

FOUNTAIN, N.C. DOWNTOWN PARKING STUDY



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Prologue

East Carolina University's Community and Regional Planning Program requires all undergraduate students to participate in a course focused on applied planning. Students are to work independently during the semester on analyzing a planning issue project for a client (of their selection and approved by the course Instructor).

Students will produce a high-quality, publishable report and present their work with recommendations at the end of the semester. This project is the result of the spring 2024 practicum course.

The project collaborated with the Town of Fountain, N.C., and the Mid-East Commission. The primary contacts, Mayor Kathy Parker of the Town of Fountain and Jamie Heath & Sam Singleton of the Mid-East Commission played a crucial role in the project's success.

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EXECUTIVE SUMMARY

Initiated by the Mid-East Commission at the request of the Town of Fountain, the Downtown Fountain Parking Study was conducted by William Lowery, Senior Community and Regional Planning Student at East Carolina University, Greenville, NC, between January 2024 and April 2024. The Parking Study investigated 1) The existing public parking capacity in the study area, 2) potential parking availability for the study area, and 3) the parking solutions. The town requested these items because they wanted to know the availability of parking. The town wishes to address the challenge of not knowing the exact parking inventory and how much inventory is available. The town is pursuing the idea of re-establishing the music festivals of the past. In previous years, the town has hosted bicycle events and wishes to pursue more events of a similar nature.

SITE

The study focuses on the downtown, spanning East / West Lang Street to the south, East / West Smith Street to the north, North / South Jefferson Street to the east, and North / South Lynch Street to the west.

DEMOGRAPHIC AND ECONOMIC BACKGROUND

Fountain, the westernmost municipality in Pitt County, has a population of 272 people. The racial background is 48.5% Black or African American, 47.8% White or Caucasian, and 3.7% two or more races. It is home to a middle-aged population, with the median age of the town's population being 43.5 years old. The town's specialty industries include educational services, health care, and social assistance.

PARKING CONDITIONS

Observations of the town's parking conditions were conducted in February. However, it should be noted that the data presented only represents the availability at a minimal time frame. It is strongly recommended the town hire a consulting company or use technology to measure the availability of parking, both on- and off-street, at various times in a day, a week, and a month for a more accurate understanding.

There are only two “public lots” in the town for residents to utilize, with one of the lots (located next to the town office building) having three spaces designated for town employees. The capacity of the two lots is challenging to estimate because both are not paved. However, estimated capacity calculations were made based on the square footage of both lots. The study further identified two potential lots to be developed as public parking lots. Street parking within the study area is the primary parking source for town residents and visitors. However, none of the streets within the study area are appropriately marked by road striping or signage.

Sidewalks are prominent throughout the study area. However, particular areas, such as South Lynch Street from West Wilson Street to West Lang Street, have non-existent sidewalks. There are also areas where the sidewalk is discontinued, such as North Jefferson Street from East Wilson Street to East Smith Street. Accessibility of the sidewalks was also observed as the main sidewalks along East Wilson Street have large metal benches in the middle of the pathway.

RESIDENT SURVEY

A residential survey was conducted as part of the analysis. The survey aimed to understand how the town’s residents utilize the current parking supply, the methods they use to travel to the study area, the purpose of their visit, and which parking method they prefer. Based on the results, the recommendations listed were tailored to meet the town’s and its residents’ needs.

The resident survey showed that most residents drove alone (93.0%) when they visited the study area. Over 90% reported visiting the area at least once a week. Visitation to the area is consistent throughout the day and between weekdays and weekends. More than half of the respondents spend between 1 and 3 hours on their trip to the study area with the Community Center and Post Office being the top two reasons for their visits. Residents heavily used on-street parking. When asked about how important parking was as it relates to them visiting the study area, just under half (42.9%) of the residents stated it did not impact their decision.

RECOMMENDATIONS

This study suggests six recommended items. Although each item is offered individually, it is recommended that the town consider combining them for efficiency and tremendous success.

1. Signage:

The signage related to the parking areas across the study area needs to be updated to assist individuals coming into the area in finding available off-street parking. It is recommended that signage and directional signage be installed at the respective public lots to designate where the lots are located.

2. Maintenance of Surface Lots

The Town of Fountain has two main public parking lots within the study area. Grading of the lot next to the wellness center to create a more level and sounder base is recommended. As well as graveling the lot next to the town office building. Depending on budgets, the town may also pursue the avenue of paving both lots.

3. Additional Parking Lots

The town must utilize additional parking within the downtown area. This study identified two underutilized parcels that could be used as additional off-street parking areas.

4. Road diet on North Jefferson Street

It is believed that North Jefferson Street, between East Wilson Street and East Smith Street, has the potential to provide more street parking. It is recommended that the traffic pattern of this section be changed from a two-lane to a northbound-only one-lane road. The road diet will create space for angled street parking on one side of the street, creating many more parking capacities.

5. Maintenance – on-street parking

It is recommended that street striping be completed throughout the entire study area. Street striping will improve traffic flow, prevent vehicular accidents, maximize the number of parking spaces, and provide more curb appeal.

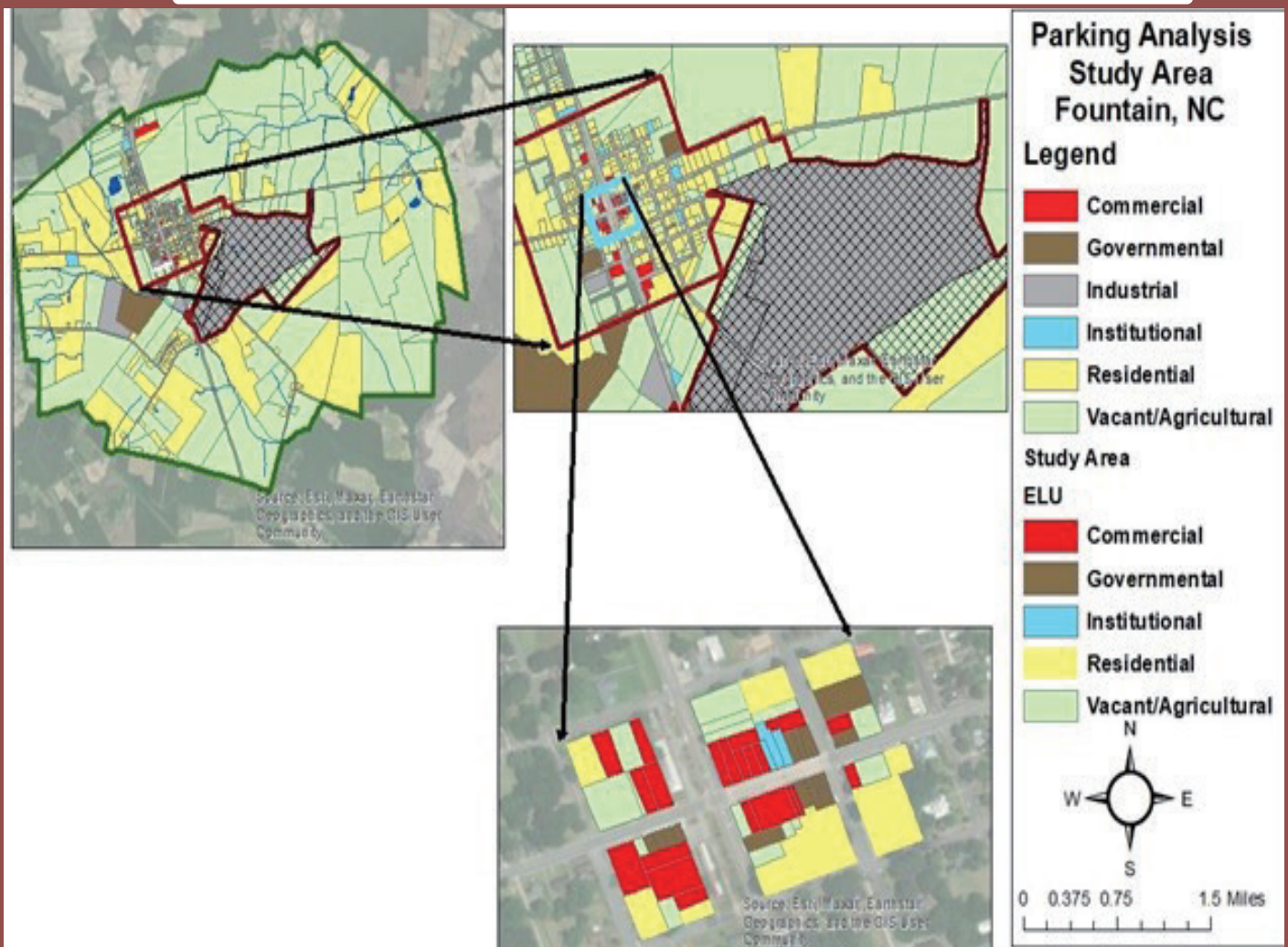
6. Sidewalk upgrades

Some of the sidewalks within the study area could be repaired or redone to help create an enjoyable walkable environment. Another recommendation would be to extend the sidewalk at the corner of East Wilson Street and North Jefferson Street to East Smith Street (if recommendation #4 is pursued). It is also recommended that flower planters be installed along the East Wilson Street sidewalk area to add color and design to the sidewalk.

CHAPTER 1: STUDY AREA

STUDY LOCATION

Located along U.S. Highway 258 and N.C. Highway 222 in the far western corner of Pitt County, Fountain is less than ten miles west of the Tar River, seven miles northwest of the larger town of Farmville, and within twenty miles of Greenville, Tarboro, and Wilson. The town was laid out on a grid pattern along the axes of Wilson Street (east to west) and Railroad Street (north to south).



HISTORY



SOURCE: WILLIAM LOWERY

The town of Fountain was developed along the Eastern Carolina Railway (ECR) around the turn of the twentieth century. The rail line was established in 1898 by Henry Clark Bridgers (1876- 1951) of Edgecombe County to connect the river city of Tarboro with farming communities to the south. The railroad's arrival would fuel the growth of the logging and agricultural industries in and around Fountain and offer various services to the residents, including a post office, stores, banks, schools, and churches.

By 1902, the stretch of railroad that ran by what would become the town of Fountain was complete, and the twenty-two-year-old R.A. Fountain had constructed his first store and livery stable across from the tracks. At first, the stop by Fountain's store "was little more than a flag stop on the line." Initially, it was called "Slabtown," for the row of log-slab houses built along the tracks, and then "Reba," perhaps after Bridgers' sister or in honor of the first baby born in the town. In 1903, the fledgling town was incorporated with the name of Fountain in honor of the man responsible for its existence.

The Town of Fountain flourished in the first two decades of the twentieth century. Many businesses were established for the farmers and loggers who came to town to sell and transport their products. Fountain was referred to as "the biggest little town in the state" because it did more business than any town its size in North Carolina.

