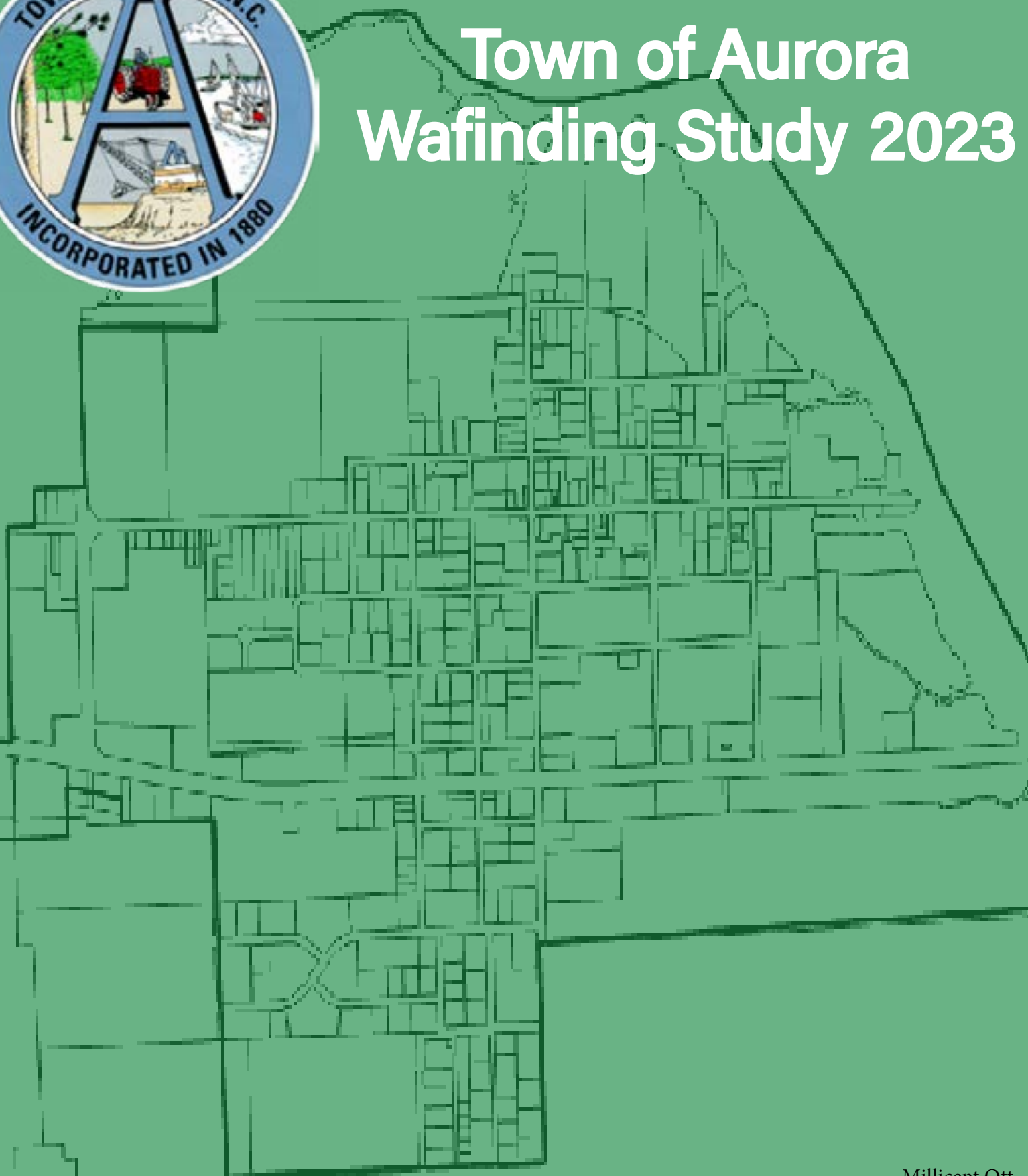




Town of Aurora Wafinding Study 2023



Sponsors

Merril Flood

Kurt Ryan, Town of Aurora

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Executive Summary

This project consists of wayfinding signage that are recommended to be added to in the Town of Aurora. As the town gets prepares by adding an industrial park, and community college satellite campus, more people will flow in to Aurora. The signage is needed to help direct and inform visitors traveling on NC-33, NC-306 and the Pamlico River of what is in the town including restaurants, shops, schools, and town resources. The goal of this project is to provide the town with information to establish wayfinding. The information included is assessing the current need, assessing previous wayfinding project done in other cities and a review of the NCDOT wayfinding signage design standards. Included are maps of points of interest and current and future signage placement recommendations. From these points recommendations have been made regarding the placement of signage. THE recomended placement is at the boat, and various places on the two major roadways, NC-33, and NC-306. These points have been chosen due to their high traffice and ability to give a general direction to various locations. All the signs will be in the NCDOT right-of-way, needing to follow NCDOT design standards.



Introduction of the Community

Location

The town of Aurora is in the eastern part of North Carolina in southern Beaufort County. Aurora is located off of the South Creek and the Pamlico River, shown in Figure 3. The town has an area of 1.03 square miles. The largest cities nearby are Washington, NC which is 22.32 miles northwest, Greenville, NC which is 38.84 miles northwest, and New Bern, NC, 30.1 miles to the southwest. NC 33 runs through the south portion of the town as seen in Figure 2. Beaufort County is the 8th largest county in North Carolina with an area of 958 square miles.

Demographics

The Town of Aurora had a population of 455 people in 2020. The distribution of male to females is not even with there being more males and females. Living within the town limits there is a distribution of 56% males, and 43.6% females. The largest grouping of males ranges from 45 to 49 accounting for 12% of the male population (Buearu, 2020). he largest grouping of females ranges from 40 to 44 years old, accounting for about 15% of all females. The total population is older with a large of the population being over 50 years old. This age range accounts for 45% of the total population. People have chosen to end their careers and retire in the Town of Aurora.

The race distribution in the Town of Aurora distributed evenly between white and black/African American with a few outliers. There are 219 white people, and 218 black/African American.

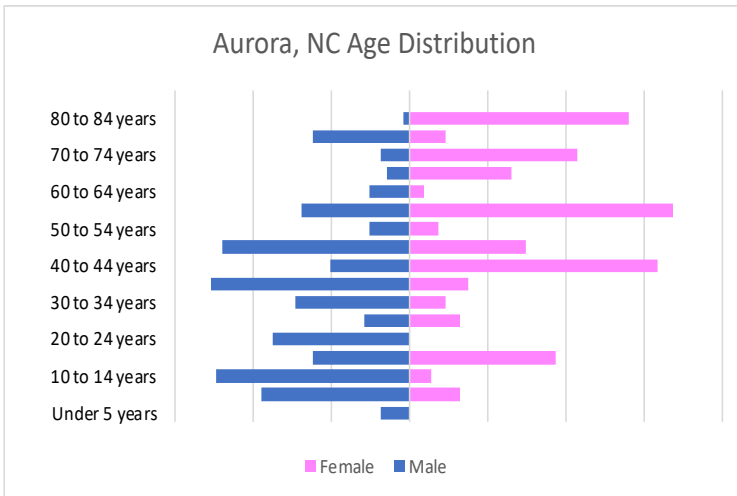


Figure 1: Population pyramid of Aurora, NC.

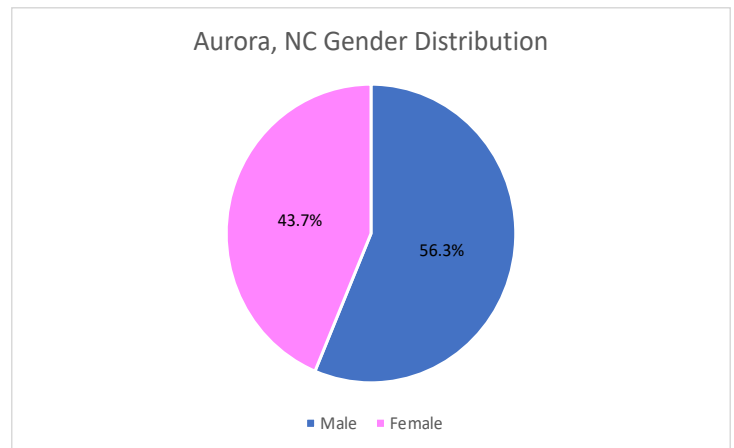


Figure 2: Gender Distribution for Aurora, NC.



Introduction of the Community



Figure 3: The map shows the location of the Town of Aurora in relation to North Carolina and Beaufort County.



Introduction of the Community

Education

The education attainment level for those 18 years and older is low for the Town of Aurora. According to the 2020 U.S. Census data, only 6.8% of the population has earned a bachelor's degree or higher. The remaining 88.7% of the population have only earned a high school diploma or less. This data does not take into account those who have technical education.

