



**The Cape Fear Public  
Transportation Authority  
Title VI Program**

*Revised November 19, 2020*

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# Section 1: Title VI Program Overview

## 1.1 Introduction

Title VI of the Civil Rights Act of 1964 ("Title VI") prohibits discrimination on the basis of race, color, or national origin in any program or activity that receives Federal funds or other Federal financial assistance. Programs that receive Federal funds cannot distinguish among individuals on the basis of race, color or national origin, either directly or indirectly, in the types, quantity, quality or timeliness of program services, aids or benefits that they provide or the manner in which they provide them.

To demonstrate and ensure compliance with Title VI, Wave Transit has developed a Title VI Program inclusive of the following elements:

- Title VI and environmental justice
- Public involvement process

Although separate, environmental justice and public involvement complement one another in ensuring fair and equitable distribution of transportation services, programs, activities, and facilities. Public participation is essential to the success of any public planning program or project. Without the involvement of local citizens, it is difficult to design a program that meets the needs of the public or to gauge the project's success. Effective public involvement not only provides transportation officials with new ideas, but it also alerts them to potential environmental justice concerns during the planning stages of a project. These reasons, combined with a national history of discrimination against persons on the basis of race, color, ethnic origin, age, sex, disability, religion and economic status, has led federal and state governments to set requirements to ensure equity of public involvement in federally funded agencies and their associated organizations.

## 1.2 Program Objectives

The objectives of Wave Transit's Title VI Program are indicated as follows:

1. Comply with the public involvement and environmental justice requirements of the Federal and State regulations.
2. Avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
3. Provide specific opportunities for local citizens and citizen-based organizations to discuss their views and provide input on the subject areas addressed in plans, projects or policies of.
4. Ensure full and fair participation by all potentially affected communities in the transportation decision-making process.
5. Inform and educate citizens and other interested parties about ongoing Wave Transit planning activities, and their potential role in those activities.

### 1.3 Purpose

The principle of environmental justice in transportation planning ensures that transportation projects do not have a disproportionately negative impact on minority and low-income populations. The objective is to achieve environmental justice protection for all communities. With respect to transportation, Title VI means assessing the nature, extent, and incidence of probable impacts, both negative and positive, from any transportation-related activity on minority, low-income and other disadvantaged populations.

## Section 2: Guidance and Legislation

**Title VI of the Civil Rights Act of 1964** created a foundation for future environmental justice regulations. Since the establishment of Title VI, environmental justice has been considered in local, state, and federal transportation projects. Section 42.104 of Title VI and related statutes require Federal agencies to ensure that no person is excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving Federal financial assistance on the basis of race, color, national origin, age, sex, disability, or religion.

**The National Environmental Policy Act of 1969** (NEPA) addresses both social and economic impacts of environmental justice. NEPA stresses the importance of providing for “all Americans safe, healthful, productive, and aesthetically pleasing surroundings”, and provides a requirement for taking a “systematic, interdisciplinary approach” to aid in considering environmental and community factors in decision making.

**The Civil Rights Restoration Act of 1987** further expanded Title VI to include all programs and activities of Federal aid recipients, sub-recipients, and contractors whether those programs and activities are federally funded or not.

**On February 11, 1994, President Clinton signed Executive Order 12898:** Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. This piece of legislation directed every Federal agency to make Environmental Justice part of its mission by identifying and addressing all programs, policies, and activities that affect human health or the environment so as to identify and avoid disproportionately high and adverse effects on minority populations and low-income populations. Rather than being reactive, Federal, State, local and tribal agencies must be proactive when it comes to determining better methods to serve the public who rely on transportation systems and services to increase their quality of life.

In April 1997, as a reinforcement to **Executive Order 12898**, the United States Department of Transportation (DOT) issued an **Order on Environmental Justice (DOT Order 5610.2)**, which summarized and expanded upon the requirements of **Executive Order 12898** to include all policies, programs, and other activities that are undertaken, funded, or approved by the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), or other U.S. DOT components.

In December 1998, the FHWA issued the **FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (DOT Order 6640.23)** which mandated the FHWA and all its subsidiaries to implement the principles of **Executive Order 12898** and **U.S. DOT Order 5610.2** into all of its programs, policies, and activities.