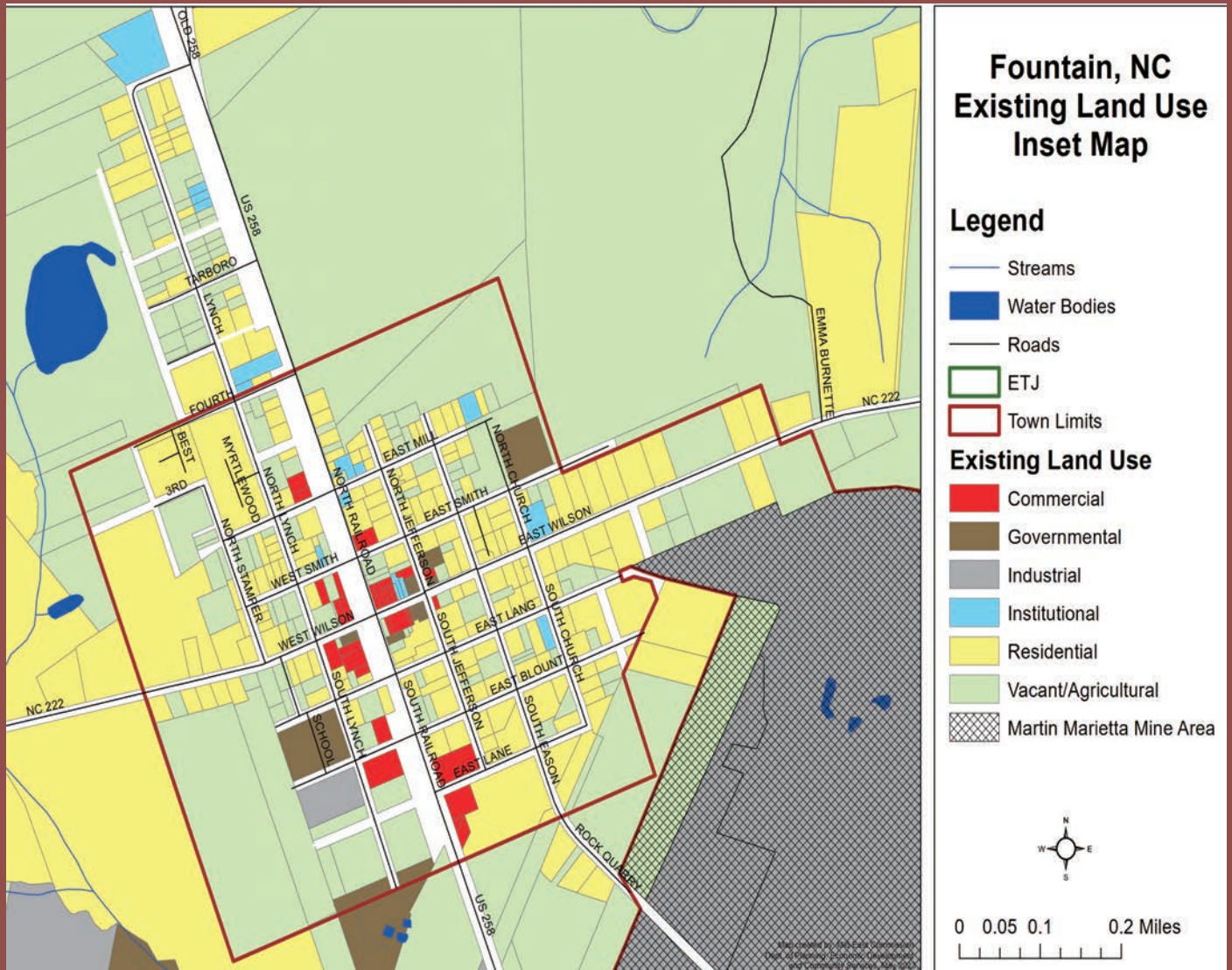
By the 1930s and 1940s, development, commerce, and population growth slowed but remained stable. Sadly, the mechanization of agriculture in the 1950s and 1960s took a toll on Fountain's small farmers. As agricultural production slowed, so did the commercial enterprises in town. The US-264 bypass was built in the early 1990s, reducing Fountain's traffic volume and contributing to the decline of local businesses. With recent efforts to revitalize the historic downtown and draw in new residents and visitors by capitalizing on the town's history, music culture, and ecotourism potential, the Town of Fountain is laying the foundation for future community growth. US-264's redesignation as Interstate-587 also presents the town's growth opportunity.

Source: Town of Fountain's Land Use Plan, Mid-East Commission

Land Use & Property Characteristics

The Town of Fountain has adopted its first land use plan, prepared by the Mid-East Commission. The Mid-East Commission provided a current land use layer, as seen on Map 3, with an inset map on Map 2.

Much of the land use in the Downtown Fountain study area is commercial, governmental, institutional, residential, and vacant/agricultural.

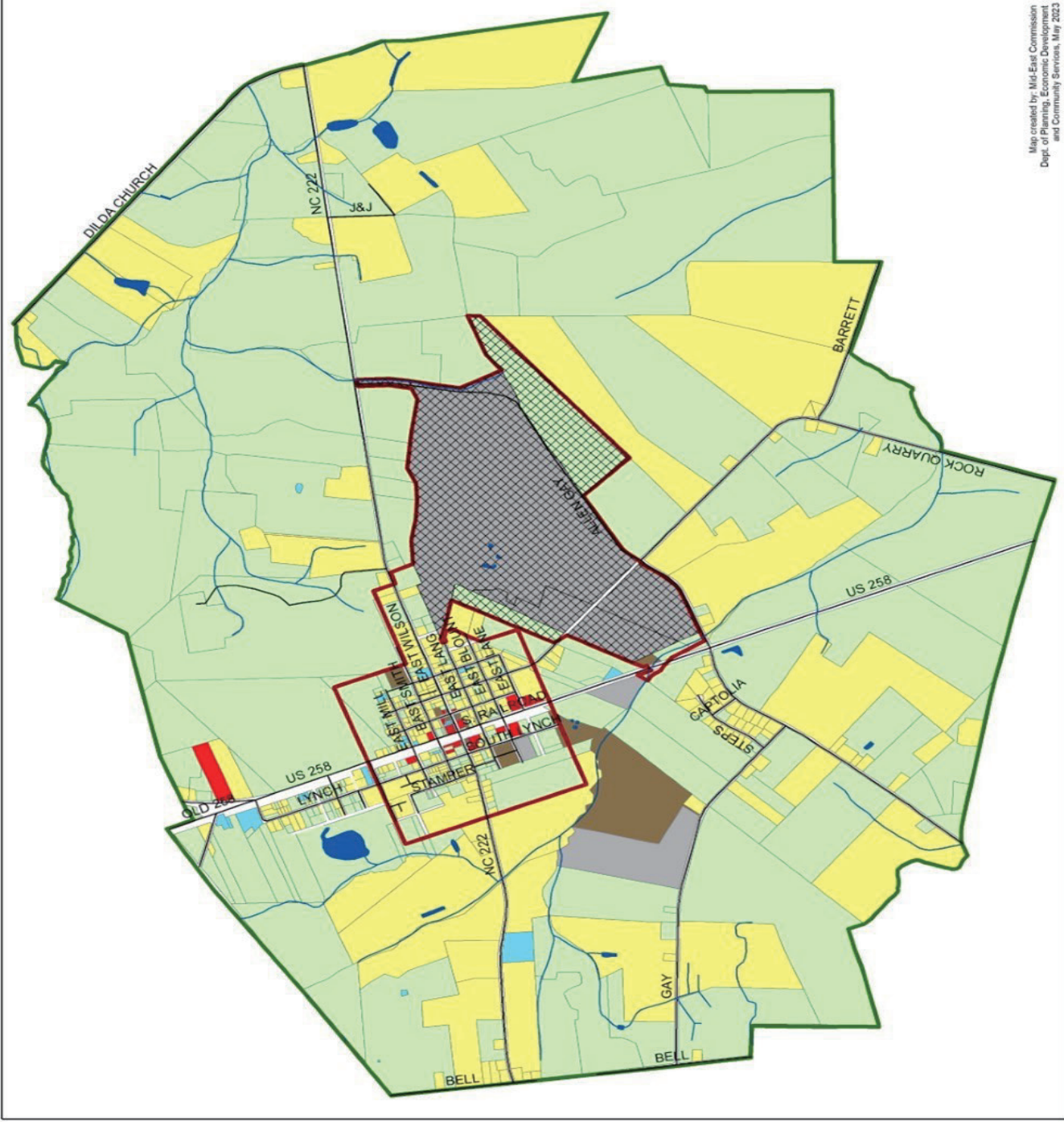
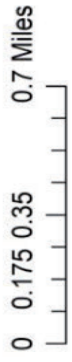


Map 2: Fountain's Existing Land Use Inset Source: Town of Fountain Future Land Use Plan, Mid-East Commission

Fountain, NC Existing Land Use

Legend

-  Streams
 -  Water Bodies
 -  Roads
 -  ETJ
 -  Town Limits
- ## Existing Land Use
-  Commercial
 -  Governmental
 -  Industrial
 -  Institutional
 -  Residential
 -  Vacant/Agricultural
 -  Martin Marietta Mine Area



Map created by Mid-East Commission
Dept. of Planning, Economic Development
and Community Services, May 2023

Map 3: Fountain's Existing Land Use Source: Town of Fountain Future Land Use Plan, Mid-East Commission

CHAPTER 2: SOCIO-ECONOMIC ANALYSIS OF FOUNTAIN, NC

Note: To remain consistent and provide the most accurate information, all socio-economic data was retrieved from the Town of Fountain's Land Use Plan created by the Mid-East Commission in 2023. All data was retrieved from the Land Use Plan (adopted on February 13, 2024, by the town's Board of Commissioners) and confirmed by the U.S. Census American Community Survey.

DEMOGRAPHICS

According to the 2021 US Census American Community Survey (ACS), the Town of Fountain has a total population of 272 people within the corporate limits. The margin of error reported was high, at plus or minus 92 people. The 2020 US Decennial Census provides the official population count for the Town of Fountain at 385 people within the corporate limits.

Data provided by the Decennial Census is limited. The ACS is designed to help local officials, community leaders, and businesses understand the changes taking place in their communities. It is the premier source for detailed population and housing information for our nation and its communities. Therefore, the following data is primarily 2021 ACS data, apart from the population trends data, which is Decennial Census data.

The age of Fountain's population is older than Pitt County and slightly older than the state on average, with Fountain's median age being 43.5 years, compared with 32.9 years for Pitt County and 39.0 years for North Carolina (2021 ACS). Approximately 23.2% of Fountain's population is under 18 years of age, like the county and state at 21.5% for Pitt County and 22.2% for North Carolina. Approximately 21.4% of Fountain's population is 65 years of age and older, higher than the county and state at 13.4% for Pitt County and 16.3% for North Carolina (2021 ACS).

The racial breakdown of Fountain's population is approximately 47.8% white or Caucasian, 48.5% black or African American, and 3.7% two or more races. The average household size in Fountain is 2.18 persons, like Pitt County at 2.20 persons and slightly lower than the state at 2.46 persons (2021 ACS).

Table #1 shows the general population characteristics of Fountain, Pitt County, and North Carolina as of the 2021 ACS. Chart #1 is a population bar chart for the Town of Fountain, which shows the town's population graphed by age group.

Town of Fountain,
NORTH CAROLINA

Land Use Plan

Town of Fountain
Mid-East Commission

Adopted by the Fountain
Board of Commissioners
on 02/13/2024

Table #1: Fountain, North Carolina: General Population Characteristics, 2021

Fountain, North Carolina: General Population Characteristics, 2021				
General Characteristics	Number	Percent	Pitt County	North Carolina
Total Population	272	100.0%	100.0%	100.0%
Male	112	41.2%	47.2%	48.9%
Female	160	58.8%	52.8%	51.1%
Median Age	43.5 years	(X)	32.9 years	39 years
Age Groups				
0-4 years	15	5.5%	5.7%	5.7%
5-14 years	30	11.0%	12.0%	12.6%
15-24 years	38	14.0%	21.0%	13.3%
25-44 years	59	21.7%	25.4%	25.9%
45-64 years	72	26.4%	22.4%	26.2%
65+ years	58	21.4%	13.4%	16.3%
Race				
White or Caucasian	130	47.8%	55.3%	66.2%
Black or African American	132	48.5%	35.2%	21.2%
American Indian and Alaskan Native	0	0.0%	0.3%	1.1%
Asian	0	0.0%	1.7%	3.0%
Native Hawaiian or Other Pacific Islander	0	0.0%	0.1%	0.1%
Some Other Race	0	0.0%	4.1%	3.6%
Two or More Races	10	3.7%	3.3%	4.8%
Ethnicity				
Hispanic or Latino	8	2.9%	6.6%	9.8%
Not Hispanic or Latino	264	97.1%	93.4%	90.2%
Average Household Size	2.18	(X)	2.2	2.46
Average Family Size	3.22	(X)	2.96	3.07

Source: Town of Fountain Land Use Plan: Mid- East Comission: Sourced from 2021 US Census American Community Survey