Employment

According to the 2020 U.S. Census data, within the town limits, there are 268 people employed in Aurora. Most of these 268 people are in health care, mining, and manufacturing. They work at the Vidant Satellite office, different town offices, and the Nutrien. This number does not account for the amount of people employed by Nutrien phosphate mining company, which is roughly 1,000 people.

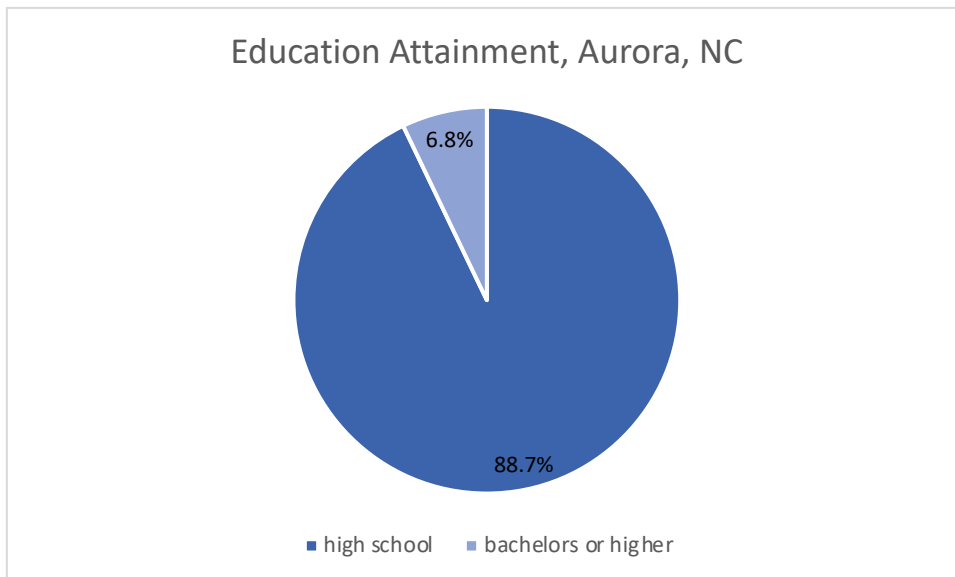


Figure 4: Pie Chart showing the distribution of education attainment in Aurora, NC.



Introduction of the Community

Aurora, NC was a farming and fishing town with an abundance of natural resources, including navigable waterways, fertile soil, and underground phosphate deposits. The economy relied on these trades flowing with the ups and downs of the agriculture business. Aurora was the trading center for local farmers, resulting in the development of a social community. Aurora was becoming a regional market with a post office, four churches, nine general stores, three grocery stores, three feed stores, a drug store, three physicians, thirty-five farmers, and a school in 1890 (Golden, 2022).

It wasn't until the mid 1900s the town discovered just how much wealth it was sitting on. By 1964 it was clear that Aurora was on top of the largest phosphate deposit in the United States and the third largest in the world. By 1966, Texas-Gulf started mining operations. Soon after, North Carolina phosphate company, jointly owned by Kennecott Copper Company and The William Corporation, owned by Agrico Chemical Company announced in 1974 a \$220 million mining and construction operation to be under construction in late 1975. Texas Gulf was eventually purchased Potash Corporation of Saskatchewan (PCS Phosphate) in 1995, (Daniels et al. Bailey's Creek Development Plan). Mining operations are currently run and owned and operated by Nurtien, a Canadian-based fertilizer company.



Aurora Richland Chamber of Commerce, NC

Figure 5: Aurora, NC welcome sign.



Current Status

The downtown has experienced significant impacts starting in the early twentieth century. A significant number of commercial properties on main street have been left vacant or abandoned. Figure 6 and 7 illustrate, a walk down Main Street. It is clear to see the damage; buildings with boarded up windows and slowly falling apart.



Figure 6 and 7: Abandoned buildings located on the corner of Main Street and 5th Street in the Town of Aurora in 2021.



Current Status

Currently downtown there are a few buildings still in use. The businesses include the Chamber of Commerce, a boutique, and the Aurora Fossil Museum. The fossil museum is the main tourist attraction. Established in 1976, this nonprofit has continued to grow and attract all ages to educate the public about paleontology. They engage the community with a fossil digging pits that are filled by the neighboring phosphate mine. The annual North Carolina Fossil Festival is a two-day event held at the end of May. It is one of the biggest events to bring visitors to Aurora (fossil, 2022)



Golden, 2021

Figure 8 and 9: Aurora Fossil Museum and digging area located on Main Street in 2021.



Peer City: Ayden, NC

When comparing different wayfinding programs Ayden, North Carolina was the best comparable program in the area. When compared to Aurora, Ayden is of similar size, demographics, and is in roughly the same area. However, the Town of Ayden has a higher population, and a bigger employment sector nearby, East Carolina University and Pitt Community College.

Location

The town of Ayden is the eastern part of North Carolina located in southern Pitt County, as shown in Figure 12. Aurora is located in between Winterville and Grifton with NC 11 passing through western portion of the town. The town is 3.91 square miles. The largest city nearby is Greenville, NC, 11.2 miles. Other notable cities nearby include Washington, NC, 30.1 miles east, and Kinston, 19.3 miles south. Ayden is 44 miles north of Aurora. Pitt County is the 14th most populated county in North Carolina, with an area of 655 square miles.

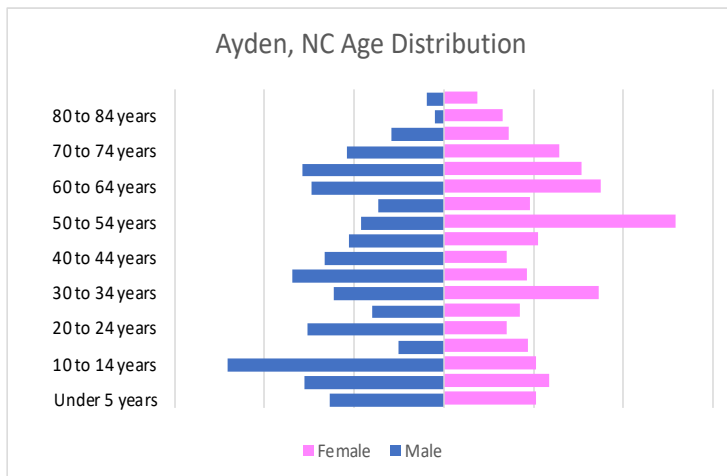


Figure 10: Population pyramid illustrating the age distribution in Ayden, NC.

Demographics

The Town of Ayden had a population of 4,977 people in 2020 (Bureau, 2020). The distribution of male to females is even. Ayden is made of 49.9% males and 50.1% females. The largest grouping of males ranges from 35 to 39 years old, accounting for 8.4% of the total males. The largest female age grouping ranges from 50 to 54 years old, accounting for 12.9% of the total female population. The largest grouping of age distribution is under the age of 50, accounting for 53.6% of the population (Bureau, 2020). This distribution indicates the population is of working age. Families are choosing this area to raise their children and pursue a career.

The race distribution in Ayden is 45.4% white and 44.9% black/African American, with 9.7% being of another race (Bureau, 2020)

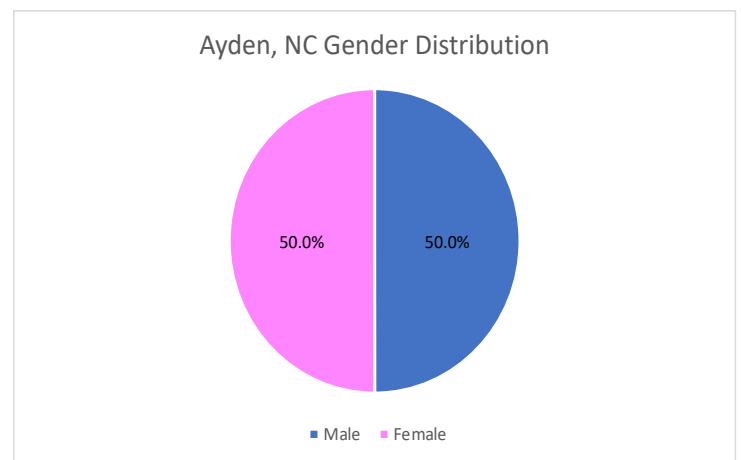


Figure 11: Pie chart of the gender distribution in Ayden, NC.



Peer City: Ayden, NC



Figure 12: Map of Ayden, NC in perspective to Pitt County, NC.



Peer City: Ayden, NC

Education

The education attainment level for those 18 years and older is moderate for the Town of Ayden. According to the 2020 U.S Census data, only 20.5% of the population has earned a bachelor's degree or higher. The remaining 77.7% of the population have only earned a high school diploma or less. This data does not take into account those who have technical education.

