

# CONGESTION MANAGEMENT PROCESS

# 2022 BIENNIAL DATA REPORT

WILMINGTON  
URBAN AREA  
METROPOLITAN  
PLANNING  
ORGANIZATION



Wilmington | Carolina  
Beach | Wrightsville  
Beach | Kure Beach | New  
Hanover County | Leland |  
Belville | Navassa | Brunswick  
County | Pender County | CFPTA |  
NC Board of Transportation

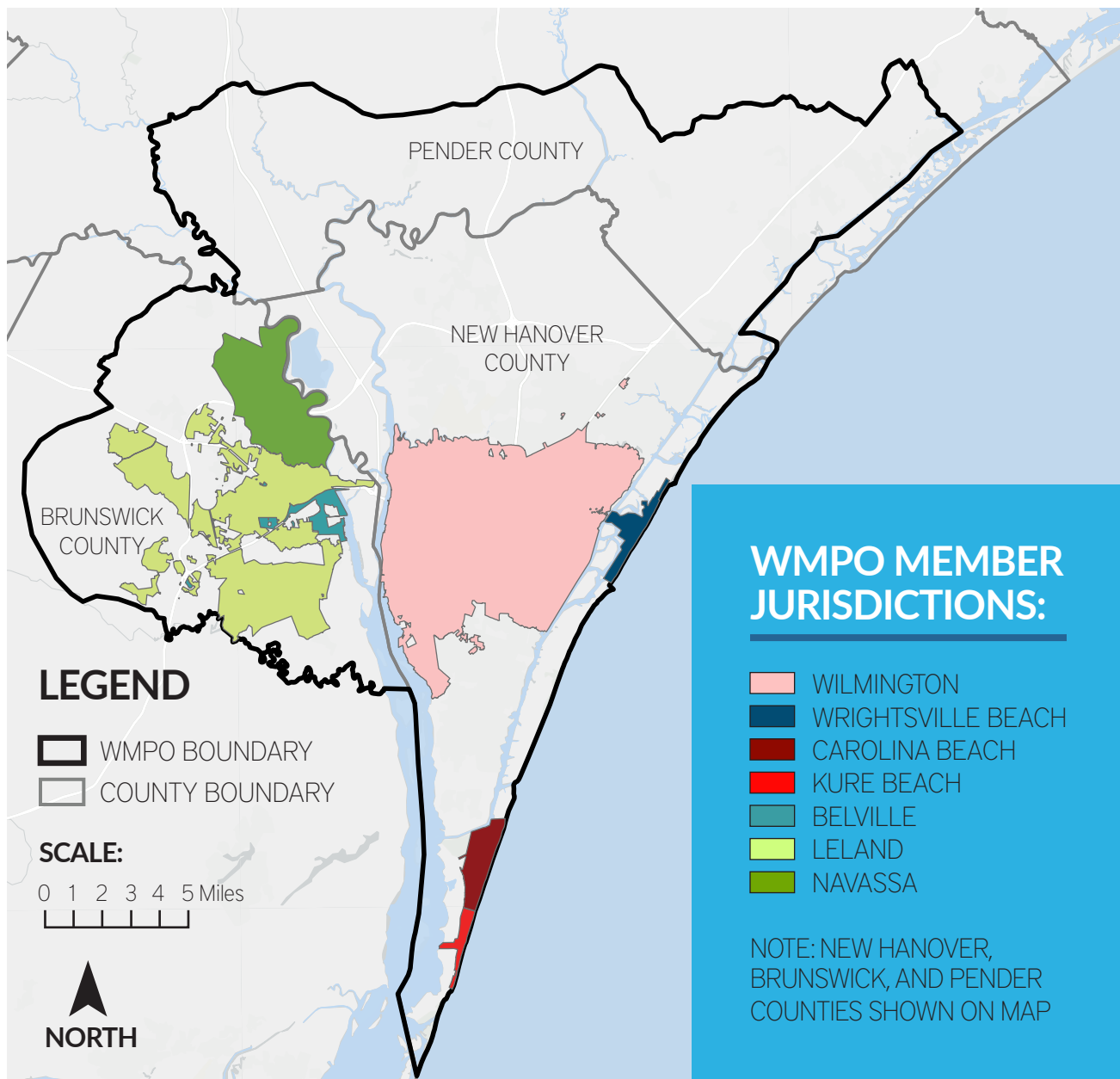
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# ABOUT THE WMPO



The Wilmington Urban Area Metropolitan Planning Organization (WMPO) was created in 1978 when the region's population exceeded 50,000. Federally-mandated in all urban areas of 50,000 or more, Metropolitan Planning Organizations (MPOs) are responsible for conducting regional transportation planning which serves as the basis for the expenditure of federal transportation funds. The WMPO is the MPO recognized by the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) for the Wilmington Urban Area and includes the following jurisdictions and organizations:

- City of Wilmington
- Town of Carolina Beach
- Town of Kure Beach
- Town of Wrightsville Beach
- New Hanover County
- Town of Belville
- Town of Leland
- Town of Navassa
- Brunswick County
- Pender County
- CFPTA/Wave Transit
- NC Board of Transportation

The WMPO planning boundary, shown in the map above, contains approximately 494 square miles and encompasses all of New Hanover County and portions of Brunswick and Pender counties. The current population of the area is estimated at 300,000.

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- 2 | HISTORY OF THE CMP
- 3 | BENEFITS OF A CMP

### WHAT IS A CMP?

A congestion management process (CMP) is a methodical approach for monitoring and managing congestion in a region. The CMP measures congestion and identifies strategies to aid in the efficient movement of people and goods throughout the region. The CMP also assists in the identification of future projects in the Metropolitan Transportation Plan (MTP). The objective of the CMP is to move the highest priority strategies to funding and implementation resources such as the State Transportation Improvement Program (STIP).

### HISTORY OF THE CMP

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 was the first law to address congestion management. This resulted in what was then known as the Congestion Management System (CMS). The concept of congestion management has continued to be included in federal legislation since.

Under current legislation, it is known as the Congestion Management Process (CMP).

Federal law requires all Transportation Management Areas (TMAs), which have populations greater than 200,000, to develop a CMP as an integrated part of the metropolitan transportation planning process. Federal regulation is not prescriptive in the methods used to implement a CMP. This flexibility allows each TMA to address congestion in the way that best suits its region.

## BENEFITS OF A CMP

A successful CMP benefits the efficiency of a regional transportation system and supports community objectives such as transit use, livability, and land use. Benefits of a CMP include:

### A DATA-DRIVEN APPROACH

A CMP offers a consistent and coordinated method for continually monitoring and addressing congestion in a region. It serves to both benefit from, and provide information to, other elements of the transportation planning process including the MTP and STIP. By using a structured, data-driven approach, a CMP can ensure that investment decisions are made based on observed and measured conditions. The recurring nature of the process also allows for analysis of the effectiveness of previously implemented strategies.

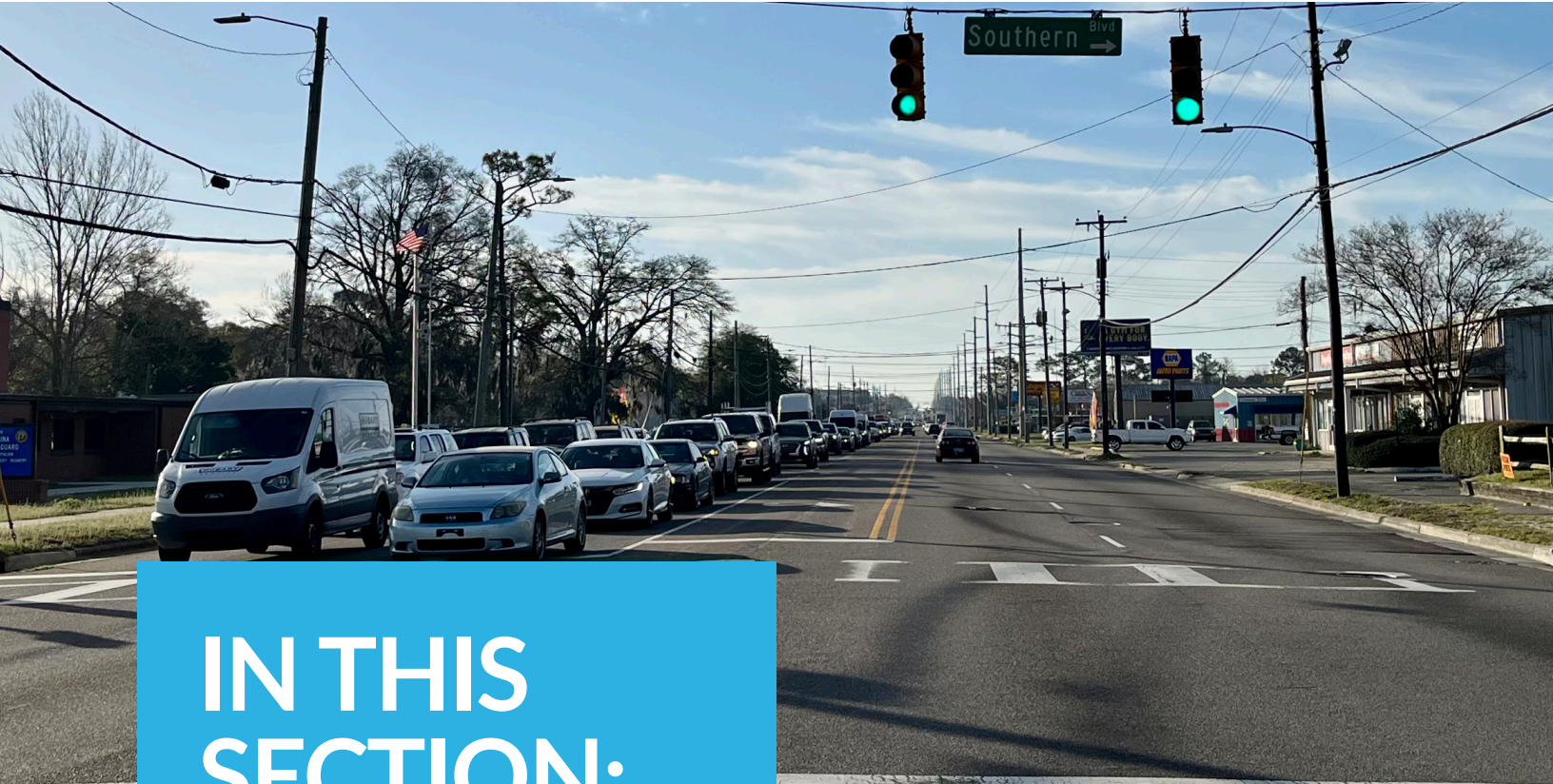
### INCREASED COLLABORATION

The CMP brings planning partners and stakeholders together to identify congestion management objectives for the region, share data, and develop strategies to improve the efficiency of the movement of people and goods. Collaboration is a key element in a successful CMP as it allows the sharing of data and knowledge to provide context-sensitive solutions to corridors in a region.

### MORE CONSTRUCTIVE RESOURCE ALLOCATIONS

As a fiscally constrained plan, the MTP recommends projects that are anticipated to have funding in the next 25 years. Similarly, the STIP is constrained to a 10-year period where projects scheduled for right-of-way

or construction in the first five years are scheduled for delivery and projects in the remaining five years are programmed for funding. With these limited resources, it is important to make cost-effective decisions. The CMP provides a mechanism to identify strategies in the short, medium, and long term that will address congestion in a region. The multimodal element of the CMP allows for the inclusion of alternative transportation strategies when identifying solutions. Additionally, a properly developed CMP will provide a strong starting point for purpose and need statements required during the National Environmental Policy Act (NEPA) process.



## IN THIS SECTION:

- 1 INITIAL DEVELOPMENT
- 2 INTEGRATION WITH OTHER WMPO PLANNING PROCESSES
- 3 BIENNIAL DATA REPORTS
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## INITIAL DEVELOPMENT

Federal law requires all Transportation Management Areas (TMAs) to develop, adopt, and maintain a Congestion Management Process (CMP) as an integrated part of the metropolitan transportation planning process. The WMPO was designated a TMA by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) on July 18, 2012. This designation was a result of the 2010 U.S. Census, which determined that the population of the Wilmington Urban Area had exceeded 200,000. As a newly designated TMA, the WMPO began development of its CMP in early 2013.

The WMPO's CMP was developed as an on-going data collection and evaluation process that identifies congested locations; determines the causes of congestion; ranks the region's most congested roadway segments; and develops strategies to reduce traffic congestion while enhancing safety and multimodal mobility.

Development of the CMP was guided by a Steering Committee that included land use, transportation, and traffic operations professionals from the WMPO's member jurisdictions, NCDOT, and FHWA. The process outlined below was utilized by the Steering Committee and accomplished through a series of three intensive workshops. After each workshop, the results were presented to the WMPO's Technical Coordinating Committee (TCC) and the WMPO Board for concurrence.

- Develop Goals and Objectives
- Define the CMP Network
- Develop Functional Types for Corridors
- Label CMP Corridors by Type
- Approve System Monitoring Plan
- Develop Congestion Management Strategies
- Develop Ranking Process for Congested Corridors

## GOALS AND OBJECTIVES

The identification of data-driven goals and objectives is an important step in the development of the CMP. Data-driven goals are measurable, allowing the WMPO to determine if target numbers were met and, if not, how far off the actual numbers were and potentially why. Additionally, the WMPO is able to compare results year to year, which can lead to the identification of congestion trends in the region.

During the initial development of the CMP, the Steering Committee looked to the WMPO's then-adopted long-range transportation plan, Cape Fear Commutes 2035, and established objectives to complement each of the goals of the plan.

## DEFINING THE CMP NETWORK

FHWA guidance lists defining the CMP network as an initial step in the creation of a CMP. This step includes defining which elements of the transportation network are a focus of congestion issues in the region. The WMPO identified two types of corridors on its CMP network:

### *"Primary Network" Corridors*

Corridors that required immediate monitoring through data collection and analysis

### *"Watch List" Corridors*

Corridors that required cursory examinations because they either played an important role in relieving congestion on congested corridors or they were anticipated to see congestion in the near future.

## CONGESTION MANAGEMENT STRATEGIES

The application of strategies to manage congestion and achieve regional objectives is a critical step in the CMP. During the initial development of the WMPO's CMP, the Steering Committee identified the following four strategies to address congestion in the region:

1. Reduce Demand – reduce congestion by lessening the demand for motorized vehicular capacity on congested corridors
2. Shift Mode of Trip – reduce congestion by shifting use of congested corridors from single occupancy vehicles to more efficient modes
3. Improve Operations – reduce congestion by improving operational aspects of congested corridors
4. Increase Capacity – reduce congestion by increasing capacity to accommodate additional traffic along congested corridors

A unique set of techniques was developed for each of the four strategies. Each technique was then classified by difficulty of implementation as well as the corridor functional type(s) to which it was applicable.

## INTEGRATION WITH OTHER WMPO PLANNING PROCESSES

All metropolitan planning organizations (MPOs) are federally required to create and maintain a Metropolitan Transportation Plan (MTP), a Metropolitan Transportation Improvement Program (MTIP), and a Unified Planning Work Program (UPWP). A CMP must be implemented as a continuous part of the metropolitan transportation planning process for all MPOs that are designated as TMAs and will therefore define items to be included in the MTP, MTIP, and UPWP.

## METROPOLITAN TRANSPORTATION PLAN

The MTP is a multimodal, fiscally constrained long range transportation plan. It defines which projects can be programmed in the MTIP and is developed through extensive public input. The goals of the CMP are taken from the MTP for this reason. By aligning the goals of the

## THE WMPO'S CMP

CMP with the goals of the MTP, the WMPO can ensure that congestion management in the region reflects the wants and needs of the community. Additionally, projects that are recommended as a result of the CMP will be evaluated and ranked within the MTP.

### METROPOLITAN TRANSPORTATION IMPROVEMENT PROGRAM

The MTIP is a ten-year program that identifies the funding for and scheduling of transportation improvements in the region. Projects programmed in the MTIP originate from the MTP. Because CMP project recommendations and corridor rankings directly impact the MTP's project lists, the CMP is integrated into the MTIP through its interaction with the MTP.

### UNIFIED PLANNING WORK PROGRAM

The UPWP is the annual operating budget for the WMPO. It includes budgets and descriptions for work tasks anticipated to be completed during the fiscal year. The process of developing the CMP utilizes items programmed in the UPWP. For example, the funding for data collection and staff time comes from the UPWP.

## BIENNIAL DATA REPORTS

The WMPO adopted its CMP in 2014 and has prepared a biennial data report every other year since to continually monitor and address congestion in the region. The biennial data reports evaluate the WMPO's CMP network based on established performance measures through data collected by multiple partner agencies including City of Wilmington Traffic Engineering, the Cape Fear Public Transportation Authority (Wave Transit), NCDOT, and the WMPO. The reports also allow the WMPO, stakeholders, and the public to evaluate the effectiveness of the WMPO's congestion management strategies.

## OUR PROCESS TODAY

The WMPO's CMP has evolved over time as a result of growth and development in the region, new technology and improved data collection methods, and changing community goals.

Prior to the 2020 Biennial Data Report, the primary method to calculate average travel times and delays was to use floating car studies. Floating car studies involve the use of a handheld GPS and travel by vehicle along a corridor during peak travel times. The GPS device provides positioning and a time stamp, which are used to determine average speeds and delays. Floating car studies are time consuming for staff and only provide a snapshot of a corridor.

In 2020, the WMPO hired a consultant, Kittelson and Associates, to prepare a travel time analysis using probe data collected from national sources such as the National Performance Monitoring Resource Data Set (NPMRDS). These sources collect travel time and speed data from cars and trucks equipped with cellular devices – "probe vehicles". In addition to eliminating the staff time required to conduct floating car studies, probe data monitors a corridor continuously, with data aggregated in five-minute increments.

### PROCESS MODEL

As previously stated, federal regulation is not prescriptive in the methods and strategies used in the CMP. Using the FHWA Congestion Management Process Guidebook as a reference, the WMPO has implemented the following steps to address congestion in the region:

DEFINE THE CMP NETWORK AND STAKEHOLDERS

DEVELOP OBJECTIVES FOR CONGESTION MANAGEMENT

COLLECT DATA THAT SERVES AS AN INDICATOR OF CONGESTION OR MULTIMODAL PERFORMANCE

ANALYZE THE EXTENT AND DURATION OF CONGESTION AND EFFECTIVENESS OF MULTIMODAL INFRASTRUCTURE AND SYSTEMS

IDENTIFY MULTIMODAL CONGESTION MANAGEMENT STRATEGIES

IMPLEMENT BY USING THE CMP AS A RESOURCE WHEN CONDUCTING TRANSPORTATION PLANNING

EVALUATE THE EFFECTIVENESS OF PREVIOUSLY IMPLEMENTED STRATEGIES



## CURRENT CMP NETWORK AND STAKEHOLDERS

When the WMPO began using probe data in 2020, modifications were made to some of the corridors on the CMP network to account for the start and end points of the roadway segments for which the data was available, which are predefined by probe data sources. Additionally, there were several corridors that did not have probe data available. The City of Wilmington conducted floating car studies so that these corridors could still be monitored as part of the WMPO's CMP.

Kittelson and Associates provided support for this report as well with a scope of work that included travel time analysis for up to 30 corridors. The City of Wilmington provided floating car studies for the three corridors that were still lacking probe data and the WMPO was able to add an additional three corridors to be analyzed by the consultant. The 33 corridors analyzed and scored in this report are shown in the map and table on the following pages.

The WMPO engages stakeholders to assist with the development of CMP biennial data reports. Stakeholders review regional objectives and scoring methods, assist with data collection, and recommend congestion mitigation strategies. The WMPO's Technical Coordinating Committee (TCC) is the primary source of these stakeholders, as it is comprised of planning and operations staff of member jurisdictions and planning partners who are most familiar with the local transportation network. Local knowledge is invaluable in determining the best solution for a congested corridor and stakeholders from the TCC propose solutions to specifically target corridors within their respective jurisdictions.

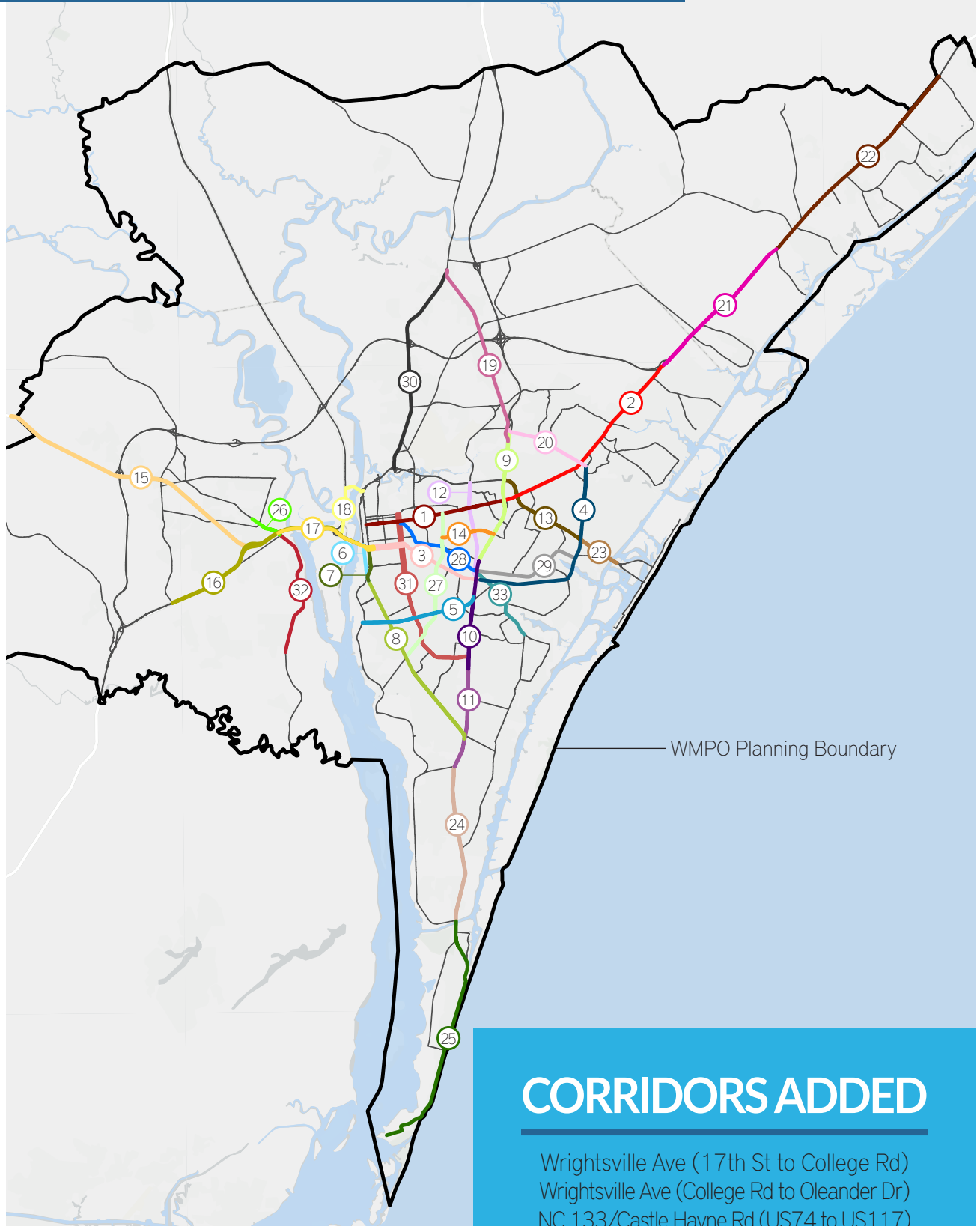
## REGIONAL OBJECTIVES AND PERFORMANCE METRICS

Cape Fear Moving Forward 2045 is the WMPO's currently adopted Metropolitan Transportation Plan (MTP). As part of the long-range planning process, the Citizens Advisory Committee (CAC) developed the

# CURRENT STAKEHOLDERS

JURISDICTION/AGENCY	STAFF MEMBER POSITIONS
City of Wilmington	City Traffic Engineer Intelligent Transportation Systems (ITS) Engineer
NCDOT Transportation Planning Division (TPD)	Transportation Engineer III
NCDOT Division 3	Division Planning Engineer
New Hanover County Planning Department	Planning Director/Senior Planner
Brunswick County Planning Department	Long Range Planner
Pender County Planning Department	Planning Director/Senior Planner Long Range Planner
Town of Belville	Town Manager
Town of Carolina Beach	Planning Director
Town of Kure Beach	Town Clerk
Town of Leland	Planning Manager Transportation Planner
Town of Navassa	Town Clerk
Town of Wrightsville Beach	Planner
Cape Fear Public Transportation Authority/Wave Transit	Executive Director
North Carolina Ports	Director, Real Estate and Planning
Wilmington International Airport	Facilities Director

# 2022 WMPO CMP NETWORK



SEGMENT	ROAD	FROM	TO	LENGTH (MILES)
1	MARKET STREET	3rd Street	College Road	4.39
2	MARKET STREET	College Road	NC140	6.34
3	US17/US76/OLEANDER DR	3rd Street	Treadwell Street	3.80
4	US17/OLEANDER DRIVE/ MILITARY CUTOFF ROAD	Treadwell Street	Gordon Road	6.34
5	US117/SHIPYARD BLVD	River Road	College Road	3.62
6	FRONT STREET	Lake Shore Drive	Cape Fear Memorial Bridge	1.08
7	3RD STREET	Lake Shore Drive	Wooster Street	1.07
8	US421/CAROLINA BEACH RD	Lake Shore Drive	College Road	5.73
9	US117/COLLEGE ROAD	Gordon Road	Wilshire Blvd	4.30
10	NC132/COLLEGE ROAD	Wilshire Blvd	Pinecliff Drive	3.36
11	NC132/COLLEGE ROAD/ CAROLINA BEACH ROAD	Pinecliff Drive	Sanders Road	3.12
12	KERR AVENUE	US74/MLK Jr Pkwy	College Road	2.96
13	US74/MLK JR PKWY/ EASTWOOD ROAD	College Road	Military Cutoff Road	3.16
14	RANDALL PKWY	Covil Ave/Independence Blvd	College Road	1.67
15	US74/76	Maco Road	US17/Ocean Hwy	8.67
16	US17/OCEAN HIGHWAY	Lanvale Road	NC133 Split	4.12
17	US17/74/76	NC133 Split	3rd Street	3.02
18	US74/US421/NC133	US17 N/S Split	3rd Street	2.09
19	US117/COLLEGE RD	Holly Shelter Road	Gordon Road	5.76
20	GORDON ROAD	I-40	Military Cutoff Road	2.74
21	US17/MARKET STREET	NC140	Washington Acres Road	5.05
22	US17/NC210	Washington Acres Road	Sloop Point Road	7.39
23	US76/EASTWOOD ROAD	Military Cutoff Road	C. Heide Trask Bridge	1.15
24	US421/CAROLINA BEACH RD	Sanders Road	Snows Cut Bridge	4.91
25	US421/LAKE PARK BLVD	Snows Cut Bridge	End of US421	7.92
26	VILLAGE ROAD	US17/74/76	Town Hall Drive	1.00
27	INDEPENDENCE BLVD/ COVIL AVENUE	US421	Market Street	4.85
28	WRIGHTSVILLE AVENUE	17th Street	US117/College Road	2.96
29	WRIGHTSVILLE AVENUE	US117/College Road	US17/US76/Oleander Dr	3.44
30	NC133/CASTLE HAYNE RD	US74	US117	6.67
31	17TH/16TH STREET	Grace Street	College Road	5.74
32	NC133/RIVER ROAD	Fairview Road	Rabon Way	4.48
33	PINE GROVE DRIVE	College Road	Masonboro Sound Road	2.49

# THE WMPO'S CMP

following vision for the plan:

*“The 2045 MTP will plan for a safe, realistic, efficient, and reliable multimodal transportation network that embraces innovation and is environmentally and socially responsible.”*








To support this vision, WMPO staff selected regional performance measures for the 2020 CMP Biennial Data Report using the goals of the 2045 MTP as a

framework. Those goals and performance measures, shown below, were carried forward in this report so that the 2020 performance metrics could serve as a baseline for comparison.

## CORRIDOR LEVEL PERFORMANCE METRICS

In addition to regional performance metrics, the WMPO’s

# CONGESTION MANAGEMENT OBJECTIVES

GOAL	OBJECTIVE	REGIONAL PERFORMANCE MEASURE
 SAFE	Promotes transportation projects that increase the safety of all users by decreasing injury and increasing user awareness	Reduce the rate of crashes per 100 million vehicle miles
 EFFICIENT	Transportation network allows for time savings, interconnected across all modes of transport	Reduce the percent of corridors with Volume/Capacity (V/C) over 0.8
 RELIABLE	Dependable travel times and connections	Reduce the percent of corridors with Level of Travel Time Reliability (LOTTR) > 1.2
 REALISTIC	Appropriately utilizes available funding resources and does not exceed the financial means of the region	Track progress of programmed and recommended strategies
 MULTIMODAL	Alternative modes of transportation available for most trip types	Increase the average percentage of Multi-Use Path (MUP), Sidewalk, Crosswalk, and Bicycle Infrastructure per corridor by 2%
 ENVIRONMENTALLY AND SOCIALLY RESPONSIBLE	Accessible, sustainable, and equitable transportation solutions actively communicated to increase public awareness and collaboration	Increase Transit Ridership by 2%
 INNOVATIVE	Responsive to changing concepts and technologies in both design and construction	Include additional analysis in future CMPs including seasonal, work zone, response time, and weather

current process assigns each corridor a Travel Time/Reliability score and a Multimodal score to assess the performance of the corridor.

For Travel Time/Reliability scores, the metrics used include volume/capacity (V/C), delay rate (AM and PM), travel time reliability (AM and PM), truck volumes, and crashes per mile. These metrics reveal the amount of recurring congestion, non-recurring congestion, and reliability of travel on the corridors. Each metric is worth 10 points and the highest Travel Time/Reliability score possible is 70, with the highest scores representing the worst travel time reliability and worse congestion than lower scores.

Metrics used for Multimodal scores include transit stops and ridership, bicycle suitability, pedestrian suitability, bicycle crash rates, and pedestrian crash rates. These metrics reveal which corridors are utilizing or have the current capacity to utilize various modes of travel. Each metric is worth 10 points and the highest Multimodal score possible is 50, with the highest scores representing the corridors with the most multimodal facilities and the greatest suitability for multimodal travel.

Intersection performance is also monitored by estimating the Level of Service (LOS) at each major intersection along the CMP corridors and identifying “hot spots”. Hot spots are intersections with an estimated LOS of E or F and are shown in the segment snapshots on pages 35-100.

## PERFORMANCE ANALYSIS

By evaluating regional and corridor level performance results, planners can identify travel patterns and begin to discover the time, location, and causes of congestion. As part of the CMP process, the WMPO prepares regional mapping (pages 16-27), which helps to visualize travel patterns and multimodal accommodations at a network level, as well as corridor performance reports (segment snapshots), which help to identify causes and potential solutions to manage congestion at a corridor level.

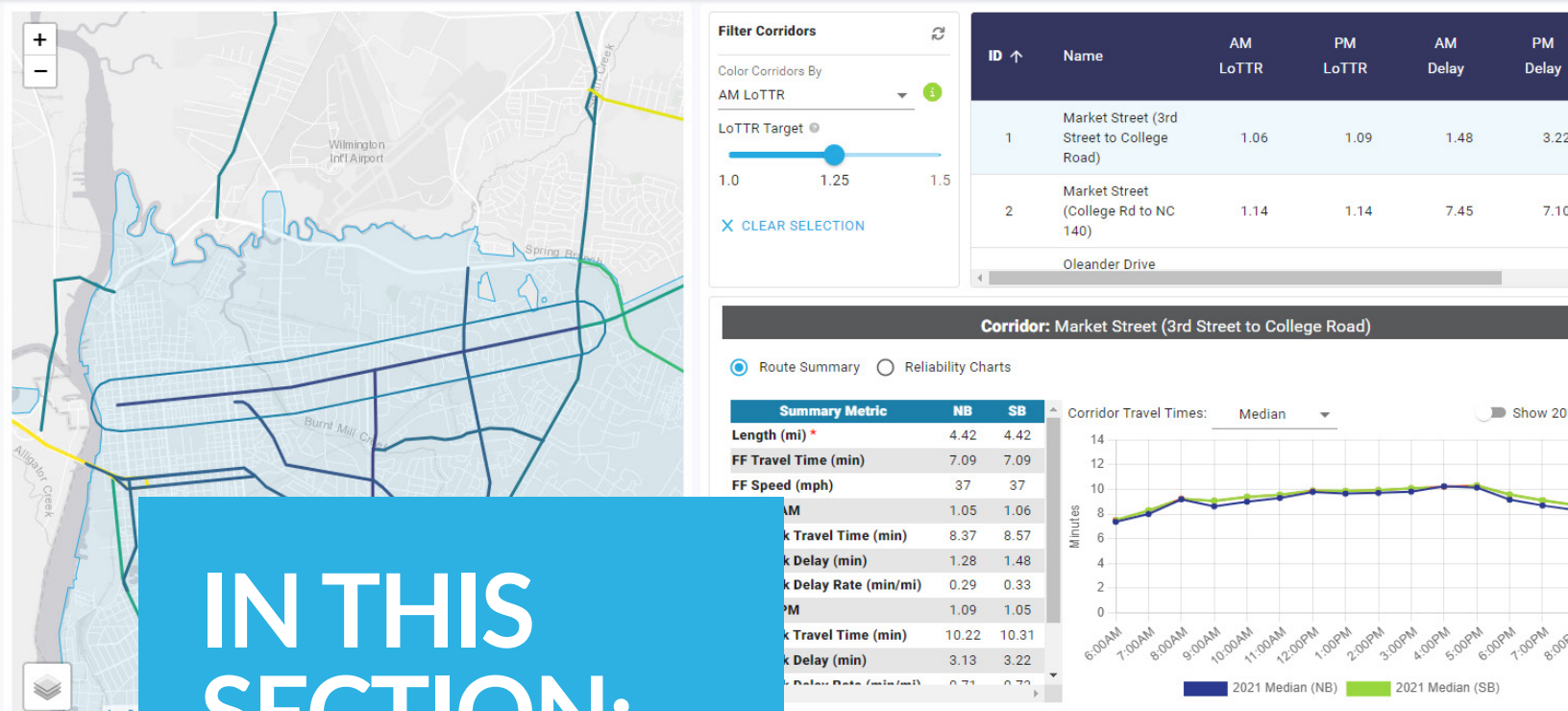
## CONGESTION MANAGEMENT STRATEGIES TOOLBOX

The WMPO has created a congestion management toolbox that can be used to identify congestion management strategies that are applicable to different contexts. Using the congestion management strategies

and techniques identified during the initial development of the WMPO's CMP as a starting point, this toolbox has been developed and refined through several CMP Biennial Data Reports and collaboration with other Metropolitan Planning Organizations (MPOs).

The segment snapshots include strategies from the toolbox best suited to mitigate congestion along each CMP corridor, as determined by stakeholders. The complete toolbox is included in the Appendix.

# DATA COLLECTION



## IN THIS SECTION:

- 1 DATA COLLECTION EFFORTS AND SOURCES
- 2 2022 CMP SUPPORT
- 3 FLOATING CAR STUDIES
- 4 TRAFFIC VOLUMES
- 5 CRASH DATA
- 6 BICYCLE SUITABILITY
- 7 PEDESTRIAN SUITABILITY

## DATA COLLECTION EFFORTS AND SOURCES

Many data sources were used during the development of this report. Probe data from the National Performance Monitoring Resource Data Set (NPMRDS), which was first utilized during the development of the 2020 Biennial Data Report, was obtained and analyzed by a consultant. The consultant, Kittelson and Associates, provided AM and PM travel times, delay rates, travel time reliability, and hot spots for 30 corridors. Other data sources included NCDOT, Wave Transit, and local municipalities as well as WMPO GIS data and studies. The table on the following page summarizes the data collected and sources.

