COMMUNITY RISK ASSESSMENT

STANDARDS OF COVER

2023

WINSTON-SALEM FIRE DEPARTMENT

Winston-Salem Fire Department

W.L. Mayo III, Fire Chief

725 N. Cherry Street
Winston-Salem, NC 27101
cityofwsfire.org

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City of Winston-Salem

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William Patrick Pate, City Manager

Introduction

Vision

The Winston-Salem Fire Department strives to be a beacon of excellence in fire and emergency services, committed to safeguarding and enhancing the quality of life for the community we proudly serve.

Our vision is to be recognized as an innovative and forward-thinking department, dedicated to delivering exceptional emergency response, fire prevention, and community education programs.

We envision a future where every resident, visitor, and business owner in Winston-Salem feels safe knowing that they can rely on our skilled and compassionate firefighters. All while we continue to build a department that embraces diversity, fosters a culture of inclusion, and celebrates the unique strengths and perspectives of our members.

Mission

To protect life and property through data-driven decisions in the deployment and delivery of fire and emergency services and community risk reduction.

Values

Customer Service: We will deliver the best customer service to citizens and visitors to our community.

Integrity: We will deliver positive customer service and always do what is right, so our integrity is never questioned.

Accountability: We will promote a culture of accountability through ownership and responsibility to ourselves, our team, and the community we serve.

Professionalism: We will enhance our professionalism through training and education and demonstrate professionalism in all our services and interactions.

Diversity: We will foster a culturally diverse environment that is inclusive and empowering in our workplace. We listen to and engage and interact with our diverse communities through educational opportunities and programs.

Teamwork: We will value the power of inclusive teamwork and opportunities afforded through creativity, efficiency, and increased sense of belonging.

Table of Contents

Executive Summary

This report is a comprehensive analysis of the Winston-Salem Fire Department's ability to respond to emergencies and the extent to which these capabilities meet the needs of the community it serves. It follows the guidelines set forth by the Commission on Fire Accreditation International, an organization that promotes excellence in the fire and emergency services industry. The report covers a variety of topics that are essential to the effective and efficient operation of a department, including risk assessment, critical task analysis, and service level objectives.

Risk assessment refers to the process of identifying and evaluating potential hazards and determining the level of risk associated with them. This includes assessing the likelihood of an emergency occurring, as well as the potential consequences of such an event. Critical task analysis involves examining the tasks that are essential to the department's ability to effectively respond to emergencies and determining the necessary resources and personnel required to carry out these tasks. Service level objectives refer to the standards that the department aims to meet in terms of response times, customer satisfaction, and other performance metrics.

In addition to this analysis, the report also includes data on the department's reliability and historical performance. This information provides a snapshot of the department's past performance and can be used to identify areas for improvement.

The department is an "All-Hazards" department, meaning that it provides a wide range of emergency services, including medical response, fire suppression, technical rescue, hazardous materials response, and more. The goal of the department is to protect the lives, property, and environment of the community it serves.

This report has been reviewed and endorsed by the command staff of the department, which includes the highest-ranking members of the department. It will be regularly updated with new data and performance improvement plans to ensure that the department continues to meet the needs of the community and maintain its exacting standards of excellence.

Section 1: Documentation of Area Characteristics

An understanding of the characteristics of the community served is essential for informed decision-making and resource allocation within the department, as well as the development of effective strategies and contingency plans to address potential risks and challenges. The community served by a department ultimately dictates how the department is organized and operated, as the needs and demands of the community shape the role and responsibilities of the department.

The characteristics of the community can influence the types of incidents that the department is called upon to respond to, the resources and personnel required to respond effectively, and the challenges and risks faced by the department. It is therefore of utmost importance that the department have a thorough understanding of the community it serves to fulfill its mandate in an effective and efficient manner.

Legal Basis of the Department

The department is legally established and authorized to provide emergency services to the city of Winston-Salem. In the North Carolina General Statutes, Article 14, § 160A-291 et seq. the State of North Carolina authorizes cities to "appoint a fire chief; to employ other firemen; to establish, organize, equip, and maintain a department; and to prescribe the duties of the department." The department was formed after a merger of the cities of Winston and Salem in 1913, which each had legally established departments.

In Salem, the historical record of fire protection goes back to the 1770s. In 1825, the city established a shelter stocked with fire protection equipment and appointed a fire director, and in 1843, the North Carolina legislature approved an act of incorporation for a fire company in Salem.

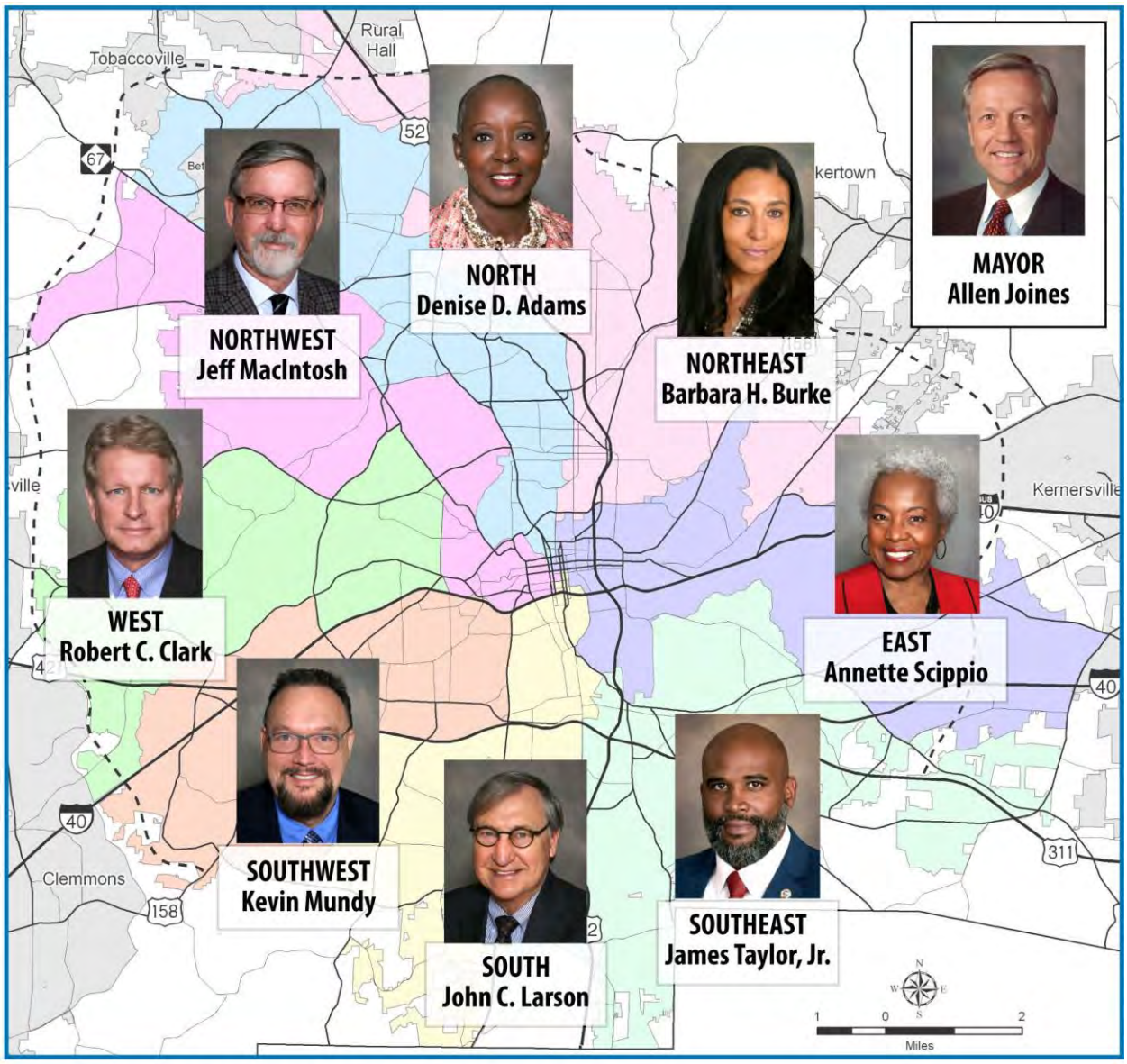
In the city of Winston, a resolution was put before the town commissioners to establish a department in 1877, and the North Carolina legislature approved an act of incorporation for a fire company in 1886.

After the merger of Winston and Salem, the authority for the establishment and maintenance of a department was codified in the Winston-Salem Code of Ordinances, Part 1, Article VII § 37 (21) – providing "for the establishment, organization, equipment and government of fire companies, fire commissioners and fire-alarm system, and to adopt rules for the conduct, regulation and terms of office thereof," and § 37(13) - (16) which enumerates authority relative to fire protection.

Local Governance

The settlements of Winston and Salem combined and were chartered as the City of Winston-Salem in February 1913. Winston-Salem is in Forsyth County, the Piedmont Triad region of North Carolina, and is the fifth-most populous city in North Carolina. Encompassing approximately 133.7 square miles, the 2020 Census estimates its population at 249,545. The City Council adopted a fiscal year 2022-2023 budget in the amount of $627.6 million, with a property tax rate of 63.6 cents per $100 of value.

William L. Mayo is the Fire Chief of Winston-Salem. The current City Manager William Patrick Pate, and his Assistant City Manager Patrice Toney oversee the Department. Winston-Salem is administered via Council-Manager form of government, and its Mayor and Council Members serve concurrent four-year terms. There are eight City Council Members and one Mayor, considered an ex-officio member, who votes only when the situation calls for a tie-breaker vote. The city is divided into eight "Wards" and each Council Member represents his/her own Ward within the city limits as indicated below. The City Council meets bi-monthly, with the first meeting of the month for discussion of zoning items and the second meeting of the month for general business items coming from the Council Committee meetings. There are four Council Committees that meet once a month - Finance, Public Safety, General Government, and Public Works. Each Council Committee is comprised of four City Council Members.



Winston-Salem Mayor and City Council

History of the Department

The department has a rich past full of achievement and progress. Its story is that of two towns and two departments that unified and merged on May 9, 1913, to become Winston-Salem as it is today. The town of Salem was witness to the forming of America, celebrating the first Fourth of July ceremony in the new country. The town of Winston was formed at the dawn of the industrial revolution, becoming a capital for the tobacco and textile industries. These two departments merged after over a hundred years of service to their individual communities.

The town of Salem was founded in 1766 by a group known as the Moravians, who emigrated from Germany and settled into the Piedmont region of North Carolina. A well-organized group, the Moravians established its own government which observed strict laws. The Moravians also kept detailed logs of all activities. Within six years, they were ready to start fire regulation and prevention activities.

Salem commonly implemented fire prevention and suppression methods that were progressive for the time. In 1778, Salem laid over a mile of piping to move much needed water throughout town. The town reserved a supply of water provided in cisterns and ponds for use in fighting fires. The only fire-fighting equipment available at this time were leather fire buckets to carry water and ladders placed at designated locations at buildings. In the 1780s, Salem ordered a four-man hand pumped “fire engine” from Europe. It is believed to be one of the first fire engines brought to North Carolina. By the end of 1813, Salem adopted its first fire code addressing fire prevention in building construction, and detailing actions to take if there should be a fire in town.

In 1847, the first house in Winston was built on the north side of the present Second Street, between Main and Liberty Streets. In early 1849, the County of Stokes was divided, and a new county formed and named in honor of Col. Benjamin Forsyth. Within the next few years, both Salem and the new town of Winston would each be incorporated and operate under separate governments. However, the two towns, separated only by the south line of First Street, would function practically as one town.

On February 2, 1858, Salem produced its first By-Laws with fire ordinances and fines for offenses. In the one-hundred-year history of Salem, only four major fires occurred with six false alarms. The town attributed this to their fire prevention practices.

For the next 55 years, both towns grew, buying equipment, hiring paid firefighters, building fire houses, electing the first fire chiefs, installing the first alarm boxes, and starting the first volunteer African American only Hook & Ladder (1893). They move from hand-pumps to horse drawn steam engines, to motorized engines and cars.

Department Service Milestones

Many changes occurred in the 1950s when a Fire Prevention Bureau was formed, the city adopted the National Fire Prevention Code as its own, and a training division was established. In 1951, Reverend Kenneth Williams, the only African American Alderman, questioned why a fire station in an African American neighborhood did not have any African American firefighters. Four thousand dollars was allotted for the care and maintenance of the Dunleith Avenue fire station to become a company comprised entirely of African American firefighters. When word got out, sixty-three men applied for eight positions. All the men hired had high school diplomas and some of the men had achieved college degrees. Raphael O'Hara Black, Willie James Carter, Lester Edward Ervin, Jr., John Henry Ford, Robert Lindsay Grier, John Franklin Meredith, Jr., George Waddell Penn, and John Roy Thomas became the City's first African American fire company. They later became known as "The First Eight."

City laws decreed that African Americans and Whites had to have separate sleeping quarters and kitchens. Ten thousand dollars was spent to renovate the station to provide separate facilities. However, the African American and the White firefighters ignored these regulations. They worked as a team; they slept and ate together.

The company was limited to only fighting fires in the African American neighborhoods until June 2, 1951, when three of the eight men broke the color barrier as their company was called to assist at the Wood Finishing Products Company Plant #652 on Waughtown Street.

Lester E. Ervin, Jr., John F. Meredith, and J. Roy Thomas joined four other firefighters from the department to help prevent the fire from spreading throughout the entire plant. Captain Overby praised the men by saying, "They stuck in there like veterans." These men and the other five, paved the way for other African Americans in the department. By November of 1967, the department was totally integrated.

There were four major improvements in the department, one of which was the portable ventilation fan. The fans were kept on the assistant chief cars and on aerial trucks. These fans were designed to rapidly clear smoke after a fire. Not only did the fans decrease smoke damage, but they also made it possible for firefighters to search the building with ease. A second improvement was the introduction of the self-contained breathing apparatus ("SCBA") Scott Air Packs, which were showing up much more frequently on fire scenes, although most of the time used only as a place to sit. The third major improvement to the fire service was the introduction of the 1 1/2-inch hose, and improved fog nozzle, which took the place of larger smooth bore nozzles.

On November 2, 1967, a disastrous, racially charged riot taxed the resources of the department. Over one hundred calls were answered within 12 hours. Neighboring Greensboro Fire Department and High Point Fire Department sent men and equipment to assist the city. The heavy call load also brought volunteer departments under contract to provide fire protection. An example of cooperation and comradery, the incident represented all the best qualities of those in the fire service.

The 1970s were very productive years for the department. A comprehensive fire inspection program was started, and the city was divided into fire demand zones. New fire prevention measures included Physically Challenged and Tot Finder programs. Fire trucks were being ordered in a lime-yellow color on advice from an eye doctor, stating the color was more visible at night. In 1973, the city started a Public Safety Officer Program which included both fire and police training. Public Safety Officers would respond to shootings, domestic violence, traffic accidents as well as serving warrants. They would carry their firefighting gear in the trunk of their car until a fire call was dispatched. They would then respond, dress out and assist at the fire scene. Most officers were police-oriented and did not like the idea of fighting fires.

That same year, Public Safety Officer Sandra Waldron became the first female hired by the department. She would also become the first paid female firefighter in the United States. She would eventually become the first female fire captain and the first female battalion chief.

In October of 1979, thirty-seven firefighters with the department became the first in the nation to be certified as fire medics under a program sponsored by the International Association of Fire Chiefs, the International Association of Firefighters, the State of North Carolina, and the Federal Government. Winston-Salem served as a model for 15,000 programs throughout the United States. The program took two years to complete and required 2,000 hours of in-service training.

With the on-duty passing of Chief Arnold Bullard, Lester E. Ervin, one of “The First Eight” African American firefighters, made history by becoming the first African American fire chief in North Carolina on July 21, 1980.

The 1980s brought more growth to the department. In 1981, Barbara Howell White became the first African American female hired by the department. Three new fire stations were built, and one fire station was relocated. An honor guard was formed to honor deceased firefighters at funerals. The Public Safety Officer Program was phased out, leaving many empty positions. To address the loss of personnel, two large classes with thirty recruits each graduated in 1987.

The 1990s saw three new fire chiefs, three new fire stations, the rebuilding of one fire station (Engine 6), a new Hazardous Materials Response Team, the return of red fire trucks after a twenty-year period, the organization of the department Firefighter Combat Challenge Team, and the installation of computers on every fire truck in the city, as well as new pre-fire survey software.

On August 27, 1998, Winston-Salem experienced its “fire of the century” when the R. J. Reynolds Plant #256 ignited. The plant, built around 1925, covered one full city block. The building was being renovated at the time. Over 125 paid firefighters and more than fifty volunteer firefighters took nine and a half hours to bring the blaze under control. Over 732 inmates with the Forsyth County Jail had to be evacuated due to the fire. This fire prompted changes in the department’s staffing, training, and led to the purchase of new equipment.

In 1999, Automated External Defibrillators (AED) were purchased for use, and all firefighters were trained to the Emergency Medical Technician Defibrillator level. The department also received a thermal imaging camera as a gift from Mrs. Dottie Hill who spearheaded a fund-

raising campaign to purchase the camera. Through her efforts, $17,000 was raised. She also played a significant role in the purchase of the defibrillators.

On November 1, 1999, the department returned to answering medical calls. The department first started answering medical calls during the years when A.B. Bullard was fire chief in 1979, but the service was abruptly discontinued after his death in 1980. Eleven of the department's seventeen stations went into service in 1999 after taking part in a revived medical training program, with the remaining six stations beginning service in July 2000. The cost of the first eleven defibrillators, plus one spare unit, came to $30,253. The remaining six defibrillators were purchased using money from a grant awarded to the department by the Medical Center Foundation of Forsyth Hospital, at a cost of $26,250.

During the first years of the new millennium, the department saw numerous changes. Chief J.W. Gist brought about many of these changes, hiring new firefighters, and putting into service three new companies to improve services provided to the citizens and other agencies. In 2006, the department put into place its first dedicated rescue unit. Members of Hazmat 1 had been training for years on various rescue techniques in preparation of bringing the new company online. With the aid of the federal SAFER grant, additional personnel were hired to staff the rescue unit. At the same time, two new fire companies were established: Engine 19 was built in the Sedge Garden area and Engine 20 was built in the Bethania-Rural Hall area. The new quarters of Engine 20 were completed in October 2009 on Bethania-Rural Hall Road. It would later house the department's new Rescue 2. The new quarters for Engine 19 were opened in May 2013.

In December 2008, Chief J.W. Gist retired, and A.R. Farmer was named as his replacement. During this time, Chief Farmer worked on revamping administrative positions, removing the deputy chief position, and replacing it with four assistant chief positions.

On May 11th, 2013, the department celebrated its 100-year anniversary as a consolidated department. The department led a parade from the Old Salem Historic District through downtown.

In December 2014, Chief Farmer retired and after a nationwide search, W.L. "Trey" Mayo with Rocky Mount Fire Department was named as Chief Farmer’s replacement. Chief Mayo has worked hard to strengthen the department by adding new administrative and suppression roles. Chief Mayo has added division chiefs to each shift to oversee the day-to-day operations in the suppression division and two Safety and Training captains per shift were added to the suppression division. To assist fire administration with its many tasks, Chief Mayo has added three administrative captains’ positions.

On November 9th, 2015, Shirese M. Moore was promoted from captain to battalion chief. She is the first African American female to hold that position in North Carolina.

During 2015 and 2016, members of the department Technical Rescue Competition Team attended the NCAR&EMS Annual Conference and participated in the Technical Rescue Competition and the Helms Rescue Challenge, competing against other teams from across the state. The Technical Rescue Competition is a six-man event, with a scenario given five minutes

prior to starting. Scenarios include rope rescue, confined space, structural collapse, and more. The Helms Rescue Challenge is a two-man event geared toward rope rescue events. In both years the department team won first place in the Technical Rescue Competition, and they have also won multiple awards in the Helms Rescue Challenge. The most prized award the team obtained in 2015 was the Chad M. Smith Memorial Spirit Award, which is presented to the team for outstanding teamwork and sportsmanship.

Today, the department responds to more than 25,000 emergency responses every year. Approximately 350 uniformed members protect over 249,545 people every day. The department continuously strives to meet the changing needs of citizens and visitors to Winston-Salem.

Naturally Occurring Area Characteristics

GEOGRAPHY AND TOPOGRAPHY

Winston-Salem is in the hilly Piedmont region of North Carolina, situated sixty-five miles northwest of the geographic center of the state, twenty-five miles from Greensboro, sixty-nine miles from Charlotte, and 103 miles from Raleigh. Winston-Salem has a total area of 133.7 square miles, of which 132.5 square miles is land and 1.2 square miles, or 0.93%, is water. Winston-Salem is part of a larger metropolitan area covering over 2,000 square miles, spanning the five counties of Forsyth, Davidson, Stokes, Davie, and Yadkin.

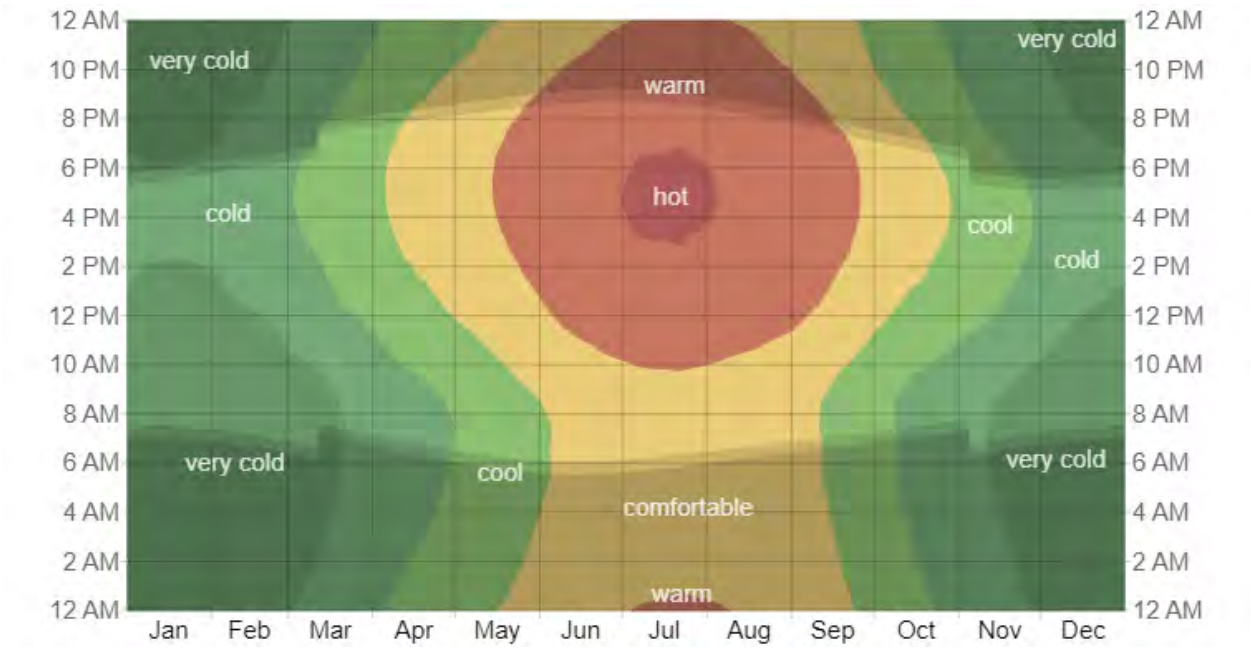
The city's average elevation is approximately 790 feet above sea level. The area has various elevations, with the highest point in the city reaching about 1,027 feet and the lowest point at 591 feet above sea level. The presence of hills and varied terrain contributes to the scenic landscape of Winston-Salem.

The city lies within the Yadkin–Pee Dee River Basin, which primarily drains via Salem Creek, Peters Creek, Silas Creek, and Muddy Creek. Located minutes away from downtown Winston-Salem, Salem Lake offers a 365-acre lake with a scenic 7-mile trail, pier fishing, and boat fishing.

Less than thirty miles north of Winston-Salem are the Sauratown Mountains, named for the Saura people who lived in the Piedmont area, including what is now Winston-Salem.

WEATHER

Winston-Salem experiences a humid subtropical climate characterized by hot summers and mild winters. The city is also prone to severe weather events such as thunderstorms, hurricanes, and tornadoes.



During the summer months, temperatures in Winston-Salem can reach over 95 degrees Fahrenheit, and in the winter months, temperatures can dip below freezing. Flooding, severe winter weather, tornadoes and thunderstorms, droughts, and severe weather from hurricanes are all possible.

Socioeconomic and Sociodemographic Area Characteristics

ECONOMY

Winston-Salem stands as the headquarters for a roster of prominent businesses, including Hanesbrands, Reynolds American, Inmar, and Garner Foods. Financial service giants such as Truist and Wells Fargo also have substantial operations in the city. The city's allure to businesses across various sectors and sizes persists due to its strategic location, offering access to half of the U.S. population within a 650-mile radius, a skilled workforce, and a thriving innovation ecosystem. Forsyth County hosts a thriving hub for advanced manufacturing, including Collins Aerospace, Caterpillar, Cook Medical, Corning, and Deere-Hitachi, while healthcare powerhouses Novant Health Forsyth Medical Center and Atrium Health Wake Forest Baptist dominate the sector. Notably, renowned brands like Krispy Kreme and Texas Pete also trace their origins to this vibrant city.

Winston-Salem has been recognized for its favorable environment for starting and growing businesses. The city has received rankings as the #1 Best Large City for Business Costs and #13 Overall Best Large City to Start a Business. Although traditionally associated with the textile and tobacco industries, the city is transforming itself to be a leader in the nanotech, high-tech and bio-tech fields. Medical research is a fast-growing local industry, and Atrium Health Wake Forest Baptist Medical is the largest employer in Winston-Salem.

Public and private investment of $713 million has created the Wake Forest Innovation Quarter, a downtown innovation district which features business, education in biomedical research and

engineering, information technology and digital media, as well as public gathering spaces, apartment living, restaurants, and community events. The city is prioritizing workforce development initiatives. Funding from the American Rescue Plan Act is being utilized to create a comprehensive talent pipeline program. The program involves the establishment of a co-located workforce hub, the development of career pipelines, and a community resource to facilitate access to workforce opportunities.

DEMOGRAPHY

According to the United States Census Bureau's latest data from 2020, the estimated population of Winston-Salem is 249,545. Below are selected demographic statistics:

- Gender: 47.7% of the population are male, and 52.3% are female.
- Age: The median age of the population is 35.9 years old.
- Race and ethnicity: The racial makeup of the city is approximately 45.2% White, 32.1% Black or African American, 0.8% Native American, 2.8% Asian, 0.1% Pacific Islander, 7.9% from two or more races, and 11.2% from other races. The Hispanic or Latino population of any race is 16.2% of the total population.
- Education: Approximately 90.0% of the population aged 25 years and over have a high school diploma or higher. Around 38.0% of the population have a bachelor's degree or higher.
- Household income: The median household income in Winston-Salem is $50,204.
- Poverty: Approximately 19.0% of the population lives below the poverty line.

The city has a rich history and diverse culture, with a range of neighborhoods, museums, and cultural events.

Development and Infrastructure

NEIGHBORHOODS

Winston-Salem consists of sixty-six constituent neighborhoods and covers a total area of 133.7 square miles.

Downtown: The central business district of Winston-Salem and the largest in the Piedmont Triad region. With a population of approximately 14,000 and a workforce of over 27,000, downtown Winston-Salem is a hotspot for growth. Fourth Street, the "main drag" consists of bars, restaurants, retail, hotels, and luxury residential units. Downtown is outlined by Northwest Boulevard to the north and west, Salem Parkway to the south, U.S. Route 52 to the east. Downtown features major attractions such as Innovation Quarter, Truist Stadium, Old Salem, and Benton Convention Center.

West End: One of the most notable neighborhoods in the city, West End features the West End Historic District which covers an area of 229 acres and is predominantly residential. Most of the buildings in West End were built between 1887 and 1930. Major thoroughfares in West End are West End Boulevard, Northwest Boulevard, and First Street that all lead downtown. The neighborhood offers an urban lifestyle with nearby shops, parks, restaurants, and other services.

Ardmore: One of the largest neighborhoods in Winston-Salem, it features the Ardmore Historic District which contains over 2,000 buildings and two sites. Ardmore is near Atrium Health Wake Forest Baptist Medical Center which is the second largest hospital in North Carolina. Atrium Health Wake Forest Baptist Health is the largest employer in Forsyth County, and with over 20,000 employees the hospital serves North Carolina, Virginia, Tennessee, and South Carolina. Major thoroughfares in Ardmore are South Hawthorne Road, Miller Street, Cloverdale Avenue, and Queen Street.

Buena Vista: Sitting northwest of downtown is Winston-Salem's neighborhood with the highest real estate values. The neighborhood is near a wide range of activities and services such as the Reynolda House and Reynolda Gardens, and about ten minutes from downtown and five minutes from one of the city's upscale shopping centers. Most homes in Buena Vista cost between $600,000 to several million dollars.

Hanes Mall Boulevard/Stratford Road: Located seven miles southwest of downtown is the busiest shopping district in Winston-Salem and Forsyth County. The corridor has a variety of national retailers like Target, Costco, and Ethan Allen. Two major companies, Novant Health and Truliant Federal Credit Union call the boulevard home. The intersection of Hanes Mall Boulevard and Stratford Road is the second-busiest intersection in Winston-Salem, with an average daily traffic count of 70,000.

Happy Hill: One of the oldest Black neighborhoods in Winston-Salem, with a history dating back to 1872. Newly freed African Americans settled the area, and it became a thriving community with schools, churches, theaters, and various local businesses. The neighborhood had prominent residents, including athletes, musicians, teachers, artisans, and community leaders.

Happy Hill has also been the subject of historical exhibits, reflecting its significance to the city's Black history. Based on the 2010 U.S. Census, Happy Hill had a population of 3,204 people.

University Area: The university area is situated in the north-central and northwestern sections of the city. University Parkway, the 4-8 lane boulevard named after Wake Forest University serves as the downtown-north connector. Neighborhoods in the area include Alspaugh and Mount Tabor and the area contains some of Winston-Salem's busiest roads. It is bound by North Point Boulevard to the north, Coliseum Drive to the south, University Parkway to the east, and Silas Creek Parkway and Reynolda Road to the west. Other roads in the area are Polo Road, Reynolds Boulevard, and Deacon Boulevard. Attractions in the area include the Winston-Salem Entertainment-Sports Complex and LJVM Coliseum, the Winston-Salem Fairgrounds, Winston-Salem Fairgrounds Annex, Allegacy Federal Credit Union Stadium, and David F. Couch Ballpark. The Winston-Salem Fairgrounds also host the Carolina Classic Fair. The fair is one of the most visited fairs in North America; the second-most visited in North Carolina, behind only the North Carolina State Fair.

TRANSPORTATION

Winston-Salem offers several transportation options for residents and visitors.

Car: Most people in the city get around by car, and the city has a network of highways and major roads that make it easy to navigate. Rush hour traffic can be heavy in certain areas, but the city is generally considered to have a relatively low level of congestion compared to larger cities. There are numerous throughfares in Winston-Salem. US 52 (which runs concurrent with NC 8) is the predominant north–south freeway through Winston-Salem; it passes near the heart of downtown. Salem Parkway/US 421 is the main east–west freeway through downtown Winston-Salem; this was the original routing of Interstate 40 (I-40) and was the main east–west route through the city until 1992, when a bypass loop of I-40 was built. US 421 splits in the western part of the city onto its own freeway west (signed north) toward Wilkesboro and Boone. I-74 (which was once US 311) links Winston-Salem to High Point (southeast). Silas Creek Parkway is a limited-access highway that loops around the western side of the city, and it serves as a popular route for drivers going to Wake Forest University, Hanes Mall, Forsyth Medical Center, and Forsyth Tech. It also serves as a connector to I-40 and Salem Parkway/US 421.

Construction began in December 2014 for the Winston-Salem Northern Beltway that will loop around the city to the north, providing a route for the Future I-74 on the eastern section and the Future Auxiliary Route I-274 on the western section. The North Carolina Department of Transportation estimates construction of the final segment of this project will begin in 2030.

Public transit: The Winston-Salem Transit Authority (“WSTA”) has the responsibility of providing public transportation. It took over from the Safe Bus Company, founded in the 1920s as the largest Black-owned transportation company in the United States, in 1972. Operating out of the Clark Campbell Transportation Center at 100 West Fifth Street, WSTA operates thirty daytime bus routes, 24 of which provide night service; 24 routes that operate from morning until midnight on Saturday and 16 Sunday routes. WSTA makes nearly three million passenger trips annually. In February 2010 WSTA added ten diesel-electric buses to its fleet.

The Piedmont Authority for Regional Transportation ("PART") operates a daily schedule from the Campbell center connecting Winston-Salem to Boone, Mt. Airy, High Point and Greensboro, where other systems provide in-state routes to points east. PART also offers Route 5 (Amtrak Connector) which provides daily service to and from the Amtrak Station in High Point with multiple trips during the day.

Biking: Winston-Salem has a growing network of bike lanes and multi-use paths, and the city's relatively flat terrain makes it easy to traverse by bicycle. The city also offers a bike-share program which allows users to rent bikes for short periods of time.

Walking: Many of Winston-Salem's neighborhoods are pedestrian-friendly, with sidewalks and crosswalks. Downtown Winston-Salem is particularly walkable, with a variety of shops, restaurants, and cultural attractions within easy walking distance of each other.

Rideshare: Services like Uber and Lyft are available in Winston-Salem and can be a convenient option for those who prefer not to drive or take public transit.

Aviation: Winston-Salem is served by Piedmont Triad International Airport (PTI), located about 25 minutes away in Greensboro. The airport offers direct flights to several major cities, including New York, Atlanta, and Chicago. The airport also serves much of the surrounding Piedmont Triad area, including Greensboro and High Point; the Authority that manages the airport is governed by board members appointed by all three cities as well as Guilford and Forsyth counties.

A smaller airport, known as Smith Reynolds Airport, is located within the city limits, just northeast of downtown. It is primarily used for general aviation and charter flights. Every year, Smith Reynolds Airport hosts a public air show. The Smith Reynolds Airport is home to the Winston-Salem Civil Air Patrol Composite Squadron, also known as NC-082. The Civil Air Patrol is a non-profit volunteer organization.

Rail: Winston-Salem is one of the larger cities in the South that is not directly served by Amtrak. However, an Amtrak Thruway Motorcoach operates three times daily in each direction between Winston-Salem and the Amtrak station in nearby High Point, sixteen miles east. Buses depart from the Winston-Salem Transportation Center, then stop on the Winston-Salem State University campus before traveling to High Point. From the High Point station, riders can board the Crescent, Carolinian or Piedmont lines. These lines run directly to local North Carolina destinations as well as cities across the Southeast, as far west as New Orleans and as far north as New York City.

Section 2: Department Programs and Services

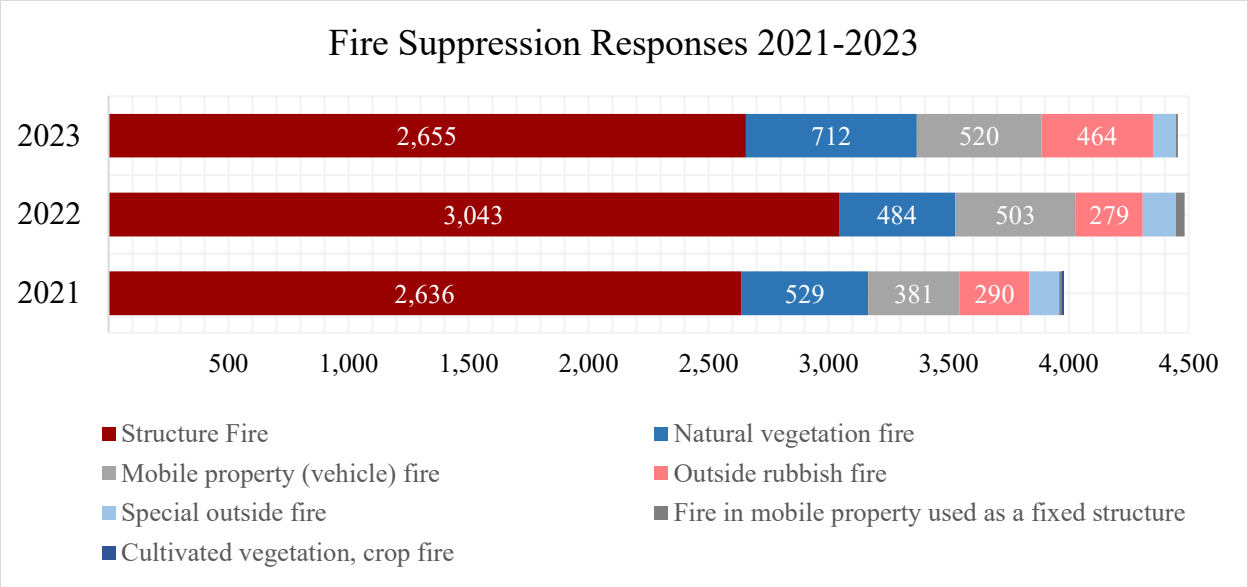
The department offers a comprehensive range of programs and services in order to protect life and property. Fire Suppression controls and extinguishes fires. Emergency Medical Services deliver rapid basic life support, deploying certified EMT personnel. Technical Rescue manages various rescue incidents while adhering to industry standards and safety protocols. Hazmat effectively manages hazardous incidents, collaborates with partners, and provides responder training. The BEAR Team provides compassionate interventions for mental health and substance crises. The Safety and Training Branch ensures operational safety and continuous professional development. The Wellness program enhances members' physical capabilities, and the Fleet Maintenance team sustains apparatus readiness. Community Risk Reduction enforces codes, investigates fire origins, educates the public, and fosters emergency preparedness, contributing to an overall safer community.

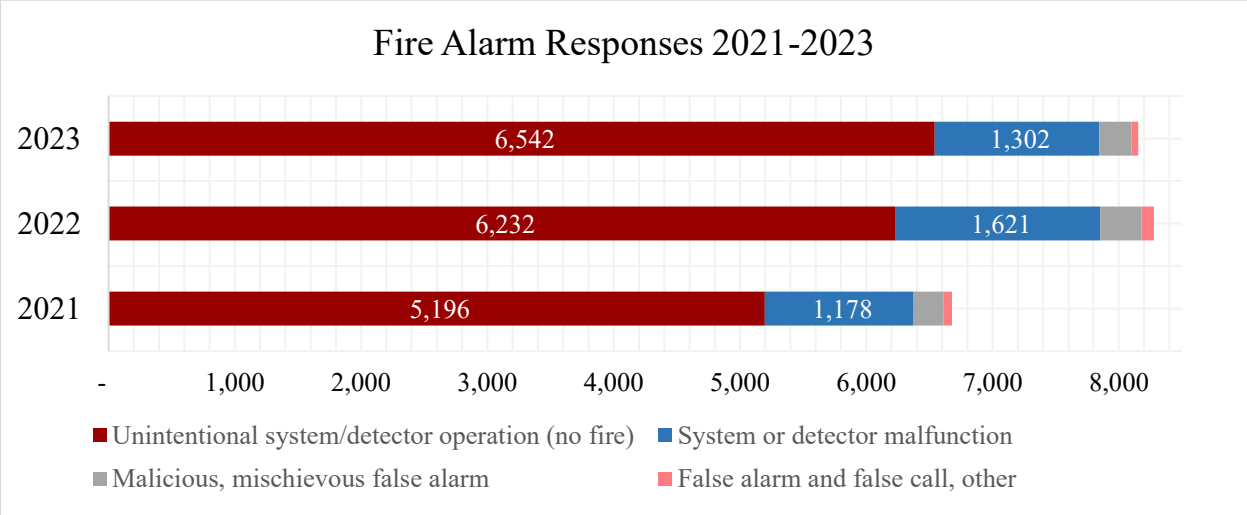
Fire Suppression

The department operates an adequate, effective, efficient, and safe fire suppression program aimed at controlling and extinguishing fires to protect the community from injury or death and to reduce property loss. The Assistant Chief of Operations oversees the program to ensure operational readiness and meet established operational goals and objectives.

The fire suppression program complies with all relevant Federal, State, and local laws and resolutions, including the North Carolina General Statutes, City of Winston-Salem Municipal Code, the North Carolina State Building Code, and the Fire Prevention Code. The department provides an Open Measures Report to ensure compliance and inform elected officials and citizens of the department’s current response capabilities.

When fully staffed, the fire suppression program operates with 357 suppression personnel distributed across twenty fire stations. Four battalion chiefs lead their battalions each shift. The department is equipped with eighteen frontline fire engines, six frontline ladder trucks, and maintains one safety officer per shift to enhance safety during firefighting operations. Additionally, the department currently employs eight reserve apparatus and a breathing air support apparatus.





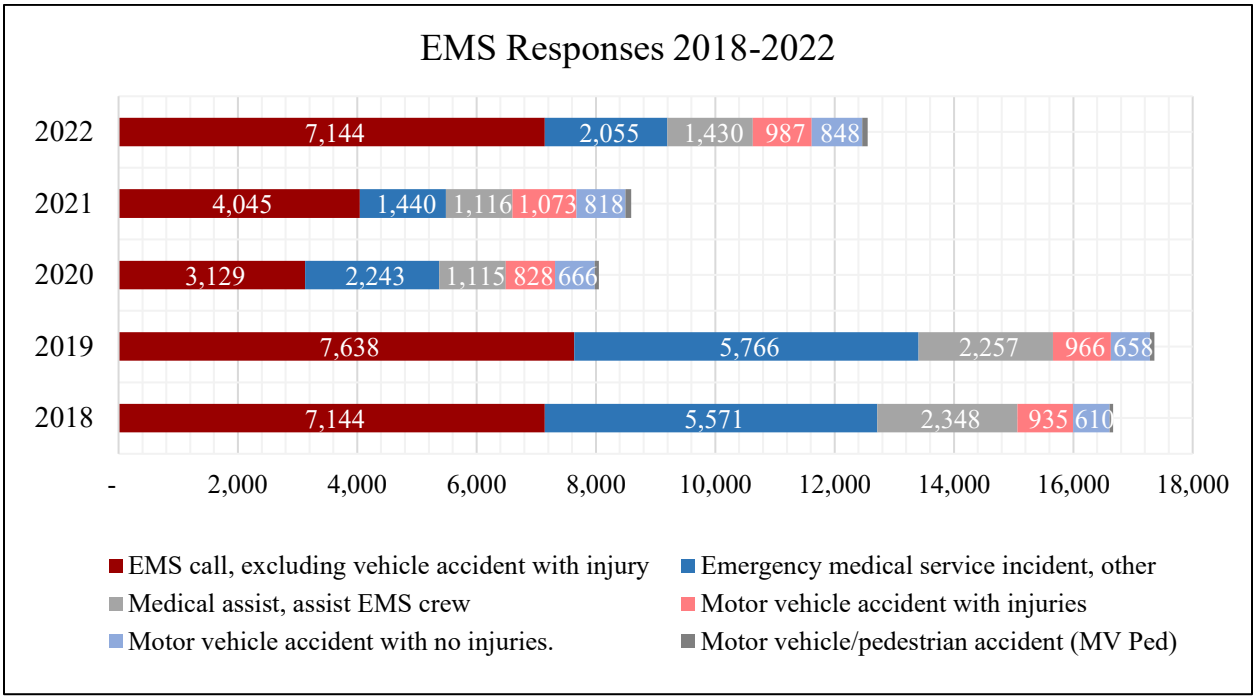
Through its committed personnel, well-maintained resources, and adherence to industry standards, the department remains fully prepared to respond to and mitigate fire effectively, safeguarding the community's well-being.

Emergency Medical Services

The EMS program offers basic life support care to patients both before and after the arrival of Forsyth County EMS on the scene. This program ensures the provision of high-level medical care to the citizens of Winston-Salem by dispatching a minimum of three EMT certified personnel in response to calls for medical service.

All department suppression personnel possess a minimum EMT certification level and are equipped to respond to various medical situations, including vehicle accidents, unconscious patients, strokes, breathing difficulties, cardiac arrests, allergic reactions, overdoses, and traumatic injuries.

For cardiac arrest calls, the EMS program dispatches two fire companies until a mechanical device is placed, ensuring prompt and efficient medical attention. The medical response provided follows regulations set by the North Carolina Office of EMS and the local medical director, with adherence to established protocols and online medical direction for quality assurance and regulatory compliance.



Technical Rescue

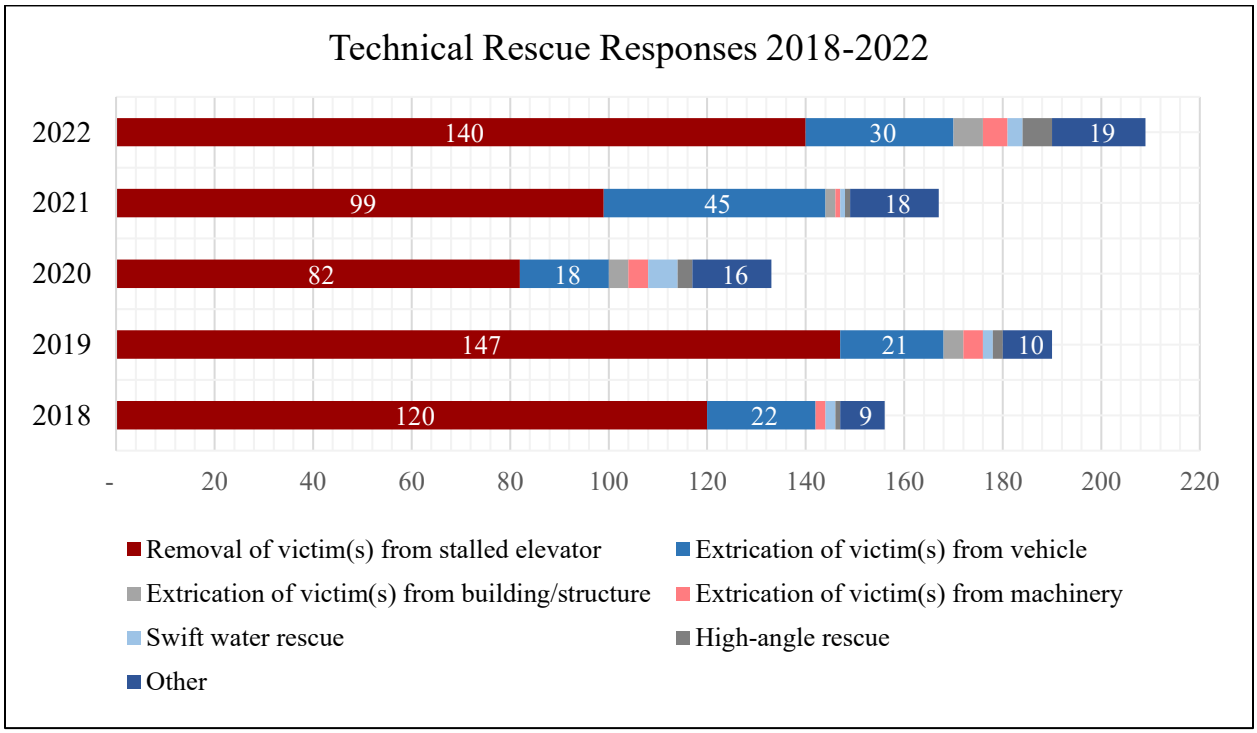
The Winston-Salem Fire Search & Rescue Team's mission is to provide safe and effective technical rescue services to the citizens of Winston-Salem, Forsyth County, and the state of North Carolina. The team is well-trained and equipped to handle various technical rescue incidents, including rope rescue, confined space rescue, trench rescue, structural collapse rescue, vehicle rescue, surface water rescue, and swift water rescue.

The Search & Rescue team follows the standards set by NFPA 1006 and NFPA 1670 for training objectives and operational guidelines in technical rescue. The team is composed of selected members from all three platoons within the department, assigned to companies at Stations 7 and 14, which include Rescue 1, Ladder 14, and Engine 14. Each shift is staffed with fourteen team members, overseen by one battalion chief responsible for team operations.

The team adheres to NFPA 1006 and NFPA 1670 to meet job performance requirements for technical rescue operations. The department's operating guidelines also reference OSHA regulations for operating in confined spaces and trench environments.

To address the challenges of minimum staffing, the team relies on call back and other suppression staff with technical rescue training to support their operations. There is a need for a dedicated chief to oversee technical rescue across all three platoons, as the battalion chief that currently manages technical rescue is responsible for multiple duties.

To maintain their proficiency, team members must meet minimum training requirements in various certified disciplines and undergo regular drills and exercises in technical rescue scenarios. Training records are logged and tracked in the department's training database.



Hazardous Materials

The department's Hazardous Materials Response Team's mission is to effectively respond to hazardous materials incidents and ensure environmental containment and control. The team focuses on both mitigating incidents and collaborating with community partners to prevent and reduce the risk of hazardous materials exposure.