Employment

According to the 2020 U.S Census data, within the town limits, Ayden has 1,923 people employed. Majority of the 1,923 citizens work in management, business, science, and arts with 872, with 255 of them working in education, legal, community service, arts and media (Buearu, 2020). This distribution can be explained by the proximity of the town to East Carolina University and Pitt Community College.

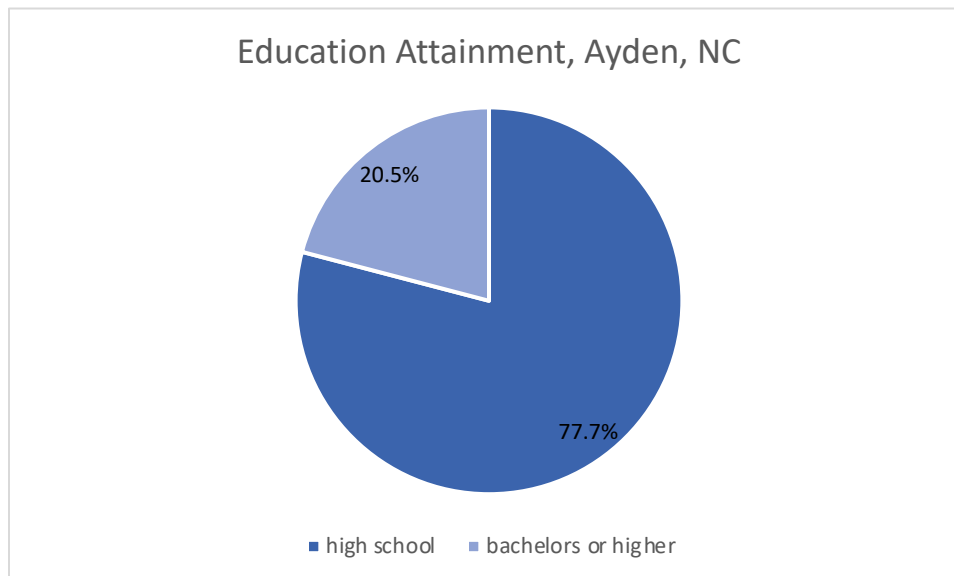


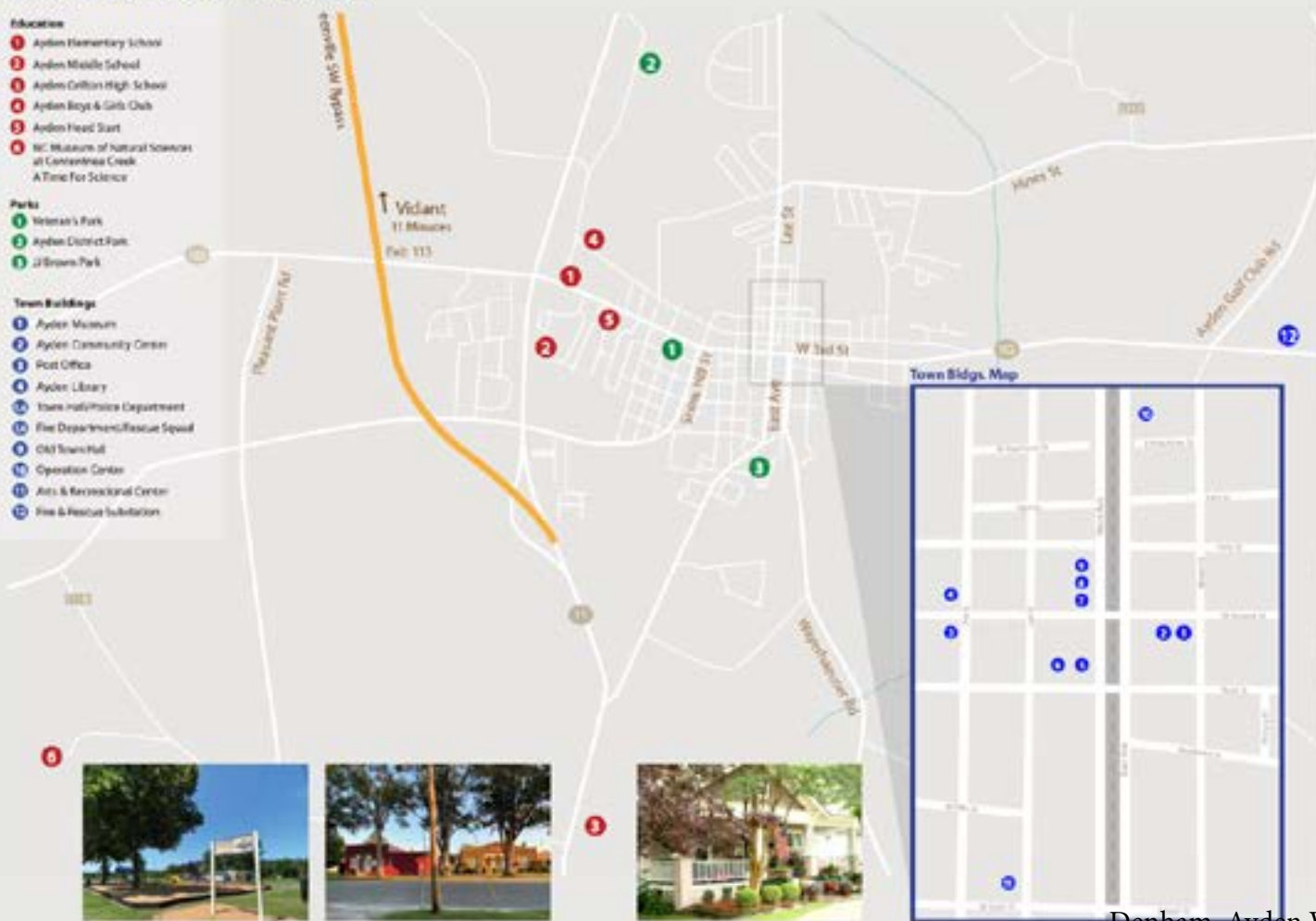
Figure 13: Pie chart illustrating the education attainment distribution in Ayden, NC.



Peer City: Ayden, NC

LOCAL POINTS OF INTEREST

- Education**
 - 1 Ayden Elementary School
 - 2 Ayden Middle School
 - 3 Ayden Critton High School
 - 4 Ayden Boys & Girls Club
 - 5 Ayden Head Start
 - 6 NC Museum of Natural Sciences at Centennial Creek: A Time For Science
- Parks**
 - 1 Herman's Park
 - 2 Ayden District Park
 - 3 JJ Brown Park
- Town Buildings**
 - 1 Ayden Museum
 - 2 Ayden Community Center
 - 3 Post Office
 - 4 Ayden Library
 - 5 Town Hall/Police Department
 - 6 Fire Department/Rescue Squad
 - 7 CAD Town Hall
 - 8 Operation Center
 - 9 Arts & Recreational Center
 - 10 Fire & Rescue Substation



Denham, Ayden Wayfinding

Figure 14: A map of Ayden, NC points of interest in wayfinding addition. Provided by the Town of Ayden.



Peer City: Ayden, NC



Denham, Ayden Wayfinding



Denham, Ayden Wayfinding

Figure 15: Ayden, NC wayfinding additions.

Figure 16: Ayden, NC wayfinding addition.

The Town of Ayden contracted “FastSigns” in 2022 to construct the wayfinding signs seen in Figure 15 and 16. The town ordered a total of 5 signs with an additional order of parking directory signs. Each wayfinding sign cost \$1,450.70, which included changeable panels. All five signs came to a total of \$7,128.50, not including set up and hardware. These signs were made of vinyl and aluminum with overlaminates to seal graphics. The company provided material for installation but the town was responsible for the installation and maintenance of the project.



Regulation Handbook

Because the placement of the recommended wayfinding signage lies within the North Carolina Department of Transportation (NCDOT) right-of-way, the regulations laid out by the state and Federal Highway Administration (FHA) must be followed.

What is a Wayfinding Sign?

NCDOT lays out their standards of wayfinding signage that are within state maintained right of way. These regulations are laid out in S-76, “North Carolina Department of Transportation’s Guidelines for Wayfinding Signs along State Maintained Roadways (for Motorists)”. NCDOT defines wayfinding signs as “destination guide signs that assist motorists to find destinations that generate substantial traffic from tourists or other unfamiliar motorists such as cultural, historic, art, sport, attractions, or other designations such as visitor centers, courthouses, or civic centers.” (North Carolina Department of Transportation’s Guidelines for Wayfinding Signs along State Maintained Roadways (for Motorists)) NCDOT There are a few essential regulations that must be followed when considering the design, material, and placement of the recommended signs.