## 2022 CMP SUPPORT

Kittelson and Associates (Kittelson) provided support for the 2022 Biennial Data Report,

# DATA COLLECTION FOR THIS REPORT

OBJECTIVE	DATA NEEDED	PROVIDING AGENCY	DATA SOURCE
Travel Time Reliability	Volume (V/C)	NCDOT Traffic Survey Group	NCDOT 2021 Average Annual Daily Traffic (AADT)
	Capacity (V/C)	NCDOT Transportation Planning Division (TPD)	WMPO Transportation Demand Model
	Average Delay (AM & PM)	Kittelson and Associates	NPMRDS
		City of Wilmington	Floating Car Studies
	Travel Time (AM & PM)	Kittelson and Associates	NPMRDS
		City of Wilmington	Floating Car Studies
	Crash Rate	NCDOT Safety Planning Group	NCDOT Crash Data
	Truck Percentage	NCDOT Traffic Survey Group	NCDOT 2021 Average Annual Daily Truck Traffic (AADTT)
Hot Spot Identification	Kittelson and Associates	NPMRDS	
	City of Wilmington	Floating Car Studies	
Multimodal	Transit Stops	Wave Transit	Wave Transit GIS Data
	Transit Ridership	Wave Transit	Wave Transit FY20 and FY21 Ridership Reports
	Bicycle Suitability	WMPO	WMPO Study (2022 WMPO Bicycle Suitability Map)
	Pedestrian Infrastructure	WMPO	WMPO GIS Data
	Bicycle Crashes	NCDOT Safety Planning Group	NCDOT Crash Data
	Pedestrian Crashes	NCDOT Safety Planning Group	NCDOT Crash Data

including travel time and hot spot analyses as well as the development of an online CMP Corridor Dashboard for the WMPO.

## TRAVEL TIME ANALYSIS

Kittelson prepared a travel time analysis for 30 corridors within the WMPO utilizing probe data collected from national sources such as the National Performance Monitoring Resource Data Set (NPMRDS). These sources provide continuous travel time data in five-minute increments, which Kittelson processed using proprietary probe data analytics processing tools and algorithms. The Kittelson probe data tool allowed outlier delays to be flagged and summary statistics to be generated. The travel time performance measures evaluated for each corridor are listed to the right.

### 1. Travel Time (minutes)

*AM and PM Peak Hours  
Time Period: Fall 2021*

### 2. Delay (minutes)

*AM and PM Peak Hours  
Time Period: Fall 2021*

### 3. Delay Rate (minutes/mile)

*AM and PM Peak Hours  
Time Period: Fall 2021*

### 4. Reliability (Travel Time Index)

*24-hour  
Time Period: 2021*

### 5. Historical Performance

*AM and PM Peak Hours and 24-hour  
Time Period: 2019-2020 (where available)*

## DATA COLLECTION

### HOT SPOT ANALYSIS

Kittelson utilized the Highway Capacity Manual (HCM) Quick Estimation Procedure, which allows many intersections to be analyzed for failing traffic operations, to estimate the Level of Service (LOS) for each major intersection along the 30 corridors. The Highway Capacity Manual defines LOS as the average vehicle delay of all movements through an intersection, with LOS A being the best (free flow conditions) and LOS F being the worst (forced flow, or jammed conditions). The intersections estimated as LOS E or F were identified as “hot spots” and represent locations that may require further analysis.

### ONLINE DASHBOARD DEVELOPMENT

As part of the 2022 Biennial Data Report, an online dashboard was created to help citizens visualize the results of the travel time analysis, including the extent and duration of congestion and the overall performance of the 30 corridors evaluated by Kittelson. The dashboard also includes results from the 2020 Biennial Data Report where available to allow for the exploration of historical trends.

## FLOATING CAR STUDIES

The City of Wilmington conducted floating car studies for the following three corridors that did not have probe data available:

1. 17th/16th Street (Grace St to College Rd)
2. NC 133/River Road (Fairview Rd to Rabon Way)
3. Pine Grove Drive (College Rd to Masonboro Sound Rd)

The floating car studies, which involve travel by vehicle along a corridor during peak travel times using a handheld GPS device, provided AM and PM delay rates. The WMPO used the individual travel times for each run completed as well as the speed limits and lengths of the corridors to calculate free flow travel time, median (50th percentile) travel time, and 80th percentile travel time to determine travel time reliability. The City of Wilmington also identified hot spots for the three corridors.

## TRAFFIC VOLUMES

Traffic volumes for this report were obtained from NCDOT’s Annual Average Daily Traffic (AADT)

2021 publication. This data, published online by the Department’s Traffic Survey Group as an interactive map, also includes Annual Average Daily Truck Traffic (AADTT).

## CRASH DATA

Crash data was provided to the WMPO as a shapefile by NCDOT’s Safety Planning Group on June 1, 2022. The data included all vehicle, pedestrian, and bicycle crashes that were reported on public roads in Pender, New Hanover, and Brunswick counties between 4/1/2017 and 3/31/2022. This was NCDOT’s most recent five-year data set at the time this report was developed and WMPO staff counted crashes that occurred in 2020 and 2021. All crashes that occurred within 100’ of a corridor were counted. This was done to account for crashes that occurred on cross streets that may have been impacted by traffic on the corridor. If a crash occurred within 100’ of two corridors, it was counted for each of the two corridors.

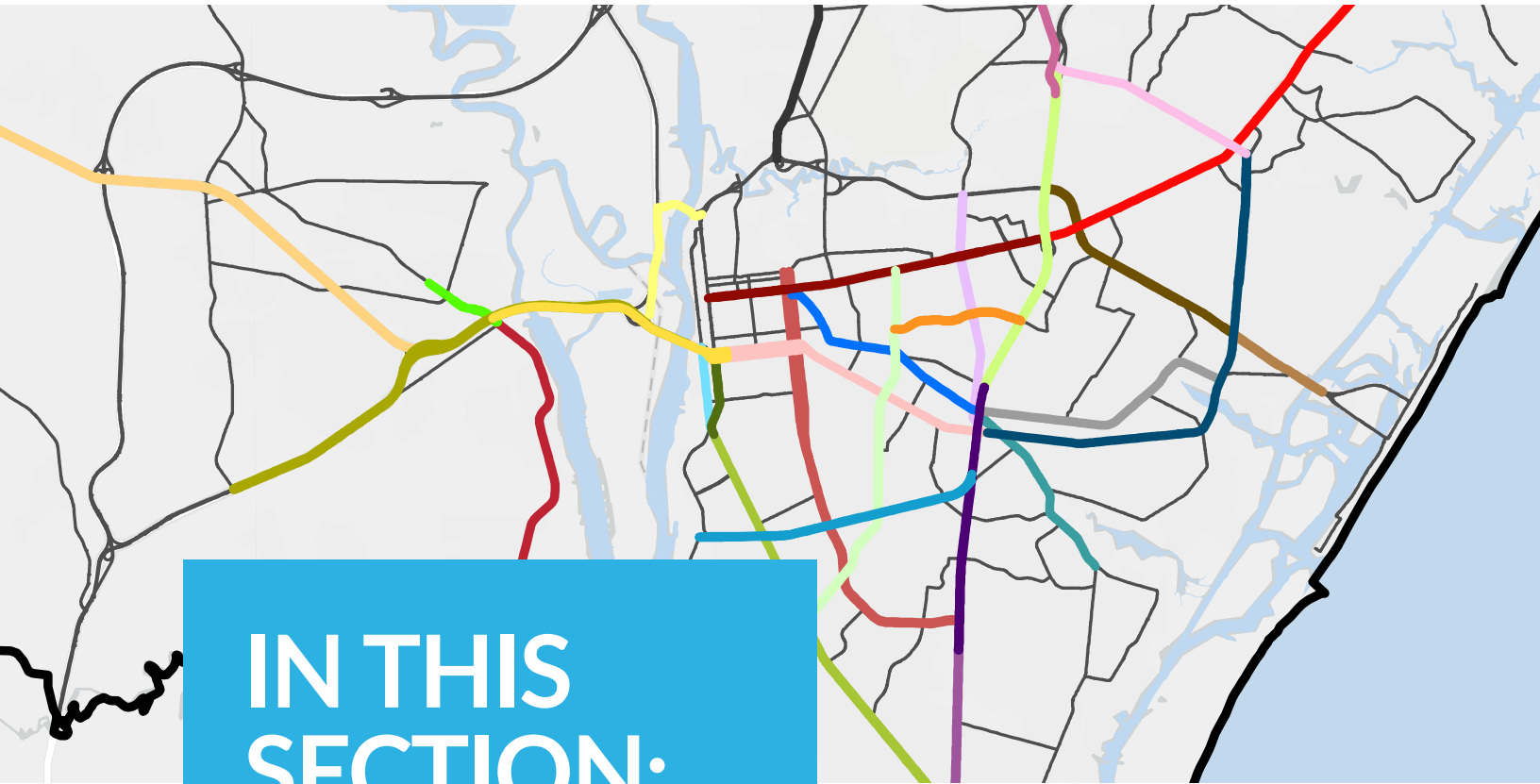
## BICYCLE SUITABILITY

Bike suitability scores were taken from the WMPO’s 2022 Bike Suitability Map, which scored over 360 roadway segments for “bicycle friendliness”. The scores ranged from Easy (10-12 points) to Not Recommended (1-3 points) or Not Allowed (controlled access facilities). The scores took into account (1) the speed limit, (2) the presence or absence of bike lanes, and (3) the vehicle lane volume (the AADT for the roadway segment divided by the number of lanes present). If a CMP corridor contained multiple roadway segments with different bike suitability scores, a weighted score was calculated based on percentage of overall corridor length.

## PEDESTRIAN SUITABILITY

To determine pedestrian suitability, WMPO staff used GIS to measure the length of existing pedestrian facilities along each CMP corridor. The length of sidewalk, crosswalk, and multi-use path (MUP) were then calculated as a percentage of overall corridor length and totaled to obtain a pedestrian suitability score.





## IN THIS SECTION:

- 1 GOALS, OBJECTIVES, AND PERFORMANCE METRICS
- 2 REGIONAL MAPS








### GOALS, OBJECTIVES, AND PERFORMANCE METRICS

The goals, objectives, and performance metrics for the 2020 Biennial Data Report were carried forward in this report so that metrics from the two could be compared using 2020 as a baseline. Goals and objectives as well as the 2020 and 2022 performance metrics are shown on the following page.

### REGIONAL MAPS

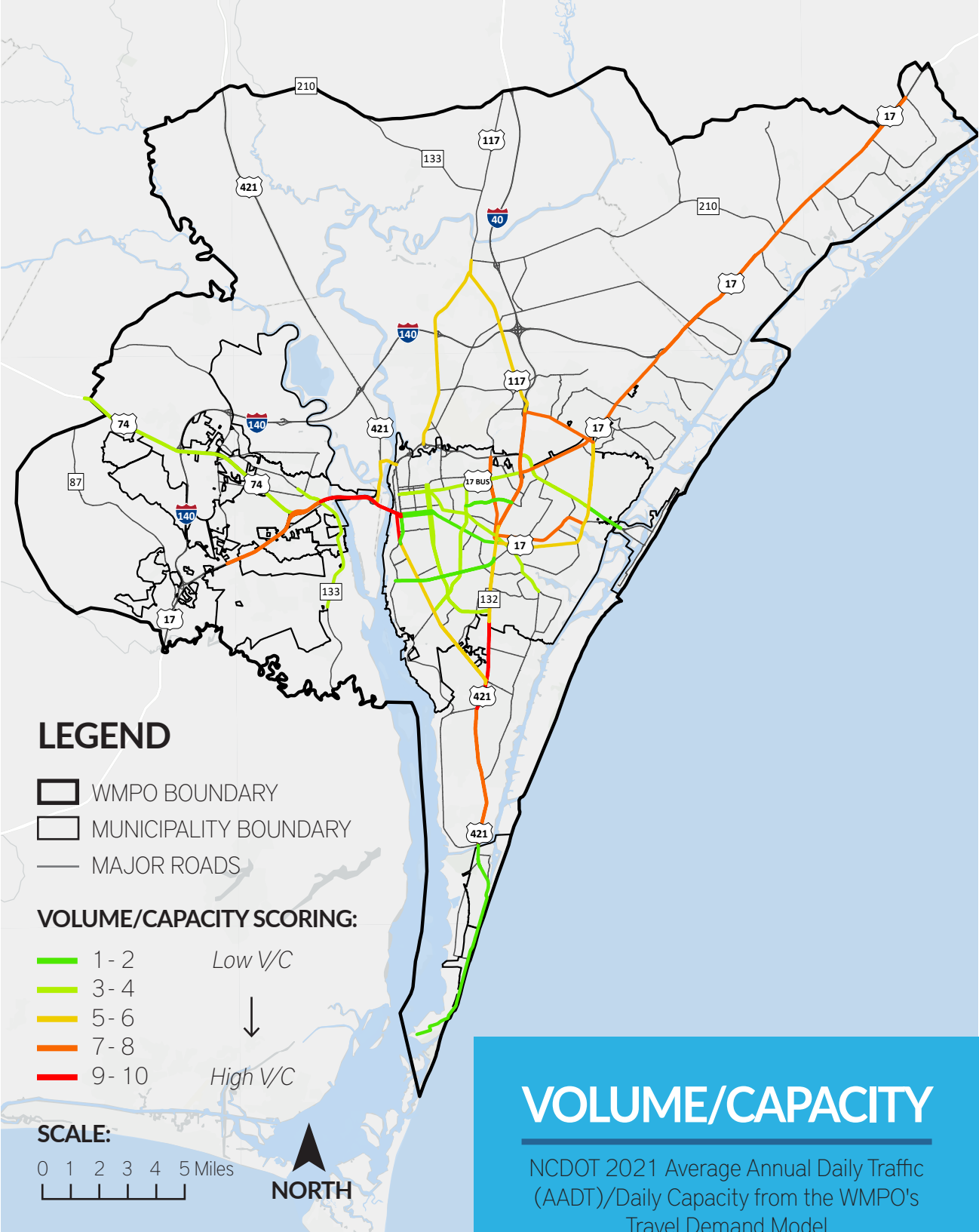
Pages 16-27 contain maps of the WMPO CMP network for each of the 12 performance metrics utilized in this report. The purpose of the regional mapping is to show a side-by-side comparison of all 33 CMP corridors for each performance metric. For individual results of a specific corridor, refer to the segment snapshots on pages 35-100.

# CONGESTION MANAGEMENT OBJECTIVES

BASELINE		REGIONAL PERFORMANCE MEASURE	REGIONAL PERFORMANCE METRIC (2020)	REGIONAL PERFORMANCE METRIC (2022)
<b>GOAL</b>  <b>SAFE</b>	<b>OBJECTIVE</b> Promotes transportation projects that increase the safety of all users by decreasing injury and increasing user awareness	Reduce the rate of crashes per 100 million vehicle miles	Brunswick: 213.32 New Hanover: 436.38 Pender: 225.73	Brunswick: 217.45 New Hanover: 400.05 Pender: 230.31
 <b>EFFICIENT</b>	Transportation network allows for time savings, interconnected across all modes of transport	Reduce the percent of corridors with Volume/Capacity (V/C) over 0.8	37%	33%
 <b>RELIABLE</b>	Dependable travel times and connections	Reduce the percent of corridors with Level of Travel Time Reliability (LOTRR) > 1.2	25%	18%
 <b>REALISTIC</b>	Appropriately utilizes available funding resources and does not exceed the financial means of the region	Track progress of programmed and recommended strategies	STIP Projects: 38 MTP Projects: 150* Bond Projects: 7	STIP Projects: 33 MTP Projects: 109 Bond Projects: 11
 <b>MULTIMODAL</b>	Alternative modes of transportation available for most trip types	Increase the average percentage of Multi-Use Path (MUP), Sidewalk, Crosswalk, and Bicycle Infrastructure per corridor by 2%	MUP: 11% Sidewalk: 46% Crosswalk: 3% Bicycle Infrastructure: 24%	MUP: 12% Sidewalk: 52% Crosswalk: 4% Bicycle Infrastructure: N/A
 <b>ENVIRONMENTALLY AND SOCIALLY RESPONSIBLE</b>	Accessible, sustainable, and equitable transportation solutions actively communicated to increase public awareness and collaboration	Increase Transit Ridership by 2%	FY 2018 Ridership: 1,306,099 FY 2019 Ridership: 1,199,245	FY 2020 Ridership: 1,115,007 FY 2021 Ridership: 548,187
 <b>INNOVATIVE</b>	Responsive to changing concepts and technologies in both design and construction	Include additional analysis in future CMPs including seasonal, work zone, response time, and weather	NPMRDS Travel Time Data (2019)	NPMRDS Travel Time Data (2021)

\* 2020 MTP projects is based on count from the then-adopted MTP.

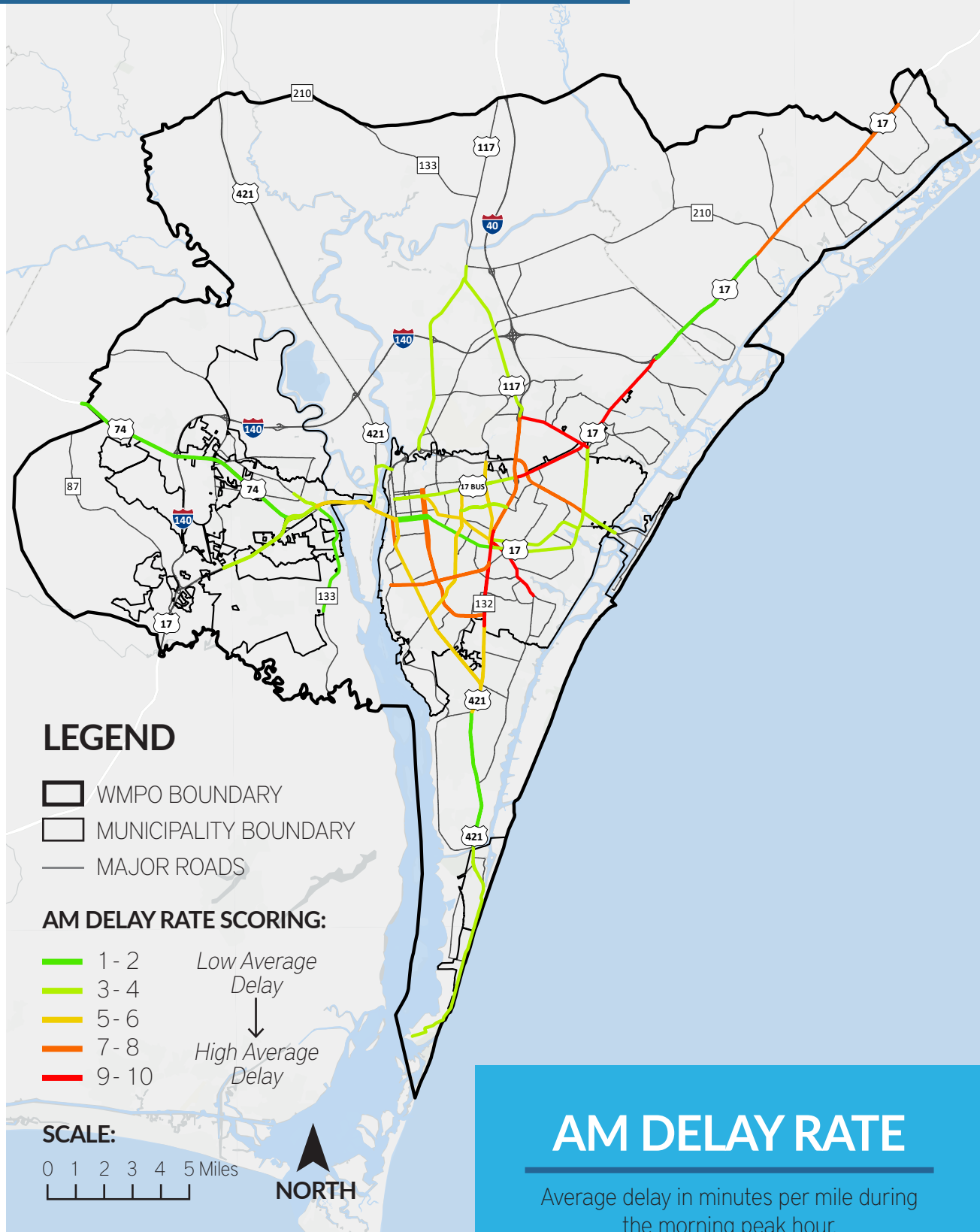
# FIGURE 1 | VOLUME /CAPACITY



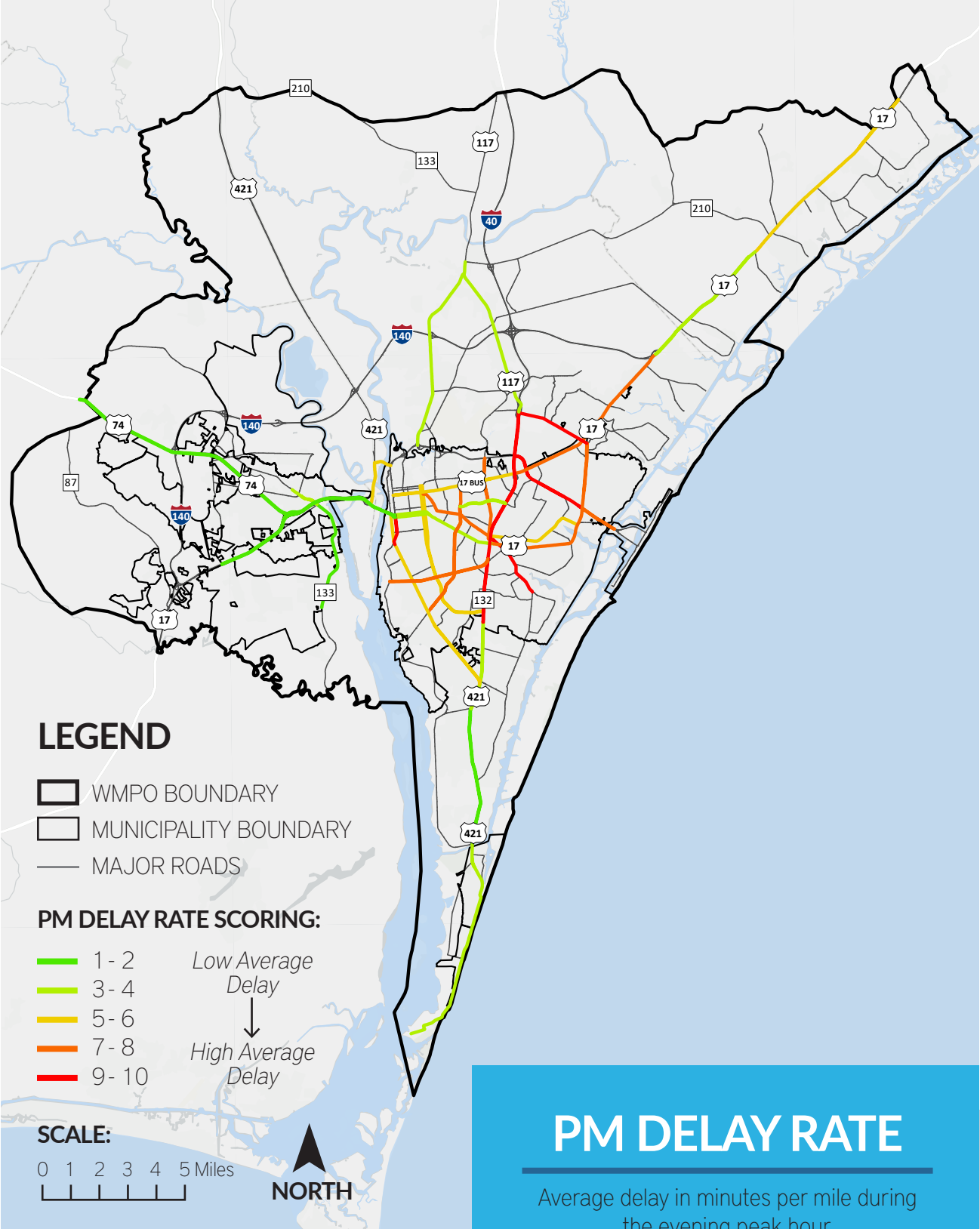
## VOLUME/CAPACITY

NCDOT 2021 Average Annual Daily Traffic (AADT)/Daily Capacity from the WMPO's Travel Demand Model

# FIGURE 2 | AM DELAY RATE



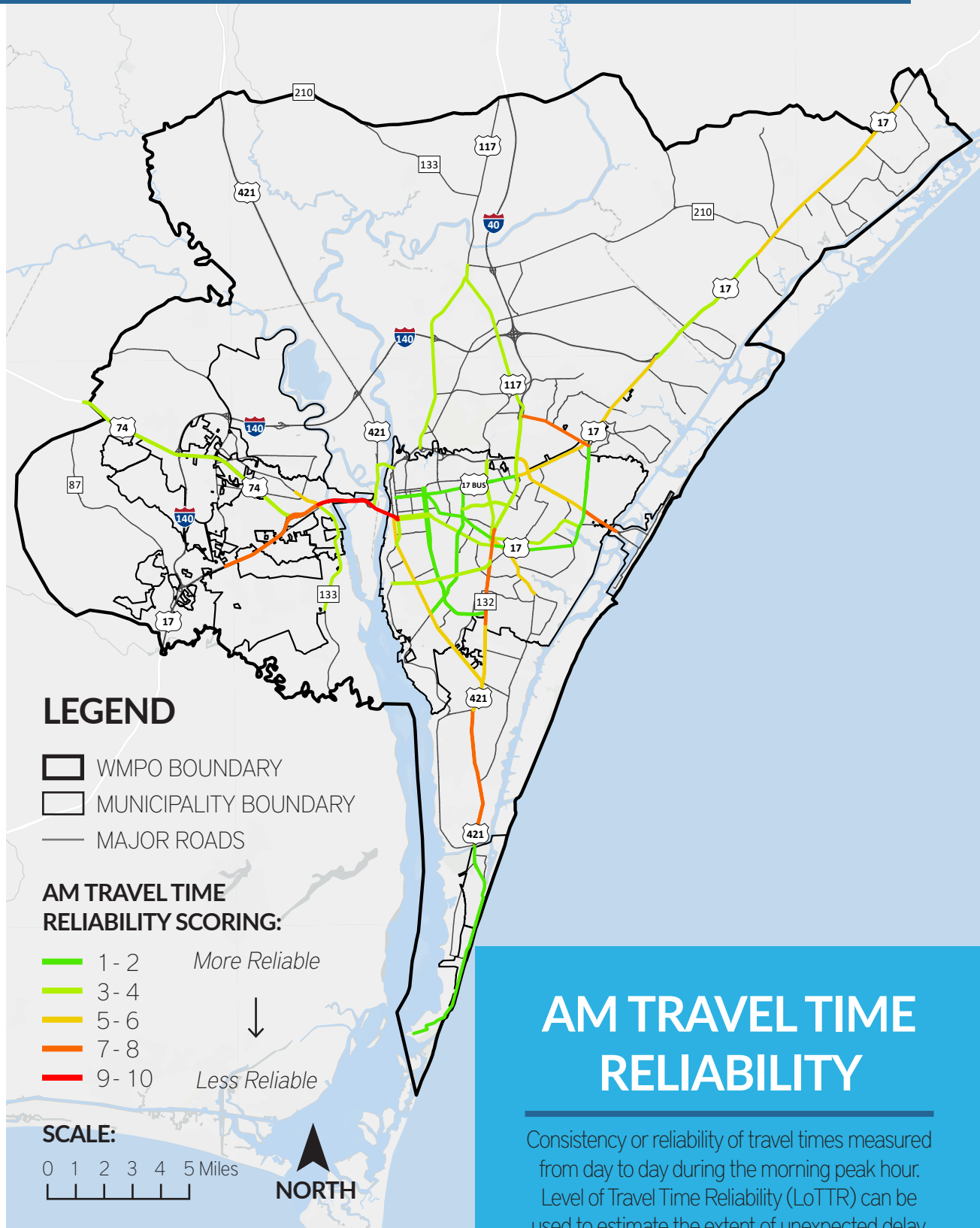
# FIGURE 3 | PM DELAY RATE



## PM DELAY RATE

Average delay in minutes per mile during the evening peak hour.

# FIGURE 4 | AM TRAVEL TIME RELIABILITY



# FIGURE 5 | PM TRAVEL TIME RELIABILITY

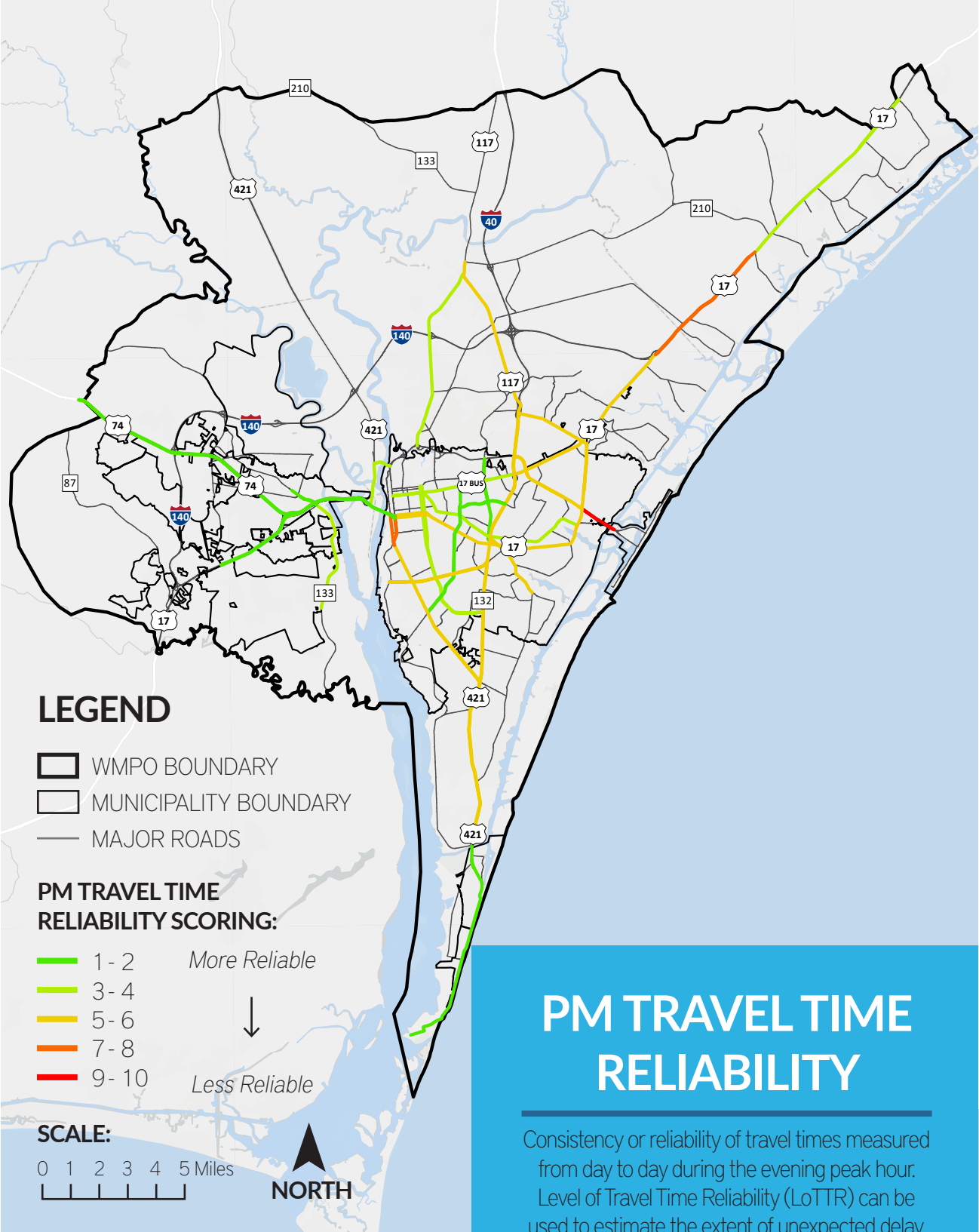
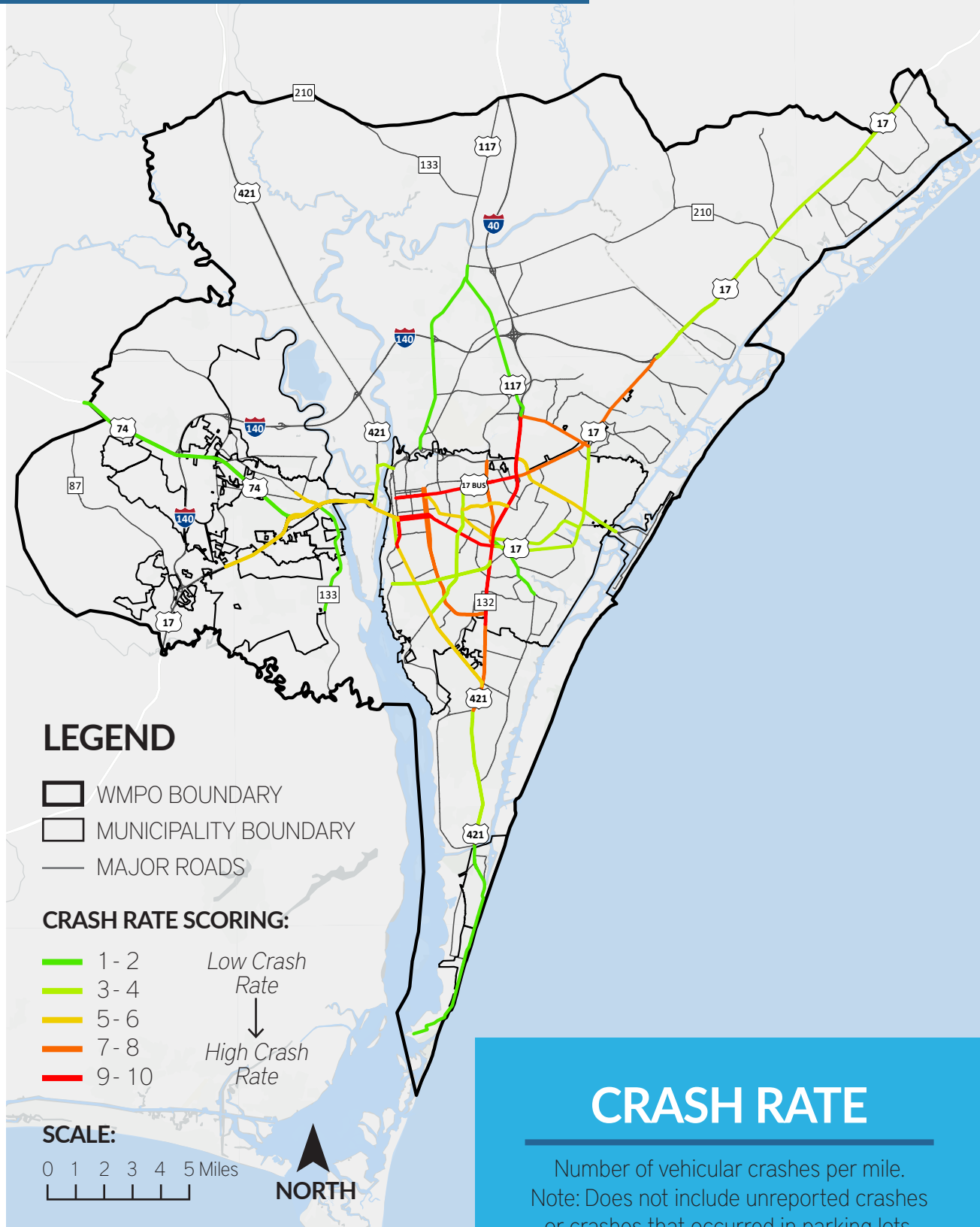
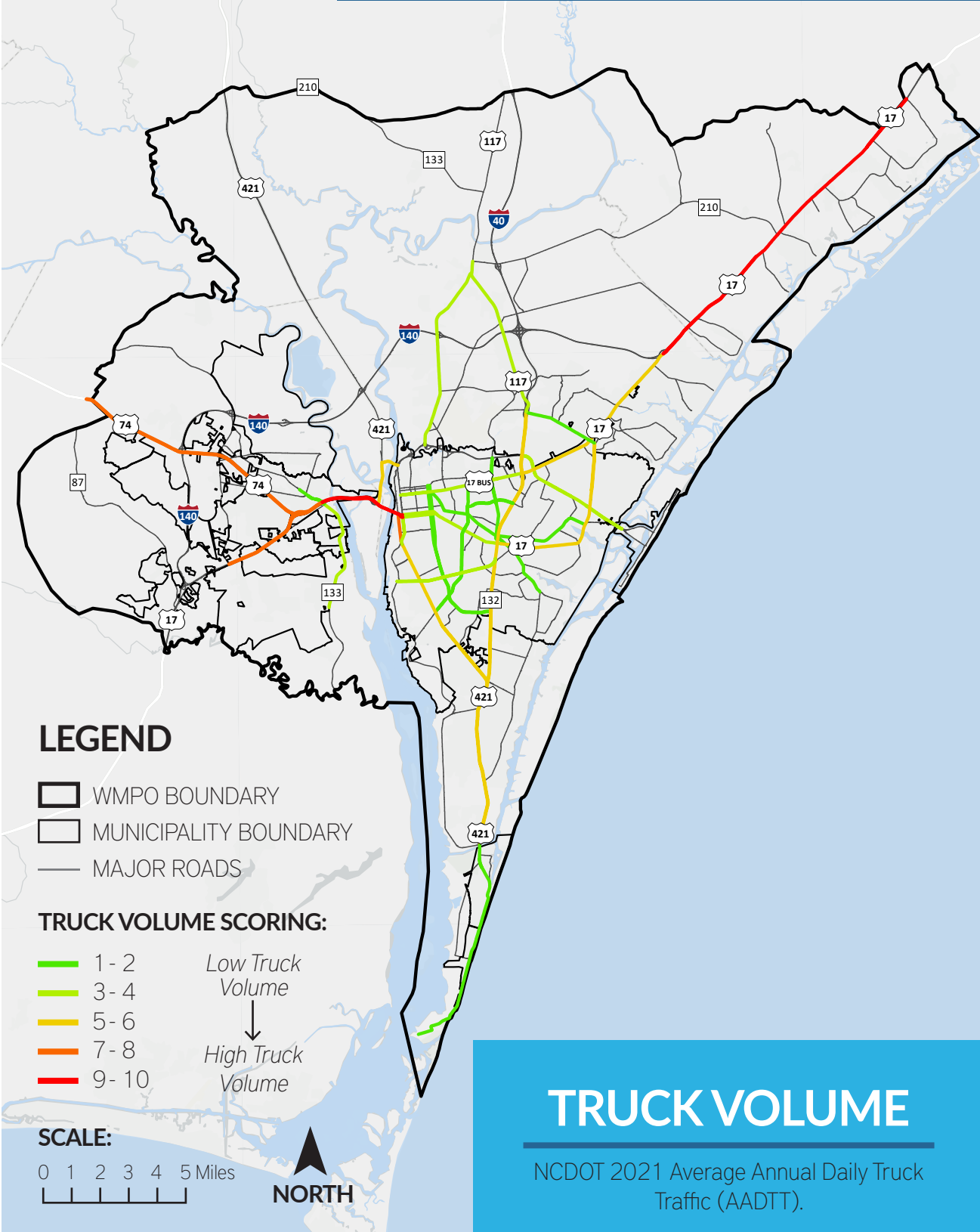