On October 7, 1999, the FHWA and the FTA issued a memorandum **Implementing Title VI Requirements in Metropolitan and Statewide Planning**. This memorandum provides clarification for field offices on how to ensure that environmental justice is considered during current and future planning certification reviews. The intent of this memorandum was for planning officials to understand that environmental justice is equally as important during the planning stages as it is during the project development stages.

**On August 11, 2000, President Clinton signed Executive Order 13166** requiring Federal agencies to provide services so that limited English proficiency (LEP) can have meaningful access to them.

### **Section 3: Title VI Analysis and Methodology**

The geographic basis for Title VI analysis is based on U.S. Census data and American Community Survey (ACS) five-year (2014 thru 2018) data for New Hanover County (<https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles/2018/>) in consultation with 2019 updates.

For purposes of Title VI analysis, it is desirable to make the analysis on the smallest geographic unit available for which information is obtainable for all relevant groups.

Wave Transit has identified six (6) relevant groups for Title VI analysis as described below:

1. Low-income
2. Federal Assistance Recipients
3. Minority
4. Elders
5. Low literacy/English proficiency or English spoken as a second language
6. Disabled populations

Following the identification of the relevant groups for analysis, the next step undertaken was to identify the general distribution of each Title VI population group throughout the Wave Transit service area and then define where each group is most concentrated. Data from the U.S. Census, the Wilmington Urban Metropolitan Planning Organization, and other local non-profit agencies is used and will continue to be used to identify the target groups mentioned above.

### **Section 4: Policy Statement**

It is the policy of Wave Transit to provide equal opportunity to all people who are admitted to, participate in, or are the recipients of Wave Transit services. As a recipient of federal financial

assistance, Wave Transit does not exclude, deny benefits to, or otherwise discriminate against any person on the grounds of race, color, religion, sex, national origin, or on the basis of disability or age in admission to, participation in, or receipt of the services and benefits of any of its programs and activities or in employment therein, whether carried out by Wave Transit directly or through a contractor or any other entity with whom Wave Transit arranges to execute its programs and activities. This statement is in accordance with the provisions of Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, Americans with Disabilities Act of 1990, and Regulations of the U.S. Department of Health and Human Services issued pursuant to the acts, Title 45 Code of Federal Regulations Part 80, 84, and 91. (Other Federal Laws and Regulations provide similar protection against discrimination on grounds of sex and creed.)

*\*Please also see policy statement executed by the Interim Director\**

## **Section 5: Complaint Process**

### **5.1 Filing a Complaint**

In case of questions concerning this policy, or in the event of a desire to file a complaint alleging violations of the above, please contact our main office at (910) 343-0106 or the Authority's acting Civil Rights Officer, our Deputy Director, via phone at: (910) 202-2057 or by e-mail at: [wavetransit@wavetransit.com](mailto:wavetransit@wavetransit.com). Instructions for filing a Title VI Complaint and a copy the Authority's Complaint Policy/Form can be obtained through the channels referenced above or the Authority's website at: <https://www.wavetransit.com/contact-us/>. All Title VI complaints are investigated, resolved, and tracked by the Authority's Civil Rights Officer.

### **5.2 Title VI Complaints**

To date, Wave Transit has not been involved in any Title VI lawsuits. Wave Transit has received one Title VI complaint since this plan update; however, upon further investigation, the complaint was determined to be invalid. Title VI complaints will be investigated and tracked through appropriate procedures as outlined in the Complaint Policy/Form.

## **Section 6: Public Involvement Plan**

Wave Transit will coordinate with individuals, institutions, and/or organizations to reach out to members in the affected minority/low-income communities. The onset of the novel coronavirus (COVID-19) in March 2020 required a revision in public participation opportunities. In addition to written communication, a virtual option for participation via video conference and audio conference have become common and accepted practice for community engagement. Although limited, opportunities to participate in-person remain available to the public.

