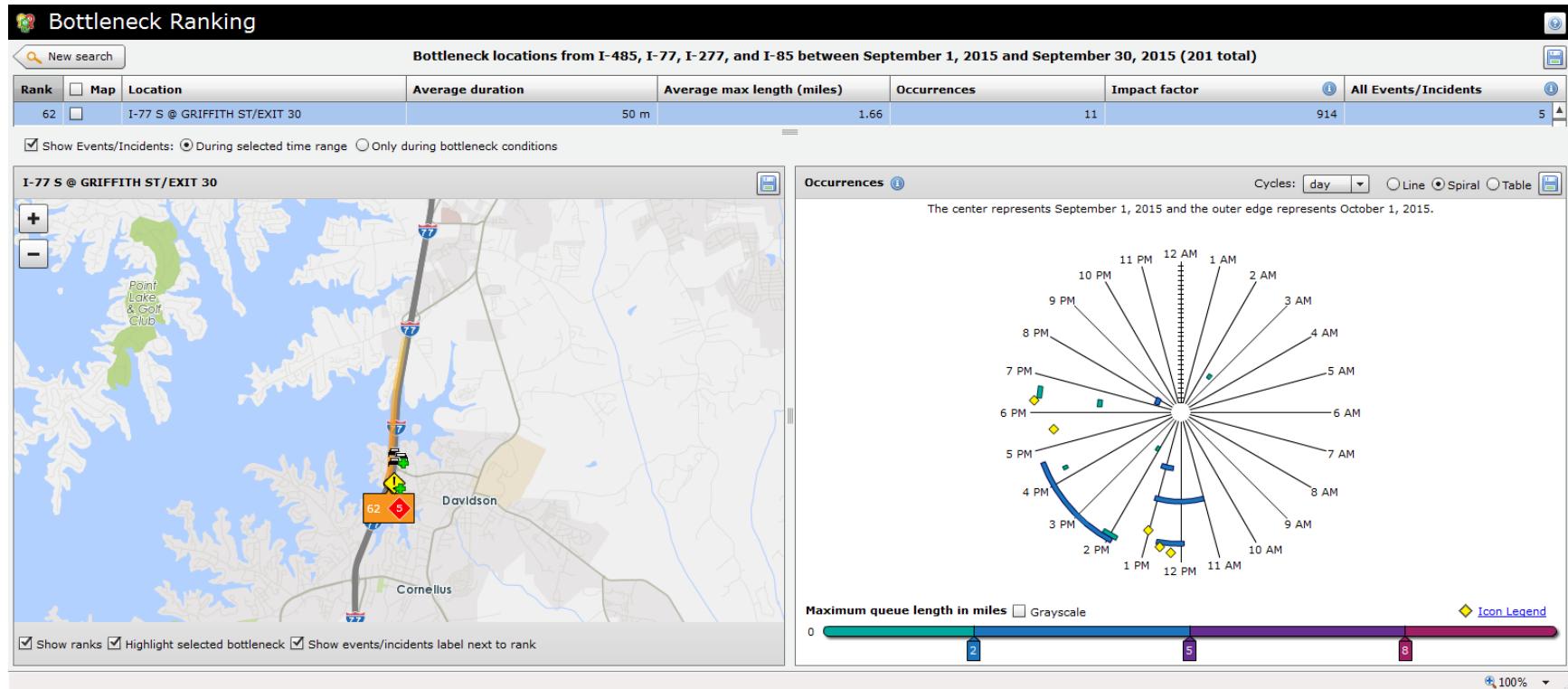
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 116. Congestion Scan C273



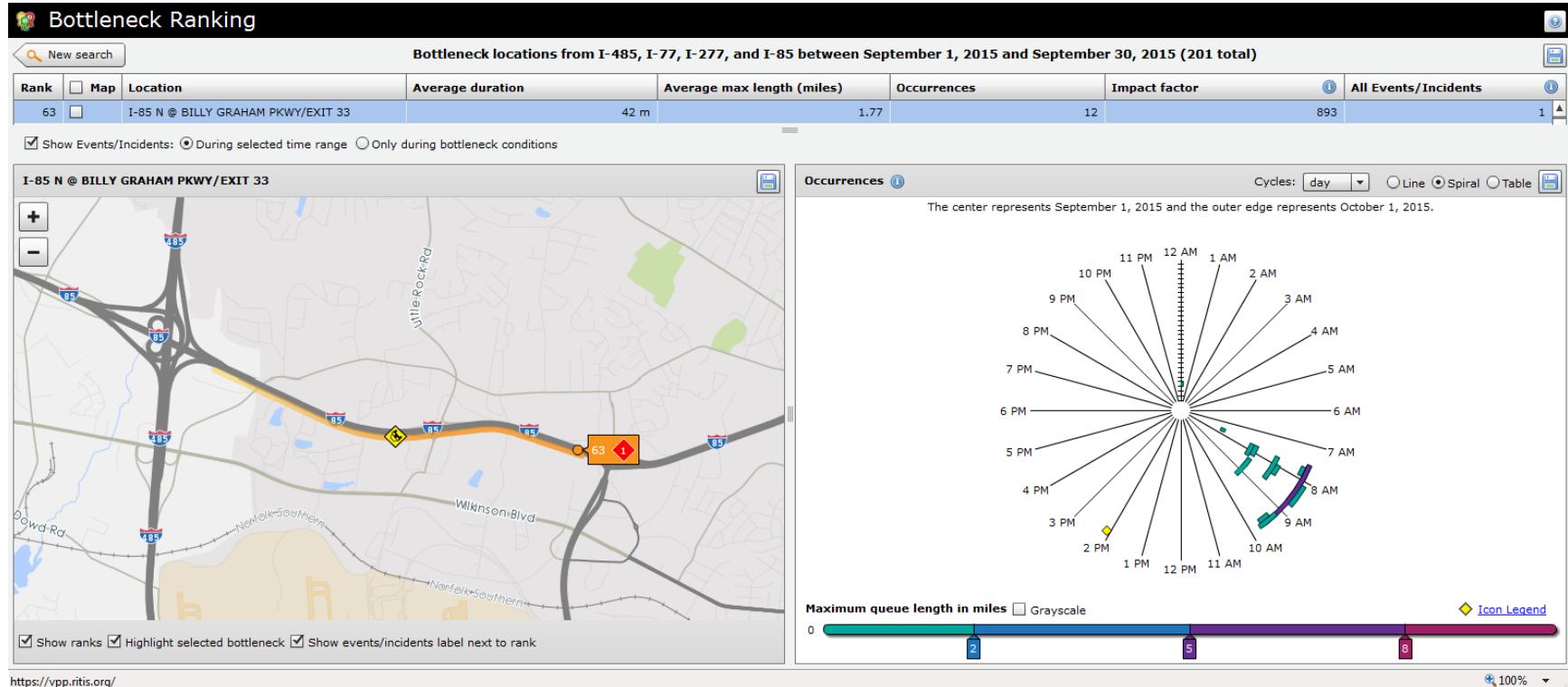
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 117. Congestion Scan C274



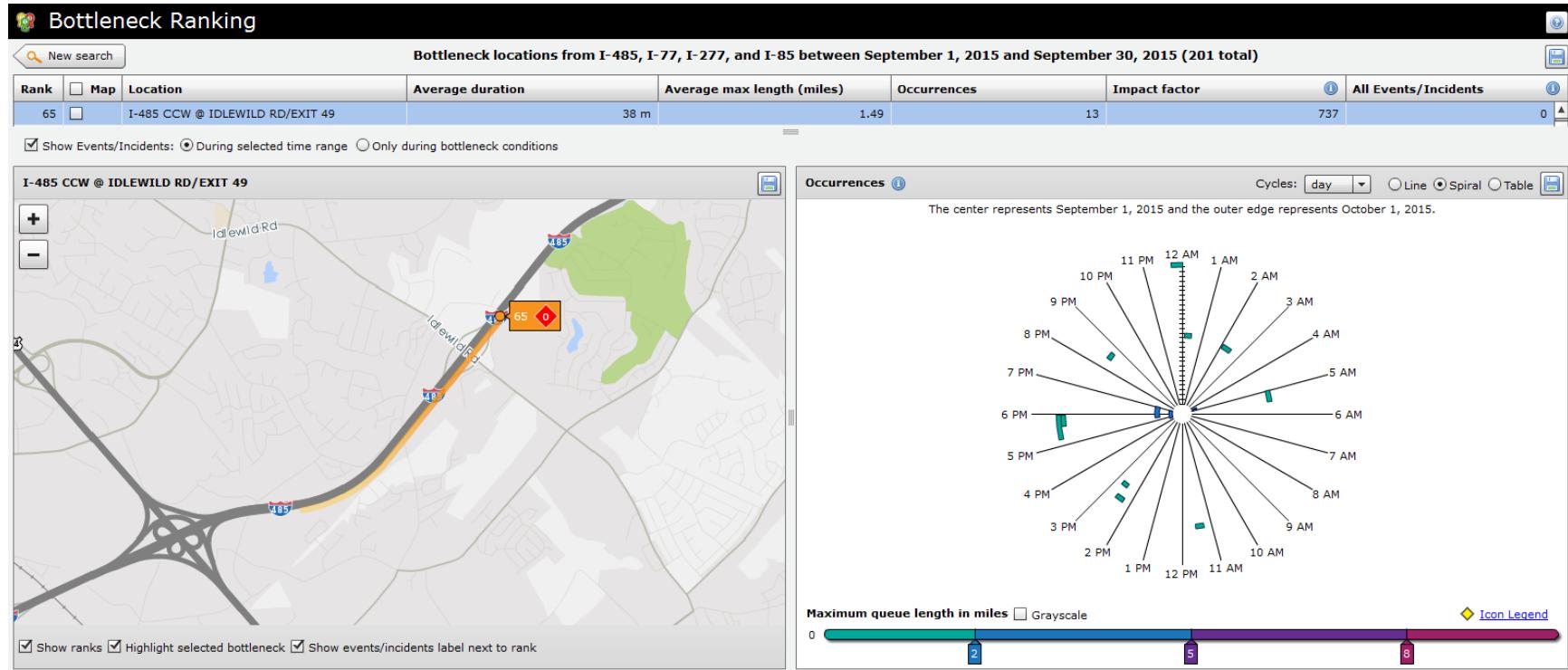
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 118. Congestion Scan C275