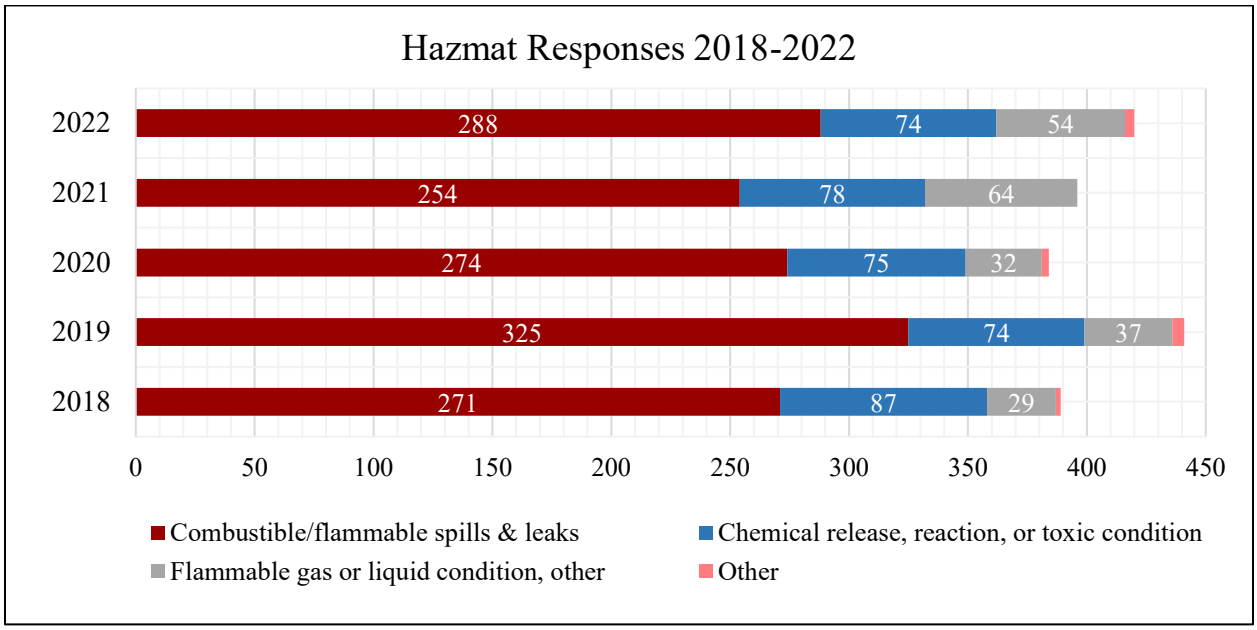
Responsibilities of the Hazmat team include responding to and mitigating hazardous material incidents in Winston-Salem and Forsyth County. The team collaborates with other first responders to protect lives and minimize exposure to hazardous materials. Duties encompass air monitoring, decontamination, spill control, and providing support to the technical rescue team during specific incidents.

The Hazmat team plays an essential role in training local first responders to work safely at hazardous material scenes. They also collaborate with community partners, such as universities and manufacturing facilities, to develop response plans and risk reduction strategies.

Comprising ten members per shift, the team operates from Engine Two and Ladder Two, functioning as a task force for hazardous materials response. Each member is certified as a Hazardous Materials Technician.

The Hazardous Materials Response Team adheres to various national and state standards and regulations, including NFPA 472 and OSHA 1910.120. Departmental policies, such as

Operational Guidelines 2.2.51 Hazardous Material Incident Operations, 2.2.53 Natural Gas Emergencies, 2.2.54 Carbon Monoxide Emergencies, and 2.2.52 Technical Rescue Operations, significantly influence the team's operations.



Special Operations – BEAR Team

The Behavioral Evaluation and Response ("BEAR") team was formed in 2023 and serves as an alternative to law enforcement for mental health and substance use crisis calls. The team's mission is to provide skilled and compassionate interventions to individuals experiencing such crises, ensuring they receive the appropriate level of care at the right time.

The BEAR team offers evidence-based behavioral health and substance use interventions. This includes meeting individuals in the community, conducting safety evaluations and assessments, determining the suitable level of care, and delivering clinical or non-clinical treatment in real-time, with the support of the department.

The team consists of six specialist members equipped with three vehicles, three police radios, three computers, and three cell phones, providing the necessary physical resources to conduct their crucial role in assisting individuals facing mental health or substance use crises.

Special Operations – Safety and Training

The Safety and Training Branch has a comprehensive mission to ensure safe worksites and incident responses while providing essential training and professional development to personnel. The branch adheres to industry best practices and standards, such as those set by NFPA and NC Department of Labor. Safety and Training coordinates new employee training and ongoing skill enhancement, as well as evaluating company performance through timed fire suppression evolutions.

The branch currently faces staffing challenges and seeks to expand its team with positions including an administrative assistant, training coordinators, a fitness coordinator, and a staff psychologist. The development of a dedicated budget is needed for necessary equipment, including fitness/wellness equipment, forcible entry doors, rescue dummies, smoke machines, and fire simulation panels.

Currently, the branch faces obstacles related to training facility access and evaluation frequency, but it aims to increase evaluation cycles in the future. The Training section meticulously tracks sixty-two credentials encompassing 4,224 individual user credentials in its training documentation system.

The Safety section conducts thorough fire station inspections and investigates motor vehicle accidents and employee injuries to identify safety issues and implement improvements. It is committed to reducing accidents and monitoring employee injuries to facilitate timely return-to-work procedures.

Special Operations – Wellness

The Wellness program's goal is to improve the overall well-being of department members, leading to better care for the community and enhanced longevity at work and in retirement. The program focuses on increasing the physical capacity and abilities of our emergency responders.

Along with annual physicals, key program initiatives include the development of comprehensive gym packages for new or renovated stations, the establishment of plans and support systems for individuals not meeting the Job-Related Physical Ability Test standards, and the implementation of a detailed strategy for equipment upgrades and modifications to enhance the Beaty Center gym space. Additionally, the program is committed to sustaining its ongoing wellness initiatives through adoption of a structured long-term schedule, improving recruit school physical training to align with departmental needs, justifying the need for additional trainers, and forming an official Wellness Committee to streamline decision-making. Investigating the potential benefits of integrating nutrition into wellness efforts highlights the program's holistic approach to fostering a healthier and more resilient department.

The department has invested $25,000 in the IAFF Fit to Thrive Peer Fitness Trainer program, certifying fifteen trainers and providing necessary equipment. While the current trainers can meet short-term goals, the department anticipates the need for continuing education for existing trainers, and ongoing certification of new trainers to maintain staffing levels.

Special Operations – Fleet Maintenance

The Fleet Maintenance team plays a pivotal role in upholding the operational readiness of the department's apparatus and vehicles. Our fleet consists of thirty-eight apparatus, including 30 frontline units built from 2001 to 2023, and 8 reserve units built from 2001 to 2007. This fleet includes 24 engines, 7 ladder trucks, 4 rescue apparatus, 1 hazmat tractor-trailer, 1 air resource apparatus, and 1 brush truck, alongside other assets like 3 rescue support vehicles, 3 boat trailers, 6 watercraft, 1 air resource trailer, and 1 shop service truck.

The team manages routine preventive maintenance, repairs, and upkeep for both the fleet and various apparatus components including fire pumps, hoses, nozzles, appliances, and ground ladders. They also conduct annual pump testing and perform small engine repairs to ensure reliable performance.

Over the last three fiscal years, fleet maintenance has managed an average in service time of 91.3% for frontline units. Each year, they manage around 1,500 repairs, from replacing light bulbs to full engine rebuilds, carry out routine preventive maintenance tasks on 60 vehicles, and respond to approximately 55 road calls.

Supporting their work is a shop stocked with over 1,200 parts for regular and specialized maintenance needs. The shop, established January 22, 1979, features two 56-foot-long bays, while the longest apparatus in service is fifty-nine feet long. The team features one supervisor/mechanic and two other mechanics, all Emergency Vehicle Technician certified and operating on a 40-hour work week with 24/7 on-call availability.

The team attempts to adhere to the apparatus replacement plan, ideally retiring frontline engine apparatus after 10 years, frontline ladder apparatus after 15 years, and reserve apparatus after 20 years. The department currently has eleven engines over 10 years old and two ladders over 15 years old. They strive for a 95% in-service time for frontline apparatus, balancing considerations that increase in-service time including the use of quality parts, adherence to the apparatus replacement plan, and increased shop size with budgetary constraints. The Fleet Maintenance team's dedicated efforts contribute to the department's readiness and operational effectiveness.

Community Risk Reduction

Community Risk Reduction in Winston-Salem involves enforcing fire codes, investigating fire origins, conducting public education initiatives, and orchestrating emergency preparedness efforts. The department ensures compliance through inspections and permits, investigates fire incidents, and engages in educational outreach. Meanwhile, Emergency Management coordinates preparedness and response activities, fostering a safer and more resilient community overall.

FIRE PREVENTION

Enforcement of the North Carolina Fire Code and applicable city ordinances is a vital element of the community risk reduction measures undertaken by the department. Enforcement activities are concentrated into four core activities: periodic inspections, issuance of operational permits, responses to complaints, and construction control. This work is undertaken by members of the department's Fire and Life Safety Branch who hold specialized certifications issued by the state, authorizing them to interpret and enforce the state's fire code. Most of the branch's staff members also have roles in the department's fire investigation program, and many are trained in other facets of community risk reduction.

During 2022, fire code officials made 8,286 inspection visits as part of the department's periodic inspections program. This number includes 3,257 initial visits to inspectable locations as well as 5,029 instances where a fire code official returned to a previously visited location for follow-up.

A total of 6,860 violations were identified through these inspection efforts, and over 97 percent of these non-compliant conditions have been rectified because of this work.

In 363 instances during 2022, the department's fire code officials conducted inspections that were not periodic visits but instead requested by customers to fulfill requirements for operational permitting or other forms of regulatory authority. Fire code officials conducted an additional seventy-five inspections to follow up on complaints received from internal or external sources.

In the area of construction control, fire code officials completed 2,424 plan review cycles during 2022. These plan review activities were conducted within the time performance standards set by the department over 95 percent of the time. Forty-four percent of the plan review work was dedicated to renovations or occupancy reclassifications in existing structures, with 32 percent focused on installation or modification of specific systems regulated by the fire code, an additional 14 percent concentrated on the construction of new buildings or additions, and the remaining 10 percent represented conceptual site plans or proposed subdivisions. During 2022, fire code officials took part in 663 inspections involving those projects where plans had been approved. These inspections and plan reviews are integral steps in the building permit and occupancy process utilized by the city.

FIRE INVESTIGATION, ORIGIN, AND CAUSE

The department is responsible for investigating the origin and cause of fires and explosions within the city. This program is authorized by North Carolina General Statute § 58-79-1 and the Code of Ordinances for the City of Winston-Salem § 22-6.

Investigations are conducted for all fire and explosion incidents, currently led by company officers from the operations branch and if called upon, assistant fire marshals from the fire and life safety branch. These individuals analyze and formulate expert opinions on the origin and cause of the incidents and assign responsibility.

The department is implementing a shift fire investigator program, assigning one assistant fire marshal certified as a fire investigator to each platoon for 24-hour shifts. Policies regarding investigations will be revised, authorized positions will be reviewed, and a task book based on NFPA 1033 will be implemented for personnel conducting fire and explosion investigations.

PUBLIC EDUCATION

The Public Education program is dedicated to community risk reduction through various initiatives and collaborations. Led by the Risk Reduction Specialist (RRS), the program’s goal is to prevent and minimize loss of life and property.

The RRS creates and implements general risk reduction strategies and specific programs tailored to address community needs. Through various presentations, events, and multimedia engagements, the program reaches diverse audiences, including schools, workplaces, and high-risk groups.

Key components of the program include managing the department's smoke alarm program and coordinating community event requests. The RRS also builds strong partnerships with media outlets and community agencies to amplify risk reduction efforts.

Professional development is prioritized, and the RRS holds various certifications and qualifications to provide expertise in evaluating fire safety plans and conducting assessments. Utilizing their knowledge, skills, and abilities, the RRS designs specialized programs, such as those for the aging segment of the population and for those individuals with visual impairments or those on the autism spectrum.

Planning and leading major activities, such as the Citizens Fire Academy, Safety Town at the Carolina Classic Fair, and Fire Prevention Week, are also under the purview of the RRS. The Public Education program acknowledges the need for additional staff to support its growth and sustain current efforts.

Overall, the Public Education program remains committed to community risk reduction, focusing on delivering valuable, targeted education and outreach to ensure a safer and more resilient community.

EMERGENCY PREPAREDNESS

Winston-Salem Emergency Management is entrusted with orchestrating and overseeing emergency preparedness and response initiatives within the city. This organization collaborates with local agencies, the fire department and other first responders, and community entities to devise strategies, execute drills, and offer public education regarding emergency readiness. Moreover, they play a pivotal role in disseminating crucial information to the public through mediums like social media, local news outlets, and official municipal websites.

Employing a comprehensive five-phase methodology, known as the Emergency Management Cycle, the Office of Emergency Management leads efforts to ensure community safety:

Prevention: Emergency Management guides law enforcement, fire departments, public safety agencies, public health, and other entities, aligning resources to avert threats and crises. Cooperation spans neighboring jurisdictions, the private sector, non-profit organizations, and the state. This phase concentrates on minimizing the impacts arising from potential natural disasters and terrorist activities, thereby curbing financial costs associated with disaster recovery.

Mitigation: After an incident is managed and resolved, an evaluation of the incident response process unveils insights crucial for preventing or mitigating similar events in the future. This constitutes the mitigation phase, wherein plans and actions are formulated to reduce the recurrence or impact of such incidents.

Preparedness: Emergency Management facilitates the formulation of contingency plans for natural disasters like floods, winter storms, hurricanes, and human-made crises such as hazardous materials spills or terrorist acts. Training programs and educational initiatives bolster local readiness efforts, increasing awareness throughout the community.

Response: The Emergency Operations Center serves as a hub for coordinating activities during major emergencies or disasters. Cross-agency collaboration and resource coordination are pivotal in delivering effective responses. Emergency Management personnel remain accessible around-the-clock to provide necessary assistance.

Recovery: Following a disaster, recovery involves restoring normalcy to affected communities. Collaboration between local, state, and federal entities, alongside organizations like the Red Cross and Salvation Army, facilitates prompt assistance. Disaster Recovery Centers might be established to expedite the process.

The current Emergency Operations Plan for Winston-Salem and Forsyth County, aligned with national and state plans, mandates coordinated and organized responses to hazards. This entails a Basic Plan, General Annexes, Emergency Support Functions, and Support Annexes, ensuring a cohesive approach. Additionally, the Northern Piedmont Hazard Mitigation Plan unites seven counties to enhance preparedness across a range of emergencies.

Section 3: Community Risk Assessment

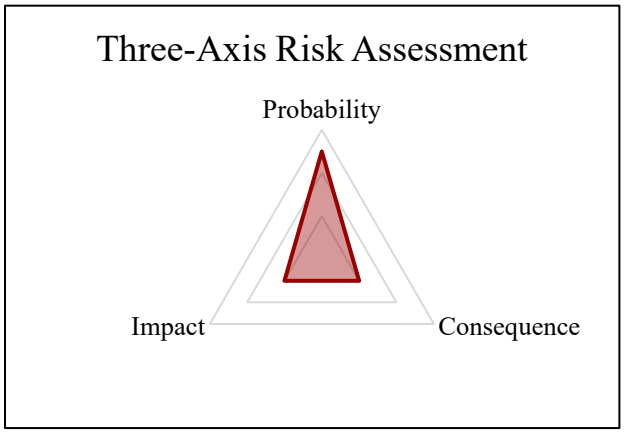
The department is using a structured approach to assess risk that considers the probability of an incident occurring, the magnitude of the consequences of the incident on the community, and the impact of the incident on the department's ability to provide ongoing services. This three-axis approach is a common approach to risk assessment, as it allows the department to identify and prioritize the most significant risks facing the community.

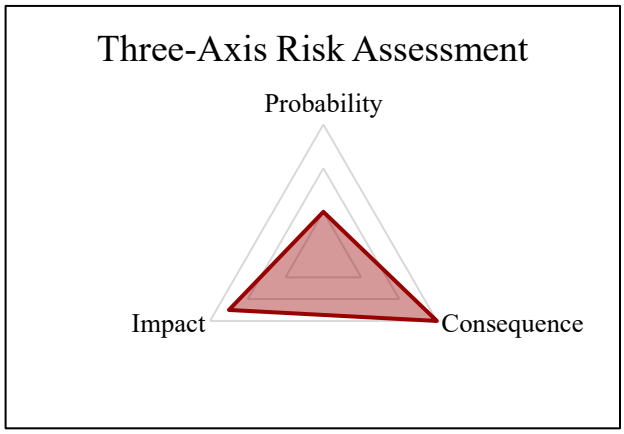
In general, the probability of an incident occurring can be determined by analyzing data about past incidents and using statistical models to predict the likelihood of future incidents. The consequence of an incident on the community can be evaluated by considering factors such as the potential loss of life, damage to property, and the estimated economic impact. The impact of an incident on the department's response system can be assessed by considering the resources that would be required to respond to the incident and the potential impact on the department's ability to provide ongoing services to other areas.

By considering these factors, the department can develop a comprehensive understanding of the risks facing the community and take appropriate steps to reduce or mitigate those risks.

Risk Assessment Model and Methodology

The department evaluates three factors when assessing risk: the probability or likelihood of an incident occurring, the consequence of an incident to the community, and the impact of an incident on the department response system and its ability to provide ongoing services to the rest of the city.





- **Probability:** This factor refers to the likelihood that an incident will occur in the future. The probability of an incident can be influenced by a variety of factors, including economic and demographic factors, the type of hazards present in the area, and the department's history of responding to similar incidents. By considering the probability of an incident occurring, the department can prioritize its efforts and allocate resources appropriately.
- **Consequence:** This factor refers to the potential impact or severity of an incident on the community. This can include the number of people affected, the amount of damage

caused, and the potential loss of life. By considering the consequence or magnitude of an incident, the department can determine the level of resources and support that may be needed to address the incident.

- **Impact:** This factor refers to the potential impact of an incident on the department's response system and its ability to continue providing services to the rest of the community. This can include the number of resources required to address the incident, the potential impact on the department's personnel and equipment, and any potential disruptions to the department's operations. By considering the impact of an incident on the department's response system, the department can ensure that it has the necessary resources and capabilities to respond effectively.

Each factor was assigned a value from 1 to 5 and charted, where the area of the resulting triangle represents the magnitude of the risk, which the department then classifies as either low, medium, or high. To calculate baseline times for fire suppression, EMS, technical rescue, and hazmat, the department limited analysis to emergency incidents and excluded calls for automatic aid. For a detailed methodology, see Section 8.

The department produced response charts for each category and level of risk, which are presented in the following sections. Ninetieth percentile times were calculated for alarm handling, turnout time, travel time, and total response time.

Alarm handling measures the time from when the call for service is answered by the communications center to when the call is dispatched. Calls to 911 within the city first go through Winston-Salem Police Communications before being transferred to the Forsyth County 911 Communications Center. Our call answering time stamp reflects when the call is answered at the Forsyth County 911 Communications Center, and our benchmark time was adopted from NFPA 1221. Turnout time measures the amount of time that passes from when the call is dispatched to when the dispatched unit begins responding. Travel time measures the time from when the dispatched unit begins responding until that unit arrives on the scene of the incident, and total response time combines alarm handling, turnout, and travel times, measuring the time from when the call for service is answered to when the responding unit arrives on scene. Our department’s benchmark turnout and travel times for all classes of incidents were adopted from NFPA 1710.

Where relevant, travel and total response times were measured for both when the first unit arrived on scene and for when the effective response force (ERF) arrived on scene. The effective response force is the number of personnel that are typically required to mitigate an incident at the specified category and level of risk. For example, a fire in a 1 or 2 family dwelling is considered a moderate risk fire suppression incident, and the ERF to mitigate that incident is 17 firefighters. The ERFs for each category and level of risk were determined by performing a critical task analysis, which can be found in Section 8. Measuring the performance of the first arriving unit helps to measure resource distribution, while measuring the performance of the ERF helps to measure resource concentration.

Fire Suppression Risk Assessment

LOW RISK FIRE SUPPRESSION

Benchmark: For 90 percent of all fire suppression incidents, the total response time for the arrival of the first due unit, staffed with a minimum of 3 firefighters, shall be: 6 minutes and 20 seconds. The first due unit shall be capable of: providing 500 gallons of water and 1,500 gallons per minute (gpm) pumping capacity; establishing command; requesting additional resources; establishing and advancing an attack line flowing a minimum of 150 gpm; establishing an uninterrupted water supply; containing the fire; rescuing at-risk victims; and performing salvage operations. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

Low Risk Fire Suppression **90th Percentile Times - Baseline**		**2021 - 2023**	**2023**	**2022**	**2021**	**Department Benchmark**
Alarm Handling	Pick-up to Dispatch	1:55	1:47	2:03	1:55	**1:00**
Turnout Time	Turnout Time 1st Unit	1:25	1:25	1:24	1:26	**1:20**
Travel Time	Travel Time 1st Unit **Distribution**	5:47	5:52	5:36	5:41	**4:00**
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	6:48	6:53	6:32	6:52	**6:20**
		n=1,375	n=495	n=426	n=454	

Low-risk fire suppression incidents in the department primarily involve outside equipment, dumpster, grass, and brush fires. The department did not meet any benchmark times.

Baseline: For 90 percent of all low risk fire suppression incidents, the total response time for the arrival of the first due unit, staffed with a minimum of 3 firefighters, was: 6 minutes and 48 seconds. The first due unit was capable of: providing 500 gallons of water and 1,500 gallons per minute (gpm) pumping capacity; establishing command; requesting additional resources; establishing and advancing an attack line flowing a minimum of 150 gpm; establishing an uninterrupted water supply; containing the fire; rescuing at-risk victims; and performing salvage operations. These operations were done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

MODERATE RISK FIRE SUPPRESSION

Benchmark – First Due: For 90 percent of all fire suppression incidents, the total response time for the arrival of the first due unit, staffed with a minimum of 3 firefighters, shall be: 6 minutes and 20 seconds. The first due unit shall be capable of: providing 500 gallons of water and 1,500 gallons per minute (gpm) pumping capacity; establishing command; requesting additional resources; establishing and advancing an attack line flowing a minimum of 150 gpm;

establishing an uninterrupted water supply; containing the fire; rescuing at-risk victims; and performing salvage operations. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

Benchmark – ERF: For 90 percent of moderate risk fire suppression incidents, the total response time for the arrival of the effective response force (ERF), staffed with a minimum of 17 firefighters shall be: 10 minutes and 20 seconds. The ERF shall be capable of: providing 500 gallons of water and 1,500 gallons per minute (gpm) pumping capacity; establishing command; requesting additional resources; securing utilities and forcing entry; establishing and advancing an attack line and a backup line flowing a minimum of 150 gpm each; establishing an uninterrupted water supply; establishing a safety officer; establishing a rapid intervention team; searching for and rescuing at-risk victims; containing the fire; ventilating the structure; and performing salvage operations. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

Moderate Fire Suppression **90th Percentile Times - Baseline**		**2021 - 2023**	**2023**	**2022**	**2021**	**Department Benchmark**
Alarm Handling	Pick-up to Dispatch	1:44	1:30	1:40	1:56	**1:00**
Turnout Time	Turnout Time 1st Unit	1:29	1:31	1:28	1:30	**1:20**
Travel Time	Travel Time 1st Unit **Distribution**	5:36	5:42	5:46	5:23	**4:00**
	Travel Time ERF **Concentration**	7:07	7:14	7:06	7:00	**8:00**
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	6:32	6:34	6:38	6:19	**6:20**
		n=748	n=235	n=276	n=237	
	Total Response Time ERF **Concentration**	8:50	8:50	8:45	8:56	**10:20**
		n=597	n=186	n=220	n=191	

Moderate risk fire suppression incidents include fires in 1 or 2 family homes, most small retail/service businesses, passenger vehicle fires, and others. Pick-up to dispatch times and all first unit times except for total response in 2021 failed to meet the department's benchmarks.

Baseline – First Due: For 90 percent of all moderate risk fire suppression incidents, the total response time for the arrival of the first due unit, staffed with a minimum of 3 firefighters, was: 6 minutes and 32 seconds. The first due unit was capable of: providing 500 gallons of water and 1,500 gallons per minute (gpm) pumping capacity; establishing command; requesting additional

resources; establishing and advancing an attack line flowing a minimum of 150 gpm; establishing an uninterrupted water supply; containing the fire; rescuing at-risk victims; and performing salvage operations. These operations were done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

Baseline – ERF: For 90 percent of moderate risk fire suppression incidents, the total response time for the arrival of the effective response force (ERF), staffed with a minimum of 17 firefighters, was: 8 minutes and 50 seconds. The ERF was capable of: providing 500 gallons of water and 1,500 gallons per minute (gpm) pumping capacity; establishing command; requesting additional resources; securing utilities and forcing entry; establishing and advancing an attack line and a backup line flowing a minimum of 150 gpm each; establishing an uninterrupted water supply; establishing a safety officer; establishing a rapid intervention team; searching for and rescuing at-risk victims; containing the fire; ventilating the structure; and performing salvage operations. These operations were done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

HIGH RISK FIRE SUPPRESSION

Benchmark – First Due: For 90 percent of all fire suppression incidents, the total response time for the arrival of the first due unit, staffed with a minimum of 3 firefighters, shall be: 6 minutes and 20 seconds. The first due unit shall be capable of: providing 500 gallons of water and 1,500 gallons per minute (gpm) pumping capacity; establishing command; requesting additional resources; establishing and advancing an attack line flowing a minimum of 150 gpm; establishing an uninterrupted water supply; containing the fire; rescuing at-risk victims; and performing salvage operations. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

Benchmark – ERF: For 90 percent of high risk fire suppression incidents, the total response time for the arrival of the effective response force (ERF), staffed with a minimum of 24 firefighters shall be: 12 minutes and 30 seconds. The ERF shall be capable of: providing 500 gallons of water and 1,500 gallons per minute (gpm) pumping capacity; establishing command; requesting additional resources; securing utilities and forcing entry; establishing and advancing two attack lines and two backup lines flowing a minimum of 150 gpm each; establishing an uninterrupted water supply; establishing a safety officer; establishing a rapid intervention team; operating an aerial device; searching for and rescuing at-risk victims; containing the fire; ventilating the structure; and performing salvage operations. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

High Risk Fire Suppression 90th Percentile Times - Baseline		2021 - 2023	2023	2022	2021	Department Benchmark
Alarm Handling	Pick-up to Dispatch	1:41	1:24	1:30	2:16	**1:00**
Turnout Time	Turnout Time 1st Unit	1:32	1:35	1:40	1:30	**1:20**
Travel Time	Travel Time 1st Unit **Distribution**	5:10	5:11	5:04	5:09	**4:00**
	Travel Time ERF **Concentration**	7:30	7:43	7:24	7:33	**10:10**
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	6:07	6:35	6:00	5:47	**6:20**
		n=748	n=235	n=276	n=237	
	Total Response Time ERF **Concentration**	9:39	9:41	9:25	9:33	**12:30**
		n=111	n=37	n=37	n=37	

High risk fire suppression incidents include fires in hospitals, 24-hour care or nursing homes, hotels or motels, multifamily dwellings, high-rise structures, and similar. Notably, there is a high-rise building downtown that is not protected by a fire sprinkler system, which increases the risk to the department and the community. Pick-up to dispatch times, first unit turnout times, and first unit travel times failed to meet the department's benchmark times, while ERF travel and ERF total response times were generally better than our benchmark times.

Baseline – First Due: For 90 percent of all high risk fire suppression incidents, the total response time for the arrival of the first due unit, staffed with a minimum of 3 firefighters, was: 6 minutes and 20 seconds. The first due unit was capable of: providing 500 gallons of water and 1,500 gallons per minute (gpm) pumping capacity; establishing command; requesting additional resources; establishing and advancing an attack line flowing a minimum of 150 gpm; establishing an uninterrupted water supply; containing the fire; rescuing at-risk victims; and performing salvage operations. These operations were done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

Baseline – ERF: For 90 percent of high risk fire suppression incidents, the total response time for the arrival of the effective response force (ERF), staffed with a minimum of 24 firefighters, was: 9 minutes and 39 seconds. The ERF was capable of: providing 500 gallons of water and 1,500 gallons per minute (gpm) pumping capacity; establishing command; requesting additional resources; securing utilities and forcing entry; establishing and advancing two attack lines and two backup lines flowing a minimum of 150 gpm each; establishing an uninterrupted water supply; establishing a safety officer; establishing a rapid intervention team; operating an aerial

device; searching for and rescuing at-risk victims; containing the fire; ventilating the structure; and performing salvage operations. These operations were done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

Emergency Medical Services Risk Assessment

EMERGENCY MEDICAL SERVICES

Benchmark: For 90 percent of all emergency medical service incidents, the total response time for the arrival of the first due unit, staffed with a minimum of 3 emergency medical technicians, shall be: 6 minutes. The first due unit shall be capable of: assessing scene safety and establishing command; sizing-up the situation; conducting an initial patient assessment; obtaining vitals and patient's medical history; initiating mitigation efforts within one minute of arrival; providing first responder basic life support including automatic external defibrillation (AED); and assisting transport personnel with packaging the patient. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

Emergency Medical Service **90th Percentile Times - Baseline**		**2021 - 2023**	**2023**	**2022**	**2021**	**Department Benchmark**
Alarm Handling	Pick-up to Dispatch	1:00	1:01	1:02	0:56	**1:00**
Turnout Time	Turnout Time 1st Unit	1:20	1:20	1:19	1:23	**1:00**
Travel Time	Travel Time 1st Unit **Distribution**	6:03	6:10	6:03	5:52	**4:00**
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	7:11	7:46	7:22	7:07	**6:00**
		n=35,888	n=15,900	n=11,780	n=8,208	

EMS incidents include lock-ins, medical assists, vehicle accidents, unconscious patients, strokes, breathing difficulties, allergic reactions, overdoses, traumatic injuries, cardiac arrests, and all other medical calls. The department failed to meet its benchmarks for all times except for pick-up to dispatch for 2021 and for the three years taken together.

Baseline: For 90 percent of all low risk emergency medical service incidents, the total response time for the arrival of the first due unit, staffed with a minimum of 3 emergency medical technicians, was: 7 minutes and 11 seconds. The first due unit was capable of: assessing scene safety and establishing command; sizing-up the situation; conducting an initial patient assessment; obtaining vitals and patient's medical history; initiating mitigation efforts within one minute of arrival; providing first responder basic life support including automatic external defibrillation (AED); and assisting transport personnel with packaging the patient. These

operations were done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

Technical Rescue Risk Assessment

LOW RISK TECHNICAL RESCUE

Benchmark: For 90 percent of all technical rescue incidents, the total response time for the arrival of the first due unit, staffed with a minimum of 3 firefighters, shall be: 6 minutes and 20 seconds. The first due unit shall be capable of: establishing command; sizing up the situation to determine if a technical rescue response is required; requesting additional resources; and providing basic life support to the victim without endangering response personnel. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

Low Risk Technical Rescue **90th Percentile Times - Baseline**		**2021 - 2023**	**2023**	**2022**	**2021**	**Department Benchmark**
Alarm Handling	Pick-up to Dispatch	1:45	1:39	1:53	1:38	**1:00**
Turnout Time	Turnout Time 1st Unit	1:27	1:18	1:24	1:33	**1:20**
Travel Time	Travel Time 1st Unit **Distribution**	6:19	6:14	6:51	5:39	**4:00**
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	7:16	7:08	7:52	6:47	**6:20**
		n=346	n=116	n=121	n=109	

Low risk technical rescue incidents include electrical rescues, extrication of victims from vehicles and machinery, search for person in land, water, and underground, elevator rescues, and similar. The department failed to meet its benchmarks for all times except for turnout in 2023.

Baseline: For 90 percent of all low risk technical rescue incidents, the total response time for the arrival of the first due unit, staffed with a minimum of 3 firefighters, was: 7 minutes and 16 seconds. The first due unit was capable of: establishing command; sizing up the situation to determine if a technical rescue response is required; requesting additional resources; and providing basic life support to the victim without endangering response personnel. These operations were done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

MODERATE RISK TECHNICAL RESCUE

Benchmark – First Due: For 90 percent of all technical rescue incidents, the total response time for the arrival of the first due unit, staffed with a minimum of 3 firefighters, shall be: 6 minutes and 20 seconds. The first due unit shall be capable of: establishing command; sizing up the situation to determine if a technical rescue response is required; requesting additional resources;

and providing basic life support to the victim without endangering response personnel. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

Benchmark – ERF: For 90 percent of all moderate risk technical rescue incidents, the total response time for the arrival of the effective response force (ERF), staffed with a minimum of 15 firefighters shall be: 10 minutes and 20 seconds. The ERF shall be capable of: establishing command; requesting additional resources; establishing an accountability officer; establishing a safety officer; utilizing specialized equipment and training to coordinate and plan the rescue; forming primary and back up rescue teams; providing basic life support to the victim; and packaging and rescuing the victim. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

Moderate Risk Technical Rescue **90th Percentile Times - Baseline**		**2021 - 2023**	**2023**	**2022**	**2021**	**Department Benchmark**
Alarm Handling	Pick-up to Dispatch	2:23	2:15	2:20	2:15	**1:00**
Turnout Time	Turnout Time 1st Unit	1:17	1:09	1:21	1:19	**1:20**
Travel Time	Travel Time 1st Unit **Distribution**	5:51	4:08	5:49	8:30	**4:00**
	Travel Time ERF **Concentration**	8:56	8:55	8:27	7:42	**8:00**
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	6:58	4:43	6:58	8:54	**6:20**
		n=36	n=8	n=16	n=12	
	Total Response Time ERF **Concentration**	10:16	9:12	11:03	9:25	**10:20**
		n=12	n=6	n=3	n=3	

Moderate risk technical rescue incidents include high-angle and trench rescues. Turnout times exceeded department benchmarks in 2021, 2023, and for all three years when taken together. Analysis of any of the moderate risk technical rescue ERF baseline times is inadvisable as there were a statistically insignificant number of incidents for 2021 to 2023.

Baseline – First Due: For 90 percent of all low risk technical rescue incidents, the total response time for the arrival of the first due unit, staffed with a minimum of 3 firefighters, was: 6 minutes and 58 seconds. The first due unit was capable of: establishing command; sizing up the situation to determine if a technical rescue response is required; requesting additional resources; and providing basic life support to the victim without endangering response personnel. These

operations were done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

HIGH RISK TECHNICAL RESCUE

Benchmark – First Due: For 90 percent of all technical rescue incidents, the total response time for the arrival of the first due unit, staffed with a minimum of 3 firefighters, shall be: 6 minutes and 20 seconds. The first due unit shall be capable of: establishing command; sizing up the situation to determine if a technical rescue response is required; requesting additional resources; and providing basic life support to the victim without endangering response personnel. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

Benchmark – ERF: For 90 percent of all high risk technical rescue incidents, the total response time for the arrival of the effective response force (ERF), staffed with a minimum of 15 firefighters shall be: 12 minutes and 30 seconds. The ERF shall be capable of: establishing command; requesting additional resources; establishing an accountability officer; establishing a safety officer; utilizing specialized equipment and training to coordinate and plan the rescue; forming primary and back up rescue teams; providing basic life support to the victim; and packaging and rescuing the victim. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

High Risk Technical Rescue **90th Percentile Times - Baseline**		**2021 - 2023**	**2023**	**2022**	**2021**	**Department Benchmark**
Alarm Handling	Pick-up to Dispatch	2:31	1:13	1:46	2:31	**1:00**
Turnout Time	Turnout Time 1st Unit	1:24	1:01	1:34	0:26	**1:20**
Travel Time	Travel Time 1st Unit **Distribution**	4:12	4:57	4:04	3:14	**4:00**
	Travel Time ERF **Concentration**	8:54	8:54			**10:10**
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	6:15	5:58	6:23	3:37	**6:20**
		n=12	n=2	n=8	n=2	
	Total Response Time ERF **Concentration**	10:16	9:59	10:14		**12:30**
		n=2	n=1	n=1	n=0	

High risk technical rescue incidents include extrication of victims from buildings, swift water rescue, building collapse, trail derailment, confined space rescues, and similar. Analysis of the

majority of these times is inadvisable as there were a statistically insignificant number of incidents for the years 2021 through 2023.

Baseline: For 90 percent of all high risk technical rescue incidents, the total response time for the arrival of the first due unit, staffed with a minimum of 3 firefighters, was: 6 minutes and 15 seconds. The first due unit was capable of: establishing command; sizing up the situation to determine if a technical rescue response is required; requesting additional resources; and providing basic life support to the victim without endangering response personnel. These operations were done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

Hazardous Materials Risk Assessment

LOW RISK HAZMAT

Benchmark: For 90 percent of all hazmat incidents, the total response time for the arrival of the first due unit, staffed with a minimum of 3 firefighters, shall be: 6 minutes and 20 seconds. The first due unit shall be capable of: establishing command; sizing up the situation to determine if a hazmat response is required; establishing hot, warm, and cold zones, and requesting additional resources. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

Low Risk Hazmat **90th Percentile Times - Baseline**		**2021 - 2023**	**2023**	**2022**	**2021**	**Department Benchmark**
Alarm Handling	Pick-up to Dispatch	1:56	1:53	2:07	1:53	**1:00**
Turnout Time	Turnout Time 1st Unit	1:25	1:23	1:22	1:27	**1:20**
Travel Time	Travel Time 1st Unit **Distribution**	6:28	6:29	6:27	6:27	**4:00**
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	7:25	7:35	7:09	7:25	**6:20**
		n=1,786	n=528	n=613	n=645	

Low risk hazmat incidents include general cleanup after vehicle accidents, carbon monoxide, chemical hazards with no spills or leaks, rupture of pressure or process vessels, and similar. The department failed to meet all benchmark times for 2021 to 2023.

Baseline: For 90 percent of all hazmat incidents, the total response time for the arrival of the first due unit, staffed with a minimum of 3 firefighters, was: 7 minutes and 25 seconds. The first due unit was capable of: establishing command; sizing up the situation to determine if a hazmat response is required; establishing hot, warm, and cold zones, and requesting additional resources. These operations were done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

MODERATE RISK HAZMAT

Benchmark: For 90 percent of all hazmat incidents, the total response time for the arrival of the first due unit, staffed with a minimum of 3 firefighters, shall be: 6 minutes and 20 seconds. The first due unit shall be capable of: establishing command; sizing up the situation to determine if a hazmat response is required; establishing hot, warm, and cold zones, and requesting additional resources. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

Moderate Risk Hazmat **90th Percentile Times - Baseline**		**2021 - 2023**	**2023**	**2022**	**2021**	**Department Benchmark**
Alarm Handling	Pick-up to Dispatch	2:08	1:47	2:14	2:12	**1:00**
Turnout Time	Turnout Time 1st Unit	1:24	1:23	1:15	1:28	**1:20**
Travel Time	Travel Time 1st Unit **Distribution**	6:37	6:43	6:54	6:12	**4:00**
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	7:43	7:29	8:01	7:15	**6:20**
		n=684	n=226	n=242	n=216	

Moderate risk hazmat incidents include gas leaks, flammable or combustible liquid spills, chemical spills, and similar. Gas leaks and flammable or combustible liquid spills are the most commonly occurring moderate risk hazmat incidents. First unit turnout met the benchmark in 2022, but all other times failed to meet out benchmarks.

Baseline: For 90 percent of all hazmat incidents, the total response time for the arrival of the first due unit, staffed with a minimum of 3 firefighters, was: 7 minutes and 43 seconds. The first due unit was capable of: establishing command; sizing up the situation to determine if a hazmat response is required; establishing hot, warm, and cold zones, and requesting additional resources. These operations were done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

HIGH RISK HAZMAT

Benchmark – First Due: For 90 percent of all hazmat incidents, the total response time for the arrival of the first due unit, staffed with a minimum of 3 firefighters, shall be: 6 minutes and 20 seconds. The first due unit shall be capable of: establishing command; sizing up the situation to determine if a hazmat response is required; establishing hot, warm, and cold zones, and requesting additional resources. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

Benchmark – ERF: For 90 percent of all moderate risk hazmat incidents, the total response time for the arrival of the effective response force (ERF), staffed with a minimum of 11 hazmat technicians and 7 firefighters, shall be: 12 minutes and 30 seconds. The ERF shall be capable of:

establishing command; sizing up the situation to determine if a hazmat response is required; establishing hot, warm, and cold zones, requesting additional resources; establishing a hazmat supervisor, establishing a safety officer, utilizing specialized equipment and training to coordinate and plan the hazmat response, and mitigating the hazard. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the public.

High Risk Hazmat **90th Percentile Times - Baseline**		**2021 - 2023**	**2023**	**2022**	**2021**	**Department Benchmark**
Alarm Handling	Pick-up to Dispatch	1:58	1:58			**1:00**
Turnout Time	Turnout Time 1st Unit	0:28	0:28			**1:20**
Travel Time	Travel Time 1st Unit **Distribution**	4:12	4:12			**4:00**
	Travel Time ERF **Concentration**					**10:10**
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	4:40	4:40			**6:20**
		n=2	n=2	n=0	n=0	
	Total Response Time ERF **Concentration**					**12:30**
		n=0	n=0	n=0	n=0	

High risk hazmat incidents include bomb or munition removal or explosion, biological or radiological hazards, and similar. Analysis of these times is inadvisable as there were a statistically insignificant number of incidents for the years 2021 through 2023.

Assessment of Other Risks

NATURAL AND ENVIRONMENTAL HAZARDS

Flooding: Winston-Salem faces a significant and persistent risk of flooding due to its geographical characteristics and environmental factors. The city is susceptible to flooding events caused by heavy rainfall, exacerbated by its network of streams and water bodies. Floods pose notable hazards to the department, impacting infrastructure, buildings, and property. Flood-related structural damage can elevate fire risks. Furthermore, flooding disrupts critical infrastructure like roads, bridges, and utility systems, potentially hampering emergency response efforts.

Hurricanes: The department faces a potential risk from hurricanes, which are cyclonic storms originating in tropical ocean waters. While their power diminishes over land due to the absence of warm waters, hurricanes still bring severe weather as far inland as Winston-Salem.

Severe Winter Weather: Winter weather can present significant risks to the department due to the potential impacts on infrastructure, buildings, and other property. Extreme cold and snow can cause damage to buildings and other structures, which can increase the risk of fires. In addition, winter weather can disrupt critical infrastructure, such as roads, bridges, and power systems, which can make it more difficult for the department to access and respond to emergencies.

Excessive Heat: Excessive heat poses a perilous and life-threatening condition in the city. As stated by the National Weather Service, heat ranks among the primary weather-related causes of fatalities in the United States. The Centers for Disease Control and Prevention (CDC) underscore that extreme heat claims the lives of over six hundred individuals annually in the U.S., surpassing combined mortality from hurricanes, lightning, tornadoes, earthquakes, and floods. Extreme heat is defined by the CDC as exceptionally high temperatures compared to average, while the National Weather Service designates heat waves as prolonged periods of abnormally hot and humid weather.

As the urban population in Winston-Salem grows, urban areas confront the escalating impacts of the urban heat island effect. Urbanized regions, labeled as heat islands by the U.S. EPA, encounter elevated temperatures due to concentrated infrastructure, absorbing and retaining more heat than natural landscapes. This phenomenon fosters "islands" of heightened temperatures. Furthermore, heat waves exacerbate air quality issues, with stagnant air and extreme heat amplifying ozone and particulate pollution. Drought and extreme heat heighten the risks faced by departments, increasing the likelihood of outdoor fires and heat and air quality related medical emergencies.

Earthquakes: Earthquakes, caused by various geological conditions, are the result of underground energy release. In North Carolina, twenty-four earthquakes since 1735 have caused architectural damage. Winston-Salem holds a relatively low earthquake risk, rated as three out of seven on the USGS earthquake risk scale.

Dam Failure: The department faces some risk from dam failures, given the presence of 248 dams and levees in Forsyth County. Among these, there are fifty-seven high hazard dams, where

failure due to excessive rainfall or other factors could result in the probable loss of human lives and property damage exceeding $200,000 downstream. Additionally, there are twelve intermediate hazard dams that, upon failure could lead to economic loss, environmental damage, disruption of vital facilities, and other community impacts.

Drought and Water Shortage: The department faces drought-related risks, with Forsyth County experiencing around two hundred weeks of some level of drought from 2000 to 2021 (out of 1,148 weeks). The consequences of drought include crop failure, water scarcity, wildlife mortality, and increased outside fire vulnerability. Changes in weather patterns and climate may amplify drought susceptibility in the city, altering both the likelihood and geographical impact of droughts. Persistent drought conditions are expected to become more frequent in certain regions of North Carolina, potentially leading to uncommon flooding from intense rainstorms in historically non-flood-prone areas. The North Carolina Climate Science Report foresees warmer future droughts characterized by rapid drying due to increased potential evapotranspiration.

Tornadoes and Thunderstorms: While the city has a less-than-average risk of tornadoes, tornadoes and thunderstorms present substantial risks to the department due to potential impacts on infrastructure, buildings, and property. Strong winds, lightning, and heavy rain associated with these events can damage structures and escalate fire risks. Disruptions to critical infrastructure, including roads and power systems, hinder access to emergencies.

MEDICAL HAZARDS

Air Pollution: The city occasionally has elevated levels of air pollution that can pose health risks to both residents and the members of the department. Monitoring and addressing poor air quality is crucial, as it can impact both the health of the community and the effectiveness of emergency response efforts. The Forsyth County Office of Environmental Assistance & Protection's daily air quality forecasts serve as a to take preventive measures and adapt accordingly.

Water Pollution: There are multifaceted risks stemming from water pollution. These risks encompass threats to the well-being of firefighters and residents due to contaminated water exposure, along with challenges related to securing an uncontaminated water supply essential for firefighting operations. Moreover, the adverse impact on firefighting equipment and the local environment could compound these challenges.

Epidemic and Infectious Disease: The department faces risks from communicable diseases, which encompass illnesses transmissible between individuals through direct contact or indirect means such as vectors and contaminated mediums. These diseases, ranging from mild to severe, pose potential health threats. While the U.S. public health system, through methods like disease reporting, vaccinations, and vector control, effectively manages most communicable diseases, occasional outbreaks can occur, particularly with incoming populations. Uncommon yet significant diseases like botulism and bubonic plague, as well as emerging threats like Zika and West Nile viruses, have been identified. While some diseases have receded or are controlled, others, such as influenza (with pandemic potential), norovirus, and antibiotic-resistant tuberculosis, remain concerning. COVID-19, caused by the SARS-CoV-2 virus, is a highly

contagious disease transmitted through respiratory particles, with varying levels of symptom severity.

Mass Casualty: Mass casualty incidents could strain emergency resources and infrastructure. Such events can range from natural disasters to industrial accidents or deliberate acts. The potential consequences encompass overwhelming medical and logistical challenges, hampered response coordination, and increased demand for specialized training and equipment.

Foreign Animal Disease: The department faces potential risks from Foreign Animal Diseases (FADs), which are animal diseases or pests not present in the United States. The introduction of FADs could jeopardize food security, livestock production, and animal welfare. This could result in production losses, increased costs for disease control measures, disrupted livestock product movement, and environmental impacts. In case of FAD outbreaks, the North Carolina Department of Agriculture and Consumer Services leads the state's response efforts. Key FADs of concern in the city include African Swine Fever, Dourine, Contagious Bovine Pleuropneumonia, Foot and Mouth Disease, Highly Pathogenic Avian Influenza, and Glanders.

INDUSTRIAL AND STRUCTURAL HAZARDS

Petroleum, Propane, Compressed Gas Bulk Storage: Risks from petroleum, propane, and compressed gas storage include potential leaks, fires, explosions, and hazardous material releases, which can result in significant property damage, injuries, and environmental harm. Managing emergencies at these facilities demands specialized training, equipment, and response protocols.

Underground and Overground Utilities and Pipelines: For gas and electrical lines, risks include potential gas leaks, electrical hazards, and pipeline ruptures that could lead to fires, explosions, and environmental contamination. For water and sewer pipelines, risks include potential leaks, breaks, and blockages that can result in flooding, contamination, and infrastructure damage. Such incidents pose threats to public health, property, and the environment.

Hazardous Manufacturing Processes: The risk of hazmat processing includes potential chemical releases, fires, explosions, and environmental contamination. Such incidents pose threats to worker safety, public health, property, and the surrounding environment. Managing emergencies at these facilities necessitates specialized training, understanding of manufacturing processes, and coordination with industry experts.

Hazardous Materials Waste Disposal Facilities: The department encounters risks associated with hazardous materials waste disposal facilities within the city. These risks involve potential chemical leaks, fires, and environmental contamination that can jeopardize public health, safety, and the environment. Incidents at these facilities require specialized response protocols, knowledge of hazardous materials, and coordination with disposal facility personnel.