### **6.1 Public Meetings**

The following steps will be taken to ensure in-person and/or virtual meetings for the public held by Wave Transit are accessible for all:



- Public meetings will be held in convenient and accessible locations and facilities with an opportunity for remote attendance via video or audio conference available
- Meeting material(s) will be available in a variety of formats upon previous request
- A variety of advertising means will be used to inform local media outlets and member jurisdictions of public meetings
- Assistance to persons with disabilities and interpretation/translation services will be available upon previous request

## 6.2 Public Notifications

Wave Transit will provide notice to the public of our Title VI obligations on schedule and route brochures, which are disseminated, to the public throughout our service area. The Title VI Policy is posted on the website, at the front desk and public meeting spaces and offices at all facilities, and in all fixed route buses.

## 6.3 Public Involvement Process

The main objectives of the **Public Involvement Process** are to:

1. Comply with the public involvement and environmental justice requirements of the Federal and State regulations, and provide specific opportunities for local citizens and citizen-based organizations to discuss their views and provide input on the subject areas addressed in plans, projects or policies of Wave Transit, and;
2. Inform and educate citizens and other interested parties about ongoing Wave Transit planning activities, and their potential role in those activities.
3. Work with other local and state organizations that have similar goals and requirements.
4. Study other transit organizations that have been successful in public participation efforts.

Experience has shown difficulty in reaching a large span of the population and keeping them involved. Federal and State regulations require us to provide the public with information and to reach out and include traditionally under-served populations. Outlined below are several effective outreach tools that will continue to be used to ensure continued compliance with Federal and State requirements for inclusion of under-served populations.

### A. General Public Relations

General public relations may be defined as any action that might reach any citizen, whether that citizen has specific interest or knowledge regarding transportation operations and planning efforts. Outreach techniques include, announcements targeted at newspapers, radio, television, and social media; posters or pamphlets displayed in public places; and signs posted at public facilities including major transfer stations. Meetings or hearings held in public venues and covered by the media can act as public relations. These strategies keep the public aware of public transportation initiatives and the status of specific projects or planning efforts underway. Educating the community on activities employed by Wave Transit ensures individuals remain informed on pertinent matters related to public

transportation and elicits interest and/or participation from interested parties.

### **B. Events**

There are a broad variety of ways to educate and engage the public. In general, the earlier public involvement is sought, the better. It is also a better use of citizens' free time to participate in a process that will determine the direction of a project that may take years to complete. Citizens may get frustrated when they are invited to join late in the process - when the values and goals have already been decided and the details have been hammered out. The following tools are arranged from most participatory to least.

Special outreach events are held to bring attention to a specific activity, issue, or initiative. This type of engagement strategy maximizes exposure to a project or program. Special events may take the form of a fair or special educational lecture with civic groups or other public entities. The current health crisis has required a pivot from in-person to virtual events and gatherings. Through this offering, staff has found participation to be greater as a virtual platform provides greater access and flexibility than an in-person meeting or event.

### **C. Surveys**

Conducting surveys is an efficient method of gathering input from a large number of people at an early stage of the planning process. This is particularly useful when trying to understand the goals and aspirations of a community before attempting to address any specific problems. As an outreach tool, surveys are a good way to identify citizens who may want to become further involved. Surveys may be administered in person or on the phone or distributed via mail, on the Internet, or at public places. A labor-intensive activity, the implementation of a survey might be aided by volunteers and student interns.

### **D. Public Hearings**

Public hearings are usually held when Wave Transit has completed a plan or study or is applying for federal grant funds and needs to present it for public review before moving forward. As with all these tools, care must be taken to ensure that the public is made fully aware of the event well in advance and the goals and values of the plan are clearly stated.

### **E. Community Information Meetings**

Community meetings are held to discuss programs, future plans, and activities within the local area. Informational meetings are held to encourage the public to discuss specific needs.

### **F. Direct Marketing and Education**

Direct marketing provides specific information to targeted parties. For example, landowners or leaders of an ethnic community may be sought out and personally invited to attend a meeting held virtually or in person. Similarly, lower income groups may be specifically targeted for education about their rights, or children or families may be targeted to begin a



discussion on a specific program. Direct marketing and education can take place through direct mailings, radio, the local government television channel, press advertising, or through meetings, whether virtual or in-person, with specific groups of people such as local clubs and associations, neighborhood groups, property owners, housing authorities, etc. It can also be through direct phone calls or meeting with key people who desire to participate in each process. This is the most labor intensive and potentially most fruitful way to create a diverse and active public participation process.