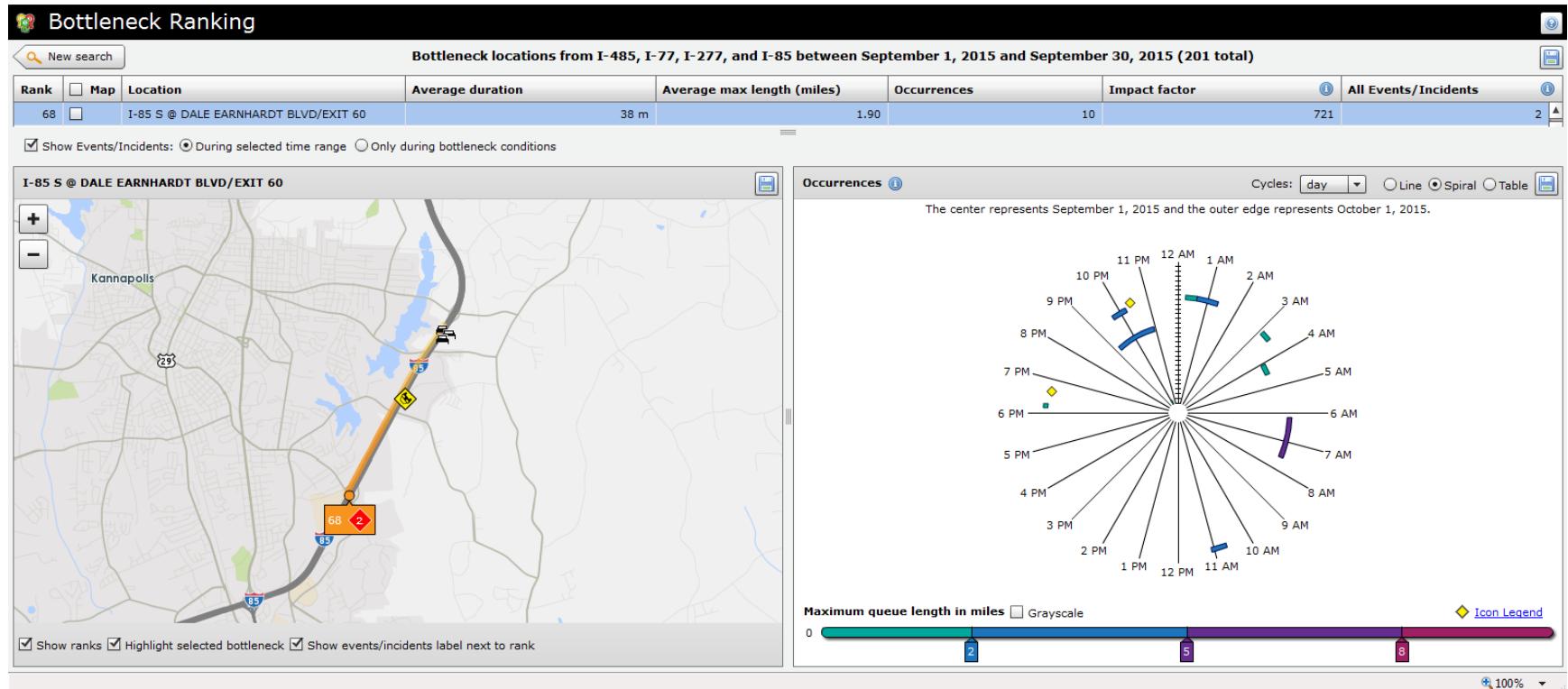
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 119. Congestion Scan C277



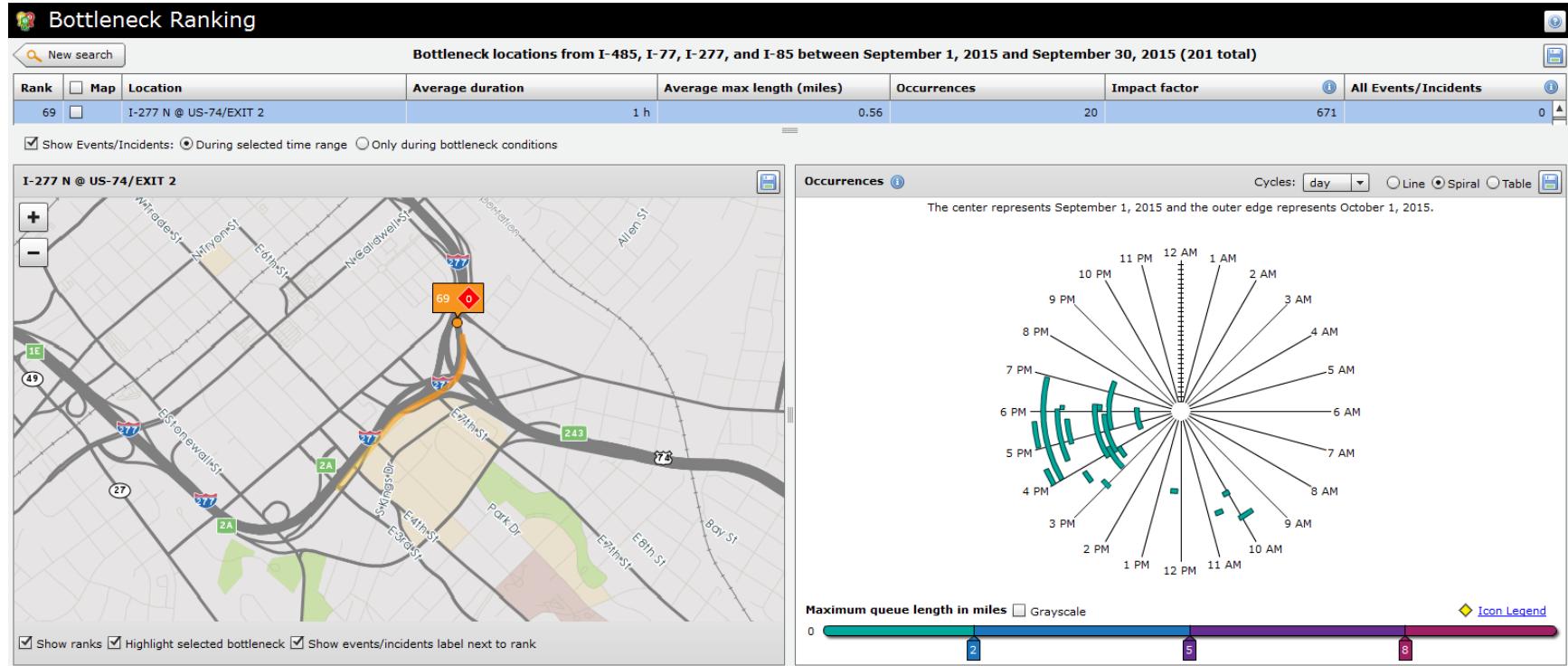
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 120. Congestion Scan C280