Hazardous Chemicals: Hazardous chemicals that are stored, utilized, and transported within the city. These risks encompass potential chemical spills, releases, fires, and explosions, which can pose threats to public safety, property, and the environment. Responding effectively requires

specialized training, knowledge of chemical properties, and coordination with industry stakeholders.

Fire Flows That Exceed First Alarm Assignments: These incidents involve fires with intensities that exceed initial response capabilities, potentially leading to increased property damage, prolonged firefighting efforts, and greater resource demands. Effectively managing such fires demands enhanced training, advanced equipment, and coordinated multi-alarm responses. Ensuring preparedness for escalating fire incidents, bolstering inter-agency cooperation, and optimizing resource allocation are essential to mitigate the potential impacts of these fires.

TRANSPORTATION HAZARDS

Electric Vehicles and High-Voltage Batteries: As the adoption of electric vehicles (EVs) increases, their lithium-ion batteries pose potential fire hazards due to flammable electrolytes. These fires can spread rapidly, causing property damage, injuries, and fatalities. Thermal runaway, a specific type of battery fire, can occur from overheating or damage, leading to explosive scenarios. Proper charging practices and storage are crucial to minimize risks. Fighting such fires requires significant water and time resources – standard car fires require approximately 350 gallons and take minutes to extinguish, while EVs can demand over 10,000 gallons and hours to extinguish.

Railway: Being historically significant as a transportation hub, Winston-Salem is intersected by railway lines operated by a major Class I freight railroad. These railways play a crucial role in the transportation of goods and materials across various regions, carrying potential risks including train derailments, hazardous material spills, and train car fires. Responding to such incidents necessitates specialized training, coordination with railway authorities, and familiarity with hazardous materials protocols.

Major Highways: Interstate 40 has average daily traffic of approximately 100,000 vehicles, US Route 52 has average daily traffic of approximately 70,000 vehicles, Salem Parkway has average daily traffic of approximately 50,000 vehicles., Silas Creek Parkway has average daily traffic of approximately 40,000 vehicles, and Peters Creek Parkway, University Parkway, Stratford Road, and Reynolda Road all have average daily traffic of approximately 20,000 vehicles. The substantial volume of daily traffic heightens the potential for accidents, spills and leaks, vehicle fires, and congestion-related response delays and incidents. Departmental operations on the highway are especially dangerous, as they subject personnel to potential secondary collisions.

Airport: The department encounters risks stemming from Smith Reynolds Airport. Although the airport falls under the jurisdiction of the Forsyth County Fire Department, the Winston-Salem Fire Department plays a supportive role in handling larger incidents or when our assistance is requested. Risks associated with the airport include potential aircraft emergencies, fires, and hazardous material incidents.

SOCIOLOGICAL AND DOMESTIC DISTURBANCES

Civil Disturbance or Disorder: Civil disruptions involve intentional non-compliance with laws to draw attention to concerns or agendas, sometimes leading to disorderly and violent conduct. While peaceful assembly is constitutionally protected, disturbances that endanger public safety

or property cross into unlawful territory. In the case of unlawful civil disturbances or disorder, local law enforcement initially oversees responses, but State law enforcement may intervene if required. Coordination under the North Carolina Emergency Operation Plan guides state law enforcement activities during these events. The scope of civil disorder incidents varies based on their scale and location, potentially causing injuries, loss of life, and property damage. Effective response hinges on the extent of law enforcement containment and minimizing overall impact.

Food Emergency: A food emergency refers to actual or threatened adulteration, contamination, or loss of food that affects human health or the state's food supply. These emergencies can stem from natural hazards like severe weather or human-induced events such as contamination. North Carolina's prominent role in the food and beverage industry makes it susceptible to economic repercussions and public health impacts in case of food-related incidents. The potential cost of food contamination illness is substantial. The magnitude of a food emergency depends on its cause and impact on the food supply, with potential local or state-wide consequences.

Telecommunications Failure: Telecommunications failures involve disruptions in communication systems, impacting the ability to coordinate emergency response efforts, share critical information, and manage incidents effectively. Telecommunications failures can result from natural disasters, technical malfunctions, or deliberate acts. The loss of reliable communication infrastructure can impede timely response, hinder resource allocation, and compromise public safety.

Power Failure: Power failures encompass disruptions in electrical supply that can hinder emergency response operations and impact critical infrastructure. While many facilities, including fire stations, are equipped with backup generators, the potential risk remains. Electromagnetic pulse (EMP) events, whether natural or human-caused, constitute a specific threat to electronic components attached to power and communication systems. EMPs, including those from nuclear detonations or electromagnetic interference, can rapidly damage electronic devices and infrastructure, leading to property destruction, life-threatening situations, and societal challenges.

Fuel Shortage: Fuel shortages can result from disruptions in the supply chain due to various factors such as natural disasters, transportation issues, or geopolitical events. These shortages can impact the availability of fuel for emergency response vehicles, potentially hampering the department's ability to effectively respond to incidents. Adequate fuel supply is essential for maintaining operational readiness and providing timely assistance to the community.

Terrorism: Terrorism involves the unlawful use of force or violence against individuals or property to intimidate or coerce, driven by political or social objectives. Terrorist acts encompass a range of methods such as bombings, shootings, cyber-attacks, and the use of weapons of mass destruction including chemical, biological, radiological, nuclear, and explosive means. Explosive attacks are often ranked as most immediate due to their high impact and historical success. Chemical, radiological, biological, and nuclear attacks follow, with their potential impact varying based on factors like accessibility, technical expertise, and historical occurrence. Modern

trends introduce additional threats like small arms attacks, vehicle ramming attacks, and incendiary attacks.

Subversive Activity: Subversive activity refers to actions or efforts aimed at undermining, destabilizing, or challenging the established societal order, governance, or security of a community, region, or country. Subversive activities often involve individuals, groups, or organizations that seek to promote their agendas through unconventional, covert, or illegal means. These activities can range from spreading propaganda, inciting violence, engaging in cyber-attacks, conducting espionage, or supporting acts of terrorism. Subversive activities can pose significant risks to public safety, social cohesion, and the functioning of critical infrastructure.

Cyberattack: Cyberattacks are intentional attempts to compromise information technology systems for illicit access or to cause damage. As technology reliance grows, the threat of cyberattacks becomes more prominent. These attacks manipulate computer data or steal information using malicious code, often going unnoticed. Cyber disruption mitigation is complex due to the diverse nature of attacks. The U.S. government recognizes the increasing frequency of cyber incidents and has directives and plans in place to address them. The FBI investigates cyberattacks, and North Carolina's Department of Information Technology oversees Cybersecurity and Risk Management resources. Cyberattacks can target both public and private sectors, aiming for financial gain or operational disruption. Common attack patterns include web app attacks, social engineering, system intrusion, insider misuse, errors, lost/stolen assets, and denial-of-service attacks.

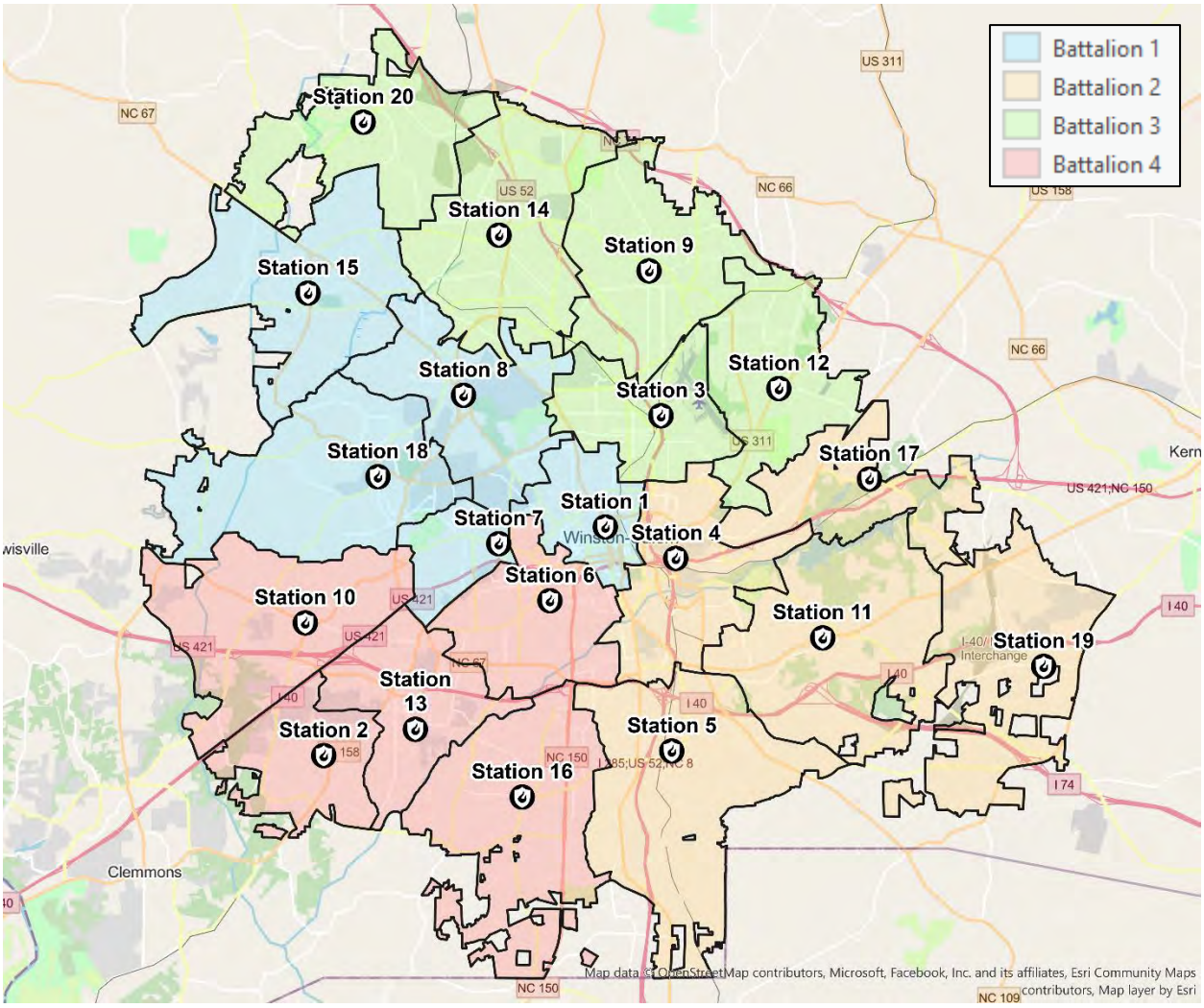
Section 4: Current Deployment and Performance

The department measures current deployment and performance utilizing station territories as geographical planning zones. Comprehensive characteristics of the zones are analyzed, including data on historical incidents, population, race, education, language, disability, income, wealth, housing, land use, and more. That data, along with critical infrastructure and facility-specific fire protection and detection systems within each station territory is used to identify, analyze, categorize, and classify risk. The department deploys the resources described in the next sections in response to the measured risk.

Battalions

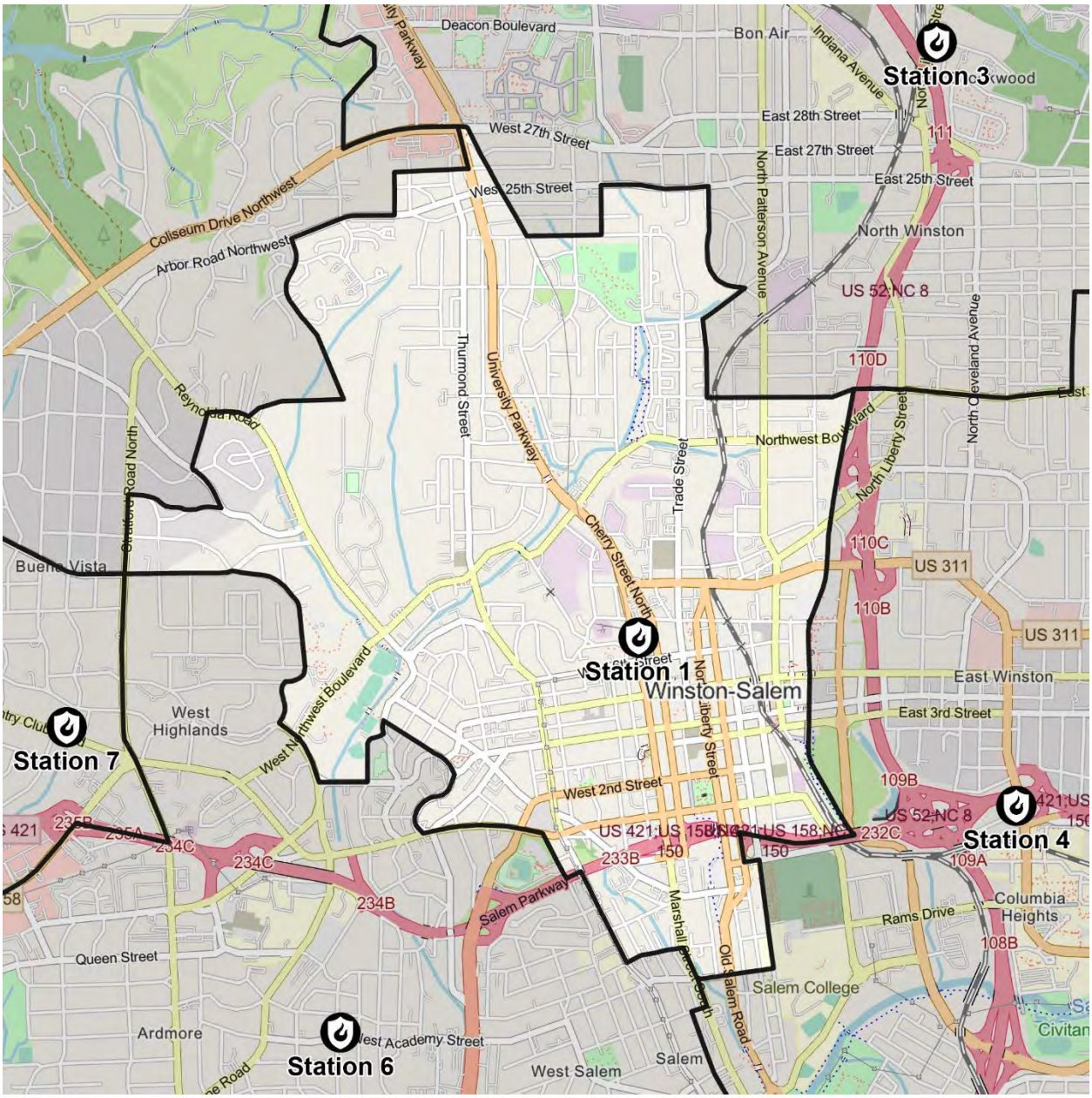
The twenty station territories are divided into four battalions. A battalion chief oversees each battalion on each shift.

- Battalion 1: Engine 1, Engine 8, Engine 15, Engine 18, Ladder 1, Ladder 18, Rescue 1, and Safety Training Officer 7.
- Battalion 2: Engine 4, Engine 5, Engine 11, Engine 17, Ladder 5, and Ladder 19.
- Battalion 3: Engine 3, Engine 9, Engine 12, Engine 14, Engine 20, and Ladder 14.
- Battalion 4: Engine 2, Engine 6, Engine 10, Engine 13, Engine 16, and Ladder 2.

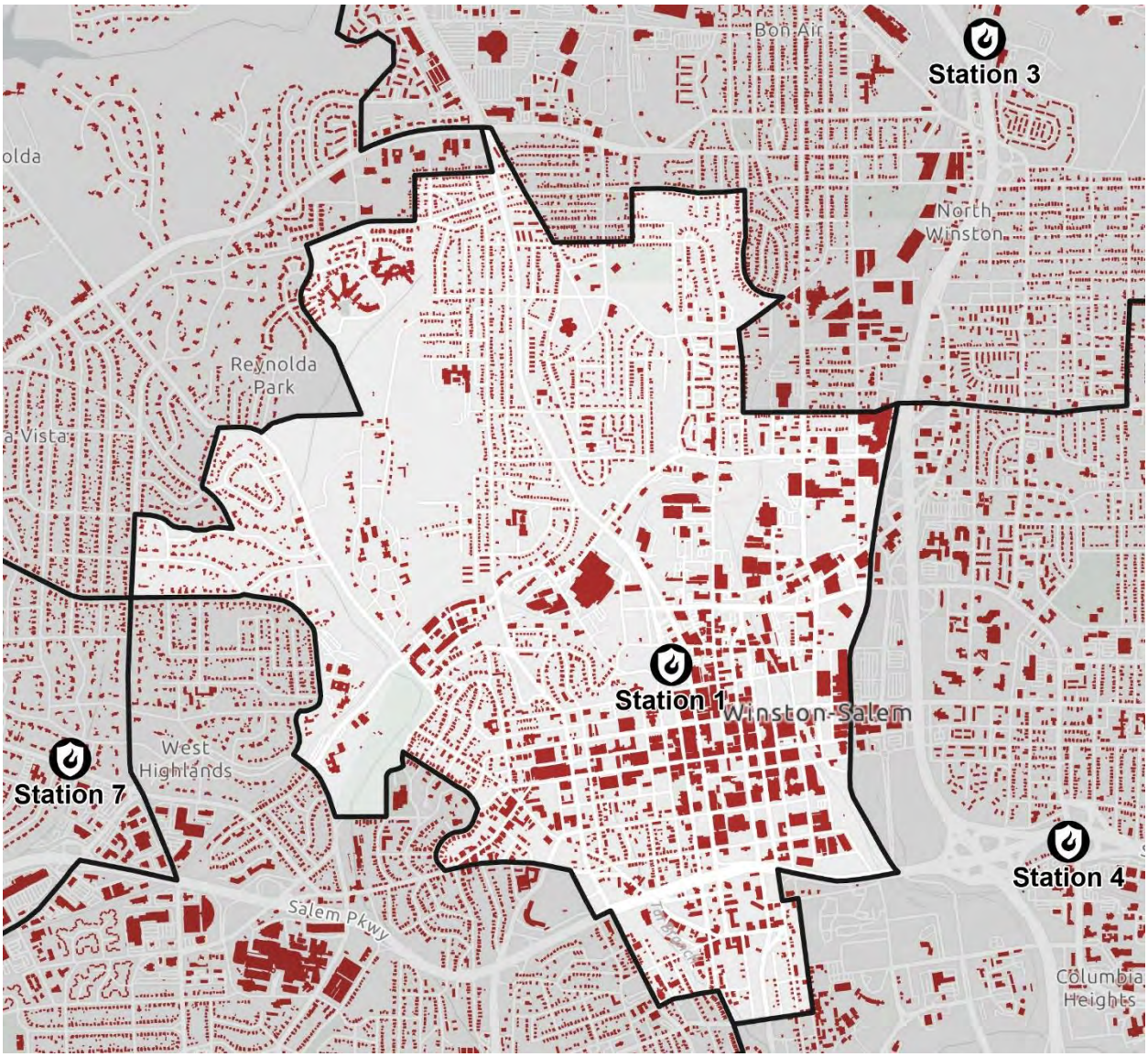


Station 1

Fire Station 1, also known as the A.B. Bullard Fire Station, was constructed in 1975, and is a 10,500 square foot, four bay, single-story building. The station houses six apparatus including Engine 1, Ladder 1, Battalion 1, Brush 1, and two reserve units. The station is assigned and fully staffed by eleven personnel, with a minimum of eight. Fire Station 1 also contains the offices of four fire prevention inspectors.



Station 1 is located at 651 N. Marshall Street. The response area is in what is considered the downtown portion of Winston-Salem. Covering an area of approximately 3.12 square miles, with a boundary area from Academy to 25th Street and Highway 52 to Hawthorne Road; it is the primary location of where the city began growing over 108 years ago. This location is the seat of both Forsyth County and the city administrative offices. Station 1 contains an array of construction types, and many of the buildings are well over one hundred years old. This district is the location of many of the community-based festivals and concerts that take place throughout the year as well. The center portion of this territory is primarily business-related occupancies, while the residential areas tend to be towards the outskirts.



Fire Station 1 safeguards a diverse territory that includes various apartment complexes, totaling around 60, with a majority requiring standard initial dispatch resources. The district encompasses over 2,000 single-family homes of varying architectural styles. It houses three schools from the Forsyth County Schools System and an additional private school. The area features approximately 60 high-rise buildings exceeding 75 feet in height and more than 150 historical buildings, notably including "Old Salem."

The district accommodates around ten government buildings, including the Forsyth County Courthouse, City Hall, and City of Winston-Salem Public Safety Center. Station 1's diverse territory also features unique attributes like a detention center, a federal court, research facilities, homeless shelters, high-rise multifamily residences, hotels, convention centers, and a power substation.

Demographic Data	Station 1	Average
2023 Total Population	10,532	12,767
2023 Population Density (per sq mi)	3,375	1,929
2023 Daytime Population Workers	20,467	7,771
2023 Daytime Population Residents	6,017	7,140
2023 Daytime Population Density (per sq mi)	8,487	2,580
2020 to 2023 Population Growth Rate	1.7%	0.7%
2023 % White Population	40%	45%
2023 % Black Population	46%	33%
2023 % Asian Population	2%	3%
2023 % Population of 2 Races	5%	8%
2023 % Other Race Population	6%	12%
2021 % Speak Only English	88.6%	83.4%
2021 % Speak Spanish & No/Limited English	1.2%	2.6%
2021 % Speak Other & No/Limited English	0.0%	0.4%
2021 % Households w/1 Person w/Disability	20%	23%
2023 % Pop. Age 25: <9th Grade	4%	4%
2023 % Pop. Age 25: High School No Diploma	6%	6%
2023 % Pop. Age 25: GED	4%	4%
2023 % Pop. Age 25: High School Diploma	20%	23%
2023 % Pop. Age 25: Some College No Degree	13%	19%
2023 % Pop. Age 25: Associate's Degree	6%	8%
2023 % Pop. Age 25: Bachelor's Degree	25%	21%
2023 % Pop. Age 25: Grad/Professional Degree	21%	15%
2023 Median Household Income	$47,370	$60,600
2023 % Household in Low Income Tier	35.6%	26.9%
2023 % Household in Middle Income Tier	49.5%	59.5%
2023 % Household in Upper Income Tier	14.9%	13.6%
2023 Median Net Worth	$14,411	$143,319

Compared to other station territories: Station 1 has the highest population density, the highest daytime population density, and had the second highest population growth rate from 2020 to 2023.

Housing Data	Station 1	Average
2023 Total Housing Units	5,945	5,745
2023 Owner Occupied Housing Units	1,372	2,879
2023 Renter Occupied Housing Units	3,861	2,362
2023 Vacant Housing Units	712	504
2021 Median Year House Built	1963	1977
2023 Average Home Value	$302,810	$266,825
2021 Housing 1 Unit in Structure	2,020	3,653
2021 Housing 2 Units in Structure	264	94
2021 Housing 3 or 4 Units in Structure	321	264
2021 Housing 5 to 9 Units in Structure	363	479
2021 Housing 10 to 19 Units in Structure	417	538
2021 Housing 20 to 49 Units in Structure	510	159
2021 Housing 50 Units in Structure	1,637	240
2021 Housing Mobile Homes	25	111

Compared to other station territories: Station 1 has the third oldest housing in terms of the median year built, has the second highest number of housing units in structures with 20 to 49 units, and has almost triple the next highest territory in number of housing units in structures with 50 or more units.

Other Data	Station 1	Average
Square Miles	3.1	6.7
Miles of Roadway	60.5	77.6
% Developed (NLCD)	79.3%	63.0%
% Forest (NLCD)	11.9%	23.2%
% Pasture/Hay/Cultivated Crops (NLCD)	5.9%	9.1%
% Other (NLCD)	2.8%	4.7%
% at Flood Risk	7.1%	6.9%
2023 Total Businesses (NAICS)	1,553	487
2023 Total Employees (NAICS)	21,026	7,569

Compared to other station territories: Station 1 covers the second smallest area, is the second most developed, is the territory with the most businesses, and is the territory with the second most employees.

Station 1 Fire by Classification and Property Type - 2021 to 2023

	NFIRS Fire Classification						
Property Type	**Structure**	**Natural vegetation**	**Outside rubbish**	**Vehicle**	**Special outside**	**Other**	**Grand Total**
Multifamily dwelling	44	3	2		1	1	**51**
Graded and cared-for plots of land	1	14	8	1	11		**35**
Vehicle parking area	1	3	19	10	2		**35**
1 or 2 family dwelling	23		2	1			**26**
Street or road in commercial area	1	8	6	8	3		**26**
Open land or field		14	2		1		**17**
Residential street, road, or driveway		5	2	4	1		**12**
Manufacturing, processing	12						**12**
High school/middle school	11						**11**
Outside or special property, other		2	4		1		**7**
Railroad right-of-way		2	2		1		**5**
Business office	2	2	1				**5**
Highway or divided highway		3		1			**4**
Parking garage, general vehicle			1	2	1		**4**
Courthouse		4					**4**
Vacant lot		1	2	1			**4**
Restaurant or cafeteria	3						**3**
Street, other		1		2			**3**
Hotel/motel, commercial	2						**2**
Household goods, sales, repairs	1	1					**2**
Swimming facility: indoor or outdoor	1				1		**2**
Jail, prison (not juvenile)	2						**2**
Outbuilding, protective shelter			1	1			**2**
Bar or nightclub	2						**2**
Other	13	2	8				**23**
Grand Total	**119**	**65**	**60**	**31**	**23**	**1**	**299**

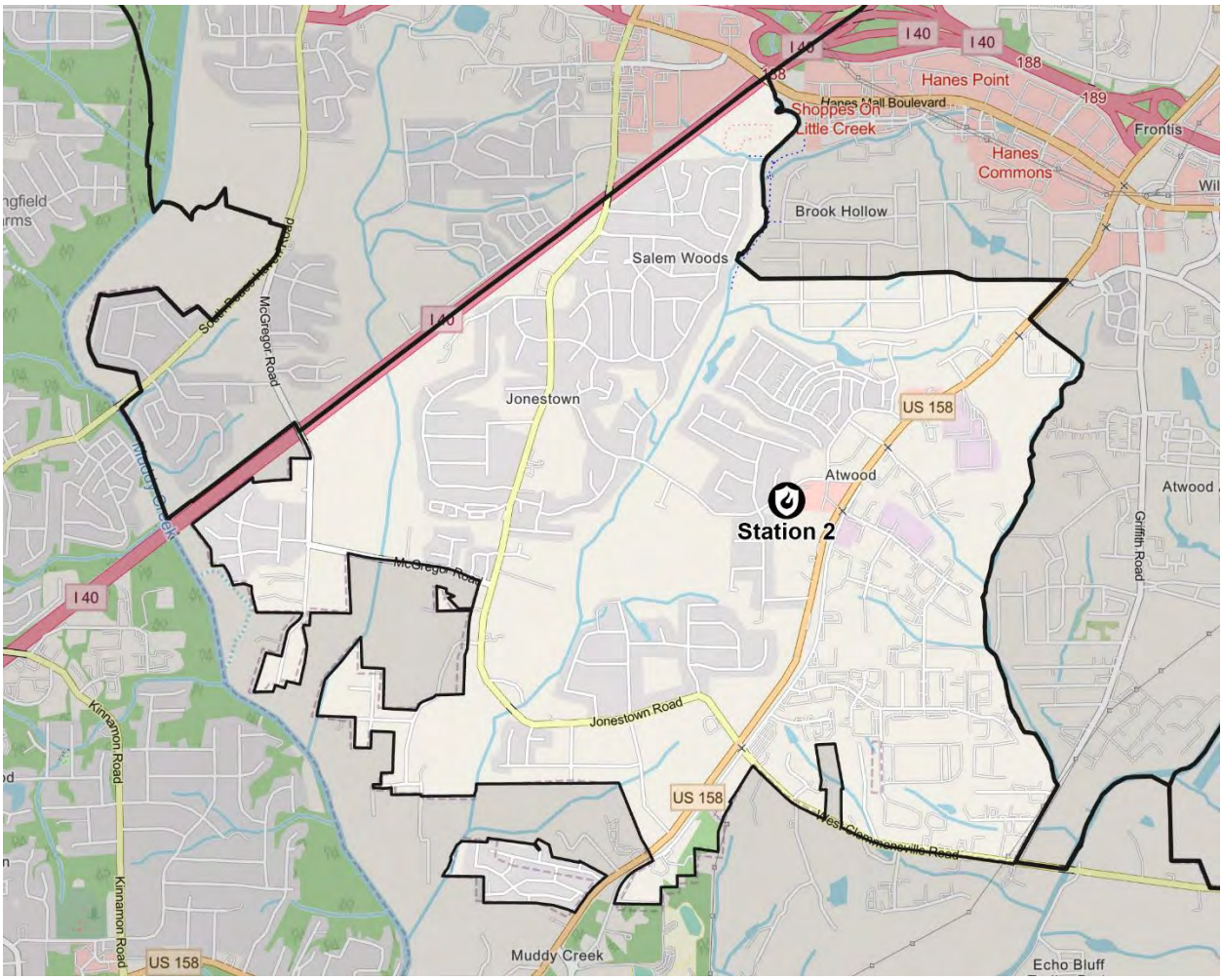
Station 1 All Incidents - 2021 to 2023

Incident Type	Number of Incidents
Emergency medical service (EMS) incident	4,480
Unintentional system/detector operation (no fire)	1,453
Medical assist	802
Dispatched and canceled en route	780
Public service assistance	521
System or detector malfunction	497
Wrong location, no emergency found	293
Extrication, rescue	199
Excessive heat, scorch burns with no ignition	168
Structure Fire	119
Malicious, mischievous false alarm	108
Steam, other gas mistaken for smoke	107
Electrical wiring/equipment problem	102
Combustible/flammable spills & leaks	99
Accident, potential accident	68
Natural vegetation fire	65
Water problem	63
Outside rubbish fire	60
HazMat release investigation w/no HazMat	42
Good intent call, other	34
Mobile property (vehicle) fire	31
Person in distress	30
Chemical release, reaction, or toxic condition	27
Rescue, emergency medical call (EMS), other	24
Smoke, odor problem	24
Special outside fire	23
Service call, other	21
Unauthorized burning	19
Lock-In	19
False alarm and false call, other	16
Grand Total	**10,320**

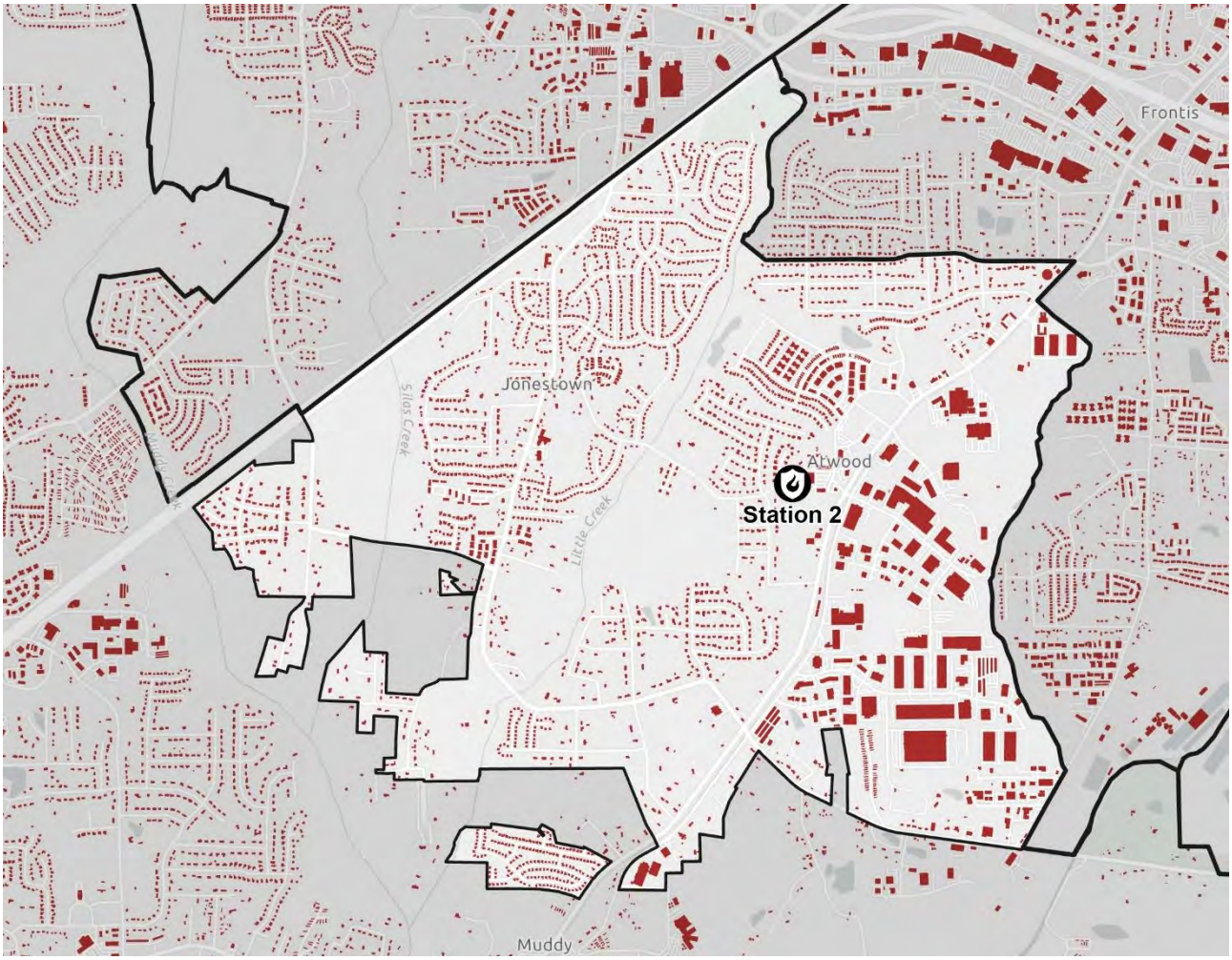
The average station territory had 2,746 emergency medical service (EMS) incidents, 684 unintentional system/detector operation (no fire), 413 medical assists, 78 structure fires, and 5,890 total incidents.

Station 2

Fire Station 2, also known as the Stratford West Fire Station, was constructed in 2004, and is a 10,407 square foot, three bay, two-story building. The station houses three apparatus including Engine 2, Ladder 2, and Hazmat 1. The station is assigned and fully staffed by nine personnel, with a minimum of seven.



Station 2, located at 405 Somerset Drive, encompasses the western sector of the city, including the region around South Stratford and Jonestown Road. The architectural landscape within this district is diverse, although a significant portion of the structures are relatively modern, less than half a century old, and outfitted with advanced fire safety mechanisms such as centralized monitoring and sprinkler systems.



Station 2's territory encompasses three apartment complexes, with resource demands akin to standard initial dispatch. Six single-family dwelling neighborhoods also fall within the district, necessitating typical resources for initial response. The territory also features two public schools, three high-rise buildings, numerous manufacturing facilities, some of which might warrant additional dispatch resources or high-rise protocols at times.

Demographic Data	Station 2	Average
2023 Total Population	7,532	12,767
2023 Population Density (per sq mi)	1,762	1,929
2023 Daytime Population Workers	3,637	7,771
2023 Daytime Population Residents	4,088	7,140
2023 Daytime Population Density (per sq mi)	1,807	2,580
2020 to 2023 Population Growth Rate	0.5%	0.7%
2023 % White Population	52%	45%
2023 % Black Population	25%	33%
2023 % Asian Population	7%	3%
2023 % Population of 2 Races	9%	8%
2023 % Other Race Population	7%	12%
2021 % Speak Only English	76.0%	83.4%
2021 % Speak Spanish & No/Limited English	1.6%	2.6%
2021 % Speak Other & No/Limited English	3.1%	0.4%
2021 % Households w/1 Person w/Disability	20%	23%
2023 % Pop. Age 25: <9th Grade	3%	4%
2023 % Pop. Age 25: High School No Diploma	3%	6%
2023 % Pop. Age 25: GED	5%	4%
2023 % Pop. Age 25: High School Diploma	19%	23%
2023 % Pop. Age 25: Some College No Degree	19%	19%
2023 % Pop. Age 25: Associate's Degree	12%	8%
2023 % Pop. Age 25: Bachelor's Degree	26%	21%
2023 % Pop. Age 25: Grad/Professional Degree	13%	15%
2023 Median Household Income	$68,183	$60,600
2023 % Household in Low Income Tier	16.6%	26.9%
2023 % Household in Middle Income Tier	68.6%	59.5%
2023 % Household in Upper Income Tier	14.8%	13.6%
2023 Median Net Worth	$151,546	$143,319

Compared to other station territories: Station 2 is representative of the average station territory with respect to the demographic data measured in the above table. There is no data presented in the above table for which Station 2 falls within the top or bottom three territories.

Housing Data	Station 2	Average
2023 Total Housing Units	3,392	5,745
2023 Owner Occupied Housing Units	2,207	2,879
2023 Renter Occupied Housing Units	972	2,362
2023 Vacant Housing Units	213	504
2021 Median Year House Built	1994	1977
2023 Average Home Value	$252,887	$266,825
2021 Housing 1 Unit in Structure	2,204	3,653
2021 Housing 2 Units in Structure		94
2021 Housing 3 or 4 Units in Structure	32	264
2021 Housing 5 to 9 Units in Structure	321	479
2021 Housing 10 to 19 Units in Structure	347	538
2021 Housing 20 to 49 Units in Structure	87	159
2021 Housing 50 Units in Structure	67	240
2021 Housing Mobile Homes	30	111

Compared to other station territories: Station 2 has the second newest housing stock in terms of median year built.

Other Data	Station 2	Average
Square Miles	4.3	6.7
Miles of Roadway	45.1	77.6
% Developed (NLCD)	75.6%	63.0%
% Forest (NLCD)	15.6%	23.2%
% Pasture/Hay/Cultivated Crops (NLCD)	5.6%	9.1%
% Other (NLCD)	3.2%	4.7%
% at Flood Risk	7.5%	6.9%
2023 Total Businesses (NAICS)	291	487
2023 Total Employees (NAICS)	3,252	7,569

Compared to other station territories: Station 2 covers the third smallest area and has the second least total miles of roadway.

Station 2 Fire by Classification and Property Type - 2021 to 2023

	NFIRS Fire Classification						
Property Type	**Structure**	**Natural vegetation**	**Vehicle**	**Outside rubbish**	**Special outside**	**Other**	**Grand Total**
1 or 2 family dwelling	36	2		2			**40**
Vehicle parking area	2	12	14	5	2	2	**37**
Highway or divided highway		6	10				**16**
Street or road in commercial area		6	9		1		**16**
Graded and cared-for plots of land		7		3	1		**11**
Open land or field		4	1	1	1		**7**
Residential street or residential driveway			6	1			**7**
Multifamily dwelling	3	2			1	1	**7**
Restaurant or cafeteria	5				1		**6**
Hotel/motel, commercial	5	1					**6**
Outside or special property, other	1	1		2			**4**
Business office	1	1					**2**
Vacant lot		1		1			**2**
Other	4	5		5			**14**
Grand Total	**57**	**48**	**40**	**20**	**7**	**3**	**175**

The Station 13 territory was created near the end of 2022. If Station 13 had existed for all of 2021 through 2023, 102 of the 175 fires would have taken place in Station 13's territory.

Station 2 All Incidents - 2021 to 2023

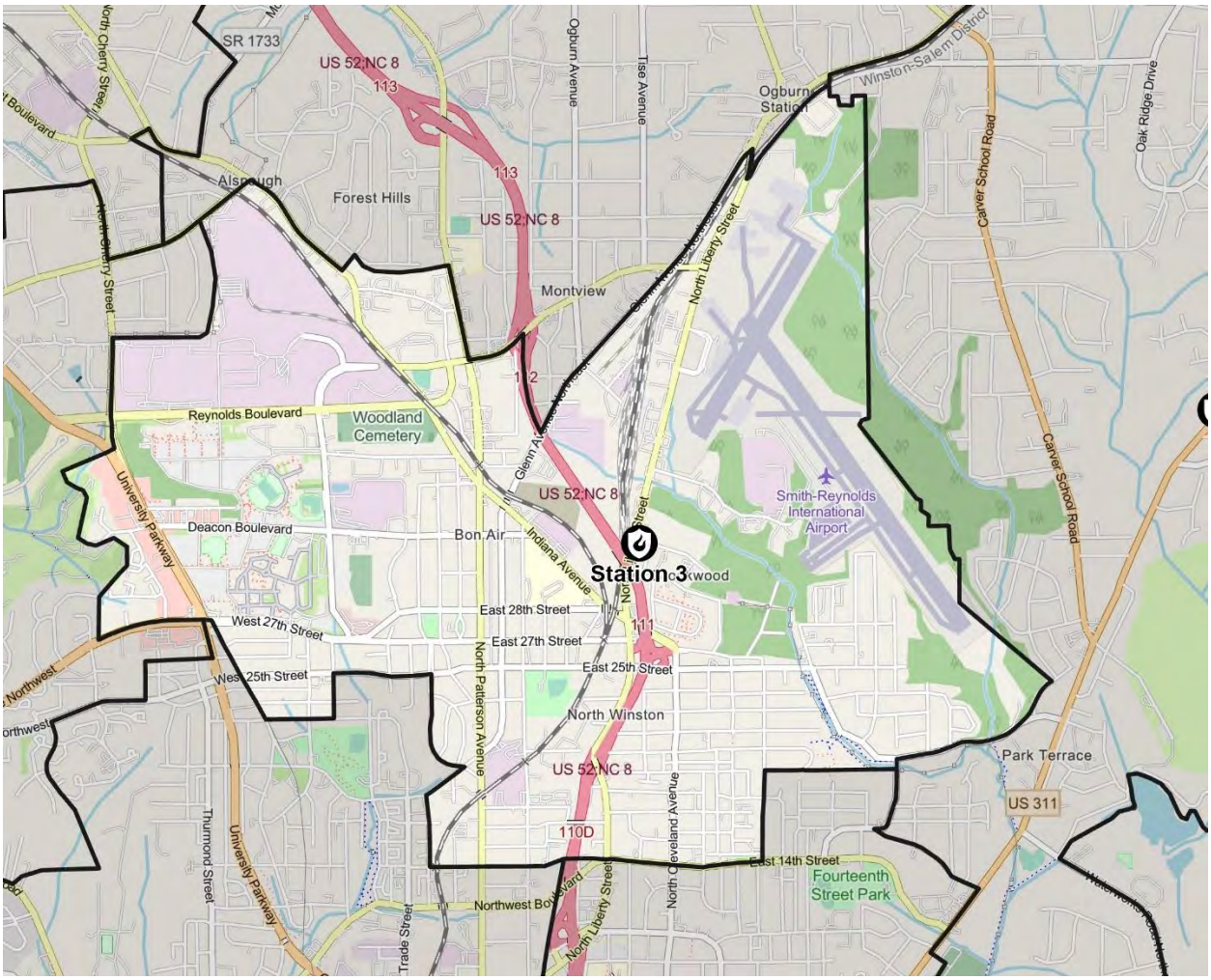
Incident Type	Number of Incidents
Emergency medical service (EMS) incident	2,598
Unintentional system/detector operation (no fire)	914
Public service assistance	550
Dispatched and canceled en route	440
Medical assist	407
System or detector malfunction	347
Wrong location, no emergency found	113
Steam, other gas mistaken for smoke	98
Combustible/flammable spills & leaks	86
Good intent call, other	76
Electrical wiring/equipment problem	76
Excessive heat, scorch burns with no ignition	67
Structure Fire	57
Accident, potential accident	55
Rescue, emergency medical call (EMS), other	53
Extrication, rescue	50
Natural vegetation fire	48
Water problem	44
Mobile property (vehicle) fire	40
Lock-In	39
Person in distress	37
Service call, other	29
Chemical release, reaction, or toxic condition	29
False alarm and false call, other	25
Malicious, mischievous false alarm	23
Outside rubbish fire	20
Smoke, odor problem	17
Unauthorized burning	15
HazMat release investigation w/no HazMat	12
Grand Total	**6,415**

The Station 13 territory was created near the end of 2022. If Station 13 had existed for all of 2021 through 2023, 4,104 of the 6,415 incidents would have taken place in Station 13's territory.

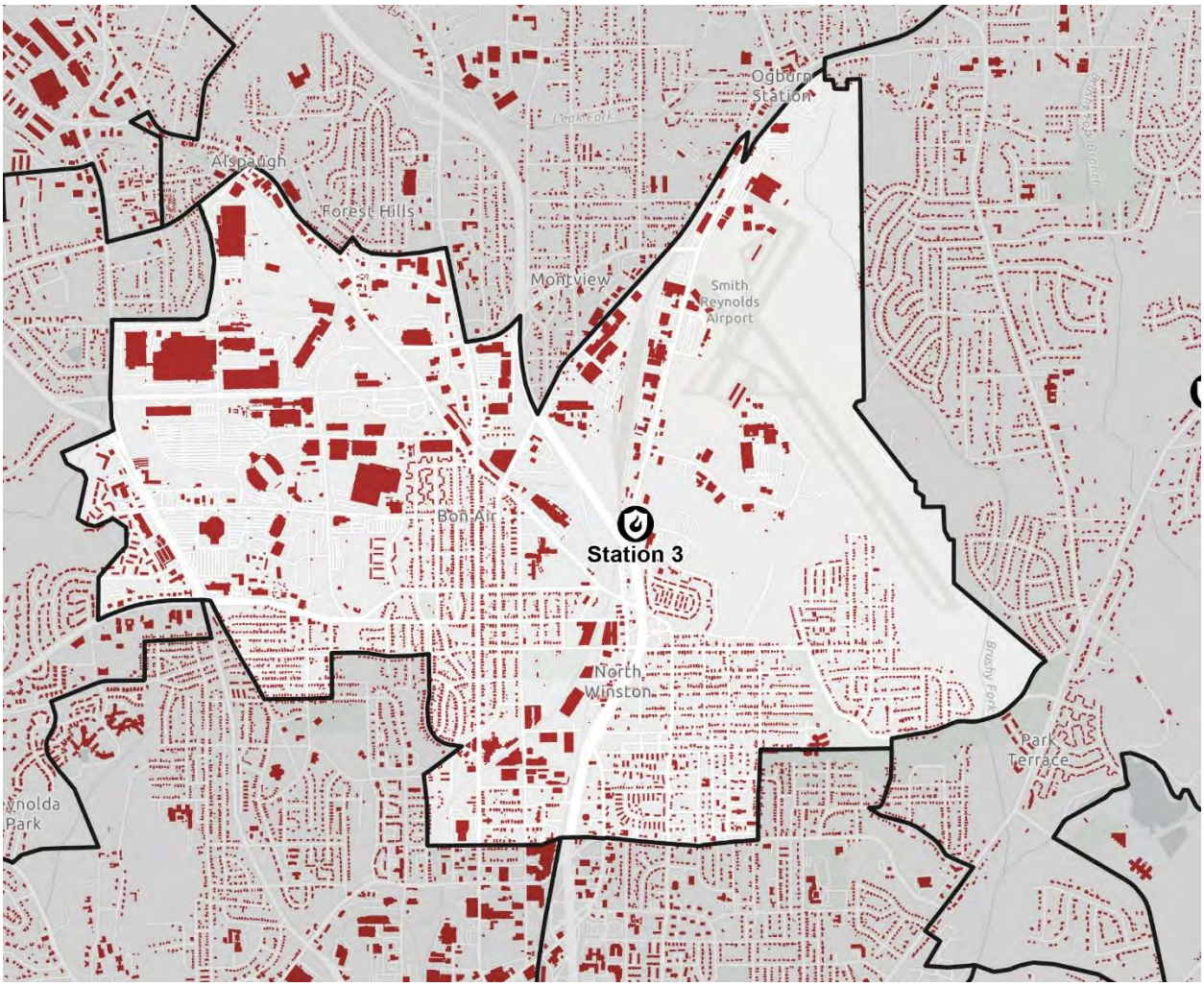
The average station territory had 2,746 emergency medical service (EMS) incidents, 684 unintentional system/detector operation (no fire), 413 medical assists, 78 structure fires, and 5,890 total incidents.

Station 3

Fire Station 3, also known as the Liberty North Fire Station, was constructed in 1964, and is a 9,612 square foot, two bay, single-story building. The station houses two apparatus, including Engine 3 and Battalion 3. The station is assigned and fully staffed by four personnel, with a minimum of three.



Fire Station 3, located at 2995 N Liberty Street in the northeastern section of the city, is one of several stations in the city's Northeast Ward. Its coverage includes key landmarks such as Highway 52, Smith Reynolds Airport, the Norfolk Southern train switching yard, Lawrence Joel Coliseum, Winston-Salem Fairground Annex, Smith Reynolds Airport, and Wake Forest University sports complexes. Engine 3 provides support to several other engine companies, extending from the downtown area to the eastern city limits. The station's territory predominantly lies in the city's eastern segment, encompassing a mix of commercial establishments, single-family residences (many of which are older wood frame structures), and housing authority multifamily dwellings.