Demographics by Age Group, Fountain, NC

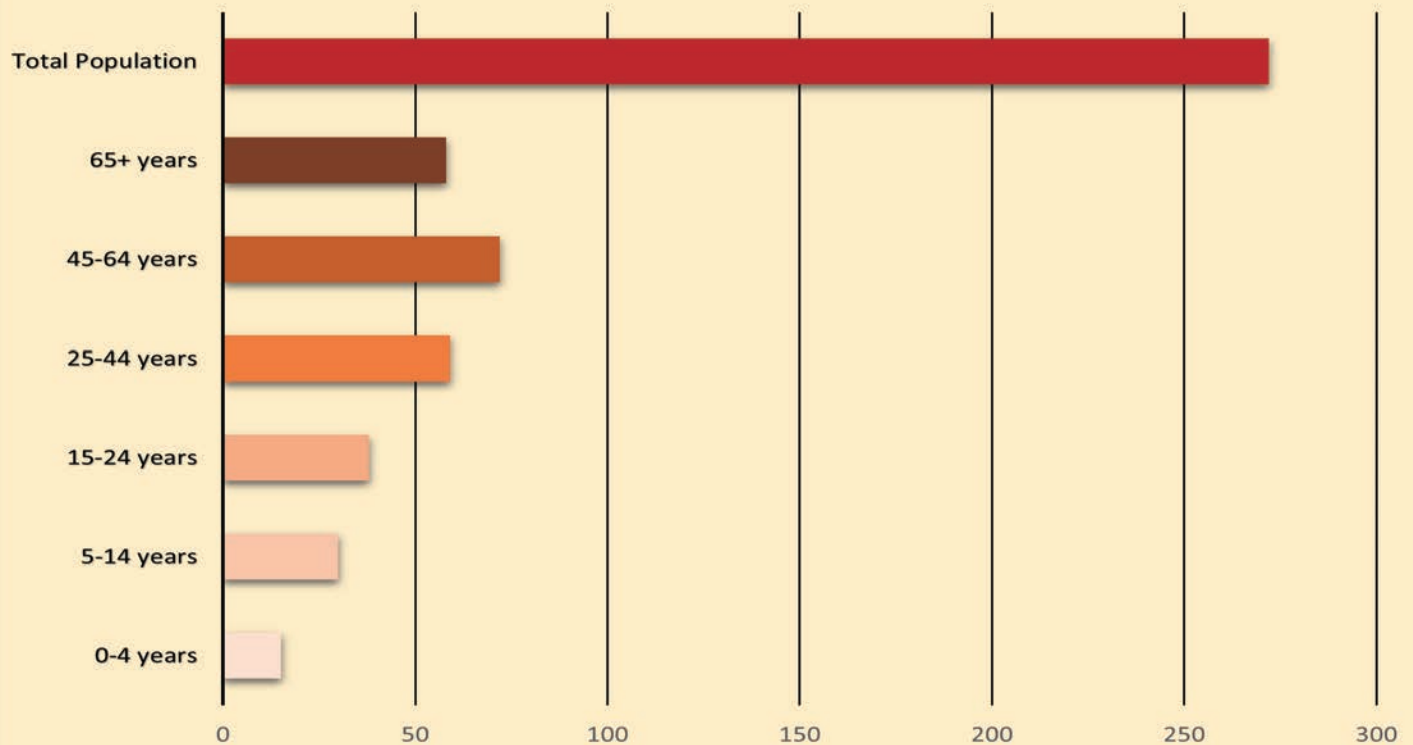


Chart 1: Demographic characteristics by age group, Fountain, NC Source: William Lowery

ECONOMY / BUSINESS ENVIRONMENT

The 2021 ACS identified 69 working persons aged 16 and over in Fountain. The top industries employing the working population of Fountain were educational services, health care, and social assistance, employing 23.2% of the working population.

This percentage is lower than Pitt County's 30.8% and similar to the state's 22.7%. The next top industries employing the working population of Fountain were retail trade (14.5%), construction (13.0%), manufacturing (13.0%), and finance, insurance, real estate, rental and leasing (10.1%).

Employment in Fountain was spread over other industries, with less than 10% of the working population employed in each.

Employment by industry for the civilian employed population aged 16 years and over in Fountain is summarized in Table 2 (2021 ACS).

Fountain, North Carolina: Employment by Industry, 2021

Industry	Number	Percent of Civilian Population Employed: Population 16 Years and Over	Pitt County	North Carolina
Civilian Employed Population 16 Years and Over	69	100.0%	100.0%	100.0%
Agriculture, forestry, fishing and hunting, and mining	0	0.0%	0.8%	1.1%
Construction	9	13.0%	6.5%	7.5%
Manufacturing	9	13.0%	11.2	11.9
Wholesale trade	2	2.9%	3	2.2
Retail trade	10	14.5%	8.4%	11.4%
Transportation, Warehousing and Utilities	5	7.2%	7.3%	5.5%
Information	0	0.0%	1.0%	1.5%
Finance, Insurance, Real Estate, Rental and Leasing	7	10.1%	6.4%	7.3%
Professional, Scientific, Management, Administrative and Waste Management Services	4	5.8%	7.7%	12.0%
Educational, Health care and Social Services	16	23.2%	30.8%	22.7%
Arts, Entertainment, Recreation, Accommodation and Food Services	1	1.4%	10.1	8.1
Other Services (except public administration)	2	2.0%	3.4%	4.7%
Public Administration	4	5.8%	3.4%	4.2%

Source: Town of Fountain Land Use Plan: Mid-East Commission: Sourced from 2021 US Census American Community Survey

Table #2: Fountain, North Carolina: Employment by Industry, 2021

CHAPTER 3

RESIDENT

SURVEY RESULTS

Note: After discussions with Mayor Kathy Parker, a stakeholder meeting was not conducted. Mayor Parker recommended utilizing the “Resident Survey” as a source of citizen comments.

Resident Survey

The survey inquired how and when the Fountain residents utilized the downtown study area. The survey consisted of 12 questions to gauge their parking/travel behavior, such as when residents are traveling Downtown, why they are traveling Downtown, what parking method is used, and why they were visiting the study area. The survey was created using the Qualtrics online survey platform. Appendix A includes the resident questionnaire. The resident survey used the voluntary response sampling technique. Residents were offered a hard-copy of their survey when they visited the town office building to pay their utility bills. The survey was active for March and reached 14 people out of the 50 provided surveys, with a 28.0% response rate. The findings are based on 14 responses from those who consented to share their answers and is broken down by question. The first question asked if the respondents consented to the survey and will not be listed below.

Respondents' Age

The vast majority of respondents to the survey were of the 65 and over age group (92.9% of responses).

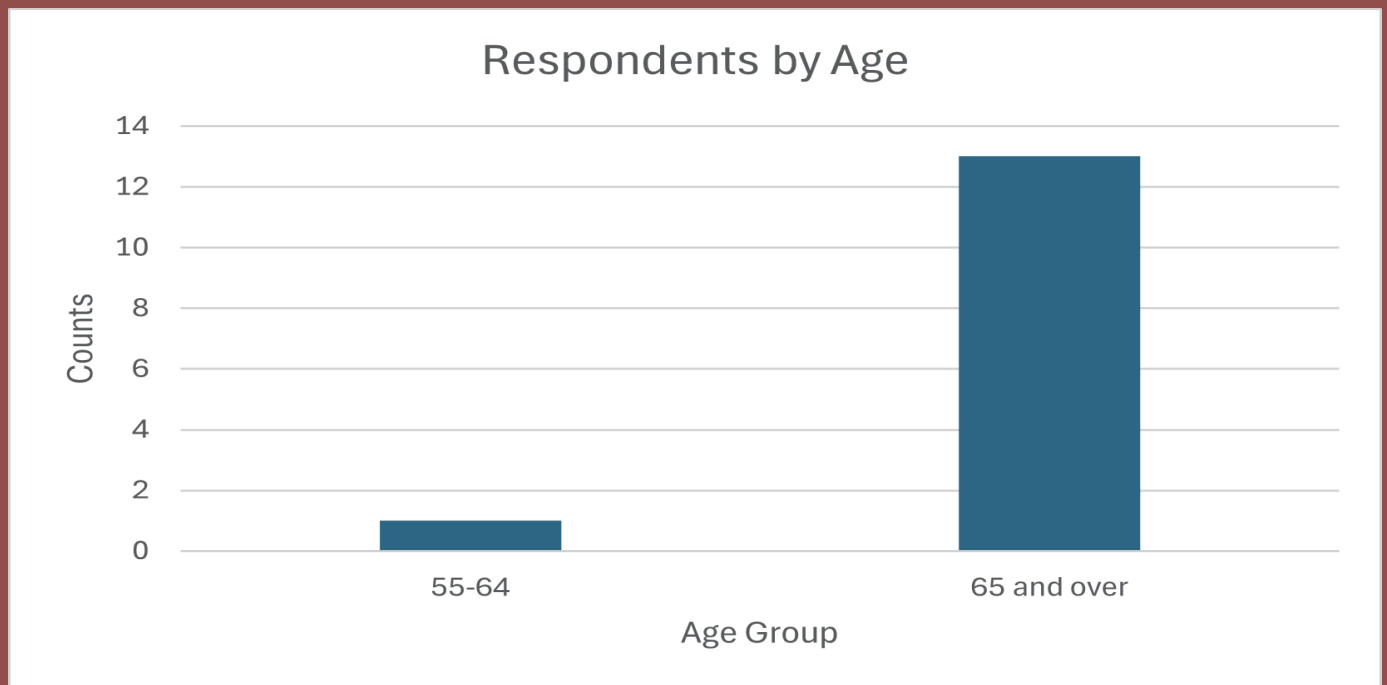


Chart #2: Respondents by Age

Transportation Mode

The vast majority of respondents report private automobiles (driving alone) as their primary mode of transportation when visiting the study area, with 92.9%. Of the alternative modes listed, the second most common was walking (35.7%), followed by carpooling or dropped off by someone (7.1%) and bicycling (7.1%). All other transportation modes, such as Pitt Area Transit System (PATS) bus, golf cart, or motorcycle, were rarely mentioned.

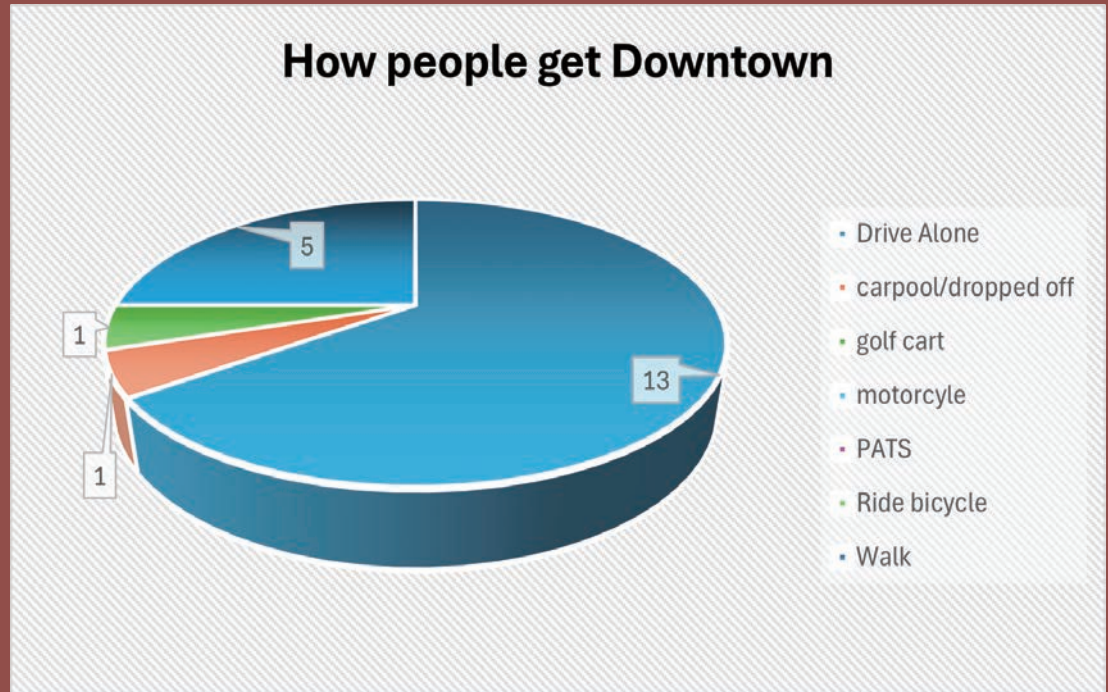


Chart #3: How people get to the Study Area

How often respondents visit the area

Over 50% of survey participants visit Downtown Fountain daily, indicating frequent local traffic and parking demand. The other 50% of survey participants reported visiting the area frequently.