When designing and installing a wayfinding sign the placement and information being displayed needs to be considered and finally approved by the division engineer. The signs are regulated by both the NCDOT and FHA.

Location

1. Apply to any road users or street on low volume roads, expressways, and freeways.
2. The destinations on the signs must be within 2 miles from the designated signs.
3. Additional wayfinding signage must replace and improve upon the existing signage.
4. Lateral offset of at least 1 foot from the face of the curb may be used in business, commercial, or residential areas where sidewalk width is limited or where existing poles are close to curb.
5. Minimum lateral offset should be 12 feet from the edge of the traveled way. If shoulder wider than 6 feet, the minimum later offset should be 6 feet from the edge of the shoulder.
6. Vertically mounted at right angles to the direction of, and facing, the traffic that they are intended to serve.



Regulation Handbook

Allowed Facilities

Not all businesses, and facilities can be featured on the wayfinding signage. In order to keep the signs concise NCDOT and FHA have set standards as to what can be highlighted by these signs.

The facilities allowed to be featured are as followed:

1. Signs must:
 - a. Inform road users of intersecting routes, to cities, towns, villages, expressways, and free-ways.
 - b. Identify nearby rivers and streams, parks, forests, and historical sites.
 - c. Give information and help them along their way in the most simple and direct manner.
2. If not event oriented facility, facility must be open 40 hours per week, restroom available to the public, provide sufficient parking, and meet all federal, state and local requirements for that type of facility.
3. General designations; “Hotels”, “Restaurants”, and “Shopping”.
4. No privately owned businesses, attractions/ establishment with age restrictions
5. No specific names of hotels, restaurants, or shops

Design/Materials

The design is regulated by the Manual on Uniform Traffic Control Devices (MUTCD) created by the U.S Department of Transportation, Federal Highway Administration.

1. Guide sign must be simple and uniform, preferably lettering in black and white.
2. Color Code: Blue (road user services guidance, tourists, information, and evacuation route).
3. Sign must have rounded edges.
4. Mounts must hold up sign in a proper and permanent position and resist swaying in the wind or displacement by vandalism.
5. Vertically mounted at right angles to the direction of, and facing, the traffic that they are intended to serve.
6. Shall break away or yielding in design as detailed in NCDOT Roadway Standard Drawing or approved by FHWA.
7. Informational sign must be posted at the boundary of the wayfinding guide sign area within two or more geographical subareas.



Points of Interest

Points of interest, shown in Figure 20, show the focal points of the town. This helps identify where the optimal location for wayfinding would be located. The destinations are broken up into four categories; parks, education, attractions, and town buildings. All four of these destination types should be included on the signs.

Park

There is only one park within town limits, the boat ramp/waterfront area represented by the green dots shown in Figure 20. This is an important location for wayfinding due to the amount of boat traffic that passes through on the Pamlico River. Adding additional signage will help boaters identify Aurora and encourage them to come into the downtown area of Main Street. This will increase tourism and hopefully bring more attention to the town.



Figure 17: The boat ramp located on the eastern border of Aurora, NC.

Education

Currently, S.W Snowden Elementary School is the only educational facility located within Aurora. This school is located on the north-west corner of Aurora, being represented by a red dot on Figure 20. This school has an attendance of 181 students ranging from Pre-K to eighth grade (NCES, 2023). It can be accessed using Middle Street which runs adjacent to Main Street and intersecting at NC-306.



Point of Interest

Attractions

“Attractions” are considered to be destinations that do not meet the requirements to be added to the wayfinding signage under current NCDOT ordinances. This includes destinations like general stores, churches, restaurants, and privately owned museums. These destinations should still be considered when placing wayfinding signage as these areas have the highest traffic rate. In order to provide directional information to these locations, the recommendation is to list them as “Downtown” or “Main Street”.



Figure 18: A boutique located on Main Street in Aurora, NC.



Figure 19: A restaurant located on NC 33 in Aurora, NC.

Town Buildings

The main destinations that will be included on the wayfinding signage should be the town buildings. These are county and town owned facilities. They include facilities like the town hall at the intersection of 3rd Street and Main Street, represented by a blue dot on Figure 13. It also includes the library, police, fire, and medical facilities. These locations are important to point out as they are necessary for the public, and should be easy to find.



Point of Interest

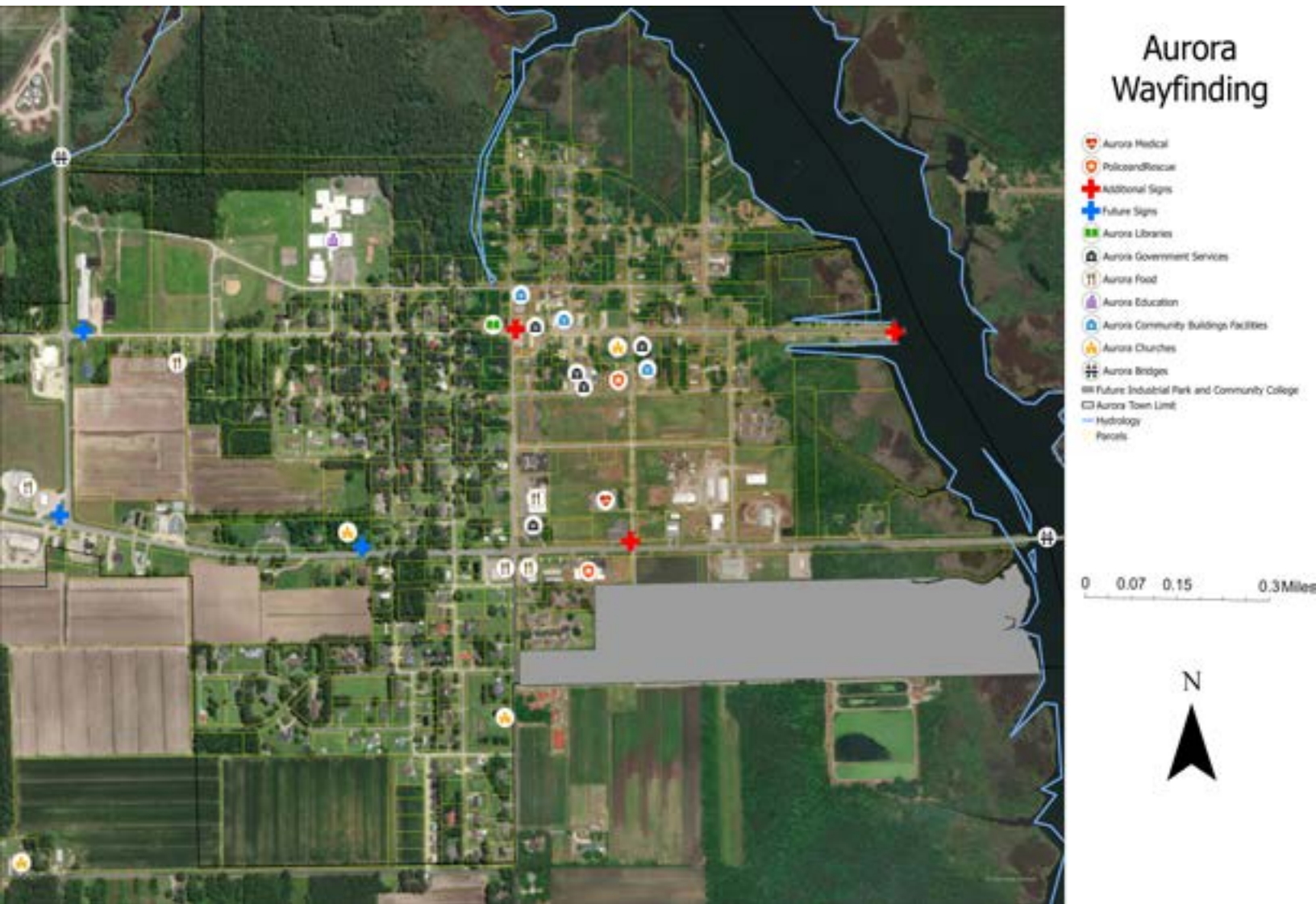


Figure 21: Map of the recommended wayfinding additions.



Point of Interest

Figure 21 illustrates the recommended location of wayfinding signage. The recommended signs have been separated into two phases, present and future.

Phase one consists of current, already developed points of interest, present on Figure 20. There are three locations recommended wayfinding signage be implemented immediately. They include on the boat ramp, the intersection of 5th Street and Main Street, and the intersection of 3rd Street and NC-33. These signs are represented by red “X” marks on Figure 21.

The sign on the boat ramp is located on the east side of Figure 21. The sign is recommended to be close to the water line with the purpose of notifying the visitors and boaters of what is nearby. They are listed from closest to furthest. The recommended signs designations include but are not limited to:

1. Town Hall: 0.3 miles
2. Shoppes: 0.4 miles
3. Police: 0.5 miles
4. Public Library: 0.5

The destinations recommended are all west of the boat ramp.