Station 3's territory features one high-rise building, along with significant institutions like the WFU Football Stadium and Complex, Winston-Salem Fairgrounds, and the Lawrence Joel Coliseum. The territory also houses a medical facility, an aircraft maintenance facility, public schools, apartment complexes, hotels, and numerous hazardous materials industrial complexes. Numerous single-family dwellings, often older wood frame structures, are also prominent.

Demographic Data	Station 3	Average
2023 Total Population	7,432	12,767
2023 Population Density (per sq mi)	1,631	1,929
2023 Daytime Population Workers	6,189	7,771
2023 Daytime Population Residents	5,377	7,140
2023 Daytime Population Density (per sq mi)	2,537	2,580
2020 to 2023 Population Growth Rate	0.5%	0.7%
2023 % White Population	7%	45%
2023 % Black Population	72%	33%
2023 % Asian Population	0%	3%
2023 % Population of 2 Races	5%	8%
2023 % Other Race Population	16%	12%
2021 % Speak Only English	82.4%	83.4%
2021 % Speak Spanish & No/Limited English	3.4%	2.6%
2021 % Speak Other & No/Limited English	0.1%	0.4%
2021 % Households w/1 Person w/Disability	28%	23%
2023 % Pop. Age 25: <9th Grade	4%	4%
2023 % Pop. Age 25: High School No Diploma	15%	6%
2023 % Pop. Age 25: GED	5%	4%
2023 % Pop. Age 25: High School Diploma	35%	23%
2023 % Pop. Age 25: Some College No Degree	19%	19%
2023 % Pop. Age 25: Associate's Degree	7%	8%
2023 % Pop. Age 25: Bachelor's Degree	12%	21%
2023 % Pop. Age 25: Grad/Professional Degree	2%	15%
2023 Median Household Income	$24,021	$60,600
2023 % Household in Low Income Tier	55.7%	26.9%
2023 % Household in Middle Income Tier	43.2%	59.5%
2023 % Household in Upper Income Tier	1.0%	13.6%
2023 Median Net Worth	$11,147	$143,319

Compared to other station territories: Station 3 has the third highest number of households with at least one person with a disability, the highest percentage of adults with no high school diploma or GED, the second lowest percentage of adults with a bachelor's degree, the lowest percentage or adults with a graduate or professional degree, the lowest median income, the highest percentage of households in the low income tier, the lowest percentage of households in the upper income tier, and the lowest median net worth.

Housing Data	Station 3	Average
2023 Total Housing Units	3,349	5,745
2023 Owner Occupied Housing Units	768	2,879
2023 Renter Occupied Housing Units	1,989	2,362
2023 Vacant Housing Units	592	504
2021 Median Year House Built	1964	1977
2023 Average Home Value	$184,420	$266,825
2021 Housing 1 Unit in Structure	2,014	3,653
2021 Housing 2 Units in Structure	133	94
2021 Housing 3 or 4 Units in Structure	423	264
2021 Housing 5 to 9 Units in Structure	437	479
2021 Housing 10 to 19 Units in Structure	207	538
2021 Housing 20 to 49 Units in Structure	39	159
2021 Housing 50 Units in Structure	32	240
2021 Housing Mobile Homes	46	111

Compared to other station territories: Station 3 has the third lowest average home value, and the third lowest number of single unit, detached houses.

Other Data	Station 3	Average
Square Miles	4.6	6.7
Miles of Roadway	54.7	77.6
% Developed (NLCD)	66.9%	63.0%
% Forest (NLCD)	21.1%	23.2%
% Pasture/Hay/Cultivated Crops (NLCD)	7.4%	9.1%
% Other (NLCD)	4.7%	4.7%
% at Flood Risk	6.8%	6.9%
2023 Total Businesses (NAICS)	314	487
2023 Total Employees (NAICS)	5,248	7,569

Compared to other station territories: Station 3 is representative of the average station territory with respect to the data measured in the above table. There is no data presented in the above table for which Station 3 falls within the top or bottom three territories.

Station 3 Fire by Classification and Property Type - 2021 to 2023

Property Type	NFIRS Fire Classification						Grand Total
	Structure	Vehicle	Natural vegetation	Outside rubbish	Special outside	Other	
1 or 2 family dwelling	73	2	2	3	1	1	**82**
Residential street or driveway		17	11	4	1		**33**
Vehicle parking area	2	11	5	10			**28**
Multifamily dwelling	23			2			**25**
Graded and cared-for plots of land	1	2	14	7			**24**
Street or road in commercial area		12	4	2			**18**
Railroad right-of-way			4		3		**7**
Manufacturing, processing	1		1		1	1	**4**
Highway or divided highway		3	1				**4**
Vacant lot			2				**2**
Sanitation utility	1			1			**2**
Playground				2			**2**
Business office	2						**2**
Warehouse	2						**2**
Outbuilding, protective shelter	1			1			**2**
Open land or field		1	1				**2**
Other	9	0	3	3	0	0	**15**
Grand Total	**115**	**48**	**48**	**35**	**6**	**2**	**254**

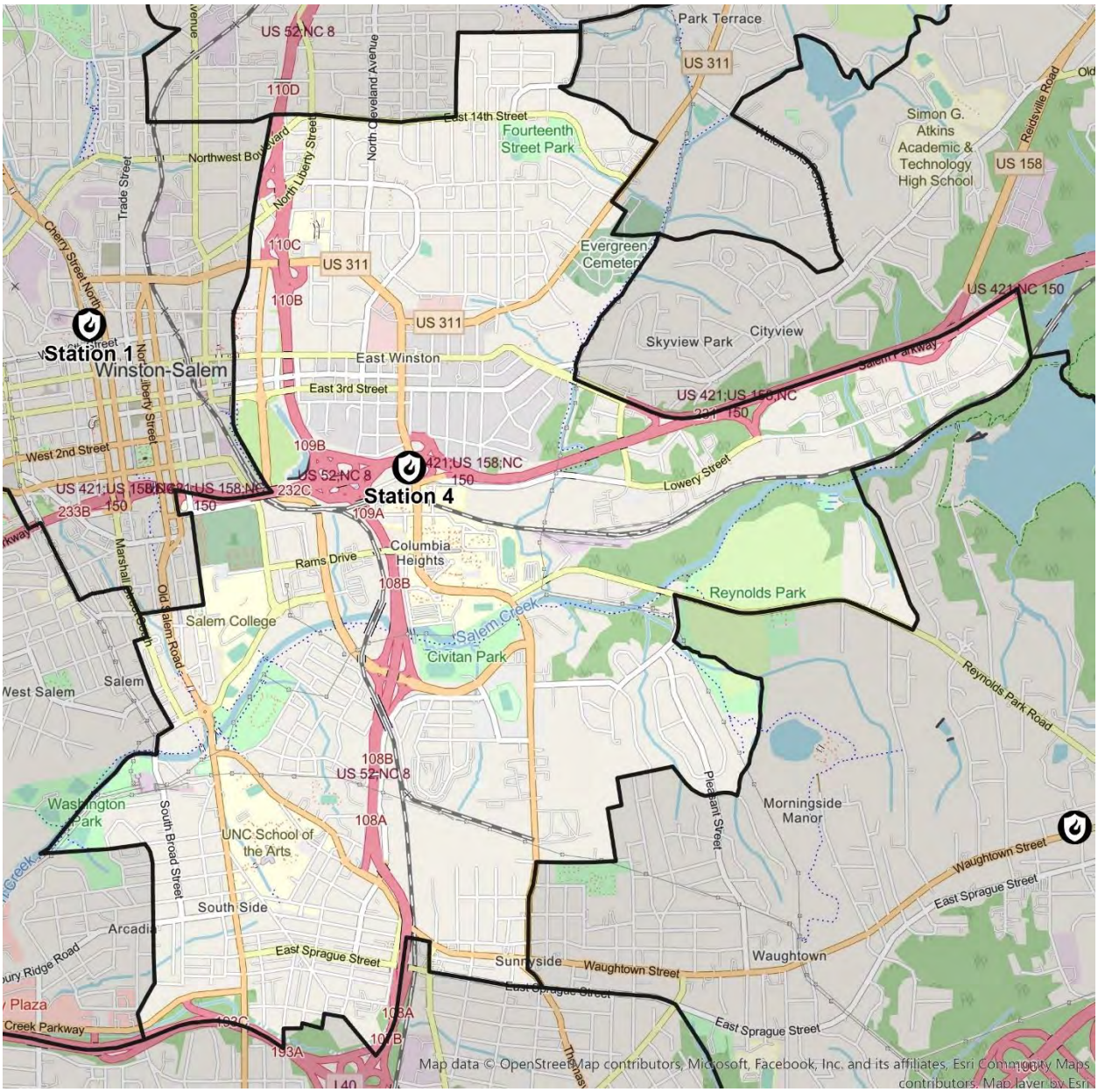
Station 3 All Incidents - 2021 to 2023

Incident Type	Number of Incidents
Emergency medical service (EMS) incident	3,880
Medical assist	555
Unintentional system/detector operation (no fire)	501
Dispatched and canceled en route	445
Public service assistance	295
System or detector malfunction	205
Wrong location, no emergency found	172
Combustible/flammable spills & leaks	135
Electrical wiring/equipment problem	115
Structure Fire	115
Accident, potential accident	76
Good intent call, other	74
Steam, other gas mistaken for smoke	71
Unauthorized burning	57
Natural vegetation fire	48
Mobile property (vehicle) fire	48
Excessive heat, scorch burns with no ignition	47
Water problem	38
Outside rubbish fire	35
Service call, other	30
Chemical release, reaction, or toxic condition	23
False alarm and false call, other	17
Extrication, rescue	17
Person in distress	15
HazMat release investigation w/no HazMat	14
Lock-In	14
Smoke, odor problem	13
Grand Total	**7,102**

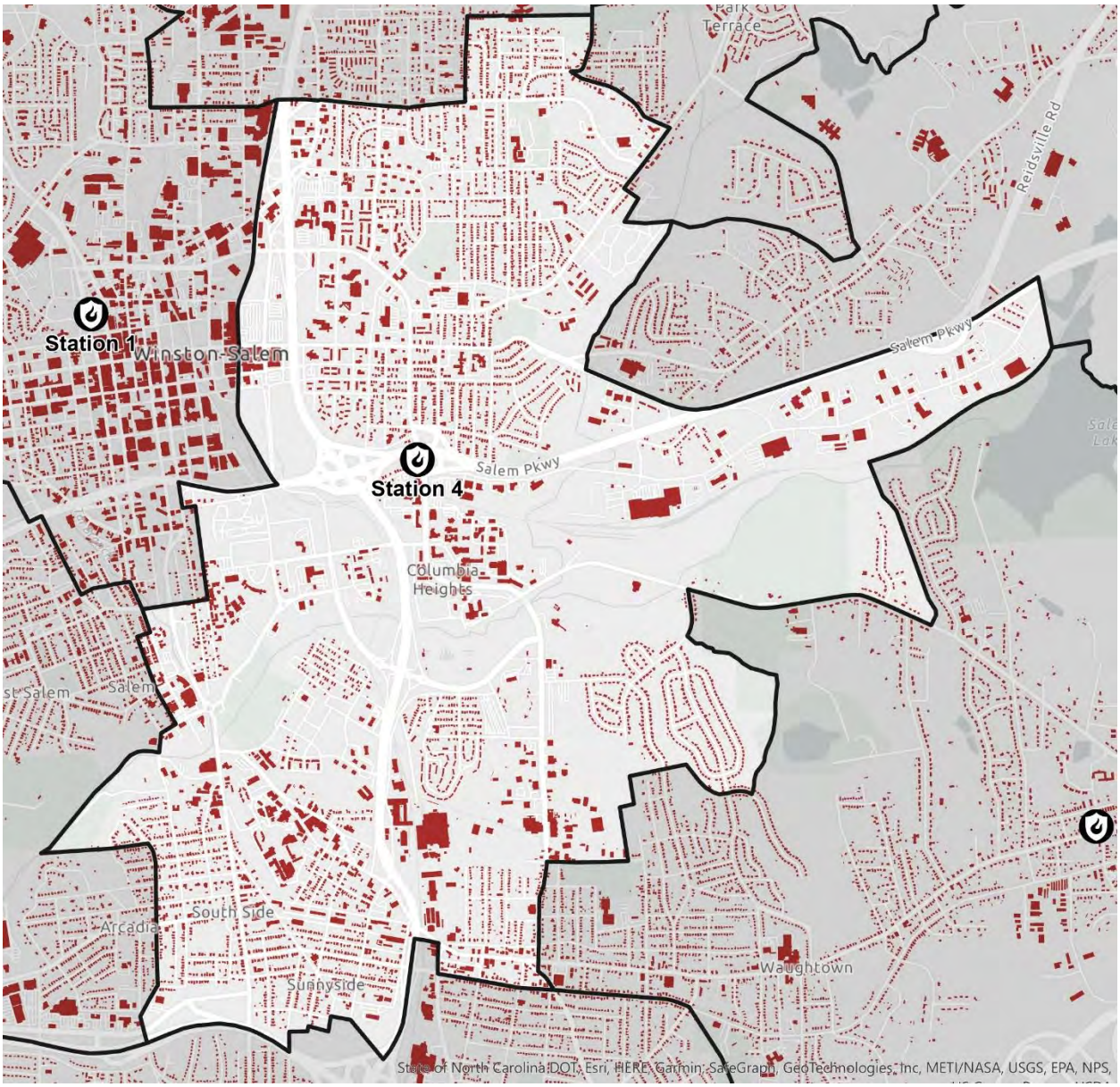
The average station territory had 2,746 emergency medical service (EMS) incidents, 684 unintentional system/detector operation (no fire), 413 medical assists, 78 structure fires, and 5,890 total incidents.

Station 4

Fire Station 4, also known as the Lester E. Ervin Fire Station, was constructed in 1980, and is a 4,610 square foot, two bay, single-story building. The station houses two apparatus including Engine 4 and Battalion 2. The station is assigned and fully staffed by four personnel, with a minimum of three.



Fire Station 4, located at 290 Martin Luther King Jr. Drive, is responsible for a diverse response area encompassing prominent educational institutions such as Winston-Salem State University, Salem College, UNC School of the Arts, and the iconic Bowman Gray Stadium, along with the bustling interchanges of Highway 421 and 52. Extending westward from major thoroughfares, the district's boundary intersects with Station 1 to the west and Station 5 to the south. To the north, it meets Station 3's territory near N. Jackson Avenue and Ashley School Circle, while its eastern border touches the Reidsville Road exit on SB Highway 421, bordering Fire Station 17.



The district contains several critical facilities and apartment complexes, each with distinct characteristics and potential response requirements. The territory is characterized by single-family dwellings, except for the college campuses and scattered commercial and industrial areas. Notable schools and educational centers include the WSFCS Career Center, Salem Academy, Salem College, UNC School of the Arts, and Winston-Salem State University contribute to the educational landscape. The territory contains one high-rise building, requiring multiple alarms to mitigate potential fires. Historic sites within Station 4's jurisdiction include Union Station and the settlement community of Old Salem.

Hazardous materials are handled at one facility, and the territory covers sections of Highways 52 and 421, flanked by parallel railways. Commercial and manufacturing clusters can be found on Lowery Street, S. MLK Jr. Drive, and the Waughtown Street and Sprague Street area. The

presence of Bowman Gray Stadium and a water treatment plant adds to the district's unique factors.

Demographic Data	Station 4	Average
2023 Total Population	14,821	12,767
2023 Population Density (per sq mi)	2,491	1,929
2023 Daytime Population Workers	7,329	7,771
2023 Daytime Population Residents	9,970	7,140
2023 Daytime Population Density (per sq mi)	2,907	2,580
2020 to 2023 Population Growth Rate	-0.1%	0.7%
2023 % White Population	18%	45%
2023 % Black Population	60%	33%
2023 % Asian Population	1%	3%
2023 % Population of 2 Races	6%	8%
2023 % Other Race Population	15%	12%
2021 % Speak Only English	81.9%	83.4%
2021 % Speak Spanish & No/Limited English	3.2%	2.6%
2021 % Speak Other & No/Limited English	0.3%	0.4%
2021 % Households w/1 Person w/Disability	24%	23%
2023 % Pop. Age 25: <9th Grade	6%	4%
2023 % Pop. Age 25: High School No Diploma	9%	6%
2023 % Pop. Age 25: GED	4%	4%
2023 % Pop. Age 25: High School Diploma	33%	23%
2023 % Pop. Age 25: Some College No Degree	18%	19%
2023 % Pop. Age 25: Associate's Degree	10%	8%
2023 % Pop. Age 25: Bachelor's Degree	13%	21%
2023 % Pop. Age 25: Grad/Professional Degree	6%	15%
2023 Median Household Income	$28,805	$60,600
2023 % Household in Low Income Tier	49.4%	26.9%
2023 % Household in Middle Income Tier	45.7%	59.5%
2023 % Household in Upper Income Tier	4.9%	13.6%
2023 Median Net Worth	$12,589	$143,319

Compared to other station territories: Station 4 was the only territory to experience population decline from 2020 to 2023, has the second lowest median household income, has the second highest percentage of the population in the low income tier, has the third lowest percentage of the population in the upper income tier, and has the second lowest median net worth.

Housing Data	Station 4	Average
2023 Total Housing Units	5,875	5,745
2023 Owner Occupied Housing Units	1,629	2,879
2023 Renter Occupied Housing Units	3,513	2,362
2023 Vacant Housing Units	733	504
2021 Median Year House Built	1968	1977
2023 Average Home Value	$184,608	$266,825
2021 Housing 1 Unit in Structure	3,503	3,653
2021 Housing 2 Units in Structure	272	94
2021 Housing 3 or 4 Units in Structure	601	264
2021 Housing 5 to 9 Units in Structure	810	479
2021 Housing 10 to 19 Units in Structure	353	538
2021 Housing 20 to 49 Units in Structure	94	159
2021 Housing 50 Units in Structure	596	240
2021 Housing Mobile Homes	89	111

Compared to other station territories: Station 4 has the second highest number of housing units in structures with 50 or more units.

Other Data	Station 4	Average
Square Miles	6.0	6.7
Miles of Roadway	98.4	77.6
% Developed (NLCD)	68.7%	63.0%
% Forest (NLCD)	19.4%	23.2%
% Pasture/Hay/Cultivated Crops (NLCD)	7.5%	9.1%
% Other (NLCD)	4.4%	4.7%
% at Flood Risk	6.7%	6.9%
2023 Total Businesses (NAICS)	621	487
2023 Total Employees (NAICS)	7,510	7,569

Compared to other station territories: Station 4 is representative of the average station territory with respect to the data measured in the above table. There is no data presented in the above table for which Station 3 falls within the top or bottom three territories.

Station 4 Fire by Classification and Property Type - 2021 to 2023

Property Type	NFIRS Fire Classification						Grand Total
	Structure	Natural vegetation	Vehicle	Outside rubbish	Special outside	Other	
1 or 2 family dwelling	82	4	1	7	1	2	**97**
Multifamily dwelling	76	2	1	4	1		**84**
Vehicle parking area	2	3	13	22	1		**41**
Residential street, or driveway	1	13	22	3	1		**40**
Street or road in commercial area		17	16	5			**38**
Highway or divided highway		6	17	1			**24**
Graded and cared-for plots of land		15	1	3			**19**
Open land or field		10		4			**14**
Vacant lot		4	1	1			**6**
High school/ middle school	3	1					**4**
Church, mosque, synagogue, temple	4						**4**
Outbuilding, protective shelter	1			1	2		**4**
Playground		2		1	1		**4**
Manufacturing, processing	2					2	**4**
Adult education, college classroom	3			1			**4**
Restaurant or cafeteria	3						**3**
Warehouse	2						**2**
Dormitory-type residence, other	2						**2**
Vehicle/boat sales, services, repair	1		1				**2**
Street, other		1		1			**2**
24-hour Nursing homes, 4+ persons	2						**2**
Other	4	5	2	5	1	1	**18**
Grand Total	**188**	**83**	**75**	**59**	**8**	**5**	**418**

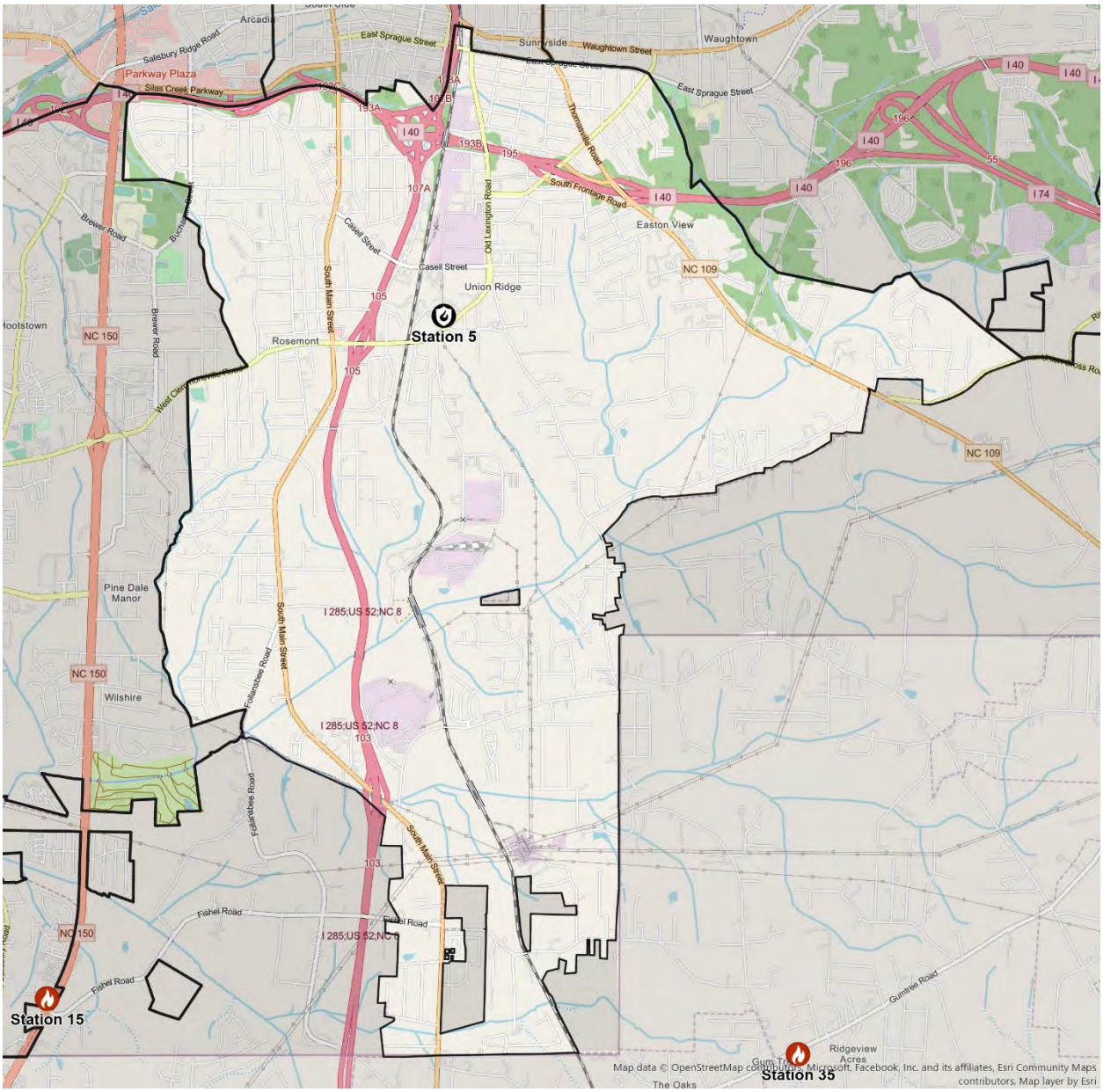
Station 4 All Incidents - 2021 to 2023

Incident Type	Number of Incidents
Emergency medical service (EMS) incident	4,539
Unintentional system/detector operation (no fire)	1,572
Dispatched and canceled en route	902
Medical assist	852
Public service assistance	643
System or detector malfunction	485
Wrong location, no emergency found	277
Steam, other gas mistaken for smoke	225
Structure Fire	188
Accident, potential accident	150
Electrical wiring/equipment problem	149
Excessive heat, scorch burns with no ignition	147
Combustible/flammable spills & leaks	126
Extrication, rescue	94
Natural vegetation fire	83
Mobile property (vehicle) fire	75
Malicious, mischievous false alarm	74
Water problem	72
Outside rubbish fire	59
Good intent call, other	48
Service call, other	42
Unauthorized burning	41
Person in distress	29
Rescue, emergency medical call (EMS), other	28
Smoke, odor problem	26
Chemical release, reaction, or toxic condition	24
HazMat release investigation w/no HazMat	20
Lock-In	16
Flammable gas or liquid condition, other	14
False alarm and false call, other	13
Grand Total	**11,042**

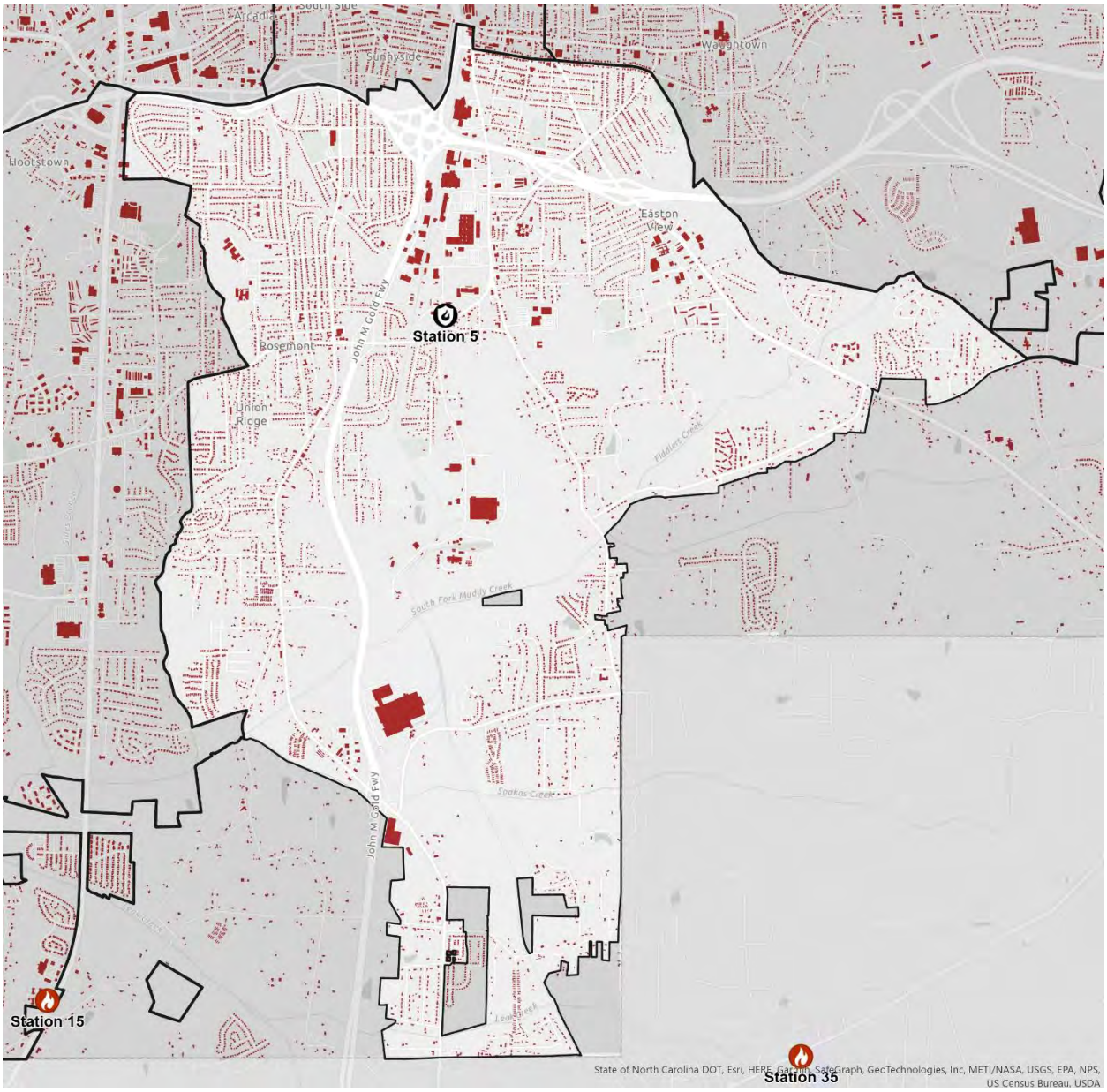
The average station territory had 2,746 emergency medical service (EMS) incidents, 684 unintentional system/detector operation (no fire), 413 medical assists, 78 structure fires, and 5,890 total incidents.

Station 5

Fire Station 5 was constructed in 1974, and is a 9,794 square foot, two bay, single-story building. The station houses two apparatus including Engine 5 and Ladder 5. The station is assigned and fully staffed by nine personnel, with a minimum of seven.



Fire Station 5, located at 771 Palmer Lane is strategically positioned southeast of the downtown area, serving the Southeast Ward of the city. Station 5's response territory spans a diverse landscape, including schools, churches, businesses, nursing home facilities, and a mix of residential areas, both multifamily and single-family homes. The territory encompasses a blend of new and old construction and hosts various community-based festivals and concerts throughout the year.



The district contains several apartment complexes and schools but lacks high-rise or historical buildings. The territory is home to two hazardous materials complexes. It's notable for its commercial presence along Old Lexington Road & Sprague Street, encompassing retail stores, businesses, and professional services. Transportation by rail and highway systems is significant, and the industrial landscape includes a large manufacturing facility.

Demographic Data	Station 5	Average
2023 Total Population	19,714	12,767
2023 Population Density (per sq mi)	1,871	1,929
2023 Daytime Population Workers	3,048	7,771
2023 Daytime Population Residents	11,336	7,140
2023 Daytime Population Density (per sq mi)	1,365	2,580
2020 to 2023 Population Growth Rate	0.8%	0.7%
2023 % White Population	30%	45%
2023 % Black Population	32%	33%
2023 % Asian Population	1%	3%
2023 % Population of 2 Races	11%	8%
2023 % Other Race Population	25%	12%
2021 % Speak Only English	65.2%	83.4%
2021 % Speak Spanish & No/Limited English	8.4%	2.6%
2021 % Speak Other & No/Limited English	0.1%	0.4%
2021 % Households w/1 Person w/Disability	26%	23%
2023 % Pop. Age 25: <9th Grade	7%	4%
2023 % Pop. Age 25: High School No Diploma	13%	6%
2023 % Pop. Age 25: GED	4%	4%
2023 % Pop. Age 25: High School Diploma	28%	23%
2023 % Pop. Age 25: Some College No Degree	17%	19%
2023 % Pop. Age 25: Associate's Degree	8%	8%
2023 % Pop. Age 25: Bachelor's Degree	11%	21%
2023 % Pop. Age 25: Grad/Professional Degree	11%	15%
2023 Median Household Income	$40,529	$60,600
2023 % Household in Low Income Tier	36.3%	26.9%
2023 % Household in Middle Income Tier	59.1%	59.5%
2023 % Household in Upper Income Tier	4.6%	13.6%
2023 Median Net Worth	$46,209	$143,319

Compared to other station territories: Station 5 has the third largest population, the largest daytime resident population, the highest percentage of the population that speak Spanish and no or limited English, the third highest percentage of the adult population with less than 9th grade education, the second highest percentage with no high school diploma or GED, the lowest percentage with a bachelor's degree, the third highest percentage of the population in the low income tier, and the third lowest percentage of the population in the high income tier.

Housing Data	Station 5	Average
2023 Total Housing Units	7,679	5,745
2023 Owner Occupied Housing Units	4,305	2,879
2023 Renter Occupied Housing Units	2,838	2,362
2023 Vacant Housing Units	536	504
2021 Median Year House Built	1968	1977
2023 Average Home Value	$165,383	$266,825
2021 Housing 1 Unit in Structure	6,121	3,653
2021 Housing 2 Units in Structure	223	94
2021 Housing 3 or 4 Units in Structure	90	264
2021 Housing 5 to 9 Units in Structure	356	479
2021 Housing 10 to 19 Units in Structure	188	538
2021 Housing 20 to 49 Units in Structure	142	159
2021 Housing 50 Units in Structure	78	240
2021 Housing Mobile Homes	358	111

Compared to other station territories: Station 5 has the lowest average home value, the second most single unit, detached houses, and the most mobile homes.

Other Data	Station 5	Average
Square Miles	10.5	6.7
Miles of Roadway	116.3	77.6
% Developed (NLCD)	48.2%	63.0%
% Forest (NLCD)	28.6%	23.2%
% Pasture/Hay/Cultivated Crops (NLCD)	16.9%	9.1%
% Other (NLCD)	6.4%	4.7%
% at Flood Risk	6.6%	6.9%
2023 Total Businesses (NAICS)	314	487
2023 Total Employees (NAICS)	3,270	7,569

Compared to other station territories: Station 5 is the largest territory in terms of square miles and has the most miles of roadway.

Station 5 Fire by Classification and Property Type - 2021 to 2023

Property Type	NFIRS Fire Classification						Grand Total
	Structure	Vehicle	Natural vegetation	Outside rubbish	Special outside	Other	
1 or 2 family dwelling	99	1	4	8	6	3	**121**
Graded and cared-for plots of land	1	2	20	8	2		**33**
Residential street, road or residential driveway		23	6	1	1		**31**
Vehicle parking area	1	16		7		1	**25**
Highway or divided highway		11	9	3			**23**
Multifamily dwelling	18	1		1			**20**
Open land or field			11	2			**13**
Street or road in commercial area		5	1	2			**8**
Pipeline, power line or other utility right-of-way			6		1		**7**
Manufacturing, processing	3	2		2			**7**
Street, other	1	4					**5**
Vacant lot		1	3				**4**
Restaurant or cafeteria	3						**3**
High school/junior high school/middle school	2					1	**3**
Railroad right-of-way			2		1		**3**
Industrial plant yard - area				1	1		**2**
Playground				2			**2**
Railroad yard		2					**2**
Outbuilding or shed	2						**2**
Outside or special property, other				1	1		**2**
Vehicle storage, other		2					**2**
Other	2	1		1		1	**5**
Grand Total	**132**	**71**	**62**	**39**	**13**	**6**	**323**

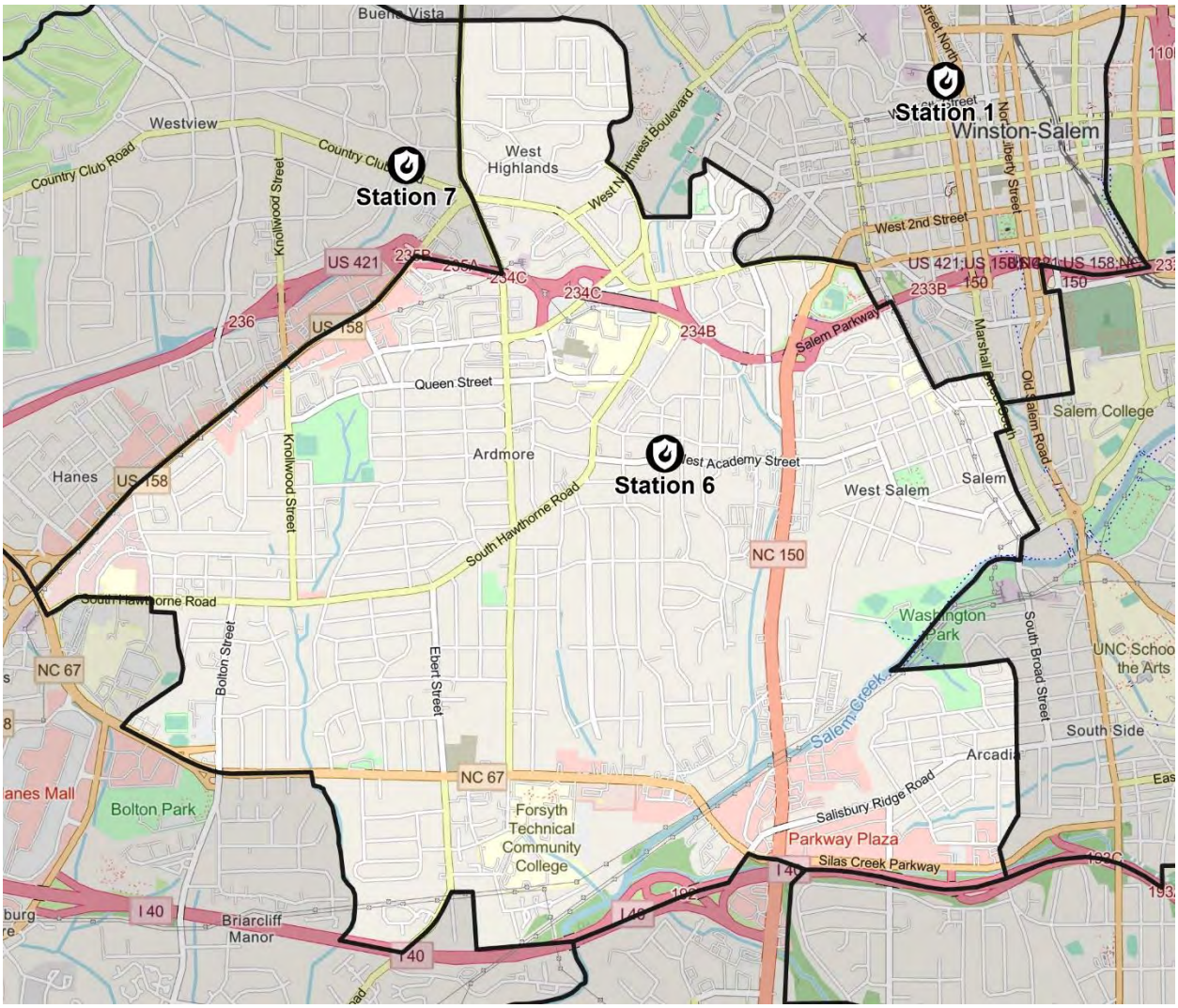
Station 5 All Incidents - 2021 to 2023

Incident Type	Number of Incidents
Emergency medical service (EMS) incident	4,071
Unintentional system/detector operation (no fire)	543
Medical assist	506
Public service assistance	473
Dispatched and canceled en route	288
Wrong location, no emergency found	262
Electrical wiring/equipment problem	186
Structure Fire	132
Steam, other gas mistaken for smoke	119
System or detector malfunction	117
Combustible/flammable spills & leaks	103
Unauthorized burning	99
Accident, potential accident	71
Mobile property (vehicle) fire	71
Good intent call, other	66
Natural vegetation fire	62
Excessive heat, scorch burns with no ignition	55
Outside rubbish fire	39
Chemical release, reaction, or toxic condition	29
Service call, other	27
Malicious, mischievous false alarm	23
Water problem	22
Person in distress	21
Smoke, odor problem	21
Controlled burning	19
Extrication, rescue	17
Lock-In	16
Special outside fire	13
Flammable gas or liquid condition, other	12
Grand Total	**7,523**

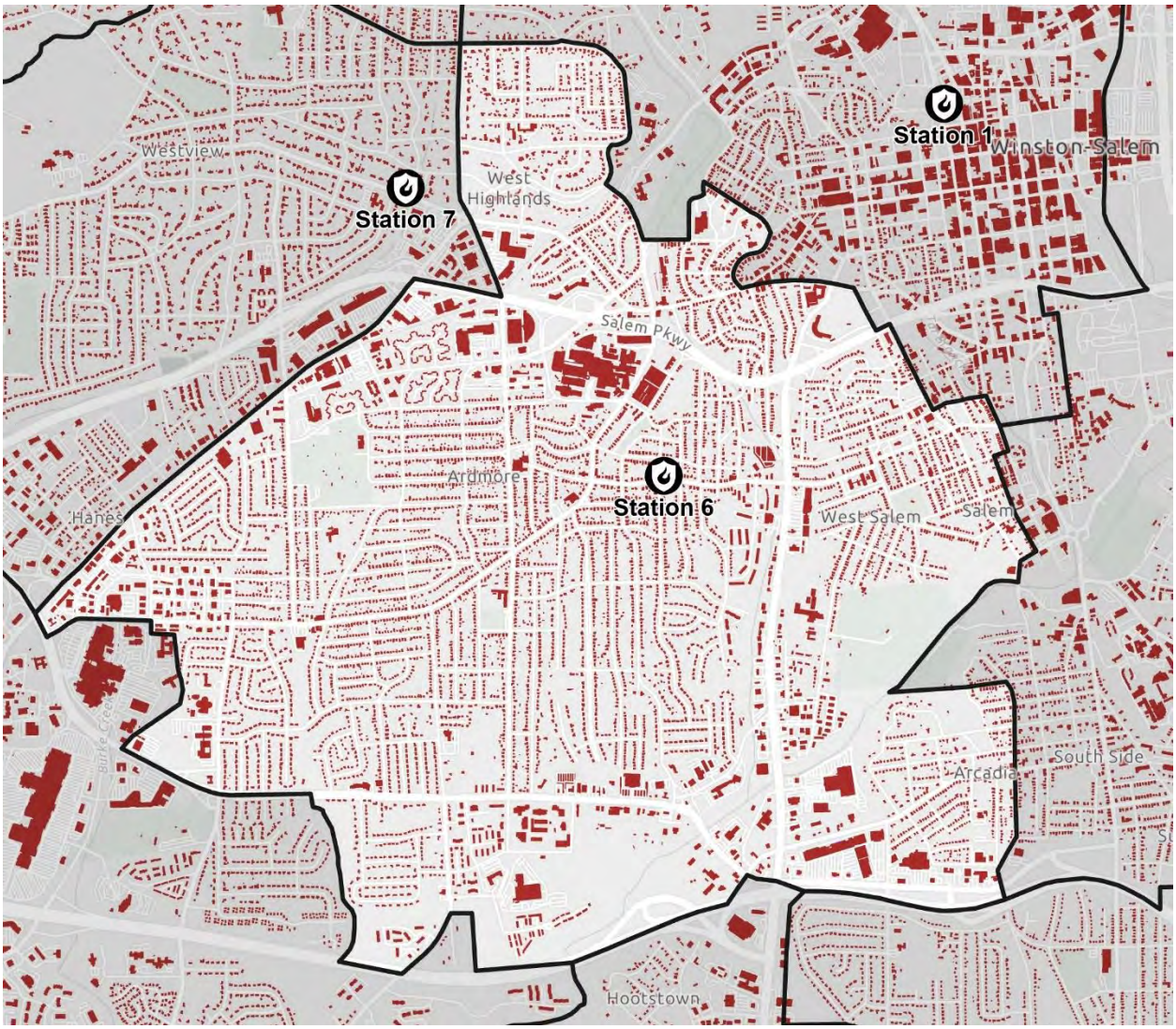
The average station territory had 2,746 emergency medical service (EMS) incidents, 684 unintentional system/detector operation (no fire), 413 medical assists, 78 structure fires, and 5,890 total incidents.

Station 6

Fire Station 6, also known as the Ardmore Fire Station, was rebuilt in 1996, and is a 4,907 square foot, two bay, two-story building. The station houses two apparatus including Engine 6 and Battalion 4. The station is assigned and fully staffed by four personnel, with a minimum of three.



Fire Station 6 is situated in the Ardmore neighborhood at 1717 West Academy Street, close to major roads and near Wake Forest Baptist Hospital, Forsyth Hospital, Forsyth Technical Community College, and Truist Baseball Stadium. The Station 6 response area contains homes at its core and businesses at its edges.



This district includes various properties that require special protection. There are a few small apartment complexes that usually need the usual initial resources for dispatch. The territory also includes public schools, private schools, and higher educational institutions such as Forsyth Technical Community College and Carolina University.

There are large buildings in the area, and many medical facilities. The transportation options include Stratford Rail, Interstate 40, and Salem Parkway. There are also car dealerships, hotels and motels, and a few government buildings including a National Guard location. The district also features the Dash Baseball Stadium (Truist Ballpark) and the Glade Street YMCA.

There are areas in Station 6's territory that are prone to flooding including 1st Street and Fayette Street, 1st Street and Hawthorne Road, Glade Street and Hawthorne Road, Lockland Avenue and Highway 421, Broad Street and Salem Avenue, and Silas Creek Parkway and Hanes Mall Boulevard.

Demographic Data	Station 6	Average
2023 Total Population	17,480	12,767
2023 Population Density (per sq mi)	3,219	1,929
2023 Daytime Population Workers	22,847	7,771
2023 Daytime Population Residents	9,329	7,140
2023 Daytime Population Density (per sq mi)	5,925	2,580
2020 to 2023 Population Growth Rate	0.9%	0.7%
2023 % White Population	61%	45%
2023 % Black Population	18%	33%
2023 % Asian Population	3%	3%
2023 % Population of 2 Races	9%	8%
2023 % Other Race Population	9%	12%
2021 % Speak Only English	81.1%	83.4%
2021 % Speak Spanish & No/Limited English	3.8%	2.6%
2021 % Speak Other & No/Limited English	1.1%	0.4%
2021 % Households w/1 Person w/Disability	19%	23%
2023 % Pop. Age 25: <9th Grade	4%	4%
2023 % Pop. Age 25: High School No Diploma	6%	6%
2023 % Pop. Age 25: GED	3%	4%
2023 % Pop. Age 25: High School Diploma	14%	23%
2023 % Pop. Age 25: Some College No Degree	16%	19%
2023 % Pop. Age 25: Associate's Degree	7%	8%
2023 % Pop. Age 25: Bachelor's Degree	23%	21%
2023 % Pop. Age 25: Grad/Professional Degree	27%	15%
2023 Median Household Income	$55,264	$60,600
2023 % Household in Low Income Tier	29.2%	26.9%
2023 % Household in Middle Income Tier	57.5%	59.5%
2023 % Household in Upper Income Tier	13.2%	13.6%
2023 Median Net Worth	$35,518	$143,319

Compared to other station territories: Station 6 has the second highest population density, the second highest daytime worker population, the second highest daytime population density, the third highest percentage of households with at least one person with a disability, and the third highest percentage of the adult population with a graduate or professional degree.

Housing Data	Station 6	Average
2023 Total Housing Units	9,937	5,745
2023 Owner Occupied Housing Units	3,792	2,879
2023 Renter Occupied Housing Units	4,858	2,362
2023 Vacant Housing Units	1,287	504
2021 Median Year House Built	1957	1977
2023 Average Home Value	$289,761	$266,825
2021 Housing 1 Unit in Structure	5,309	3,653
2021 Housing 2 Units in Structure	287	94
2021 Housing 3 or 4 Units in Structure	973	264
2021 Housing 5 to 9 Units in Structure	671	479
2021 Housing 10 to 19 Units in Structure	1,088	538
2021 Housing 20 to 49 Units in Structure	323	159
2021 Housing 50 Units in Structure	481	240
2021 Housing Mobile Homes	116	111

Compared to other station territories: Station 6 has the second most total housing units, the second most renter occupied housing units, the most vacant housing units, and the oldest housing stock in terms of median year built.

Other Data	Station 6	Average
Square Miles	5.4	6.7
Miles of Roadway	95.3	77.6
% Developed (NLCD)	79.4%	63.0%
% Forest (NLCD)	11.9%	23.2%
% Pasture/Hay/Cultivated Crops (NLCD)	5.9%	9.1%
% Other (NLCD)	2.8%	4.7%
% at Flood Risk	7.1%	6.9%
2023 Total Businesses (NAICS)	983	487
2023 Total Employees (NAICS)	19,964	7,569

Compared to other station territories: Station 6 has the highest percentage of developed land, and the third highest number of businesses.

Station 6 Fire by Classification and Property Type - 2021 to 2023

Property Type	NFIRS Fire Classification						
	Structure	Vehicle	Natural vegetation	Outside rubbish	Special outside	Other	Grand Total
1 or 2 family dwelling	45	1	7	1	1		**55**
Vehicle parking area		16	10	16	2		**44**
Multifamily dwelling	38	1	1			1	**41**
Graded and cared-for plots of land		2	20	5	7		**34**
Street or road in commercial area		16	3	1			**20**
Residential street, road or residential driveway		18	1	1			**20**
Restaurant or cafeteria	4		2	1			**7**
Open land or field			3	2	1	1	**7**
Vacant lot	1		4		1		**6**
Highway or divided highway		3		1			**4**
Food and beverage sales, grocery store	3		1				**4**
Hospital - medical or psychiatric	4						**4**
General retail, other	1				1		**2**
Outbuilding or shed	1				1		**2**
Parking garage, general vehicle	1				1		**2**
Business office	2						**2**
Outbuilding, protective shelter	2						**2**
Other	5		4	6			**15**
Grand Total	**107**	**57**	**56**	**34**	**15**	**1**	**271**

The Station 13 territory was created near the end of 2022. If Station 13 had existed for all of 2021 through 2023, 16 of the 271 fires would have taken place in Station 13's territory.