## 6.4 Plan Evaluation

Evaluation of the success of any public involvement effort must be oriented around results. It is not best practice to assume that poor attendance at a meeting or event is a direct translation to interest in an effort, initiative, or project. The goal is to educate and include and engage the public at every phase and level of the planning process and not just to invite them to an event or meeting.

Evaluation, then, must be two-fold. The first part is to track what efforts are being made, and the results of those efforts, and the second part is to make regular assessments of the success of a technique within a given program, and to strategize for future successes.

## 6.5 Tracking Efforts and Success

To track our public participation efforts, it is necessary for efforts to be recorded and retained for record. Wave Transit employs the following tracking mechanisms:

1. A detailed log of outreach activities is kept on file
2. Copies of print ads and transcripts of any public service announcements are retained for record
3. Minutes and/or notes are captured during and analyzed after every meeting

## 6.6 Minority Representation on Governing Body and Committees and Subrecipients

The Authority does not have any transit-related, non-elected boards, councils, or committees. The Authority's governing board is comprised of members appointed to serve by the City of Wilmington and New Hanover County.

The Making Waves Foundation is an independent non-profit, 501(c)3 organization created by the Authority in 2011. The Foundation is governed by a three to seven-member Board of Directors appointed by the Authority's Board of Directors as outlined in **Article IV** of the Foundation's *Code of Regulations*. Administrative oversight is provided by Authority personnel including the Deputy Director and the Director of Finance and Administration. Every effort to include minority representation on the Foundation's governing body is made in the recruitment and solicitation of new Board members.

The Authority *does not* have any subrecipients.

## Section 7: Annual Title VI Certification and Assurance

Cape Fear Public Transportation Authority (dba. Wave Transit) hereby agrees that as a condition to receiving Federal financial assistance from the Department of Transportation (DOT), it will comply with Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d et seq.) and all requirements imposed by 49 CFR Part 21, - Nondiscrimination in Federally Assisted Programs of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964 (hereinafter referred to as the “Regulations”) to the end that no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the applicant receives Federal financial assistance and will immediately take any measures necessary to effectuate this agreement. Without limiting the above general assurance, Wave Transit agrees to the following:

1. Each “program” and “facility” (as defined in Sections 21.23(e) and 21.23(b)) will be conducted or operated in compliance with all requirements of the Regulations.
2. It will insert the clauses of this assurance in every contract subject to the Act and the Regulations.
3. Where Federal financial assistance is received to construct a facility, or part of a facility, the assurance shall extend to the entire facility and facilities operated in connection therewith.
4. Where Federal financial assistance is in the form or for the acquisition of real property or an interest in real property, the assurance shall extend to rights to space on, over, or under such property.
5. It will include the appropriate clauses set forth in this assurance, as a covenant running with the land, in any future deeds, leases, permits, licenses, and similar agreements entered into by the sponsor with other parties:
  - (a) for the subsequent transfer of real property acquired or improved with Federal financial assistance under this Project; and
  - (b) for the construction or use of or access to space on, over, or under real property acquired or improved with Federal financial assistance under this Project.
6. This assurance obligates the Sponsor for the period during which Federal financial assistance is extended to the program, except where the Federal financial assistance is to provide, or is in the form of personal property or real property or interest therein or structures or improvements thereon, in which case the assurance obligates the sponsor or any transferee for the longer of the following periods:
  - (a) the period during which the property is used for a purpose for which Federal financial assistance is extended, or for another purpose involving the provision of similar services or benefits, or
  - (b) the period during which the sponsor retains ownership or possession of the

property.

7. It will provide for such methods of administration for the program as are found by the Secretary of Transportation or the official to whom he delegates specific authority to give reasonable guarantee that it, other sponsors, subgrantees, contractors, subcontractors, transferees, successors in interest, and other participants or Federal financial assistance under such program will comply with all requirements imposed or pursuant to the Act, the Regulations, and this assurance.
8. It agrees that the United States has a right to seek judicial enforcement regarding any matter arising under the Act, the Regulations, and this assurance.