FIGURE 6 | CRASH RATE

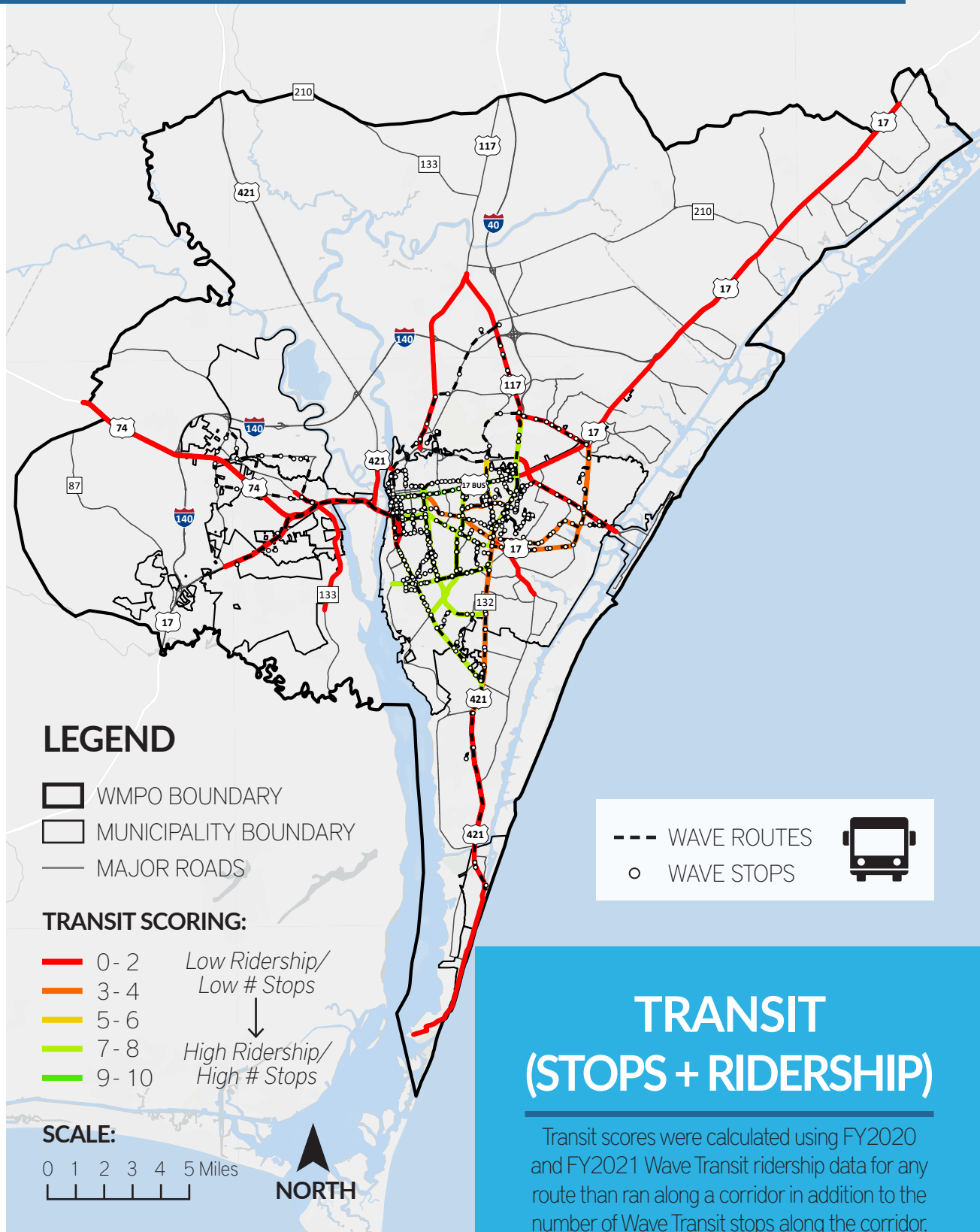




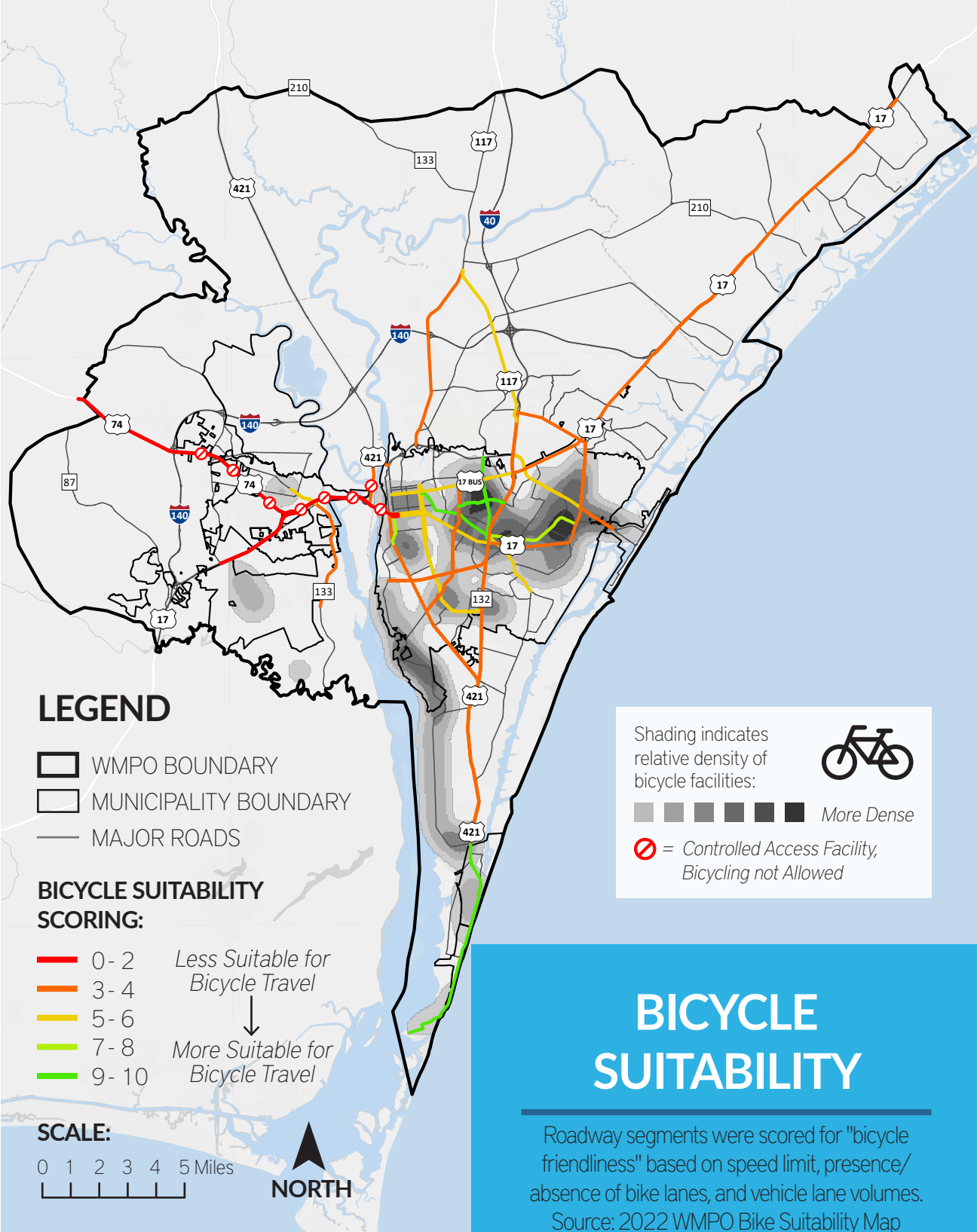
# FIGURE 7 | TRUCK VOLUME



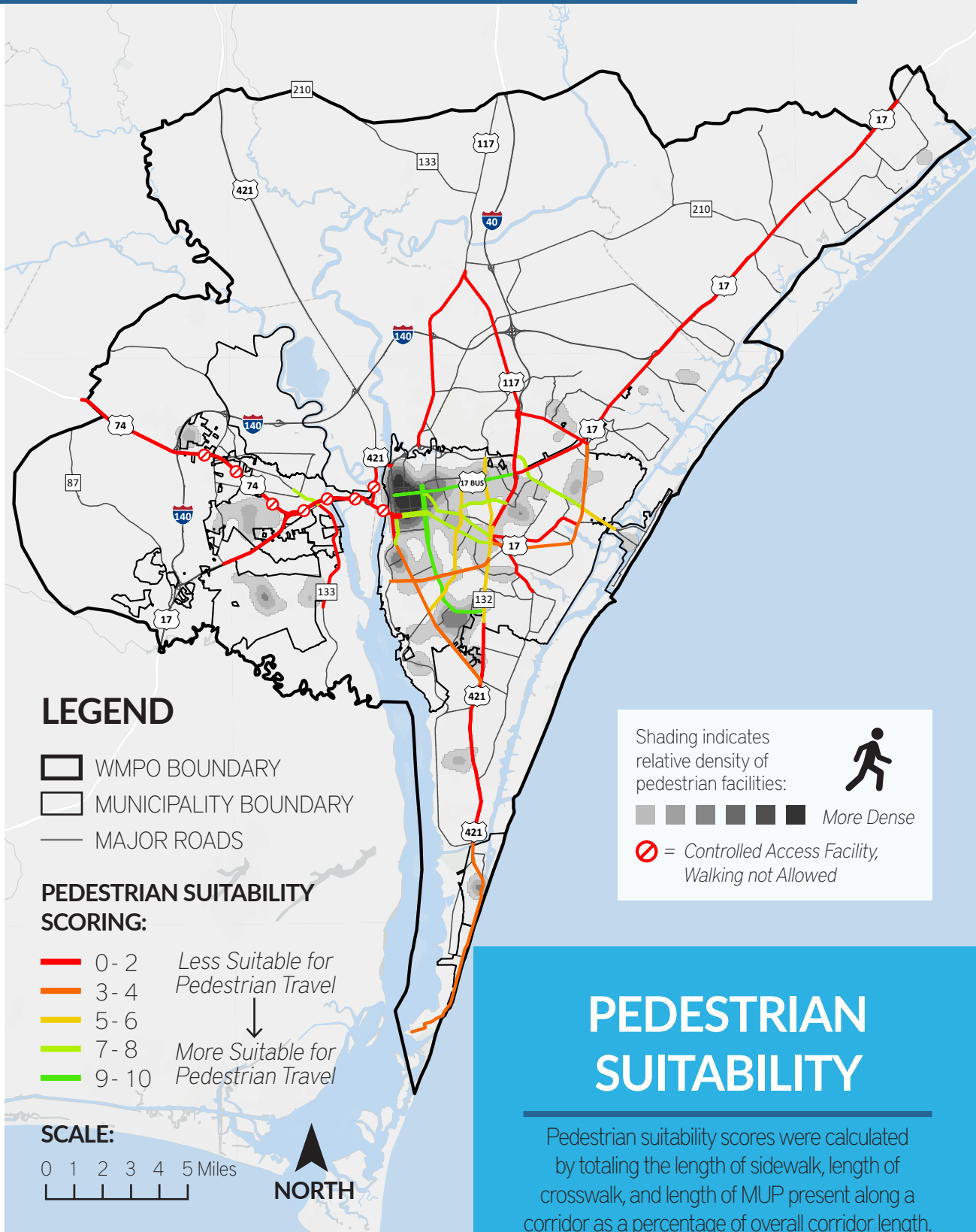
# FIGURE 8 | TRANSIT (STOPS + RIDERSHIP)



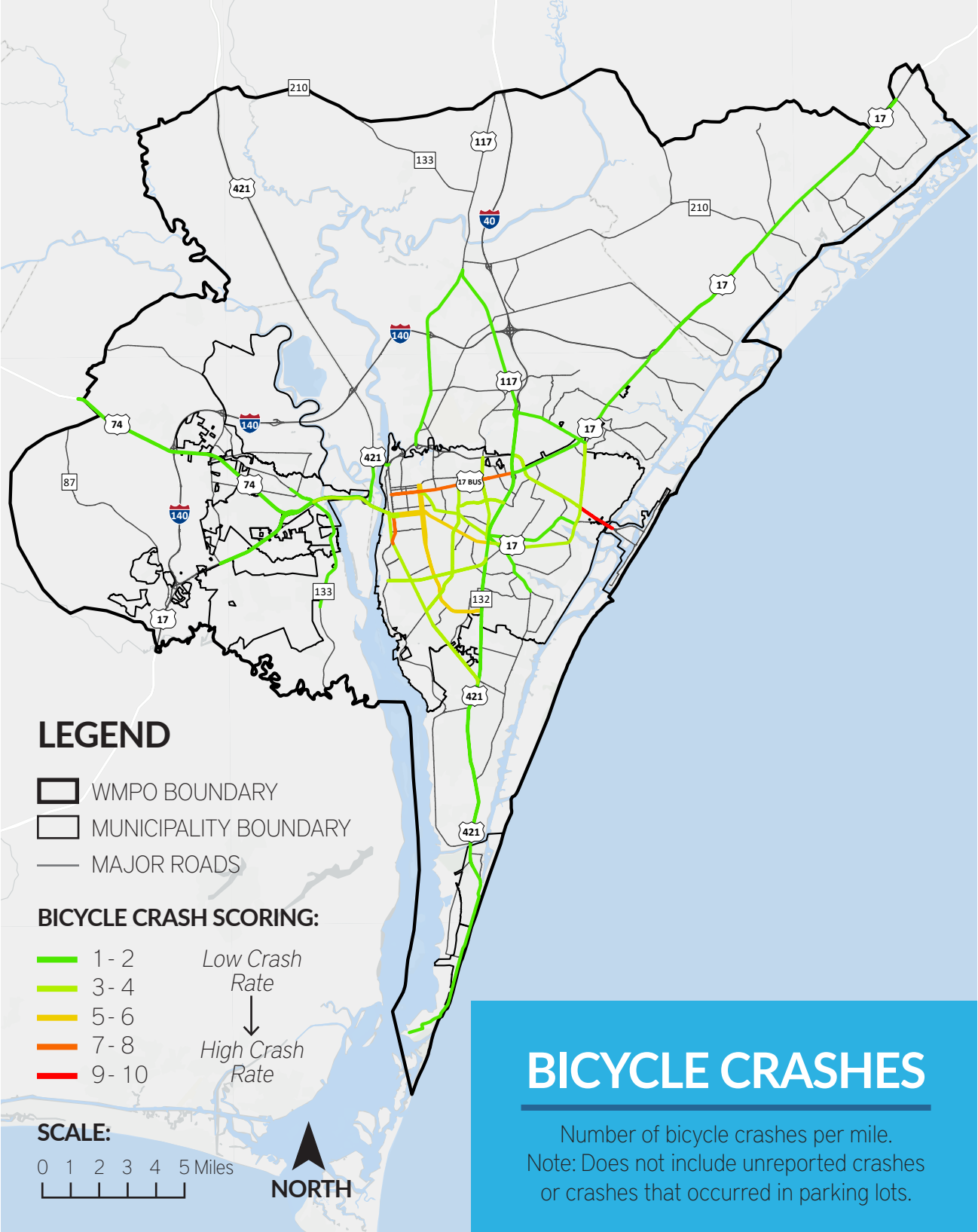
# FIGURE 9 | BICYCLE SUITABILITY



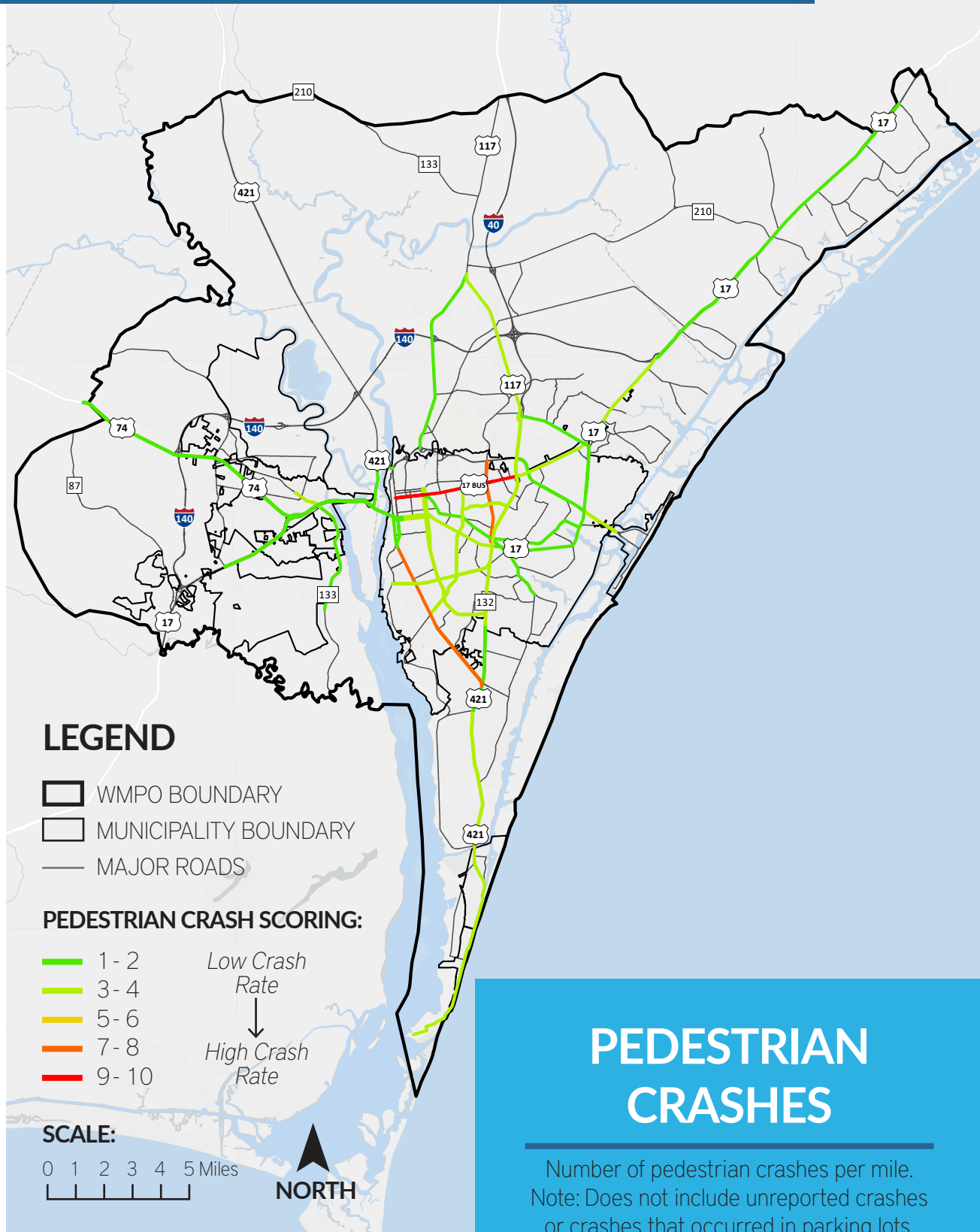
# FIGURE 10 | PEDESTRIAN SUITABILITY

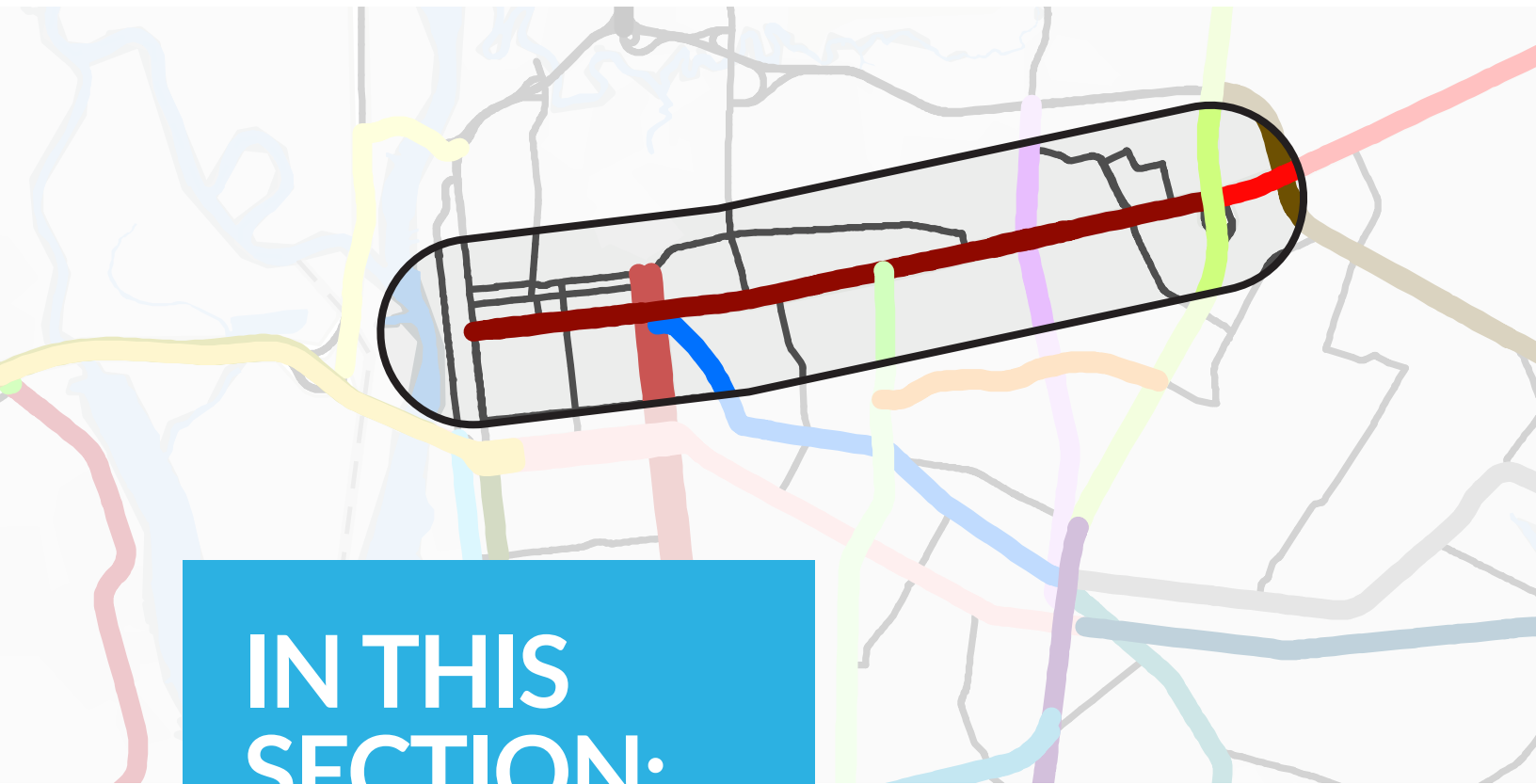


# FIGURE 11 | BICYCLE CRASHES



# FIGURE 12 | PEDESTRIAN CRASHES





## IN THIS SECTION:

- 1 | CORRIDOR SCORES
- 2 | SEGMENT SNAPSHOT KEY
- 3 | SEGMENT SNAPSHOTS

### CORRIDOR SCORES

In addition to evaluating congestion at a regional level, the WMPO monitors and analyzes congestion on its CMP network at a corridor level.

To assess travel time and reliability, each corridor is scored for volume/capacity, delay rate (AM and PM), travel time reliability (AM and PM), crash rate, and truck volume. The highest and lowest values are used to determine the range for each metric, which is then converted to a 10-point scale for comparison purposes. The highest total Travel Time/Reliability score possible is 70, with the highest scores representing the worst travel time reliability and worse congestion than lower scores.


Each corridor is also scored for multimodal performance, including transit stops and ridership, bicycle and pedestrian suitability, and bicycle and pedestrian crashes. The highest and lowest values are used to determine the range for each metric, which is then converted to a 10-point scale. The highest total Multimodal score possible

## CORRIDOR ANALYSIS

is 50, with the highest scores representing the most existing multimodal facilities and the greatest suitability for multimodal travel.

Corridor scoring can be found on pages 31-32. Each score reveals how a corridor compares to the other corridors in the respective metric.

## TRAVEL TIME/RELIABILITY SCORING

PERFORMANCE METRIC	POINTS POSSIBLE	TOTAL
Volume/Capacity (V/C)	10	 <b>70</b>
AM Delay Rate (minutes/mile)	10	
PM Delay Rate (minutes/mile)	10	
AM Travel Time Reliability (80th percentile TT <sup>1</sup> /50th percentile TT)	10	
PM Travel Time Reliability (80th percentile TT/50th percentile TT)	10	
Crash Rate (crashes/mile)	10	
Truck Volume (AADTT <sup>2</sup> )	10	

<sup>1</sup>Travel Time    <sup>2</sup>Average Annual Daily Truck Traffic

THE **HIGHER** THE SCORE, THE **WORSE** THE TRAVEL TIME RELIABILITY AND CONGESTION (INDICATES A GREATER NEED FOR CONGESTION MANAGEMENT STRATEGIES)

## MULTIMODAL SCORING

PERFORMANCE METRIC	POINTS POSSIBLE	TOTAL
Transit (Stops + Ridership)	10	 <b>50</b>
Bicycle Suitability	10	
Pedestrian Suitability	10	
Bicycle Crashes	10	
Pedestrian Crashes	10	


THE **HIGHER** THE SCORE, THE **MORE** MULTIMODAL FACILITIES AND THE **BETTER** SUITED FOR TRAVEL BY ALTERNATIVE MODES

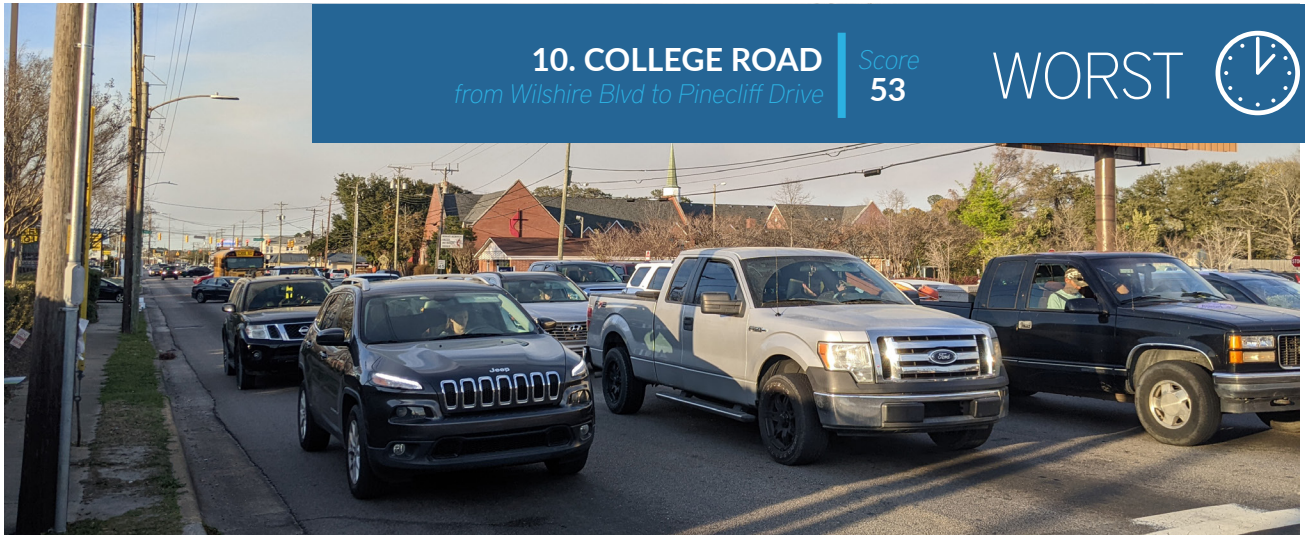


**25. US 421/LAKE PARK BLVD** *from Snow's Cut Bridge to End of US421* **Score 13** **BEST** 



*Best Ranked Corridor in terms of Travel Time/Reliability*

**10. COLLEGE ROAD** *from Wilshire Blvd to Pinecliff Drive* **Score 53** **WORST** 



*Worst Ranked Corridor in terms of Travel Time/Reliability*

**14. RANDALL PKWY** *from Covil/Independence to College Rd* **Score 37** **28. WRIGHTSVILLE AVE** *from 17th Street to College Road* **BEST** 




*Best Ranked Corridors in terms of Multimodal Facilities and Suitability*

SCORING

ROAD <i>from/to</i>	MARKET STREET <i>from 3rd Street to College Road</i>	MARKET STREET <i>from College Road to NC 140</i>	US17/US76/OLEANDER DRIVE <i>from 3rd Street to Treadwell St</i>	OLEANDER DR/MILITARY CUTOFF RD <i>from Treadwell Street to Gordon Road</i>	US117/SHIPYARD BLVD <i>from River Road to College Road</i>	FRONT STREET <i>from Lake Shore Dr to Cape Fear Memorial Bridge</i>	3RD STREET <i>from Lake Shore Dr to Wooster Street</i>	US421/CAROLINA BEACH ROAD <i>from Lake Shore Drive to College Road</i>	COLLEGE ROAD <i>from Gordon Road to Wilshire Blvd</i>	COLLEGE ROAD <i>from Wilshire Blvd to Pinecliff Drive</i>	COLLEGE RD/CAROLINA BEACH RD <i>from Pinecliff Drive to Sanders Road</i>	KERR AVENUE <i>from MLK Jr Pkwy to College Road</i>	US74/MLK JR PKWY/EASTWOOD ROAD <i>from College Road to Military Cutoff Road</i>	RANDALL PKWY <i>from Covil Ave/Independence Blvd to College Rd</i>	US74/76 <i>from Maco Road to US17/Ocean Highway</i>	
SEGMENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
<b>TRAVEL TIME RELIABILITY</b> <i>10 points/each possible</i>	Volume/ Capacity (V/C)	4	7	2	6	1	10	2	6	7	6	10	7	3	1	3
	AM Delay Rate (min/mile)	4	10	2	4	7	7	5	8	10	6	6	7	4	1	
	PM Delay Rate (min/mile)	5	8	3	8	7	5	10	5	9	10	4	8	10	4	1
	AM Travel Time Reliability	2	6	3	2	3	6	3	6	4	7	6	3	6	3	3
	PM Travel Time Reliability	3	5	6	6	5	7	8	6	6	6	6	2	6	2	1
	Crash Rate (crashes/mile)	9	8	10	4	4	4	9	6	9	9	7	7	5	5	1
	Truck Volume (AADTT)	3	5	4	5	4	8	4	6	6	5	6	1	4	1	8
<b>TOTAL</b> <i>70 points max.</i>	<b>30</b>	<b>49</b>	<b>30</b>	<b>35</b>	<b>31</b>	<b>47</b>	<b>41</b>	<b>40</b>	<b>49</b>	<b>53</b>	<b>45</b>	<b>34</b>	<b>41</b>	<b>20</b>	<b>18</b>	
<b>MULTIMODAL</b> <i>10 points/each possible</i>	Transit (Stops + Ridership)	10	0	7	4	7	3	2	8	7	3	3	5	2	4	0
	Bicycle Suitability	6	3	6	4	4	4	7	4	3	4	3	9	5	10	2
	Pedestrian Suitability	9	2	8	3	4	2	8	4	2	5	1	6	7	7	1
	Bicycle Crashes	4	9	5	7	7	7	3	7	10	9	9	7	7	8	10
	Pedestrian Crashes	1	8	7	9	7	10	10	4	7	8	10	4	9	8	10
<b>TOTAL</b> <i>50 points max.</i>	<b>30</b>	<b>22</b>	<b>33</b>	<b>27</b>	<b>29</b>	<b>26</b>	<b>30</b>	<b>27</b>	<b>29</b>	<b>29</b>	<b>26</b>	<b>31</b>	<b>30</b>	<b>37</b>	<b>23</b>	

	US17/OCEAN HIGHWAY <i>from Lanvale Rd to NC133 Split</i>	US17/74/76 (CAPE FEAR MEMORIAL BRIDGE) <i>from NC133 Split to 3rd Street</i>	US74/US421/NC 133 <i>from US17 Split to 3rd Street</i>	US117/COLLEGE ROAD <i>from Holly Shelter Road to Gordon Road</i>	GORDON ROAD <i>from I-40 to Military Cutoff Road</i>	US17/MARKET STREET <i>from NC140 to Washington Acres Road</i>	US17/NC210 <i>from Washington Acres Rd to Sloop Point Rd</i>	US76/EASTWOOD RD <i>from Military Cutoff Road to C.Heide Trask Bridge</i>	US421/CAROLINA BEACH ROAD <i>from Sanders Road to Snow's Cut Bridge</i>	US421/LAKE PARK BLVD <i>from Snow's Cut Bridge to End of US421</i>	VILLAGE ROAD <i>from US17/74/76 to Town Hall Drive</i>	INDEPENDENCE BLVD/COVIL AVENUE <i>from US421 to Market Street</i>	WRIGHTSVILLE AVENUE <i>from 17th Street to US117/College Road</i>	WRIGHTSVILLE AVENUE <i>from College Road to US17/US76/Oleander Dr</i>	NC133/CASTLE HAYNE ROAD <i>from US74 to US117</i>	17TH/16TH STREET <i>from Grace Street to College Road</i>	NC133/RIVER ROAD <i>from Fairview Road to Rabon Way</i>	PINE GROVE DRIVE <i>from College Road to Masonboro Sound Rd</i>
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
	7	9	5	6	8	7	7	2	7	2	3	3	4	7	5	3	4	3
	3	5	4	4	9	1	8	4	2	3	3	6	6	3	4	7	1	10
	1	1	5	4	10	4	5	7	1	3	3	7	7	5	3	5	2	10
	7	10	4	4	7	4	5	8	7	1	5	1	2	3	4	2	3	6
	1	1	3	6	6	8	4	10	6	1	2	2	3	4	3	3	3	5
	6	5	4	2	7	3	4	4	4	1	6	4	5	3	2	8	1	2
	8	10	6	4	1	9	10	3	6	2	1	1	1	1	4	2	4	1
	33	41	31	30	48	36	43	38	33	13	23	24	28	26	25	30	18	37
	1	2	0	2	2	0	0	1	2	1	2	7	3	4	2	8	1	0
	1	1	4	6	3	3	3	4	3	10	5	4	9	7	4	5	4	5
	1	1	1	1	1	1	1	6	1	3	8	5	8	2	1	10	1	2
	10	8	10	10	9	10	10	1	10	10	10	8	8	10	10	6	10	10
	10	10	9	8	10	9	9	7	8	8	7	8	9	9	10	7	10	10
	23	22	24	27	25	23	23	19	24	32	32	32	37	32	27	36	26	27

SEGMENT SNAPSHOT KEY

# MAP OF ROADWAY SEGMENT

**SEGMENT #:**

## ROADWAY STUDIED

**FROM:** STARTING POINT  
(CROSS STREET)

**TO:** END POINT  
(CROSS STREET)

**LENGTH:** # MILES

**HOT SPOTS:** # OF INTERSECTIONS  
WITH AT LEAST ONE MOVEMENT  
APPROACHING CAPACITY

1. CROSS STREET A
2. CROSS STREET B
3. CROSS STREET C

**ALTERNATE ROUTE(S):**  
ROADWAY X

## WMPO CONGESTION MANAGEMENT TECHNIQUES

*This section outlines the congestion management strategies from the toolbox (included in the Appendix) that are best suited to mitigate congestion along this particular roadway segment. The strategies are organized using the following categories:*

**REDUCE DEMAND:**

- Strategy A (if any)

**SHIFT MODE OF TRIP:**

- Strategy B (if any)

**IMPROVE OPERATIONS:**

- Strategy C (if any)

**INCREASE CAPACITY:**

- Strategy D (if any)

**LAND USE:**

- Strategy E (if any)

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	X	# (Range: 1-10)
AM Delay Rate (minutes/mile)	X	# (Range: 1-10)
PM Delay Rate (minutes/mile)	X	# (Range: 1-10)
AM Travel Time Reliability (LoTTR)	X	# (Range: 1-10)
PM Travel Time Reliability (LoTTR)	X	# (Range: 1-10)
Crash Rate (crashes/mile)	X	# (Range: 1-10)
Truck Volume (AADTT)	X	# (Range: 1-10) <sup>1</sup>

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	X   Y	# (Range: 0-10) <sup>2</sup>
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	X   Y   Z	# (Range: 1-10)
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	X   Y   Z	# (Range: 1-10)
Bicycle Crashes (crashes/mile)	X	# (Range: 1-10)
Pedestrian Crashes (crashes/mile)	X	# (Range: 1-10)

<sup>1</sup>A score of 1 for Truck Volume indicates low AADTT or no data available.