Station 6 All Incidents - 2021 to 2023

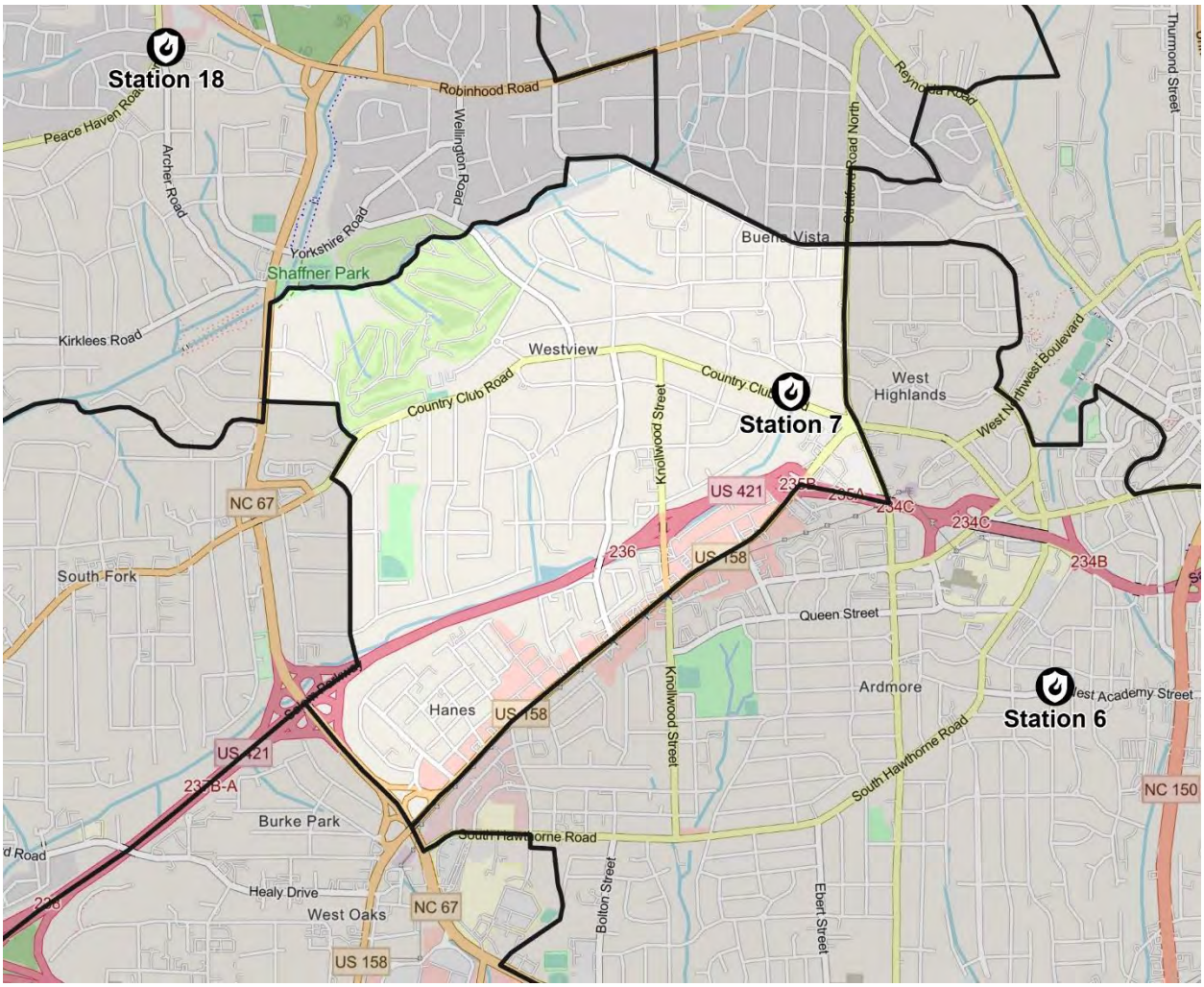
Incident Type	Number of Incidents
Emergency medical service (EMS) incident	3,743
Unintentional system/detector operation (no fire)	1,203
Dispatched and canceled en route	790
Public service assistance	649
Medical assist	614
System or detector malfunction	376
Wrong location, no emergency found	279
Electrical wiring/equipment problem	195
Steam, other gas mistaken for smoke	159
Extrication, rescue	123
Combustible/flammable spills & leaks	119
Structure Fire	107
Accident, potential accident	104
Water problem	85
Good intent call, other	79
Excessive heat, scorch burns with no ignition	78
Malicious, mischievous false alarm	68
Mobile property (vehicle) fire	57
Natural vegetation fire	56
Unauthorized burning	41
Lock-In	38
Person in distress	34
Outside rubbish fire	34
Service call, other	26
Chemical release, reaction, or toxic condition	24
HazMat release investigation w/no HazMat	23
Flammable gas or liquid condition, other	19
Special outside fire	15
Smoke, odor problem	14
Rescue, emergency medical call (EMS), other	12
Grand Total	**9,207**

The Station 13 territory was created near the end of 2022. If Station 13 had existed for all of 2021 through 2023, 855 of the 9,207 incidents would have taken place in Station 13's territory.

The average station territory had 2,746 emergency medical service (EMS) incidents, 684 unintentional system/detector operation (no fire), 413 medical assists, 78 structure fires, and 5,890 total incidents.

Station 7

Fire Station 7 was constructed in 1950 and fully remodeled in 2017, and is a four bay, two-story building. The station houses five apparatus including Rescue 1, Rescue 3, Safety 7, and two pickups to pull water rescue trailers. The station is assigned and fully staffed by six personnel, with a minimum of five.



Fire Station 7 is situated at 100 Arbor Road, to the west of the downtown area. Initially built in 1950, the station underwent a complete remodel in 2017, expanding to accommodate four apparatus bays along with individual bedrooms and bathrooms. Its strategic location serves as a hub for Safety Training Officer 7 and Rescue 1, which both respond citywide. The station is also home to two fire prevention inspectors' offices.

Rescue 1 specializes in various technical rescue disciplines, readily available for vehicle rescue, water rescue, confined space rescue, trench rescue, structural collapse, high and low angle rope rescue, tower rescue, and agricultural/machine rescue. The station houses multiple rescue apparatus, with Rescue 1 as the primary responder for technical rescues. Additionally, Rescue 1 supports structure fires by providing personnel and tools for firefighter rescues. Rescue 3 is a specialized apparatus equipped for trench and structural collapse rescue. Two pick-up trucks towing trailers carry water rescue equipment, ready for both in-city response and state deployment during disasters.

Station 7's territory primarily encompasses single-family dwellings, characterized by large, high-value homes. Many of these homes are set back from the road, necessitating longer hose lays to reach upper floors. Nearby, there are numerous notable high-rise buildings in the territory, and many stores and strip malls.

Demographic Data	Station 7	Average
2023 Total Population	3,257	12,767
2023 Population Density (per sq mi)	1,447	1,929
2023 Daytime Population Workers	7,028	7,771
2023 Daytime Population Residents	1,743	7,140
2023 Daytime Population Density (per sq mi)	3,898	2,580
2020 to 2023 Population Growth Rate	0.2%	0.7%
2023 % White Population	89%	45%
2023 % Black Population	3%	33%
2023 % Asian Population	2%	3%
2023 % Population of 2 Races	5%	8%
2023 % Other Race Population	1%	12%
2021 % Speak Only English	95.3%	83.4%
2021 % Speak Spanish & No/Limited English	0.2%	2.6%
2021 % Speak Other & No/Limited English	0.0%	0.4%
2021 % Households w/1 Person w/Disability	16%	23%
2023 % Pop. Age 25: <9th Grade	1%	4%
2023 % Pop. Age 25: High School No Diploma	0%	6%
2023 % Pop. Age 25: GED	1%	4%
2023 % Pop. Age 25: High School Diploma	10%	23%
2023 % Pop. Age 25: Some College No Degree	11%	19%
2023 % Pop. Age 25: Associate's Degree	2%	8%
2023 % Pop. Age 25: Bachelor's Degree	34%	21%
2023 % Pop. Age 25: Grad/Professional Degree	40%	15%
2023 Median Household Income	$141,706	$60,600
2023 % Household in Low Income Tier	10.6%	26.9%
2023 % Household in Middle Income Tier	39.4%	59.5%
2023 % Household in Upper Income Tier	49.9%	13.6%
2023 Median Net Worth	$721,114	$143,319

Compared to other station territories: Station 7 has the lowest total population, the lowest daytime resident population, the third lowest population growth rate from 2020 through 2023, the second lowest percentage that speak Spanish and no or limited English, the lowest percentage of households with a least one person with a disability, the third lowest percentage of the adult population with less than a 9th grade education, the lowest percentage without a diploma or GED, the second highest percentage with a bachelor's degree, the highest percentage with a graduate or professional degree, the highest median household income, the third lowest percentage of the

population in the low income tier, the highest percentage of the population in the upper income tier, and the highest median net worth.

Housing Data	Station 7	Average
2023 Total Housing Units	1,466	5,745
2023 Owner Occupied Housing Units	1,158	2,879
2023 Renter Occupied Housing Units	214	2,362
2023 Vacant Housing Units	94	504
2021 Median Year House Built	1959	1977
2023 Average Home Value	$543,319	$266,825
2021 Housing 1 Unit in Structure	1,301	3,653
2021 Housing 2 Units in Structure		94
2021 Housing 3 or 4 Units in Structure	52	264
2021 Housing 5 to 9 Units in Structure	16	479
2021 Housing 10 to 19 Units in Structure	11	538
2021 Housing 20 to 49 Units in Structure	6	159
2021 Housing 50 Units in Structure	9	240
2021 Housing Mobile Homes	24	111

Compared to other station territories: Station 7 has the lowest number of housing units and renter occupied units, the second oldest housing stock in terms of median year built, the highest average home value, the lowest number of single unit, detached housing units, the second lowest number of housing units in structures with 10 to 19 units, the third lowest number of housing units in structures with 20 to 49 units, the second lowest number of housing units in structures with 50 or more units, and is tied for the second least number of mobile homes.

Other Data	Station 7	Average
Square Miles	2.3	6.7
Miles of Roadway	35.7	77.6
% Developed (NLCD)	74.6%	63.0%
% Forest (NLCD)	16.6%	23.2%
% Pasture/Hay/Cultivated Crops (NLCD)	5.5%	9.1%
% Other (NLCD)	3.4%	4.7%
% at Flood Risk	7.6%	6.9%
2023 Total Businesses (NAICS)	539	487
2023 Total Employees (NAICS)	10,033	7,569

Compared to other station territories: Station 7 is the smallest territory in terms of square miles, has the least miles of roadway, and has the third lowest percentage of land at flood risk.

Station 7 Fire by Classification and Property Type - 2021 to 2023

	NFIRS Fire Classification						
Property Type	**Structure**	**Natural vegetation**	**Vehicle**	**Outside rubbish**	**Special outside**	**Crop**	**Grand Total**
Vehicle parking area		3	4	5	2	1	**15**
Graded and cared-for plots of land		4	1		2		**7**
1 or 2 family dwelling	7						**7**
Street or road in commercial area		2	2				**4**
Restaurant or cafeteria	2						**2**
Multifamily dwelling	1				1		**2**
Service station, gas station	1			1			**2**
Other	5	4	1	1			**11**
Grand Total	**16**	**13**	**8**	**7**	**5**	**1**	**50**

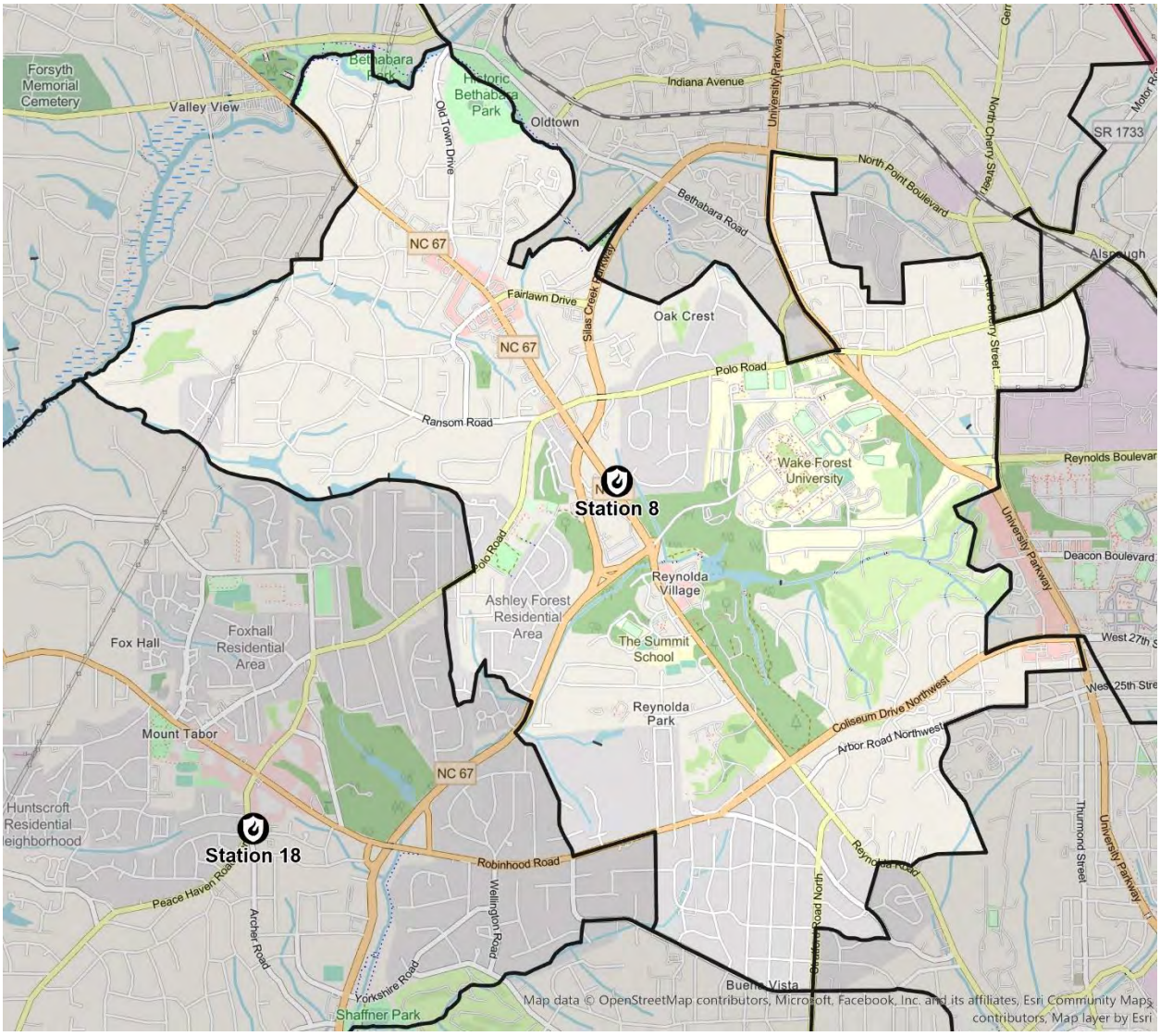
Station 7 All Incidents - 2021 to 2023

Incident Type	Number of Incidents
Emergency medical service (EMS) incident	544
Unintentional system/detector operation (no fire)	339
Public service assistance	113
Medical assist	103
System or detector malfunction	93
Dispatched and canceled en route	86
Electrical wiring/equipment problem	61
Wrong location, no emergency found	61
Combustible/flammable spills & leaks	37
Steam, other gas mistaken for smoke	35
Extrication, rescue	27
Good intent call, other	25
Accident, potential accident	24
Excessive heat, scorch burns with no ignition	19
Structure Fire	16
Natural vegetation fire	13
Malicious, mischievous false alarm	13
Person in distress	11
Water problem	11
Lock-In	10
Grand Total	**1,702**

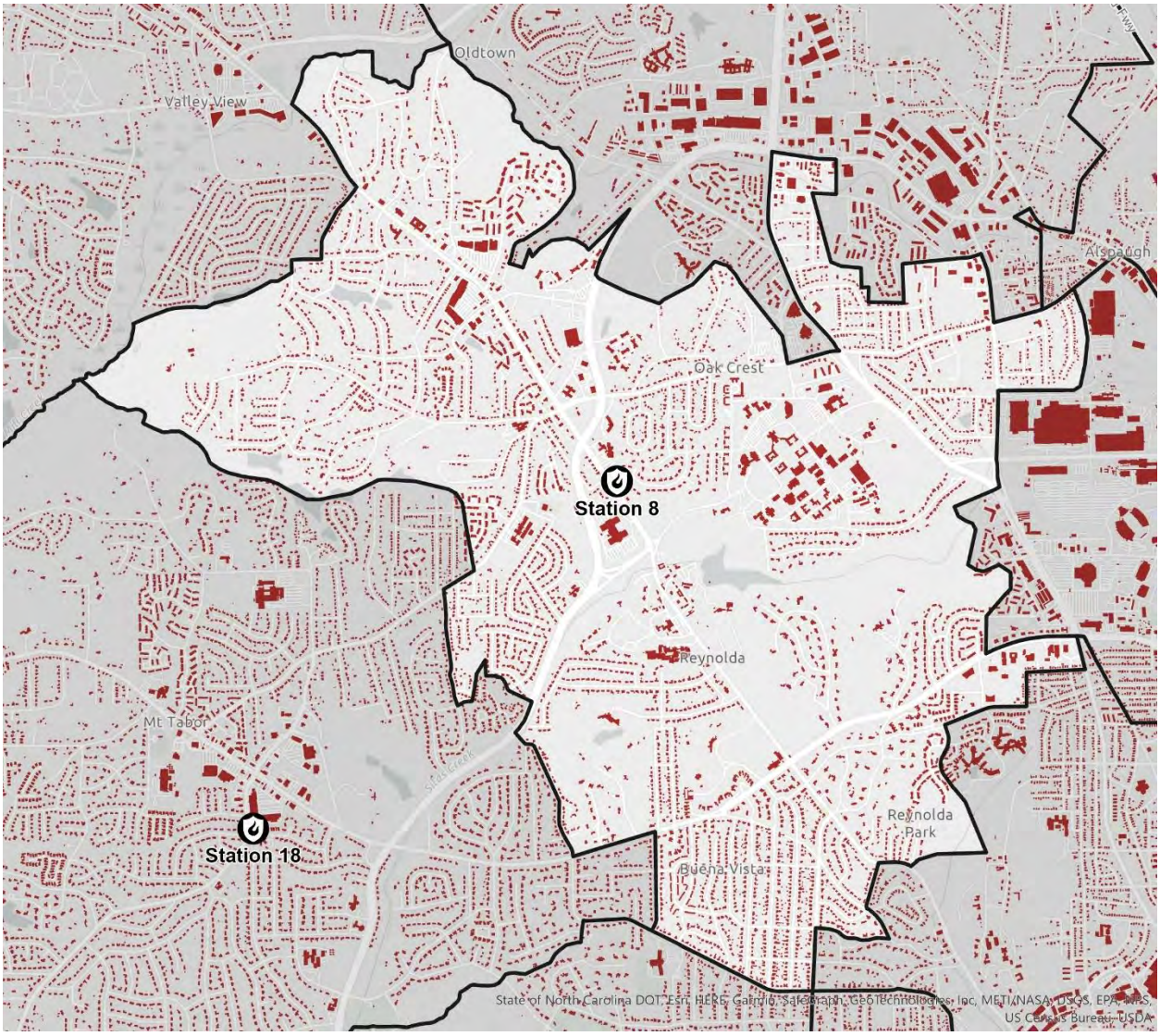
The average station territory had 2,746 emergency medical service (EMS) incidents, 684 unintentional system/detector operation (no fire), 413 medical assists, 78 structure fires, and 5,890 total incidents.

Station 8

Fire Station 8, also known as the Wake Forest Fire Station, was constructed in 2017, and is a 9,794 square foot, two bay, one-story building. The station houses two apparatus including Engine 8 and Air Resource 1. The station is assigned and fully staffed by four personnel, with a minimum of three.



Fire Station 8 is located at 2457 Reynolda Road, to the northwest of the downtown area in the Northwest Ward of the city. Its territory encompasses schools, churches, businesses, nursing home facilities, and a major university, all amidst a diverse population. The response district is a significant part of the city's expansion that accommodated the growth around Wake Forest University in 1958. This district now includes Wake Forest University property, a bustling business district, and a mix of multifamily and single-family homes. While the district features various construction types, many buildings are relatively new or up to 50 years old. Community festivals and concerts often take place here, adding vibrancy. The central area mainly consists of business-related spaces, with residential zones towards the outskirts.



The key facilities and buildings within this area encompass apartment complexes, as well as two townhome-style structures. Single-family dwellings in this cluster fall within the 1000-2500 sq ft range. Schools in the district include Wake Forest University, and other public and private schools. Notable historical sites comprise Reynolda House, Reynolda Village, and Graylyn International Conference Center. Medical and senior care facilities are also present in the district.

Regarding special considerations, the area around Ransom Road poses limited access and water supply challenges. Flood-prone areas include the east side of Linda Circle and Old Town Drive between Clyde Hayes Drive and Bethabara Road.

Demographic Data	Station 8	Average
2023 Total Population	17,663	12,767
2023 Population Density (per sq mi)	2,813	1,929
2023 Daytime Population Workers	7,505	7,771
2023 Daytime Population Residents	11,209	7,140
2023 Daytime Population Density (per sq mi)	2,981	2,580
2020 to 2023 Population Growth Rate	0.4%	0.7%
2023 % White Population	62%	45%
2023 % Black Population	21%	33%
2023 % Asian Population	3%	3%
2023 % Population of 2 Races	8%	8%
2023 % Other Race Population	6%	12%
2021 % Speak Only English	83.9%	83.4%
2021 % Speak Spanish & No/Limited English	0.4%	2.6%
2021 % Speak Other & No/Limited English	0.2%	0.4%
2021 % Households w/1 Person w/Disability	21%	23%
2023 % Pop. Age 25: <9th Grade	2%	4%
2023 % Pop. Age 25: High School No Diploma	5%	6%
2023 % Pop. Age 25: GED	2%	4%
2023 % Pop. Age 25: High School Diploma	13%	23%
2023 % Pop. Age 25: Some College No Degree	16%	19%
2023 % Pop. Age 25: Associate's Degree	8%	8%
2023 % Pop. Age 25: Bachelor's Degree	30%	21%
2023 % Pop. Age 25: Grad/Professional Degree	23%	15%
2023 Median Household Income	$54,438	$60,600
2023 % Household in Low Income Tier	28.2%	26.9%
2023 % Household in Middle Income Tier	54.5%	59.5%
2023 % Household in Upper Income Tier	17.3%	13.6%
2023 Median Net Worth	$44,041	$143,319

Compared to other station territories: Station 8 has the third highest population density, the second highest daytime resident population, and the third highest percentage of the population with a bachelor's degree.

Housing Data	Station 8	Average
2023 Total Housing Units	7,378	5,745
2023 Owner Occupied Housing Units	2,706	2,879
2023 Renter Occupied Housing Units	3,735	2,362
2023 Vacant Housing Units	937	504
2021 Median Year House Built	1978	1977
2023 Average Home Value	$422,044	$266,825
2021 Housing 1 Unit in Structure	3,336	3,653
2021 Housing 2 Units in Structure	142	94
2021 Housing 3 or 4 Units in Structure	488	264
2021 Housing 5 to 9 Units in Structure	814	479
2021 Housing 10 to 19 Units in Structure	1,036	538
2021 Housing 20 to 49 Units in Structure	511	159
2021 Housing 50 Units in Structure	372	240
2021 Housing Mobile Homes	31	111

Compared to other station territories: Station 8 has the second most vacant housing units, the second highest average home value, and the highest number of housing units in structures with 20 to 49 units.

Other Data	Station 8	Average
Square Miles	6.3	6.7
Miles of Roadway	78.9	77.6
% Developed (NLCD)	72.1%	63.0%
% Forest (NLCD)	19.2%	23.2%
% Pasture/Hay/Cultivated Crops (NLCD)	5.2%	9.1%
% Other (NLCD)	3.5%	4.7%
% at Flood Risk	7.3%	6.9%
2023 Total Businesses (NAICS)	469	487
2023 Total Employees (NAICS)	7,278	7,569

Compared to other station territories: Station 8 is representative of the average station territory with respect to the data measured in the above table. There is no data presented in the above table for which Station 8 falls within the top or bottom three territories.

Station 8 Fire by Classification and Property Type - 2021 to 2023

Property Type	NFIRS Fire Classification						Grand Total
	Structure	Vehicle	Natural vegetation	Outside rubbish	Special outside	Other	
1 or 2 family dwelling	31	1	1	3	1		**37**
Multifamily dwelling	19			1		1	**21**
Vehicle parking area		10	2	3			**15**
Residential street, road or residential driveway		7	3	3			**13**
Street or road in commercial area		4	4	1			**9**
Graded and cared-for plots of land			7	1	1		**9**
Barracks, dormitory	4						**4**
Business office	3		1				**4**
Dormitory-type residence, other	4						**4**
Forest, timberland, woodland			3				**3**
Open land or field			3				**3**
Hotel/motel, commercial	2			1			**3**
Other	5	3	1	1			**10**
Grand Total	**68**	**25**	**25**	**14**	**2**	**1**	**135**

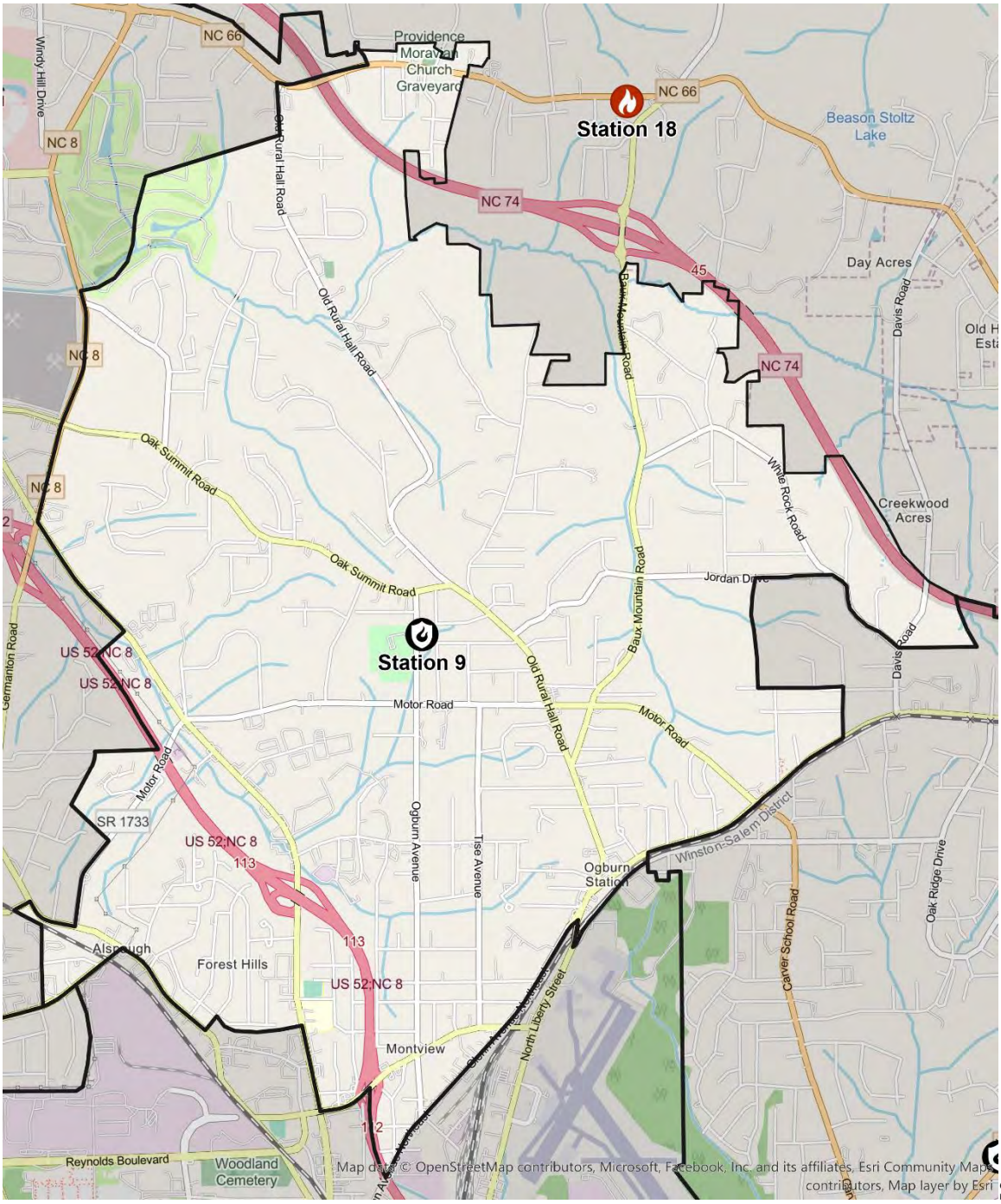
Station 8 All Incidents - 2021 to 2023

Incident Type	Number of Incidents
Emergency medical service (EMS) incident	2,521
Unintentional system/detector operation (no fire)	2,316
Public service assistance	492
Medical assist	339
Dispatched and canceled en route	287
System or detector malfunction	269
Excessive heat, scorch burns with no ignition	166
Wrong location, no emergency found	127
Steam, other gas mistaken for smoke	118
Extrication, rescue	118
Electrical wiring/equipment problem	112
Combustible/flammable spills & leaks	73
Structure Fire	68
Accident, potential accident	42
Good intent call, other	40
Water problem	31
Person in distress	30
Service call, other	26
Natural vegetation fire	25
Mobile property (vehicle) fire	25
Chemical release, reaction, or toxic condition	22
Rescue, emergency medical call (EMS), other	22
HazMat release investigation w/no HazMat	21
Smoke, odor problem	20
Malicious, mischievous false alarm	18
Unauthorized burning	16
Outside rubbish fire	14
Flammable gas or liquid condition, other	12
Grand Total	**7,407**

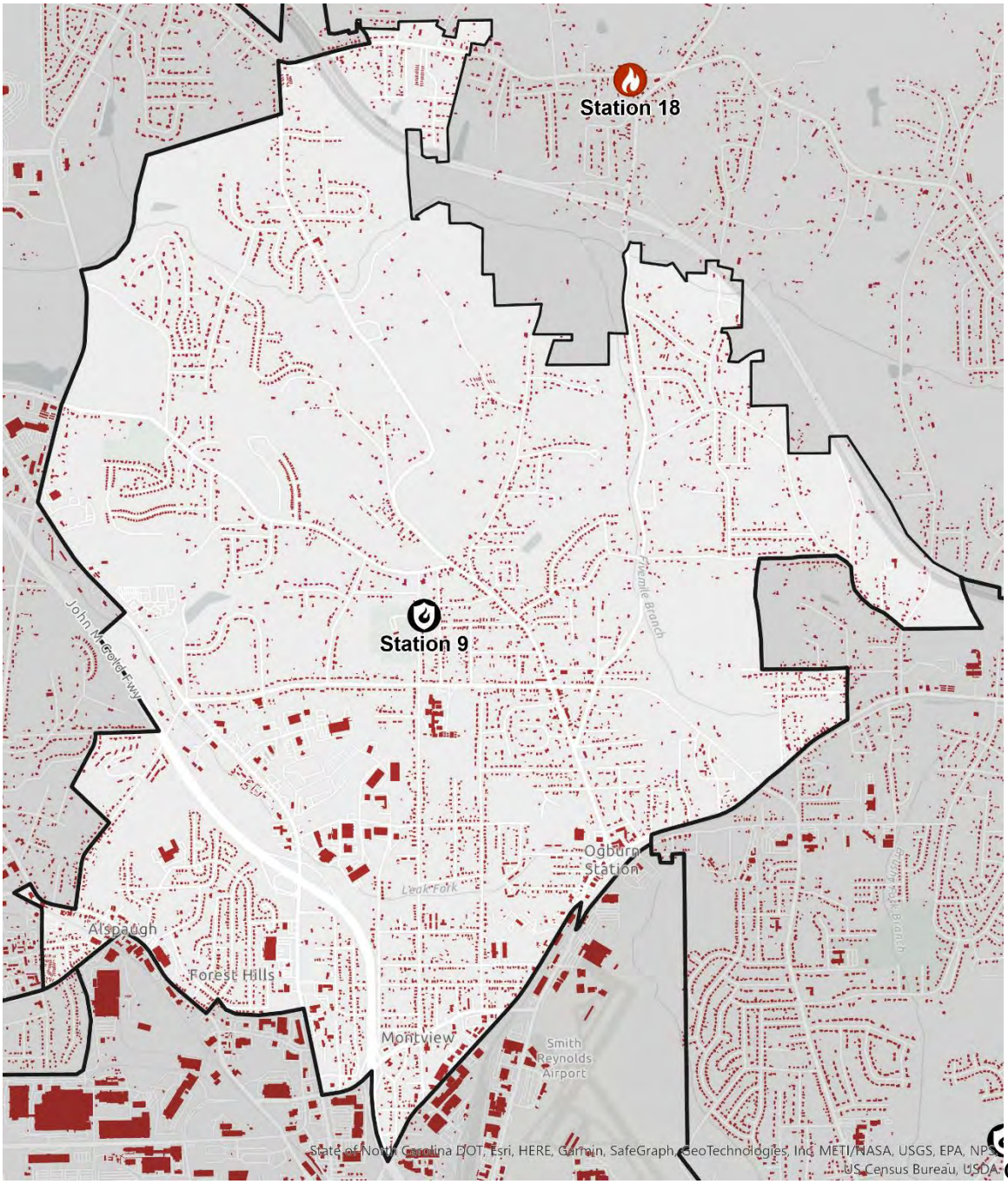
The average station territory had 2,746 emergency medical service (EMS) incidents, 684 unintentional system/detector operation (no fire), 413 medical assists, 78 structure fires, and 5,890 total incidents.

Station 9

Fire Station 9, also known as the Ogburn Fire Station, was constructed in 1964 and remodeled in 2018, and is a 7,520 square foot, two bay, one-story building. The station houses three apparatus, including Engine 9, a reserve ladder, and an air trailer. The station is assigned and fully staffed by four personnel, with a minimum of three.



Station 9 stands at 4685 Ogburn Avenue nestled in the northeast corner of the city. Its boundaries are framed by the Winston-Salem/Forsyth County limits to the north and east, Old Walkertown Road-Liberty Street-Glenn Avenue to the south, and Indiana Avenue-Patterson Avenue-NC Highway 52 to the west. Within this perimeter, Station 9's response district is segmented into clusters, each with its distinct characteristics. The territory contains residential areas, small businesses, churches, manufacturing facilities, and schools.



Critical facilities and public buildings in the territory encompass apartment complexes and public schools. Notable sites include a high-rise building, two hotel/motel facilities, fourteen large assembly churches, and four large manufacturing facilities. Notably, the station has a D.O.T. bridge with a weight capacity rating unsuitable for fire demands on Novack Street. In all, Station 9 serves as a vital hub in the northeastern corner of the city, safeguarding diverse communities and strategically responding to an array of challenges.

Demographic Data	Station 9	Average
2023 Total Population	9,869	12,767
2023 Population Density (per sq mi)	1,355	1,929
2023 Daytime Population Workers	2,296	7,771
2023 Daytime Population Residents	6,020	7,140
2023 Daytime Population Density (per sq mi)	1,141	2,580
2020 to 2023 Population Growth Rate	0.1%	0.7%
2023 % White Population	26%	45%
2023 % Black Population	39%	33%
2023 % Asian Population	1%	3%
2023 % Population of 2 Races	9%	8%
2023 % Other Race Population	26%	12%
2021 % Speak Only English	75.4%	83.4%
2021 % Speak Spanish & No/Limited English	7.5%	2.6%
2021 % Speak Other & No/Limited English	0.6%	0.4%
2021 % Households w/1 Person w/Disability	24%	23%
2023 % Pop. Age 25: <9th Grade	10%	4%
2023 % Pop. Age 25: High School No Diploma	12%	6%
2023 % Pop. Age 25: GED	3%	4%
2023 % Pop. Age 25: High School Diploma	25%	23%
2023 % Pop. Age 25: Some College No Degree	22%	19%
2023 % Pop. Age 25: Associate's Degree	8%	8%
2023 % Pop. Age 25: Bachelor's Degree	14%	21%
2023 % Pop. Age 25: Grad/Professional Degree	5%	15%
2023 Median Household Income	$43,355	$60,600
2023 % Household in Low Income Tier	34.1%	26.9%
2023 % Household in Middle Income Tier	61.7%	59.5%
2023 % Household in Upper Income Tier	4.2%	13.6%
2023 Median Net Worth	$47,424	$143,319

Compared to other station territories: Station 9 had the second slowest population growth rate from 2020 to 2023, has the second highest percentage of the population that speak Spanish and no or limited English, the highest percentage of the adult population with less than a 9th grade education, the third highest percentage of the population with no diploma or GED, the second lowest percentage of the population with a graduate or professional degree, and the second lowest percentage of the population in the upper income tier.

Housing Data	Station 9	Average
2023 Total Housing Units	3,930	5,745
2023 Owner Occupied Housing Units	1,971	2,879
2023 Renter Occupied Housing Units	1,605	2,362
2023 Vacant Housing Units	354	504
2021 Median Year House Built	1970	1977
2023 Average Home Value	$193,468	$266,825
2021 Housing 1 Unit in Structure	3,542	3,653
2021 Housing 2 Units in Structure	9	94
2021 Housing 3 or 4 Units in Structure	80	264
2021 Housing 5 to 9 Units in Structure	132	479
2021 Housing 10 to 19 Units in Structure	40	538
2021 Housing 20 to 49 Units in Structure		159
2021 Housing 50 Units in Structure	29	240
2021 Housing Mobile Homes	221	111

Compared to other station territories: Station 9 is the only territory with no housing units in structures with 20 to 49 units and has the third highest number of mobile homes.

Other Data	Station 9	Average
Square Miles	7.3	6.7
Miles of Roadway	72.8	77.6
% Developed (NLCD)	67.4%	63.0%
% Forest (NLCD)	23.8%	23.2%
% Pasture/Hay/Cultivated Crops (NLCD)	4.8%	9.1%
% Other (NLCD)	3.9%	4.7%
% at Flood Risk	6.7%	6.9%
2023 Total Businesses (NAICS)	249	487
2023 Total Employees (NAICS)	2,450	7,569

Compared to other station territories: Station 9 is representative of the average station territory with respect to the data measured in the above table. There is no data presented in the above table for which Station 9 falls within the top or bottom three territories.

Station 9 Fire by Classification and Property Type - 2021 to 2023

Property Type	NFIRS Fire Classification						Grand Total
	Structure	Vehicle	Natural vegetation	Outside rubbish	Special outside	Other	
1 or 2 family dwelling	47	1	2	3	3	1	**57**
Graded and cared-for plots of land	1	2	12	7			**22**
Vehicle parking area	1	12	1	6			**20**
Residential street, road or residential driveway		15	2		1		**18**
Highway or divided highway		7	1	1			**9**
Open land or field		1	5	2			**8**
Multifamily dwelling	8						**8**
Vacant lot			3	2			**5**
Outbuilding or shed	3						**3**
Street or road in commercial area		1	2				**3**
Forest, timberland, woodland			3				**3**
Hotel/motel, commercial	3						**3**
High school/junior high school/middle school	2						**2**
Other	9		1				**10**
Grand Total	**74**	**39**	**32**	**21**	**4**	**1**	**171**

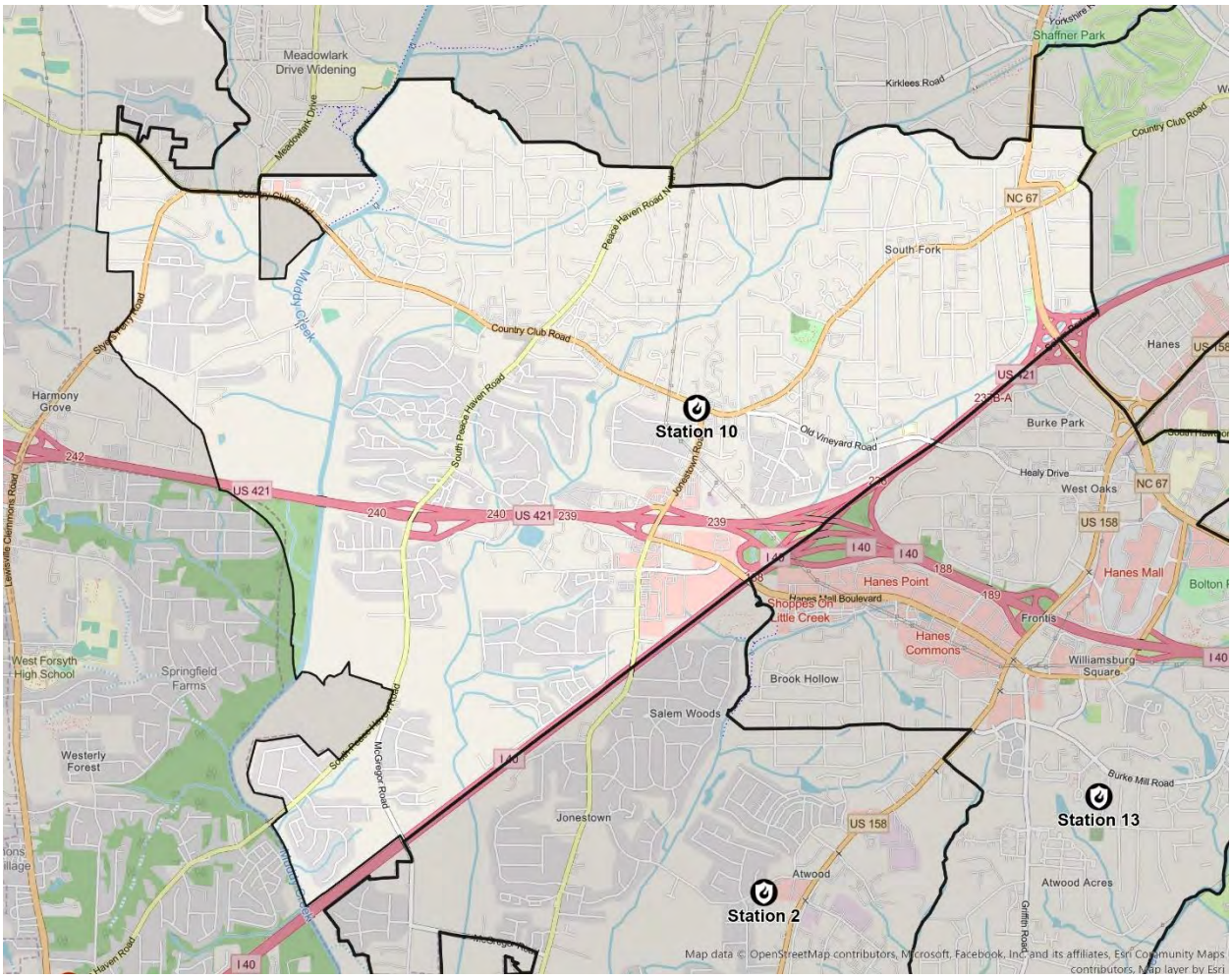
Station 9 All Incidents - 2021 to 2023

Incident Type	Number of Incidents
Emergency medical service (EMS) incident	2,493
Medical assist	332
Unintentional system/detector operation (no fire)	313
Public service assistance	282
Dispatched and canceled en route	218
Electrical wiring/equipment problem	112
Wrong location, no emergency found	88
Structure Fire	74
System or detector malfunction	65
Steam, other gas mistaken for smoke	55
Unauthorized burning	51
Combustible/flammable spills & leaks	44
Good intent call, other	40
Mobile property (vehicle) fire	39
Natural vegetation fire	32
Accident, potential accident	28
Water problem	27
Excessive heat, scorch burns with no ignition	25
Service call, other	25
Outside rubbish fire	21
Malicious, mischievous false alarm	20
Flammable gas or liquid condition, other	16
Grand Total	**4,464**

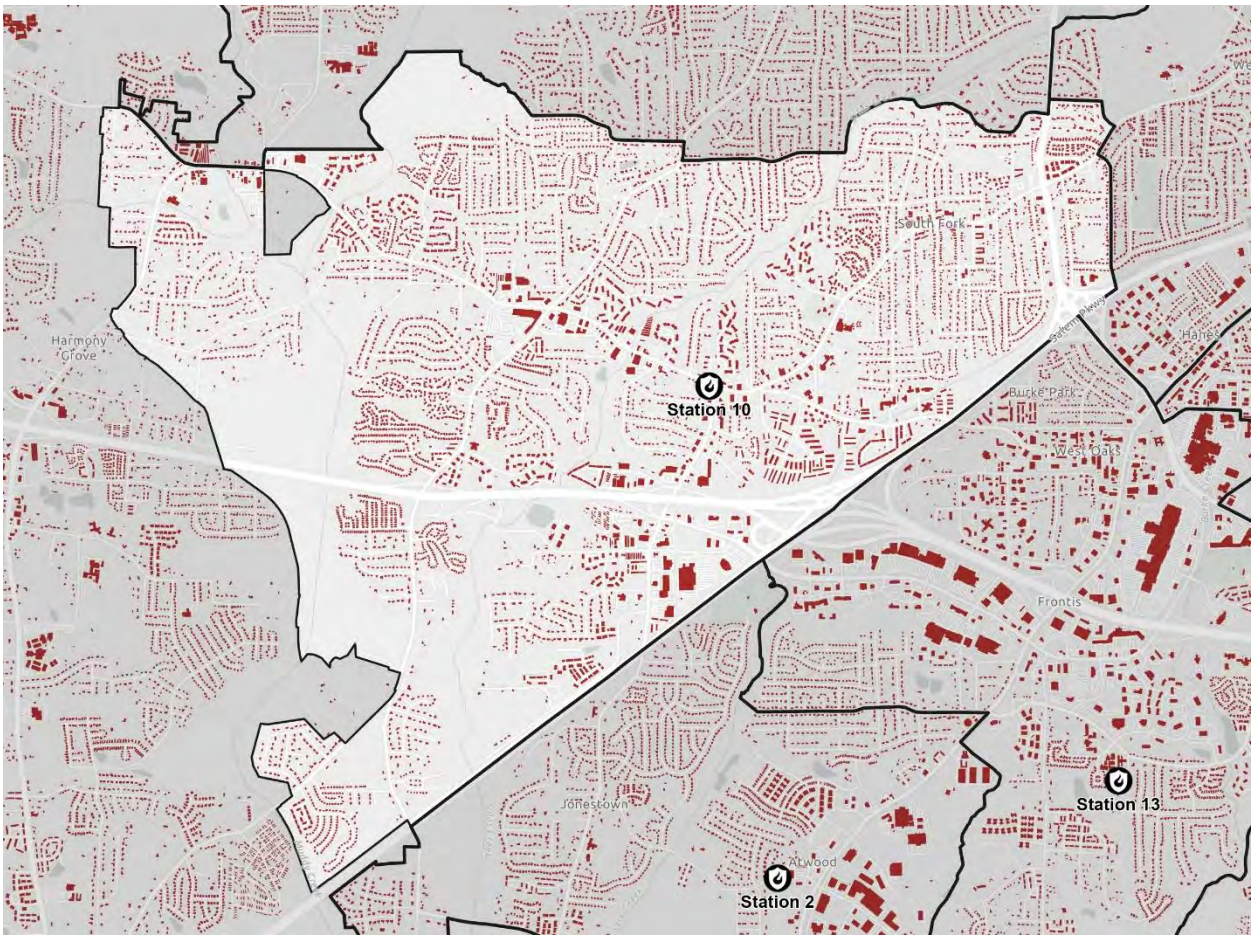
The average station territory had 2,746 emergency medical service (EMS) incidents, 684 unintentional system/detector operation (no fire), 413 medical assists, 78 structure fires, and 5,890 total incidents.

Station 10

Fire Station 10 was constructed in 1974, and is a 4,950 square foot, two bay, one-story building. The station houses one apparatus, Engine 10. The station is assigned and fully staffed by four personnel, with a minimum of three.



Station 10, located at 4700 County Club Road, stretches westward to the city limits and converges with Station 2's domain near Sommerset and Jonestown. It meets Station 18 at Peace Haven Road and Lynhaven Road in the north and aligns with Station 7 (Rescue 1) in the east.