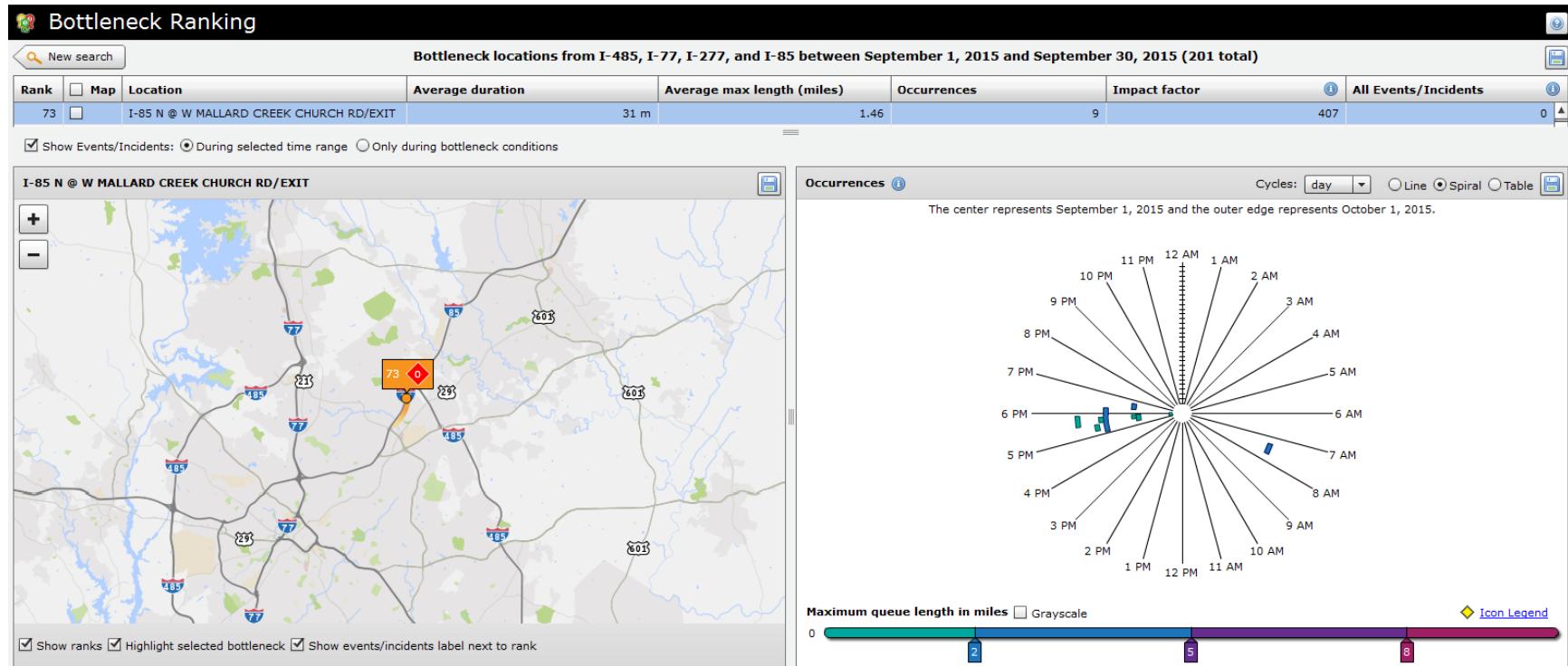
M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 121. Congestion Scan C281



M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg Counties
Final Screening Analysis Report

Figure 122. Congestion Scan C285



Appendix D – Aggregation of Congestion Scans

Appendix D
Aggregation of Congestion Scans

| TO Freeway | Direction | Bottleneck Reference Number | Mainline Primary Log 1 | Mainline Primary Log 2 | Mainline Secondary Log | FROM Cross Street (from Congestion Scan) | County | Merged Congestion Reference Number |
|------------|-----------|-----------------------------|------------------------|------------------------|------------------------|------------------------------------------|-------------|------------------------------------|
| I-277 | SB | C046 | 1 | | | I-77/US-21 Exit 1 | Mecklenburg | M001 |
| I-277 | SB | C269 | 1 | | | I-77/US-21 Exit 1 | Mecklenburg | |
| I-277 | NB | C083 | 10 | | 7 | NC-16 W 2nd St/Kenilworth Ave Exit 2A | Mecklenburg | M002 |
| I-277 | NB | C094 | 13 | | | Davidson St Exit 3 | Mecklenburg | M003 |
| I-277 | NB | C058 | 13 | | 12 | US-74 Exit 2 | Mecklenburg | |
| I-277 | NB | C281 | 13 | | 12 | US-74 Exit 2 | Mecklenburg | |
| I-85 | SB | C021 | 33 | | 35, 37 | NC-7 Exit 23 | Gaston | M004 |
| I-85 | SB | C230 | 33 | | 35, 37 | NC-7 Exit 23 | Gaston | |
| I-85 | NB | C033 | 34 | | 32, 30 | NC-7 Exit 23 | Gaston | M005 |
| I-85 | NB | C238 | 34 | | 32, 30, 28 | NC-7 Exit 23 | Gaston | |
| I-85 | SB | C026 | 35 | | 37, 39, 40 | Belmont-Mt Holly Exit 26 | Gaston | M006 |
| I-85 | NB | C275 | 45 | | | Billy Graham Pkwy Exit 33 | Mecklenburg | M007 |
| I-85 | SB | C027 | 61 | | 64, 66, 68, 69, 70, 72 | Statesville Ave Exit 39 | Mecklenburg | M008 |
| I-85 | SB | C241 | 61 | | 64, 66, 68 | Statesville Ave Exit 39 | Mecklenburg | |
| I-85 | SB | C042 | 64 | | 66, 68, 69, 70 | Graham St Exit 40 | Mecklenburg | M009 |
| I-85 | NB | C036 | 65 | | 63, 62 | Graham St Exit 40 | Mecklenburg | M010 |
| I-85 | NB | C014 | 67 | | 65, 63, 62, 60, 57 | Sugar Creek Rd Exit 41 | Mecklenburg | M011 |
| I-85 | NB | C259 | 67 | | 65 | Sugar Creek Rd Exit 41 | Mecklenburg | |
| I-85 | SB | C037 | 68 | | 69, 70, 72 | US-29 Connector Exit 42 | Mecklenburg | M012 |
| I-85 | NB | C065 | 75 | | | Mallard Creek Church Rd Exit 46 | Mecklenburg | M013 |
| I-85 | NB | C285 | 75 | | | Mallard Creek Church Rd Exit 46 | Mecklenburg | |
| I-85 | SB | C215 | 84 | | 87, 89, 91 | NC-73 Exit 55 | Cabarrus | M014 |
| I-85 | NB | C032 | 86 | | 84 | US-29 Alt Exit 58 | Cabarrus | M015 |
| I-85 | NB | C233 | 86 | | | US-29 Alt Exit 58 | Cabarrus | |
| I-85 | SB | C008 | 87 | | 89, 91 | US-29 Alt Exit 58 | Cabarrus | M016 |
| I-85 | SB | C234 | 87 | | 89 | US-29 Alt Exit 58 | Cabarrus | |
| I-85 | SB | C280 | 89 | | | Dale Earnhardt Blvd Exit 60 | Cabarrus | M017 |
| I-85 | NB | C051 | 90 | | 88 | Dale Earnhardt Blvd Exit 60 | Cabarrus | M018 |
| I-85 | NB | C248 | 90 | | 88 | Dale Earnhardt Blvd Exit 60 | Cabarrus | |
| I-85 | NB | C015 | 92 | | 90, 88 | Lane St Exit 63 | Cabarrus | M19 |
| I-85 | NB | C218 | 92 | | 90, 88, 86 | Lane St Exit 63 | Cabarrus | |
| I-85 | NB | C007 | 92 | | 90, 88, 86 | NC-152 Exit 68 | Cabarrus | |

Appendix D
Aggregation of Congestion Scans

| TO Freeway | Direction | Bottleneck Reference Number | Mainline Primary Log 1 | Mainline Primary Log 2 | Mainline Secondary Log | FROM Cross Street (from Congestion Scan) | County | Merged Congestion Reference Number |
|------------|-----------|-----------------------------|------------------------|------------------------|---------------------------------------------|------------------------------------------|-------------|------------------------------------|
| I-77 | SB | C006 | 93 | | 97, 102, 104, 106, 108, 109 | Westinghouse Blvd Exit 1 | Mecklenburg | M020 |
| I-77 | SB | C219 | 93 | | 97, 102, 104, 106, 108 | Westinghouse Blvd Exit 1 | Mecklenburg | |
| I-485 | Outer | C097 | 76 | 77 | 207 | I-85 | Mecklenburg | M042 |
| I-77 | SB | C012 | 102 | | 104, 106, 108, 109, 111, | Nations Ford Rd Exit 4 | Mecklenburg | M021 |
| I-77 | SB | C225 | 102 | | 104, 106, 108, 109, 111 | Nations Ford Rd Exit 4 | Mecklenburg | |
| I-77 | NB | C043 | 103 | | 101, 100, 98, 96 | Nations Ford Rd Exit 4 | Mecklenburg | M022 |
| I-77 | SB | C028 | 104 | | 106, 108, 109, 111, | Tyvola Rd Exit 5 | Mecklenburg | M023 |
| I-77 | SB | C261 | 104 | | 106, 108, 109 | Tyvola Rd Exit 5 | Mecklenburg | |
| I-77 | NB | C024 | 105 | | 103, 101, 100, 98 | Tyvola Rd Exit 5 | Mecklenburg | M024 |
| I-77 | NB | C236 | 105 | | 103, 101, 100, | Tyvola Rd Exit 5 | Mecklenburg | |
| I-77 | NB | C010 | 105 | | 103, 101, 100, 98, 96 | Woodlawn Rd Exit 6 | Mecklenburg | |
| I-77 | NB | C229 | 105 | | 103, 101, 100 | Woodlawn Rd Exit 6 | Mecklenburg | |
| I-77 | NB | C029 | 107 | | 105, 103, 101, 100 | NC-49/Tryon St Exit 6 | Mecklenburg | M025 |
| I-77 | NB | C265 | 107 | | 105 | NC-49/Tryon St Exit 6 | Mecklenburg | |
| I-77 | NB | C022 | 110 | | 107, 105, 103 | Clanton Rd Exit 7 | Mecklenburg | M026 |
| I-77 | NB | C231 | 110 | | 107, 105, | Clanton Rd Exit 7 | Mecklenburg | |
| I-77 | SB | C017 | 111 | | 112, 116, 117, 119, 120 | Remount Rd Exit 8 | Mecklenburg | M027 |
| I-77 | NB | C221 | 111 | | 112, 116, 117, 119, 120, 123, 125 | Remount Rd Exit 8 | Mecklenburg | |
| I-77 | NB | C009 | 114 | | 110, 107, 105, 103, 101, 100, 98, 96 | I-277/US-74 Exit 9 | Mecklenburg | M028 |
| I-77 | NB | C216 | 114 | | 113, 107, 105, 103, 101, 100 | I-277/US-74 Exit 9 | Mecklenburg | |
| I-77 | SB | C053 | 123 | | | I-277/NC-16/W 11th St/Brookshire Exit 12 | Mecklenburg | M029 |
| I-77 | NB | C237 | 124 | | 122, 121, 118, 115, 114, 113, 110 | LaSalle St Exit 12 | Mecklenburg | M030 |
| I-77 | NB | C002 | 129 | | 128, 124, 122, 118, 115, 114, 113, 110, 107 | I-85/Statesville Ave Exit 13 | Mecklenburg | M031 |
| I-77 | SB | C003 | 139 | | 141, 142, 144 | Gilead Rd Exit 23 | Mecklenburg | |