<sup>2</sup>While all other metrics were scored on a scale of 1-10, corridors lacking transit entirely were given a score of zero in this category.



**MULTIMODAL  
SCORE: ##**

**RANGE: 4-50** (Best possible score = 50)

A roadway segment with a high multimodal score contains more multimodal facilities and/or is better suited for multimodal travel than a roadway segment with a low multimodal score.



**TRAVEL TIME  
SCORE: ##**

**RANGE: 7-70** (Best possible score = 7)

A roadway segment with a high travel time score is less reliable in terms of travel time and more congested than a roadway segment with a low travel time score.

## CURRENT PROJECTS AND PLANS

This section outlines any programmed or planned capital projects along this particular roadway segment.\* The projects originate from the following plans/sources:

### NOTES:

\*Does not include bridge repair/maintenance or resurfacing projects

\*\*2014 City of Wilmington Transportation Bond

### 2020-2029 STIP:

- Project 1 (if any)

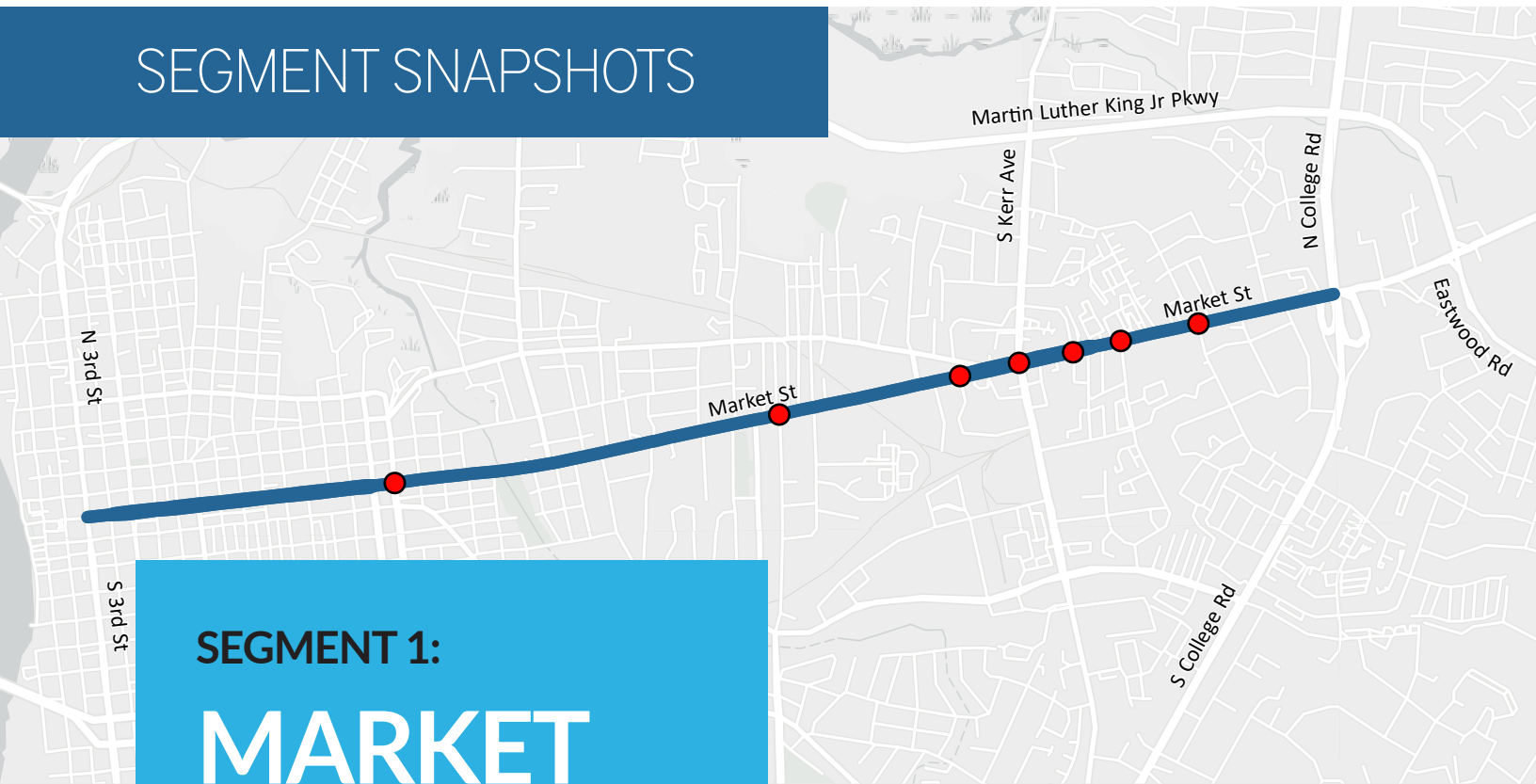
### CAPE FEAR MOVING FORWARD 2045:

- Project 2 (if any)

### TRANSPORTATION BOND\*\*:

- Project 3 (if any)

# SEGMENT SNAPSHOTS



## SEGMENT 1:

# MARKET STREET

**FROM:** THIRD STREET  
**TO:** COLLEGE ROAD

**LENGTH:** 4.39 MILES

**HOT SPOTS:** 7

1. 17th Street
2. Covil Avenue
3. Cinema Drive
4. Kerr Avenue
5. Wilmington Avenue
6. Lullwater Drive
7. New Centre Drive

**ALTERNATE ROUTE(S):**  
MLK JR PKWY

## WMPO CONGESTION MANAGEMENT TECHNIQUES

### REDUCE DEMAND:

- Alternative Roadways

### SHIFT MODE OF TRIP:

- Expand Bicycle and Pedestrian Network
- Improve Multimodal Access at Intersections
- Increase Transit Frequency
- Transit Stop Improvements

### IMPROVE OPERATIONS:

- Access Management
- Geometric Intersection Improvements

### LAND USE:

- Construct Supportive Accessways with New Development

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.5382	4
AM Delay Rate (minutes/mile)	0.60	4
PM Delay Rate (minutes/mile)	0.82	5
AM Travel Time Reliability (LOTTR)	1.06	2
PM Travel Time Reliability (LOTTR)	1.09	3
Crash Rate (crashes/mile)	147.84	9
Truck Volume (AADTT)	689	3

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	31   322,440.50	10
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	4.80	6
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	1.71   0.13   0.00	9
Bicycle Crashes (crashes/mile)	1.59	4
Pedestrian Crashes (crashes/mile)	2.51	1



**MULTIMODAL  
SCORE: 30**



**TRAVEL TIME  
SCORE: 30**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

- EB-6028 | Market St & 21st St HAWK Signal
- U-4902B | US17 BUS/Market St Access Management Improvements (CSX Railroad to Cinema Dr; Jacksonville St to north of College Rd)

### CAPE FEAR MOVING FORWARD 2045:

- BP-639 | S 21st St & Market St Crosswalk Improvements
- BP-698 | Market St & Barclay Hills Dr Crosswalk Improvements
- BP-700 | Market St & Lullwater Dr Crosswalk Improvements
- PT-15 | Market St & Kerr Ave Amenity Upgrades
- PT-16 | Market St & Lullwater Dr Amenity Upgrades

- PT-47 | Market St & N 16th St Amenity Upgrades
- PT-147 | Rush Hour Service 8-11am & 3-5pm (105)
- PT-148 | Rush Hour Service 8-11am & 3-5pm (108)
- PT-151 | Earlier Weekday Service (105)
- PT-152 | Earlier Weekday Service (108)
- RW-219 | US17 BUS/Market St Road Diet (I of II)
- RW-220 | US17 BUS/Market St Road Diet (II of II)

### TRANSPORTATION BOND:

(none)



**SEGMENT 2:**

# MARKET STREET

**FROM:** COLLEGE ROAD  
**TO:** NC 140

**LENGTH:** 6.34 MILES

**HOT SPOTS:** 7

1. MLK Jr Pkwy/Eastwood Road
2. Cardinal Drive
3. Green Meadows Drive
4. Gordon Road
5. Military Cutoff Road
6. Middle Sound Loop Road
7. Walmart Driveway

**ALTERNATE ROUTE(S):**

MILITARY CUTOFF ROAD EXT.  
(FUTURE)

## WMPO CONGESTION MANAGEMENT TECHNIQUES

**REDUCE DEMAND:**

- Alternative Roadways
- Carpool/Vanpool

**SHIFT MODE OF TRIP:**

- Expand Bicycle and Pedestrian Network
- Improve Multimodal Access at Intersections

**IMPROVE OPERATIONS:**

- Access Management
- Geometric Intersection Improvements

**LAND USE:**

- Transit-Oriented Land Development
- Require MPO Review for Regional Scale Developments
- Construct Supportive Accessways with New Development
- Mixed-Use Land Development
- Encourage Regional Activity Centers
- Infill and Densification



TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.8993	7
AM Delay Rate (minutes/mile)	1.70	10
PM Delay Rate (minutes/mile)	1.27	8
AM Travel Time Reliability (LOTTR)	1.14	6
PM Travel Time Reliability (LOTTR)	1.14	5
Crash Rate (crashes/mile)	140.06	8
Truck Volume (AADTT)	1,144	5

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	0   0.00	0
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	2.14	3
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.24   0.01   0.00	2
Bicycle Crashes (crashes/mile)	0.47	9
Pedestrian Crashes (crashes/mile)	0.63	8



**MULTIMODAL  
SCORE: 22**



**TRAVEL TIME  
SCORE: 49**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

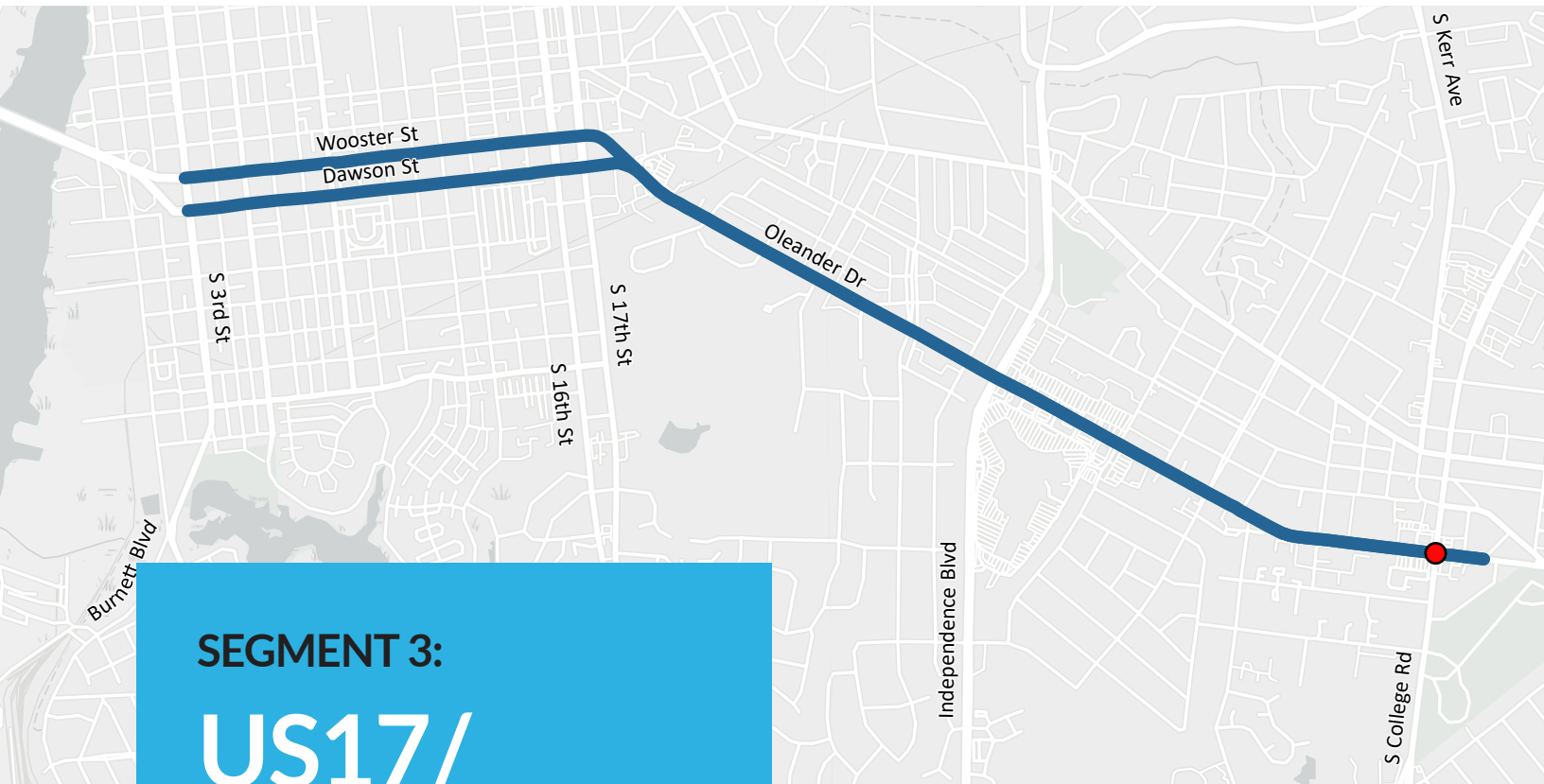
- U-4902B | US17 BUS/Market St Access Management Improvements (CSX Railroad to Cinema Dr; Jacksonville St to north of College Rd)
- U-4902C | US17 BUS/Market St Access Management Improvements (North of College Rd to Station Rd, includes US74/MLK Jr Pkwy & Market St Interchange)
- U-4902D | US17 BUS/Market St Access Management Improvements (Middle Sound Loop Rd to Mendenhall Dr/ Marsh Oaks Dr)

### CAPE FEAR MOVING FORWARD 2045:

- PT-8 | New Route to Porters Neck, Heavy Duty Bus
- PT-103 | Market St & Porters Neck Rd Park and Ride
- RW-186 | US17/17 BUS & NC140 Interchange Improvements

### TRANSPORTATION BOND:

(none)



**SEGMENT 3:**

**US17/  
US76/  
OLEANDER  
DRIVE**

**FROM:** THIRD STREET  
**TO:** TREADWELL STREET

**LENGTH:** 3.80 MILES

**HOT SPOTS:** 1

- 1. College Road

**ALTERNATE ROUTE(S):**  
WRIGHTSVILLE AVENUE

**WMPO CONGESTION  
MANAGEMENT  
TECHNIQUES**

**REDUCE DEMAND:**

- Carpool/Vanpool

**SHIFT MODE OF TRIP:**

- Transit Express Routes
- Expand Bicycle and Pedestrian Network
- Multimodal Access at Intersections
- Sidewalk Gap Closure Program

**IMPROVE OPERATIONS:**

- Improve Signage
- Advanced Transportation Technology
- Intersection Improvements at College Rd.

**LAND USE:**

- Transit-Oriented Land Development

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.4384	2
AM Delay Rate (minutes/mile)	0.23	2
PM Delay Rate (minutes/mile)	0.51	3
AM Travel Time Reliability (LOTTR)	1.08	3
PM Travel Time Reliability (LOTTR)	1.18	6
Crash Rate (crashes/mile)	189.74	10
Truck Volume (AADTT)	886	4

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	25   121,760.00	7
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	4.50	6
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	1.59   0.03   0.00	8
Bicycle Crashes (crashes/mile)	1.40	5
Pedestrian Crashes (crashes/mile)	1.05	7



**MULTIMODAL  
SCORE: 33**



**TRAVEL TIME  
SCORE: 30**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

- U-5704 | NC 132/College Rd & US76/Oleander Drive Interchange

### CAPE FEAR MOVING FORWARD 2045:

- BP-52 | Oleander Dr Bike/Ped Improvements
- BP-681 | Oleander Dr & Dawson St Crosswalk Improvements
- BP-765 | 10th St & Wooster St Crosswalk Improvements
- PT-5 | New Route through Masonboro Loop Rd with

Hourly Service, Heavy Duty Bus

- RW-17 | US17/76/Oleander Dr Access Management Improvements
- RW-93 | US17/76/Wooster St Streetscape Improvements

### TRANSPORTATION BOND:

- Oleander Drive Sidewalk Improvements
- Dawson & Wooster Streetscape



**SEGMENT 4:**

# OLEANDER DRIVE/ MILITARY CUTOFF RD

**FROM:** TREADWELL STREET  
**TO:** GORDON ROAD

**LENGTH:** 6.34 MILES

**HOT SPOTS:** 6

1. Greenville Loop Road
2. Airlie Road/Wrightsville Avenue
3. Wrightsville Avenue (north of previous)
4. Eastwood Road
5. Parker Farm Drive
6. Station Road/McCumber Station Road

**ALTERNATE ROUTE(S):**  
NONE

## WMPO CONGESTION MANAGEMENT TECHNIQUES

**SHIFT MODE OF TRIP:**

- Transit Express Routes
- Expand Bicycle and Pedestrian Network
- Multimodal Access at Intersections

**IMPROVE OPERATIONS:**

- Geometric Intersection Improvements

**INCREASE CAPACITY:**

- Add Turning Lanes
- Convert Intersection or Grade Separation to Interchange

**LAND USE:**

- Construct Supportive Accessways with New Development
- Growth Management Restrictions

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.7325	6
AM Delay Rate (minutes/mile)	0.55	4
PM Delay Rate (minutes/mile)	1.44	8
AM Travel Time Reliability (LOTTR)	1.07	2
PM Travel Time Reliability (LOTTR)	1.17	6
Crash Rate (crashes/mile)	62.62	4
Truck Volume (AADTT)	1,097	5

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	15   74,912.00	4
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	3.00	4
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.29   0.03   0.30	3
Bicycle Crashes (crashes/mile)	0.95	7
Pedestrian Crashes (crashes/mile)	0.32	9



**MULTIMODAL  
SCORE: 27**



**TRAVEL TIME  
SCORE: 35**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

- U-5710 | US74/Eastwood Rd & Military Cutoff Rd Interchange
- U-6128 | US76/Oleander Dr & Greenville Loop Rd/ Greenville Ave Upgrade Intersection

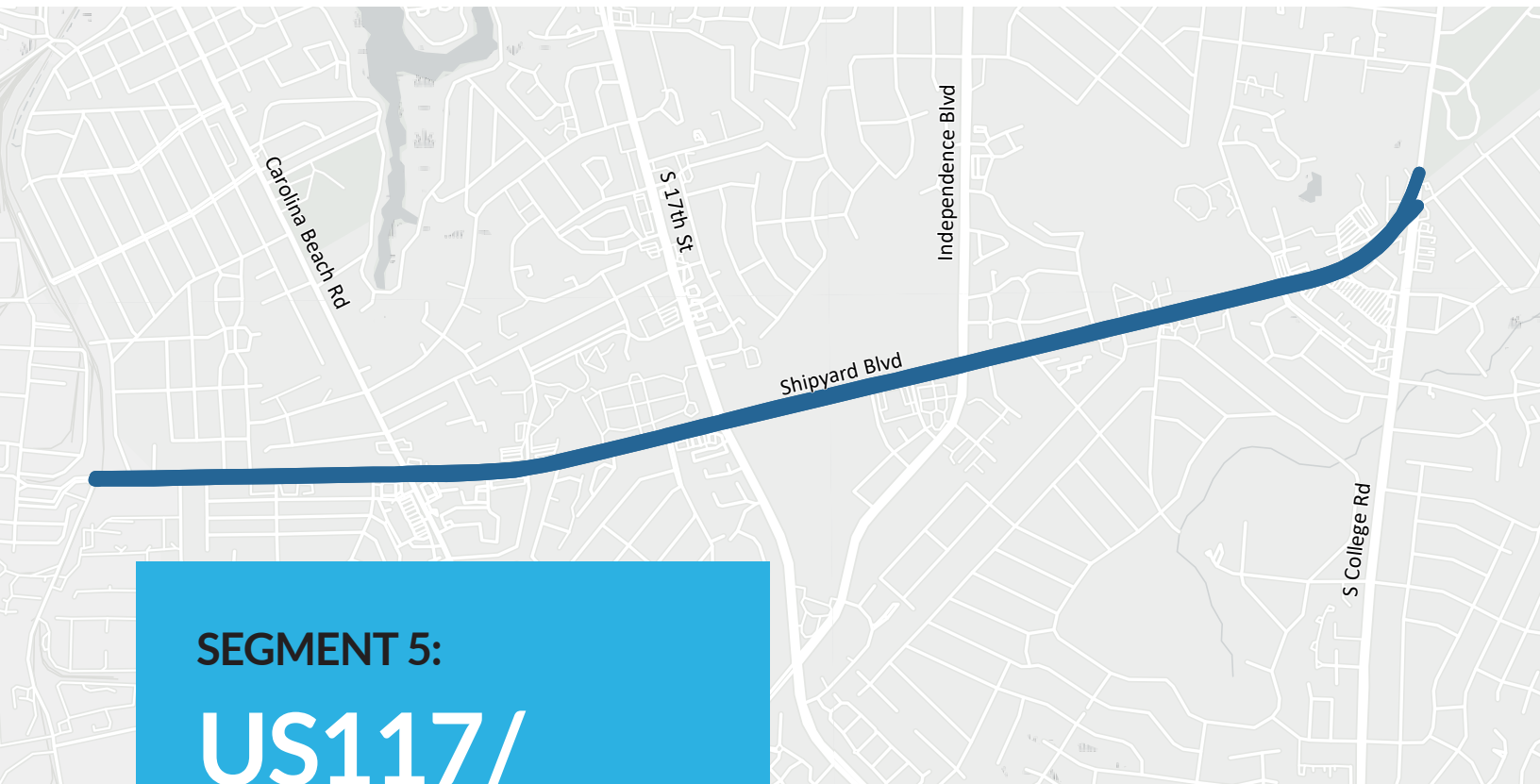
### CAPE FEAR MOVING FORWARD 2045:

- BP-579 | Military Cutoff Rd & Station Rd Crosswalk Improvements
- BP-590 | Military Cutoff Rd & Wrightsville Ave Crosswalk Improvements
- BP-591 | Greenville Loop Rd & Oleander Dr Crosswalk Improvements
- BP-633 | Military Cutoff Rd & Cayman Ct Pedestrian Signal
- BP-635 | Parker Farm Dr & Military Cutoff Rd Crosswalk Improvements and Pedestrian Signal

- BP-774 | Military Cutoff Rd & Sir Tyler Dr/Main St Crosswalk Improvements
- BP-775 | Military Cutoff Rd & Destiny Way/Fresco Dr Crosswalk Improvements
- PT-5 | New Route through Masonboro Loop Rd with Hourly Service, Heavy Duty Bus
- PT-9 | Route 104, 30 Minute Frequency
- PT-21 | Oleander Dr & Hawthorne Dr
- PT-22 | Oleander Dr & Giles Ave
- PT-33 | Military Cutoff Rd & Old MacCumber Station Rd
- PT-162 | Military Cutoff Rd High Density Local Route
- RW-17 | US17/76/Oleander Dr Access Management Improvements

### TRANSPORTATION BOND:

- Oleander Drive/Pine Grove Drive Realignment



**SEGMENT 5:**

# US117/ SHIPYARD BLVD

**FROM:** RIVER ROAD  
**TO:** COLLEGE ROAD

**LENGTH:** 3.62 MILES

**HOT SPOTS:** 0

**ALTERNATE ROUTE(S):**  
NONE

## WMPO CONGESTION MANAGEMENT TECHNIQUES

### SHIFT MODE OF TRIP:

- Transit Express Routes
- Expand Bicycle and Pedestrian Network

### IMPROVE OPERATIONS:

- Access Management

### LAND USE:

- Construct Supportive Accessways with New Development
- Transit-Oriented Land Development
- Mixed-Use Land Development

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.3015	1
AM Delay Rate (minutes/mile)	1.21	7
PM Delay Rate (minutes/mile)	1.07	7
AM Travel Time Reliability (LOTTR)	1.08	3
PM Travel Time Reliability (LOTTR)	1.14	5
Crash Rate (crashes/mile)	60.77	4
Truck Volume (AADTT)	936	4

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	16   225,679.50	7
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	3.00	4
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.77   0.03   0.05	4
Bicycle Crashes (crashes/mile)	0.83	7
Pedestrian Crashes (crashes/mile)	0.83	7



**MULTIMODAL  
SCORE: 29**



**TRAVEL TIME  
SCORE: 31**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

- U-5729SW | US421/Carolina Beach Rd & US117/Shipyard Blvd Intersection Improvements

Routes (105)

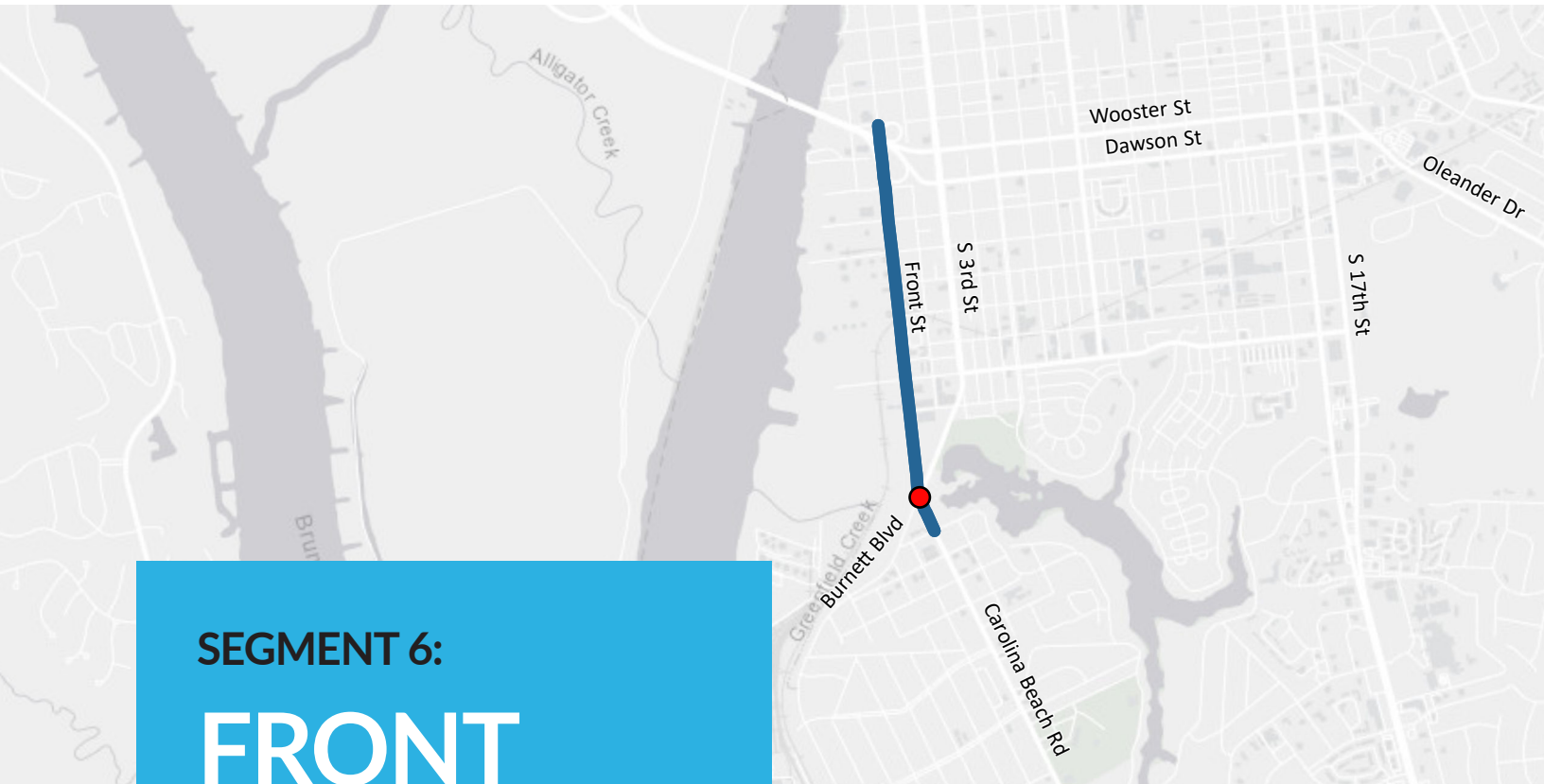
- RW-124 | US117/Shipyard Blvd Speed Sensors & Warning System

### CAPE FEAR MOVING FORWARD 2045:

- BP-589 | Carolina Beach Rd & Shipyard Blvd Crosswalk Improvements
- PT-37 | Shipyard Blvd & Commons Dr
- PT-67 | Shipyard Blvd & S 41st St
- PT-147 | Rush Hour Service on High Ridership Routes 8-11am and 3-5pm (105)
- PT-151 | Earlier Weekday Service on High Ridership

### TRANSPORTATION BOND:

(none)



**SEGMENT 6:**

# FRONT STREET

**FROM:** LAKE SHORE DRIVE  
**TO:** CAPE FEAR MEMORIAL BRIDGE

**LENGTH:** 1.08 MILES

**HOT SPOTS:** 1

- 1. Burnett Blvd

**ALTERNATE ROUTE(S):**  
3RD STREET

## WMPO CONGESTION MANAGEMENT TECHNIQUES

**REDUCE DEMAND:**

- Alternative Roadways

**SHIFT MODE OF TRIP:**

- Expand Bicycle and Pedestrian Network

**IMPROVE OPERATIONS:**

- Improve Signage
- Freight Traffic Appointments
- Freight Traffic Corridor Signal Timing

**INCREASE CAPACITY:**

- Add General Purpose Lanes



TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	1.2331	10
AM Delay Rate (minutes/mile)	1.17	7
PM Delay Rate (minutes/mile)	0.79	5
AM Travel Time Reliability (LOTTR)	1.15	6
PM Travel Time Reliability (LOTTR)	1.25	7
Crash Rate (crashes/mile)	65.74	4
Truck Volume (AADTT)	2,965	8

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	4   101,933.50	3
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	3.00	4
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.35   0.00   0.00	2
Bicycle Crashes (crashes/mile)	0.90	7
Pedestrian Crashes (crashes/mile)	0.00	10



**MULTIMODAL  
SCORE: 26**



**TRAVEL TIME  
SCORE: 47**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

- TG-6177 | Route 201 Upgrade Amenities and Bus Stops
- U-5734 | US421/South Front St Widening
- U-5729REG | US421/Carolina Beach Rd Upgrade Roadway