The area has its share of risk factors, including apartment complexes, strip malls, restaurants, public schools, major retail outlets, and an extended-stay motel. Special features encompass the lively Wake Forest Football/Baseball Fields, Dash Baseball Stadium, Coliseum, and Convention Center. While Station 10 is serviced by city fire hydrants, Station 10 has collaborated with Lewisville Fire Department to establish an efficient drop tank operation for reliable water flow near the reservoir.

Demographic Data	Station 10	Average
2023 Total Population	21,057	12,767
2023 Population Density (per sq mi)	2,536	1,929
2023 Daytime Population Workers	6,165	7,771
2023 Daytime Population Residents	10,412	7,140
2023 Daytime Population Density (per sq mi)	1,997	2,580
2020 to 2023 Population Growth Rate	0.6%	0.7%
2023 % White Population	61%	45%
2023 % Black Population	20%	33%
2023 % Asian Population	6%	3%
2023 % Population of 2 Races	8%	8%
2023 % Other Race Population	5%	12%
2021 % Speak Only English	85.4%	83.4%
2021 % Speak Spanish & No/Limited English	1.1%	2.6%
2021 % Speak Other & No/Limited English	1.9%	0.4%
2021 % Households w/1 Person w/Disability	21%	23%
2023 % Pop. Age 25: <9th Grade	3%	4%
2023 % Pop. Age 25: High School No Diploma	3%	6%
2023 % Pop. Age 25: GED	3%	4%
2023 % Pop. Age 25: High School Diploma	21%	23%
2023 % Pop. Age 25: Some College No Degree	16%	19%
2023 % Pop. Age 25: Associate's Degree	10%	8%
2023 % Pop. Age 25: Bachelor's Degree	27%	21%
2023 % Pop. Age 25: Grad/Professional Degree	18%	15%
2023 Median Household Income	$57,229	$60,600
2023 % Household in Low Income Tier	21.3%	26.9%
2023 % Household in Middle Income Tier	63.1%	59.5%
2023 % Household in Upper Income Tier	15.6%	13.6%
2023 Median Net Worth	$75,209	$143,319

Compared to other station territories: Station 10 has the highest population, the third highest daytime resident population, and the third lowest adult population without a high school diploma or GED.

Housing Data	Station 10	Average
2023 Total Housing Units	10,709	5,745
2023 Owner Occupied Housing Units	4,981	2,879
2023 Renter Occupied Housing Units	5,120	2,362
2023 Vacant Housing Units	608	504
2021 Median Year House Built	1983	1977
2023 Average Home Value	$291,627	$266,825
2021 Housing 1 Unit in Structure	6,119	3,653
2021 Housing 2 Units in Structure	51	94
2021 Housing 3 or 4 Units in Structure	232	264
2021 Housing 5 to 9 Units in Structure	1,151	479
2021 Housing 10 to 19 Units in Structure	1,859	538
2021 Housing 20 to 49 Units in Structure	337	159
2021 Housing 50 Units in Structure	336	240
2021 Housing Mobile Homes	68	111

Compared to other station territories: Station 10 has the most total housing units, the most renter occupied housing units, the third highest number of single unit, detached housing units, and the highest number of housing units in structures with 10 to 19 units.

Other Data	Station 10	Average
Square Miles	8.3	6.7
Miles of Roadway	108.7	77.6
% Developed (NLCD)	65.5%	63.0%
% Forest (NLCD)	22.3%	23.2%
% Pasture/Hay/Cultivated Crops (NLCD)	7.9%	9.1%
% Other (NLCD)	4.4%	4.7%
% at Flood Risk	8.3%	6.9%
2023 Total Businesses (NAICS)	667	487
2023 Total Employees (NAICS)	5,624	7,569

Compared to other station territories: Station 10 has the third most miles of roadway and is tied for the third highest percentage of land at flood risk.

Station 10 Fire by Classification and Property Type - 2021 to 2023

Property Type	NFIRS Fire Classification					Grand Total
	Structure	Natural vegetation	Vehicle	Outside rubbish	Special outside	
Multifamily dwelling	52	2		3	1	**58**
Vehicle parking area	1	7	19	13	2	**42**
1 or 2 family dwelling	15	7		4	2	**28**
Highway or divided highway		5	11	2		**18**
Graded and cared-for plots of land	1	10			1	**12**
Residential street, road or residential driveway		1	8	1	1	**11**
Street or road in commercial area		4	5	1	1	**11**
Open land or field		8		2	1	**11**
Restaurant or cafeteria	4	1				**5**
Outside or special property, other		3		1	1	**5**
Forest, timberland, woodland		2				**2**
Alcohol or substance abuse recovery center	1		1			**2**
Vacant lot		2				**2**
Residential board and care	1				1	**2**
Outbuilding, protective shelter	2					**2**
Other	5	3	1	2	2	**13**
Grand Total	**82**	**55**	**45**	**29**	**13**	**224**

The Station 13 territory was created near the end of 2022. If Station 13 had existed for all of 2021 through 2023, 32 of the 224 fires would have taken place in Station 13's territory.

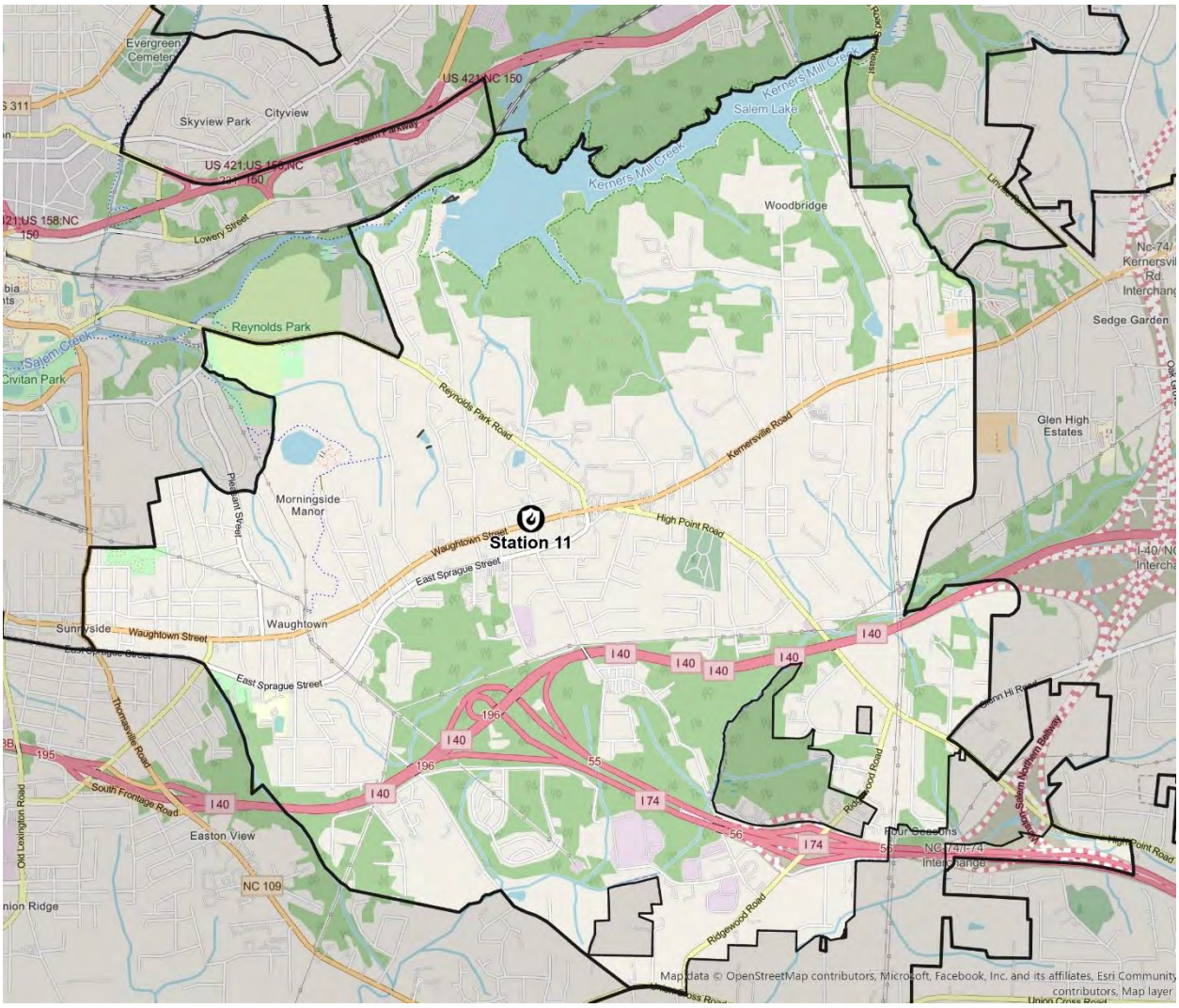
Station 10 All Incidents - 2021 to 2023

Incident Type	Number of Incidents
Emergency medical service (EMS) incident	4,253
Public service assistance	1,014
Unintentional system/detector operation (no fire)	917
Medical assist	567
Dispatched and canceled en route	498
System or detector malfunction	272
Excessive heat, scorch burns with no ignition	238
Wrong location, no emergency found	198
Steam, other gas mistaken for smoke	194
Electrical wiring/equipment problem	162
Combustible/flammable spills & leaks	122
Good intent call, other	104
Accident, potential accident	85
Structure Fire	82
Water problem	58
Natural vegetation fire	55
Extrication, rescue	54
Person in distress	52
Service call, other	51
Mobile property (vehicle) fire	45
Malicious, mischievous false alarm	36
False alarm and false call, other	30
Outside rubbish fire	29
Smoke, odor problem	27
Chemical release, reaction, or toxic condition	27
Unauthorized burning	23
Lock-In	21
Flammable gas or liquid condition, other	18
Controlled burning	15
Rescue, emergency medical call (EMS), other	14
Special outside fire	13
Unknown	11
HazMat release investigation w/no HazMat	10
Grand Total	**9,313**

The Station 13 territory was created near the end of 2022. If Station 13 had existed for all of 2021 through 2023, 2,226 of the 9,313 incidents would have taken place in Station 13's territory. The average station territory had 2,746 emergency medical service (EMS) incidents, 684 unintentional system/detector operation (no fire), 413 medical assists, 78 structure fires, and 5,890 total incidents.

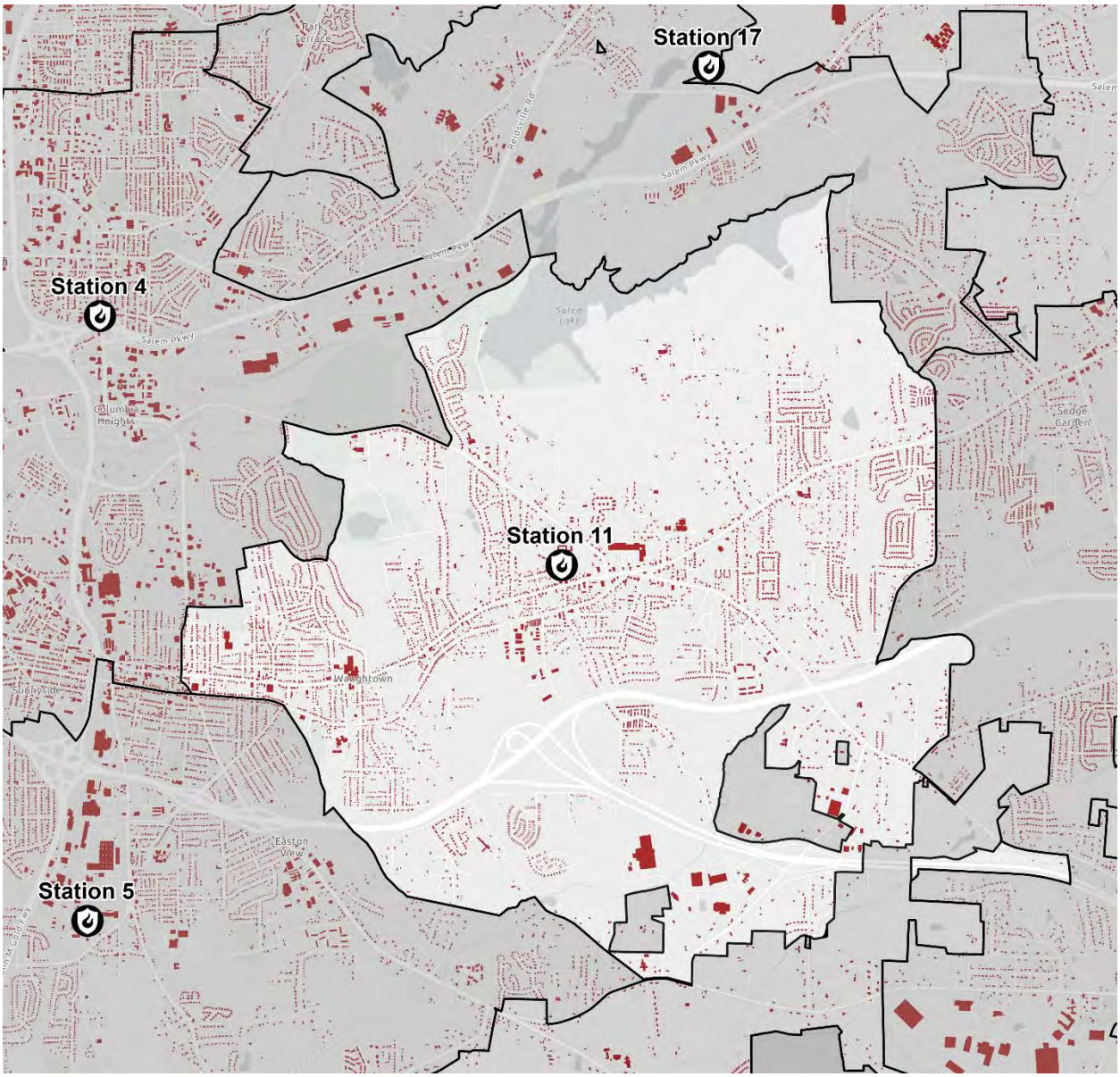
Station 11

Fire Station 11 was constructed in 1974, and is a 3,500 square foot, two bay, one-story building. The station houses two apparatus including Engine 11 and a reserve ladder. The station is assigned and fully staffed by four personnel, with a minimum of three.



Station 11, situated at 2745 Waughtown Street, serves the southeastern sector of the city. This area holds historical significance, once housing the Nissan Wagon Works Manufacturing Building. The neighborhoods comprise a mix of aging homes catering to the working class and upper working class, featuring distinctive and nostalgic architecture. The territory includes Salem Lake, a recreational hotspot, and a city park converted from a rock quarry, popular for leisure activities. The district is characterized by residential communities and boasts a diverse Latino population.

Station 11's boundaries extend to Martin Luther King and Waughtown Street in the west, intersecting with Station 4's borders. The cluster interfaces with Stations 5 and 19 in the south, and Station 4 in the north at Martin Luther King Jr and Reynolds Park Road. The eastern edge extends just past Kernersville Road, receiving assistance from Engine 17, while County Fire Station 26 borders the district.



Primary roadways weaving through the cluster include Waughtown St/Kernersville Road, Sprague St to Clemmonsville Road, Waughtown to Martin Luther King Jr., Reynolds Park Road to Martin Luther King Jr., and Cole Road to Ridgewood Road/Hwy 311

Notable sites include numerous apartment complexes, a marina, a recreational center, manufacturing facilities, and public schools. Unique considerations involve bridges with low weight restrictions, flood-prone areas, and private residentially built driveway bridges. The district's diversity and historical sites underscore its importance in the city's firefighting efforts.

Demographic Data	Station 11	Average
2023 Total Population	14,839	12,767
2023 Population Density (per sq mi)	1,476	1,929
2023 Daytime Population Workers	2,507	7,771
2023 Daytime Population Residents	8,601	7,140
2023 Daytime Population Density (per sq mi)	1,105	2,580
2020 to 2023 Population Growth Rate	0.3%	0.7%
2023 % White Population	24%	45%
2023 % Black Population	38%	33%
2023 % Asian Population	1%	3%
2023 % Population of 2 Races	8%	8%
2023 % Other Race Population	29%	12%
2021 % Speak Only English	71.3%	83.4%
2021 % Speak Spanish & No/Limited English	6.2%	2.6%
2021 % Speak Other & No/Limited English	0.0%	0.4%
2021 % Households w/1 Person w/Disability	22%	23%
2023 % Pop. Age 25: <9th Grade	7%	4%
2023 % Pop. Age 25: High School No Diploma	8%	6%
2023 % Pop. Age 25: GED	4%	4%
2023 % Pop. Age 25: High School Diploma	26%	23%
2023 % Pop. Age 25: Some College No Degree	22%	19%
2023 % Pop. Age 25: Associate's Degree	9%	8%
2023 % Pop. Age 25: Bachelor's Degree	15%	21%
2023 % Pop. Age 25: Grad/Professional Degree	8%	15%
2023 Median Household Income	$42,946	$60,600
2023 % Household in Low Income Tier	33.8%	26.9%
2023 % Household in Middle Income Tier	58.4%	59.5%
2023 % Household in Upper Income Tier	7.8%	13.6%
2023 Median Net Worth	$52,439	$143,319

Compared to other station territories: Station 11 has the third highest percentage of the population that speak Spanish and no or limited English.

Housing Data	Station 11	Average
2023 Total Housing Units	5,645	5,745
2023 Owner Occupied Housing Units	3,052	2,879
2023 Renter Occupied Housing Units	2,182	2,362
2023 Vacant Housing Units	411	504
2021 Median Year House Built	1978	1977
2023 Average Home Value	$202,399	$266,825
2021 Housing 1 Unit in Structure	4,409	3,653
2021 Housing 2 Units in Structure	71	94
2021 Housing 3 or 4 Units in Structure	135	264
2021 Housing 5 to 9 Units in Structure	526	479
2021 Housing 10 to 19 Units in Structure	352	538
2021 Housing 20 to 49 Units in Structure	42	159
2021 Housing 50 Units in Structure	66	240
2021 Housing Mobile Homes	232	111

Compared to other station territories: Station 11 has the second highest number of mobile homes.

Other Data	Station 11	Average
Square Miles	10.1	6.7
Miles of Roadway	90.7	77.6
% Developed (NLCD)	48.5%	63.0%
% Forest (NLCD)	30.0%	23.2%
% Pasture/Hay/Cultivated Crops (NLCD)	14.8%	9.1%
% Other (NLCD)	6.7%	4.7%
% at Flood Risk	6.3%	6.9%
2023 Total Businesses (NAICS)	229	487
2023 Total Employees (NAICS)	1,923	7,569

Compared to other station territories: Station 11 is the second largest territory in terms of square miles.

Station 11 Fire by Classification and Property Type - 2021 to 2023

	NFIRS Fire Classification						
Property Type	**Structure**	**Natural vegetation**	**Vehicle**	**Outside rubbish**	**Special outside**	**Other**	**Grand Total**
1 or 2 family dwelling	72	8	2	17	7	3	**109**
Residential street, road or residential driveway		1	26	8	2		**37**
Highway or divided highway	1	14	14	1			**30**
Vehicle parking area	1	10	8	8			**27**
Multifamily dwelling	19	1		2			**22**
Graded and cared-for plots of land		11	2	7	1		**21**
Open land or field	1	9		2			**12**
Vacant lot	1	6		2			**9**
Street or road in commercial area		2	6	1			**9**
24-hour care Nursing homes, 4 or more persons	4						**4**
Motor vehicle or boat sales, services, repair	1		2				**3**
Restaurant or cafeteria	3						**3**
Residential, other	1		1				**2**
Pipeline, power line or other utility right-of-way		1	1				**2**
Forest, timberland, woodland		1		1			**2**
Elementary school, including kindergarten			1		1		**2**
Outside or special property, other						2	**2**
Other	1	2	2	1		1	**7**
Grand Total	**105**	**66**	**65**	**50**	**11**	**6**	**303**

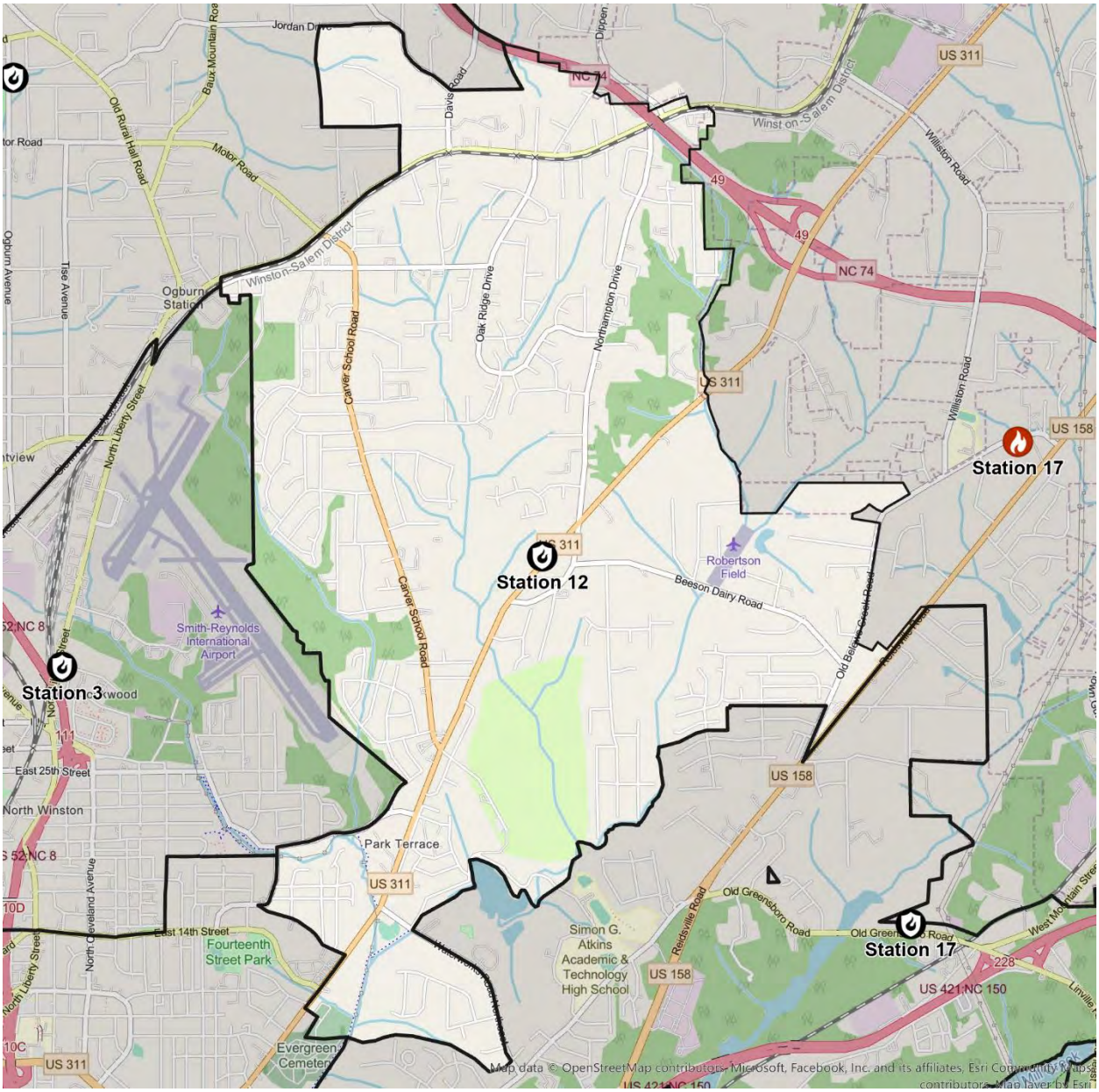
Station 11 All Incidents - 2021 to 2023

Incident Type	Number of Incidents
Emergency medical service (EMS) incident	3,202
Medical assist	624
Public service assistance	400
Unintentional system/detector operation (no fire)	390
Dispatched and canceled en route	336
Wrong location, no emergency found	162
Electrical wiring/equipment problem	119
Structure Fire	105
System or detector malfunction	100
Steam, other gas mistaken for smoke	76
Natural vegetation fire	66
Mobile property (vehicle) fire	65
Excessive heat, scorch burns with no ignition	64
Accident, potential accident	62
Unauthorized burning	59
Combustible/flammable spills & leaks	57
Malicious, mischievous false alarm	51
Outside rubbish fire	50
Water problem	45
Good intent call, other	37
Smoke, odor problem	24
Service call, other	22
Chemical release, reaction, or toxic condition	21
Controlled burning	18
Person in distress	16
Rescue, emergency medical call (EMS), other	12
Special outside fire	11
Lock-In	11
Extrication, rescue	11
Grand Total	**6,250**

The average station territory had 2,746 emergency medical service (EMS) incidents, 684 unintentional system/detector operation (no fire), 413 medical assists, 78 structure fires, and 5,890 total incidents.

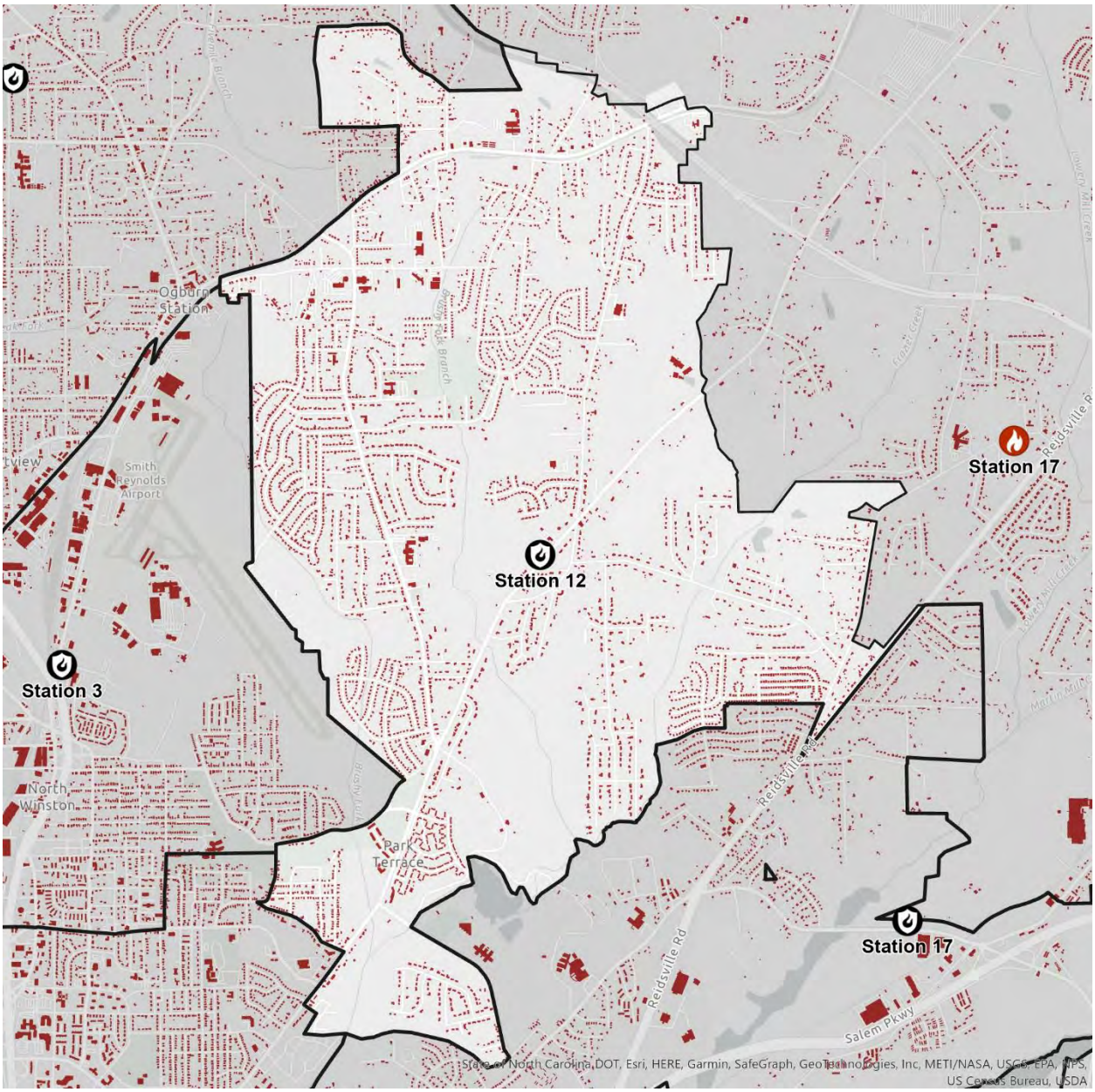
Station 12

Fire Station 12 was constructed in 1977, and is a 3,500 square foot, two bay, one-story building. The station houses two apparatus including Engine 12 and a reserve engine. The station is assigned and fully staffed by four personnel, with a minimum of three.



Station 12, positioned at 3620 New Walkertown Road, protects the city's northeastern region, comprising a blend of urban and suburban spaces. This locale is mainly residential, with New Walkertown Road serving as a principal business hub leading toward downtown. The area accommodates various businesses and numerous churches, bordered by the Forsyth County response zone and the City Limits on its northern side.

Station 12 receives support from neighboring stations, including Station 3, Station 4, Station 9, and Station 17, which offer initial assistance during emergencies. Major roadways, such as New Walkertown Road, Northampton Drive, Carver School Road, Beeson Dairy Road, and Bowen Boulevard, interconnect within the territory.



Critical properties include four small apartment complexes and one large complex with specific fire suppression requirements, an assisted living facility, and two schools. The area also encompasses Norfolk Southern Railway, New Walkertown Road, Old Walkertown Road, and various small businesses, including restaurants, mechanic shops, tire shops, and churches.

Demographic Data	Station 12	Average
2023 Total Population	8,837	12,767
2023 Population Density (per sq mi)	1,469	1,929
2023 Daytime Population Workers	940	7,771
2023 Daytime Population Residents	5,559	7,140
2023 Daytime Population Density (per sq mi)	1,080	2,580
2020 to 2023 Population Growth Rate	0.6%	0.7%
2023 % White Population	15%	45%
2023 % Black Population	69%	33%
2023 % Asian Population	1%	3%
2023 % Population of 2 Races	6%	8%
2023 % Other Race Population	10%	12%
2021 % Speak Only English	91.1%	83.4%
2021 % Speak Spanish & No/Limited English	3.1%	2.6%
2021 % Speak Other & No/Limited English	0.0%	0.4%
2021 % Households w/1 Person w/Disability	33%	23%
2023 % Pop. Age 25: <9th Grade	5%	4%
2023 % Pop. Age 25: High School No Diploma	8%	6%
2023 % Pop. Age 25: GED	8%	4%
2023 % Pop. Age 25: High School Diploma	28%	23%
2023 % Pop. Age 25: Some College No Degree	22%	19%
2023 % Pop. Age 25: Associate's Degree	8%	8%
2023 % Pop. Age 25: Bachelor's Degree	15%	21%
2023 % Pop. Age 25: Grad/Professional Degree	8%	15%
2023 Median Household Income	$54,256	$60,600
2023 % Household in Low Income Tier	27.7%	26.9%
2023 % Household in Middle Income Tier	66.4%	59.5%
2023 % Household in Upper Income Tier	5.9%	13.6%
2023 Median Net Worth	$151,244	$143,319

Compared to other station territories: Station 12 has the lowest daytime worker population and the second highest percentage of households with at least one person with a disability.

Housing Data	Station 12	Average
2023 Total Housing Units	4,001	5,745
2023 Owner Occupied Housing Units	2,662	2,879
2023 Renter Occupied Housing Units	887	2,362
2023 Vacant Housing Units	452	504
2021 Median Year House Built	1972	1977
2023 Average Home Value	$244,731	$266,825
2021 Housing 1 Unit in Structure	3,533	3,653
2021 Housing 2 Units in Structure	263	94
2021 Housing 3 or 4 Units in Structure	227	264
2021 Housing 5 to 9 Units in Structure	98	479
2021 Housing 10 to 19 Units in Structure	21	538
2021 Housing 20 to 49 Units in Structure	64	159
2021 Housing 50 Units in Structure	12	240
2021 Housing Mobile Homes	165	111

Compared to other station territories: Station 12 has the third lowest number of housing units in structures with 10 to 19 units, and the third lowest number of housing units in structures with 50 or more units.

Other Data	Station 12	Average
Square Miles	6.0	6.7
Miles of Roadway	58.3	77.6
% Developed (NLCD)	59.3%	63.0%
% Forest (NLCD)	26.3%	23.2%
% Pasture/Hay/Cultivated Crops (NLCD)	8.6%	9.1%
% Other (NLCD)	5.7%	4.7%
% at Flood Risk	6.2%	6.9%
2023 Total Businesses (NAICS)	133	487
2023 Total Employees (NAICS)	1,194	7,569

Compared to other station territories: Station 12 is tied for third for the percentage of land at risk of flooding, has the third least number of businesses, and the second least number of employees.

Station 12 Fire by Classification and Property Type - 2021 to 2023

	NFIRS Fire Classification						
Property Type	**Structure**	**Natural vegetation**	**Vehicle**	**Outside rubbish**	**Special outside**	**Other**	**Grand Total**
1 or 2 family dwelling	61	4		4	1	1	**71**
Residential street, road or residential driveway		3	11	1	2	1	**18**
Graded and cared-for plots of land		6		4	2		**12**
Multifamily dwelling	9			1			**10**
Vacant lot	2	4		1			**7**
Vehicle parking area			5	2			**7**
Open land or field		6					**6**
Forest, timberland, woodland		2					**2**
Other	3		3	1			**7**
Grand Total	**75**	**25**	**19**	**14**	**5**	**2**	**140**

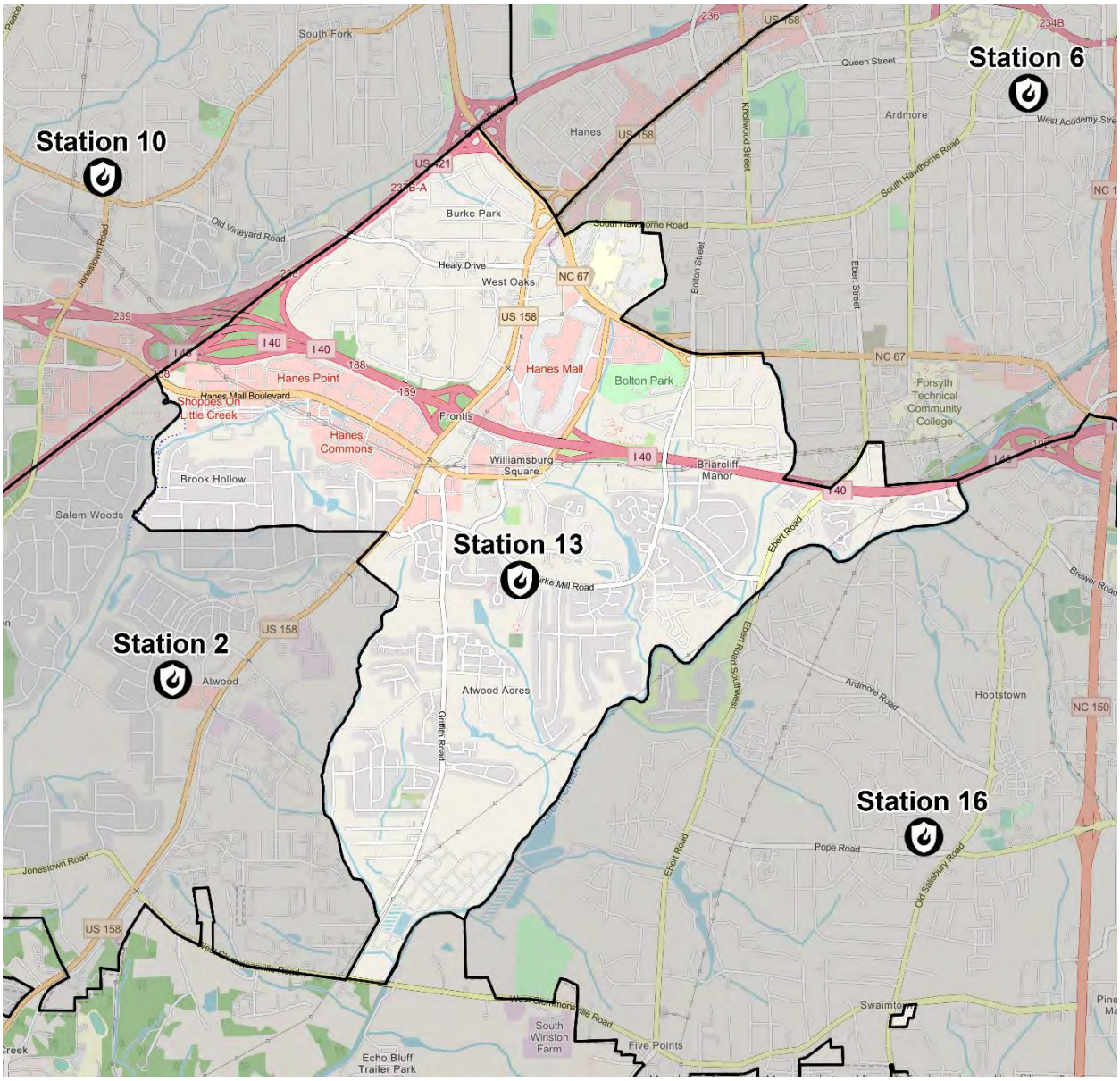
Station 12 All Incidents - 2021 to 2023

Incident Type	Number of Incidents
Emergency medical service (EMS) incident	2,554
Medical assist	464
Public service assistance	392
Unintentional system/detector operation (no fire)	377
Dispatched and canceled en route	220
Electrical wiring/equipment problem	125
System or detector malfunction	86
Steam, other gas mistaken for smoke	78
Structure Fire	75
Excessive heat, scorch burns with no ignition	60
Wrong location, no emergency found	54
Combustible/flammable spills & leaks	47
Good intent call, other	33
Service call, other	32
Water problem	32
Accident, potential accident	30
Unauthorized burning	28
Natural vegetation fire	25
Chemical release, reaction, or toxic condition	23
Mobile property (vehicle) fire	19
Person in distress	16
Malicious, mischievous false alarm	16
Flammable gas or liquid condition, other	16
HazMat release investigation w/no HazMat	15
Smoke, odor problem	15
Outside rubbish fire	14
Grand Total	**4,896**

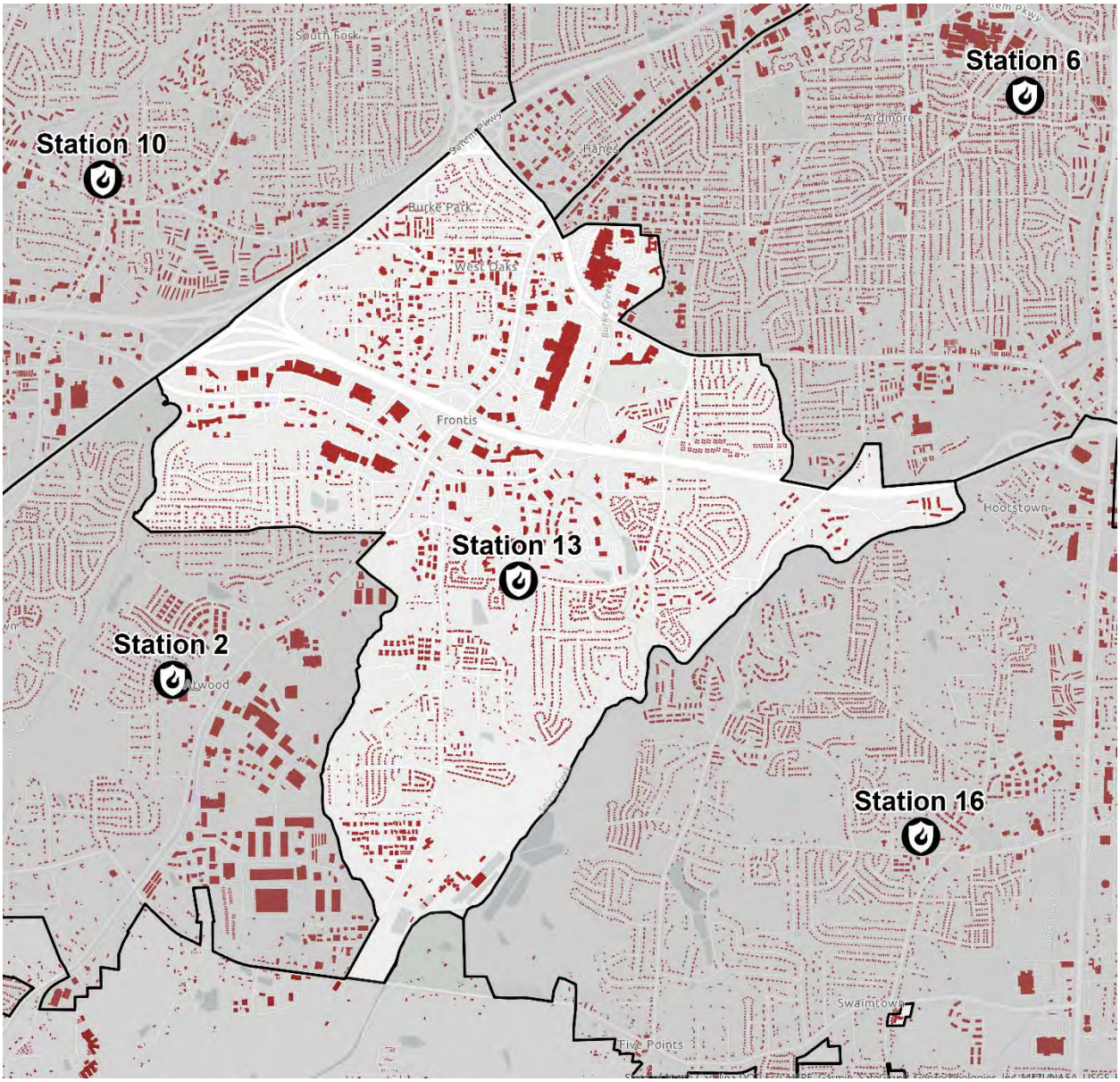
The average station territory had 2,746 emergency medical service (EMS) incidents, 684 unintentional system/detector operation (no fire), 413 medical assists, 78 structure fires, and 5,890 total incidents.

Station 13

Fire Station 13 was constructed in 2023, and is a 15,842 square foot, three bay, one-story building. The station houses Engine 13, Safety 7, and the department's air resources. The station is assigned and fully staffed by five personnel, with a minimum of four. Station 13 includes a classroom that is available for community use.



Station 13, located at 2110 Bethel Methodist Church Lane, covers the city's southwest region. Once a simple 2-lane route to Clemmons and Lewisville, this area has now transformed into a bustling medical, shopping, and dining hub. The intersection of Hanes Mall Boulevard and South Stratford Road is the second busiest intersection in the city. The district's population experiences a substantial surge every year from Thanksgiving through New Year's, driven by the holiday shopping season.



Station 13's territory is highly developed, and encompasses numerous businesses and medical facilities, along with apartment complexes and single-family homes. The most notable medical facility is Novant Health Forsyth Medical Center, which is one of two Level 1 trauma centers in the city. The largest building is Hanes Mall, North Carolina's second largest enclosed shopping mall at over 1.4 million square feet.

Demographic Data	Station 13	Average
2023 Total Population	10,332	12,767
2023 Population Density (per sq mi)	1,970	1,929
2023 Daytime Population Workers	24,026	7,771
2023 Daytime Population Residents	5,084	7,140
2023 Daytime Population Density (per sq mi)	5,550	2,580
2020 to 2023 Population Growth Rate	0.7%	0.7%
2023 % White Population	52%	45%
2023 % Black Population	28%	33%
2023 % Asian Population	5%	3%
2023 % Population of 2 Races	9%	8%
2023 % Other Race Population	7%	12%
2021 % Speak Only English	88.6%	83.4%
2021 % Speak Spanish & No/Limited English	0.0%	2.6%
2021 % Speak Other & No/Limited English	0.1%	0.4%
2021 % Households w/1 Person w/Disability	21%	23%
2023 % Pop. Age 25: <9th Grade	1%	4%
2023 % Pop. Age 25: High School No Diploma	3%	6%
2023 % Pop. Age 25: GED	4%	4%
2023 % Pop. Age 25: High School Diploma	17%	23%
2023 % Pop. Age 25: Some College No Degree	23%	19%
2023 % Pop. Age 25: Associate's Degree	11%	8%
2023 % Pop. Age 25: Bachelor's Degree	25%	21%
2023 % Pop. Age 25: Grad/Professional Degree	16%	15%
2023 Median Household Income	$54,256	$60,600
2023 % Household in Low Income Tier	27.3%	26.9%
2023 % Household in Middle Income Tier	65.6%	59.5%
2023 % Household in Upper Income Tier	7.1%	13.6%
2023 Median Net Worth	$64,158	$143,319

Compared to other station territories: Station 13 has the second highest daytime worker population, the third highest daytime population density, the lowest percentage of people that speak Spanish and no or limited English, and the second lowest percentage of the adult population with less than a 9th grade education.

Housing Data	Station 13	Average
2023 Total Housing Units	5,530	5,745
2023 Owner Occupied Housing Units	2,513	2,879
2023 Renter Occupied Housing Units	2,594	2,362
2023 Vacant Housing Units	423	504
2021 Median Year House Built	1982	1977
2023 Average Home Value	$223,508	$266,825
2021 Housing 1 Unit in Structure	2,931	3,653
2021 Housing 2 Units in Structure	3	94
2021 Housing 3 or 4 Units in Structure	197	264
2021 Housing 5 to 9 Units in Structure	711	479
2021 Housing 10 to 19 Units in Structure	727	538
2021 Housing 20 to 49 Units in Structure	267	159
2021 Housing 50 Units in Structure	397	240
2021 Housing Mobile Homes	24	111

Compared to other station territories: Station 13 is tied for the second lowest number of mobile homes.

Other Data	Station 13	Average
Square Miles	5.2	6.7
Miles of Roadway	71.0	77.6
% Developed (NLCD)	77.8%	63.0%
% Forest (NLCD)	13.4%	23.2%
% Pasture/Hay/Cultivated Crops (NLCD)	5.8%	9.1%
% Other (NLCD)	2.9%	4.7%
% at Flood Risk	7.3%	6.9%
2023 Total Businesses (NAICS)	1,194	487
2023 Total Employees (NAICS)	23,564	7,569

Compared to other station territories: Station 13 has the third highest percentage of developed land, and both the second most businesses and the second most total employees.

Station 13 Fire by Classification and Property Type - 2021 to 2023

Property Type	NFIRS Fire Classification			Grand Total
	Vehicle	Special outside	Natural vegetation	
Vehicle parking area	3	1		**4**
Street or road in commercial area	1			**1**
Highway or divided highway			1	**1**
Restaurant or cafeteria		1		**1**
Grand Total	**4**	**2**	**1**	**7**

The Station 13 territory was created near the end of 2022. If Station 13 had existed for all of 2021 through 2023, 177 additional fires (102 from Station 2, 32 from Station 10, 27 from Station 16, and 16 from Station 6) would have taken place in Station 13's territory.