Appendix D
Aggregation of Congestion Scans

| TO Freeway | Direction | Bottleneck Reference Number | Mainline Primary Log 1 | Mainline Primary Log 2 | Mainline Secondary Log | FROM Cross Street (from Congestion Scan) | County | Merged Congestion Reference Number |
|------------|-----------|-----------------------------|------------------------|------------------------|-----------------------------------------|------------------------------------------|-------------|------------------------------------|
| I-77 | SB | C214 | 139 | | 141, 142, 144, 146 | Gilead Rd Exit 23 | Mecklenburg | M032 |
| I-77 | SB | C213 | 139 | | 141, 142, 144, 146, 148 | I-485 Exit 19 | Mecklenburg | |
| I-77 | NB | C077 | 140 | | | Gilead Rd Exit 23 | Mecklenburg | M033 |
| I-77 | NB | C250 | 140 | | | Gilead Rd Exit 23 | Mecklenburg | |
| I-77 | SB | C273 | 141 | | 142 | NC-73 Exit 25 | Mecklenburg | M034 |
| I-77 | NB | C048 | 143 | | | NC-73 Exit 25 | Mecklenburg | M035 |
| I-77 | NB | C245 | 143 | | 140 | NC-73 Exit 25 | Mecklenburg | |
| I-77 | NB | C005 | 145 | | 143, 140 | US-21 Exit 28 | Mecklenburg | M036 |
| I-77 | NB | C232 | 145 | | 143 | US-21 Exit 28 | Mecklenburg | |
| I-77 | SB | C034 | 146 | | | Griffith St Exit 30 | Mecklenburg | M037 |
| I-77 | SB | C274 | 146 | | | Griffith St Exit 30 | Mecklenburg | |
| I-77 | NB | C018 | 147 | | 145, 143 | Griffith St Exit 30 | Mecklenburg | M038 |
| I-77 | NB | C001 | 147 | | 145, 143, 140 | Iredell/Mecklenburg County Line | Mecklenburg | |
| I-77 | NB | C220 | 147 | | 145, 143, 140 | Iredell/Mecklenburg County Line | Mecklenburg | |
| I-77 | NB | C222 | 147 | | 145, 143, 140, | Griffith St Exit 30 | Mecklenburg | |
| I-485 | Outer | C258 | 180 | | | West Blvd/Garrison Rd Exit 6 | Mecklenburg | M039 |
| I-485 | Inner | C266 | 181 | | | West Blvd/Garrison Rd Exit 6 | Mecklenburg | M040 |
| I-485 | Outer | C057 | 182 | | | US-74/US-29/Wilkinson Blvd/Exit 6 | Mecklenburg | M041 |
| I-485 | Outer | C249 | 182 | | | US-74/US-29/Wilkinson Blvd/Exit 6 | Mecklenburg | |
| I-485 | Outer | C277 | 224 | | | Idlewild Rd Exit 49 | Mecklenburg | M043 |
| I-77 | SB | C268 | 119 | 120 | 123 | I-277/NC-16/W 11th St/Brookshire Exit 11 | Mecklenburg | M044 |
| I-77 | NB | C226 | 128 | 129 | 124, 122, 121, 118, 115, 114, 113, 110, | I-85/Statesville Ave Exit 13 | Mecklenburg | M045 |
| I-77 | SB | C004 | 136 | 137 | 139, 141, 142, 144 | I-485 Exit 19 | Mecklenburg | M046 |
| I-77 | SB | C039 | 141 | 142 | 144 | NC-73 Exit 25 | Mecklenburg | M047 |
| I-77 | SB | C020 | 150 | 151 | 153, 155 | US-21 Exit 33 | Iredell | M048 |
| I-485 | Inner | C030 | 177 | 179 | 175, 173 | NC-160/Steele Creek Rd Exit 4 | Mecklenburg | M049 |
| I-485 | Inner | C243 | 177 | 179 | 175 | NC-160/Steele Creek Rd Exit 4 | Mecklenburg | |

Appendix D
Aggregation of Congestion Scans

| TO Freeway | Direction | Bottleneck Reference Number | Mainline Primary Log 1 | Mainline Primary Log 2 | Mainline Secondary Log | FROM Cross Street (from Congestion Scan) | County | Merged Congestion Reference Number |
|------------|-----------|-----------------------------|------------------------|------------------------|------------------------|------------------------------------------|-------------|------------------------------------|
| I-277 | NB | C025 | 21 | 22 | 18, 17 | W 5Th St Exit 5 | Mecklenburg | M050 |
| I-277 | NB | C239 | 21 | 22 | 18, 17 | W 5Th St Exit 5 | Mecklenburg | |
| I-485 | Outer | C019 | 230 | 232 | 234, 235, 238, 239 | NC-16 Providence Rd Exit 57 | Mecklenburg | M051 |
| I-485 | Outer | C223 | 230 | 232 | 234, 235, 238, 239 | NC-16 Providence Rd Exit 57 | Mecklenburg | |
| I-485 | Inner | C011 | 231 | 233 | 229, 227 | NC-16 Providence Rd Exit 57 | Mecklenburg | M052 |
| I-485 | Inner | C227 | 231 | 233 | 229 | NC-16 Providence Rd Exit 57 | Mecklenburg | |
| I-485 | Outer | C016 | 234 | 235 | 238, 239 | Rea Rd Exit 59 | Mecklenburg | M053 |
| I-485 | Outer | C262 | 234 | 235 | 238 | Rea Rd Exit 59 | Mecklenburg | |
| I-485 | Inner | C023 | 236 | 237 | 233, 231 | Rea Rd Exit 59 | Mecklenburg | M054 |
| I-485 | Inner | C240 | 236 | 237 | 233, 231, | Rea Rd Exit 59 | Mecklenburg | |
| I-485 | Outer | C038 | 238 | 239 | | US-521 Exit 61 | Mecklenburg | M055 |
| I-485 | Outer | C044 | 246 | 247 | | I-77/US-21 Exit 67 | Mecklenburg | M056 |
| I-485 | Outer | C263 | 246 | 247 | | I-77/US-21 Exit 67 | Mecklenburg | |
| I-85 | NB | C059 | 42 | 43 | 41 | I-485 EXIT 30 | Mecklenburg | M057 |