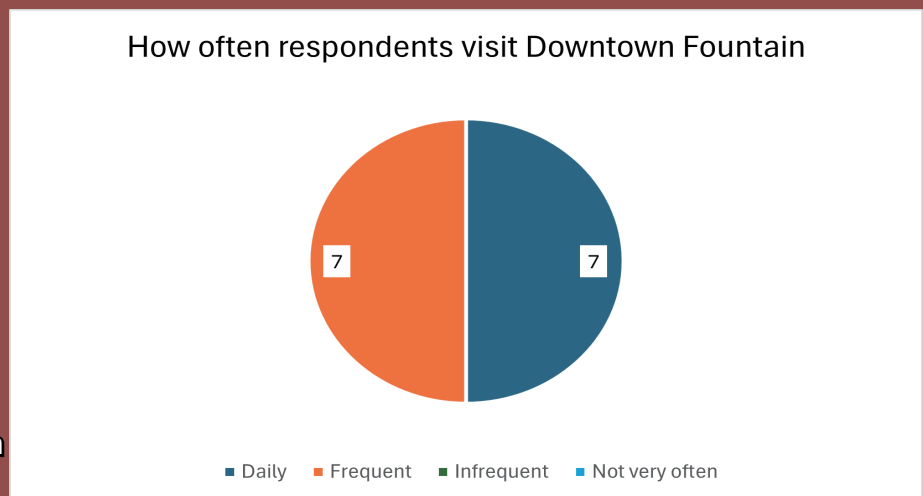


Chart #4: How often respondents visit the location

TIME OF THE DAY RESIDENTS VISITED THE STUDY AREA

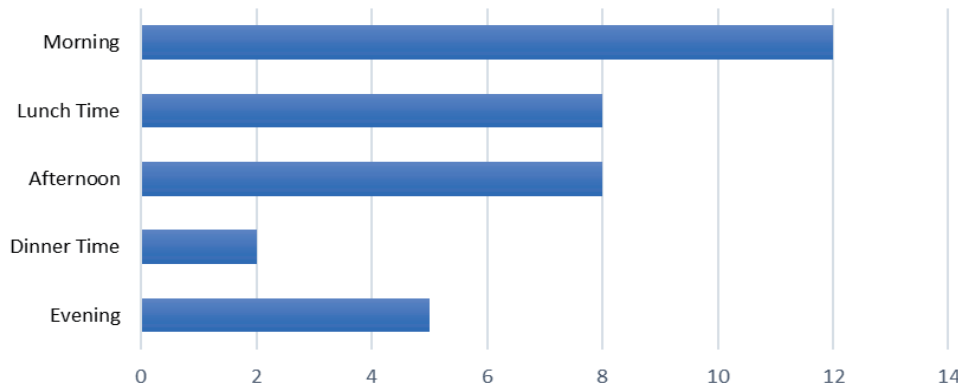


Chart #5: Time of day residents visit

When residents visit the Study Area

Survey responses indicate that demand for parking downtown is roughly consistent when comparing weekends and weekdays, with slightly fewer trips occurring on weekdays over weekends among residents, 85.7% and 50%, respectively. Visitation to Downtown Fountain is generally during the morning, with nearly 86% of respondents reporting visiting during the morning. 57% of respondents reported they visited the area during the afternoon and around lunchtime.

Time spent Downtown

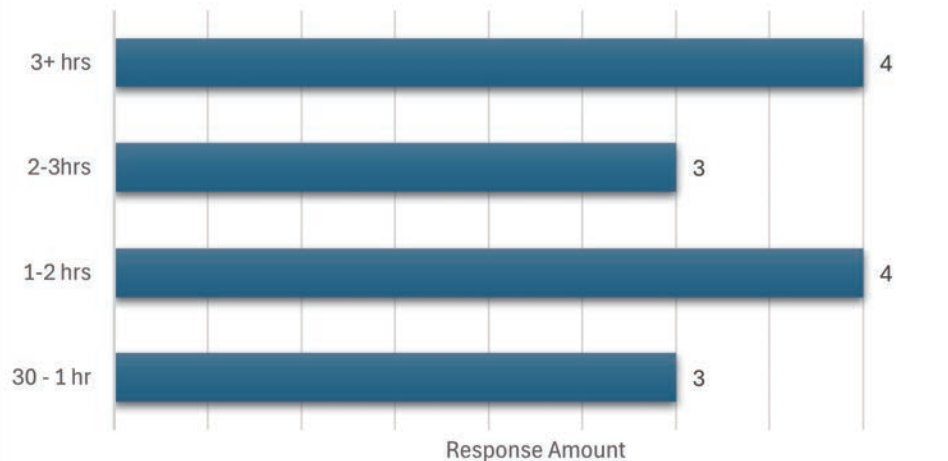


Chart #6: Time spent visiting the study area

Time spent in the area

29% of participants report their average visit to Downtown lasting between one to two hours, indicating that nearly a third of trips are relatively short. Matching this percentage, 29% of all participants also indicated that their trips lasted three or more hours.

Daily Activities

Results for daily activities performed by residents in the downtown area reveal that parking demand related to each activity is consistent on weekdays. Corroborating findings in the previous questions, visiting the post office and the community center during the week spikes the need for parking. Over 85.7% of participants indicated they visited these two locations multiple times during the week.

ACTIVITIES RESIDENTS ENGAGED IN EACH DAY

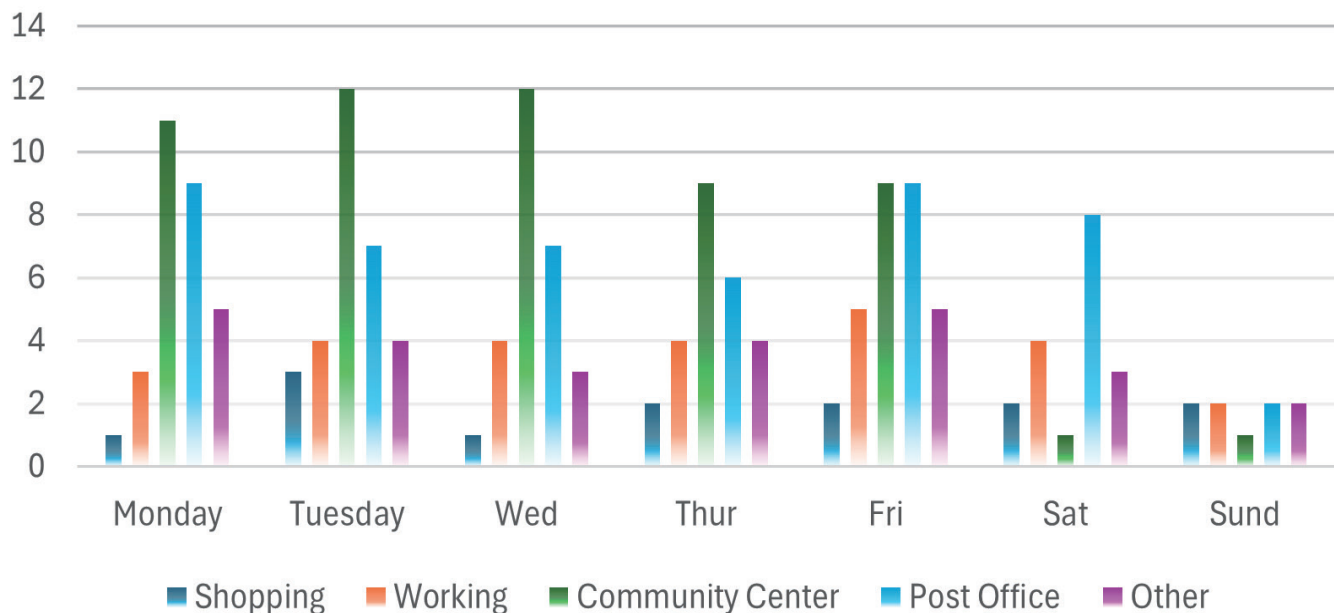


Chart #7: Activities residents engaged in each day

CHAPTER 4
STUDY AREA
INVENTORY

INFRASTRUCTURE

The following is an inventory of the physical infrastructure within the study area of Downtown Fountain.

TRAFFIC LIGHTS-Located at the four-way intersection of NC 222 (East/West Wilson Street) and US 258 (North/South Railroad Street), this controlled intersection serves as the only traffic light in Fountain.

PUBLIC PARKING LOTS

- Empty gravel lot located next to the Fountain Wellness Center (Figure #1)
- Empty gravel/dirt lot located next to Fountain's office building (6775 West Wilson Street) (Figure #2)

INTERSECTIONS

- NC 222 (East/West Wilson Street) and US 258 (North/South Railroad Street) – A stop light with four crosswalks.
- East Wilson Street and North/South Jefferson Street – A two-way stop with proper street signage.
- North Jefferson and East Smith Street – A two-way stop with proper street signage.
- North Railroad and East/West Smith Street – A two-way stop with proper street signage.
- West Smith and North Lynch Street – A two-way stop with proper street signage.
- North/South Lynch Street and West Wilson Street – A two-way stop with proper street signage.
- South Lynch Street and West Lang Street – A two-way stop with proper street signage.
- East/West Lang Street and South Railroad Street – A two-way stop with proper street signage.
- East Lang Street and South Jefferson Street – A two-way stop with proper signage.



Figure #1 Gravel lot located next to the town's Wellness Center.
Source: William Lowery



Figure #2 Gravel lot located next to the town's office building.
Source: William Lowery

SIDEWALKS AND PEDESTRIAN ACCESSIBILITY

The sidewalks in Downtown Fountain are generally in good condition. The system effectively connects Downtown to surrounding residential areas. Notable improvements have been made to visually appealing curb cuts around the town and a designated crosswalk at the Wilson / Railroad Street intersection. Figure #3 shows the crosswalk at the intersection. Map 4 illustrates the Transportation Network for the town.

There are two primary deficiencies of sidewalks in Downtown Fountain. They are not fully accessible and incomplete in some areas. The metal benches in the middle of the sidewalk along East Wilson Street tighten the sidewalk in some places, making it wide enough for only two people (Figure #4). This space restriction has led to bicyclists being unable to ride along the sidewalk in the downtown area. The only prominent bicycle rack is next to Fountain's wellness center (Figure #5).

Currently, the Pitt County Planning Department is finalizing its Comprehensive Transportation Plan. One of the many recommendations was the completion of sidewalks in Fountain. Map 5 illustrates the consultant's recommendation on where to install more sidewalks to complete the need.



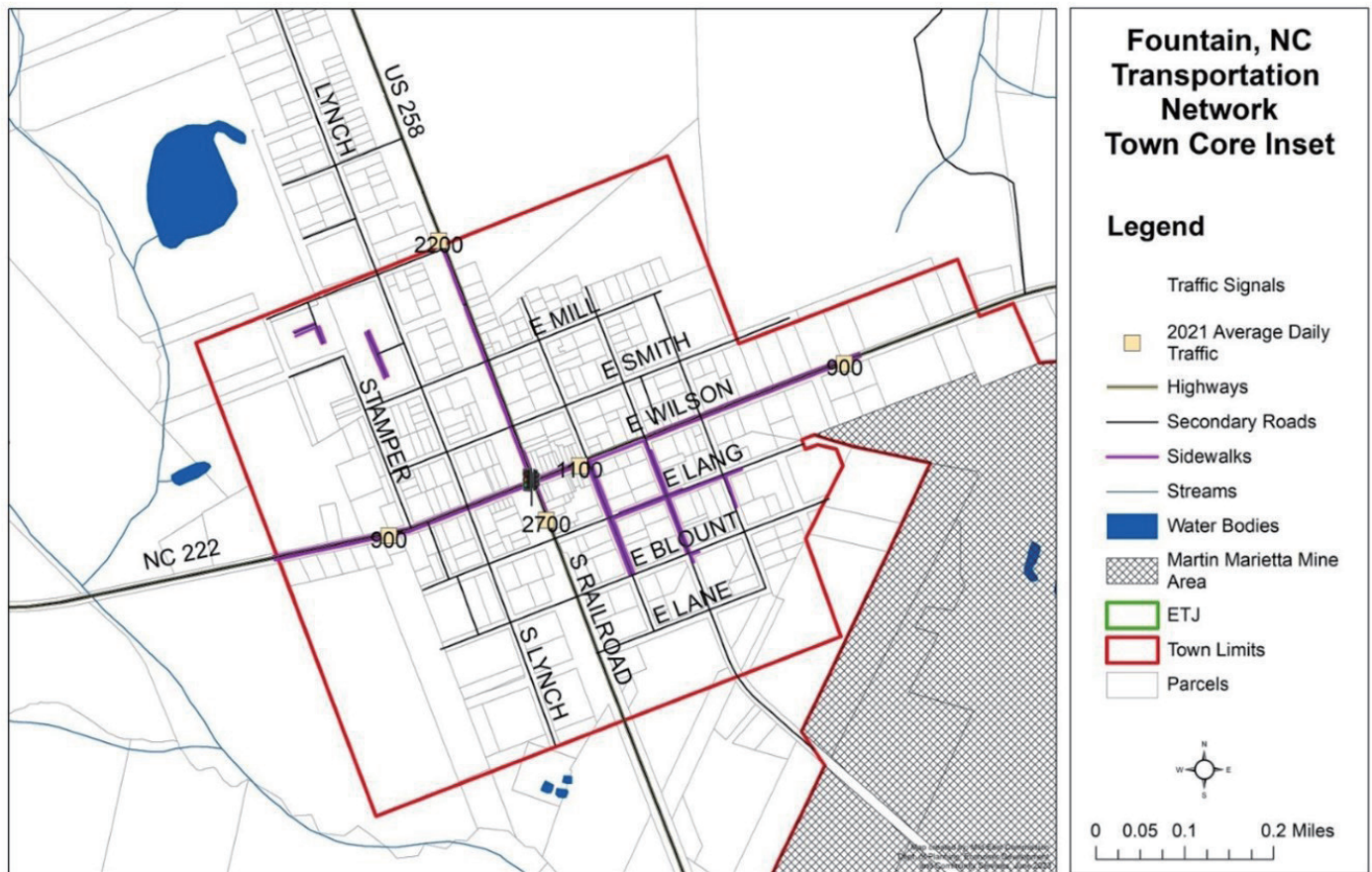
Figure #3 Crosswalk located at Railroad Street and Wilson Street Intersection. Source: William Lowery