The recommended sign at the intersection of 5th Street and Main Street, just west of the boat ramp. This recommended location hopes to gain the attention of visitors coming from the elementary school and visiting the shoppes on Main. This sign has the potential to encompass many different destinations. The recommended signs designations include but are not limited to:

1. Aurora Chamber of Commerce: less than 0.1 mile
2. Public Library: less than 0.1 mile
3. Shoppes: less than 0.1 mile
4. Town Hall: 0.1 miles
5. Gas 0.3 miles
6. Elementary School: 0.4 miles
7. Boat Ramp: 0.5 miles

The recommended sign at the intersection of 3rd Street and NC-33, south most “X” marker illustrated in Figure 21. This recommended location hopes to gain attention from anyone travelling down NC-33, the highest traffic road in Aurora, NC. This sign has the potential to encompass many different destinations. The recommended sign destinations include but are not limited to:

1. Medical: Less than 0.1 mile
2. Fire: Less than 0.1 mile
3. Gas: 0.1 mile
4. Post Office: 0.2 miles
5. Community Center: 0.2 miles
6. Town Hall: 0.3 miles
6. Main Street: 0.3 miles



Point of Interest

Phase two consists of signs that are recommended to after phase one is complete. These signs are present in less developed areas of the town, notifying visitors of the town and encouraging them to stop. There are three recommended locations on NC-33, at the intersection of NC-33 and NC-306, and the intersection of NC-306 and Main Street. These locations are represented by blue “X” marks in Figure 21.

The recommended sign on NC-33 is located on the east side of the town, right outside the residential area. This sign will be in a high traffic area with visitors travelling on NC-33 and residents of the town. This sign has the potential to encompass many different destinations. The recommended signs designations include but are not limited to:

1. Post Office: 0.3 miles
2. Gas: 0.3 miles
3. Main Street: 0.4 miles
4. Medical: 0.5 miles
5. Fire: 0.7 miles
6. Restaurants: both directions

The recommended sign at the intersection of NC-33 and NC-306 is represented by the southeastern blue “X” on Figure 21. This is the intersection of the two largest roads in town. The recommended signs will be viewed by visitors coming from both east/west and north/south. This sign has the potential to encompass many different destinations. The recommended signs designations include but are not limited to:

1. Gas: 0.6 miles
2. Main Street: 0.9 miles

The recommended sign at the intersection of NC-306 and Main Street, represented by the north-eastern blue “X” on Figure 21. This sign is on a high traffic road being on NC-306 informing visitors going north and south. This sign has the potential to encompass many different destinations. The recommended signs designations include but are not limited to:

1. Elementary School: 0.5 miles
2. Shoppes: 0.6 miles
3. Town Hall: 0.8 miles
4. Community Center: 0.8 miles
5. Boat Ramp: 1.1 miles



Next Steps

1. Develop a standard design that will be used for all of the signs. To cut down on costs it is recommended that the town develop a draft in-house.

2. Determine best location choices based on recommendations above.

4. Send design and location points to NCDOT division engineer for review. Aurora is in NCDOT highway division 2. The division engineer is Jeff Cabaniss
This application must include:

- a plan clearly showing requested sign locations, messages, and sign support design
- all existing signs that plan to be removed due to the implementation
- any other wayfinding efforts; kiosks, and signs for pedestrians

4. Recieve a quote.

- FAST SIGNS
2294 County Home Rd, Greenville, NC 27858
(252) 465-9974
- SignWorksInc.
1412 Evans St #102, Greenville, NC 27858
(252) 215-2220
- Signs Now Greenville
3121 Bismarck St, Greenville, NC 27858
(252) 355-0768
- Three Guys Signs
4161 Dr. M.L.K. Jr Blvd, New Bern, NC 28562
(252) 288-4682

3. Gain Funding

The Rural Engagement and Investment Program is funded through the North Carolina Department of Commerce. It hopes to help rural communities revitalize main street and downtown districts, seed and advance initiatives that build local capacity, revitalize, and strengthen neighborhoods, foster small business recovery/sustainability, and support economic growth. This project would fall into the public improvement category.



Appendix/Maps/Photos

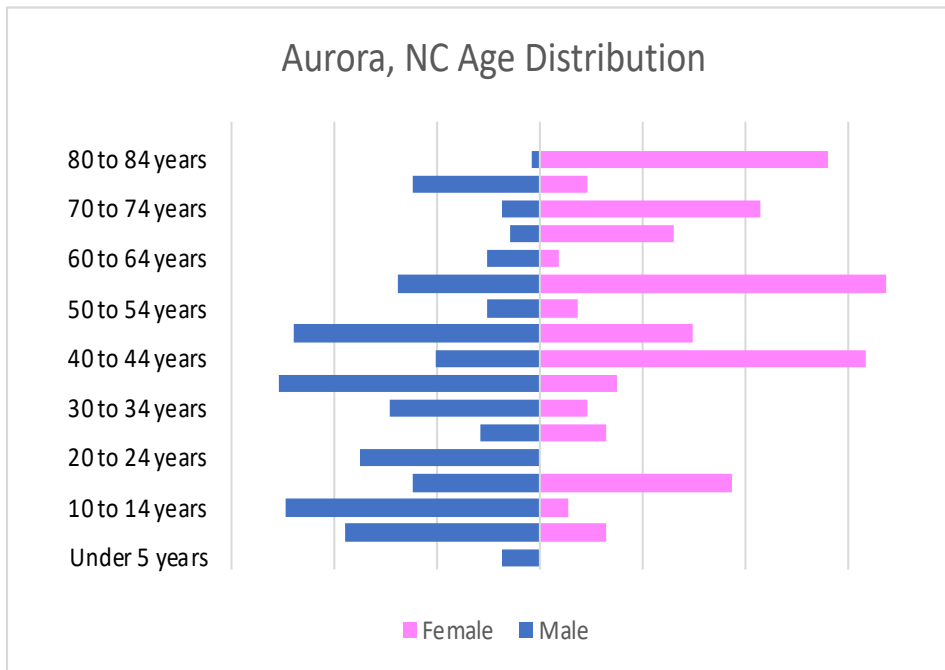


Figure 1: Population pyramid of Aurora, NC.

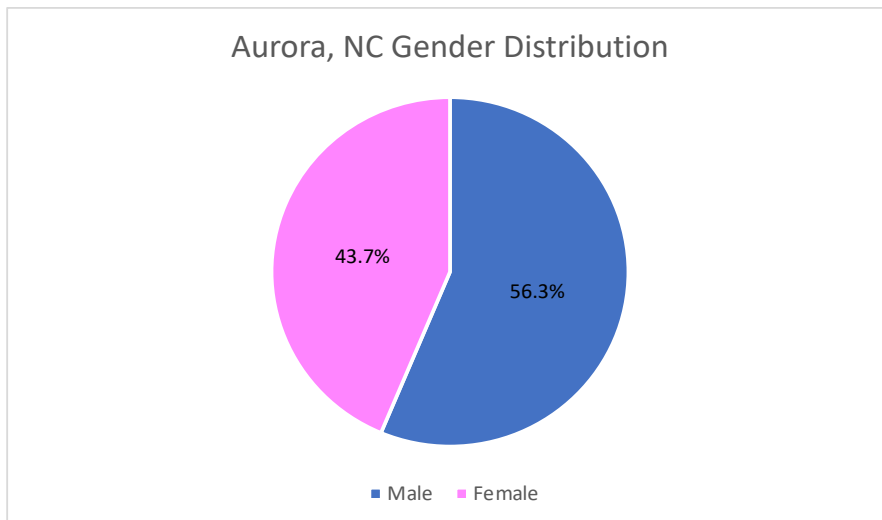


Figure 2: Gender Distribution for Aurora, NC.