Appendix E – Screening Analysis Decision Summary

Appendix E
Screening Analysis Decision Summary

| Site Identification | | | | | Task 3: Screening Analysis | | | | | Task 4: Detailed Analysis | | | | | | |
|---------------------|----------------------------------------|------------|-------------------|----------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------|------------------------------------|---------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------|----------------------|--------------------|-------------------|------------------------------------------------------------------------------------------------|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | High Level Congestion Screening | | | | | Site Visit Data | | | | | | |
| | | | | | Total Impact Factor per Season | Adjacent to Significant Congestion? | Primary Site Fall or Spring | Primary Site Fall and Spring | Pass Congestion Screening Analysis | Ruled Out Reason Number 1 (Date/Reason/Who) | Ruled Out Reason Number 2 (Date/Reason/Who) | Ruled Out Reason Number 3 (F2F) (Date/Reason/Who) | Currently Ruled Out? | Recommended Action | Relevant Comment | |
| 078 | Concord Mills / Bruton Smith Blvd | I-85 | SB | 49 | Cabarrus | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 079 | Concord Mills / Bruton Smith Blvd | I-85 | SB | 49 | Cabarrus | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 080 | Concord Mills / Bruton Smith Blvd | I-85 | NB | 49 | Cabarrus | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 081 | Poplar Tent Rd | I-85 | SB | 52 | Cabarrus | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 082 | Poplar Tent Rd | I-85 | NB | 52 | Cabarrus | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 083 | Kannapolis Pkwy/ George Liles Pkwy | I-85 | SB | 52 | Cabarrus | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 084 | Kannapolis Pkwy/ George Liles Pkwy | I-85 | NB | 54 | Cabarrus | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 085 | NC 73 (Davidson Hwy) | I-85 | SB | 55 | Cabarrus | 35,961 | Y | Y | Yes | 02/19/2016 - Construction works caused congestion - AB | | | | Y | Restudy in Future | Significant congestion in fall only |
| 086 | NC 73 (Davidson Hwy) | I-85 | NB | 55 | Cabarrus | 5,399 | Y | Y | Yes | 01/05/16 - Site is at the extreme back of the congestion - JE | | | | Y | No Further Study | |
| 087 | US 29-601 (Concord Pkwy) | I-85 | SB | 58 | Cabarrus | 15,021 | Y | Y | Yes | 01/31/2016 - Construction works caused congestion -AB | | | | Y | No Further Study | |
| 088 | US 29-601 (Concord Pkwy) | I-85 | NB | 58 | Cabarrus | 23,271 | Y | | Yes | 01/31/2016 - Construction works caused congestion -AB | | | | Y | No Further Study | |
| 089 | Dale Earnhardt Blvd | I-85 | SB | 60 | Cabarrus | 33,362 | Y | Y | Yes | 01/31/2016 - Construction works caused congestion -AB | | | | Y | No Further Study | |
| 090 | Dale Earnhardt Blvd | I-85 | NB | 60 | Cabarrus | 23,271 | Y | Y | Yes | 01/31/2016 - Construction works caused congestion -AB | | | | Y | No Further Study | |
| 091 | Lane St | I-85 | SB | 63 | Cabarrus | 35,961 | Y | | Yes | 01/25/2016 - Construction works caused congestion - JE | | | | Y | Restudy in Future | Significant congestion in fall only |
| 092 | Lane St | I-85 | NB | 63 | Cabarrus | 21,525 | Y | Y | Yes | 01/31/2016 - Construction works caused congestion -AB | | | | Y | No Further Study | |
| 023 | N Chester St | I-85 | SB | 17 | Gaston | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 024 | N Chester St | I-85 | NB | 17 | Gaston | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 025 | Ozark Ave | I-85 | SB | 19 | Gaston | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 026 | Ozark Ave | I-85 | NB | 19 | Gaston | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 027 | New Hope Rd | I-85 | SB | 20 | Gaston | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 028 | New Hope Rd | I-85 | NB | 20 | Gaston | 4,142 | Y | | Yes | 01/05/16 - Site is at the extreme back of the congestion - JE | | | | Y | No Further Study | |
| 029 | Cox Rd | I-85 | SB | 21 | Gaston | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 030 | Cox Rd | I-85 | NB | 21 | Gaston | 4,142 | Y | | Yes | | | | | N | Detailed Analysis | |
| 031 | S Main St | I-85 | SB | 22 | Gaston | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 032 | S Main St | I-85 | NB | 22 | Gaston | 4,142 | Y | | Yes | | | | | N | Detailed Analysis | |
| 033 | McAdenville Rd) | I-85 | SB | 23 | Gaston | 9,367 | Y | Y | Yes | | | | | N | Detailed Analysis | |
| 034 | McAdenville Rd) | I-85 | NB | 23 | Gaston | 4,142 | Y | Y | Yes | | | | | N | Detailed Analysis | |
| 035 | Belmont-Mt. Holly Rd | I-85 | SB | 26 | Gaston | 12,405 | Y | Y | Yes | | | | | N | Detailed Analysis | |
| 036 | Belmont-Mt. Holly Rd | I-85 | NB | 26 | Gaston | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 037 | Beatty Dr / Park St | I-85 | SB | 27 | Gaston | 12,405 | Y | | Yes | | | | | N | Detailed Analysis | |
| 038 | Beatty Dr / Park St | I-85 | NB | 27 | Gaston | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 148 | Langtree Rd | I-77 | SB | 31 | Iredell | | | | Yes | 02/19/16 - Retain per SC Mtg. - AB | | | | N | Detailed Analysis | |
| 149 | Langtree Rd | I-77 | NB | 31 | Iredell | | | | Yes | 02/19/16 - Retain per SC Mtg. - AB | | | | N | Detailed Analysis | |
| 150 | Williams Rd / US 21 (Charlotte Hwy) | I-77 | SB | 33 | Iredell | 9,847 | Y | Y | Yes | | | | | N | Restudy in Future | Significant congestion in spring only |
| 151 | Williams Rd / US 21 (Charlotte Hwy) | I-77 | SB | 33 | Iredell | 9,847 | Y | Y | Yes | | 02/18/16 AB-Potential Bridge Replacement | | | Y | Restudy in Future | Significant congestion in spring only |
| 152 | Williams Rd / US 21 (Charlotte Hwy) | I-77 | NB | 33 | Iredell | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 153 | SR 1100 (Brawley School Rd) | I-77 | SB | 35 | Iredell | 9,847 | Y | | Yes | | | | | N | Restudy in Future | Significant congestion in spring only, 02/12/2016 - No Primary Site and Low Impact Factor - JE |
| 154 | SR 1100 (Brawley School Rd) | I-77 | NB | 35 | Iredell | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 155 | NC 150 (W Plaza Dr) | I-77 | SB | 36 | Iredell | 9,847 | Y | | Yes | | 02/18/16 AB-Inadequate Acceleration Distance Other | | | Y | Restudy in Future | Significant congestion in spring only, 02/12/2016 - No Primary Site and Low Impact Factor - JE |
| 156 | NC 150 (W Plaza Dr) | I-77 | NB | 36 | Iredell | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 157 | US 21-NC 115 (Main St / Charlotte Hwy) | I-77 | SB | 42 | Iredell | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 158 | US 21-NC 115 (Main St / Charlotte Hwy) | I-77 | NB | 42 | Iredell | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 159 | Amity Hill Rd | I-77 | NB | 45 | Iredell | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 160 | Amity Hill Rd | I-77 | SB | 45 | Iredell | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 161 | US 70 (Garner Bagnal Blvd) | I-77 | SB | 49 | Iredell | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 162 | US 70 (Garner Bagnal Blvd) | I-77 | NB | 49 | Iredell | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 163 | Salisbury Rd | I-77 | SB | 49 | Iredell | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 164 | Salisbury Rd | I-77 | NB | 49 | Iredell | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 165 | East Broad St | I-77 | NB | 50 | Iredell | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 166 | East Broad St | I-77 | SB | 50 | Iredell | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 167 | I-40 EB | I-77 | SB | 51 | Iredell | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | | |
| 168 | I-40 EB | I-77 | NB | 51 | Iredell | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | | |
| 169 | I-40 WB | I-77 | SB | 51 | Iredell | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | | |
| 170 | I-40 WB | I-77 | NB | 51 | Iredell | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | | |

Appendix E
Screening Analysis Decision Summary

| Site Identification | | | | | | Task 3: Screening Analysis | | | | | Task 4: Detailed Analysis | | | | | | |
|---------------------|------------------------------|------------|-------------------|----------------------|-------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------|------------------------------------|---------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------|----------------------|--------------------|---------------------------------------------------------|--|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | High Level Congestion Screening | | | | | Site Visit Data | | | | | | |
| | | | | | | Total Impact Factor per Season | Adjacent to Significant Congestion? | Primary Site Fall or Spring | Primary Site Fall and Spring | Pass Congestion Screening Analysis | Ruled Out Reason Number 1 (Date/Reason/Who) | Ruled Out Reason Number 2 (Date/Reason/Who) | Ruled Out Reason Number 3 (F2F) (Date/Reason/Who) | Currently Ruled Out? | Recommended Action | Relevant Comment | |
| 001 | I-77 NB | I-277 | Inner | 1 | Mecklenburg | 1,208 | Y | Y | Y | Yes | 01/05/16 - F2F site - JE | | 3/10/16 - Sight distance AB | Y | No Further Study | | |
| 002 | Clarkson St | I-277 | Outer | 1 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 003 | I-77 NB | I-277 | Outer | 1 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | | |
| 004 | Church St | I-277 | Inner | 1E | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 005 | South Blvd | I-277 | Inner | 1E | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 006 | Church St | I-277 | Outer | 1E | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 007 | South Blvd | I-277 | Outer | 1E | Mecklenburg | 280 | Y | | | Yes | 01/13/16 - Site is at the extreme back of the congestion - JC | | | Y | Restudy in Future | Significant congestion in spring only | |
| 008 | Stonewall St | I-277 | Inner | 2A | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 009 | E 3rd St / E 4th St | I-277 | Inner | 2A | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 010 | Stonewall St | I-277 | Outer | 2A | Mecklenburg | 280 | Y | Y | | Yes | 02/24/16 - Drop per SC Mtg. - AB | | | Y | Restudy in Future | Significant congestion in spring only | |
| 011 | US 74 (Independence Blvd.) | I-277 | Inner | 2B | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | | |
| 012 | E 3rd / 4th St | I-277 | Outer | 2A | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 013 | US 74 (Independence Blvd.) | I-277 | Outer | 2B | Mecklenburg | 526 | Y | Y | Y | Yes | 01/05/16 - F2F site - JE | | 3/10/16 - lack of clear zone protection AB | Y | No Further Study | | |
| 014 | N Davidson St | I-277 | Inner | 3A | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 015 | N Brevard St | I-277 | Inner | 3A | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 016 | N Caldwell St | I-277 | Outer | 3A | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 017 | N Church St | I-277 | Outer | 3B | Mecklenburg | 5,233 | Y | | | Yes | 01/05/16 - Primary site for congestion is F2F - JE | | | Y | No Further Study | | |
| 018 | N Graham St | I-277 | Outer | 4 | Mecklenburg | 5,233 | Y | | | Yes | 01/05/16 - Primary site for congestion is F2F - JE | | | Y | No Further Study | | |
| 019 | I-77 NB | I-277 | Inner | 5A | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | | |
| 020 | I-77 SB | I-277 | Inner | 5A | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | | |
| 021 | I-77 NB | I-277 | Outer | 5 | Mecklenburg | 5,233 | Y | Y | Y | Yes | 01/05/16 - F2F site - JE | | 3/10/16 - Bridge widening AB | Y | No Further Study | | |
| 022 | I-77 SB | I-277 | Outer | 5A | Mecklenburg | 5,233 | Y | Y | Y | Yes | 01/05/16 - F2F site - JE | | 3/10/16 Mod./Light Traffic AB | Y | No Further Study | | |
| 039 | Sam Wilson Rd | I-85 | SB | 29 | Mecklenburg | 6,076 | Y | | | Yes | 01/13/16 - Site is at the extreme back of the congestion - JC | | | Y | Restudy in Future | Significant congestion in spring only | |
| 040 | I-485 Inner / Wilkinson Blvd | I-85 | SB | 30 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | | |
| 041 | Sam Wilson Rd | I-85 | NB | 30 | Mecklenburg | 694 | Y | | | Yes | 01/05/16 - Primary site for congestion is F2F - JE | | | Y | No Further Study | | |
| 042 | I-485 Outer | I-85 | NB | 30 | Mecklenburg | 694 | Y | Y | | Yes | 01/05/16 - F2F site - JE | | 3/10/16 - Sight distance AB | Y | No Further Study | | |
| 043 | I-485 Inner | I-85 | NB | 30 | Mecklenburg | 694 | Y | Y | | Yes | 01/05/16 - F2F site - JE | | 3/10/16 Mod./Light Traffic AB | Y | No Further Study | | |
| 044 | Little Rock Rd | I-85 | SB | 32 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 045 | Little Rock Rd | I-85 | NB | 32 | Mecklenburg | 893 | Y | Y | | Yes | | | | N | Restudy in Future | Significant congestion in fall only | |
| 046 | Billy Graham Pkwy | I-85 | SB | 33 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 047 | Billy Graham Pkwy | I-85 | SB | 33 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 048 | Billy Graham Pkwy | I-85 | NB | 33 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 049 | Tuckaseegee Rd | I-85 | SB | 34 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 050 | Freedom Dr | I-85 | SB | 34 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 051 | Freedom Dr | I-85 | NB | 34 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 052 | Glenwood Dr | I-85 | SB | 35 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 053 | Glenwood Dr | I-85 | NB | 35 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 054 | NC 16 (Brookshire Blvd) | I-85 | SB | 36 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 055 | NC 16 (Brookshire Blvd) | I-85 | NB | 36 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 056 | Beatties Ford Rd | I-85 | SB | 37 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 057 | Beatties Ford Rd | I-85 | NB | 37 | Mecklenburg | 6,291 | Y | | | Yes | 01/05/16 - Site is at the extreme back of the congestion - JE | | | Y | No Further Study | | |
| 058 | I-77 SB | I-85 | SB | 38 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | | |
| 059 | I-77 NB | I-85 | SB | 38 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | | |
| 060 | I-77 SB | I-85 | NB | 38 | Mecklenburg | 6,291 | Y | | | Yes | 01/05/16 - F2F site - JE | | 3/10/16 - Sight distance AB | Y | No Further Study | | |
| 061 | Statesville Ave | I-85 | SB | 39 | Mecklenburg | 4,794 | Y | Y | Y | Yes | | 02/18/16 AB-Potential Bridge Replacement | | Y | No Further Study | | |
| 062 | I-77 NB | I-85 | NB | 38 | Mecklenburg | 6,291 | Y | | | Yes | 01/05/16 - F2F site - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | | |
| 063 | Statesville Ave | I-85 | NB | 39 | Mecklenburg | 7,644 | Y | | | Yes | | 02/18/16 AB-Inadequate Acceleration Distance Other | | Y | Restudy in Future | 02/12/2016 - No Primary Site and Low Impact Factor - JE | |
| 064 | Graham St | I-85 | SB | 40 | Mecklenburg | 5,833 | Y | Y | | Yes | | | | N | Detailed Analysis | | |
| 065 | Graham St | I-85 | NB | 40 | Mecklenburg | 7,644 | Y | Y | | Yes | | 02/18/16 AB-Inadequate Acceleration Distance Other | | Y | No Further Study | | |
| 066 | Sugar Creek Rd | I-85 | SB | 40 | Mecklenburg | 5,833 | Y | | | Yes | | 02/18/16 AB-Inadequate Acceleration Distance Other | | Y | Restudy in Future | 02/12/2016 - No Primary Site and Low Impact Factor - JE | |
| 067 | Sugar Creek Rd | I-85 | NB | 41 | Mecklenburg | 6,291 | Y | Y | Y | Yes | | | | N | Detailed Analysis | | |
| 068 | US 29 Connector (US 29/49) | I-85 | SB | | | | | | | | | | | | | | |

Appendix E
Screening Analysis Decision Summary

| Site Identification | | | | | Task 3: Screening Analysis | | | | | Task 4: Detailed Analysis | | | | | | |
|---------------------|----------------------------------------------------------------------|------------|-------------------|----------------------|---------------------------------|--------------------------------|-------------------------------------|-----------------------------|------------------------------|------------------------------------|---------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------|----------------------|--------------------|------------------------------------------------------------------------------------------------|
| | | | | | High Level Congestion Screening | | | | | Site Visit Data | | | | | | |
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | Total Impact Factor per Season | Adjacent to Significant Congestion? | Primary Site Fall or Spring | Primary Site Fall and Spring | Pass Congestion Screening Analysis | Ruled Out Reason Number 1 (Date/Reason/Who) | Ruled Out Reason Number 2 (Date/Reason/Who) | Ruled Out Reason Number 3 (F2F) (Date/Reason/Who) | Currently Ruled Out? | Recommended Action | Relevant Comment |
| 069 | University City Blvd | I-85 | SB | 43 | Mecklenburg | 7,099 | Y | | | Yes | | | | N | Restudy in Future | 02/12/2016 - No Primary Site and Low Impact Factor - JE |
| 070 | University City Blvd | I-85 | SB | 43 | Mecklenburg | 7,099 | Y | | | Yes | | 02/18/16 AB-Potential Bridge Replacement | | Y | Restudy in Future | 02/12/2016 - No Primary Site and Low Impact Factor - JE |
| 071 | University City Blvd | I-85 | NB | 43 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | |
| 072 | Harris Blvd | I-85 | SB | 45 | Mecklenburg | 2,531 | Y | | | Yes | | | | N | Restudy in Future | Significant congestion in spring only, 02/12/2016 - No Primary Site and Low Impact Factor - JE |
| 073 | Harris Blvd | I-85 | NB | 45 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | |
| 074 | Mallard Creek Rd | I-85 | SB | 46 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | |
| 075 | Mallard Creek Rd | I-85 | NB | 46 | Mecklenburg | 503 | Y | Y | Y | Yes | | | | N | Detailed Analysis | |
| 076 | I-485 Outer | I-85 | SB | 48 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | |
| 077 | I-485 Inner | I-85 | NB | 48 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | |
| 093 | Westinghouse Blvd | I-77 | SB | 1A | Mecklenburg | 24,870 | Y | Y | Y | Yes | | | | N | Detailed Analysis | |
| 094 | Westinghouse Blvd | I-77 CD | NB | 1B | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | |
| 095 | Westinghouse Blvd | I-77 CD | NB | 1A | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | |
| 096 | Westinghouse Blvd | I-77 | NB | 1A | Mecklenburg | 1,857 | Y | | | Yes | | 02/18/16 AB-Inadequate Acceleration Distance Other | | Y | Restudy in Future | Significant congestion in spring only, 02/12/2016 - No Primary Site and Low Impact Factor - JE |
| 097 | I-485 | I-77 | SB | 1B | Mecklenburg | 24,870 | Y | | | Yes | 01/05/16 - F2F site - JE | | | Y | No Further Study | |
| 098 | Welcome Center | I-77 | NB | 1B | Mecklenburg | 37,827 | Y | | | Yes | 01/05/16 - Site is at the extreme back of the congestion - JE | | | Y | No Further Study | |
| 099 | Arrowood Rd | I-77 | SB | 3 | Mecklenburg | 24,870 | Y | | | Yes | | | | N | Detailed Analysis | |
| 100 | I-485 | I-77 | NB | 1B | Mecklenburg | 37,827 | Y | | | Yes | 01/05/16 - F2F site - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | |
| 101 | Arrowood Rd | I-77 | NB | 3 | Mecklenburg | 40,563 | Y | | | Yes | | | | N | Detailed Analysis | |
| 102 | Nations Ford Rd | I-77 | SB | 4 | Mecklenburg | 39,326 | Y | Y | Y | Yes | | | | N | Detailed Analysis | |
| 103 | Nations Ford Rd | I-77 | NB | 4 | Mecklenburg | 40,563 | Y | Y | | Yes | | | | N | Detailed Analysis | |
| 104 | Tyvola Rd | I-77 | SB | 5 | Mecklenburg | 39,326 | Y | | | Yes | | | | N | Detailed Analysis | |
| 105 | Tyvola Rd | I-77 | NB | 5 | Mecklenburg | 50,000 | Y | Y | Y | Yes | | | | N | Detailed Analysis | |
| 106 | Woodlawn Rd | I-77 | SB | 6A | Mecklenburg | 43,037 | Y | Y | Y | Yes | | 02/18/16 AB-Potential Bridge Replacement | | Y | No Further Study | |
| 107 | S Tryon St | I-77 | NB | 6B | Mecklenburg | 70,944 | Y | Y | Y | Yes | 01/05/16 - Primary site for congestion is F2F - JE | | | Y | No Further Study | |
| 108 | S Tryon St | I-77 | SB | 6B | Mecklenburg | 43,037 | Y | | | Yes | | 02/18/16 AB-Inadequate Acceleration Distance Other | | Y | No Further Study | |
| 109 | Clanton Rd | I-77 | SB | 7 | Mecklenburg | 18,167 | Y | | | Yes | | | | N | Detailed Analysis | |
| 110 | Clanton Rd | I-77 | NB | 7 | Mecklenburg | 77,450 | Y | Y | Y | Yes | 01/05/16 - Primary site for congestion is F2F - JE | | | Y | No Further Study | |
| 111 | Remount Rd | I-77 | SB | 8 | Mecklenburg | 28,683 | Y | Y | Y | Yes | | | | N | Detailed Analysis | |
| 112 | I-77 CD (US 74 (Wilkinson Blvd)/Freedom Dr / I-277 (John Belk Frwy)) | I-77 | SB | 9 | Mecklenburg | 14,227 | Y | | | Yes | 01/05/16 - F2F site - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | |
| 113 | West Blvd | I-77 | NB | 9A | Mecklenburg | 67,084 | Y | Y | Y | Yes | 01/05/16 - Primary site for congestion is F2F - JE | | | Y | No Further Study | |
| 114 | I-77 CD (US 74 (Wilkinson Blvd)/Freedom Dr / I-277 (John Belk Frwy)) | I-77 | NB | 9B | Mecklenburg | 40,639 | Y | | | Yes | 01/05/16 - F2F site - JE | | 3/10/16 - Bridge widening AB | Y | No Further Study | |
| 115 | US 29-NC 27 (Morehead St) | I-77 | NB | 10 | Mecklenburg | 40,639 | Y | | | Yes | 01/05/16 - Primary site for congestion is F2F - JE | | | Y | No Further Study | |
| 116 | West Trade St | I-77 | SB | 10 | Mecklenburg | 14,227 | Y | | | Yes | | 02/18/16 AB-Inadequate Acceleration Distance Other | | Y | No Further Study | |
| 117 | West Trade St | I-77 | SB | 10 | Mecklenburg | 14,227 | Y | | | Yes | | | | N | Detailed Analysis | |
| 118 | 5th St | I-77 | NB | 10 | Mecklenburg | 40,639 | Y | | | Yes | 01/05/16 - Primary site for congestion is F2F - JE | | | Y | No Further Study | |
| 119 | NC 16 (Brookshire Fwy) | I-77 | SB | 11 | Mecklenburg | 14,770 | Y | Y | | Yes | 01/05/16 - F2F site - JE | | 3/10/16 - lack of clear zone protection AB | Y | No Further Study | |
| 120 | I-277 Outer | I-77 | SB | 11 | Mecklenburg | 14,770 | Y | | | Yes | 01/05/16 - F2F site - JE | | 3/10/16 - Bridge widening AB | Y | No Further Study | |