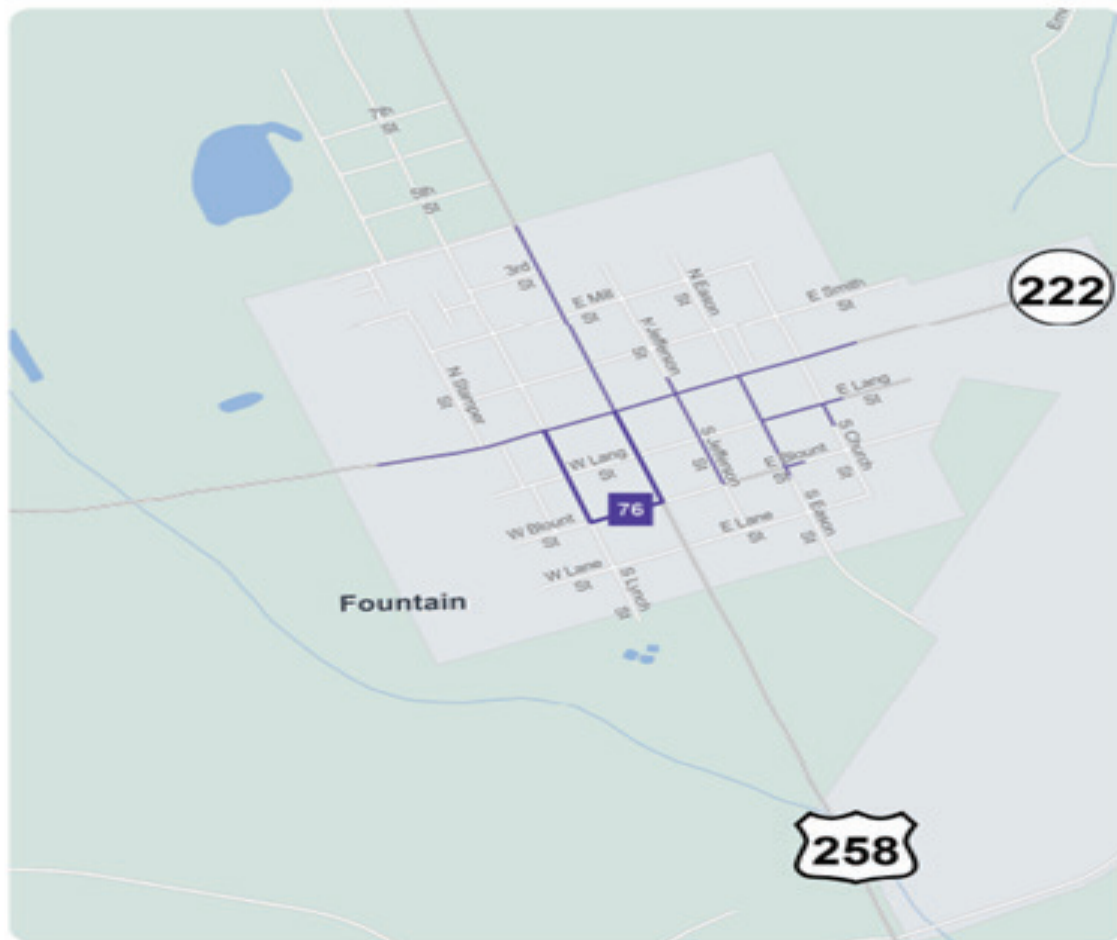
Figure #4: Metal Bench in the middle of the sidewalk. Source: William Lowery



Figure #5. Bicycle Rack next to the Wellness Center. Source: William Lowery



Map 4: Fountain, NC Transportation Network Town Core Inset Source: Town of Fountain Land Use Plan, Mid-East Commission.



BICYCLE / PEDESTRIAN RECOMMENDATIONS
Proposals that address identified needs through 2045



PITT COUNTY
INSET: W1
Comprehensive Transportation Plan
DRAFT COPY
Plan Date: February 27, 2024

Bicycle and Pedestrian Features

	Proposed	Existing	Proposed
Bicycle	Blue line	Yellow line	Orange line
Pedestrian	Green line	Blue line	Green line
Bicycle and Pedestrian	Red line	Green line	Blue line
Multiuse Path	Orange line	Blue line	Orange line
Bicycle and Pedestrian Bridge	Blue circle	Blue circle	Blue circle
Denotes Highway Incidentals	Black star		

Other Features:
Studied Roads: [Dashed line symbol]

Greenville MPO (area outside MPO in Pitt County served by MPO-East RPO)



Full report at [Full report at \[URL\]](#)

Scale: 0 0.05 0.1 0.2 Miles

Sheet 4 of 4

Base map date: March 13, 2020

Legal Disclaimer:
These concepts will need additional analysis to meet state and federal environmental regulations, to determine final locations and designs, and to be funded for implementation. Local zoning or subdivision ordinances may require the dedication of right of way based on the proposals shown on the Comprehensive Transportation Plan and final contractor street plans. Based on N.C.G.S. § 106-612 and § 106-613.

Map 5: Map of Sidewalk Recommendations Source: Pitt County's Draft Comprehensive Transportation Plan

LIGHTING

Lighting appears to be sufficient. The area has approximately 18 light poles, which illuminate the street and sidewalk. The lighting ranges from LED to regular fluorescent bulbs.

SIGNAGE

There is a lack of signage in Downtown Fountain that indicates where to park when visiting the area. Only three signs indicate "reserved parking spots," located next to the town's office building (Figure #6).



Figure #6 Reserved Parking spots next to the office building. Source: William Lowery

SURROUNDING LAND USES

The land uses surrounding the study area are a mixture of residential, commercial, and industrial. There are two community parks, Shirley Mitchell Park and Gardner's Corner Park, within the study area. The Martin Marietta–Fountain Mining Quarry is south of the study area. To the north of the study area are Tevathan Pond and the Walking Trail, utilized for public recreation.

Maps 7 & 8 obtained from the town's Land Use plan note the Public Parks and Open Spaces and an overlay of the area controlled by the Marietta mining company.

Fountain, NC Public Parks and Open Spaces

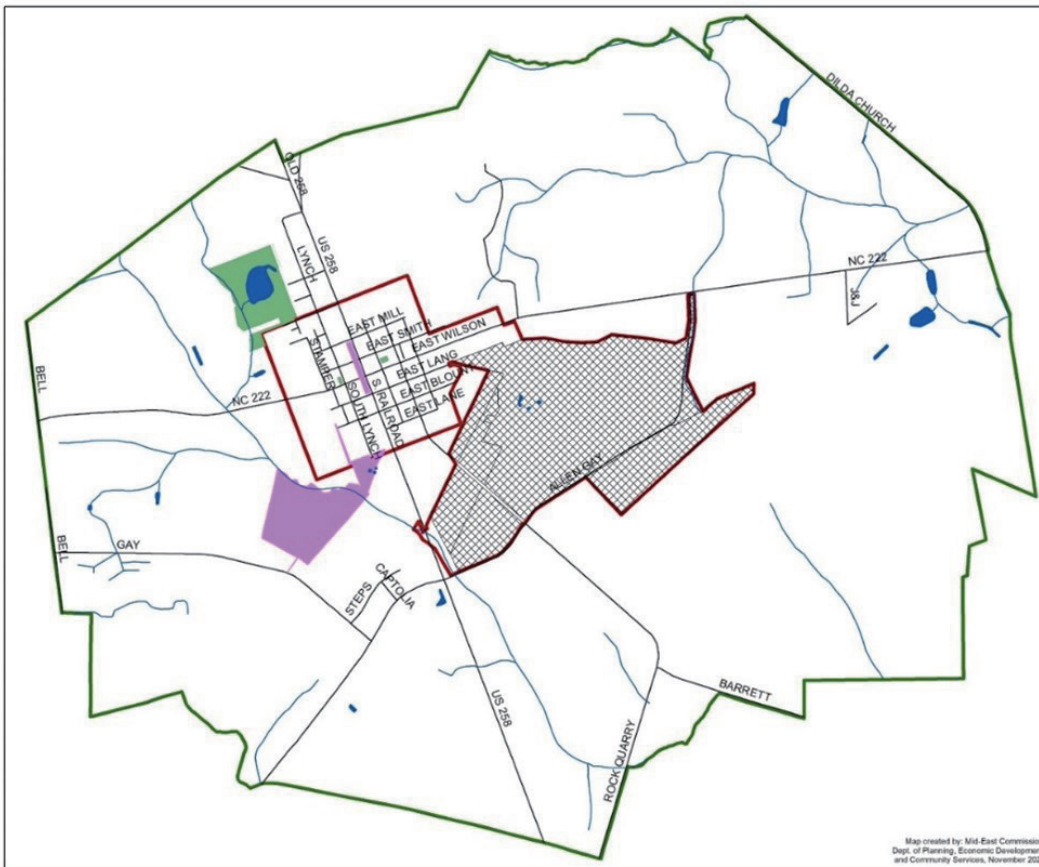
Legend

- Public Parks and Open Spaces
- Potential Future Park Sites
- Martin Marietta Mine Area
- Streams
- Water Bodies
- Roads
- ETJ
- Town Limits

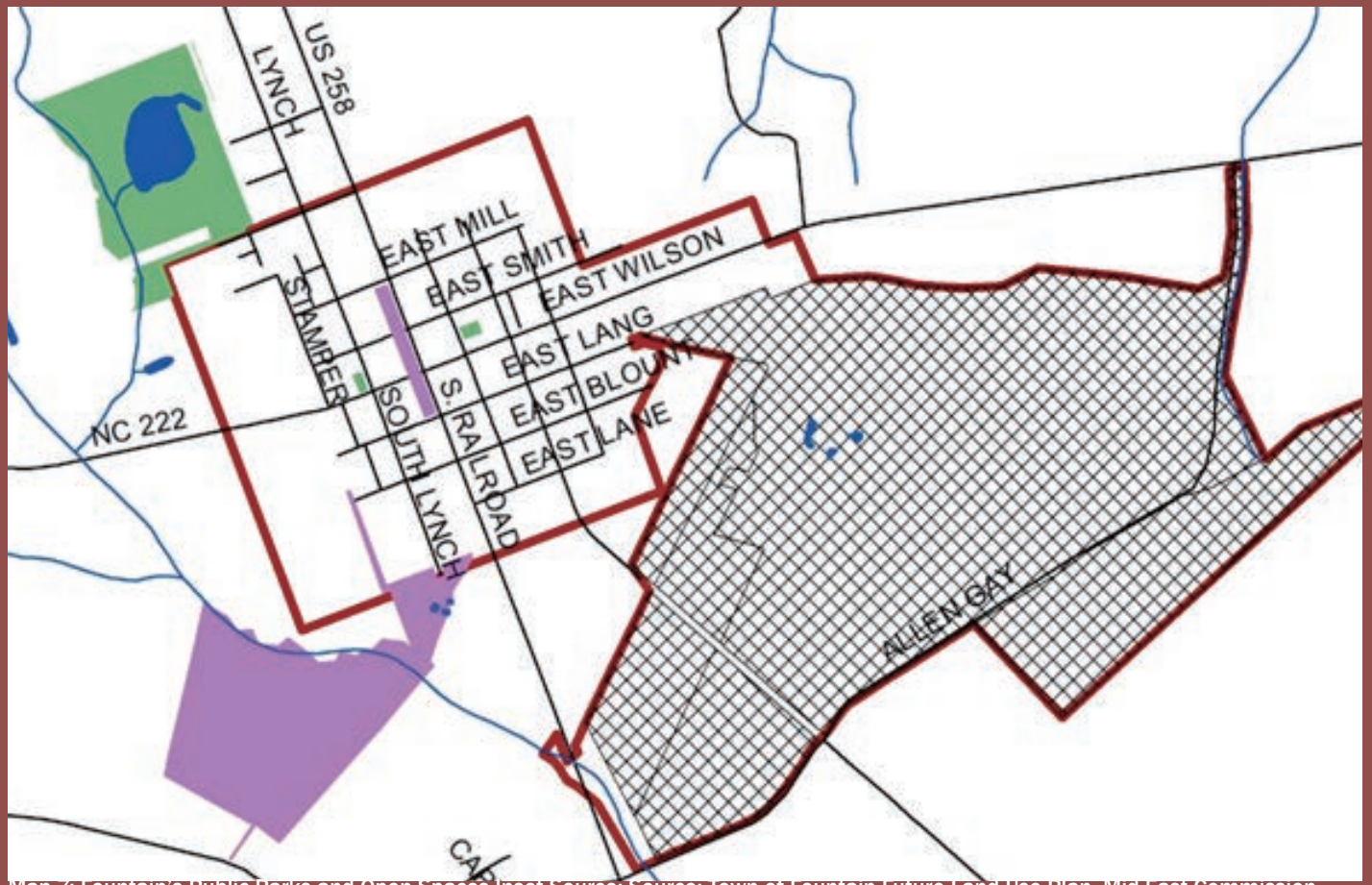


0 0.175 0.35 0.7 Miles

Map created by: Mid-East Commission
Dept. of Planning, Economic Development
and Community Services, November 2023



Map 6: Fountain's Public Parks and Open Spaces Source: Source: Town of Fountain Future Land Use Plan, Mid-East Commission



Map 7: Fountain's Public Parks and Open Spaces Inset Source: Source: Town of Fountain Future Land Use Plan, Mid-East Commission

CHAPTER 5

PARKING

CONDITIONS

It should be noted that the data presented here only represents availability in a minimal time frame. It is strongly recommended that the town hire a consulting company or use technology to measure parking availability at various times throughout the day, week, and month for a more accurate understanding.