THIS ASSURANCE is given in consideration of and for the purpose of obtaining Federal financial assistance and is binding on its contractors, the sponsor, subcontractors, transferees, successors in interest and other participants in the Project. The person or persons whose signatures appear below are authorized to sign this assurance on behalf of the recipient.

Adopted at a regular meeting on:

November 19, 2020

(seal)

By:

\_\_\_\_\_  
Chris Coudriet, Chairman

Attest:

\_\_\_\_\_  
Megan Matheny, Secretary

***Annual Certifications and Assurances are posted annually in TrAMS as required***

## Section 8: Environmental Analysis of Construction Projects

Cape Fear Public Transportation Authority (dba. Wave Transit) shall integrate an environmental justice analysis into their National Environmental Policy Act (NEPA) documentation of construction projects of which require NEPA. If a Categorical Exclusion (CE) is performed, Wave Transit shall complete the FTA's standard checklist which includes a section on community disruption and environmental justice. While preparing an Environmental Assessment (EA) or Environmental Impact Statement (EIS), Wave Transit shall integrate into their documents, the following:

1. A description of the low-income and minority population within the study area affected by the project, and a discussion of the method used to identify this population.
2. A discussion of all adverse effects that would affect the identified minority and low-income population.
3. A discussion of all positive effects that would affect the identified minority and low-income population;
4. A description of all mitigation and environmental enhancement actions incorporated into the project to address the adverse effects, including, but not limited, any special features of the relocation program that go beyond the requirements of the Uniform Relocation Act and address adverse community effects such as separation or cohesion issues, and the replacement of the community resources destroyed by the project, if applicable;
5. A discussion of the remaining effects, if any, and why further mitigation is not proposed; and
6. For projects that traverse predominantly minority and low-income and predominantly non-minority and non-low-income areas, a comparison will be completed of mitigation and environmental enhancement actions between the two stated areas. If there is no basis for such a comparison, Wave Transit shall describe why this is so.

## Section 9: Service Standards and Policies

Service standards are resourceful for the planning and operation of a transit agency as it provides the foundation for route design and resource management. The service standards adopted by the Authority support and enhance the Authority's commitment to providing quality transit service to customers. The Authority monitors its level and quality of service under quantitative service standards and qualitative service policies on an ongoing basis to ensure equity in access to public transportation.

The Authority uses the following six indicators, as outlined in Federal Transit Administration (FTA) Circular 4702.1B, as service standards and policies:

### STANDARDS:

- **Vehicle load**- the ratio of passengers to the total number of seats on a vehicle (how full the vehicle is);
- **Vehicle headways**- the amount of time between two vehicles travelling in the same

direction on a given line or combination of lines;

- **On-time performance**- a measure of runs completed as scheduled;
- **Service availability**- a general measure of the distribution of routes within a transit provider's service area;

**POLICIES:**

- **Distribution of transit amenities**- items of comfort, convenience and safety that are available to the general riding public (shelters, benches, trash receptacles, etc.); and
- **Vehicle assignment**- the process by which transit vehicles are placed into service on routes throughout the transit provider's system (which bus goes where).

### 9.1 Vehicle Load

The maximum vehicle loading refers to the maximum number of passengers per vehicle, including standees. The maximum number of passengers a vehicle can accommodate is dependent upon vehicle type. Load factors are based on the type of vehicle and service route classification type. The Authority's fixed route system consists of three types of vehicles each having varying seating and standee limitations. The loading standards by service type are indicated in the table below:

**Passenger Loading Standards by Service Type**

<b>Vehicle Type</b>	<b>Maximum Seated Capacity</b>	<b>Maximum Standees</b>	<b>Total Capacity (Seated and Standing)</b>
35' Gillig Bus	31	16	47
30' Hometown Trolley Replica	28	14	42
29' Light Transit Vehicle (LTV) Shuttle	28	14	43

### 9.2 Vehicle Headways

Headway, also known as frequency, is the maximum interval between each scheduled fixed route vehicle. Headways are essential to the quality of service. All fixed bus routes, except for one, operate on 60-minute headways Monday thru Friday 6:00 am to 9:00 pm and Saturday and Sunday from 9:00 am to 6:00 pm. Fixed bus route 101 operates on 30-minute headways, with clearly identified Peak and Off-Peak times, as warranted by demand and density. Peak time is Monday thru Friday from 6:00 am to 6:00 pm. The table below outlines the headways for each service type offered by the Authority:

### Headway Limits by Service Type

Service Type	Peak	Off Peak
Fixed Bus Route 101	30	60
All Other Fixed Bus Routes	n/a	60
Port City Trolley	n/a	40
UNCW Shuttle	5	10 - 20

#### 9.4 Service Access/Availability

On-time performance, also known as schedule adherence reporting, is the deviation of actual arrival and departure time from the timetable or schedule. This standard ensures a high level of service reliability. Factors such as density and route distances are considered in setting an on-time performance standard.

Transit agencies typically set a standard in percentages of on-time arrivals that they desire to achieve as a measure of good service quality. Among medium size transit agencies, the typical desired level of system-wide on-time performance is between 80% and 95%. The Authority is considered a medium size operator and requires that no vehicle shall leave a time point more than one minute early and should arrive at a time point no later than five-minutes after the scheduled arrival time. This five-minute window is appropriate for the Authority’s service area due to the average distance traveled by each route. The Authority’s on-time performance standards and targets have remained consistent with standards and targets adopted under the 2017 adopted Title VI Program as summarized below:

#### On-time Performance by Service Type

Service Type	Routes	Standard	Target
Fixed Route Bus Medium to High Density	<ul style="list-style-type: none"> <li>• 101 Princess Place Dr.</li> <li>• 103 Oleander East</li> <li>• 104 Northeast</li> <li>• 105 Medical Center</li> <li>• 106 Shipyard Blvd.</li> <li>• 107 College Rd.</li> <li>• 108 Market St.</li> <li>• 201 Carolina Beach Rd.</li> </ul>	88%	93%

	<ul style="list-style-type: none"> <li>• 202 Oleander West</li> <li>• 205 Long Leaf Park</li> <li>• 210 17<sup>th</sup> Street Extension</li> </ul>		
Fixed Route Bus Low Density	<ul style="list-style-type: none"> <li>• 207 North</li> </ul>	91%	96%
Fixed Route Trolley	<ul style="list-style-type: none"> <li>• Port City Trolley</li> </ul>	88%	93%
UNCW Shuttle and Express Shuttle	<ul style="list-style-type: none"> <li>• 701 Blue Shuttle</li> <li>• 702 Green Shuttle</li> <li>• 703 Red Shuttle</li> <li>• 704 Yellow Shuttle</li> <li>• 707 Red Express Shuttle</li> <li>• 711 Grey Shuttle</li> <li>• 712 Teal Shuttle</li> </ul>	92%	97%

On January 21, 2020, the City of Wilmington and New Hanover County each adopted a Concurrent Resolution of the Wilmington City Council and the Board of Commissioners of New Hanover County for enhanced public transportation operations and efficiency. TransPro Consulting was retained by New Hanover County and the City of Wilmington to serve as consultant to the board during the evaluation process. A network redesign proposal was developed by TransPro Consulting with a revised framework for transportation services scheduled to take effect July 1, 2021.

The Authority recognized the need for increased reliability in the automatic vehicle location technology and real time tracking platform. Effective FY21, the Authority transitioned the UNCW Seahawk Shuttle Program to a web-based real time tracking solution. The pilot was successful, and the revised solution will be implemented on the Authority’s fixed route bus system effective July 1, 2020.

A revised service targets and standards will be established as route modifications are developed in accordance with the revised framework. Advancements in real time tracking technology through transition to a web-based solution will increase reliability and access to performance measures as established.

#### 9.4 Service Access/Availability

The Authority provides fixed route transportation services to Southeastern North Carolina. The current service covers 199 square miles and includes the City of Wilmington, New Hanover County and Carolina Beach. Services to Northern Brunswick County provided via fixed bus

route 204 Brunswick Connector concluded September 2020. Wave Transit has authority to serve an area up to 30 miles outside the limits of New Hanover County. The Authority also provides shuttle service to the University of North Carolina Wilmington campus and off campus through the UNCW Seahawk Shuttle Program.