Appendix E
Screening Analysis Decision Summary

| Site Identification | | | | | | Task 3: Screening Analysis | | | | | Task 4: Detailed Analysis | | | | | | |
|---------------------|--------------------------------|------------|-------------------|----------------------|-------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------|------------------------------------|---------------------------------------------------------------|---------------------------------------------|---------------------------------------------------|----------------------|--------------------|---------------------------------------------------------|--|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | High Level Congestion Screening | | | | | Site Visit Data | | | | | | |
| | | | | | | Total Impact Factor per Season | Adjacent to Significant Congestion? | Primary Site Fall or Spring | Primary Site Fall and Spring | Pass Congestion Screening Analysis | Ruled Out Reason Number 1 (Date/Reason/Who) | Ruled Out Reason Number 2 (Date/Reason/Who) | Ruled Out Reason Number 3 (F2F) (Date/Reason/Who) | Currently Ruled Out? | Recommended Action | Relevant Comment | |
| 121 | NC 16 (Brookshire Fwy) | I-77 | NB | 11 | Mecklenburg | 40,639 | Y | | | Yes | 01/05/16 - F2F site - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | | |
| 122 | I-277 Outer | I-77 | NB | 11 | Mecklenburg | 40,639 | Y | | | Yes | 01/05/16 - F2F site - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | | |
| 123 | LaSalle St / Atando Ave | I-77 | SB | 12 | Mecklenburg | 1,001 | Y | Y | | Yes | 01/05/16 - Primary site for congestion is F2F - JE | | | Y | No Further Study | | |
| 124 | LaSalle St / Atando Ave | I-77 | NB | 12 | Mecklenburg | 40,639 | Y | Y | | Yes | 01/05/16 - Primary site for congestion is F2F - JE | | | Y | No Further Study | | |
| 125 | I-85 NB | I-77 | SB | 13 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | | |
| 126 | I-77 SB HOV | I-77 | SB | 13 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | | |
| 127 | I-85 SB / Statesville Rd | I-77 | SB | 13 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | | |
| 128 | I-85 NB | I-77 | NB | 13 | Mecklenburg | 37,965 | Y | Y | Y | Yes | 01/05/16 - F2F site - JE | | 3/10/16 - Left hand merge AB | Y | No Further Study | | |
| 129 | I-85 SB | I-77 | NB | 13 | Mecklenburg | 37,965 | Y | Y | Y | Yes | 01/05/16 - F2F site - JE | | 3/10/16 Lower Traffic AB | Y | No Further Study | | |
| 130 | Sunset Rd | I-77 | SB | 18 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 131 | Sunset Rd | I-77 | NB | 18 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 132 | WT Harris Blvd | I-77 | SB | 18 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 133 | WT Harris Blvd | I-77 | NB | 18 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 134 | WT Harris Blvd | I-77 | SB | 19 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 135 | WT Harris Blvd | I-77 | NB | 18 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 136 | I-485 Inner | I-77 | SB | 19 | Mecklenburg | 36,363 | Y | Y | | Yes | 01/05/16 - F2F site - JE | | | Y | No Further Study | | |
| 137 | I-485 Outer | I-77 | SB | 19 | Mecklenburg | 36,363 | Y | Y | | Yes | 01/05/16 - F2F site - JE | | 3/10/16 - Loop Ramp AB | Y | No Further Study | | |
| 138 | I-485 Outer | I-77 | NB | 19 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | | |
| 139 | Gilead Rd | I-77 | SB | 25 | Mecklenburg | 74,141 | Y | Y | Y | Yes | 01/05/16 - Primary site for congestion is F2F - JE | | | Y | No Further Study | | |
| 140 | Gilead Rd | I-77 | NB | 23 | Mecklenburg | 48,264 | Y | | | Yes | | | | N | Detailed Analysis | | |
| 141 | NC 73 (Sam Furr Rd) | I-77 | SB | 26 | Mecklenburg | 75,864 | Y | Y | Y | Yes | 01/05/16 - Primary site for congestion is F2F - JE | | | Y | No Further Study | | |
| 142 | NC 73 (Sam Furr Rd) | I-77 | SB | 26 | Mecklenburg | 75,864 | Y | Y | Y | Yes | 01/05/16 - Primary site for congestion is F2F - JE | | | Y | No Further Study | | |
| 143 | NC 73 (Sam Furr Rd) | I-77 | NB | 25 | Mecklenburg | 67,471 | Y | Y | Y | Yes | | | | N | Detailed Analysis | | |
| 144 | US 21 (Catawba Ave) | I-77 | SB | 29 | Mecklenburg | 75,390 | Y | | | Yes | 01/05/16 - Primary site for congestion is F2F - JE | | | Y | No Further Study | | |
| 145 | US 21 (Catawba Ave) | I-77 | NB | 29 | Mecklenburg | 46,401 | Y | | | Yes | | | | N | Detailed Analysis | | |
| 146 | Goodrum Rd / Griffith St | I-77 | SB | 30 | Mecklenburg | 1,914 | Y | Y | Y | Yes | | | | N | Detailed Analysis | | |
| 147 | Goodrum Rd / Griffith St | I-77 | NB | 30 | Mecklenburg | 46,401 | Y | Y | Y | Yes | | | | N | Detailed Analysis | | |
| 171 | S Tryon St | I-485 | Outer | 1 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 172 | S Tryon St | I-485 | Outer | 1 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 173 | S Tryon St | I-485 | Inner | 1 | Mecklenburg | 3,831 | Y | | | Yes | 01/05/16 - Site is at the extreme back of the congestion - JE | | | Y | No Further Study | | |
| 174 | Arrowood Rd | I-485 | Outer | 3 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 175 | Arrowood Rd | I-485 | Inner | 3 | Mecklenburg | 3,831 | Y | | | Yes | | | | N | Restudy in Future | 02/12/2016 - No Primary Site and Low Impact Factor - JE | |
| 176 | Steele Creek Rd | I-485 | Outer | 4 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 177 | Steele Creek Rd | I-485 | Inner | 4 | Mecklenburg | 3,831 | Y | Y | Y | Yes | | | | N | Detailed Analysis | | |
| 178 | Steele Creek Rd | I-485 | Outer | 4 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 179 | Steele Creek Rd | I-485 | Inner | 4 | Mecklenburg | 3,831 | Y | Y | Y | Yes | | | | N | Detailed Analysis | | |
| 180 | West Blvd | I-485 | Outer | 6 | Mecklenburg | 1,818 | Y | Y | | Yes | | | | N | Restudy in Future | Significant congestion in fall only | |
| 181 | West Blvd | I-485 | Inner | 6 | Mecklenburg | 1,135 | Y | Y | | Yes | | | | N | Restudy in Future | Significant congestion in fall only | |
| 182 | US 74 / US 29 (Wilkinson Blvd) | I-485 | Outer | 9 | Mecklenburg | 1,460 | Y | Y | Y | Yes | | | | N | Detailed Analysis | | |
| 183 | I-485 CD (Wilkinson Blvd) | I-485 | Inner | 10 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | | |
| 184 | I-85 | I-485 | Inner | 10 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | | |
| 185 | Moores Chapel Rd | I-485 | Outer | 12 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 186 | Moores Chapel Rd | I-485 | Inner | 12 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 187 | Mt Holly Rd | I-485 | Outer | 12 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 188 | Mt Holly Rd | I-485 | Inner | 14 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 189 | NC16 | I-485 | Outer | 16 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 190 | NC 16 | I-485 | Inner | 16 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 191 | NC 16 | I-485 | Outer | 16 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 192 | NC 16 | I-485 | Inner | 16 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 193 | WT Harris Blvd | I-485 | Outer | 21 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 194 | WT Harris Blvd | I-485 | Outer | 21 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 195 | WT Harris Blvd | I-485 | Inner | 21 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | Y | No Further Study | | |
| 196 | I-77 (North) | I-485 | Outer | 23 | Mecklenburg | | </td | | | | | | | | | | |