Appendix/Maps/Photos

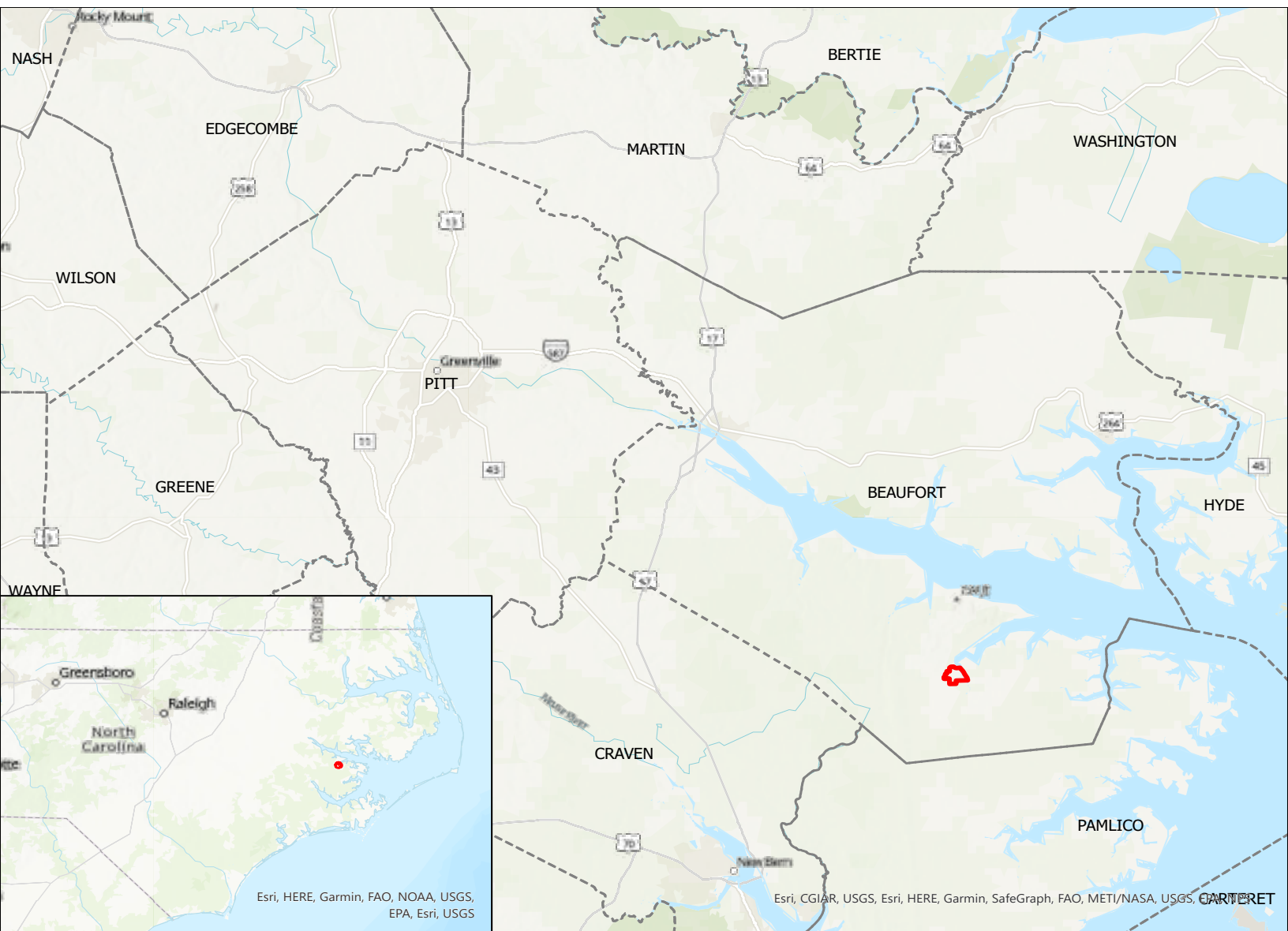


Figure 3: The map shows the location of the Town of Aurora in relation to North Carolina and Beaufort County.



Appendix/Maps/Photos

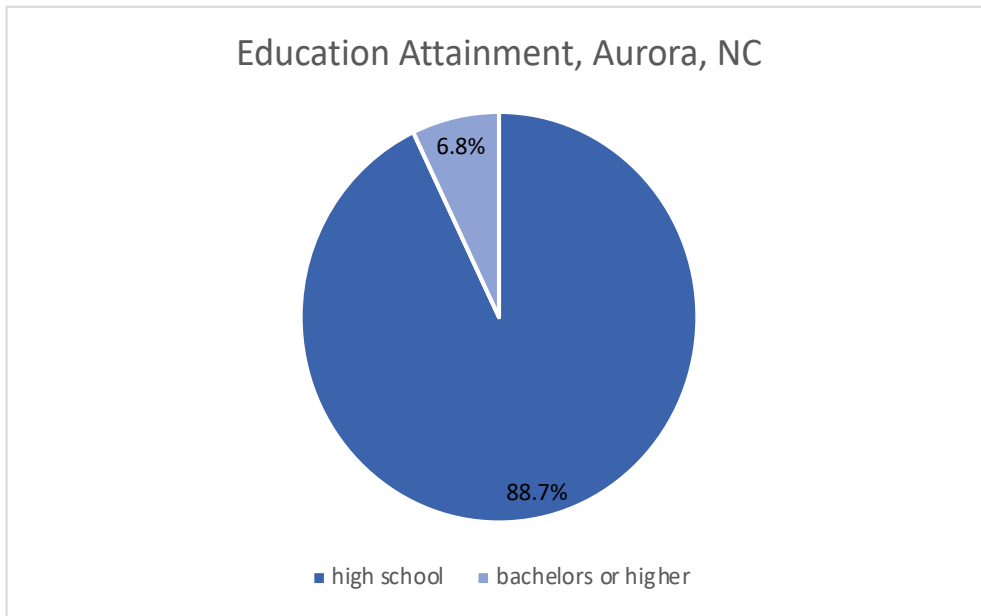


Figure 4: Pie Chart showing the distribution of education attainment in Aurora, NC



Figure 5: Aurora, NC welcome sign.



Appendix/Maps/Photos



Figure 6: An abandoned building on Main Street in Aurora, NC, in 2021.



Appendix/Maps/Photos



Figure 7: An abandoned building on Main Street in Aurora, NC, in 2021.



Appendix/Maps/Photos



Figure 8: Aurora Fossil Musuem located on Main Street in 2021.



Appendix/Maps/Photos



Figure 9: Aurora Fossil Museum digging area located on Main Street in 2021.



Appendix/Maps/Photos

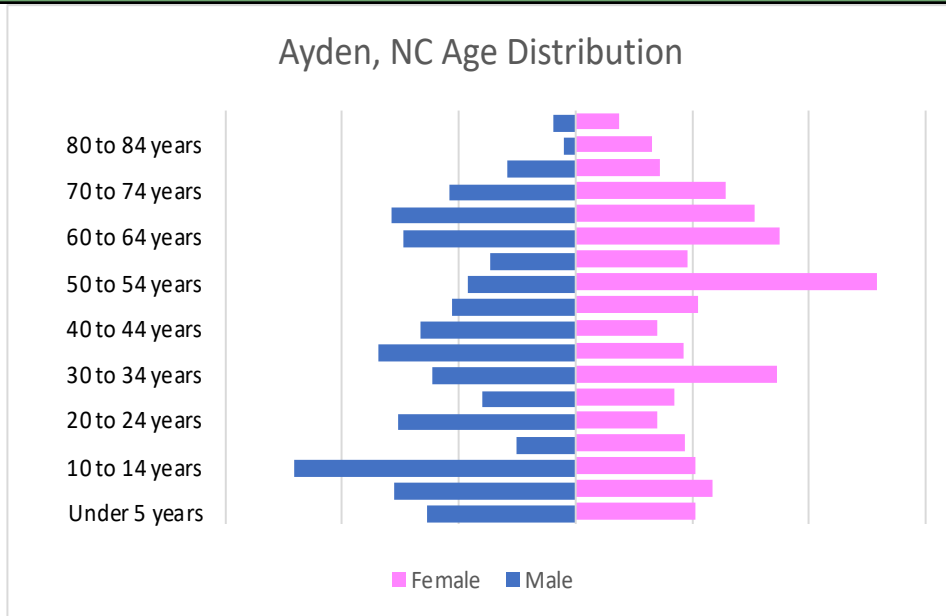


Figure 10: Population pyramid illustrating the age distribution in Ayden, NC.

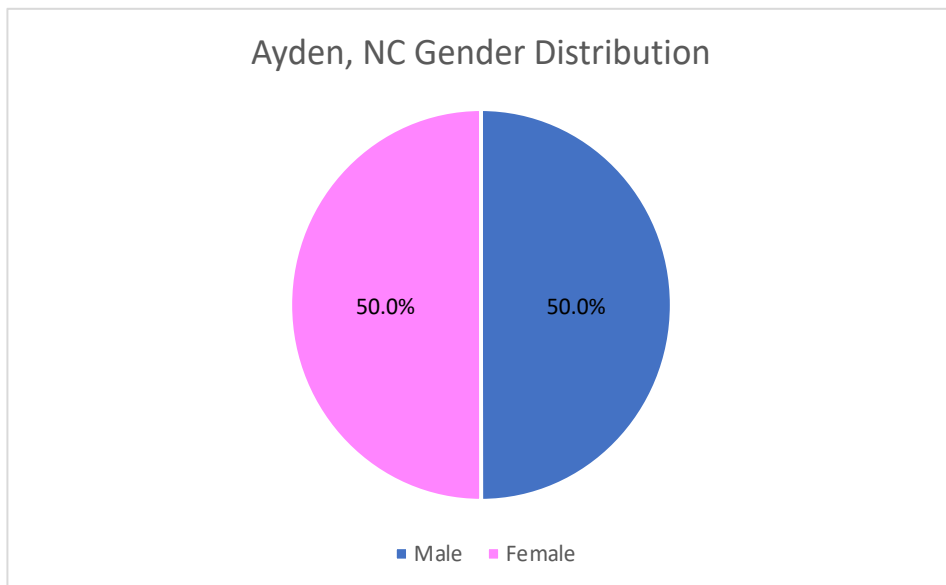


Figure 11: Pie chart of the gender distribution in Ayden, NC.