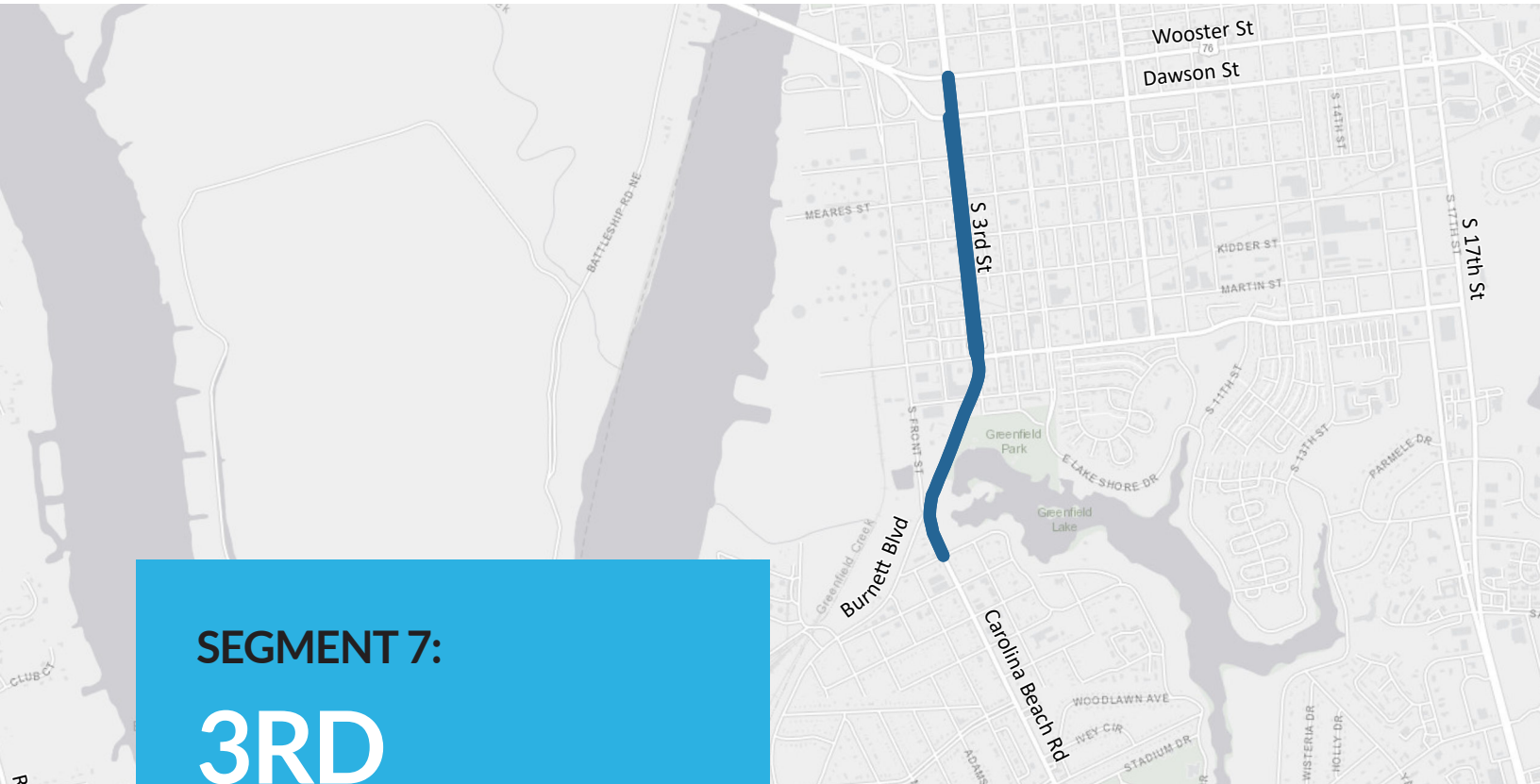
### CAPE FEAR MOVING FORWARD 2045:

- BP-370 | Front St Sharrows (Phase 1)
- BP-471 | Front St Sharrows (Phase 2)
- FR-12 | Front St RR Crossings, Meares
- FR-13 | Front St RR Crossings, Marstellar

- FR-14 | Front St RR Crossings, Kidder
- PT-149 | Rush Hour Service on High Ridership Routes 8-11am and 3-5pm (201)
- PT-153 | Earlier Weekday Service on High Ridership Routes (201)
- PT-156 | Route 204 Extended Service to 9pm and Weekends

### TRANSPORTATION BOND:

- Carolina Beach Road Streetscape



**SEGMENT 7:**

# 3RD STREET

**FROM:** LAKE SHORE DRIVE  
**TO:** WOOSTER STREET

**LENGTH:** 1.07 MILES

**HOT SPOTS:** 0

**ALTERNATE ROUTE(S):**  
FRONT STREET

## WMPO CONGESTION MANAGEMENT TECHNIQUES

### REDUCE DEMAND:

- Alternative Roadways

### SHIFT MODE OF TRIP:

- Increase Transit Frequency
- Multimodal Access at Intersections

### IMPROVE OPERATIONS:

- Improve Signage
- Access Management

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.4272	2
AM Delay Rate (minutes/mile)	0.70	5
PM Delay Rate (minutes/mile)	1.65	10
AM Travel Time Reliability (LOTTR)	1.09	3
PM Travel Time Reliability (LOTTR)	1.31	8
Crash Rate (crashes/mile)	148.60	9
Truck Volume (AADTT)	805	4

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	0   113,635.00	2
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	5.13	7
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	1.57   0.03   0.00	8
Bicycle Crashes (crashes/mile)	1.87	3
Pedestrian Crashes (crashes/mile)	0.00	10



**MULTIMODAL  
SCORE: 30**



**TRAVEL TIME  
SCORE: 41**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

- U-5729REG | US421/Carolina Beach Rd Upgrade Roadway

### CAPE FEAR MOVING FORWARD 2045:

- BP-669 | 3rd St & Dawson St Crosswalk Improvements
- PT-135 | Extend Trolley Service Frequency
- PT-156 | Route 204 Extended Service to 9pm and Weekends

### TRANSPORTATION BOND:

- Carolina Beach Road Streetscape



**SEGMENT 8:**

# US421/ CAROLINA BEACH ROAD

**FROM:** LAKE SHORE DRIVE  
**TO:** COLLEGE ROAD

**LENGTH:** 5.73 MILES

**HOT SPOTS:** 1

1. Independence Blvd

**ALTERNATE ROUTE(S):**  
NONE

## WMPO CONGESTION MANAGEMENT TECHNIQUES

### SHIFT MODE OF TRIP:

- Increase Transit Frequency
- Expand Bicycle and Pedestrian Network
- Multimodal Access at Intersections
- Sidewalk Gap Closure Program
- Transit Stop Improvements

### IMPROVE OPERATIONS:

- Access Management

### INCREASE CAPACITY:

- Convert Intersection or Grade Separation to Interchange

### LAND USE:

- Transit-Oriented Land Development
- Require MPO Review for Regional Scale Developments
- Construct Supportive Accessways with New Development
- Mixed-Use Land Development
- Encourage Regional Activity Centers
- Infill and Densification

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.6757	6
AM Delay Rate (minutes/mile)	0.67	5
PM Delay Rate (minutes/mile)	0.72	5
AM Travel Time Reliability (LOTTR)	1.15	6
PM Travel Time Reliability (LOTTR)	1.15	6
Crash Rate (crashes/mile)	88.48	6
Truck Volume (AADTT)	1,535	6

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	25   192,554.50	8
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	3.00	4
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.71   0.04   0.00	4
Bicycle Crashes (crashes/mile)	0.87	7
Pedestrian Crashes (crashes/mile)	1.57	4



**MULTIMODAL  
SCORE: 27**



**TRAVEL TIME  
SCORE: 40**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

- TG-6178 | Route 201 Upgrade Amenities and Bus Stops
- U-5729 | US421/Carolina Beach Rd Upgrade

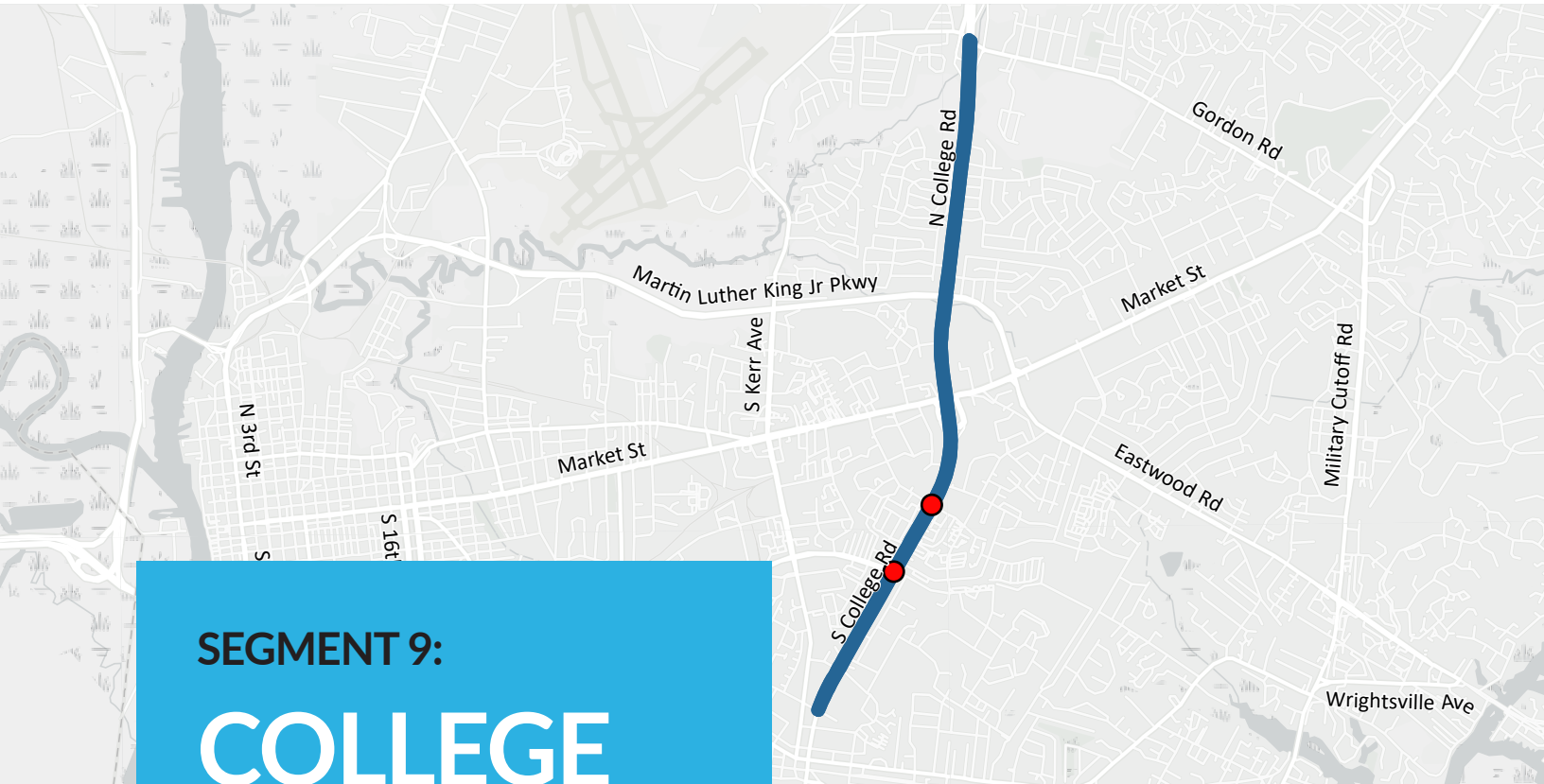
### CAPE FEAR MOVING FORWARD 2045:

- BP-589 | Carolina Beach Rd & Shipyard Blvd Crosswalk Improvements
- BP-580 | Carolina Beach Rd & Mateo Dr Crosswalk Improvements
- BP-594 | Carolina Beach Rd & Independence Blvd Crosswalk Improvements
- BP-619 | Carolina Beach Rd & Antoinette Dr Crosswalk Improvements

- BP-855 | Echo Farms Blvd & Belfairs Dr Crosswalk Improvements
- PT-44 | Carolina Beach Rd at Roses
- PT-53 | Carolina Beach Rd & Tennessee Ave (BOA)
- PT-146 | Route 301 Hourly Frequency
- PT-149 | Rush Hour Service on High Ridership Routes 8-11am and 3-5pm (201)
- PT-153 | Earlier Weekday Service on High Ridership Routes (201)
- PT-155 | Upgrade Route 107 to Hourly to Align with Route 301

### TRANSPORTATION BOND:

(none)



**SEGMENT 9:**

# COLLEGE ROAD

**FROM:** GORDON ROAD  
**TO:** WILSHIRE BLVD

**LENGTH:** 4.30 MILES

**HOT SPOTS:** 2

1. Randall Pkwy
2. New Centre Drive

**ALTERNATE ROUTE(S):**  
KERR AVENUE

## WMPO CONGESTION MANAGEMENT TECHNIQUES

### SHIFT MODE OF TRIP:

- Transit Express Routes
- Multimodal Access at Intersections
- Expand Bicycle and Pedestrian Network

### IMPROVE OPERATIONS:

- Geometric Intersection Improvements
- Access Management

### INCREASE CAPACITY:

- Add Turning Lanes
- Convert Intersection or Grade Separation to Interchange

### LAND USE:

- Growth Management Restrictions
- Construct Supportive Accessways with New Development

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.8081	7
AM Delay Rate (minutes/mile)	1.31	8
PM Delay Rate (minutes/mile)	1.62	9
AM Travel Time Reliability (LOTTR)	1.10	4
PM Travel Time Reliability (LOTTR)	1.18	6
Crash Rate (crashes/mile)	157.91	9
Truck Volume (AADTT)	1,712	6

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	13   286,068.50	7
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	2.36	3
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.34   0.06   0.00	2
Bicycle Crashes (crashes/mile)	0.23	10
Pedestrian Crashes (crashes/mile)	0.93	7



**MULTIMODAL  
SCORE: 29**



**TRAVEL TIME  
SCORE: 49**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

- U-5702A | US117/NC132/College Rd Access Management (New Centre Dr to Shipyard Blvd)
- U-5792 | US74/MLK Jr Pkwy & US117/NC132/College Rd Intersection
- U-5881 | US117/NC132/College Rd Upgrade Roadway

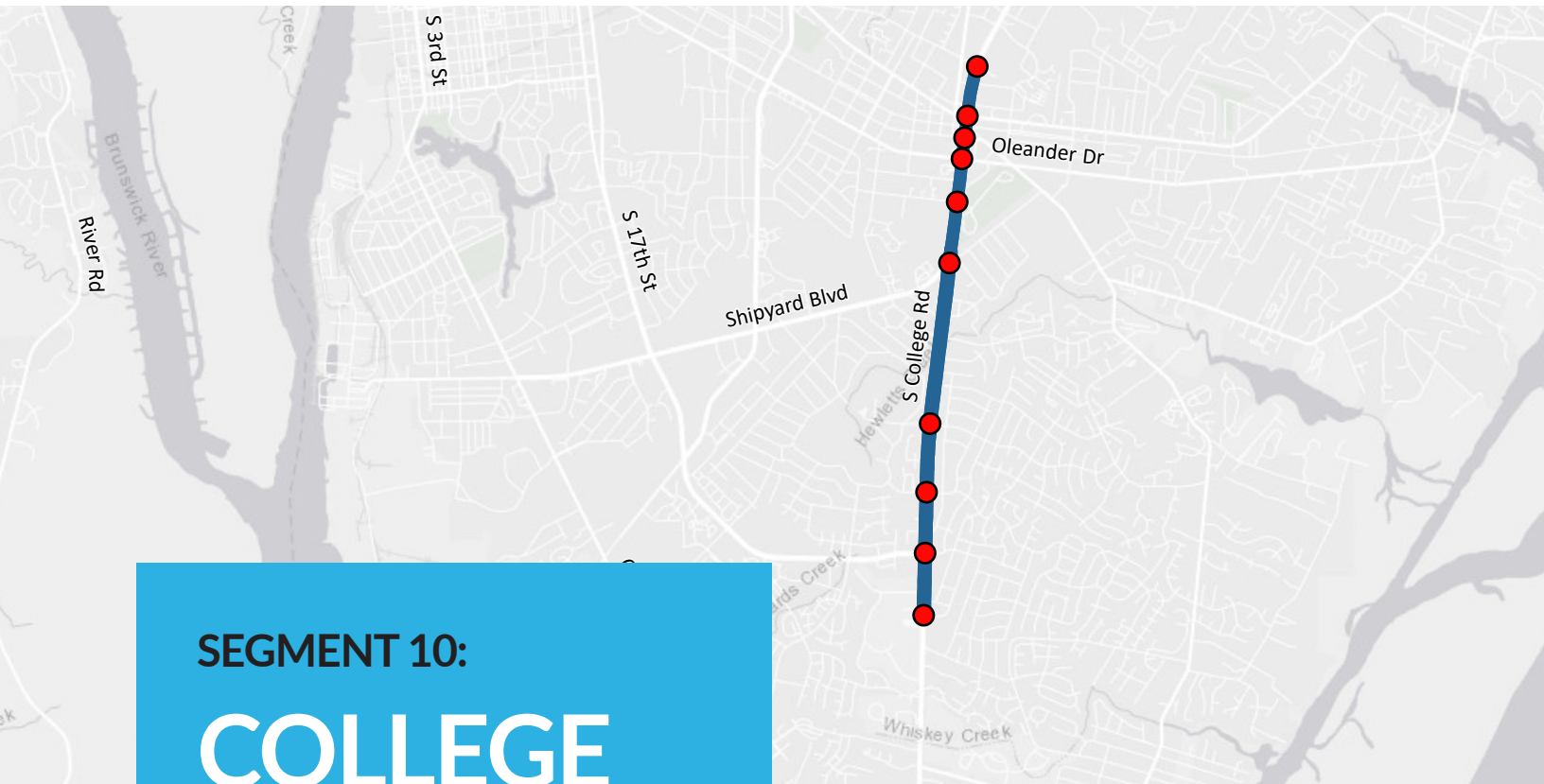
### CAPE FEAR MOVING FORWARD 2045:

- BP-35 | College Rd MUP (Phase 1)
- BP-36 | College Rd MUP (Phase 2)
- BP-432 | South Smith Creek Trail MUP
- BP-546 | Central College Rd Trail MUP
- BP-636 | University Dr & S College Rd Crosswalk Improvements

- BP-649 | New Centre Dr & N College Rd Pedestrian Signal
- BP-661 | College Rd & Randall Pkwy Crosswalk Improvements
- PT-155 | Upgrade Route 107 to Hourly to Align with Route 301
- PT-18 | S College Rd (SB) at University Dr
- PT-19 | S College Rd & Wilshire Blvd
- PT-25 | S College Rd (NB) at University Dr
- PT-27 | S College Rd & Randall Pkwy
- PT-148 | Rush Hour Service on High Ridership Routes 8-11am and 3-5pm (108)
- PT-152 | Earlier Weekday Service on High Ridership Routes (108)

### TRANSPORTATION BOND:

(none)



**SEGMENT 10:**

# COLLEGE ROAD

**FROM:** WILSHIRE BLVD  
**TO:** PINECLIFF DRIVE

**LENGTH:** 3.36 MILES

**HOT SPOTS:** 10

1. Pinecliff Drive
2. 17th Street
3. Bragg Drive
4. Pine Valley Drive
5. Shipyard Blvd
6. Lake Avenue
7. Oleander Drive
8. Kerr Avenue
9. Wrightsville Avenue
10. Wilshire Blvd

**ALTERNATE ROUTE(S):**  
INDEPENDENCE BLVD

## WMPO CONGESTION MANAGEMENT TECHNIQUES

**REDUCE DEMAND:**

- Alternative Roadways

**SHIFT MODE OF TRIP:**

- Expand Bicycle and Pedestrian Network
- Multimodal Access at Intersections

**IMPROVE OPERATIONS:**

- Access Management

**INCREASE CAPACITY:**

- Convert Intersection or Grade Separation to Interchange

**LAND USE:**

- Construct Supportive Accessways with New Development



TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.7791	6
AM Delay Rate (minutes/mile)	1.91	10
PM Delay Rate (minutes/mile)	1.82	10
AM Travel Time Reliability (LOTTR)	1.21	7
PM Travel Time Reliability (LOTTR)	1.20	6
Crash Rate (crashes/mile)	151.79	9
Truck Volume (AADTT)	1,207	5

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	8   95,412.00	3
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	2.89	4
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.48   0.04   0.37	5
Bicycle Crashes (crashes/mile)	0.30	9
Pedestrian Crashes (crashes/mile)	0.60	8



**MULTIMODAL  
SCORE: 29**



**TRAVEL TIME  
SCORE: 53**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

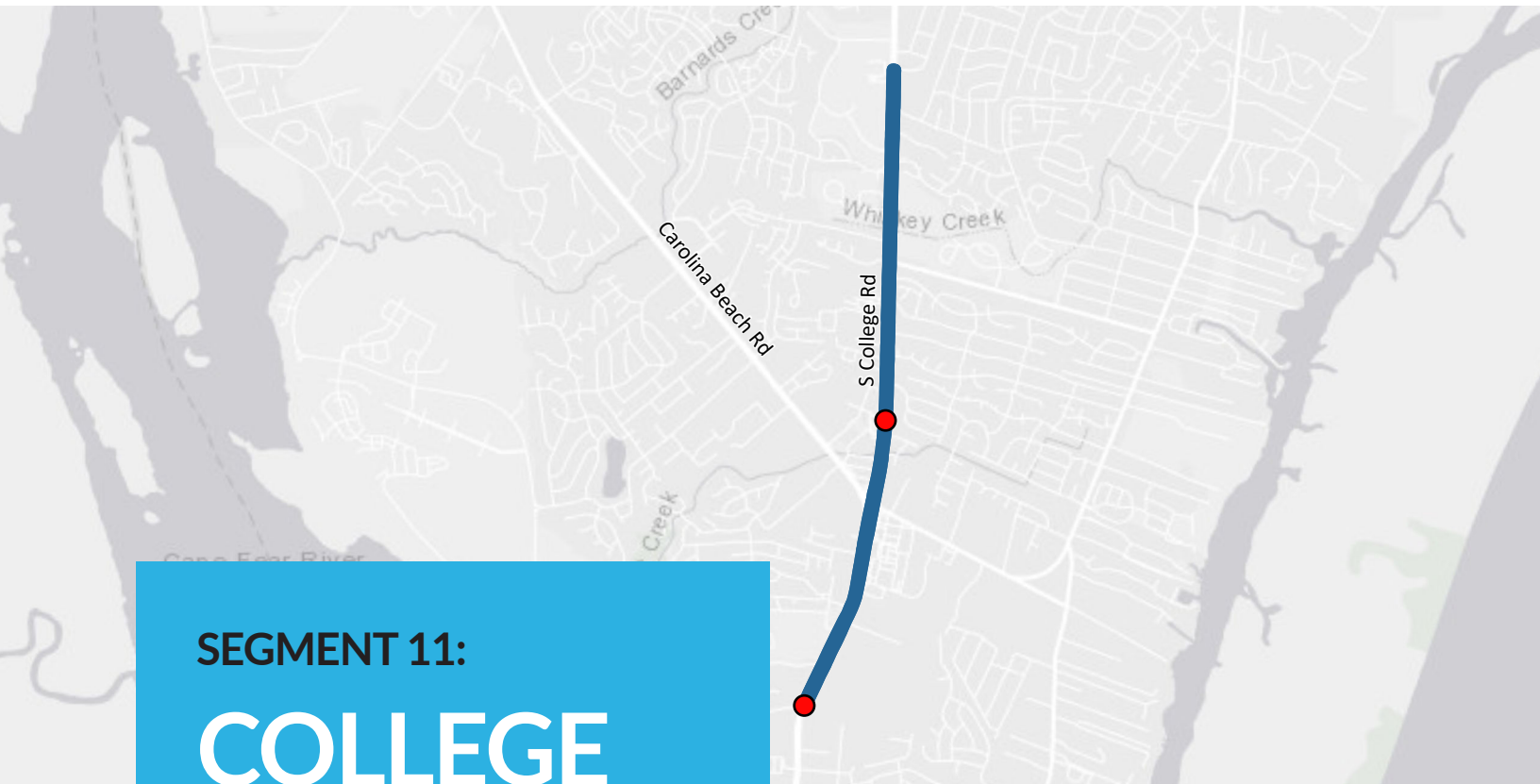
- TD-5292 | Route 202 Amenity Upgrades
- U-5702A | US117/NC132/College Rd Access Management (New Centre Dr to Shipyard Blvd)
- U-5702B | US117/NC132/College Rd Access Management (Shipyard Blvd to US421/Carolina Beach Rd)
- U-5704 | US17/76/Oleander Dr & US117/NC132/College Rd Interchange

### CAPE FEAR MOVING FORWARD 2045:

- PT-5 | New Route through Masonboro Loop Rd with Hourly Service, Heavy Duty Bus
- PT-19 | S College Rd & Wilshire Blvd
- PT-66 | Lake Ave & S College Rd

### TRANSPORTATION BOND:

- Central College Trail



**SEGMENT 11:**

# COLLEGE ROAD/ CAROLINA BEACH RD

**FROM:** PINECLIFF DRIVE  
**TO:** SANDERS ROAD

**LENGTH:** 3.12 MILES

**HOT SPOTS:** 2

1. Sanders Road
2. Frontage Road

**ALTERNATE ROUTE(S):**  
RIVER ROAD

## WMPO CONGESTION MANAGEMENT TECHNIQUES

### REDUCE DEMAND:

- Carpool/Vanpool

### SHIFT MODE OF TRIP:

- Increase Transit Frequency
- Multimodal Access at Intersections
- Establish Park and Ride Lots

### IMPROVE OPERATIONS:

- Access Management
- Improve Signage

### INCREASE CAPACITY:

- Convert Intersection/Grade Separation to Interchange
- Add General Purpose Lanes

### LAND USE:

- Growth Management Restrictions
- Transit-Oriented Land Development
- Require MPO Review for Regional Scale Developments
- Construct Supportive Accessways with New Development
- Mixed-Use Land Development
- Encourage Regional Activity Centers
- Infill and Densification

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	1.2217	10
AM Delay Rate (minutes/mile)	0.82	6
PM Delay Rate (minutes/mile)	0.57	4
AM Travel Time Reliability (LOTTR)	1.19	6
PM Travel Time Reliability (LOTTR)	1.21	6
Crash Rate (crashes/mile)	116.99	7
Truck Volume (AADTT)	1,273	6

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	6   91,933.00	3
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	2.00	3
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.08   0.00   0.00	1
Bicycle Crashes (crashes/mile)	0.32	9
Pedestrian Crashes (crashes/mile)	0.00	10



**MULTIMODAL  
SCORE: 26**



**TRAVEL TIME  
SCORE: 45**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

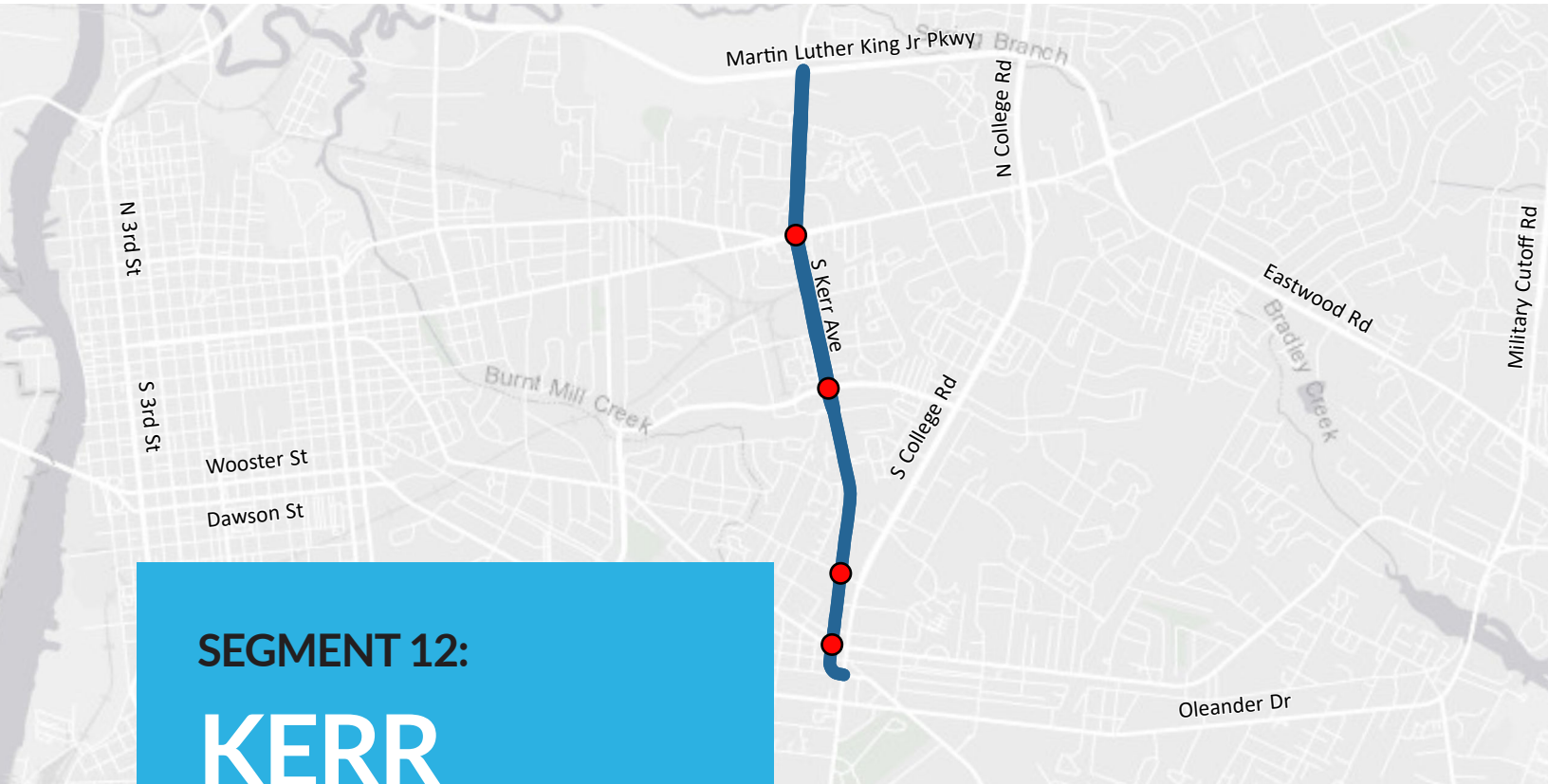
- TG-6178 | Route 201 Upgrade Amenities and Bus Stops
- U-5702B | US117/NC132/College Rd Access Management (Shipyard Blvd to US421/Carolina Beach Rd)
- U-5790 | US421/Carolina Beach Rd Widening & Intersection Improvements

### CAPE FEAR MOVING FORWARD 2045:

- BP-584 | Carolina Beach Rd & Independence Blvd Crosswalk Improvements
- PT-149 | Rush Hour Service on High Ridership Routes 8-11am and 3-5pm (201)
- PT-153 | Earlier Weekday Service on High Ridership Routes (201)

### TRANSPORTATION BOND:

(none)



**SEGMENT 12:**

# KERR AVENUE

**FROM:** MLK JR PKWY  
**TO:** COLLEGE ROAD

**LENGTH:** 2.96 MILES

**HOT SPOTS:** 4

1. Wrightsville Avenue
2. Wilshire Blvd
3. Randall Pkwy
4. Market Street

**ALTERNATE ROUTE(S):**  
COLLEGE ROAD

## WMPO CONGESTION MANAGEMENT TECHNIQUES

**REDUCE DEMAND:**

- Alternative Roadways

**SHIFT MODE OF TRIP:**

- Increase Transit Frequency
- Expand Bicycle and Pedestrian Network
- Multimodal Access at Intersections

**IMPROVE OPERATIONS:**

- Geometric Intersection Improvements

**INCREASE CAPACITY:**

- Convert Intersection or Grade Separation to Interchange

**LAND USE:**

- Transit-Oriented Land Development

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.8448	7
AM Delay Rate (minutes/mile)	0.91	6
PM Delay Rate (minutes/mile)	1.30	8
AM Travel Time Reliability (LOTTR)	1.08	3
PM Travel Time Reliability (LOTTR)	1.07	2
Crash Rate (crashes/mile)	114.53	7
Truck Volume (AADTT)	0	1

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	12   170,993.00	5
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	6.64	9
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	1.05   0.15   0.04	6
Bicycle Crashes (crashes/mile)	1.01	7
Pedestrian Crashes (crashes/mile)	1.69	4



**MULTIMODAL  
SCORE: 31**



**TRAVEL TIME  
SCORE: 34**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

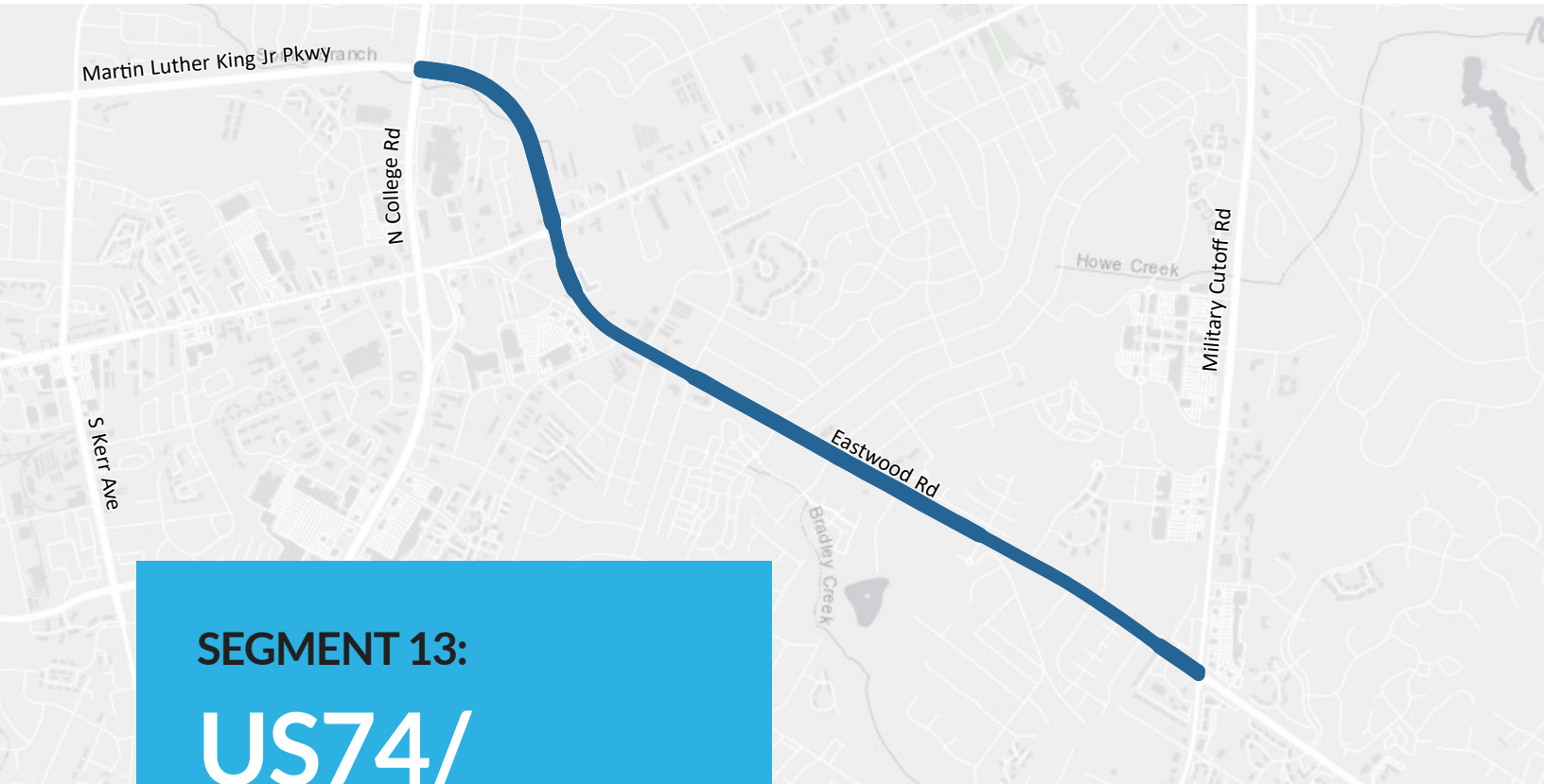
- U-3338 | Kerr Ave & MLK Jr Pkwy Interchange
- U-6080 | Kerr Ave Widening