Appendix E
Screening Analysis Decision Summary

| Site Identification | | | | | Task 3: Screening Analysis | | | | | Task 4: Detailed Analysis | | | | | | | |
|---------------------|------------------------------|------------|-------------------|----------------------|----------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------|------------------------------------|---------------------------------------------------------------|---------------------------------------------|---------------------------------------------------|----------------------------------|--------------------|-------------------|--|
| Log | FROM Cross Street | TO Freeway | Freeway Direction | Approx. Freeway Exit | County | High Level Congestion Screening | | | | | Site Visit Data | | | | | | |
| | | | | | | Total Impact Factor per Season | Adjacent to Significant Congestion? | Primary Site Fall or Spring | Primary Site Fall and Spring | Pass Congestion Screening Analysis | Ruled Out Reason Number 1 (Date/Reason/Who) | Ruled Out Reason Number 2 (Date/Reason/Who) | Ruled Out Reason Number 3 (F2F) (Date/Reason/Who) | Currently Ruled Out? | Recommended Action | Relevant Comment | |
| 197 | I-77 (North) | I-485 | Outer | 23 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | |
| 198 | I-77 (North) | I-485 | Inner | 23 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | |
| 199 | Old Statesville Rd | I-485 | Outer | 23 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 200 | Old Statesville Rd | I-485 | Inner | 23 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 201 | Prosperity Church Rd | I-485 | Outer | 26 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 202 | Prosperity Church Rd | I-485 | Inner | 26 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 203 | Mallard Creek Rd | I-485 | Outer | 28 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 204 | Mallard Creek Rd | I-485 | Inner | 28 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 205 | I-85 | I-485 | Outer | 31 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | |
| 206 | I-85 | I-485 | Inner | 31 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | |
| 207 | US 29 | I-485 | Outer | 32 | Mecklenburg | 185 | Y | Y | | Yes | 02/05/2016 - Construction works caused congestion - JE | | | | Y | Restudy in Future | |
| 208 | US 29 | I-485 | Inner | 32 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 209 | US 29 | I-485 | Inner | 32 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 210 | University City Blvd | I-485 | Outer | 33 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 211 | University City Blvd | I-485 | Inner | 33 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 212 | Rocky River Rd | I-485 | Outer | 36 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 213 | Rocky River Rd | I-485 | Inner | 36 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 214 | Harrisburg Rd | I-485 | Outer | 39 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 215 | Harrisburg Rd | I-485 | Inner | 39 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 216 | NC 24-27 Albemarle Rd | I-485 | Outer | 41 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 217 | NC 24-27 Albemarle Rd | I-485 | Inner | 41 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 218 | NC 51 | I-485 | Outer | 43 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 219 | NC 51 | I-485 | Inner | 43 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 220 | NC 218 (Fairview Rd) | I-485 | Outer | 44 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 221 | NC 218 (Fairview Rd) | I-485 | Inner | 44 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 222 | Lawyers Rd | I-485 | Outer | 47 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 223 | Lawyers Rd | I-485 | Inner | 47 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 224 | Idlewild Rd | I-485 | Outer | 49 | Mecklenburg | 737 | Y | Y | | Yes | 02/19/16 - Drop per SC Mtg. - AB | | | | Y | Restudy in Future | |
| 226 | US 74 | I-485 | Outer | 51 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 227 | US 74 | I-485 | Inner | 51 | Mecklenburg | 14,132 | Y | | | Yes | 01/05/16 - Site is at the extreme back of the congestion - JE | | | | Y | No Further Study | |
| 228 | E John St | I-485 | Outer | 52 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 229 | E John St | I-485 | Inner | 52 | Mecklenburg | 14,132 | Y | | | Yes | | | | | N | Detailed Analysis | |
| 230 | NC 16 (Providence Rd) | I-485 | Outer | 57 | Mecklenburg | 13,391 | Y | Y | Y | Yes | | | | | N | Detailed Analysis | |
| 231 | NC 16 (Providence Rd) | I-485 | Inner | 57 | Mecklenburg | 19,031 | Y | Y | Y | Yes | | | | | N | Detailed Analysis | |
| 232 | NC 16 (Providence Rd) | I-485 | Outer | 57 | Mecklenburg | 13,391 | Y | Y | Y | Yes | | | | | N | Detailed Analysis | |
| 233 | NC 16 (Providence Rd) | I-485 | Inner | 57 | Mecklenburg | 19,031 | Y | Y | Y | Yes | | | | | N | Detailed Analysis | |
| 234 | Rea Rd | I-485 | Outer | 59 | Mecklenburg | 19,144 | Y | Y | Y | Yes | | | | | N | Detailed Analysis | |
| 235 | Rea Rd | I-485 | Outer | 59 | Mecklenburg | 19,144 | Y | Y | Y | Yes | | | | | N | Detailed Analysis | |
| 236 | Rea Rd | I-485 | Inner | 59 | Mecklenburg | 5,640 | Y | Y | Y | Yes | | | | | N | Detailed Analysis | |
| 237 | Rea Rd | I-485 | Inner | 59 | Mecklenburg | 5,640 | Y | Y | Y | Yes | | | | | N | Detailed Analysis | |
| 238 | US 521 (Johnston Rd) | I-485 | Outer | 61 | Mecklenburg | 20,405 | Y | Y | | Yes | | | | | N | Detailed Analysis | |
| 239 | US 521 (Johnston Rd) | I-485 | Outer | 61 | Mecklenburg | 20,405 | Y | Y | | Yes | | | | | N | Detailed Analysis | |
| 240 | US 521 (Johnston Rd) | I-485 | Inner | 61 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 241 | NC 51 | I-485 | Outer | 66 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 242 | NC 51 | I-485 | Inner | 64 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 243 | Pineville Rd / South Blvd | I-485 | Outer | 65 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 244 | Pineville Rd / South Blvd | I-485 | Inner | 65 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 245 | Pineville Rd / South Blvd | I-485 | Inner | 65 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | | Y | No Further Study | |
| 246 | I-77 NB CD / Westinghouse Rd | I-485 | Outer | 67 | Mecklenburg | 1,554 | Y | Y | Y | Yes | 01/05/16 - F2F site - JE | | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | |
| 247 | I-77 SB CD / Arrowood Rd | I-485 | Outer | 67 | Mecklenburg | 1,554 | Y | Y | Y | Yes | 01/05/16 - F2F site - JE | | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | |
| 248 | I-77 NB CD / Westinghouse Rd | I-485 | Inner | 67 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | |
| 249 | I-77 SB CD / Arrowood Rd | I-485 | Inner | 67 | Mecklenburg | | | | | | 01/05/16 - Not adjacent to significant congestion - JE | | | 3/10/16 - Not sig. congest. - AB | Y | No Further Study | |

M-0468 Ramp Metering Feasibility Study for Cabarrus, Gaston, Iredell, and Mecklenburg
Counties
Final Screening Analysis Report

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