PARKING LOTS

There are only two actual parking lots located within the study area:

- Gravel lot next to the town’s wellness center (Lot 1) approximately 5,000 square feet in size.
- Gravel /dirt lot next to the town office building (Lot 2) approximately 5,000 square feet in size.

These two lots have no permanent markings or differentiating signage to specify where to park in the lots. The only exception is the three signs in Lot 2, noting that the sports are reserved for the town’s Mayor, Town Clerk, and Utility Clerk.

Noting how many parking spots are available in these respective lots will promote the best parking practices for residents and visitors to the area. As such, measurements were taken to determine the location of the lots and calculate how many parking spaces could be available at any given time. These measurements were calculated with the standard parking spot size of 9 ft wide x 20 ft long in mind.

Measurements were taken of Lots 1 & 2, and it was determined they were approximately the same size. Utilizing a Parking Area Calculator provided by the U.S. Army Corps of Engineers, estimates were developed to determine the number of spaces available for each lot depending on the type of parking angle the town wished to pursue. The data also provided the number of rows that would be appropriate for each lot. Figure #s 7-9 below notes the parking available for the two lots.

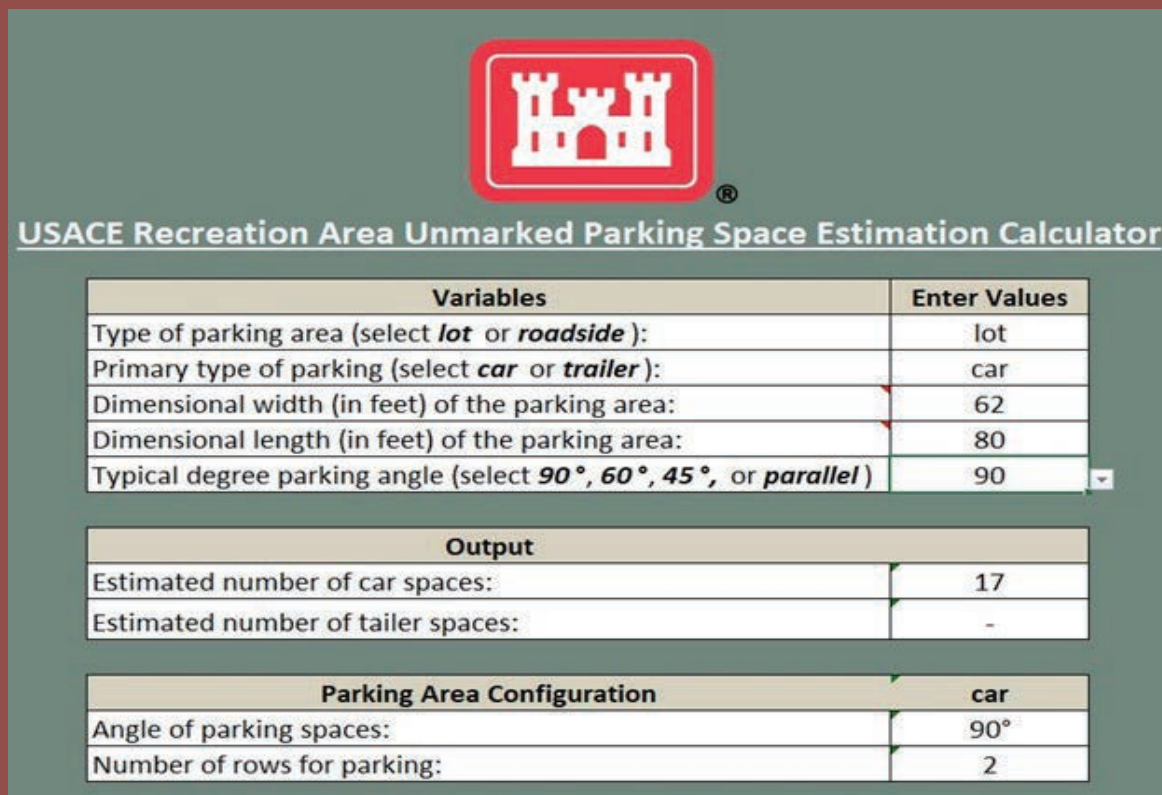


Figure #7 90-degree parking estimation. Source: U.S. Army Corps of Engineers



USACE Recreation Area Unmarked Parking Space Estimation Calculator

Variables	Enter Values
Type of parking area (select <i>lot</i> or <i>roadside</i>):	lot
Primary type of parking (select <i>car</i> or <i>trailer</i>):	car
Dimensional width (in feet) of the parking area:	62
Dimensional length (in feet) of the parking area:	80
Typical degree parking angle (select <i>90°</i> , <i>60°</i> , <i>45°</i> , or <i>parallel</i>):	60

Output	
Estimated number of car spaces:	13
Estimated number of trailer spaces:	-

Parking Area Configuration	car
Angle of parking spaces:	60°
Number of rows for parking:	2

For technical assistance, contact Ben Silvernail at benjamin.j.silvernail@usace.army.mil

Figure #8 60-degree parking estimation. Source: U.S. Army Corps of Engineers



USACE Recreation Area Unmarked Parking Space Estimation Calculator

Variables	Enter Values
Type of parking area (select <i>lot</i> or <i>roadside</i>):	lot
Primary type of parking (select <i>car</i> or <i>trailer</i>):	car
Dimensional width (in feet) of the parking area:	62
Dimensional length (in feet) of the parking area:	80
Typical degree parking angle (select <i>90°</i> , <i>60°</i> , <i>45°</i> , or <i>parallel</i>):	45

Output	
Estimated number of car spaces:	9
Estimated number of trailer spaces:	-

Parking Area Configuration	car
Angle of parking spaces:	45°
Number of rows for parking:	2

For technical assistance, contact Ben Silvernail at benjamin.f.silvernail@usace.army.mil

Figure #9 45-degree parking estimation. Source: U.S. Army Corps of Engineers

Note: The previous numbers are approximations, and the town should consider hiring a licensed engineer or transportation professional to determine the exact numbers for each location.

STREET PARKING

It was noted that street parking is the primary parking source in the study area. However, there is a lack of clearly defined parking spots based on faded or no striping.

The study area was divided into four blocks to measure on-street parking. Map #8 below illustrates the blocks and all on-street parking areas (symbolized by dark pink lines). Table #3 specifies each measurement for the respective street and the approximate number of parking spaces available.

Measurements were taken for each street to calculate the appropriate number of parking spaces available for the study area. It was determined that parallel parking would be the best practice for most of the area, with angled parking considered on North Jefferson Street between East Wilson Street and East Smith Street (See Recommendations). According to the North Carolina Department of Transportation (NCDOT), it is recommended to allow a minimum of 10 feet wide and 20 feet long parking spaces along the roadway.

The total calculation was as follows:

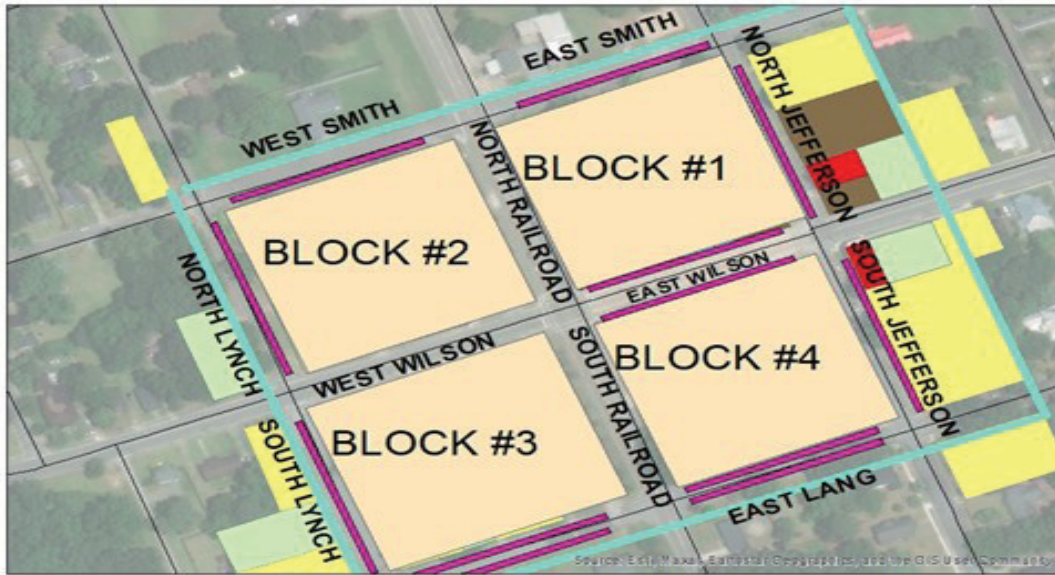
Approx. Feet in length – 25 feet for sight distance at each end per state statute = approx.

Feet in length of available parking.

Approx. Feet in length divided by the standard length of 20 feet = approx.

Number of parking spaces available.

It was determined that a parking frequency analysis was not plausible due to the amount of parking throughout the study period. However, as seen in Map 3 (Transportation Network, 2021 Average Daily Travel), The internal corridor of the study area experiences approximately 7,800 trips daily between its two main roads (Wilson Street and Railroad Street).



Map created by: William Lowery
Created: March 18, 2024

Map #8 Study area block groups and parking areas. Source: William Lowery

Block #	Street Name	Side of Street	Approx. Measurement	Approx. # of Spaces
1	East Wilson Street	North & South	270 feet	10 each side (20 total)
1	North Jefferson Street	West Only	250 feet	18
1	East Smith Street	South Only	270 feet	10
2	West Smith Street	South Only	310 feet	12
2	North Lynch Street	East Only	270 feet	10
3	South Lynch Street	East (from West Lang St to back for commercial lot)	170 feet	10
3	South Lynch Street	West	280 feet	11
3	West Lang Street	North & South	315 feet	12 each side (24 total)
4	East Lang Street	North & South	270 feet	10 each side (20 total)
4	South Jefferson Street	East Only	270 feet	3
Total			Approx. 2,675	138

Table #3: Approximations of Study Area Street Measurements with Approximate Parking Space Allotment

Note: These numbers are approximated, and the town should hire a licensed engineer or transportation professional to determine the exact numbers for each Block.

CHAPTER 6

RECOMMENDATIONS

It is suggested that any recommendations pursued by the town should be completed after NCDOT completes its resurfacing project for the concrete section of NC-222/Wilson Street.

The following recommendations were chosen based on the previous chapters. Although suggested as individual items, the town should consider combining them for efficiency and tremendous success.

1. SIGNAGE OF PARKING LOT

1.1 Public Lot Signage.

Generally, most patrons coming downtown would like to be assured that they are parking legally and in proper areas when they park. For these reasons, public lots must be identified. Suppose lots have a combination of reserved and general spaces. In that case, it is also essential to recognize these different types of spaces with signs and striping (when possible), as seen in Lot 2 with the employee signs (Figure #6). Public lots should be identified with a Lot Name sign. Ideally, the lot name uses intersecting streets or street names to help someone navigate back to the lot rather than just identifying with a letter or number (if the budget allows).

The recommendation is to install more permanent signs to allow individuals to locate and know which lots are utilized for parking. The town could choose to name the individual lots with custom signs. However, it could very easily get by with a general parking sign signifying public parking, as stated above (Figure 10 provides an example)

1.2 Directional Signs

While residents and other frequent visitors may be comfortable knowing where the publicly available parking lots are located, infrequent visitors and other downtown guests will often look for signs directing them to publicly available parking. A signage program for Downtown Fountain would consist of signs of several types. In all cases, the signs should have a consistent color, font, and logo so drivers can look for similar signs once a sign is seen. An initial sign such as Public Parking Ahead can be provided on main roads into downtown. At decision points, signs with directional arrows will help direct patrons to available public lots.