### CAPE FEAR MOVING FORWARD 2045:

- BP-49 | Peachtree Ave MUP
- PT-15 | Market St & Kerr Ave
- PT-147 | Rush Hour Service on High Ridership Routes  
8-11am and 3-5pm (105)
- PT-151 | Earlier Weekday Service on High Ridership  
Routes (105)

### TRANSPORTATION BOND:

- Kerr Avenue Trail and Intersection Improvements



**SEGMENT 13:**

**US74/  
MLK JR  
PKWY/  
EASTWOOD  
ROAD**

**FROM:** COLLEGE ROAD  
**TO:** MILITARY CUTOFF ROAD

**LENGTH:** 3.16 MILES

**HOT SPOTS:** 0

**ALTERNATE ROUTE(S):**  
MARKET STREET

**WMPO CONGESTION  
MANAGEMENT  
TECHNIQUES**

**REDUCE DEMAND:**

- Alternative Roadways

**SHIFT MODE OF TRIP:**

- Increase Transit Frequency
- Transit Express Routes
- Multimodal Access at Intersections

**IMPROVE OPERATIONS:**

- Geometric Intersection Improvements

**INCREASE CAPACITY:**

- Convert Intersection or Grade Separation to Interchange

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.4861	3
AM Delay Rate (minutes/mile)	1.23	7
PM Delay Rate (minutes/mile)	1.75	10
AM Travel Time Reliability (LOTTR)	1.17	6
PM Travel Time Reliability (LOTTR)	1.18	6
Crash Rate (crashes/mile)	76.27	5
Truck Volume (AADTT)	908	4

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	5   36,218.00	2
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	3.88	5
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.77   0.06   0.57	7
Bicycle Crashes (crashes/mile)	0.95	7
Pedestrian Crashes (crashes/mile)	0.32	9



**MULTIMODAL  
SCORE: 30**



**TRAVEL TIME  
SCORE: 41**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

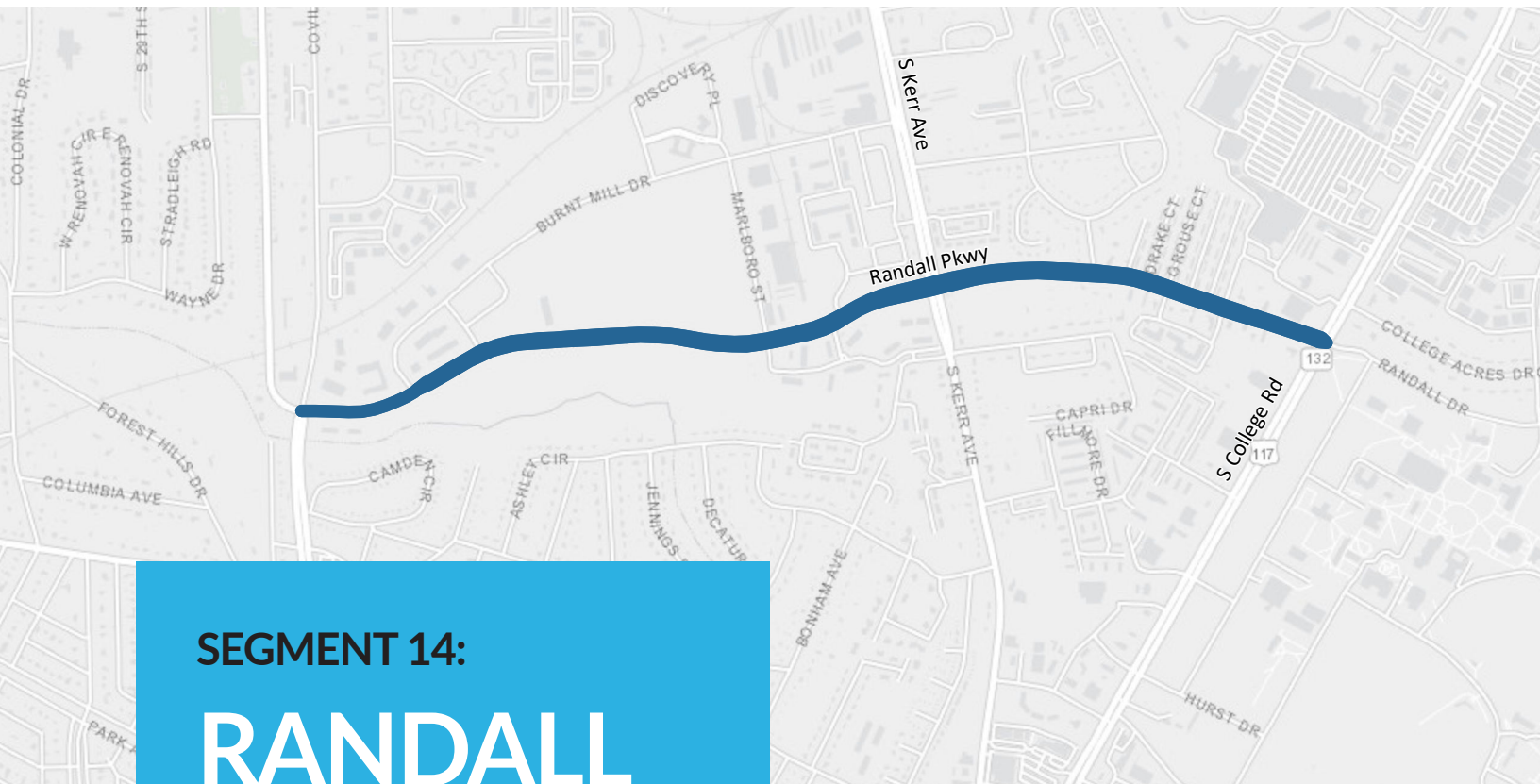
- U-5710 | US74/Eastwood Rd & Military Cutoff Rd
- U-5792 | US74/MLK Jr Pkwy & US117/NC132/College Rd Intersection

### CAPE FEAR MOVING FORWARD 2045:

- BP-642 | Eastwood Rd & Bay Creek Dr Crosswalk Improvements
- PT-31 | Eastwood Rd & Rogersville Rd

### TRANSPORTATION BOND:

- Eastwood Road Median and Traffic Signals



**SEGMENT 14:**

# RANDALL PKWY

**FROM:** COVIL AVENUE/  
INDEPENDENCE BLVD  
**TO:** COLLEGE ROAD

**LENGTH:** 1.67 MILES

**HOT SPOTS:** 0

**ALTERNATE ROUTE(S):**  
WRIGHTSVILLE AVENUE

## WMPO CONGESTION MANAGEMENT TECHNIQUES

### SHIFT MODE OF TRIP:

- Increase Transit Frequency
- Improve Bicycle Storage
- Multimodal Access at Intersections

### IMPROVE OPERATIONS:

- Geometric Intersection Improvements

### LAND USE:

- Construct Supportive Accessways with New Development



TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.3484	1
AM Delay Rate (minutes/mile)	0.55	4
PM Delay Rate (minutes/mile)	0.67	4
AM Travel Time Reliability (LOTTR)	1.09	3
PM Travel Time Reliability (LOTTR)	1.07	2
Crash Rate (crashes/mile)	75.45	5
Truck Volume (AADTT)	0	1

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	8   163,175.00	4
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	7.62	10
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.66   0.10   0.75	7
Bicycle Crashes (crashes/mile)	0.60	8
Pedestrian Crashes (crashes/mile)	0.60	8



**MULTIMODAL  
SCORE: 37**



**TRAVEL TIME  
SCORE: 20**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

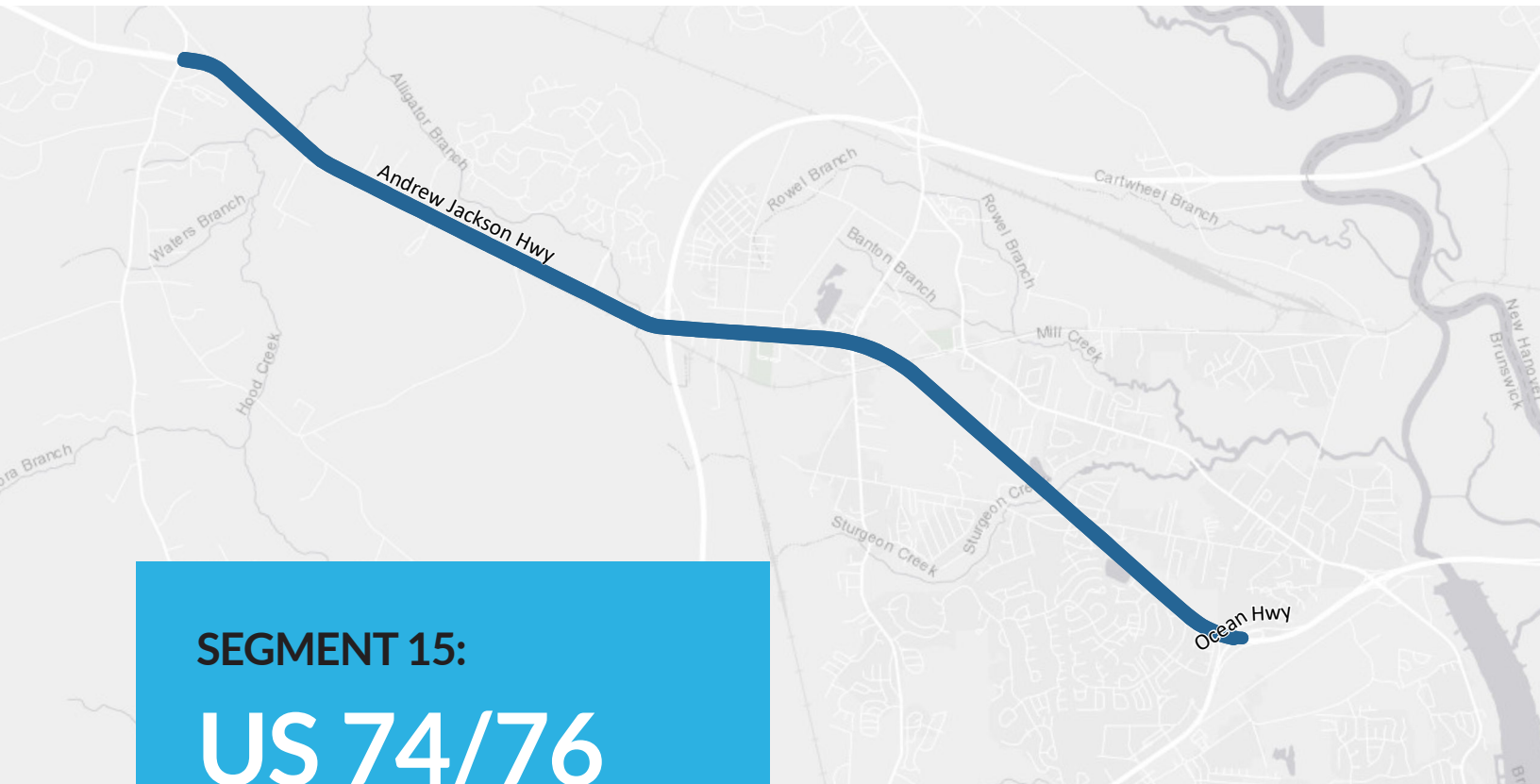
(none)

### TRANSPORTATION BOND:

(none)

### CAPE FEAR MOVING FORWARD 2045:

- BP-559 | Cross City Trail MUP
- BP-661 | College Rd & Randall Pkwy Crosswalk Improvements
- PT-28 | Randall Pkwy & Brailsford Dr
- PT-148 | Rush Hour Service on High Ridership Routes 8-11am and 3-5pm (108)
- PT-152 | Earlier Weekday Service on High Ridership Routes (108)



**SEGMENT 15:**

# US 74/76

**FROM:** MACO ROAD  
**TO:** US17/OCEAN HWY

**LENGTH:** 8.67 MILES

**HOT SPOTS:** 0

**ALTERNATE ROUTE(S):**  
I-140/WILMINGTON BYPASS

## WMPO CONGESTION MANAGEMENT TECHNIQUES

**REDUCE DEMAND:**

- Alternative Roadways

**IMPROVE OPERATIONS:**

- Access Management

**INCREASE CAPACITY:**

- Convert Intersection or Grade Separation to Interchange

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.4514	3
AM Delay Rate (minutes/mile)	0.02	1
PM Delay Rate (minutes/mile)	0.00	1
AM Travel Time Reliability (LOTTR)	1.08	3
PM Travel Time Reliability (LOTTR)	1.05	1
Crash Rate (crashes/mile)	19.61	1
Truck Volume (AADTT)	3,128	8

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	0   0.00	0
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	1.74	2
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.00   0.00   0.00	1
Bicycle Crashes (crashes/mile)	0.00	10
Pedestrian Crashes (crashes/mile)	0.00	10



**MULTIMODAL  
SCORE: 23**



**TRAVEL TIME  
SCORE: 18**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

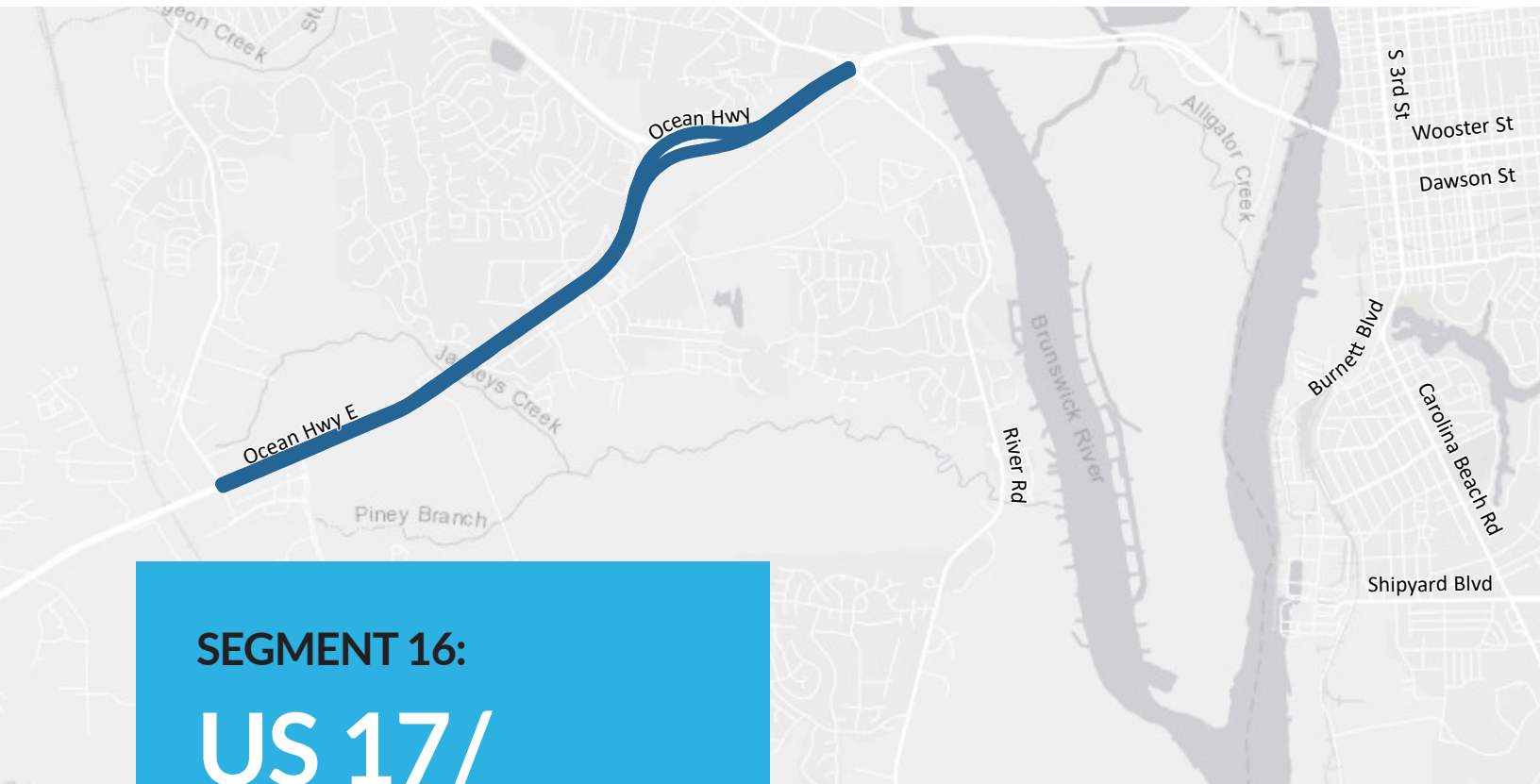
(none)

### CAPE FEAR MOVING FORWARD 2045:

- RW-176 | US74/76/Andrew Jackson Hwy & Old Fayetteville Rd Interchange

### TRANSPORTATION BOND:

(none)



**SEGMENT 16:**

**US 17/  
OCEAN  
HWY**

**FROM:** LANVALE ROAD  
**TO:** NC 133 SPLIT

**LENGTH:** 4.12 MILES

**HOT SPOTS:** 0

**ALTERNATE ROUTE(S):**  
I-140/WILMINGTON BYPASS

**WMPO CONGESTION  
MANAGEMENT  
TECHNIQUES**

**REDUCE DEMAND:**

- Alternative Roadways

**SHIFT MODE OF TRIP:**

- Increase Transit Frequency
- Expand Bicycle and Pedestrian Network
- Multimodal Access at Intersections

**LAND USE:**

- Construct Supportive Accessways with New Development

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.8869	7
AM Delay Rate (minutes/mile)	0.36	3
PM Delay Rate (minutes/mile)	0.11	1
AM Travel Time Reliability (LOTTR)	1.26	7
PM Travel Time Reliability (LOTTR)	1.04	1
Crash Rate (crashes/mile)	93.20	6
Truck Volume (AADTT)	2,986	8

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	0   8,406.00	1
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	1.05	1
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.00   0.00   0.00	1
Bicycle Crashes (crashes/mile)	0.15	10
Pedestrian Crashes (crashes/mile)	0.00	10



**MULTIMODAL  
SCORE: 23**



**TRAVEL TIME  
SCORE: 33**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

(none)

### TRANSPORTATION BOND:

(none)

### CAPE FEAR MOVING FORWARD 2045:

- BP-838 | US17 & Olde Waterford Way/Ploof Rd SE Crosswalk Improvements
- BP-839 | US17 & W Gate Dr/Grandiflora Dr Crosswalk Improvements
- PT-156 | Route 204 Extended Service to 9pm and Weekends\*
- RW-20 | US17/74/76/Causeway Improvements (Phase 2)

\*Route 204 was discontinued in October 2020 but is included because this report utilizes FY2020 and FY2021 ridership data.



**SEGMENT 17:**

**US  
17/74/76**

**FROM:** NC133 SPLIT  
**TO:** 3RD STREET

**LENGTH:** 3.02 MILES

**HOT SPOTS:** 0

**ALTERNATE ROUTE(S):**  
I-140/WILMINGTON BYPASS

**WMPO CONGESTION  
MANAGEMENT  
TECHNIQUES**

**REDUCE DEMAND:**

- Alternative Roadways
- Alternative Work Schedules
- Carpool/Vanpool
- Employer Shuttles

**SHIFT MODE OF TRIP:**

- Increase Transit Frequency
- Establish Park and Ride Lots
- Expand Bicycle and Pedestrian Network

**IMPROVE OPERATIONS:**

- Freeway Ramp Metering

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	1.0339	9
AM Delay Rate (minutes/mile)	0.74	5
PM Delay Rate (minutes/mile)	0.02	1
AM Travel Time Reliability (LOTTR)	1.45	10
PM Travel Time Reliability (LOTTR)	1.04	1
Crash Rate (crashes/mile)	78.15	5
Truck Volume (AADTT)	4,432	10

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	3   43,076.00	2
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	0.27	1
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.08   0.00   0.00	1
Bicycle Crashes (crashes/mile)	0.62	8
Pedestrian Crashes (crashes/mile)	0.00	10



**MULTIMODAL  
SCORE: 22**



**TRAVEL TIME  
SCORE: 41**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

(none)

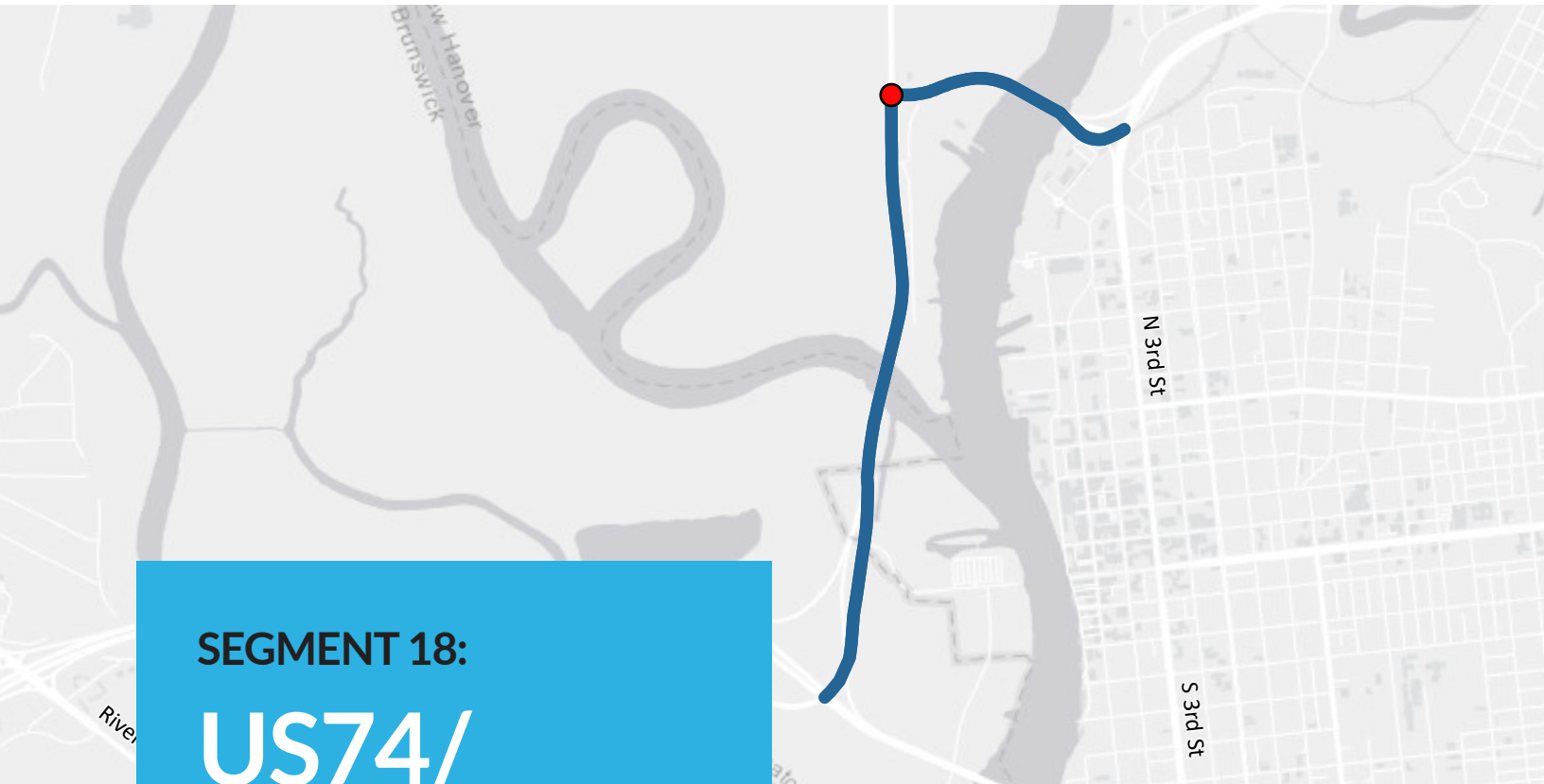
### CAPE FEAR MOVING FORWARD 2045:

- PT-156 | Route 204 Extended Service to 9pm and Weekends\*
- RW-20 | US17/74/76/Causeway Improvements (Phase 2)
- RW-127 | US76/421/17/17 BUS/Cape Fear Memorial Bridge Replacement

### TRANSPORTATION BOND:

(none)

\*Route 204 was discontinued in October 2020 but is included because this report utilizes FY2020 and FY2021 ridership data.



**SEGMENT 18:**

**US74/  
US421/  
NC133**

**FROM:** US17 N/S SPLIT  
**TO:** 3RD STREET

**LENGTH:** 2.09 MILES

**HOT SPOTS:** 1

- 1. Isabel Holmes Bridge (western end)

**ALTERNATE ROUTE(S):**  
I-140/WILMINGTON BYPASS

**WMPO CONGESTION  
MANAGEMENT  
TECHNIQUES**

**REDUCE DEMAND:**

- Alternative Roadways
- Alternative Work Schedules
- Carpool/Vanpool
- Employer Shuttles

**IMPROVE OPERATIONS:**

- Geometric Intersection Improvements

**INCREASE CAPACITY:**

- Convert Intersection or Grade Separation to Interchange



TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.6447	5
AM Delay Rate (minutes/mile)	0.61	4
PM Delay Rate (minutes/mile)	0.81	5
AM Travel Time Reliability (LOTTR)	1.11	4
PM Travel Time Reliability (LOTTR)	1.08	3
Crash Rate (crashes/mile)	56.94	4
Truck Volume (AADTT)	1,831	6

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	0   0.00	0
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	3.09	4
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.00   0.00   0.00	1
Bicycle Crashes (crashes/mile)	0.00	10
Pedestrian Crashes (crashes/mile)	0.48	9



**MULTIMODAL  
SCORE: 24**



**TRAVEL TIME  
SCORE: 31**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

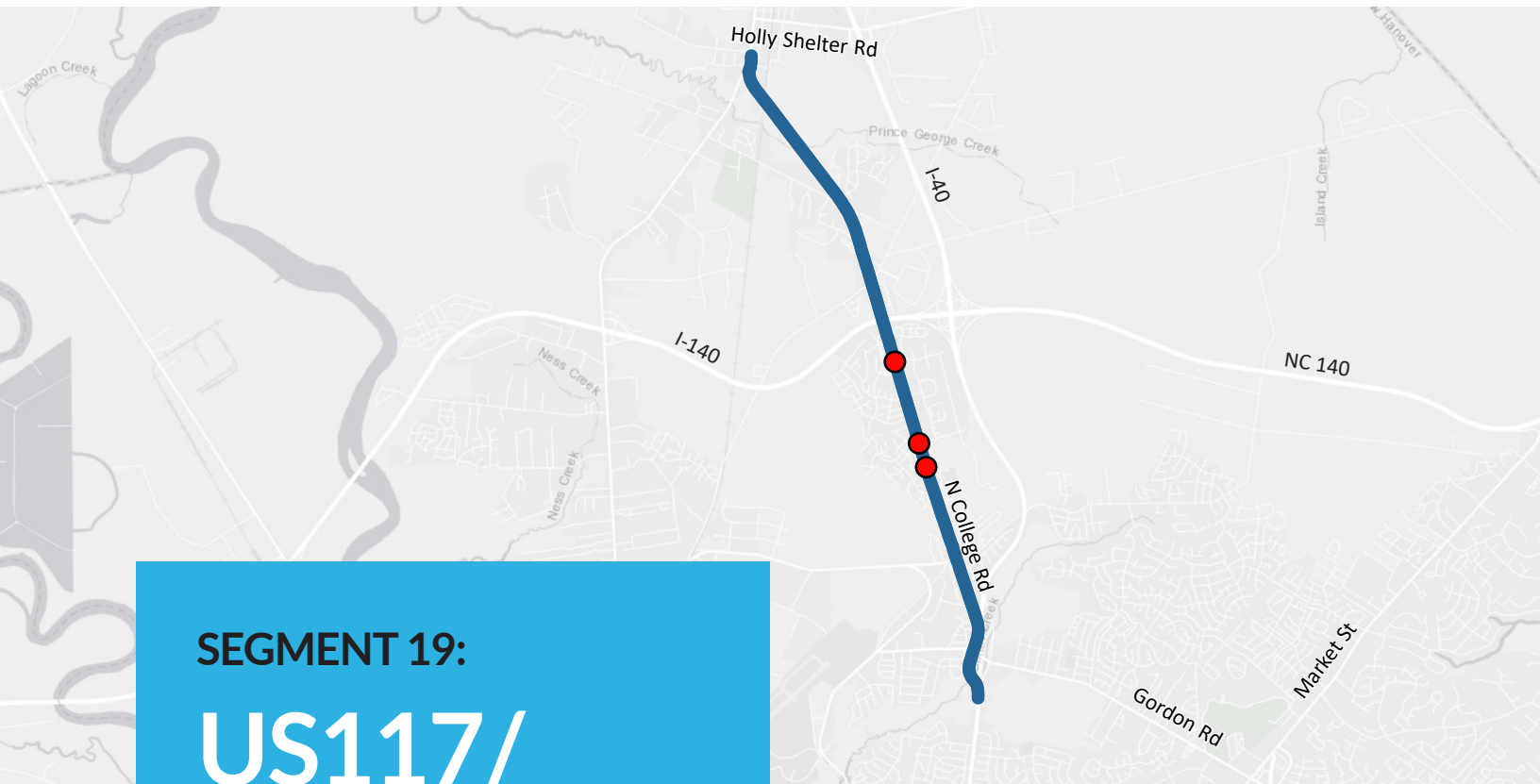
(none)

### CAPE FEAR MOVING FORWARD 2045:

- BP-572 | US421 & Isabel Holmes Bridge Crosswalk Improvements
- RW-20 | US17/74/76/Causeway Improvements (Phase 2)
- RW-226 | US421/74/NC133 & US17/76 Merge Lane Addition

### TRANSPORTATION BOND:

(none)



**SEGMENT 19:**

# US117/ COLLEGE ROAD

**FROM:** HOLLY SHELTER ROAD  
**TO:** GORDON ROAD

**LENGTH:** 5.76 MILES

**HOT SPOTS:** 3

1. Danny Pence Drive
2. Northchase Pkwy SE
3. Northchase Pkwy W

**ALTERNATE ROUTE(S):**  
CASTLE HAYNE ROAD  
I-40

## WMPO CONGESTION MANAGEMENT TECHNIQUES

### SHIFT MODE OF TRIP:

- Increase Transit Frequency
- Expand Bicycle and Pedestrian Network
- Multimodal Access at Intersections

### IMPROVE OPERATIONS:

- Access Management

### INCREASE CAPACITY:

- Convert Intersection or Grade Separation to Interchange

### LAND USE:

- Transit-Oriented Land Development
- Require MPO Review for Regional Scale Developments
- Construct Supportive Accessways with New Development
- Mixed-Use Land Development
- Encourage Regional Activity Centers
- Infill and Densification

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.7061	6
AM Delay Rate (minutes/mile)	0.54	4
PM Delay Rate (minutes/mile)	0.53	4
AM Travel Time Reliability (LOTTR)	1.10	4
PM Travel Time Reliability (LOTTR)	1.21	6
Crash Rate (crashes/mile)	30.21	2
Truck Volume (AADTT)	879	4

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	7   19,640.00	2
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	4.71	6
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.00   0.00   0.00	1
Bicycle Crashes (crashes/mile)	0.17	10
Pedestrian Crashes (crashes/mile)	0.52	8



**MULTIMODAL  
SCORE: 27**



**TRAVEL TIME  
SCORE: 30**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

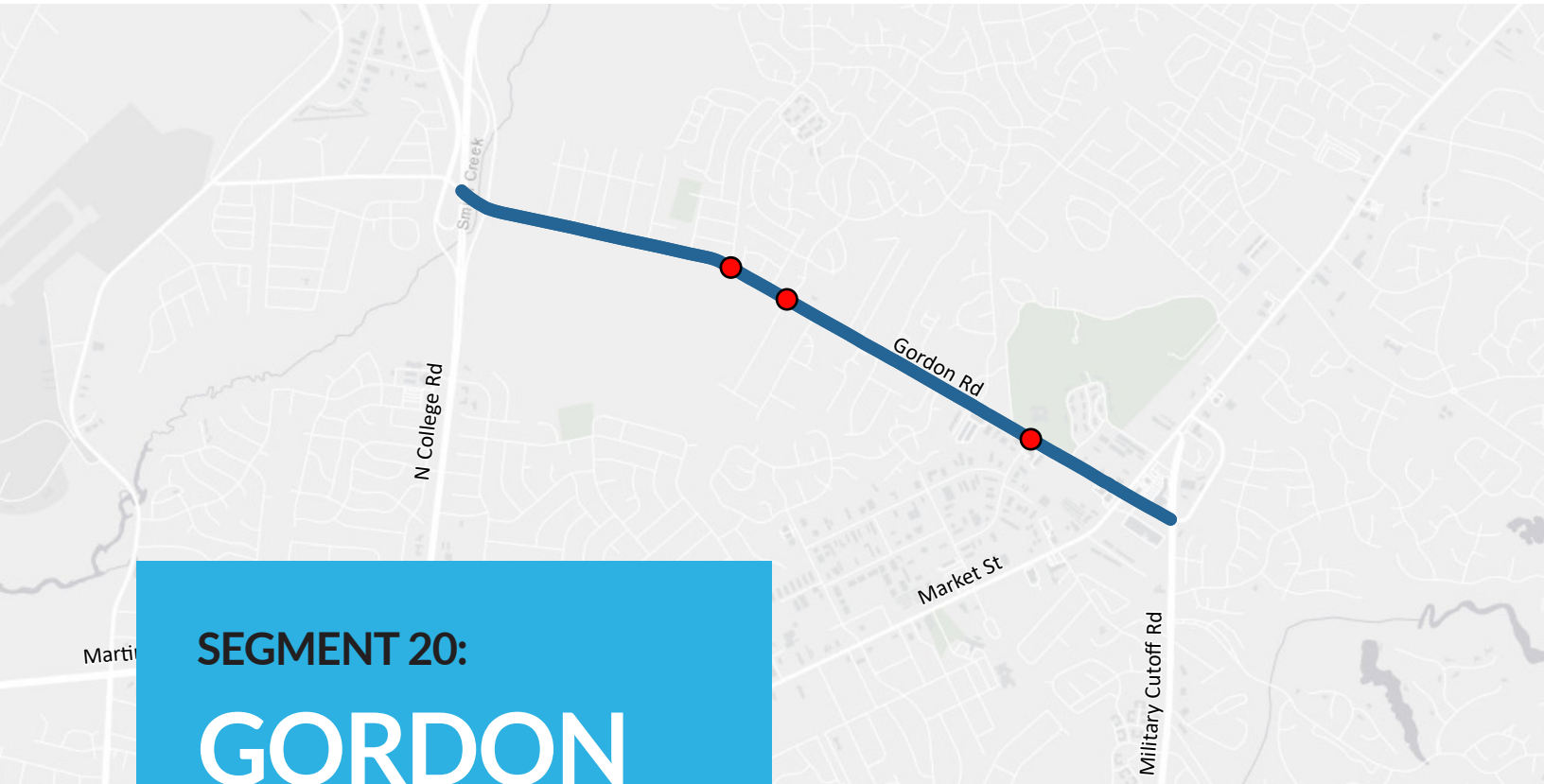
(none)