Appendix/Maps/Photos

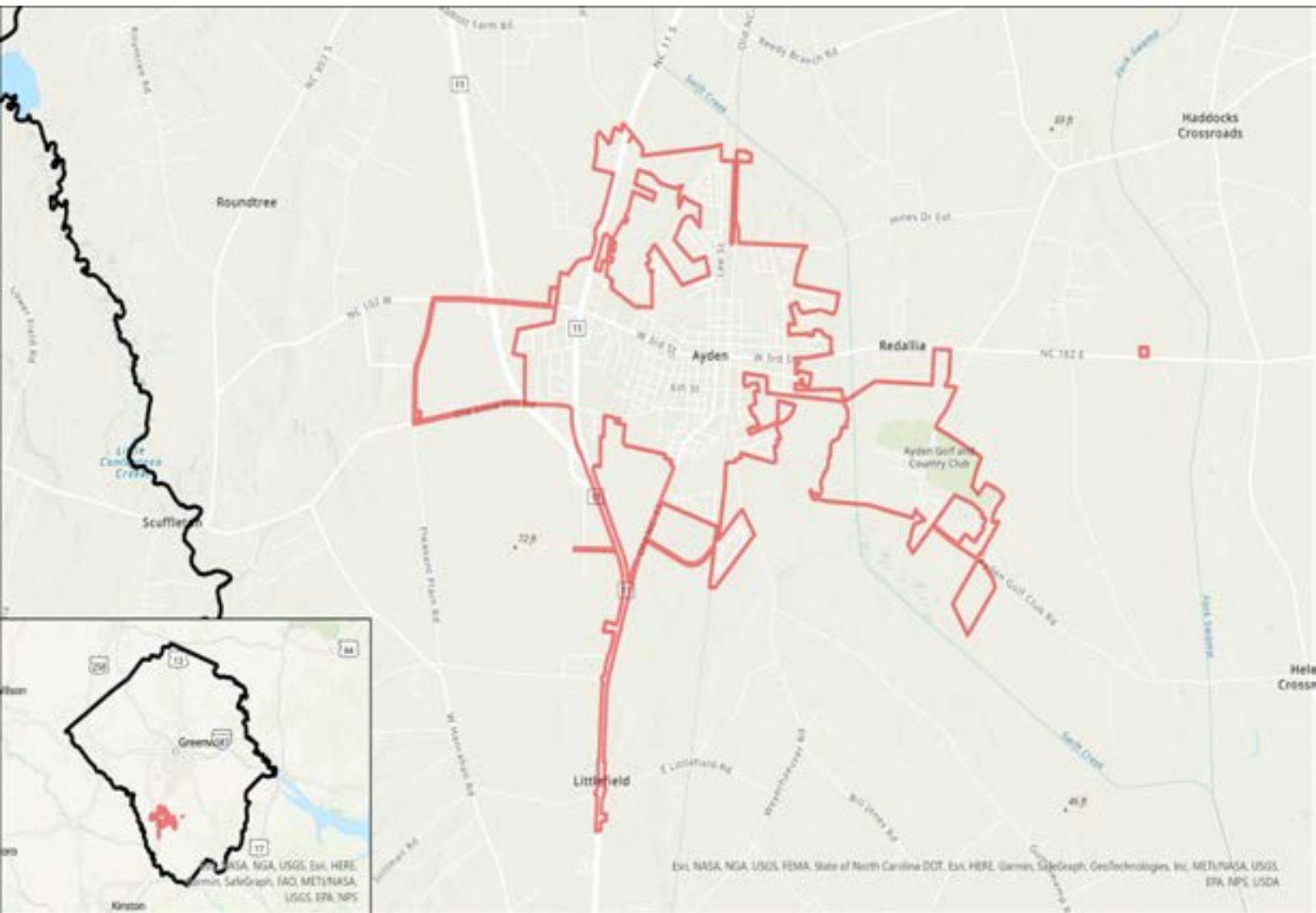


Figure 12: Map of Ayden, NC in perspective to Pitt County, NC.



Appendix/Maps/Photos

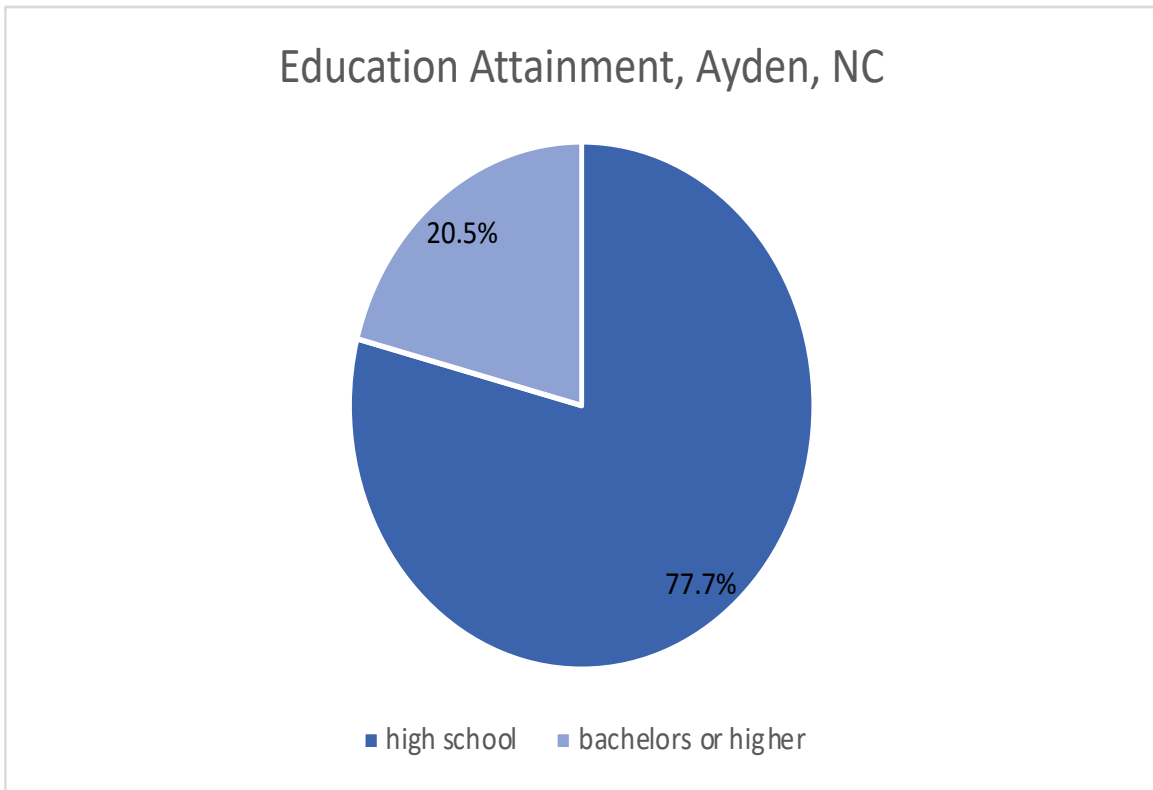


Figure 13: Pie chart illustrating the education attainment distribution in Ayden, NC.