### **Population Density**

The level of service to provide is determined by the number of people to serve in a particular area. Population density can be measured in miles, by zip code, census zone, neighborhoods, or any number of logical factors. Typically, density is measured in the amount of people per square mile since FTA recognizes coverage based on distance from service in miles. Density is determined in two fundamental ways: number of people per square mile, or number of employees per square mile. Population density was one criterion used in the planning study and network redesign proposal undertaken by TransPro Consulting. When evaluating the density of an area, the demand for service was also considered and used to inform route modifications included in the proposal as referenced.

### **Bus Stop Spacing**

Route coverage refers to the spacing distance between adjoining routes. The criterion is used to guide spacing distance between bus stops to maximize accessibility to transit service within the resources available. Determining the most effective spacing between stops depends on the context of the route. On routes such as 207 North and 301 Pleasure Island, bus stops should be placed sparsely since development density is relatively low. On routes serving more densely developed areas, stops may be more closely spaced. However, it is important that stops are not so closely spaced as to slow service.

Among the Authority's non-UNCW local routes, bus stops are spaced at an average of every 2,000 feet, or almost 4/10 of a mile apart. However, not counting Route 207 North and Route 301 Pleasure Island which operate with limited stops in low-density environments as indicated above, stops are spaced every 1,740 feet, or one stop approximately every 1/3 mile. Stops are more closely spaced in areas of denser development and spaced further apart in lower density areas.

The Authority's current stop spacing appropriately balances the need to reduce walking distances for riders with the need to provide expedient service that can operate within 60-minute headways. For this reason, current stop spacing should be maintained and the number of stops should not be significantly increased or decreased.

## **9.5 Distribution of Transit Amenities**

Transit amenities such as bus shelters, benches, trash receptacles and illuminated lighting devices are distributed equitably throughout the service area based on boarding levels, proximity to major landmarks such as commercial or employment centers, population need (ex. senior communities) and geographic location as identified in the Authority's Five Year Bus Stop Enhancement Plan (January 2016 thru January 2020). An update to the most recent five year



capital plan is underway; however, a boarding matrix congruent to the following will be included as part of the plan:

### Bus Stop Hierarchy of Amenities

Classification	Average Weekday Boarding's	Criteria									
		Wave Bus Stop Sign	Lighting (where feasible)	Sign with Route Map	Paved Waiting Area	Seating/Bench	Trash Receptacle	Shelter	Bike Rack (where feasible)	Additional Seating	Real-time schedule information
Tier 1 (Basic Stops)	At least 50	X	X	X	X	X	X		X		
Tier 2 (Major Stops)	>50	X	X	X	X	X	X	X	X	?	
Tier 3 (Transfer Stations)	Major Transfer	X	X	X	X	X	X	X	X	X	X

### 9.6 Vehicle Assignment

The Authority's fixed route fleet consists of heavy and medium duty vehicles. In addition, a trolley is used for a circulator route in five districts located in downtown Wilmington. Heavy duty vehicles (35 ft.) are typically assigned to medium to higher density areas where ridership is greater. Medium duty vehicles (29 ft.) are used for services which are typically located in low and rural density areas and on UNCW campus. All vehicles have air conditioning and heating units, have either wheelchair lifts or wheelchair ramps and are kept in a state of good repair as required by FTA. The Authority routinely replaces all vehicles according to FTA regulations to keep up with the high mileage service areas especially in outlying areas where origins and destinations are further apart.

Every operator providing contract-operated service for the Authority must be familiar with, and able to drive, every vehicle designated for service, regardless of age, make, model or manufacturer. Three times per year, at minimum, operators request operating preferences (or bids) for the next period's operating assignments. Route assignments are selected by operator



seniority. Vehicle route assignments are revised every bid cycle to adjust for mileage. Vehicle route assignment is dependent upon vehicle type and route operating profile. The age and condition of every heavy-duty fixed route vehicle is congruent amongst the fleet. The same applies for the Authority's medium duty vehicles. The procedure for vehicle assignment, along with the congruency of the condition of the fleet, ensures that vehicle conditions are equitable for all demographics and geographic locations across the public transportation system.