Station 13 All Incidents - 2021 to 2023

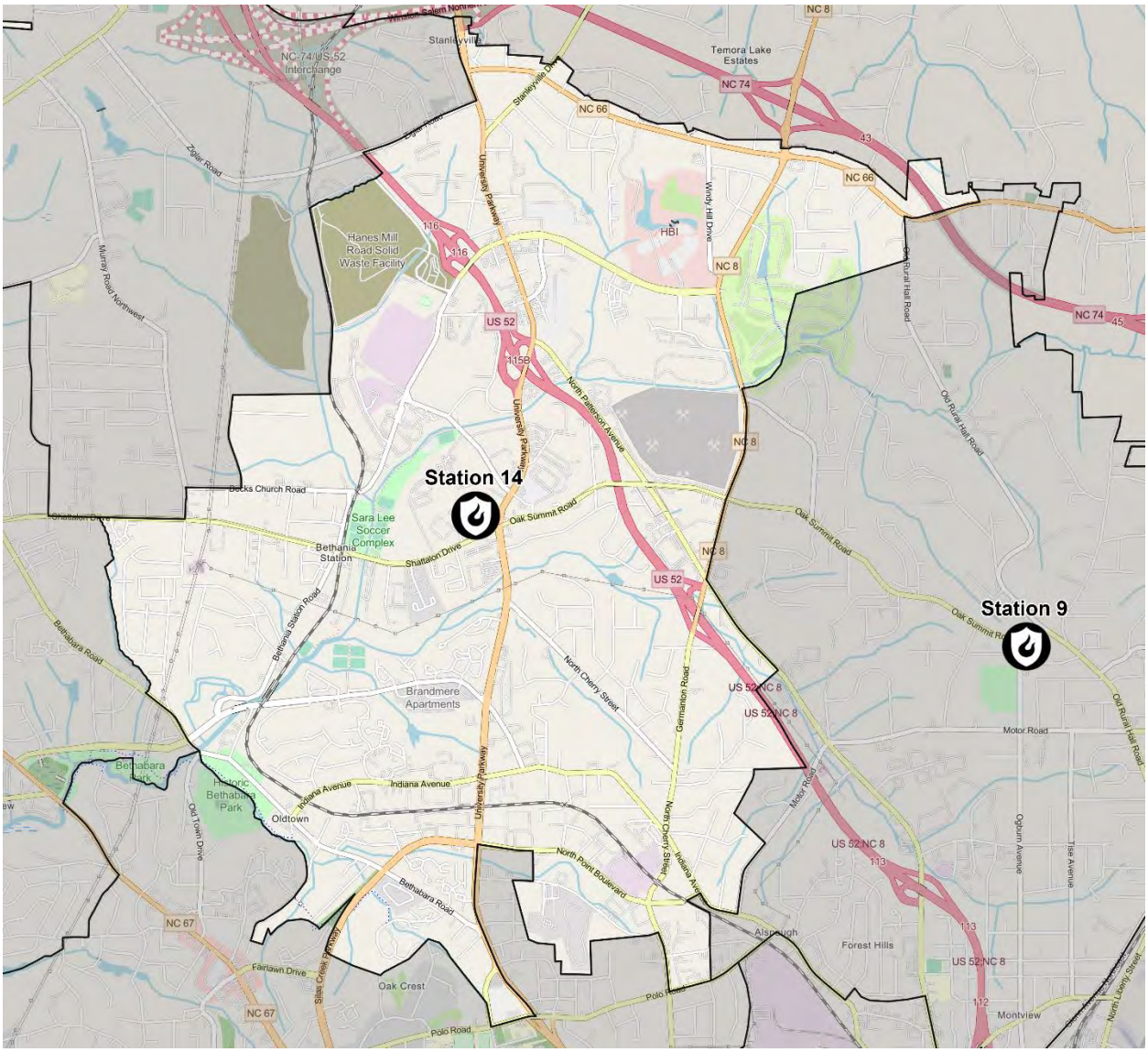
Incident Type	Number of Incidents
Emergency medical service (EMS) incident	116
Public service assistance	63
Unintentional system/detector operation (no fire)	59
Dispatched and canceled en route	21
System or detector malfunction	19
Medical assist	12
Grand Total	**352**

The Station 13 territory was created near the end of 2022. If Station 13 had existed for all of 2021 through 2023, 7,711 additional incidents (4,104 from Station 2, 2,226 from Station 10, 855 from Station 6, and 526 from Station 16) would have taken place in Station 13's territory.

The average station territory had 2,746 emergency medical service (EMS) incidents, 684 unintentional system/detector operation (no fire), 413 medical assists, 78 structure fires, and 5,890 total incidents.

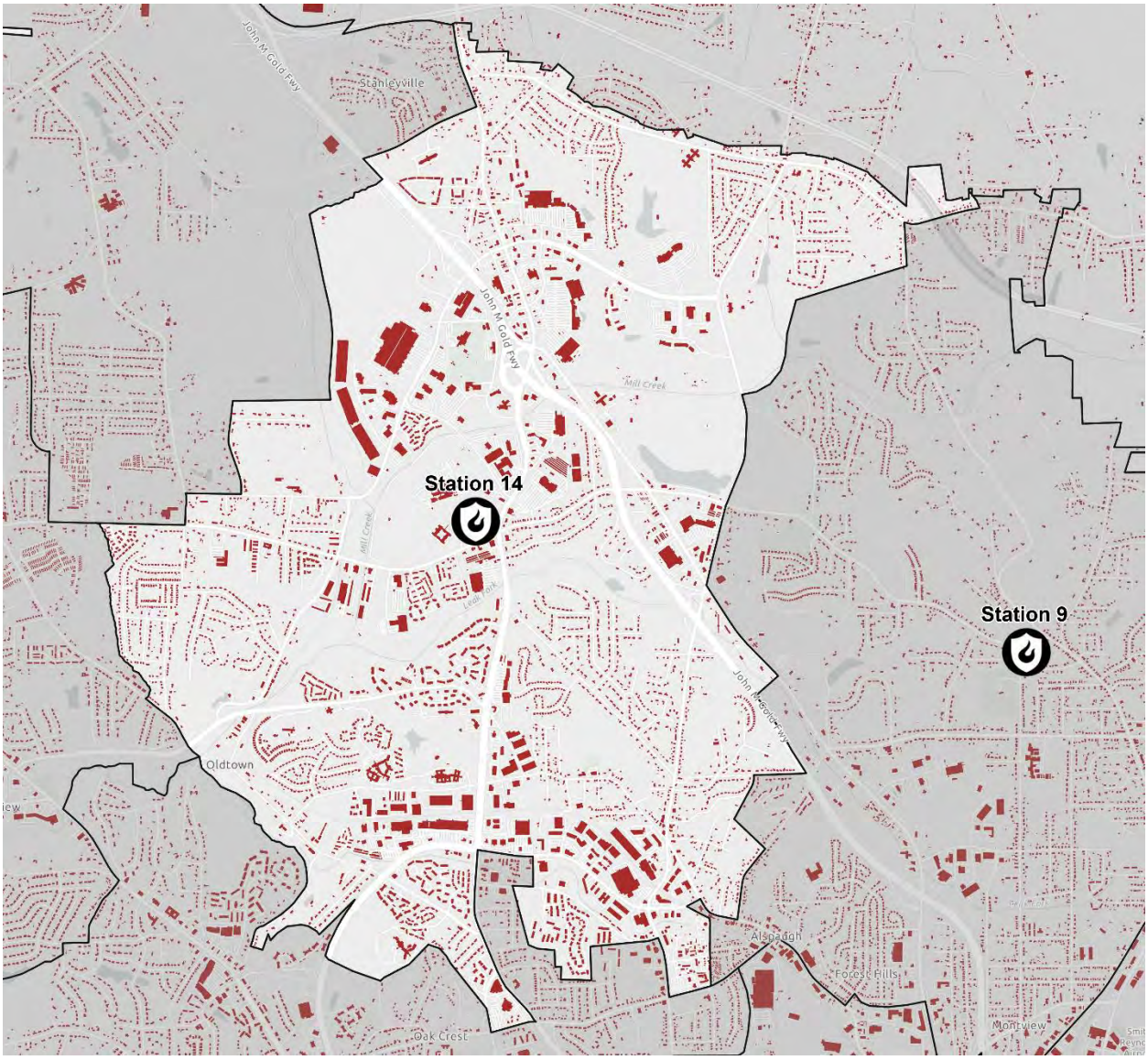
Station 14

Fire Station 14, also known as the Shattalon North Fire Station, was constructed in 1982, and is a 4,676 square foot, two bay, one-story building. The station houses two apparatus including Engine 14 and Ladder 14. The station is assigned and fully staffed by nine personnel, with a minimum of seven.



Station 14 is situated at 5754 Shattalon Drive in the dynamic northern section of the city. Characterized by a blend of residential and commercial properties, the district encompasses an array of dwellings, including aged houses dating back 80 to 100 years. A bustling hub of local commerce flourishes here, with numerous small businesses and locally operated establishments contributing to the area's vibrant spirit.

For emergency support, Station 14's district is reinforced by neighboring stations, notably Station 8, Station 9, Station 15, and Station 20. These stations play a crucial role in providing initial assistance during critical situations. Spanning across Shattalon Drive, Oak Summit Road, University Parkway, Hanes Mill Road, North Point Boulevard, and Germanton Road, the major roadways offer multiple routes for swift emergency response, connecting different parts of the district.



Noteworthy sites include several apartment complexes, hotels, businesses, manufacturing facilities, daycares, churches, retirement communities, and assisted living facilities, contributing to the intricate landscape that requires vigilance. Transportation arteries, such as the Norfolk Southern Railway and prominent roadways like Highway 52, traverse the area, facilitating movement and access.

Demographic Data	Station 14	Average
2023 Total Population	15,020	12,767
2023 Population Density (per sq mi)	1,741	1,929
2023 Daytime Population Workers	24,038	7,771
2023 Daytime Population Residents	8,589	7,140
2023 Daytime Population Density (per sq mi)	3,781	2,580
2020 to 2023 Population Growth Rate	1.4%	0.7%
2023 % White Population	27%	45%
2023 % Black Population	46%	33%
2023 % Asian Population	2%	3%
2023 % Population of 2 Races	8%	8%
2023 % Other Race Population	17%	12%
2021 % Speak Only English	82.7%	83.4%
2021 % Speak Spanish & No/Limited English	3.2%	2.6%
2021 % Speak Other & No/Limited English	0.1%	0.4%
2021 % Households w/1 Person w/Disability	27%	23%
2023 % Pop. Age 25: <9th Grade	8%	4%
2023 % Pop. Age 25: High School No Diploma	5%	6%
2023 % Pop. Age 25: GED	5%	4%
2023 % Pop. Age 25: High School Diploma	30%	23%
2023 % Pop. Age 25: Some College No Degree	19%	19%
2023 % Pop. Age 25: Associate's Degree	10%	8%
2023 % Pop. Age 25: Bachelor's Degree	18%	21%
2023 % Pop. Age 25: Grad/Professional Degree	6%	15%
2023 Median Household Income	$39,744	$60,600
2023 % Household in Low Income Tier	35.0%	26.9%
2023 % Household in Middle Income Tier	58.7%	59.5%
2023 % Household in Upper Income Tier	6.3%	13.6%
2023 Median Net Worth	$13,838	$143,319

Compared to other station territories: Station 14 has the highest daytime worker population, had the third highest population growth rate from 2020 to 2023, has the second highest percentage of the adult population with less than a 9th grade education, the third lowest percentage of the population with a graduate or professional degree, the third lowest median household income, and the third lowest median net worth.

Housing Data	Station 14	Average
2023 Total Housing Units	7,416	5,745
2023 Owner Occupied Housing Units	1,993	2,879
2023 Renter Occupied Housing Units	4,588	2,362
2023 Vacant Housing Units	835	504
2021 Median Year House Built	1982	1977
2023 Average Home Value	$182,406	$266,825
2021 Housing 1 Unit in Structure	2,259	3,653
2021 Housing 2 Units in Structure	51	94
2021 Housing 3 or 4 Units in Structure	456	264
2021 Housing 5 to 9 Units in Structure	1,489	479
2021 Housing 10 to 19 Units in Structure	1,614	538
2021 Housing 20 to 49 Units in Structure	366	159
2021 Housing 50 Units in Structure	315	240
2021 Housing Mobile Homes	161	111

Compared to other station territories: Station 14 has the third lowest number of renter occupied housing units, the third most vacant housing units, the second lowest median home value, the second highest number of housing units in structures with 10 to 19 units, and the third highest number of housing units in structures with 20 to 49 units.

Other Data	Station 14	Average
Square Miles	8.6	6.7
Miles of Roadway	91.2	77.6
% Developed (NLCD)	66.8%	63.0%
% Forest (NLCD)	24.3%	23.2%
% Pasture/Hay/Cultivated Crops (NLCD)	4.9%	9.1%
% Other (NLCD)	3.9%	4.7%
% at Flood Risk	6.7%	6.9%
2023 Total Businesses (NAICS)	817	487
2023 Total Employees (NAICS)	24,292	7,569

Compared to other station territories: Station 14 has the most total employees.

Station 14 Fire by Classification and Property Type - 2021 to 2023

Property Type	NFIRS Fire Classification						Grand Total
	Structure	Vehicle	Natural vegetation	Outside rubbish	Special outside	Other	
Vehicle parking area	4	32	9	20	2		**67**
Multifamily dwelling	56		5	1			**62**
1 or 2 family dwelling	22	3	2	2		1	**30**
Street/road commercial area	1	15	5				**21**
Graded and cared-for land	1	3	13	3		1	**21**
Highway or divided highway		11	2	2		1	**16**
Residential street/driveway	1	7	3	2			**13**
Open land or field	1		11	1			**13**
Manufacturing, processing	5			1	1		**7**
24-hour care Nursing homes, 4 or more persons	6						**6**
Laundry, dry cleaning	5						**5**
Forest, timberland, woodland	1		3				**4**
Restaurant or cafeteria	4						**4**
Dump, sanitary landfill				3			**3**
Business office	3						**3**
Vacant lot			1	2			**3**
Warehouse	1	1	1				**3**
Motor vehicle or boat sales, services, repair	2	1					**3**
Outside or special property			1	2			**3**
Hotel/motel, commercial	2						**2**
Food and beverage sales, grocery store	1			1			**2**
Residential, other	2						**2**
Boarding/rooming house, residential hotels	1			1			**2**
High school/junior high school/middle school	2						**2**
Outbuilding, protective shelter	2						**2**
Railroad right-of-way			2				**2**
Other	5		3	2	2	1	**13**
Grand Total	**128**	**73**	**61**	**43**	**5**	**4**	**314**

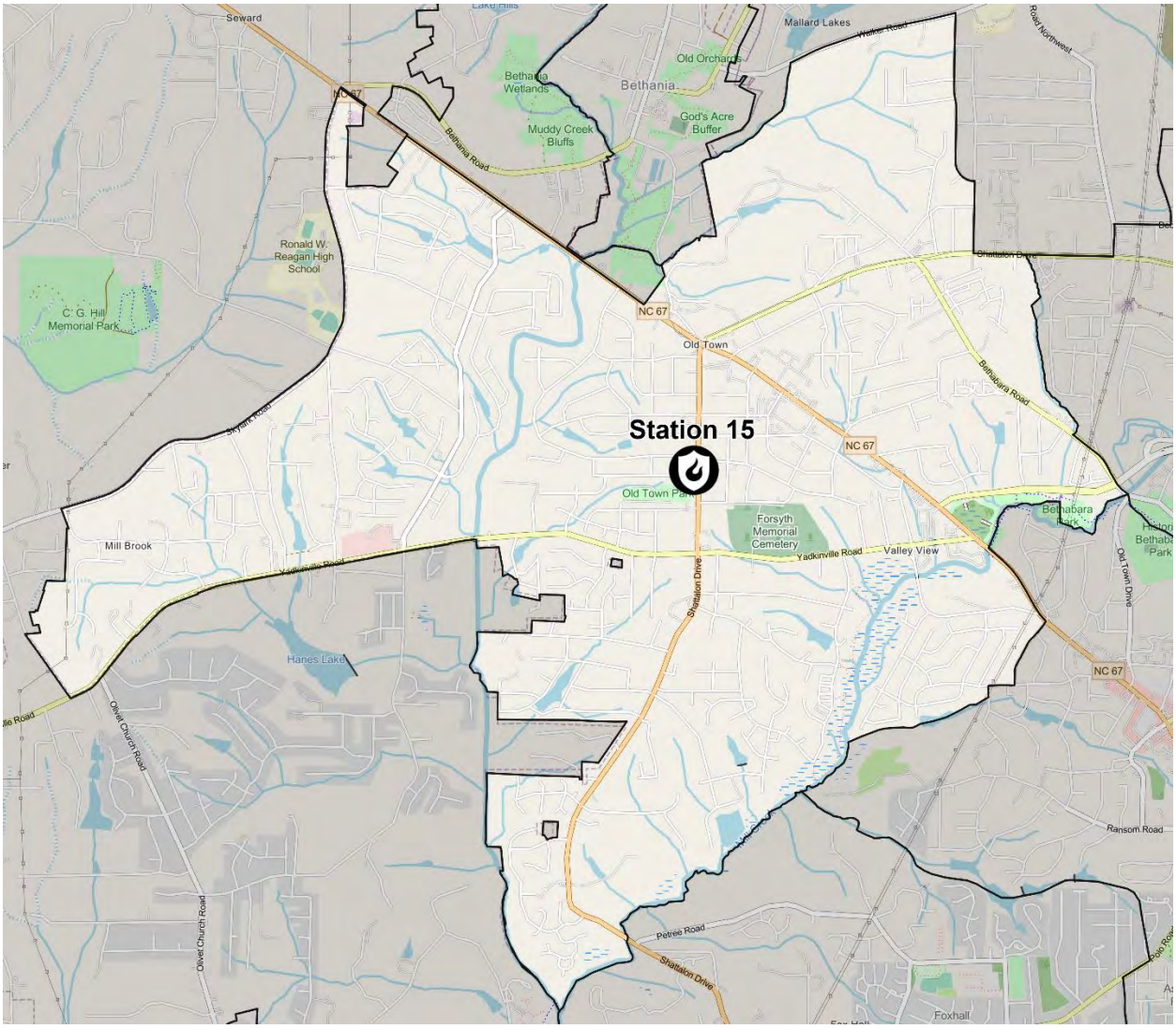
Station 14 All Incidents - 2021 to 2023

Incident Type	Number of Incidents
Emergency medical service (EMS) incident	5,395
Unintentional system/detector operation (no fire)	859
Medical assist	650
Public service assistance	615
Dispatched and canceled en route	576
Wrong location, no emergency found	261
System or detector malfunction	260
Electrical wiring/equipment problem	193
Structure Fire	128
Steam, other gas mistaken for smoke	111
Good intent call, other	88
Combustible/flammable spills & leaks	87
Water problem	84
Mobile property (vehicle) fire	73
Excessive heat, scorch burns with no ignition	67
Person in distress	63
Accident, potential accident	61
Natural vegetation fire	61
Malicious, mischievous false alarm	60
Lock-In	43
Outside rubbish fire	43
Extrication, rescue	40
Service call, other	34
Unauthorized burning	32
Smoke, odor problem	32
Chemical release, reaction, or toxic condition	18
Flammable gas or liquid condition, other	16
False alarm and false call, other	13
Rescue, emergency medical call (EMS), other	11
Grand Total	**10,014**

The average station territory had 2,746 emergency medical service (EMS) incidents, 684 unintentional system/detector operation (no fire), 413 medical assists, 78 structure fires, and 5,890 total incidents.

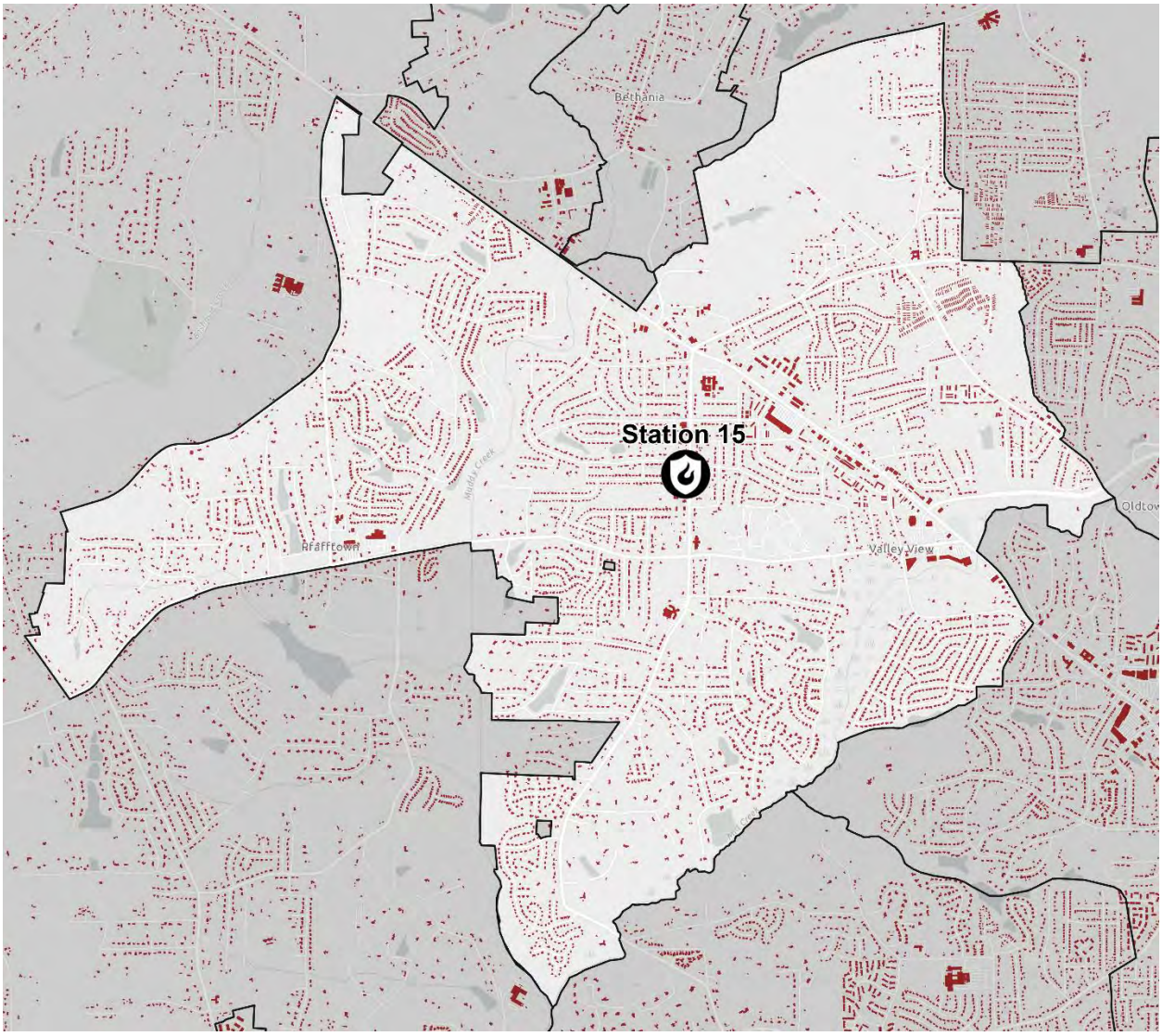
Station 15

Fire Station 15, also known as the Old Town Fire Station, was constructed in 1985, and is a 4,029 square foot, two bay, one-story building. The station houses two apparatus including Engine 15 and a reserve engine. The station is assigned and fully staffed by four personnel, with a minimum of three.



Station 15, situated at 4548 Shattalon Drive, covers the northwest quadrant of the city with a territory encompassing a mix of urban, suburban, and rural elements. This district boasts a diverse history and a range of neighborhoods that have emerged from former farmland, including the historic Bethabara settlement.

The boundaries of Station 15's territory begin at Kecoughtan Road and Yadkinville Road, then stretches along Yadkinville Road to Greenmeadow Lakes Circle, proceeds around Beech Acres Lane, Linecrest Drive, Tonbridge Lane, and Shattalon Drive, sharing a border with the Mt. Tabor community. It continues south along Shattalon Drive,Drive, encompassing the Windsor Place and Brownstone neighborhoods. This boundary traces Mill Creek, and extends to Walnut Avenue, Reynolda Road, Bethabara Park Boulevard, and Bethabara Road. To the north, the boundary traverses Shattalon Circle, Ramille Run, Walker Road, Mallard Lakes Drive, and Bethania Road. As the boundary progresses, it includes the Highland Park neighborhood, eventually circling back to Shattalon Drive and completing its loop.



Critical facilities and public buildings within Station 15's domain include various apartment complexes, a mobile home park, shopping centers, a mall, schools, and a wide spectrum of single-family dwellings, ranging from legacy housing to modern high-square-footage homes. Manufacturing facilities, hotels, motels, and hazardous materials industrial complexes are notably absent.

Cluster-specific considerations encompass areas of limited access, flood-prone zones including W. D. Poindexter Wildlife Preserve, Mill Creek, and Muddy Creek, a bridge with adequate weight capacity but a single lane, and gated communities.

Demographic Data	Station 15	Average
2023 Total Population	15,804	12,767
2023 Population Density (per sq mi)	1,839	1,929
2023 Daytime Population Workers	2,860	7,771
2023 Daytime Population Residents	8,290	7,140
2023 Daytime Population Density (per sq mi)	1,298	2,580
2020 to 2023 Population Growth Rate	0.4%	0.7%
2023 % White Population	54%	45%
2023 % Black Population	22%	33%
2023 % Asian Population	3%	3%
2023 % Population of 2 Races	7%	8%
2023 % Other Race Population	13%	12%
2021 % Speak Only English	83.3%	83.4%
2021 % Speak Spanish & No/Limited English	3.5%	2.6%
2021 % Speak Other & No/Limited English	0.1%	0.4%
2021 % Households w/1 Person w/Disability	21%	23%
2023 % Pop. Age 25: <9th Grade	2%	4%
2023 % Pop. Age 25: High School No Diploma	4%	6%
2023 % Pop. Age 25: GED	2%	4%
2023 % Pop. Age 25: High School Diploma	18%	23%
2023 % Pop. Age 25: Some College No Degree	17%	19%
2023 % Pop. Age 25: Associate's Degree	9%	8%
2023 % Pop. Age 25: Bachelor's Degree	26%	21%
2023 % Pop. Age 25: Grad/Professional Degree	23%	15%
2023 Median Household Income	$84,302	$60,600
2023 % Household in Low Income Tier	13.5%	26.9%
2023 % Household in Middle Income Tier	59.0%	59.5%
2023 % Household in Upper Income Tier	27.5%	13.6%
2023 Median Net Worth	$257,745	$143,319

Compared to other station territories: Station 15 has the third highest number of households in the upper income tier and the third highest median net worth.

Housing Data	Station 15	Average
2023 Total Housing Units	6,241	5,745
2023 Owner Occupied Housing Units	4,408	2,879
2023 Renter Occupied Housing Units	1,516	2,362
2023 Vacant Housing Units	317	504
2021 Median Year House Built	1987	1977
2023 Average Home Value	$320,100	$266,825
2021 Housing 1 Unit in Structure	4,677	3,653
2021 Housing 2 Units in Structure		94
2021 Housing 3 or 4 Units in Structure	73	264
2021 Housing 5 to 9 Units in Structure	127	479
2021 Housing 10 to 19 Units in Structure	550	538
2021 Housing 20 to 49 Units in Structure	44	159
2021 Housing 50 Units in Structure	130	240
2021 Housing Mobile Homes	193	111

Compared to other station territories: Station 15 is representative of the average station territory with respect to housing data. There is no data presented in the above table for which Station 15 falls within the top or bottom three territories.

Other Data	Station 15	Average
Square Miles	8.6	6.7
Miles of Roadway	89.9	77.6
% Developed (NLCD)	44.9%	63.0%
% Forest (NLCD)	36.3%	23.2%
% Pasture/Hay/Cultivated Crops (NLCD)	12.8%	9.1%
% Other (NLCD)	6.0%	4.7%
% at Flood Risk	6.1%	6.9%
2023 Total Businesses (NAICS)	291	487
2023 Total Employees (NAICS)	2,312	7,569

Compared to other station territories: Station 15 is tied for the least percentage of land at risk of flooding.

Station 15 Fire by Classification and Property Type - 2021 to 2023

Property Type	NFIRS Fire Classification						Grand Total
	Structure	Natural vegetation	Vehicle	Outside rubbish	Special outside	Other	
1 or 2 family dwelling	41	4		4	1	1	**51**
Vehicle parking area		3	8	5	1		**17**
Multifamily dwelling	13	1		1			**15**
Residential street, road or residential driveway		4	8	1	1		**14**
Graded and cared-for plots of land		5	1	4	3	1	**14**
Open land or field		7		1			**8**
Vacant lot		3		1			**4**
Motor vehicle or boat sales, services, repair	2						**2**
Street or road in commercial area		2					**2**
Other	3	2	2	2	2		**11**
Grand Total	**59**	**31**	**19**	**19**	**8**	**2**	**138**

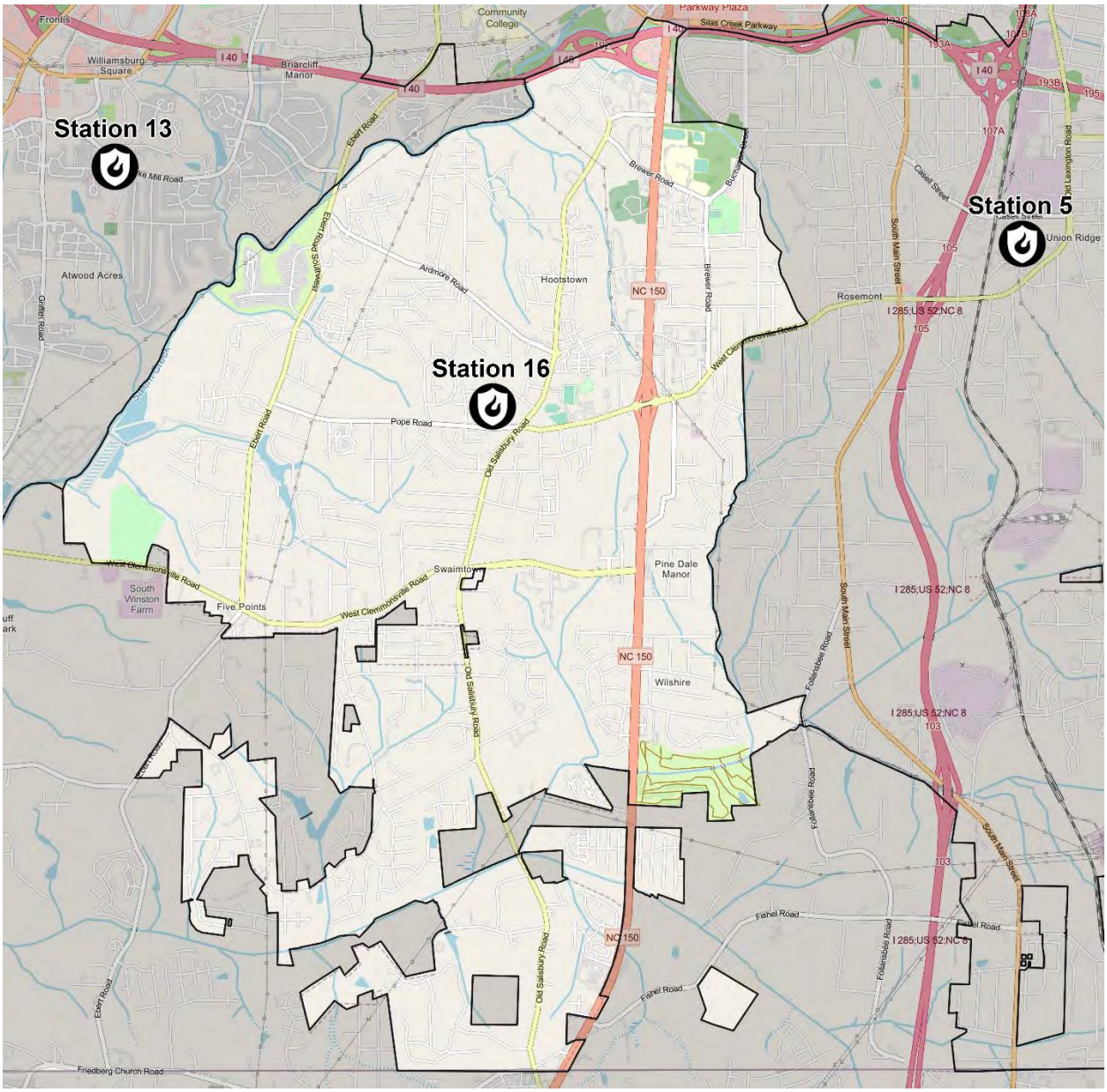
Station 15 All Incidents - 2021 to 2023

Incident Type	Number of Incidents
Emergency medical service (EMS) incident	2,389
Unintentional system/detector operation (no fire)	291
Public service assistance	277
Dispatched and canceled en route	161
Medical assist	128
Electrical wiring/equipment problem	123
Wrong location, no emergency found	104
System or detector malfunction	92
Structure Fire	59
Steam, other gas mistaken for smoke	57
Combustible/flammable spills & leaks	49
Natural vegetation fire	31
Person in distress	30
Good intent call, other	30
Water problem	29
Unauthorized burning	29
Accident, potential accident	29
Excessive heat, scorch burns with no ignition	21
Service call, other	20
Mobile property (vehicle) fire	19
Chemical release, reaction, or toxic condition	19
Outside rubbish fire	19
Malicious, mischievous false alarm	15
Rescue, emergency medical call (EMS), other	11
Grand Total	**4,092**

The average station territory had 2,746 emergency medical service (EMS) incidents, 684 unintentional system/detector operation (no fire), 413 medical assists, 78 structure fires, and 5,890 total incidents.

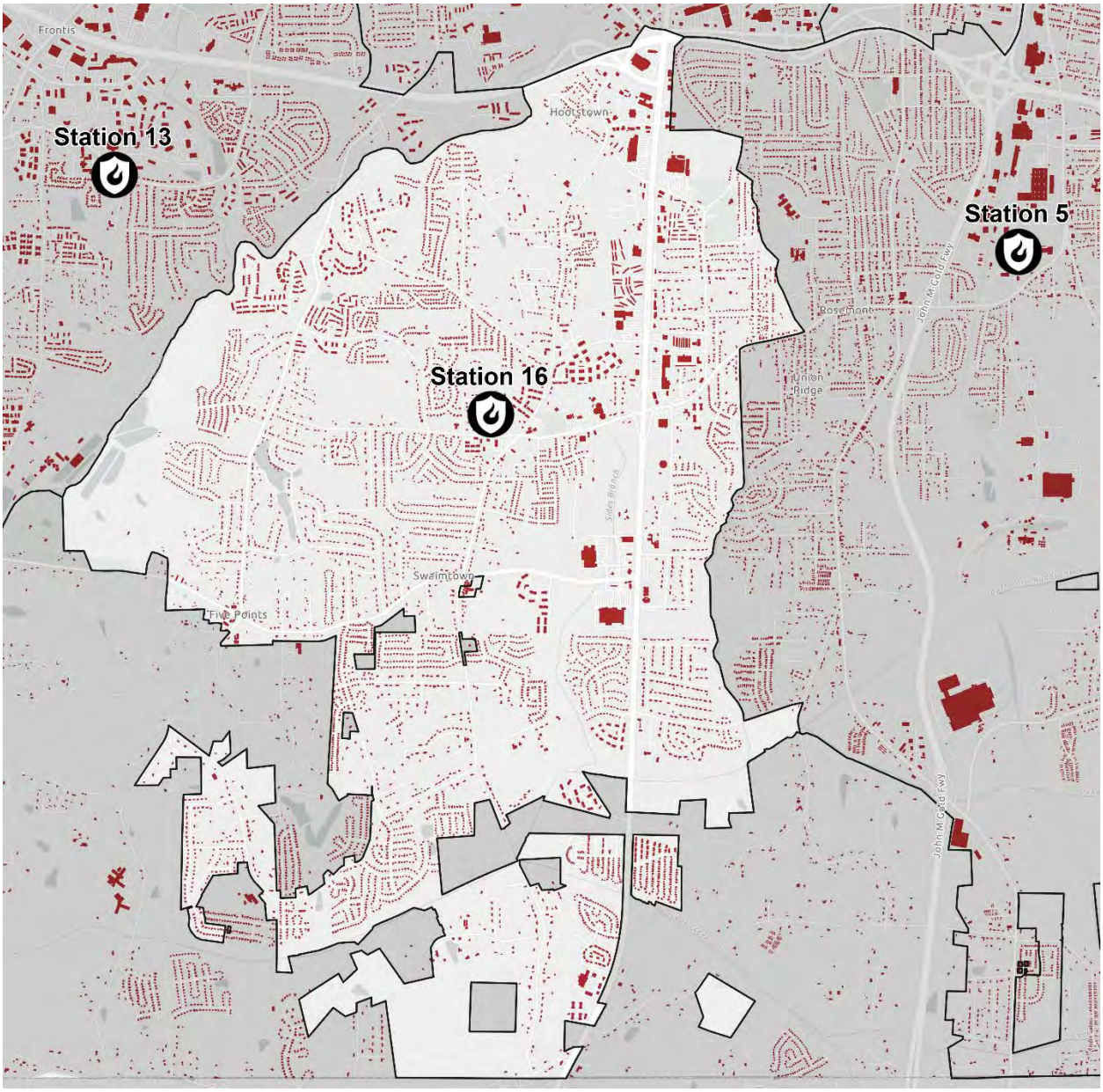
Station 16

Fire Station 16, also known as the Southwest Fire Station, was constructed in 1984, and is a 4,174 square foot, two bay, one-story building. The station houses two apparatus including Engine 16 and a reserve engine. The station is assigned and fully staffed by four personnel, with a minimum of three.



Located at 1701 Pope Road, Station 16 serves the southwestern region, positioned approximately 3.5 miles within the city limits from the Forsyth-Davidson County border. It stands 5.2 miles southwest of downtown and covers a predominantly residential landscape, interwoven with churches, shopping centers, apartment complexes, and a nursing home facility. Notably, the district extends into a wildland interface area, mainly along its southern perimeter.

Station 16 receives support from various directions, with neighboring Engine companies assisting across the territory. Engine 6 operates nearby on Academy Street, Engine 5 responds from Palmer Lane, and Engine 2 from Somerset Drive, all collaborating on multi-company calls. The connecting primary roadways include Peters Creek Parkway, Interstate 40, Ebert Road, East and West Clemmonsville Road, with these thoroughfares traversing the district.



In terms of risk factors, critical facilities and public buildings include numerous apartment complexes and condominium complexes, where some lack sprinklers and thus pose potential fire spread hazards. Furthermore, Station 16's territory houses schools, a medical clinic, businesses and shopping centers, a veterinarian hospital, and an assisted living home, which presents an evacuation concern due to its patient demographic.

Challenges arise from areas with limited access and roads subject to congestion. Water supply considerations involve areas with insufficient hydrant coverage and the presence of non-designated static water sources. There are also facilities that pose potential life safety and hazardous material concerns. The unique characteristics of Station 16's territory demand strategic planning and preparedness to effectively address various risks and challenges.

Demographic Data	Station 16	Average
2023 Total Population	20,139	12,767
2023 Population Density (per sq mi)	2,190	1,929
2023 Daytime Population Workers	3,970	7,771
2023 Daytime Population Residents	9,560	7,140
2023 Daytime Population Density (per sq mi)	1,472	2,580
2020 to 2023 Population Growth Rate	0.7%	0.7%
2023 % White Population	43%	45%
2023 % Black Population	34%	33%
2023 % Asian Population	3%	3%
2023 % Population of 2 Races	10%	8%
2023 % Other Race Population	11%	12%
2021 % Speak Only English	78.4%	83.4%
2021 % Speak Spanish & No/Limited English	4.1%	2.6%
2021 % Speak Other & No/Limited English	0.4%	0.4%
2021 % Households w/1 Person w/Disability	21%	23%
2023 % Pop. Age 25: <9th Grade	4%	4%
2023 % Pop. Age 25: High School No Diploma	6%	6%
2023 % Pop. Age 25: GED	4%	4%
2023 % Pop. Age 25: High School Diploma	22%	23%
2023 % Pop. Age 25: Some College No Degree	19%	19%
2023 % Pop. Age 25: Associate's Degree	11%	8%
2023 % Pop. Age 25: Bachelor's Degree	23%	21%
2023 % Pop. Age 25: Grad/Professional Degree	11%	15%
2023 Median Household Income	$59,544	$60,600
2023 % Household in Low Income Tier	20.7%	26.9%
2023 % Household in Middle Income Tier	72.0%	59.5%
2023 % Household in Upper Income Tier	7.3%	13.6%
2023 Median Net Worth	$93,724	$143,319

Compared to other station territories: Station 16 has the second highest population.

Housing Data	Station 16	Average
2023 Total Housing Units	9,329	5,745
2023 Owner Occupied Housing Units	5,258	2,879
2023 Renter Occupied Housing Units	3,375	2,362
2023 Vacant Housing Units	696	504
2021 Median Year House Built	1995	1977
2023 Average Home Value	$234,937	$266,825
2021 Housing 1 Unit in Structure	6,075	3,653
2021 Housing 2 Units in Structure	39	94
2021 Housing 3 or 4 Units in Structure	264	264
2021 Housing 5 to 9 Units in Structure	871	479
2021 Housing 10 to 19 Units in Structure	1,097	538
2021 Housing 20 to 49 Units in Structure	247	159
2021 Housing 50 Units in Structure	105	240
2021 Housing Mobile Homes	131	111

Compared to other station territories: Station 16 has the third highest number of housing units, the newest housing stock in terms of median year built, and the third highest number of housing units in structures with 10 to 19 units.

Other Data	Station 16	Average
Square Miles	9.2	6.7
Miles of Roadway	103.9	77.6
% Developed (NLCD)	60.2%	63.0%
% Forest (NLCD)	22.1%	23.2%
% Pasture/Hay/Cultivated Crops (NLCD)	12.6%	9.1%
% Other (NLCD)	5.1%	4.7%
% at Flood Risk	6.8%	6.9%
2023 Total Businesses (NAICS)	311	487
2023 Total Employees (NAICS)	3,713	7,569

Compared to other station territories: Station 16 is representative of the average station territory with respect to the data measured in the above table. There is no data presented in the above table for which Station 16 falls within the top or bottom three territories.

Station 16 Fire by Classification and Property Type - 2021 to 2023

Property Type	NFIRS Fire Classification						Grand Total
	Structure	Natural vegetation	Vehicle	Outside rubbish	Special outside	Other	
1 or 2 family dwelling	50	7	2	6	3		**68**
Vehicle parking area	3	5	17	6	3		**34**
Multifamily dwelling	31	1				1	**33**
Highway or divided highway		8	7		1		**16**
Graded and cared-for plots of land	1	12		2		1	**16**
Residential street, road or residential driveway		4	10				**14**
Open land or field		8		1			**9**
Street or road in commercial area		2	3	1			**6**
Outside or special property, other		3		2	1		**6**
Forest, timberland, woodland		3	1	1			**5**
Food and beverage sales, grocery store	4						**4**
Restaurant or cafeteria	2	1					**3**
Vacant lot		2		1			**3**
Business office	2						**2**
Outbuilding or shed	1				1		**2**
Other	2		3		1		**6**
Grand Total	**96**	**56**	**43**	**20**	**10**	**2**	**227**

The Station 13 territory was created near the end of 2022. If Station 13 had existed for all of 2021 through 2023, 27 of the 227 fires would have taken place in Station 13's territory.

Station 16 All Incidents - 2021 to 2023

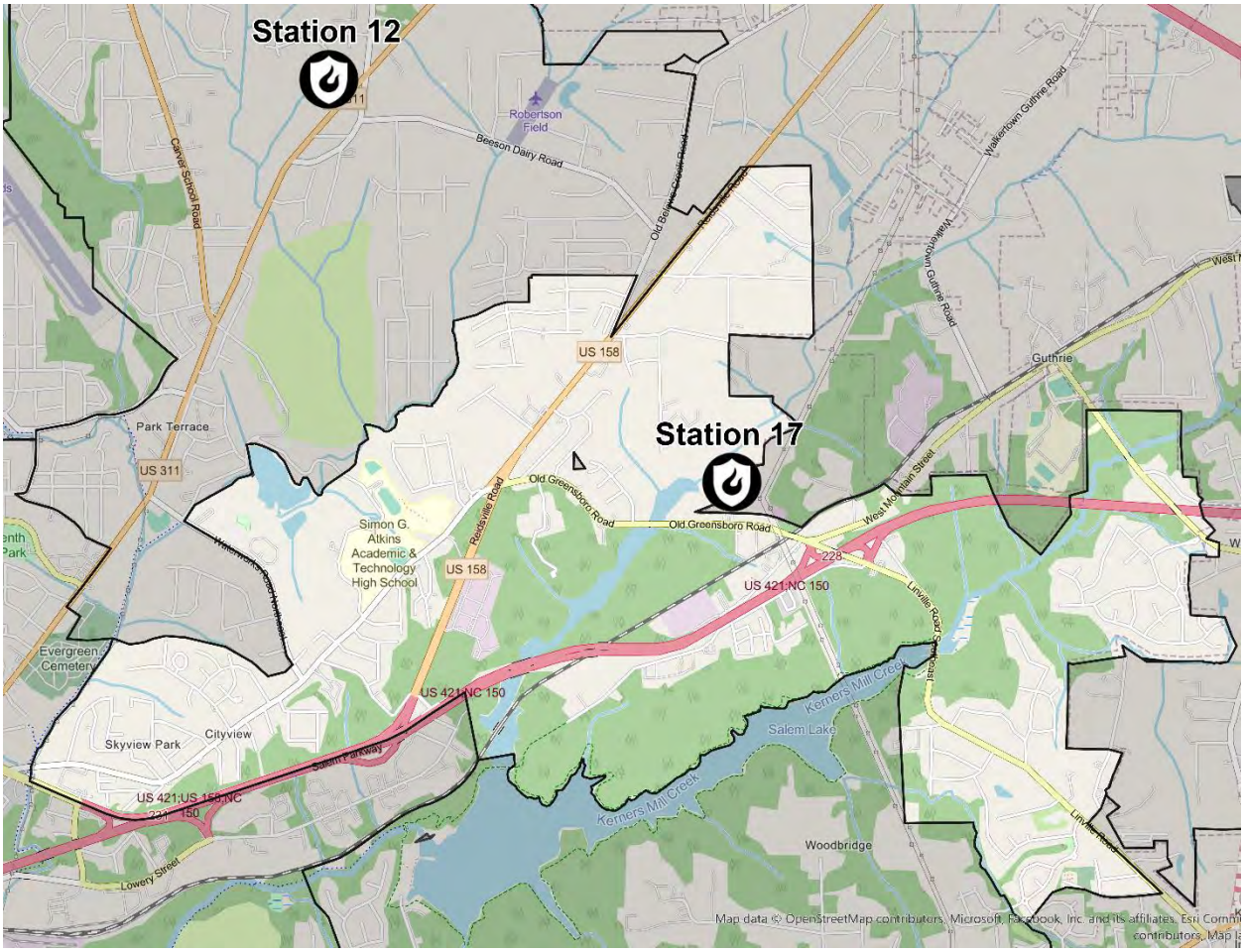
Incident Type	Number of Incidents
Emergency medical service (EMS) incident	3,540
Public service assistance	735
Unintentional system/detector operation (no fire)	550
Medical assist	453
Dispatched and canceled en route	368
System or detector malfunction	179
Wrong location, no emergency found	140
Electrical wiring/equipment problem	114
Steam, other gas mistaken for smoke	102
Structure Fire	96
Water problem	78
Good intent call, other	66
Combustible/flammable spills & leaks	63
Service call, other	61
Natural vegetation fire	56
Excessive heat, scorch burns with no ignition	47
Mobile property (vehicle) fire	43
Unauthorized burning	39
Accident, potential accident	37
Person in distress	35
Malicious, mischievous false alarm	28
Chemical release, reaction, or toxic condition	23
Lock-In	22
Flammable gas or liquid condition, other	21
Outside rubbish fire	20
Smoke, odor problem	20
Extrication, rescue	17
Rescue, emergency medical call (EMS), other	11
Controlled burning	10
Special outside fire	10
Grand Total	**7,016**

The Station 13 territory was created near the end of 2022. If Station 13 had existed for all of 2021 through 2023, 526 of the 7,016 incidents would have taken place in Station 13's territory.

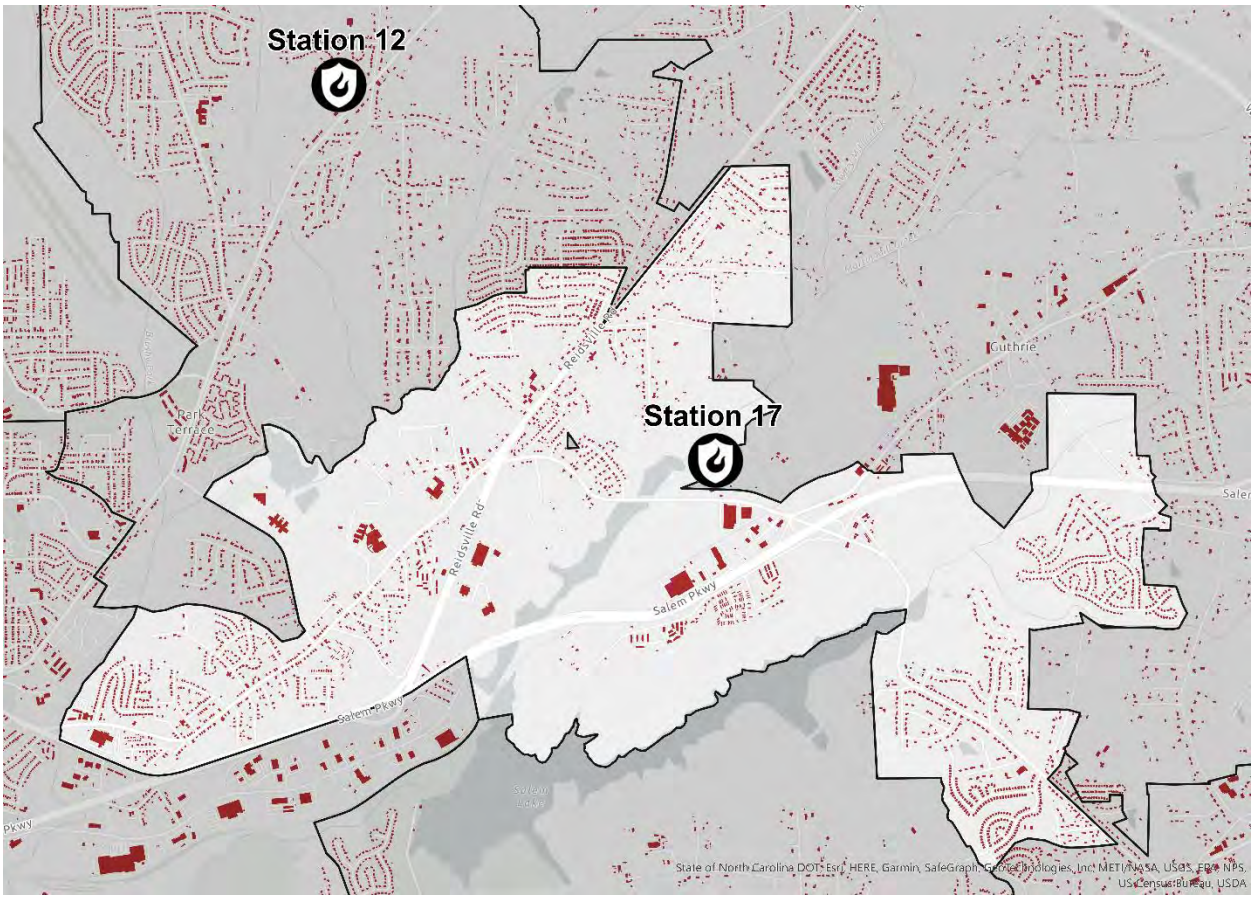
The average station territory had 2,746 emergency medical service (EMS) incidents, 684 unintentional system/detector operation (no fire), 413 medical assists, 78 structure fires, and 5,890 total incidents.