### CAPE FEAR MOVING FORWARD 2045:

- BP-361 | Central College Road Trail Extension Bike Lanes
- BP-546 | Central College Road Trail MUP

### TRANSPORTATION BOND:

(none)



**SEGMENT 20:**

# GORDON ROAD

**FROM:** I-40  
**TO:** MILITARY CUTOFF ROAD

**LENGTH:** 2.74 MILES

**HOT SPOTS:** 3

1. Harris Road
2. White Road
3. Netherlands Drive

**ALTERNATE ROUTE(S):**  
NONE

## WMPO CONGESTION MANAGEMENT TECHNIQUES

**SHIFT MODE OF TRIP:**

- Increase Transit Frequency
- Expand Bicycle and Pedestrian Network
- Multimodal Access at Intersections

**LAND USE:**

- Transit-Oriented Land Development
- Require MPO Review for Regional Scale Developments
- Construct Supportive Accessways with New Development
- Mixed-Use Land Development
- Infill and Densification

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.9695	8
AM Delay Rate (minutes/mile)	1.56	9
PM Delay Rate (minutes/mile)	1.64	10
AM Travel Time Reliability (LOTTR)	1.24	7
PM Travel Time Reliability (LOTTR)	1.22	6
Crash Rate (crashes/mile)	117.88	7
Truck Volume (AADTT)	0	1

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	8   36,218.00	2
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	2.20	3
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.03   0.00   0.00	1
Bicycle Crashes (crashes/mile)	0.36	9
Pedestrian Crashes (crashes/mile)	0.00	10



**MULTIMODAL  
SCORE: 25**



**TRAVEL TIME  
SCORE: 48**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

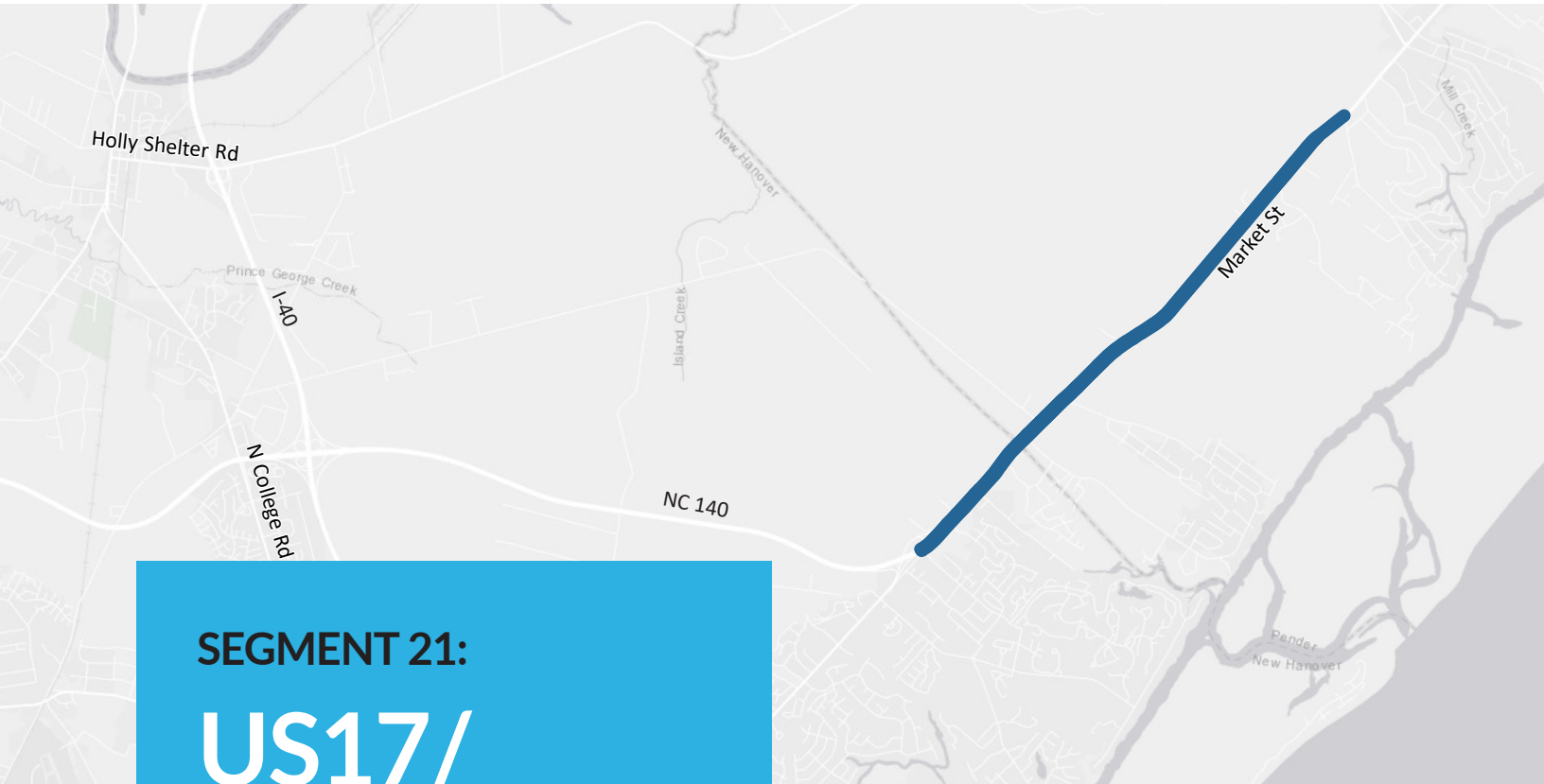
- U-6202 | Gordon Rd Widening

### CAPE FEAR MOVING FORWARD 2045:

- BP-795 | Gordon Rd & Netherlands Dr Crosswalk Improvements

### TRANSPORTATION BOND:

(none)



**SEGMENT 21:**

**US17/  
MARKET  
STREET**

**FROM:** NC140  
**TO:** WASHINGTON ACRES ROAD

**LENGTH:** 5.05 MILES

**HOT SPOTS:** 0

**ALTERNATE ROUTE(S):**  
NONE

**WMPO CONGESTION  
MANAGEMENT  
TECHNIQUES**

**REDUCE DEMAND:**

- Alternative Roadways

**SHIFT MODE OF TRIP:**

- Increase Transit Frequency
- Expand Bicycle and Pedestrian Network
- Multimodal Access at Intersections
- Increase Transit Frequency

**IMPROVE OPERATIONS:**

- Geometric Intersection Improvements
- Access Management

**LAND USE:**

- Regional Activity Centers
- Require MPO Review for Regional Scale Developments
- Construct Supportive Accessways with New Development
- Mixed-Use Land Development
- Infill and Densification

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.8494	7
AM Delay Rate (minutes/mile)	0.14	1
PM Delay Rate (minutes/mile)	0.70	4
AM Travel Time Reliability (LOTTR)	1.11	4
PM Travel Time Reliability (LOTTR)	1.31	8
Crash Rate (crashes/mile)	44.16	3
Truck Volume (AADTT)	3,408	9

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	0   0.00	0
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	2.00	3
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.00   0.00   0.00	1
Bicycle Crashes (crashes/mile)	0.00	10
Pedestrian Crashes (crashes/mile)	0.40	9



**MULTIMODAL  
SCORE: 23**



**TRAVEL TIME  
SCORE: 36**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

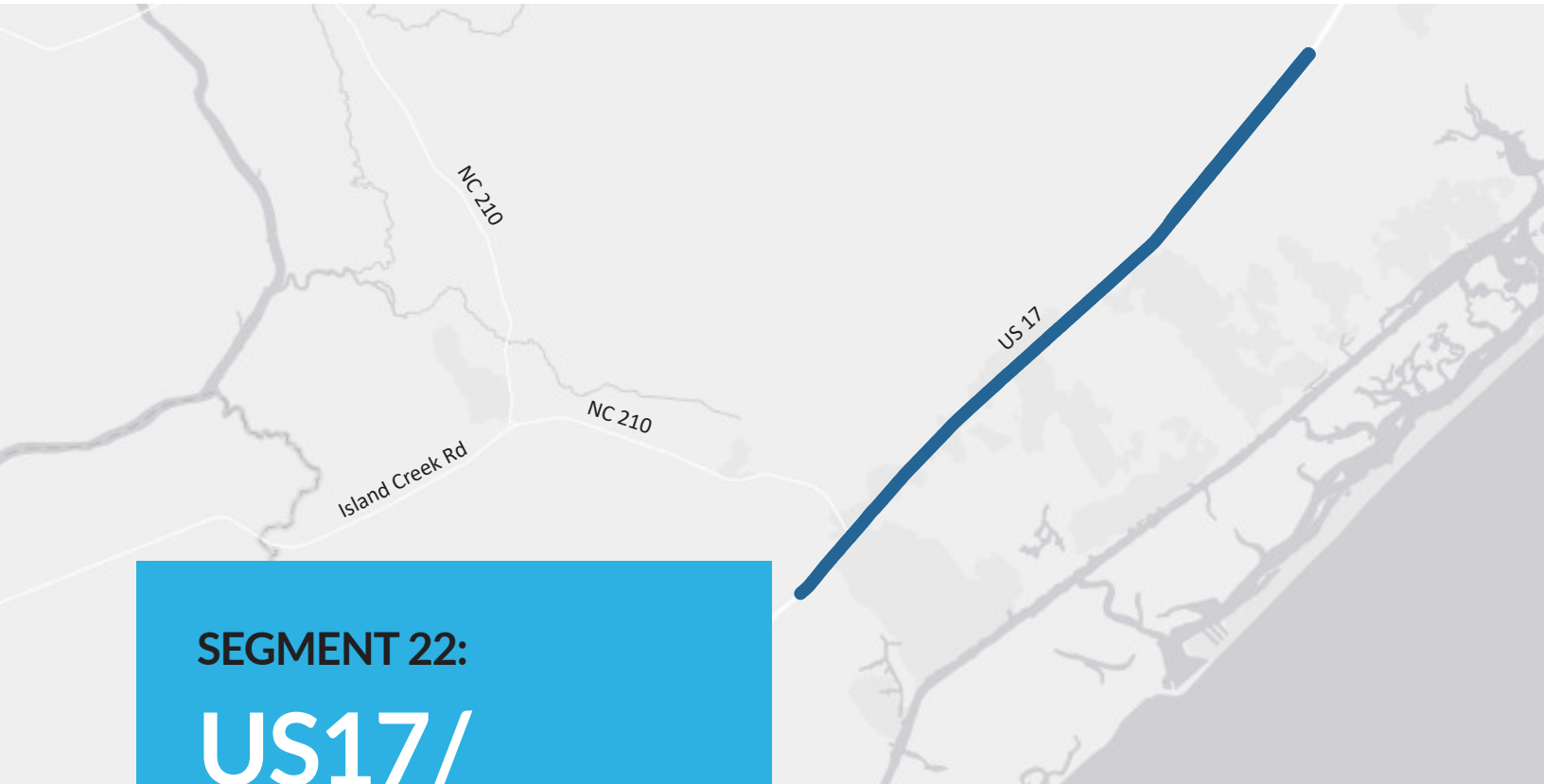
- U-5732 | US17/NC210 Superstreet
- R-3300 | Future NC417/Hampstead Bypass

### CAPE FEAR MOVING FORWARD 2045:

- R-3300 | Future NC417/Hampstead Bypass

### TRANSPORTATION BOND:

(none)



**SEGMENT 22:**

**US17/  
NC210**

**FROM:** WASHINGTON ACRES ROAD  
**TO:** SLOOP POINT ROAD

**LENGTH:** 7.39 MILES

**HOT SPOTS:** 0

**ALTERNATE ROUTE(S):**  
NONE

**WMPO CONGESTION  
MANAGEMENT  
TECHNIQUES**

**REDUCE DEMAND:**

- Alternative Roadways

**SHIFT MODE OF TRIP:**

- Increase Transit Frequency
- Expand Bicycle and Pedestrian Network
- Multimodal Access at Intersections

**IMPROVE OPERATIONS:**

- Access Management

**LAND USE:**

- Mixed-Use Land Development
- Regional Activity Centers



TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.8631	7
AM Delay Rate (minutes/mile)	1.29	8
PM Delay Rate (minutes/mile)	0.84	5
AM Travel Time Reliability (LOTTR)	1.12	5
PM Travel Time Reliability (LOTTR)	1.11	4
Crash Rate (crashes/mile)	66.71	4
Truck Volume (AADTT)	4,030	10

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	0   0.00	0
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	2.00	3
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.00   0.00   0.00	1
Bicycle Crashes (crashes/mile)	0.00	10
Pedestrian Crashes (crashes/mile)	0.27	9



**MULTIMODAL  
SCORE: 23**



**TRAVEL TIME  
SCORE: 43**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

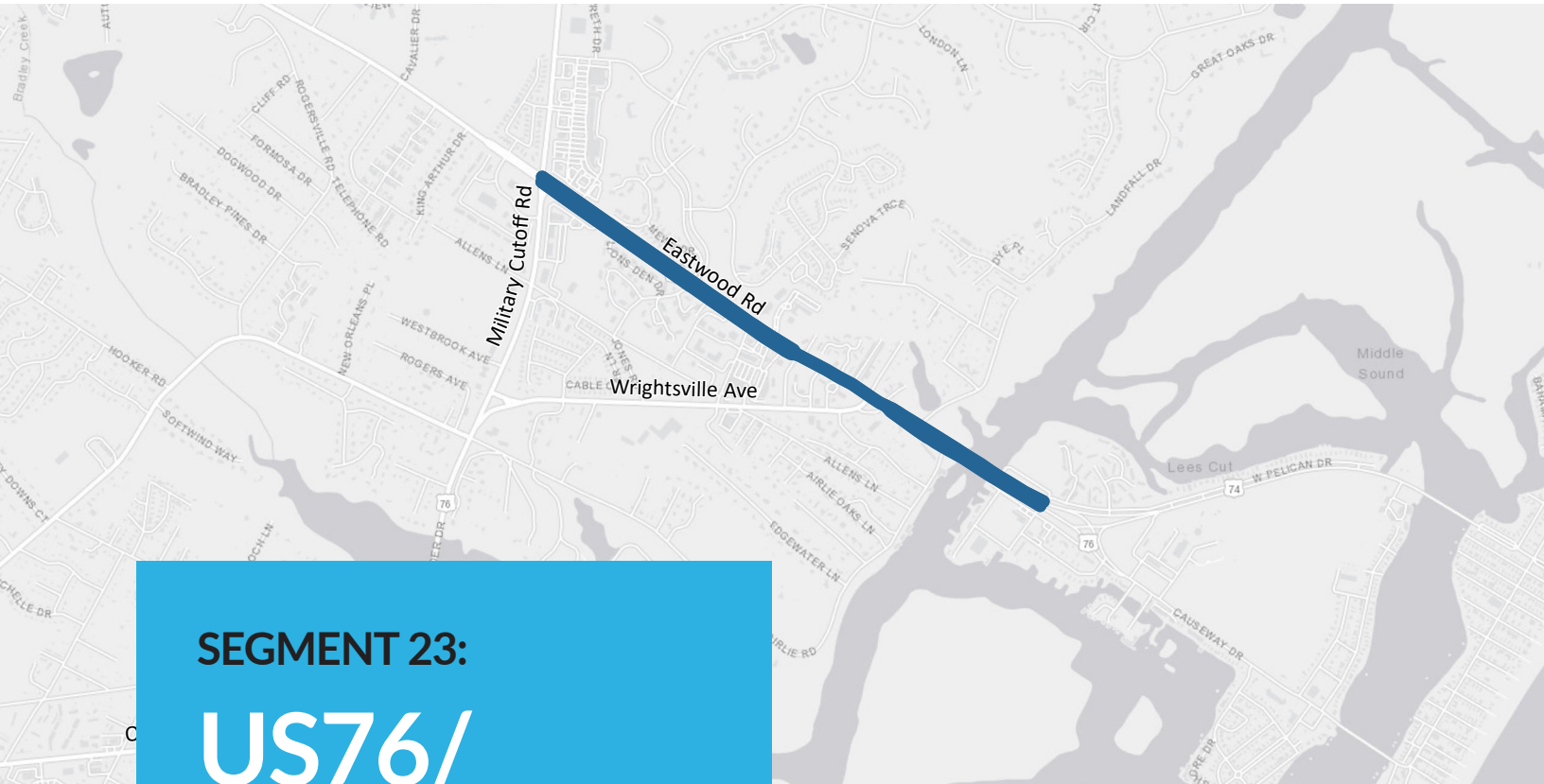
- U-5732 | US17/NC210 Superstreet
- R-3300 | Future NC417/Hampstead Bypass

### CAPE FEAR MOVING FORWARD 2045:

- R-3300 | Future NC417/Hampstead Bypass

### TRANSPORTATION BOND:

(none)



**SEGMENT 23:**

**US 76/  
EASTWOOD  
ROAD**

**FROM:** MILITARY CUTOFF ROAD  
**TO:** C. HEIDE TRASK BRIDGE

**LENGTH:** 1.15 MILES

**HOT SPOTS:** 0

**ALTERNATE ROUTE(S):**  
NONE

**WMPO CONGESTION  
MANAGEMENT  
TECHNIQUES**

**SHIFT MODE OF TRIP:**

- Increase Transit Frequency
- Expand Bicycle and Pedestrian Network
- Multimodal Access at Intersections

**INCREASE CAPACITY:**

- Convert Intersection or Grade Separation to Interchange

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.4041	2
AM Delay Rate (minutes/mile)	0.52	4
PM Delay Rate (minutes/mile)	1.08	7
AM Travel Time Reliability (LOTTR)	1.30	8
PM Travel Time Reliability (LOTTR)	1.52	10
Crash Rate (crashes/mile)	60.00	4
Truck Volume (AADTT)	683	3

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	1   36,218.00	1
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	3.00	4
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.17   0.07   0.91	6
Bicycle Crashes (crashes/mile)	2.61	1
Pedestrian Crashes (crashes/mile)	0.87	7



**MULTIMODAL  
SCORE: 19**



**TRAVEL TIME  
SCORE: 38**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

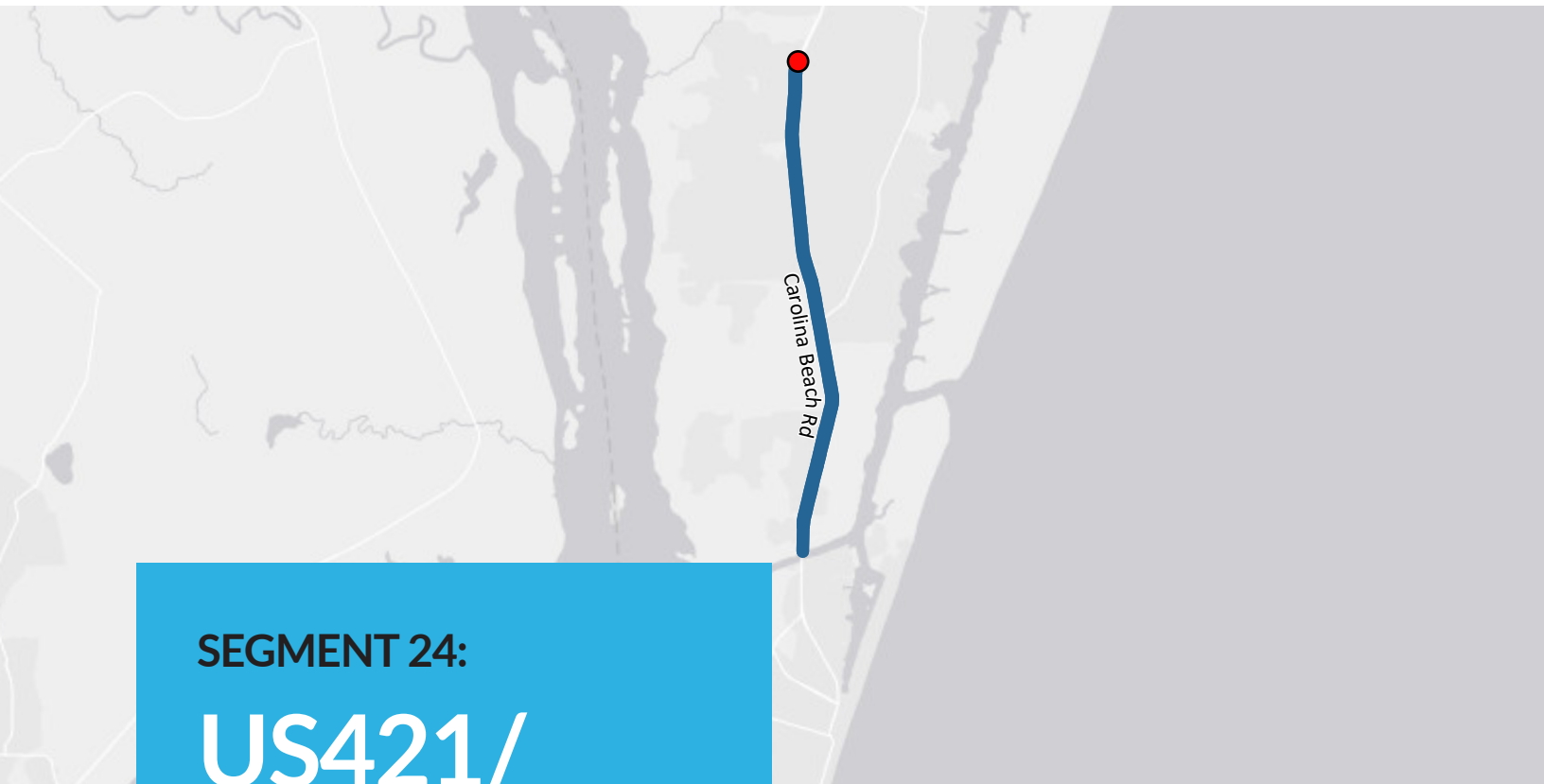
- U-5710 | US74/Eastwood Rd & Military Cutoff Rd

### CAPE FEAR MOVING FORWARD 2045:

- BP-441 | Causeway Dr Sharrows
- BP-563 | Causeway Dr & Salisbury St Crosswalk Improvements
- BP-644 | Causeway Dr & Lumina St Crosswalk Improvements

### TRANSPORTATION BOND:

(none)



**SEGMENT 24:**

# US421/ CAROLINA BEACH RD

**FROM:** SANDERS ROAD  
**TO:** SNOW'S CUT BRIDGE

**LENGTH:** 4.91 MILES

**HOT SPOTS:** 1

- 1. Sanders Road

**ALTERNATE ROUTE(S):**  
RIVER ROAD

## WMPO CONGESTION MANAGEMENT TECHNIQUES

**SHIFT MODE OF TRIP:**

- Increase Transit Frequency
- Expand Bicycle and Pedestrian Network
- Establish Park and Ride Lots

**LAND USE:**

- Require MPO Review for Regional Scale Developments
- Construct Supportive Accessways with New Development
- Mixed-Use Land Development
- Infill and Densification

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.7836	7
AM Delay Rate (minutes/mile)	0.22	2
PM Delay Rate (minutes/mile)	0.12	1
AM Travel Time Reliability (LOTTR)	1.20	7
PM Travel Time Reliability (LOTTR)	1.16	6
Crash Rate (crashes/mile)	55.19	4
Truck Volume (AADTT)	1,358	6

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	6   4,646.00	2
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	2.00	3
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.00   0.00   0.00	1
Bicycle Crashes (crashes/mile)	0.20	10
Pedestrian Crashes (crashes/mile)	0.61	8



**MULTIMODAL  
SCORE: 24**



**TRAVEL TIME  
SCORE: 33**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

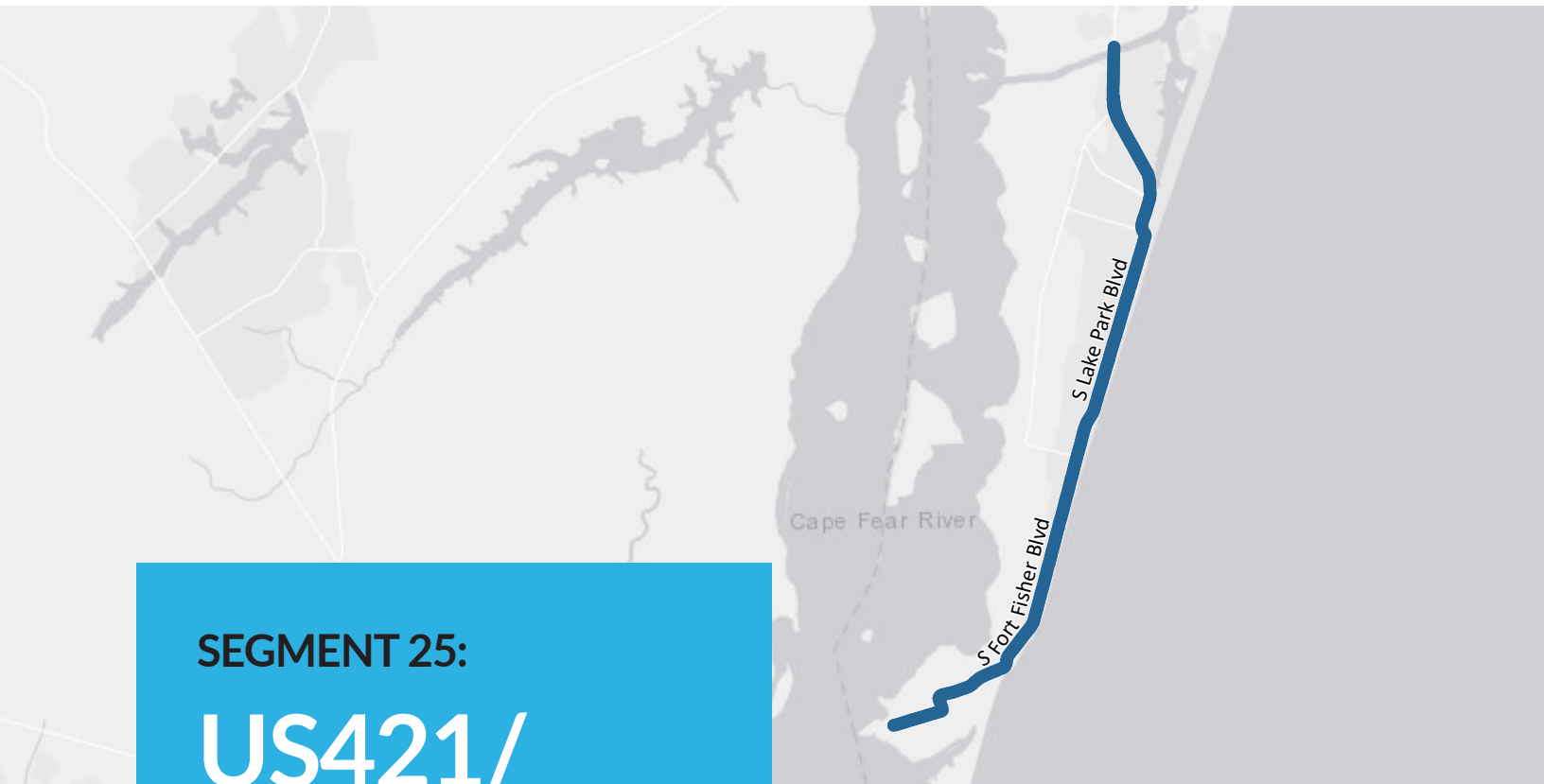
(none)

### TRANSPORTATION BOND:

(none)

### CAPE FEAR MOVING FORWARD 2045:

- BP-560 | US421/Carolina Beach Rd & Halyburton Pkwy Crosswalk Improvements
- BP-561 | Carolina Beach Rd & Myrtle Grove Rd Pedestrian Signal
- BP-626 | River Rd & Carolina Beach Rd Crosswalk Improvements
- PT-146 | Route 301 Hourly Frequency
- RW-221 | US421/Snow's Cut Bridge Replacement



**SEGMENT 25:**

# US421/ LAKE PARK BLVD

**FROM:** SNOW'S CUT BRIDGE  
**TO:** END OF US421

**LENGTH:** 7.92 MILES

**HOT SPOTS:** 0

**ALTERNATE ROUTE(S):**  
NONE

## WMPO CONGESTION MANAGEMENT TECHNIQUES

**SHIFT MODE OF TRIP:**

- Increase Transit Frequency
- Expand Bicycle and Pedestrian Network
- Establish Park and Ride Lots

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.3908	2
AM Delay Rate (minutes/mile)	0.34	3
PM Delay Rate (minutes/mile)	0.39	3
AM Travel Time Reliability (LOTTR)	1.03	1
PM Travel Time Reliability (LOTTR)	1.03	1
Crash Rate (crashes/mile)	12.50	1
Truck Volume (AADTT)	370	2

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	3   4,646.00	1
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	8.13	10
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.33   0.03   0.10	3
Bicycle Crashes (crashes/mile)	0.13	10
Pedestrian Crashes (crashes/mile)	0.51	8



**MULTIMODAL  
SCORE: 32**



**TRAVEL TIME  
SCORE: 13**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

(none)

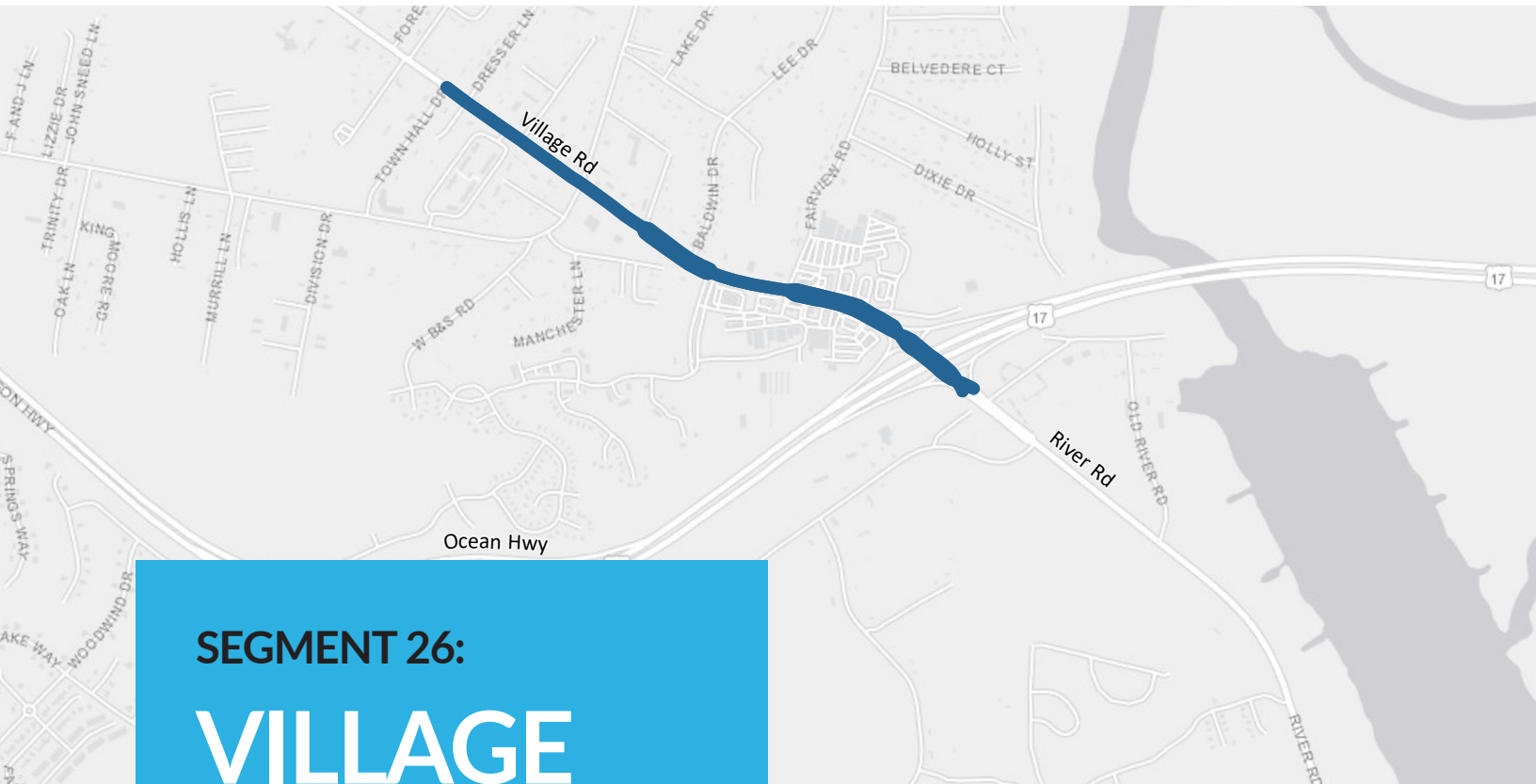
- PT-140 | Public Transportation to and from the Ferry
- PT-146 | Route 301 Hourly Frequency
- RW-221 | US421/Snow's Cut Bridge Replacement

### CAPE FEAR MOVING FORWARD 2045:

- BP-843 | K Ave & US421 Crosswalk Improvements
- BP-851 | North Carolina Ave & S Lake Park Blvd Crosswalk Improvements
- BP-852 | South Carolina Ave & S Lake Park Blvd Crosswalk Improvements
- BP-853 | Texas Ave & S Lake Park Blvd Crosswalk Improvements
- PT-98 | Carolina Beach Rd at Snow's Cut Bridge

### TRANSPORTATION BOND:

(none)



**SEGMENT 26:**

# VILLAGE ROAD

**FROM:** US17/74/76  
**TO:** TOWN HALL DRIVE

**LENGTH:** 1.00 MILES

**HOT SPOTS:** 0

**ALTERNATE ROUTE(S):**  
NONE

## WMPO CONGESTION MANAGEMENT TECHNIQUES

### REDUCE DEMAND:

- Alternative Roadways

### SHIFT MODE OF TRIP:

- Expand Bicycle and Pedestrian Network
- Multimodal Access at Intersections

### LAND USE:

- Require MPO Review for Regional Scale Developments
- Construct Supportive Accessways with New Development
- Mixed-Use Land Development
- Infill and Densification



TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.4606	3
AM Delay Rate (minutes/mile)	0.46	3
PM Delay Rate (minutes/mile)	0.39	3
AM Travel Time Reliability (LOTTR)	1.12	5
PM Travel Time Reliability (LOTTR)	1.06	2
Crash Rate (crashes/mile)	99.00	6
Truck Volume (AADTT)	0	1

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	4   8,406.00	2
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	4.00	5
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	1.46   0.18   0.00	8
Bicycle Crashes (crashes/mile)	0.00	10
Pedestrian Crashes (crashes/mile)	1.00	7



**MULTIMODAL  
SCORE: 32**



**TRAVEL TIME  
SCORE: 23**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

(none)

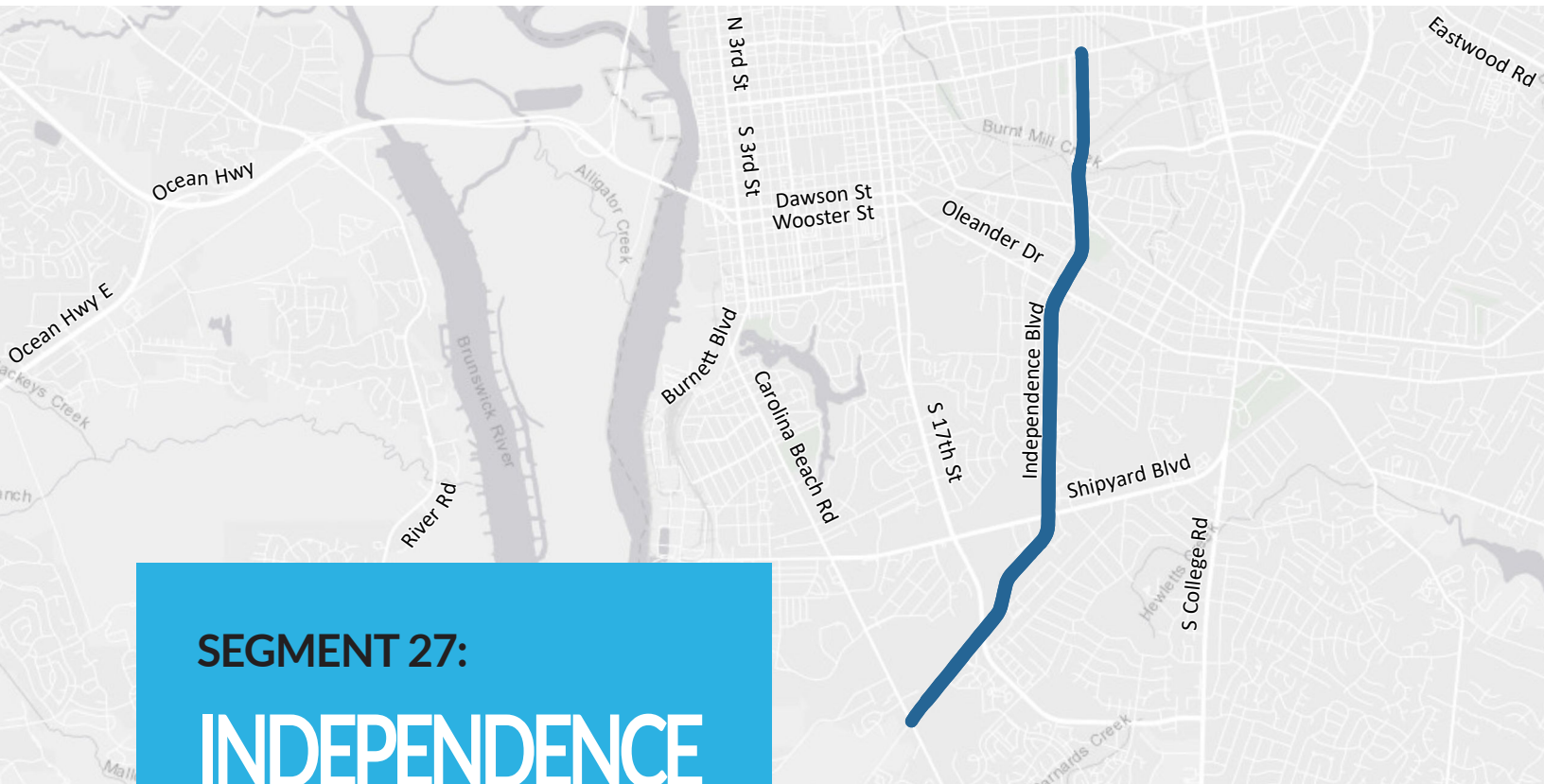
### CAPE FEAR MOVING FORWARD 2045:

- PT-91 | Village Rd at Food Lion
- PT-156 | Route 204 Extended Service to 9pm and Weekends\*

### TRANSPORTATION BOND:

(none)

\*Route 204 was discontinued in October 2020 but is included because this report utilizes FY2020 and FY2021 ridership data.