Develop a signage program as budgets permit. Public lot identification signs (recommendation 1.1) above should be the initial priority, but directional signs should be developed as budgets allow.

Figure 11 is an example of a directional sign utilized in the City of Greenville, N.C.



Figure 10 Example of a simple parking sign.
Source: myparkingsign.com



Figure 11 Example of directional sign in
Greenville, N.C.
Source: Google Maps Street View

2. MAINTENANCE OF SURFACE LOTS

Lots 1 and 2 within the study area lack proper maintenance and thus require attention. For example, though Lot 1 is graveled to allow parking next to the wellness center, it is the incorrect size material. The lot will need to be cleared, regraded, and either paved or re-graveled with correct material such AB3, pea gravel or crusher run.

The Town of Fountain will need to monitor its lots for routine maintenance. The government should routinely check the public lots for potholes and deterioration.

The Town could also pursue the future options of paving Lot 1 and graveling or paving Lot 2 to better protect the land from vehicle damage when parking on the bare earth. The average cost to build a gravel parking lot is approximately \$3 to \$5 per square foot, and the average cost to pave a parking lot is approximately \$3 to \$7 per square foot. This cost depends on soil conditions, labor rates, and the type of material used.

Examples of Lot 1 being paved and marked can be seen in figures #17 & 18, located in Appendix B. Utilizing the estimated measurements for lot one, the approximate cost to clear, grade and pave lot one will be \$40,000

3. ADDITIONAL PARKING LOTS

This recommendation presents creating two vacant lots as additional parking. The Fountain Rural Fire Department owns the first lot as a new parking lot for public and private use. The described lot is approximately 4,800 square feet and could fit the following number of vehicles, depending on the angle of parking selected:

- 90 degree = 8 spaces
- 60 degree = 5 spaces
- 45 degree = 4 spaces

The calculation only allows for one row for parking.

The cost for the installation varies, as stated in the Maintenance recommendation. However, it should be noted an additional cost of site preparation needs to be added. For example, tree removal costs \$150 to \$500 for trees up to 30' tall, \$300 to \$1,000 for trees between 30 and 60 feet, and \$650 to \$2,000+ to cut down large trees over 60 feet.

Estimated cost to develop and pave this proposed lot would be an estimated \$40,000. This is taking into account the above pricing on the hire end of the estimations.

An example of the fire department lot being paved and marked can be seen in figure #19, located in Appendix B.

The second lot is located at the rear of the historic train station property, between West Wilson Street and West Smith Street.

This small dirt lot owned by the town could be utilized for additional parking, especially when it holds its monthly vendor and crafts market. The described area is approximately 5,100 square feet and could fit the following number of vehicles, depending on the angle of parking selected:

- 90 degree = 15 spaces
- 60 degree = 11 spaces
- 45 degree = 8 spaces

The estimated cost to develop and pave this lot would be \$36,000. The calculation only allows for two rows of parking.

4. Road diet on North Jefferson Street

One community member requested that the possibility of angle parking be pursued, either pull-in or back-in, within the study area. It was determined that North Jefferson Street between East Wilson Street and East Smith Street could be the best area for this.

It is recommended that the traffic pattern of this section be changed, converting it from a two-lane road to a one-lane road and requiring traffic to flow northbound only (entrance off East Wilson Street and exit off East Smith Street). The road diet will create space for angled street parking on one side of the street. Allowing angled parking on the west side of the street is recommended if pursued.

Figures #12 & 13 are examples found in front of the Winterville Police, Fire, and EMS building on Railroad Street in Winterville, NC. Fountain could replicate a similar street design to provide more parking on North Jefferson Street. This section of Railroad Street is approximately 250 feet long, accommodating 17 easy-to-access parking spaces, with two being ADA-compliant handicap spaces, and it also includes a pedestrian crosswalk to the office building. That is about one parking space for every 14.7 feet of road length.

North Jefferson Street from East Wilson to East Smith Street is approximately the same size as Winterville's Railroad Street. This area could easily follow the same pattern as Winterville and utilize the alley driveway cut as the start of a pedestrian crosswalk to the town's community park. Changing the two-lane road into a one-lane will also reduce traffic speed along the street, improving pedestrian safety.

Figure #21, located in Appendix B, also provides a 3D representation of the area's appearance.



Figure #12 Example of 45-degree parking in Winterville, NC. Source: Googl Maps Streetview



Figure #13 Angled parking in Winterville, NC Source: Pitt County OPIS Satellite imaging.

5. MAINTENANCE – ON-STREET PARKING

Having defined stall markings in on-street spaces helps ensure the efficient use of the valuable curb space. Where on-street stalls are not marked, patrons may leave too much space between vehicles or squeeze into a space, leaving too little room for another car to get out of the curb space easily. Stall markings also help define parking as permitted on the block face.

(1) The entire study area allows permitted on-street parking. However, there are issues with poor demarcation using paint and signage of where these spaces are, where on-street parking is permitted but not defined by stall markings, paint stall markings on the roadway in combination with proper signage by utilizing the approximate inventory numbers listed in Chapter #5.

It is also recommended to strip the intersection corners with hash striping, commonly signaling “No parking area” within 25 feet of the intersections; an example of hash striping can be seen in Figure #13 at both ends of the parking area. The town could also paint 25 feet of curb length yellow or red to symbolize that no parking is permitted, per NC State Statute (G.S. 20-162), as seen in figure #14. Figure #17, located in Appendix B, provides a 3D representation of what the East Wilson Street corridor could look like if this recommendation is pursued.

(2) At least annually, review the condition of existing on-street stall markings and note where repainting is necessary.



Figure #14 Example of yellow no parking curb. Source: Adobe Stock Images.

6. SIDEWALK UPGRADES

Some of the sidewalks inside the study area could be repaired or redone to help create an enjoyable walkable environment. It is recommended that sidewalks be repaired or redesigned to allow for a more walkable area. It is also recommended that the recommendation be followed as stated in the Pitt County Comprehensive Transportation Plan (Chapter #4).

If the town pursues the change of North Jefferson Street, it is recommended that the sidewalk be continued to East Smith Street. This will allow individuals utilizing the angle parking to walk to the downtown area and allow individuals accessing the back alley area to walk to it if parking further away.

One recommendation for sidewalk design would be to move the metal benches along East Wilson Street (Figure #4) off the curb line and re-install them closer to the commercial businesses. This will allow for a more open sidewalk space along East Wilson Street. Also, the installation of flower planters to add color and design to the sidewalk areas. Figure #15 provides an example.



Figure #15 Example of flower planter on E 5th Street in Downtown Greenville, NC.
Source: Google Maps Street View.

APPENDIX

APPENDIX

A

Initial Meeting Summary

On January 23, 2024, at 2:00 pm, a meeting was held with the Town of Fountain, the Mid-East Commission, and the Pitt County Planning Department members to discuss the requested project.

The members present were:

Mayor Kathy Parker

Fountain Planning Board Members: Elizabeth Albright, Shaun Newland, Julia Ann Smith,
Mid-East Commission personnel: Jamie Heath and Sam Singleton

Pitt County Planning: Ben Rogers

Student Project Consultant: William Lowery

The meeting was held to establish the project scope and ask Mayor Parker and the Planning Board members about their concerns and how they wished to address them. Everyone agreed that East Wilson Street was the main corridor for the town and that they were having issues with speed. Sam Singleton stated he would contact NCDOT and inquire about a possible solution to the speeding concern. The idea of replacing the traffic light intersection with a four-way-stop intersection was brought up, and everyone liked it. Mr. Singleton said he would mention the idea to NCDOT when he contacted them.

Mr. Newland proposed researching and possibly pursuing the idea of angled parking, either back-in or pull-in, on East Wilson Street. Jamie Heath stated that the idea was great; however, East Wilson Street was not wide enough to allow that specific type of parking. I mentioned to Mr. Newland and the rest of the members that I would research the aspect of angled parking and see if there was a location within the study area to utilize the parking style.

All members also wanted to know exactly how much parking was within the study area, as they wanted to pursue the re-establishment of Fountain's previous music festivals. They also stated that they recently had a large-scale bicycle ride through the town and would like to promote more events of that nature. The last two comments were about possibly creating the empty lot owned by the Rural Fountain Fire Department into additional parking and repairing the gravel lot for the Wellness Center to allow for more level walking; the Martin Marietta Mine Company donated the current gravel; however, it is too large to have a level walking surface.

APPENDIX
B

RESIDENT SURVEY



Town of Fountain Parking Study - Residents

Welcome!

My name is William Lowery, and I am a Senior Community and Regional Planning student at East Carolina University. You are invited to participate in a parking feasibility study titled "Town of Fountain Parking Study". This survey is being undertaken to assist the Town of Fountain in a Parking Study of the downtown area.

This Survey is to gather your input on the parking conditions in Downtown Fountain. It is hoped that this information will assist me in gaining a better understanding of the challenges and needs around access to parking within the downtown area.

The survey should take no more than 8 minutes to complete. Your responses will be kept confidential, and no data will be released or used with your identification attached. Your participation in the research is voluntary. You may choose not to answer any question, and you may stop at any time. There is no penalty for not taking part in this research study. If you decide you are willing to take part in this study, check the "I Consent" box below and the research questions will appear. Please email Mr. Merrill Flood, project professor at floodm18@ecu.edu if you have any questions or concerns.

Do you consent to respond to this survey?

- Yes I Consent
- No I Do Not Consent

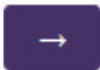




Below is the proposed study area for this project.



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Please describe yourself:

- Male
- Female
- Prefer not to say

Please indicate which best describes your age group:

- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65 and Over

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[→](#)



How many times a week do you travel to and from Downtown Fountain?

- Daily
- Frequent
- Infrequent
- Not very often

How much time do you usually spend in Downtown Fountain?

- Less than 30 minutes
- 30 minutes to 1 hour
- 1 - 2 hours
- 2 - 3 hours
- 3+ hours

When do you usually visit Downtown Fountain?

- Weekdays
- Weekends

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During what time(s) of the day do you usually visit Downtown Fountain?

- Morning
- Lunch Time
- Afternoon
- Dinner Time
- Evening

When traveling to and from Downtown Fountain, what is your main mode of transportation?

- Drive alone
- Carpool or dropped off by someone
- Golf cart
- Motorcycle
- Pitt Area Transit System (PATS Bus)
- Ride bicycle
- Walk

Please identify which activities you participate in when you visit Downtown Fountain.

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Shopping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Working	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visiting the Community Center	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visiting the Post Office	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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→



How important is parking as it relates to your decision to visit Downtown Fountain?

	Does not impact at all	Somewhat does not impact	Neutral	Somewhat Impacts	Definitely impacts
Please select which prompt best fits your thoughts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you drive to visit downtown, where do you prefer to park?

- On-street
- Off-street Public lot
- Private lot

What distance is acceptable to you for walking to your destination from where you park?

- Less than one block
- One to two blocks
- Two to three blocks
- Three blocks or more

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We thank you for your time spent taking this survey.
Your response has been recorded.

APPENDIX C

3D Designs of Recommendations.

Designs are based on estimations and should not be considered as construction ready.