Appendix/Maps/Photos

LOCAL POINTS OF INTEREST

- Education**
 - 1 Ayden Elementary School
 - 2 Ayden Middle School
 - 3 Ayden Griffen High School
 - 4 Ayden Boys & Girls Club
 - 5 Ayden Head Start
 - 6 NC Museum of Natural Sciences at Curritonea Creek A Time for Science
- Parks**
 - 1 Veteran's Park
 - 2 Ayden District Park
 - 3 Jil Brown Park
- Town Buildings**
 - 1 Ayden Museum
 - 2 Ayden Community Center
 - 3 Post Office
 - 4 Ayden Library
 - 5 Town Hall/Police Department
 - 6 Fire Department/Rescue Squad
 - 7 Old Town Hall
 - 8 Operation Center
 - 9 Arts & Recreational Center
 - 10 Fire & Rescue Station

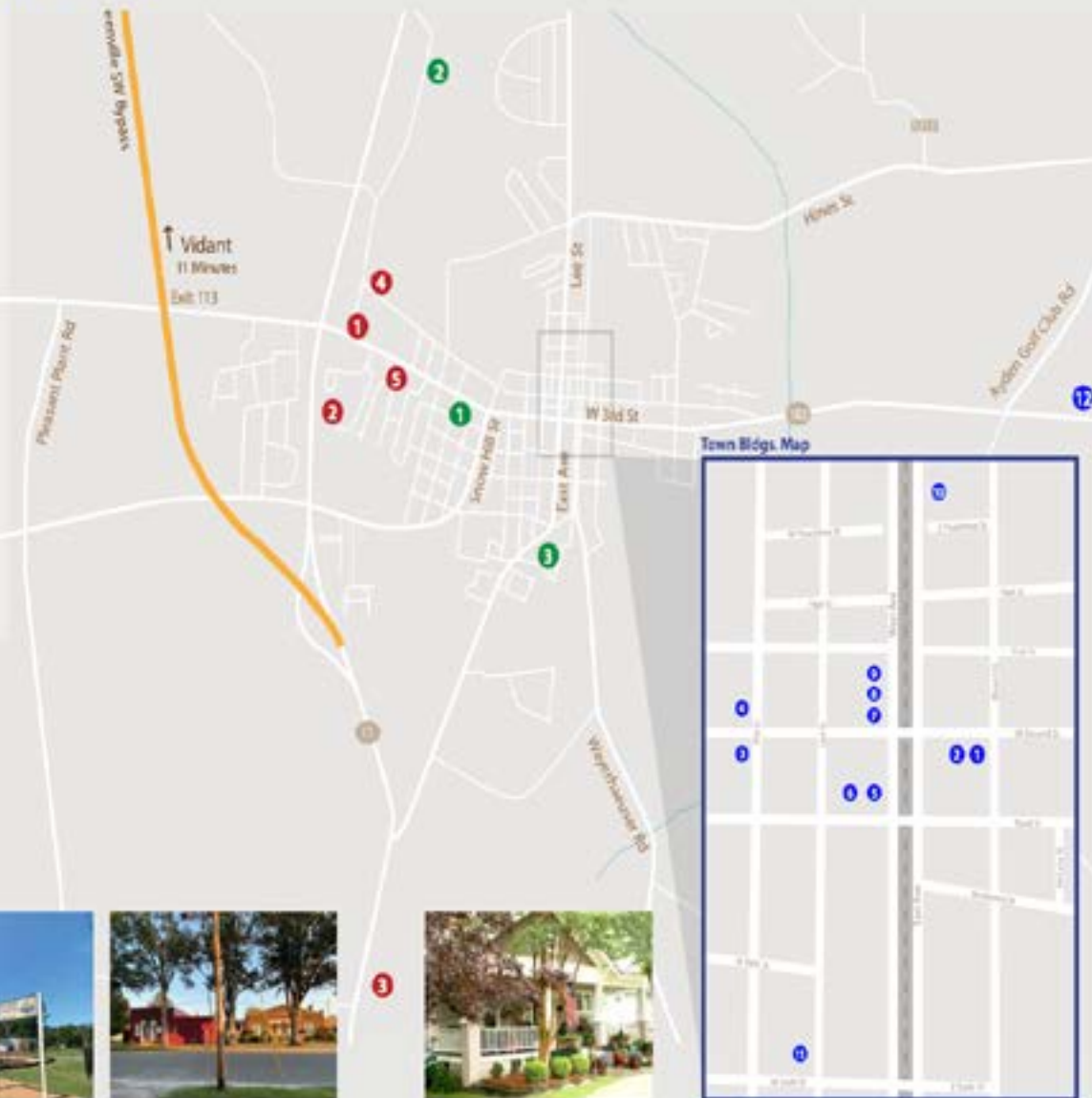


Figure 14: A map of Ayden, NC points of interest in wayfinding addition. Provided by the Town of Ayden, NC.



Appendix/Maps/Photos



Figure 15: Ayden, NC wayfinding additions.



Appendix/Maps/Photos



Figure 16: Ayden, NC wayfinding additions.



Appendix/Maps/Photos



Figure 17: The boat ramp located on the eastern border of Aurora, NC.



Appendix/Maps/Photos



Figure 18: A boutique located on Main Street in Aurora, NC.



Appendix/Maps/Photos



Figure 19: A restaurant located on NC 33 in Aurora, NC.



Appendix/Maps/Photos

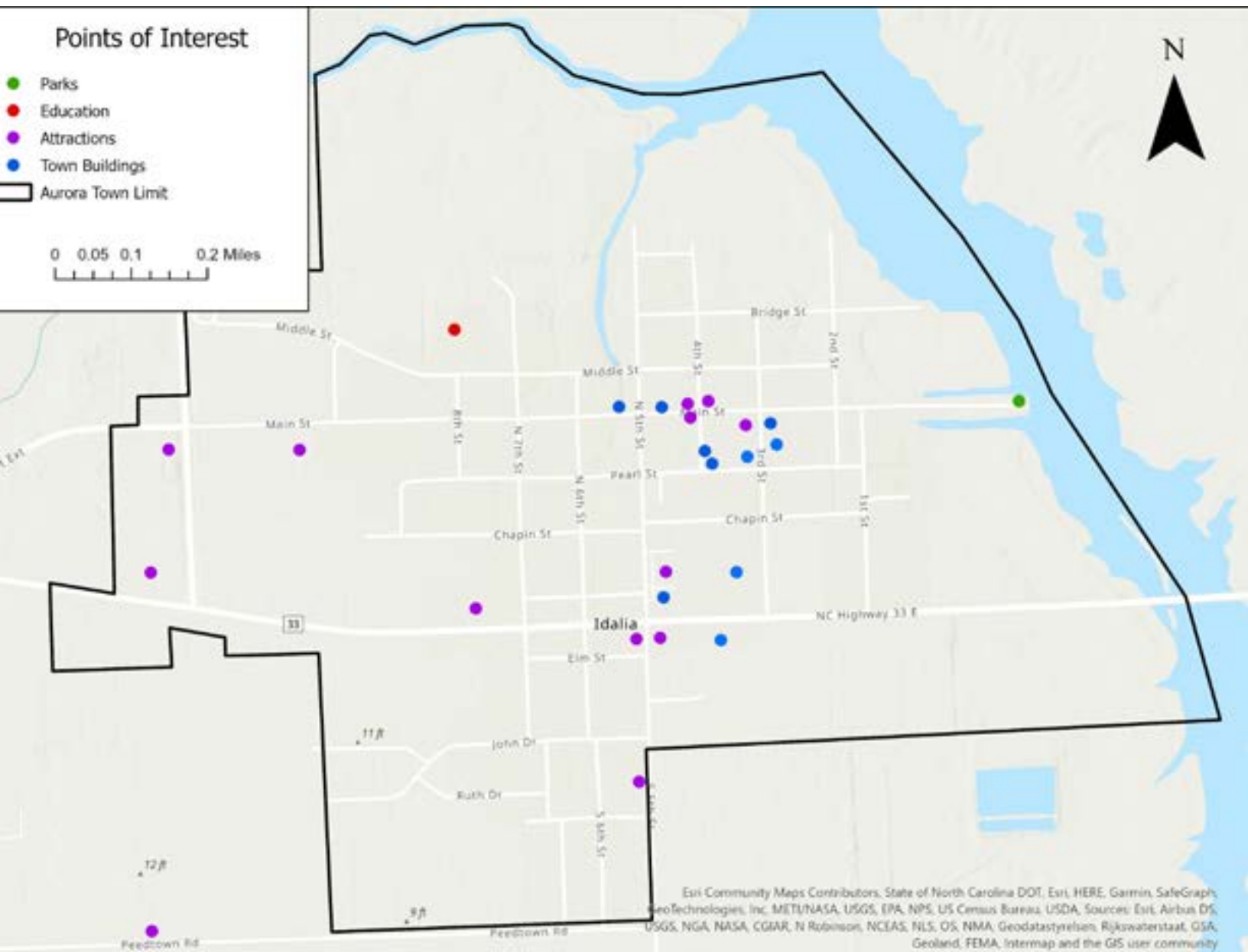


Figure 20: Points of interest located in Aurora, NC.



Appendix/Maps/Photos



Figure 21: Map of the recommended wayfinding additions.



Appendix/Maps/Photos



Figure 22: Picture of the Aurora Mini Mart in Aurora, NC.



Appendix/Maps/Photos



Figure 23: Picture of the Family Dollar located in Aurora, NC.



Appendix/Maps/Photos



Figure 24: A picture of the Dollar General in Aurora, NC.



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