**SEGMENT 27:**

# INDEPENDENCE BLVD/COVIL AVENUE

**FROM:** US421  
**TO:** MARKET STREET

**LENGTH:** 4.85 MILES

**HOT SPOTS:** 0

**ALTERNATE ROUTE(S):**  
COLLEGE ROAD  
17TH STREET

## WMPO CONGESTION MANAGEMENT TECHNIQUES

### REDUCE DEMAND:

- Alternative Roadways

### SHIFT MODE OF TRIP:

- Increase Transit Frequency
- Expand Bicycle and Pedestrian Network
- Multimodal Access at Intersections

### INCREASE CAPACITY:

- Convert Intersection or Grade Separation to Interchange

### LAND USE:

- Transit-Oriented Land Development
- Require MPO Review for Regional Scale Developments
- Construct Supportive Accessways with New Development
- Mixed-Use Land Development
- Infill and Densification

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.5183	3
AM Delay Rate (minutes/mile)	0.86	6
PM Delay Rate (minutes/mile)	1.17	7
AM Travel Time Reliability (LOTTR)	1.05	1
PM Travel Time Reliability (LOTTR)	1.06	2
Crash Rate (crashes/mile)	56.08	4
Truck Volume (AADTT)	0	1

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	13   231,498.50	7
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	3.31	4
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.33   0.08   0.54	5
Bicycle Crashes (crashes/mile)	0.62	8
Pedestrian Crashes (crashes/mile)	0.62	8



**MULTIMODAL  
SCORE: 32**



**TRAVEL TIME  
SCORE: 24**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

- TD-5290 | Route 106 Amenity Upgrades
- U-4434 | Independence Blvd Extension

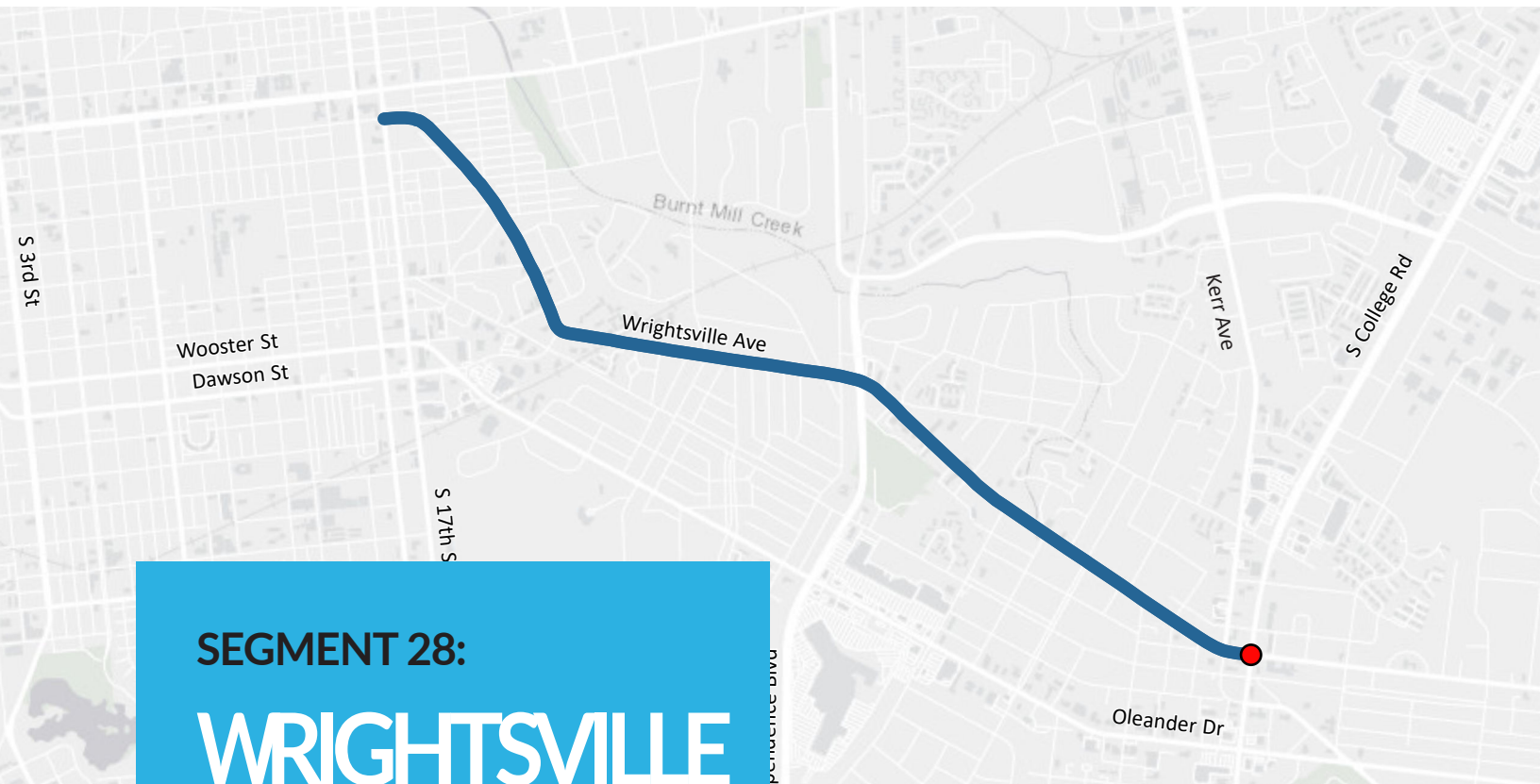
- PT-152 | Earlier Weekday Service on High Ridership Routes (108)
- RW-223 | Independence Blvd Access Management

### CAPE FEAR MOVING FORWARD 2045:

- BP-15 | Independence Blvd MUP (Phase 2)
- BP-594 | Carolina Beach Rd & Independence Blvd Crosswalk Improvements
- PT-38 | Independence Blvd & Canterbury Dr
- PT-40 | Independence Blvd & Park Ave
- PT-148 | Rush Hour Service on High Ridership Routes 8-11am and 3-5pm (108)

### TRANSPORTATION BOND:

(none)



**SEGMENT 28:**

# WRIGHTSVILLE AVENUE

**FROM:** 17TH STREET  
**TO:** US117/COLLEGE ROAD

**LENGTH:** 2.96 MILES

**HOT SPOTS:** 1

- 1. College Road

**ALTERNATE ROUTE(S):**  
OLEANDER DRIVE

## WMPO CONGESTION MANAGEMENT TECHNIQUES

**REDUCE DEMAND:**

- Alternative Work Schedules

**SHIFT MODE OF TRIP:**

- Expand Bicycle and Pedestrian Network
- Sidewalk Gap Closure Program
- Transit Stop Improvements (Shelter, Bike Rack, Bench)
- Increase Transit Frequency

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.5334	4
AM Delay Rate (minutes/mile)	0.88	6
PM Delay Rate (minutes/mile)	1.19	7
AM Travel Time Reliability (LOTTR)	1.07	2
PM Travel Time Reliability (LOTTR)	1.08	3
Crash Rate (crashes/mile)	76.35	5
Truck Volume (AADTT)	0	1

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	6   129,082.00	3
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	6.82	9
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	1.50   0.11   0.00	8
Bicycle Crashes (crashes/mile)	0.68	8
Pedestrian Crashes (crashes/mile)	0.34	9



**MULTIMODAL  
SCORE: 37**



**TRAVEL TIME  
SCORE: 28**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

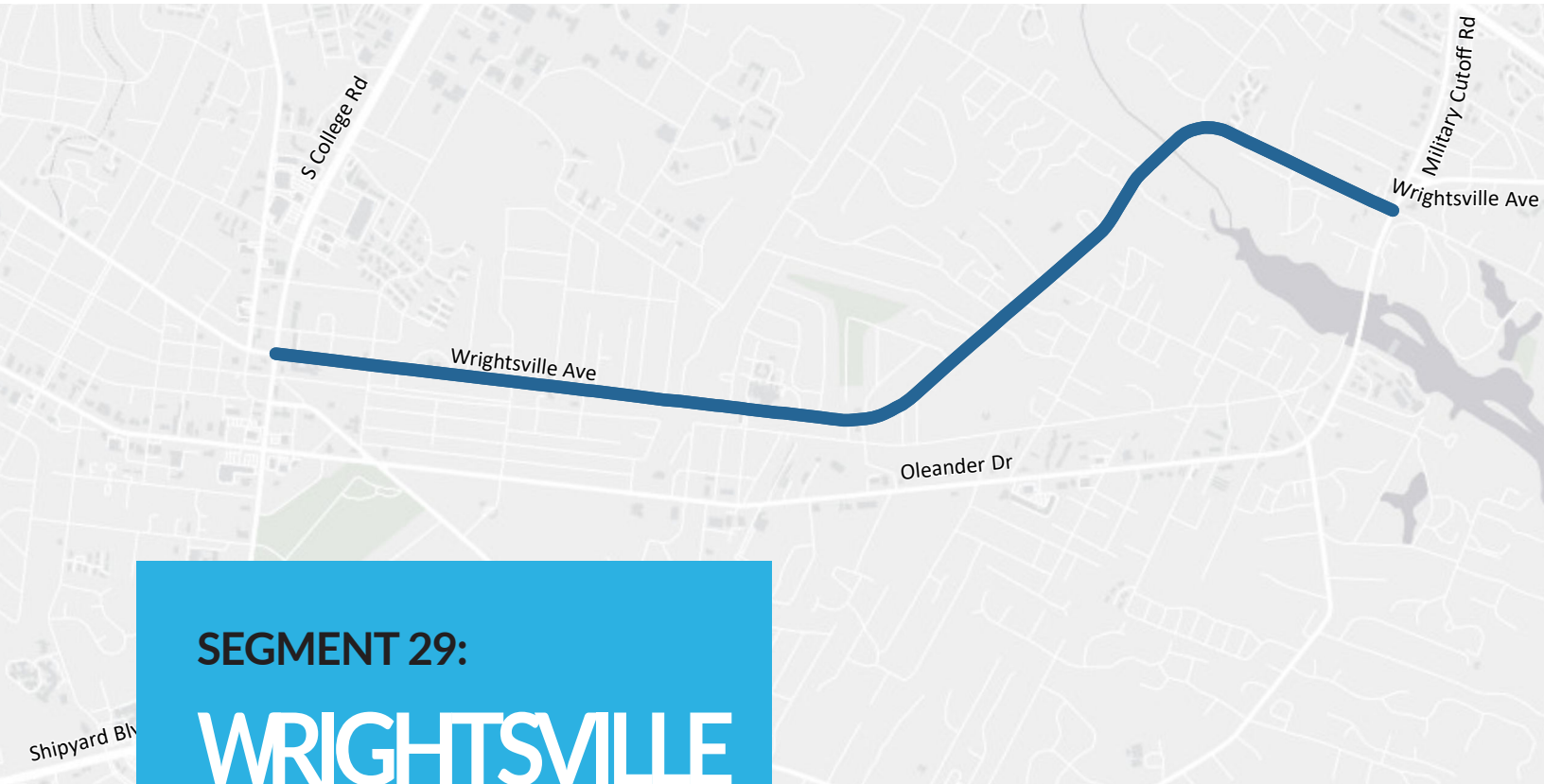
(none)

### CAPE FEAR MOVING FORWARD 2045:

- TD-5292 | Route 202 Amenity Upgrades

### TRANSPORTATION BOND:

- Wrightsville Avenue Sidewalk #2 (NOTE: Castle Street to Independence Blvd)



**SEGMENT 29:**

# WRIGHTSVILLE AVENUE

**FROM:** COLLEGE ROAD  
**TO:** OLEANDER DRIVE

**LENGTH:** 3.44 MILES

**HOT SPOTS:** 0

**ALTERNATE ROUTE(S):**  
OLEANDER DRIVE

## WMPO CONGESTION MANAGEMENT TECHNIQUES

**REDUCE DEMAND:**

- Alternative Work Schedules

**SHIFT MODE OF TRIP:**

- Expand Bicycle and Pedestrian Network
- Sidewalk Gap Closure Program
- Transit Stop Improvements (Shelter, Bike Rack, Bench)
- Increase Transit Frequency

**IMPROVE OPERATIONS:**

- Geometric Intersection Improvements

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.8132	7
AM Delay Rate (minutes/mile)	0.40	3
PM Delay Rate (minutes/mile)	0.80	5
AM Travel Time Reliability (LOTTR)	1.09	3
PM Travel Time Reliability (LOTTR)	1.11	4
Crash Rate (crashes/mile)	42.15	3
Truck Volume (AADTT)	0	1

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	13   54,314.00	4
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	5.00	7
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.40   0.00   0.00	2
Bicycle Crashes (crashes/mile)	0.00	10
Pedestrian Crashes (crashes/mile)	0.29	9



**MULTIMODAL  
SCORE: 32**



**TRAVEL TIME  
SCORE: 26**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

(none)

### CAPE FEAR MOVING FORWARD 2045:

- BP-590 | Military Cutoff Road & Wrightsville Avenue  
Crosswalk Improvements

### TRANSPORTATION BOND:

- Wrightsville Avenue Roundabout and Sidewalks (NOTE:  
Sidewalk from College to Hawthorne, Roundabout at  
Wallace)



**SEGMENT 30:**

**NC133/  
CASTLE  
HAYNE  
ROAD**

**FROM:** US74

**TO:** US117

**LENGTH:** 6.67 MILES

**HOT SPOTS:** 0

**ALTERNATE ROUTE(S):**

COLLEGE ROAD

**WMPO CONGESTION  
MANAGEMENT  
TECHNIQUES**

**REDUCE DEMAND:**

- Alternative Work Schedules

**IMPROVE OPERATIONS:**

- Geometric Intersection Improvements

**INCREASE CAPACITY:**

- Add General Purpose Lanes



TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.6167	5
AM Delay Rate (minutes/mile)	0.54	4
PM Delay Rate (minutes/mile)	0.40	3
AM Travel Time Reliability (LOTTR)	1.11	4
PM Travel Time Reliability (LOTTR)	1.09	3
Crash Rate (crashes/mile)	27.29	2
Truck Volume (AADTT)	918	4

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	4   19,640.00	2
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	2.85	4
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.00   0.00   0.00	1
Bicycle Crashes (crashes/mile)	0.00	10
Pedestrian Crashes (crashes/mile)	0.00	10



**MULTIMODAL  
SCORE: 27**



**TRAVEL TIME  
SCORE: 25**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

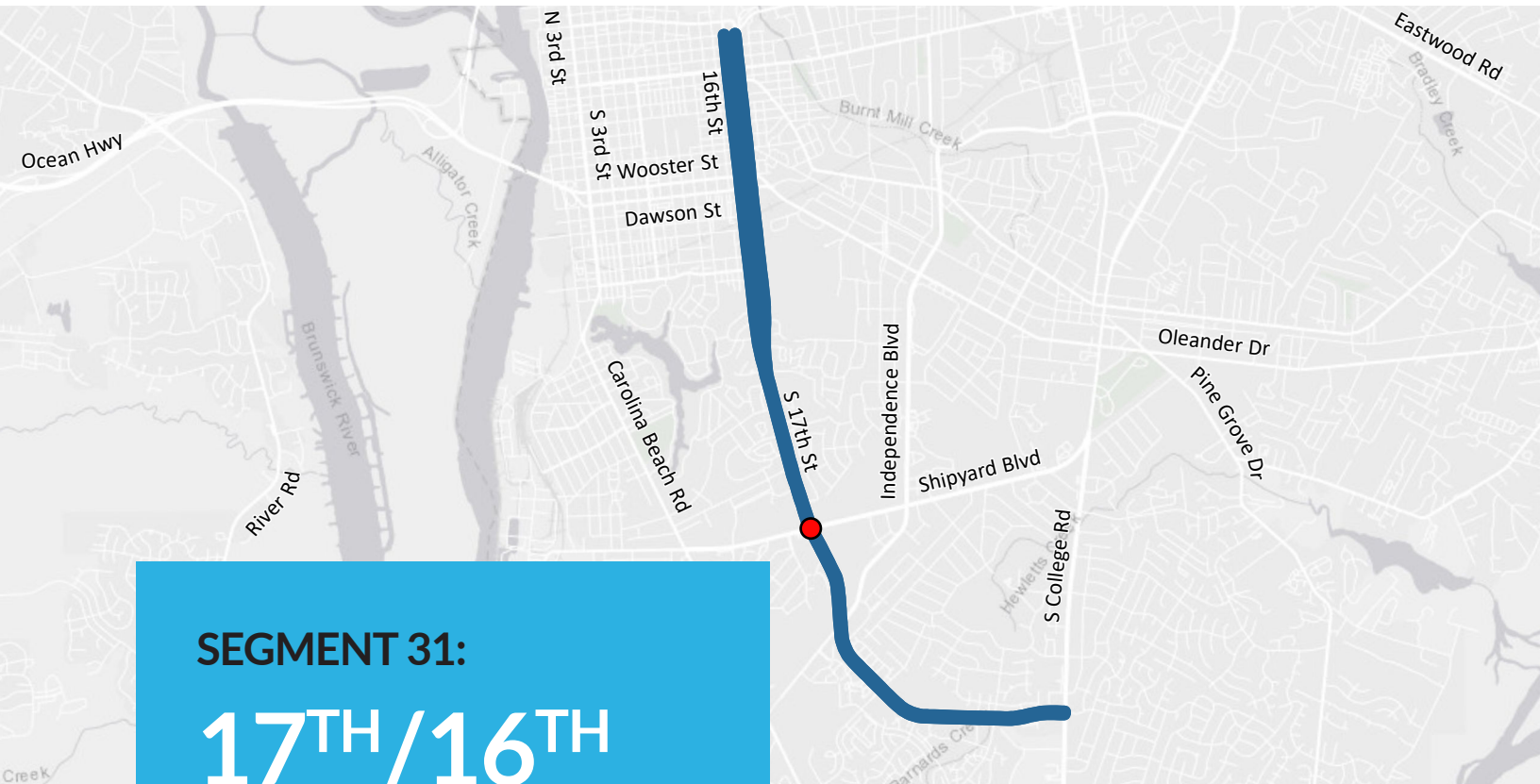
- U-5863 | NC133/Castle Hayne Road Widen to Multi-Lanes
- U-5954 | NC133/Castle Hayne Road Construct Roundabout at North 23rd Street

### CAPE FEAR MOVING FORWARD 2045:

(none)

### TRANSPORTATION BOND:

(none)



**SEGMENT 31:**

**17<sup>TH</sup>/16<sup>TH</sup>  
STREET**

**FROM:** GRACE STREET  
**TO:** COLLEGE ROAD

**LENGTH:** 5.74 MILES

**HOT SPOTS:** 1

- 1. Shipyard Blvd

**ALTERNATE ROUTE(S):**  
CAROLINA BEACH ROAD  
INDEPENDENCE BLVD

**WMPO CONGESTION  
MANAGEMENT  
TECHNIQUES**

**REDUCE DEMAND:**

- Alternative Work Schedules
- Carpool/Vanpool
- Employer Shuttles

**SHIFT MODE OF TRIP:**

- Increase Transit Frequency
- Improve Bicycle Storage
- Expand Bicycle and Pedestrian Network
- Multimodal Access at Intersections
- Sidewalk Gap Closure Program

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.4704	3
AM Delay Rate (minutes/mile)	1.02	7
PM Delay Rate (minutes/mile)	0.75	5
AM Travel Time Reliability (LOTTR)	1.07	2
PM Travel Time Reliability (LOTTR)	1.08	3
Crash Rate (crashes/mile)	128.05	8
Truck Volume (AADTT)	244	2

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	27   214,106.50	8
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	3.98	5
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	1.76   0.14   0.32	10
Bicycle Crashes (crashes/mile)	1.05	6
Pedestrian Crashes (crashes/mile)	0.87	7



**MULTIMODAL  
SCORE: 36**



**TRAVEL TIME  
SCORE: 30**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

- EB-5600 | South 17th Street MUP

### CAPE FEAR MOVING FORWARD 2045:

- BP-556 | 17th St NHC Library Connection MUP
- BP-597 | 17th St & Glen Meade Rd Crosswalk Improvements
- PT-47 | Market St & N 16th St
- PT-90 | Wellington Ave & 17th St
- PT-94 | 17th St at Food Lion Plaza
- PT-147 | Rush Hour Service on High Ridership Routes 8-11am and 3-5pm (105)

- PT-150 | Rush Hour Service on High Ridership Routes 8-11am and 3-5pm (205)
- PT-151 | Earlier Weekday Service on High Ridership Routes (105)
- PT-154 | Earlier Weekday Service on High Ridership Routes (205)

### TRANSPORTATION BOND:

- 17th Street Sidewalk and Dawson Street Crosswalks



**SEGMENT 32:**

# NC 133/ RIVER ROAD

**FROM:** FAIRVIEW ROAD  
**TO:** RABON WAY

**LENGTH:** 4.48 MILES

**HOT SPOTS:** 1

- 1. US17/74/76

**ALTERNATE ROUTE(S):**  
NONE

## WMPO CONGESTION MANAGEMENT TECHNIQUES

### REDUCE DEMAND:

- Alternative Roadways

### SHIFT MODE OF TRIP:

- Increase Transit Frequency
- Expand Bicycle and Pedestrian Network
- Multimodal Access at Intersections

### INCREASE CAPACITY:

- Add General Purpose Lanes

### LAND USE:

- Construct Supportive Accessways with New Development
- Transit-Oriented Land Development
- Mixed-Use Land Development

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.5322	4
AM Delay Rate (minutes/mile)	0.14	1
PM Delay Rate (minutes/mile)	0.19	2
AM Travel Time Reliability (LOTTR)	1.09	3
PM Travel Time Reliability (LOTTR)	1.08	3
Crash Rate (crashes/mile)	18.97	1
Truck Volume (AADTT)	780	4

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	2   8,406.00	1
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	3.06	4
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.18   0.03   0.00	1
Bicycle Crashes (crashes/mile)	0.00	10
Pedestrian Crashes (crashes/mile)	0.22	10



**MULTIMODAL  
SCORE: 26**



**TRAVEL TIME  
SCORE: 18**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

- U-5914 | NC133/River Rd SE Modernize Roadway
- EB-6026 | Belville Elementary Multi-Use Path

### CAPE FEAR MOVING FORWARD 2045:

- BP-298 | Chappell Loop Shoulder Bike Lanes & Sharrows
- RW-5 | NC133/River Rd SE Widening

### TRANSPORTATION BOND:

(none)



**SEGMENT 33:**

# PINE GROVE DRIVE

**FROM:** COLLEGE ROAD  
**TO:** MASONBORO SOUND ROAD

**LENGTH:** 2.49 MILES

**HOT SPOTS:** 2

1. Oleander Drive
2. Long Leaf Hills Drive

**ALTERNATE ROUTE(S):**  
COLLEGE ROAD

## WMPO CONGESTION MANAGEMENT TECHNIQUES

**SHIFT MODE OF TRIP:**

- Increase Transit Frequency
- Expand Bicycle and Pedestrian Network
- Multimodal Access at Intersections

**INCREASE CAPACITY:**

- Convert Intersection or Grade Separation to Interchange
- Add General Purpose Lanes

TRAVEL TIME RELIABILITY DATA		SCORE
Volume/Capacity (V/C)	0.5118	3
AM Delay Rate (minutes/mile)	1.87	10
PM Delay Rate (minutes/mile)	1.81	10
AM Travel Time Reliability (LOTTR)	1.16	6
PM Travel Time Reliability (LOTTR)	1.13	5
Crash Rate (crashes/mile)	38.96	2
Truck Volume (AADTT)	0	1

MULTIMODAL DATA		SCORE
Transit (stops   combined ridership)	0   0.00	0
Bicycle Suitability (score from WMPO 2022 Bicycle Suitability Map)	3.53	5
Pedestrian Suitability (% sidewalk   % crosswalk   % MUP)	0.26   0.00   0.03	2
Bicycle Crashes (crashes/mile)	0.00	10
Pedestrian Crashes (crashes/mile)	0.00	10



**MULTIMODAL  
SCORE: 27**



**TRAVEL TIME  
SCORE: 37**

## CURRENT PROJECTS AND PLANS

### 2020-2029 STIP:

(none)

### CAPE FEAR MOVING FORWARD 2045:

- BP-49 | Peachtree Ave MUP

### TRANSPORTATION BOND:

- Pine Grove Drive & Oleander Drive Intersection Improvements



## IN THIS SECTION:

- 1 STRATEGY IMPLEMENTATION
- 2 EVALUATION AND USE OF THIS REPORT
- 3 FUTURE CONSIDERATIONS

### STRATEGY IMPLEMENTATION

The results of the CMP are integrated into the transportation planning process through the development of the Comprehensive Transportation Plan (CTP), Metropolitan Transportation Plan (MTP), State Transportation Improvement Program (STIP), and local plans.

### COMPREHENSIVE TRANSPORTATION PLAN

The CTP identifies long term priorities for the region. It also helps to identify which corridors should be evaluated in the CMP. The CMP uses a data-driven approach to begin transitioning this high-level plan into concrete projects that can be programed into the MTP and STIP.



## METROPOLITAN TRANSPORTATION PLAN

The MTP is a medium range plan that helps transition projects from the CTP to funding sources such as the STIP, Surface Transportation Block Grant Program (STBGP), and local funds. The currently adopted MTP, Cape Fear Moving Forward 2045, was adopted in 2020 and is required to be updated every five years. The CMP Biennial Data Reports can be compared to determine the success of projects and strategies that have been implemented, while identifying corridors still in need of improvements or new corridors requiring mitigation due to recent development. The identification of needed improvements and congestion mitigation will serve as a source of projects for the next MTP.

## STATE TRANSPORTATION IMPROVEMENT PROGRAM

The NCDOT STIP is a 10-year program that identifies funding for transportation projects throughout the state. Projects in the STIP are required to be in the MTP. The CMP contributes to the prioritization of projects in the MTP before they reach the STIP, further strengthening

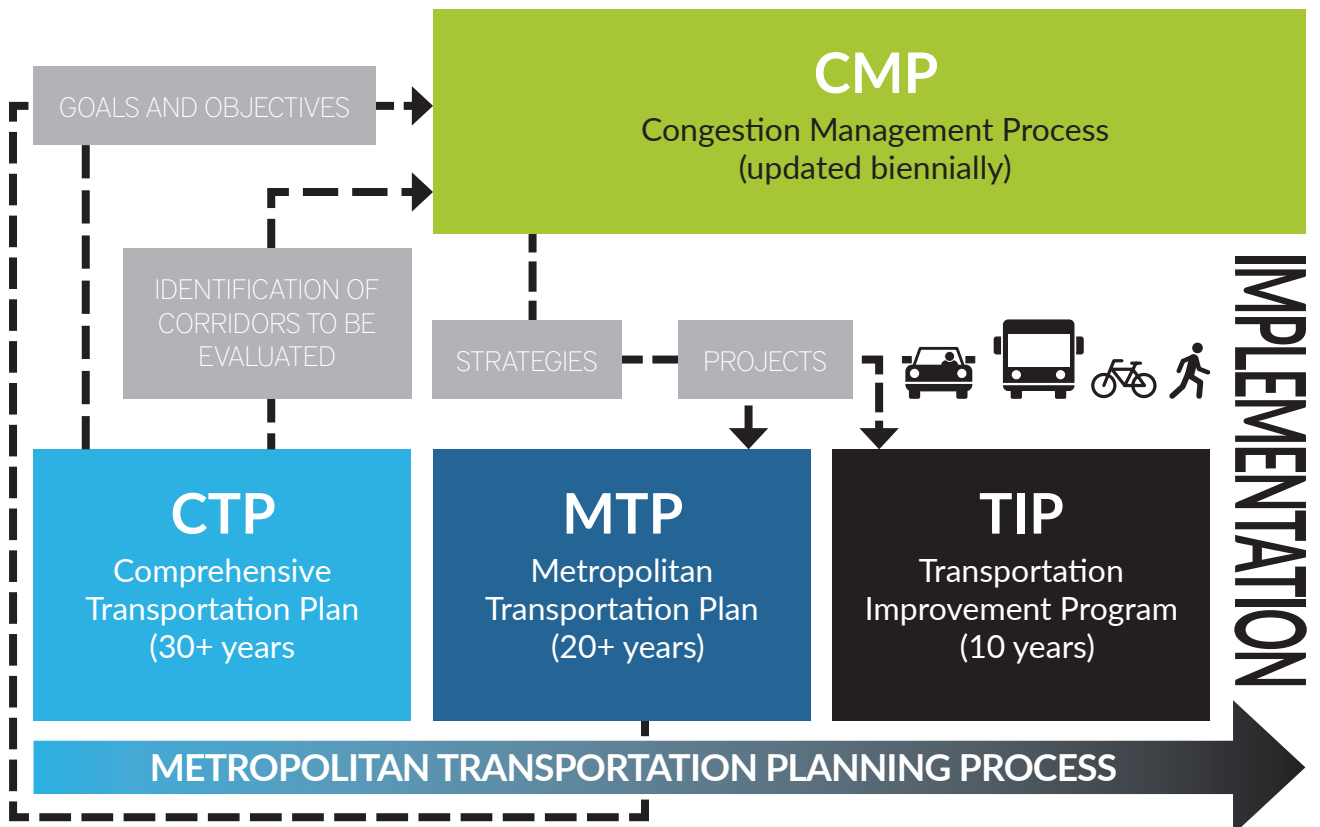
the case for projects as they compete for funding in the STIP.

## LOCAL PLANS

The CMP uses a data-driven approach to identify transportation needs in the region, often serving as an indicator and starting point for the development of local plans. Corridors identified in the CMP with poor travel time reliability are strong candidates for additional studies, such as corridor plans and collector street plans. Corridors with significant safety concerns may need safety studies completed. Those with significant congestion and truck volumes may benefit from studies to improve the efficiency of freight movement. Finally, multimodal data provides insight into locations where transit, bicycle, and pedestrian infrastructure is most needed.

## EVALUATION AND USE OF THIS REPORT

By continuing the use of NPMRDS data and the new scoring methods developed for the 2020 Biennial Data



## NEXT STEPS

Report, the results of the 2020 and 2022 Biennial Data Reports can easily be compared. The WMPO continuously reviews and evaluates its CMP process and will utilize new data sources when appropriate and/or necessary. Additionally, the WMPO will continue to work with its planning partners to ensure the process is appropriately reporting, analyzing, and tracking congestion in our region.

It is important to consider the results of this plan during the development of future planning efforts, including the STIP, MTP, and local plans.

## FUTURE CONSIDERATIONS

Previously, and in this plan, the focus on congestion management has revolved around recurring congestion. While this is a significant source of congestion that is easily identifiable, non-recurring congestion counts towards an even larger percentage of congestion. This includes events such as crashes, weather, work zones, and special events. As the WMPO becomes more familiar with NPMRDS data and its capabilities, it would be beneficial to begin looking at these non-recurring events and attempt to mitigate them, or plan for them. In addition to NPMRDS, changes and growth in Intelligent Transportation Systems (ITS) are likely to affect transportation in our region in future years. These changes should be studied to determine potential impacts to or easing of non-recurring congestion.

### SEASONAL TRAVEL CHANGES

Located in a coastal environment with numerous beach towns, the WMPO planning area experiences seasonal congestion related to tourism, one of the largest industries in the region. Using NPMRDS data, the CMP can compare delay rates and travel time reliability in both the peak and off season to identify which corridors could be improved without overengineering for the peak season. Reducing congestion would make Wilmington a more attractive destination for travelers and reduce the negative impacts of congestion on locals.

### SPECIAL EVENTS

Special events are grouped as non-recurring congestion in the FHWA CMP guidebook, but in the case of certain events, such as the Azalea Festival in

Wilmington, the effects of these events could be further studied. NPMRDS data can be provided down to the day to help identify corridors that are the most strained during large events in the region. With this data, along with coordination with local law enforcement and others that manage the event, future improvements could be identified. This would result in more organized events for guests and less interruption to residents.

## INCIDENT MANAGEMENT

Incidents are one of the largest sources of non-recurring congestion. The unpredictable nature of motor vehicle crashes makes it difficult to mitigate the impact of congestion. Improving response times would both reduce congestion and potentially save lives. By using available data to identify corridors with the most accidents and collaborating with local responders, solutions could be identified to improve response times. For example, the City of Charlotte identified the patrolling of corridors with high crash rates by first responders as a solution.

## WEATHER

Weather is another unpredictable, non-recurring cause of congestion. Weather causes reduced visibility and decreased traction, leading to slower travel speeds that are not in sync with the signal system as well as increased crash rates. Furthermore, evacuations due to hurricanes and storm damage are important considerations in the region's transportation network. NPMRDS data could be used to study the impact of evacuations on congestion in the region and help to identify where solutions can be implemented.

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