1. **Figure #16 Aerial View**
2. **Figure #17 East Wilson Street with spaces**
3. **Figure #18 Town of Fountain Wellness lot #1**
4. **Figure #19 Town of Fountain Wellness lot #2**
5. **Figure #20 Fountain Rural Fire Department Parcel**
6. **Figure #21 North Jefferson Street as One-Way Street**

**William Lowery completed recommendation designs via SketchUp
3D Design Software.**

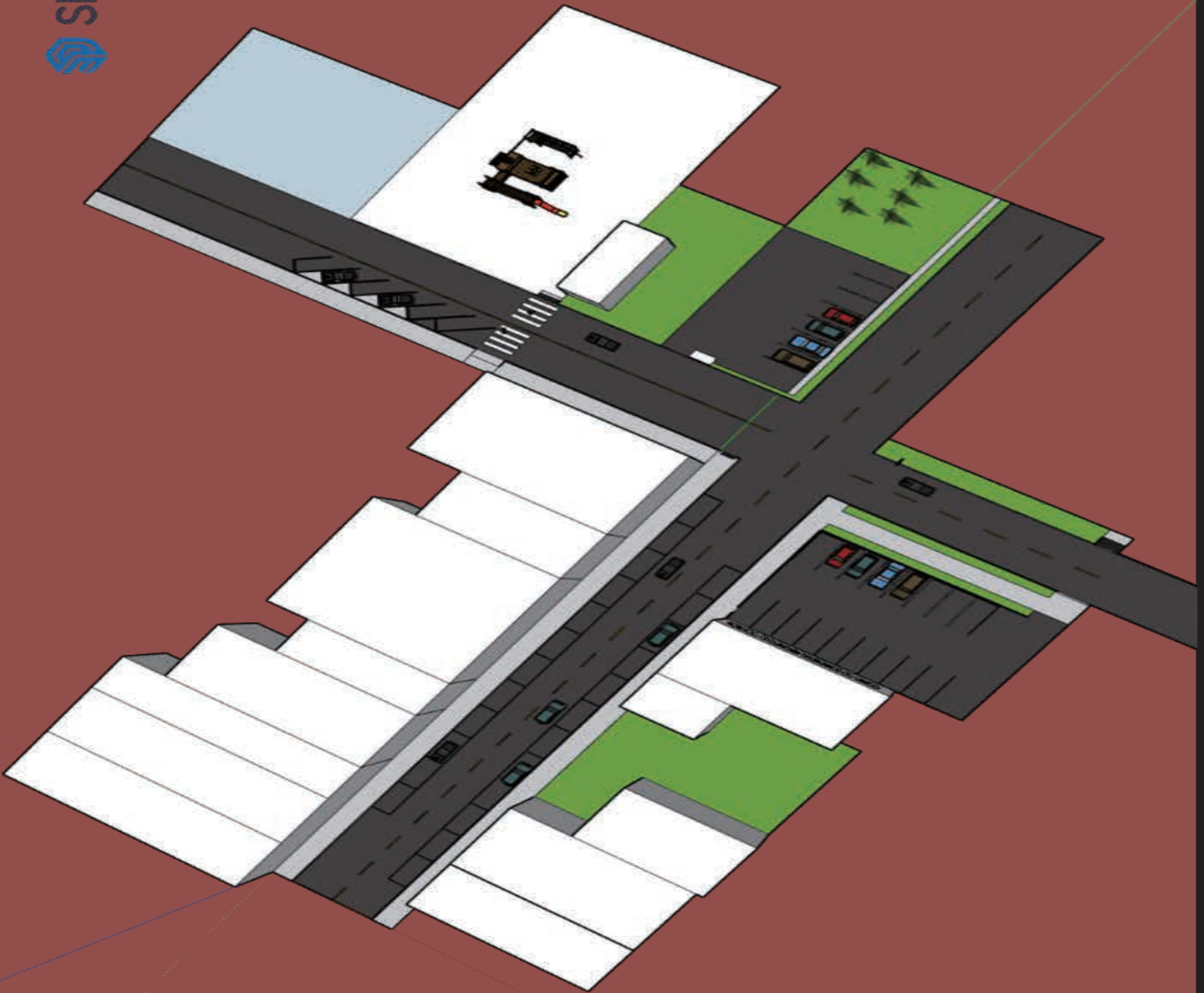


FIGURE #16



FIGURE #17

Town of Fountain Wellness Center

SketchUp

FIGURE #18



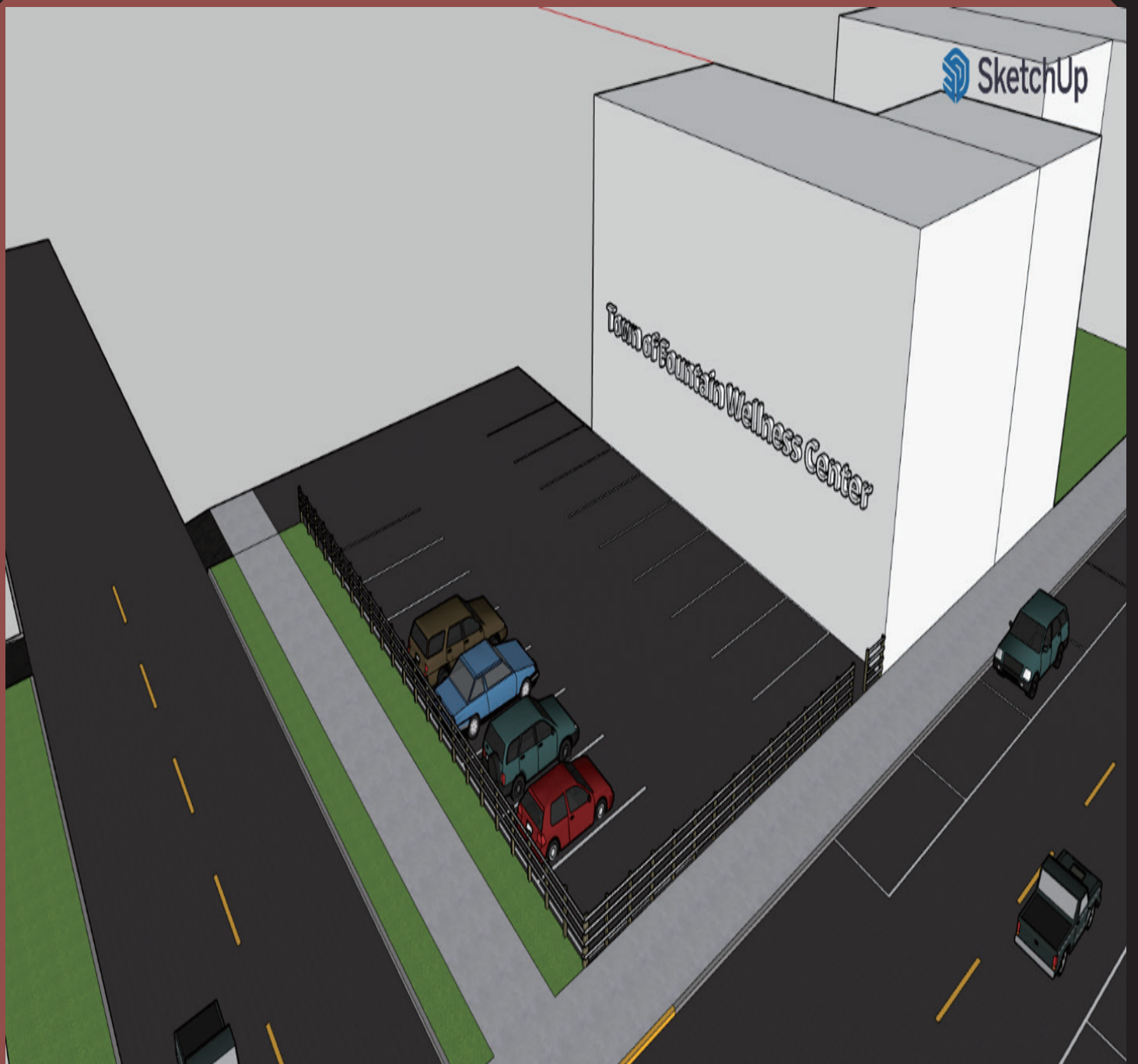
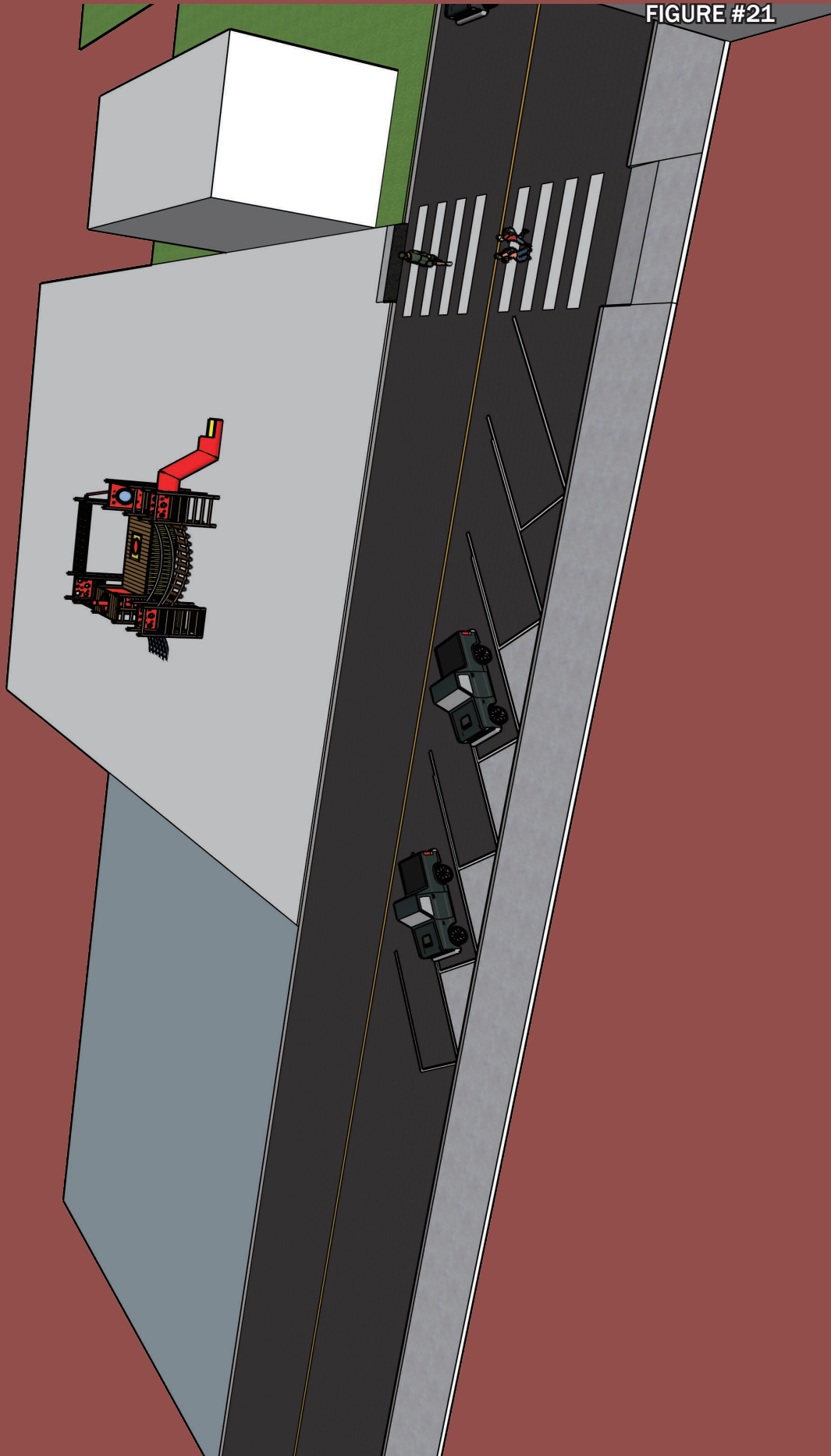


FIGURE #19



FIGURE #20

FIGURE #21



APPENDIX D

William Lowery
Professor Merrill Flood
PLAN 4099
23 January 2024

Town of Fountain Downtown Parking Feasibility Study Project Outline

I. Analysis Phase

Timeline: Month of February

- a) Evaluate the existing parking inventory for the downtown area.
 - a. Will be conducted utilizing provided maps by the Mid-East Commission.
 - b. On-site physical inventorying will be conducted to include a frequency of use assessment.
- b) Analyze similar size municipalities parking studies and identify applicable and desirable recommendations.
 - a. Analysis will be conducted using the following resources:
 - i. Reviewing various parking studies of similar sized municipalities
 - ii. U.S. Census Bureau data to determine liked size communities.

II. Strategy Phase

Timeline: Month of March

- a) Develop and utilize residential and commercial survey to receive comments about the downtown parking condition.
- b) Hold a community meeting to go over possible wants and garner responses on particular recommendations.

III. Design Phase

Timeline: Month of April

- a) Organize findings produced during the previous phases into a comprehensive research deliverable.
 - a. Tentative Report Outline
 - i. Executive Summary
 - ii. Table of Contents
 - iii. Introduction
 - 1. Overview and project goals
 - 2. Study area
 - iv. Outreach & Engagement
 - 1. Engagement overview and goals
 - v. Parking Utilization Study
 - 1. Data collection
 - 2. Key observations
 - vi. Case Studies
 - vii. Findings & Recommendations
 - 1. Overview
 - 2. Recommendations
 - 3. Feasibility & implementation
 - viii. Appendix
 - ix. Sources

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**Thank you to the following individuals for their time and assistance
with this project:**

Mayor Kathy Parker

Fountain Planning Board members:

Elizabeth Albright, Shaun Newland & Julia Ann Smith

Sam Singleton, Mid-East Commission

Jamie Heath, Mid-East Commission

Professor Merrill Flood, ECU

Dr. Misun Hur, ECU

Eric Gooby, AICP, Pitt County Planning

Ben Rogers, CZO, Pitt County Planning