Station 17

Fire Station 17 was constructed in 1991, and is a 5,000 square foot, two bay, one-story building. The station houses two apparatus including Engine 17 and a reserve engine. The station is assigned and fully staffed by four personnel, with a minimum of three.



Situated at 4295 Old Greensboro Road, Station 17 is positioned in the eastern part of Winston-Salem, with key travel routes encompassing Old Greensboro Road, Reidsville Road, Linville Road, Hastings Hill Road, and U.S. Highway 421. The territory spans from E. Fifth Street to the eastern city limits and extends to the Northeast until the Forsyth County line. The district comprises mainly residential structures, including apartment complexes, a mobile home park, five small convenience stores, seven churches, a veterinarian, a boat repair shop, a self-storage facility, three large manufacturing facilities, two large warehouses, a significant motorcycle dealer with repair capabilities, as well as various small mixed-use facilities. Furthermore, there are two prominent schools and three established daycares. The territory receives primary support from neighboring stations, including Stations 4, 5, 11, 12, 19, and Kernersville Fire Department Station 43 during emergency operations.



Regarding critical facilities and public buildings, several apartment complexes are dispersed throughout the cluster, with single-family dwellings constituting the majority of Station 17's response area. Notably, the Forsyth County school system is a significant presence, with two public schools within the district. However, no high-rise buildings, government buildings, or historical structures are located within the territory. A single veterinarian building is present, alongside one hazardous facility, a Norfolk Southern rail spur and a major highway, Highway 421, runs through the territory, with the added aspect of being in the flight path to Smith Reynolds Airport. Additionally, the region houses several commercial buildings, one manufacturing testing building, and a single motel.

Notably, there are sections of the territory that are prone to flooding, primarily affecting the lower section of Old Greensboro Road at 5th Street and Old Greensboro Road at Salem Lake Bridge, just north of the station.

Demographic Data	Station 17	Average
2023 Total Population	6,025	12,767
2023 Population Density (per sq mi)	1,214	1,929
2023 Daytime Population Workers	1,961	7,771
2023 Daytime Population Residents	3,401	7,140
2023 Daytime Population Density (per sq mi)	1,080	2,580
2020 to 2023 Population Growth Rate	1.3%	0.7%
2023 % White Population	35%	45%
2023 % Black Population	45%	33%
2023 % Asian Population	1%	3%
2023 % Population of 2 Races	8%	8%
2023 % Other Race Population	11%	12%
2021 % Speak Only English	89.7%	83.4%
2021 % Speak Spanish & No/Limited English	0.3%	2.6%
2021 % Speak Other & No/Limited English	0.0%	0.4%
2021 % Households w/1 Person w/Disability	33%	23%
2023 % Pop. Age 25: <9th Grade	4%	4%
2023 % Pop. Age 25: High School No Diploma	4%	6%
2023 % Pop. Age 25: GED	5%	4%
2023 % Pop. Age 25: High School Diploma	32%	23%
2023 % Pop. Age 25: Some College No Degree	27%	19%
2023 % Pop. Age 25: Associate's Degree	8%	8%
2023 % Pop. Age 25: Bachelor's Degree	14%	21%
2023 % Pop. Age 25: Grad/Professional Degree	7%	15%
2023 Median Household Income	$43,979	$60,600
2023 % Household in Low Income Tier	30.3%	26.9%
2023 % Household in Middle Income Tier	61.6%	59.5%
2023 % Household in Upper Income Tier	8.1%	13.6%
2023 Median Net Worth	$78,028	$143,319

Compared to other station territories: Station 17 has the second lowest total population, the second lowest population density, the second lowest daytime worker population, the third lowest daytime resident population, is tied for the third lowest population density, and has the highest percentage of households with at least one person with a disability.

Housing Data	Station 17	Average
2023 Total Housing Units	2,434	5,745
2023 Owner Occupied Housing Units	1,372	2,879
2023 Renter Occupied Housing Units	894	2,362
2023 Vacant Housing Units	168	504
2021 Median Year House Built	1980	1977
2023 Average Home Value	$233,735	$266,825
2021 Housing 1 Unit in Structure	1,890	3,653
2021 Housing 2 Units in Structure	19	94
2021 Housing 3 or 4 Units in Structure	148	264
2021 Housing 5 to 9 Units in Structure	163	479
2021 Housing 10 to 19 Units in Structure	80	538
2021 Housing 20 to 49 Units in Structure	59	159
2021 Housing 50 Units in Structure	93	240
2021 Housing Mobile Homes	28	111

Compared to other station territories: Station 17 has the third lowest number of vacant housing units and the second lowest number of single, detached housing units.

Other Data	Station 17	Average
Square Miles	5.0	6.7
Miles of Roadway	45.8	77.6
% Developed (NLCD)	58.7%	63.0%
% Forest (NLCD)	26.5%	23.2%
% Pasture/Hay/Cultivated Crops (NLCD)	8.9%	9.1%
% Other (NLCD)	6.0%	4.7%
% at Flood Risk	6.2%	6.9%
2023 Total Businesses (NAICS)	85	487
2023 Total Employees (NAICS)	1,511	7,569

Compared to other station territories: Station 17 has the third lowest miles of roadway, is tied for the third lowest percentage of land at risk of flooding, has the second lowest number of total businesses, and has the third lowest number of employees.

Station 17 Fire by Classification and Property Type - 2021 to 2023

Property Type	NFIRS Fire Classification					Grand Total
	Structure	Natural vegetation	Vehicle	Outside rubbish	Other	
1 or 2 family dwelling	19	3	1		1	**24**
Graded and cared-for plots of land		6	1	3	1	**11**
Vehicle parking area			6	1		**7**
Residential street, road or residential driveway	1	2	2	1		**6**
Multifamily dwelling	6					**6**
Open land or field		6				**6**
Highway or divided highway		1	4			**5**
Elementary school, including kindergarten	2				2	**4**
Playground	1			2		**3**
Outside or special property, other		1		1	1	**3**
Other	4	1		2		**7**
Grand Total	**33**	**20**	**14**	**10**	**5**	**82**

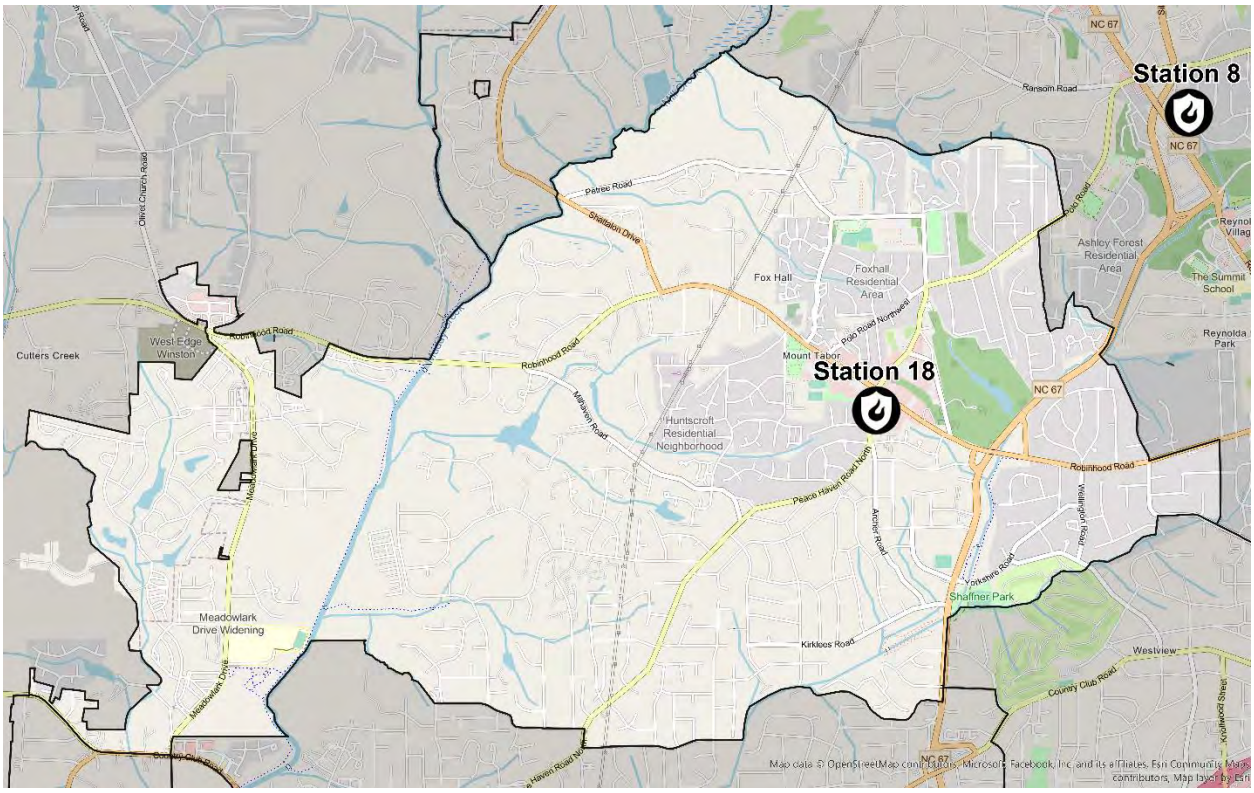
Station 17 All Incidents - 2021 to 2023

Incident Type	Number of Incidents
Emergency medical service (EMS) incident	1,075
Medical assist	273
Public service assistance	222
Dispatched and canceled en route	193
Unintentional system/detector operation (no fire)	149
Electrical wiring/equipment problem	50
System or detector malfunction	47
Wrong location, no emergency found	40
Structure Fire	33
Steam, other gas mistaken for smoke	31
Combustible/flammable spills & leaks	28
Excessive heat, scorch burns with no ignition	25
Accident, potential accident	25
Good intent call, other	22
Natural vegetation fire	20
Rescue, emergency medical call (EMS), other	15
Mobile property (vehicle) fire	14
Water problem	13
Chemical release, reaction, or toxic condition	13
Unauthorized burning	12
Outside rubbish fire	10
Grand Total	**2,385**

The average station territory had 2,746 emergency medical service (EMS) incidents, 684 unintentional system/detector operation (no fire), 413 medical assists, 78 structure fires, and 5,890 total incidents.

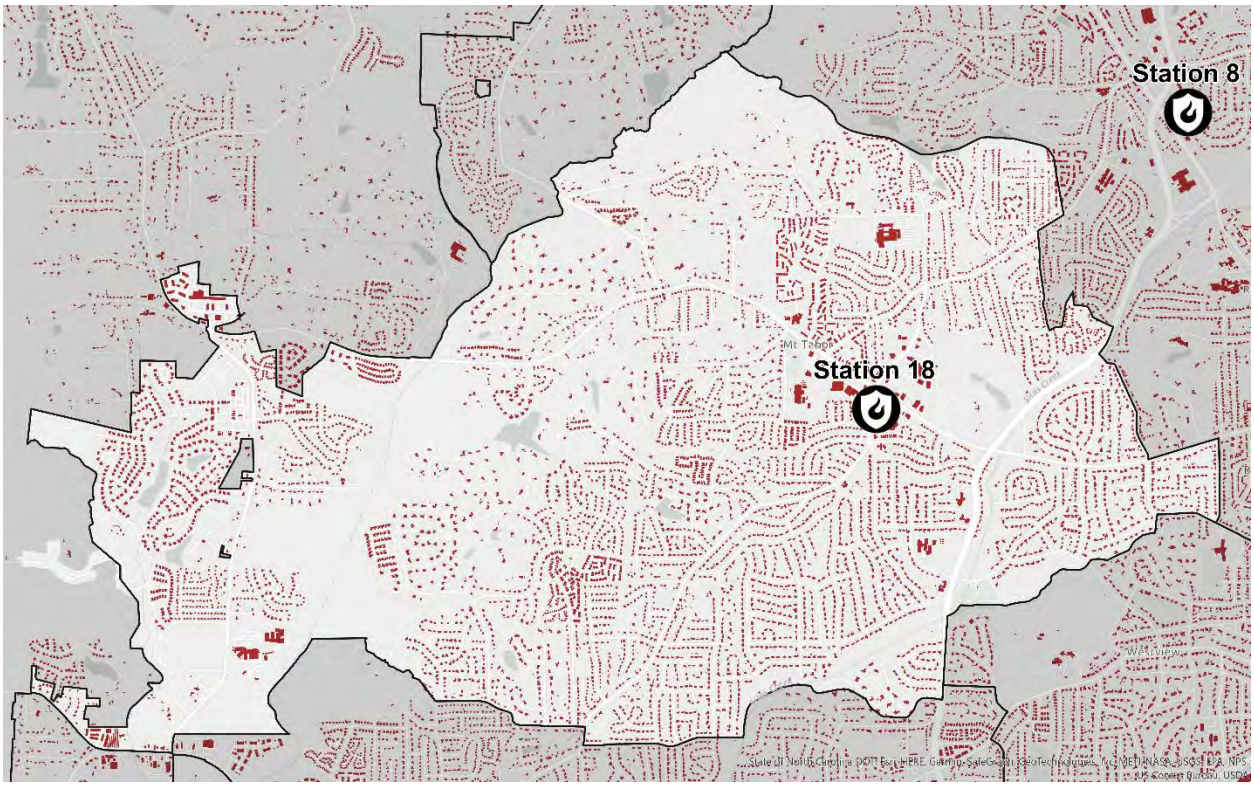
Station 18

Fire Station 18, also known as the Robert S. Northington Jr. Fire Station, was constructed in 1993, and is a two bay, one-story building. The station houses two apparatus including Engine 18 and Ladder 18. The station is assigned and fully staffed by nine personnel, with a minimum of seven.



Located at 1505 North Peacehaven Road, Station 18 is positioned in proximity to a public high school, behind a grocery store, and surrounded by residential homes. The area comprises a mix of homes and businesses, ranging from 800 square foot residences to 8000 square foot establishments. This station serves a diverse territory encompassing various construction types, each presenting distinct challenges. Station 18 is centrally located between the old Sherwood and New Sherwood communities, situated on the West side of Winston-Salem.

The station receives support from neighboring stations, including Engine 8, Engine 10, Engine 15, and the Vienna Fire Department. Engine 8 is situated to the northeast, Engine 10 to the south, Engine 15 to the north, and the Vienna Fire Department to the west of Station 18. Major roadways within the cluster include Robinhood Road, Highway 421, Polo Road, Peace Haven Road, Highway 40, and Silas Creek Pkwy, connecting the area effectively.



Risk factors in the region include several apartment complexes, schools, and a strip mall. Single-family dwellings and apartments are prevalent, with high-end homes like those in the Brookberry Farm community and Bent Tree Farms boasting homes up to 8000 square feet. The territory serves as the location for four public schools. The presence of a natural gas pipeline along the Muddy Creek Greenway and sewage lines under roads adds infrastructure complexities. The territory features medical facilities like family doctors' offices, and fire hazards arise from apartment complexes, while non-fire hazards relate to traffic accidents on busy roads like Silas Creek Pkwy.

Station 18's territory includes access points to the Muddy Creek and Silas Creek greenways, utilized for recreation. Major thoroughfares like Silas Creek Pkwy handle commuter traffic, and commercial enterprises are clustered along Robinhood Road.

Demographic Data	Station 18	Average
2023 Total Population	18,571	12,767
2023 Population Density (per sq mi)	1,984	1,929
2023 Daytime Population Workers	4,561	7,771
2023 Daytime Population Residents	9,372	7,140
2023 Daytime Population Density (per sq mi)	1,488	2,580
2020 to 2023 Population Growth Rate	1.1%	0.7%
2023 % White Population	77%	45%
2023 % Black Population	8%	33%
2023 % Asian Population	5%	3%
2023 % Population of 2 Races	7%	8%
2023 % Other Race Population	2%	12%
2021 % Speak Only English	90.6%	83.4%
2021 % Speak Spanish & No/Limited English	0.2%	2.6%
2021 % Speak Other & No/Limited English	0.5%	0.4%
2021 % Households w/1 Person w/Disability	17%	23%
2023 % Pop. Age 25: <9th Grade	1%	4%
2023 % Pop. Age 25: High School No Diploma	2%	6%
2023 % Pop. Age 25: GED	1%	4%
2023 % Pop. Age 25: High School Diploma	8%	23%
2023 % Pop. Age 25: Some College No Degree	11%	19%
2023 % Pop. Age 25: Associate's Degree	5%	8%
2023 % Pop. Age 25: Bachelor's Degree	35%	21%
2023 % Pop. Age 25: Grad/Professional Degree	36%	15%
2023 Median Household Income	$111,403	$60,600
2023 % Household in Low Income Tier	9.2%	26.9%
2023 % Household in Middle Income Tier	52.1%	59.5%
2023 % Household in Upper Income Tier	38.6%	13.6%
2023 Median Net Worth	$519,656	$143,319

Compared to other station territories: Station 18 has the third lowest percentage of the population that speak Spanish and no or limited English, the second lowest percentage of households with at least one person with a disability, the lowest percentage of adults with less than a 9th grade education, the second lowest percentage of adults without a high school diploma or GED, the highest percentage with a bachelor's degree, the second highest percentage with a graduate or professional degree, the second highest median household income, the lowest percentage of

households in the low income tier, the second highest percentage in the upper income tier, and the second highest median net worth.

Housing Data	Station 18	Average
2023 Total Housing Units	7,947	5,745
2023 Owner Occupied Housing Units	6,046	2,879
2023 Renter Occupied Housing Units	1,499	2,362
2023 Vacant Housing Units	402	504
2021 Median Year House Built	1984	1977
2023 Average Home Value	$397,217	$266,825
2021 Housing 1 Unit in Structure	6,365	3,653
2021 Housing 2 Units in Structure	26	94
2021 Housing 3 or 4 Units in Structure	382	264
2021 Housing 5 to 9 Units in Structure	423	479
2021 Housing 10 to 19 Units in Structure	694	538
2021 Housing 20 to 49 Units in Structure	32	159
2021 Housing 50 Units in Structure	24	240
2021 Housing Mobile Homes	10	111

Compared to other station territories: Station 18 has the third highest average home value, the most single unit, detached housing units, and the least mobile homes.

Other Data	Station 18	Average
Square Miles	9.4	6.7
Miles of Roadway	111.5	77.6
% Developed (NLCD)	61.0%	63.0%
% Forest (NLCD)	25.5%	23.2%
% Pasture/Hay/Cultivated Crops (NLCD)	8.6%	9.1%
% Other (NLCD)	4.9%	4.7%
% at Flood Risk	8.3%	6.9%
2023 Total Businesses (NAICS)	469	487
2023 Total Employees (NAICS)	4,046	7,569

Compared to other station territories: Station 18 is the third largest territory in terms of square miles, has the second most miles of roadway, and is tied for the highest percentage of land at risk of flooding.

Station 18 Fire by Classification and Property Type - 2021 to 2023

Property Type	NFIRS Fire Classification						Grand Total
	Structure	Natural vegetation	Vehicle	Outside rubbish	Special outside	Other	
1 or 2 family dwelling	33	3	1	1	2	1	**41**
Graded and cared-for plots of land		14	1		1		**16**
Multifamily dwelling	13						**13**
Residential street, road or residential driveway		2	7	3			**12**
Vehicle parking area			4	4			**8**
Open land or field		5					**5**
High school/junior high school/middle school	3	1					**4**
Restaurant or cafeteria	2	1					**3**
Outbuilding or shed	1			1			**2**
Food and beverage sales, grocery store	2						**2**
Street or road in commercial area			1		1		**2**
Highway or divided highway		2					**2**
Outside or special property, other		1			1		**2**
Other	2	2	1	1	2		**8**
Grand Total	**56**	**31**	**15**	**10**	**7**	**1**	**120**

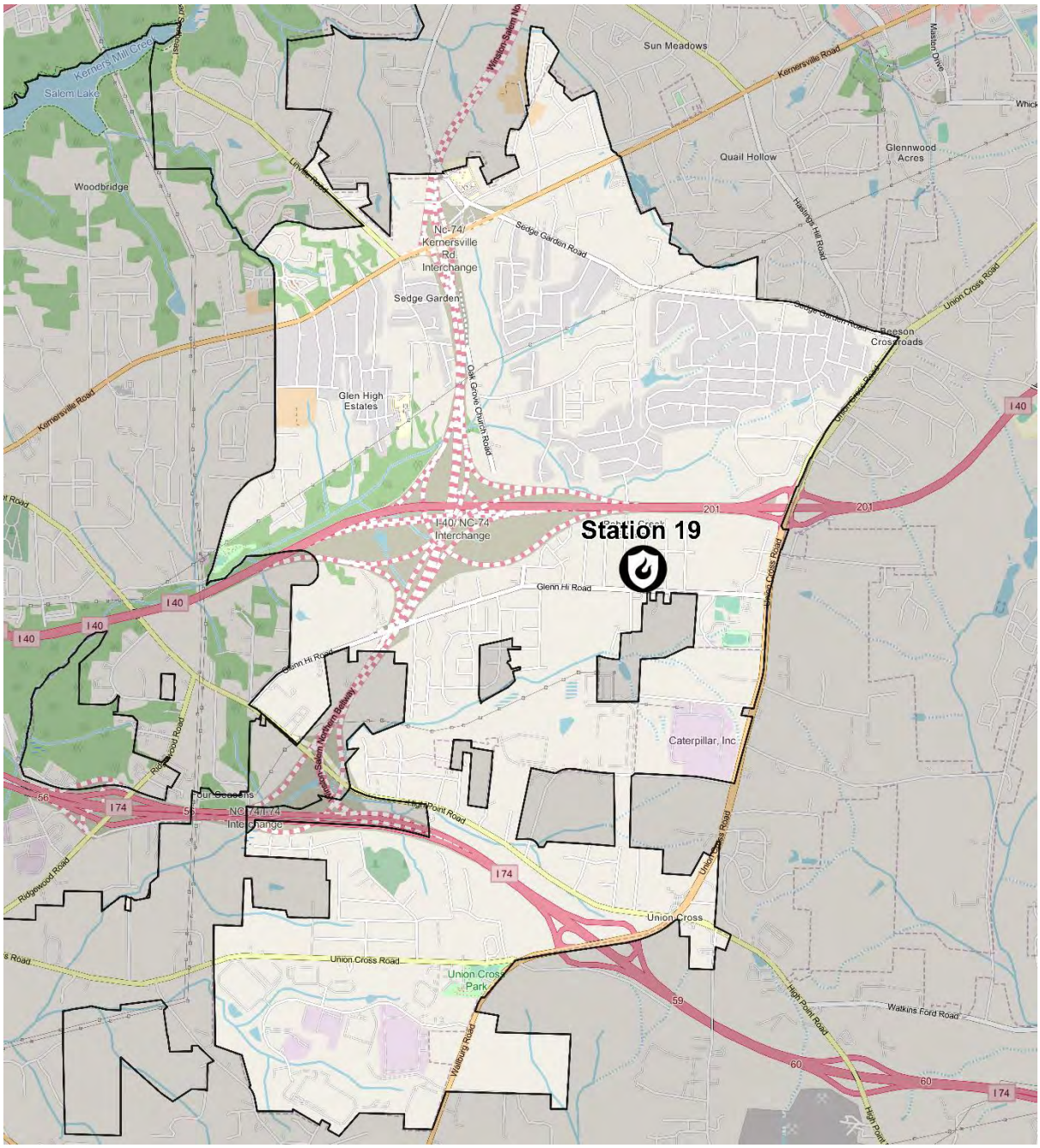
Station 18 All Incidents - 2021 to 2023

Incident Type	Number of Incidents
Emergency medical service (EMS) incident	1,669
Unintentional system/detector operation (no fire)	577
Public service assistance	468
Medical assist	183
Electrical wiring/equipment problem	158
Dispatched and canceled en route	156
System or detector malfunction	151
Wrong location, no emergency found	126
Steam, other gas mistaken for smoke	81
Combustible/flammable spills & leaks	76
Structure Fire	56
Accident, potential accident	35
Good intent call, other	31
Natural vegetation fire	31
Water problem	30
Service call, other	30
Chemical release, reaction, or toxic condition	28
Excessive heat, scorch burns with no ignition	26
Unauthorized burning	23
Controlled burning	17
False alarm and false call, other	16
Mobile property (vehicle) fire	15
Malicious, mischievous false alarm	15
Person in distress	14
Extrication, rescue	12
HazMat release investigation w/no HazMat	12
Smoke, odor problem	11
Flammable gas or liquid condition, other	11
Lock-In	10
Outside rubbish fire	10
Grand Total	**4,104**

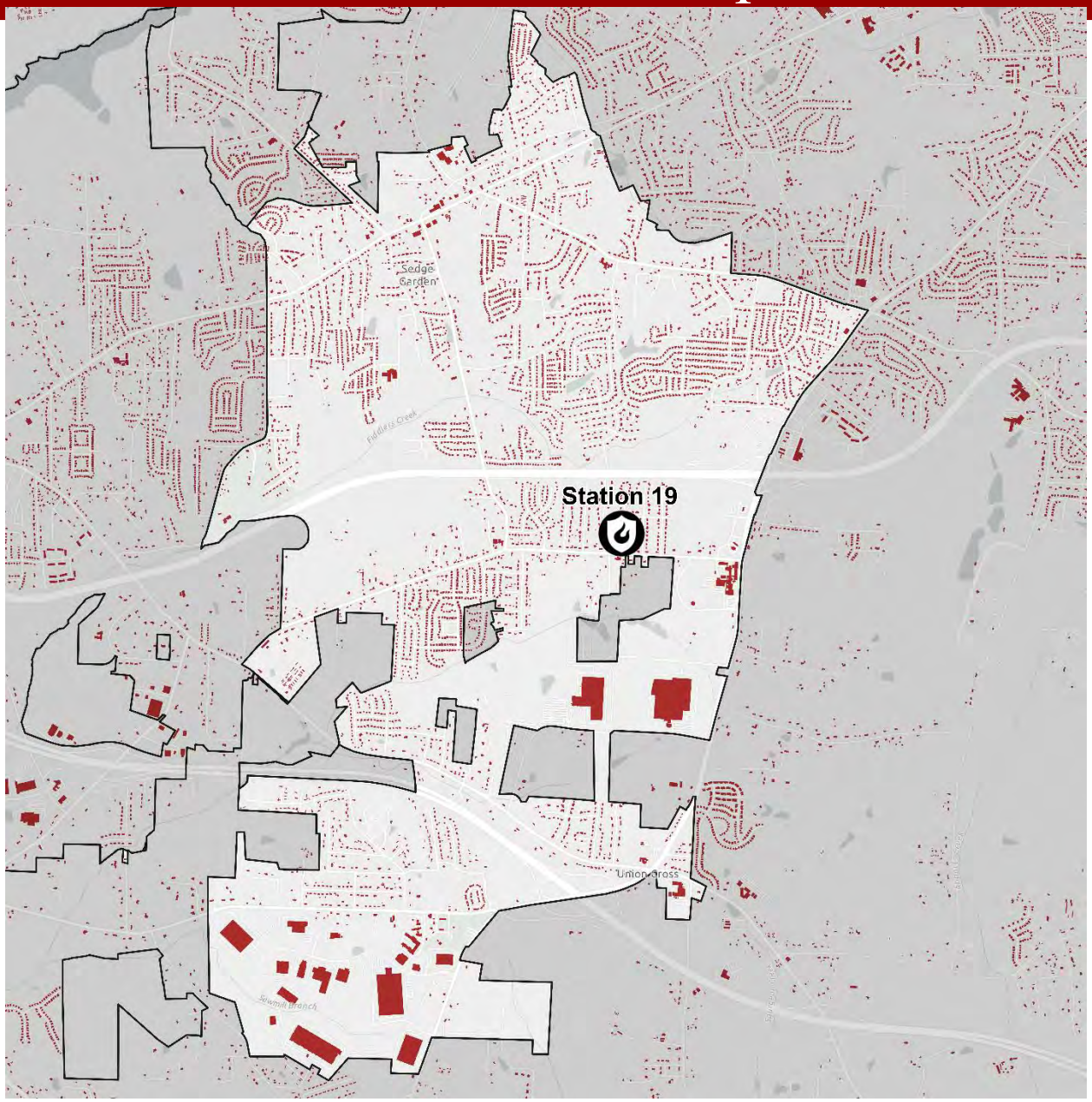
The average station territory had 2,746 emergency medical service (EMS) incidents, 684 unintentional system/detector operation (no fire), 413 medical assists, 78 structure fires, and 5,890 total incidents.

Station 19

Fire Station 19 was constructed in 2013, and is a 10,000 square foot, two bay, two-story building. The station houses two apparatus including Ladder 19 and the Glenn High School Fire Academy Engine. The station is assigned and fully staffed by four personnel, with a minimum of three.



Located at 4430 Glen High Road, Station 19's response district is situated in the southeastern part of the city, serving as a suburban community that extends its reach to Kernersville, High Point, and Greensboro. The district is characterized by a mix of residential, business, rural, and agricultural areas. Surrounding support comes from neighboring stations, with Stations 11, 17, 5, and 11 providing initial assistance during emergencies. The district extends westward, bordering Station 11 at the intersection of Glenn High Road and High Point Road, while the southern border at Wallburg Road and Gumtree Road is supported by Station 11 and Forsyth County Fire Station 28. To the east, Union Cross Road and Sedge Garden Road are supported by Station 17 and Forsyth County Fire Station 26, and to the north, assistance comes from Station 17 at Kernersville Road and Prince Edward Road.



Critical facilities and public buildings include manufacturing facilities, public schools, and local churches. The Forsyth County Schools System is also represented within the district. There are areas of the territory on a section of Kernersville Road between Sedge Garden Road and Old Winston Road that encounter occasional flooding during heavy rain. Station 19 also faces challenges with residential homes featuring private bridges that don't meet NC DOT requirements for heavy vehicles, situated off High Point Road between Union Cross Road and Glenn High Road on the south side.

Demographic Data	Station 19	Average
2023 Total Population	10,389	12,767
2023 Population Density (per sq mi)	1,267	1,929
2023 Daytime Population Workers	3,070	7,771
2023 Daytime Population Residents	5,451	7,140
2023 Daytime Population Density (per sq mi)	1,039	2,580
2020 to 2023 Population Growth Rate	0.3%	0.7%
2023 % White Population	66%	45%
2023 % Black Population	17%	33%
2023 % Asian Population	2%	3%
2023 % Population of 2 Races	8%	8%
2023 % Other Race Population	6%	12%
2021 % Speak Only English	88.7%	83.4%
2021 % Speak Spanish & No/Limited English	1.0%	2.6%
2021 % Speak Other & No/Limited English	0.1%	0.4%
2021 % Households w/1 Person w/Disability	24%	23%
2023 % Pop. Age 25: <9th Grade	2%	4%
2023 % Pop. Age 25: High School No Diploma	3%	6%
2023 % Pop. Age 25: GED	2%	4%
2023 % Pop. Age 25: High School Diploma	25%	23%
2023 % Pop. Age 25: Some College No Degree	25%	19%
2023 % Pop. Age 25: Associate's Degree	11%	8%
2023 % Pop. Age 25: Bachelor's Degree	21%	21%
2023 % Pop. Age 25: Grad/Professional Degree	10%	15%
2023 Median Household Income	$87,362	$60,600
2023 % Household in Low Income Tier	10.2%	26.9%
2023 % Household in Middle Income Tier	73.0%	59.5%
2023 % Household in Upper Income Tier	16.8%	13.6%
2023 Median Net Worth	$248,511	$143,319

Compared to other station territories: Station 19 has the third lowest population density, the second lowest daytime population density, the third highest median household income, and the second lowest percentage of the population in the low-income tier.

Housing Data	Station 19	Average
2023 Total Housing Units	4,167	5,745
2023 Owner Occupied Housing Units	3,380	2,879
2023 Renter Occupied Housing Units	605	2,362
2023 Vacant Housing Units	182	504
2021 Median Year House Built	1992	1977
2023 Average Home Value	$224,453	$266,825
2021 Housing 1 Unit in Structure	3,431	3,653
2021 Housing 2 Units in Structure	12	94
2021 Housing 3 or 4 Units in Structure	3	264
2021 Housing 5 to 9 Units in Structure	41	479
2021 Housing 10 to 19 Units in Structure	1	538
2021 Housing 20 to 49 Units in Structure	1	159
2021 Housing 50 Units in Structure	20	240
2021 Housing Mobile Homes	195	111

Compared to other station territories: Station 19 has the third lowest number of renter-occupied housing units, the third newest housing stock in terms of median year built, the lowest number of housing units in structures with 10 to 19 units, and the second lowest number of housing units in structures with 20 to 49 units.

Other Data	Station 19	Average
Square Miles	8.2	6.7
Miles of Roadway	75.7	77.6
% Developed (NLCD)	40.4%	63.0%
% Forest (NLCD)	33.0%	23.2%
% Pasture/Hay/Cultivated Crops (NLCD)	19.2%	9.1%
% Other (NLCD)	7.4%	4.7%
% at Flood Risk	6.5%	6.9%
2023 Total Businesses (NAICS)	140	487
2023 Total Employees (NAICS)	2,080	7,569

Compared to other station territories: Station 19 has the lowest percentage of developed land.

Station 19 Fire by Classification and Property Type - 2021 to 2023

Property Type	NFIRS Fire Classification					Grand Total
	Structure	Vehicle	Natural vegetation	Outside rubbish	Special outside	
1 or 2 family dwelling	21	1	1	3		26
Residential street, road or residential driveway	1	10		1		12
Highway or divided highway		7	4			11
Graded and cared-for plots of land		2	5	1	1	9
Open land or field			6	1		7
Street or road in commercial area			3			3
Vehicle parking area		2		1		3
Outbuilding, protective shelter	1				1	2
Other	2	1	1	1	1	6
Grand Total	**25**	**23**	**20**	**8**	**3**	**79**

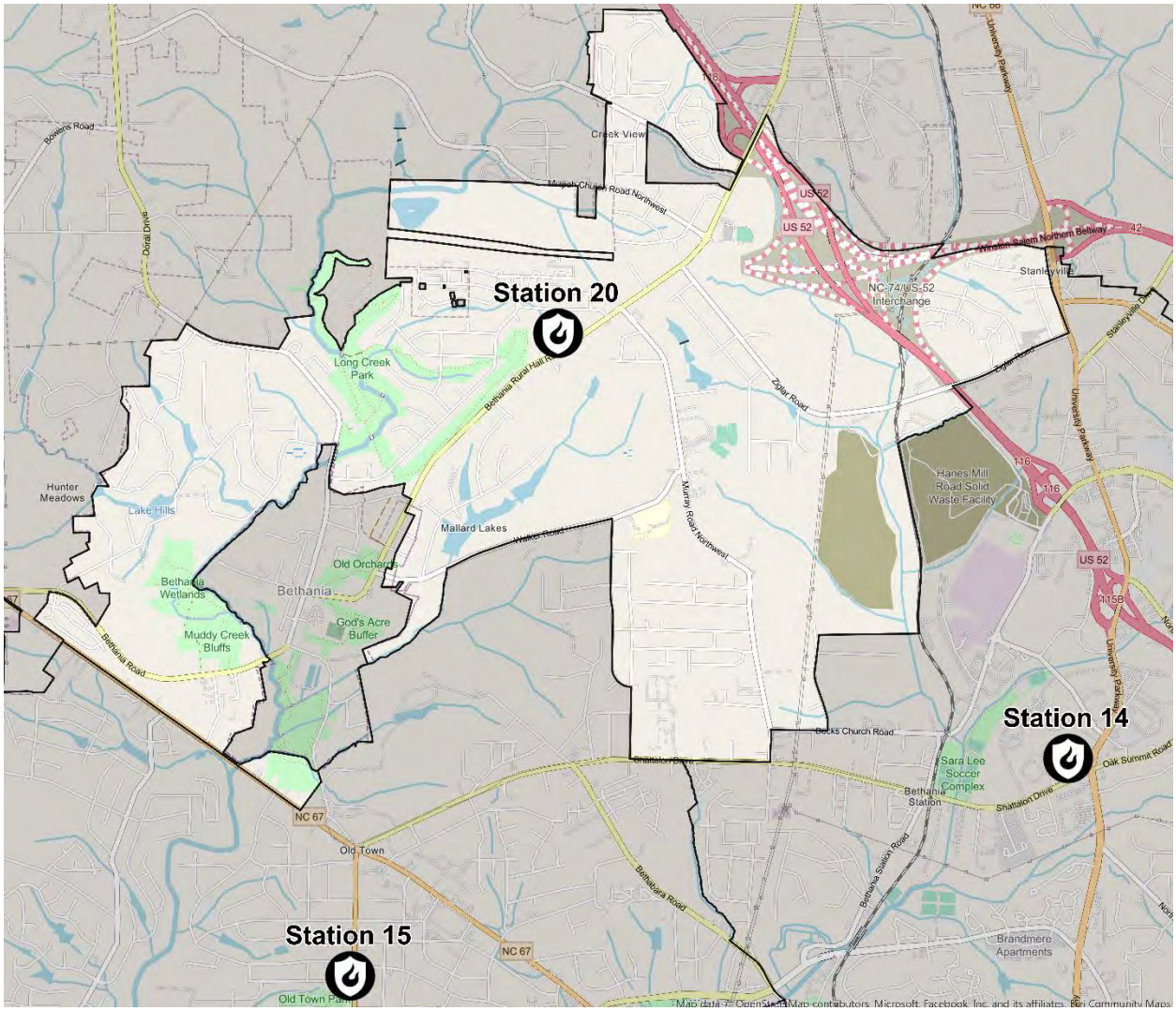
Station 19 All Incidents - 2021 to 2023

Incident Type	Number of Incidents
Emergency medical service (EMS) incident	1,038
Medical assist	255
Unintentional system/detector operation (no fire)	242
Public service assistance	232
Dispatched and canceled en route	152
System or detector malfunction	94
Electrical wiring/equipment problem	46
Steam, other gas mistaken for smoke	45
Wrong location, no emergency found	44
Combustible/flammable spills & leaks	41
Service call, other	27
Structure Fire	25
Accident, potential accident	25
Good intent call, other	23
Mobile property (vehicle) fire	23
Person in distress	22
Natural vegetation fire	20
Unauthorized burning	18
Malicious, mischievous false alarm	16
Chemical release, reaction, or toxic condition	11
Water problem	11
Extrication, rescue	10
Grand Total	**2,499**

The average station territory had 2,746 emergency medical service (EMS) incidents, 684 unintentional system/detector operation (no fire), 413 medical assists, 78 structure fires, and 5,890 total incidents.

Station 20

Fire Station 20, also known as the Koger Fire Station, was constructed in 2009, and is a 15,000 square foot, two bay, one-story building. The station houses two apparatus including Engine 20 and Rescue 2. The station is assigned and fully staffed by four personnel, with a minimum of three.



Positioned at 5991 Koger Lane, Station 20 operates within the north/northwest region of the city. The response territory encompasses a blend of mixed-use elements, including somewhat rural residential areas, historic districts, and scattered commercial and educational structures.

Station 20 benefits from support on all sides. The Old Richmond fire district and the historic Bethania region extends to the west, Rural Hall Fire Department borders the north and northeast, and Stations 14 and 15 aid the south. Essential roadways that connect the cluster include Reynolda Road, Bethania-Rural Hall Road, Murray Road, Walker Road, and US Highway 52.

Risk factors within Station 20's jurisdiction revolve around critical facilities and public buildings, with particular focus on schools, churches, businesses, and larger structures that demand extended supply line distances and hand line deployments. The northwest area of the response territory presents challenges, featuring narrow roads, one-lane bridges, and steep, inaccessible driveways. Single-family dwellings, mostly distanced from the roadway, compose most of the territory. Other considerations include the rural nature of certain residences, often hindered by narrow driveways and sloped lots that limit accessibility. Although hydrants are widespread throughout the territory, some areas require lengthy hydrant lays, relay pumping, or tankers from neighboring departments.

Demographic Data	Station 20	Average
2023 Total Population	6,027	12,767
2023 Population Density (per sq mi)	925	1,929
2023 Daytime Population Workers	970	7,771
2023 Daytime Population Residents	3,382	7,140
2023 Daytime Population Density (per sq mi)	668	2,580
2020 to 2023 Population Growth Rate	2.3%	0.7%
2023 % White Population	60%	45%
2023 % Black Population	22%	33%
2023 % Asian Population	1%	3%
2023 % Population of 2 Races	7%	8%
2023 % Other Race Population	9%	12%
2021 % Speak Only English	88.9%	83.4%
2021 % Speak Spanish & No/Limited English	0.4%	2.6%
2021 % Speak Other & No/Limited English	0.4%	0.4%
2021 % Households w/1 Person w/Disability	24%	23%
2023 % Pop. Age 25: <9th Grade	3%	4%
2023 % Pop. Age 25: High School No Diploma	7%	6%
2023 % Pop. Age 25: GED	3%	4%
2023 % Pop. Age 25: High School Diploma	29%	23%
2023 % Pop. Age 25: Some College No Degree	19%	19%
2023 % Pop. Age 25: Associate's Degree	10%	8%
2023 % Pop. Age 25: Bachelor's Degree	18%	21%
2023 % Pop. Age 25: Grad/Professional Degree	12%	15%
2023 Median Household Income	$73,316	$60,600
2023 % Household in Low Income Tier	18.4%	26.9%
2023 % Household in Middle Income Tier	67.7%	59.5%
2023 % Household in Upper Income Tier	13.9%	13.6%
2023 Median Net Worth	$227,821	$143,319

Compared to other station territories: Station 20 has the third lowest total population, the lowest population density, the second lowest daytime worker population, the second lowest daytime resident population, the lowest daytime population density, and had the highest population growth rate from 2020 to 2023.

Housing Data	Station 20	Average
2023 Total Housing Units	2,533	5,745
2023 Owner Occupied Housing Units	1,998	2,879
2023 Renter Occupied Housing Units	400	2,362
2023 Vacant Housing Units	135	504
2021 Median Year House Built	1979	1977
2023 Average Home Value	$242,693	$266,825
2021 Housing 1 Unit in Structure	2,026	3,653
2021 Housing 2 Units in Structure	13	94
2021 Housing 3 or 4 Units in Structure	110	264
2021 Housing 5 to 9 Units in Structure	50	479
2021 Housing 10 to 19 Units in Structure	71	538
2021 Housing 20 to 49 Units in Structure	15	159
2021 Housing 50 Units in Structure	7	240
2021 Housing Mobile Homes	79	111

Compared to other station territories: Station 20 has the third lowest number of housing units, the second lowest number of renter occupied housing units, the second lowest number of vacant housing units, and the lowest number of housing units in structures with 50 or more units.

Other Data	Station 20	Average
Square Miles	6.5	6.7
Miles of Roadway	47.2	77.6
% Developed (NLCD)	45.1%	63.0%
% Forest (NLCD)	36.2%	23.2%
% Pasture/Hay/Cultivated Crops (NLCD)	12.8%	9.1%
% Other (NLCD)	6.0%	4.7%
% at Flood Risk	6.1%	6.9%
2023 Total Businesses (NAICS)	70	487
2023 Total Employees (NAICS)	1,084	7,569

Compared to other station territories: Station 20 has the third lowest percentage of developed land, is tied for the least percentage of land subject to flooding, and has the lowest number of both total businesses and total employees.

Station 20 Fire by Classification and Property Type - 2021 to 2023

Property Type	NFIRS Fire Classification						Grand Total
	Structure	Vehicle	Natural vegetation	Outside rubbish	Mobile homes	Other	
1 or 2 family dwelling	11		3	1	1	2	**18**
Vehicle parking area		5		1			**6**
Residential street, road or residential driveway		3	1				**4**
Open land or field	1		3				**4**
Highway or divided highway		3	1				**4**
Outbuilding or shed	3						**3**
High school/junior high school/middle school	2						**2**
Graded and cared-for plots of land			2				**2**
Outside or special property, other			2				**2**
Other	3	3	1	1			**8**
Grand Total	**20**	**14**	**13**	**3**	**1**	**2**	**53**

Station 20 All Incidents - 2021 to 2023

Incident Type	Number of Incidents
Emergency medical service (EMS) incident	826
Public service assistance	159
Medical assist	137
Unintentional system/detector operation (no fire)	124
Dispatched and canceled en route	96
Electrical wiring/equipment problem	46
System or detector malfunction	44
Wrong location, no emergency found	35
Steam, other gas mistaken for smoke	31
Structure Fire	20
Good intent call, other	16
Excessive heat, scorch burns with no ignition	15
Mobile property (vehicle) fire	14
Combustible/flammable spills & leaks	13
Service call, other	13
Natural vegetation fire	13
Flammable gas or liquid condition, other	12
Accident, potential accident	11
Water problem	11
Grand Total	**1,701**

The average station territory had 2,746 emergency medical service (EMS) incidents, 684 unintentional system/detector operation (no fire), 413 medical assists, 78 structure fires, and 5,890 total incidents.

Section 5: Evaluation of Current Deployment and Performance

The department employs a robust and multifaceted approach to evaluate its deployment strategies and operational performance. Through a comprehensive range of methods, both quantitative and qualitative, the department ensures its emergency response remains effective and continually refined. Response time analysis is conducted to pinpoint any potential delays, while coverage areas are strategically assessed to optimize geographical reach. Call volume analysis informs resource allocation, enabling the department to respond promptly to varying demands. Training exercises and equipment maintenance ensure readiness, with incident debriefings fostering a culture of continuous learning. Community feedback is actively sought, and benchmarking against industry standards guides improvements. By harnessing data analysis, collaborating with other agencies, and assessing community risks, the department remains dedicated to its mission of safeguarding lives and property.

Community Expectations

One method the department utilizes to evaluate current deployment and performance is an assessment of community expectations and feedback. As part of the department's community outreach effort, fifty surveys were distributed and collected at various events and meetings within city limits during the month of June 2023. Selected results from the fifty completed surveys are listed below.

1. Select below which most accurately describes your expectations of Winston-Salem Fire Department personnel: Trained and educated: 45. Professional and respectful: 42. Caring and compassionate: 41. Proactive and progressive: 40. Diverse and inclusive: 36.
2. Currently, our goal is to arrive at the address of a call for service within 9 minutes, starting when the dispatch center answers the phone and ending upon our arrival at the address of incident. Is this an acceptable time frame? Meets expectation: 39. Needs improvement: 6. Undecided: 5.
3. Prioritize the services provided by Winston-Salem Fire Department in order of importance to you using numbers 1 through 8 with 1 being the most important and 8 being the least important: 1. Fire Suppression, 2. Emergency Services, 3. Technical Rescue, 4. Hazardous Material Response, 5. State Water Rescue Team, 6. B.E.A.R. Team (Mental Health Response), 7. Public Education, and 8. Fire Prevention.
4. From a SWOC analysis completed within the department, below are some of the challenges that are identified. Prioritize the challenges facing the Winston-Salem Fire Department in order of importance to you using the numbers 1 through 8, with 1 being most important and 8 being least important: 1. Response travel time to emergencies, 2. Improving Community Services/Risk reduction, 3. Being more visible in the community, 4. Improving youth engagement, 5. Improving the fire department's community cardiac arrest save rate, 6. Lack of training staff and facilities, 7. Increasing minority recruitment, and 8. Improving the Department's Insurance Services Office (ISO) score.

ISO Rating

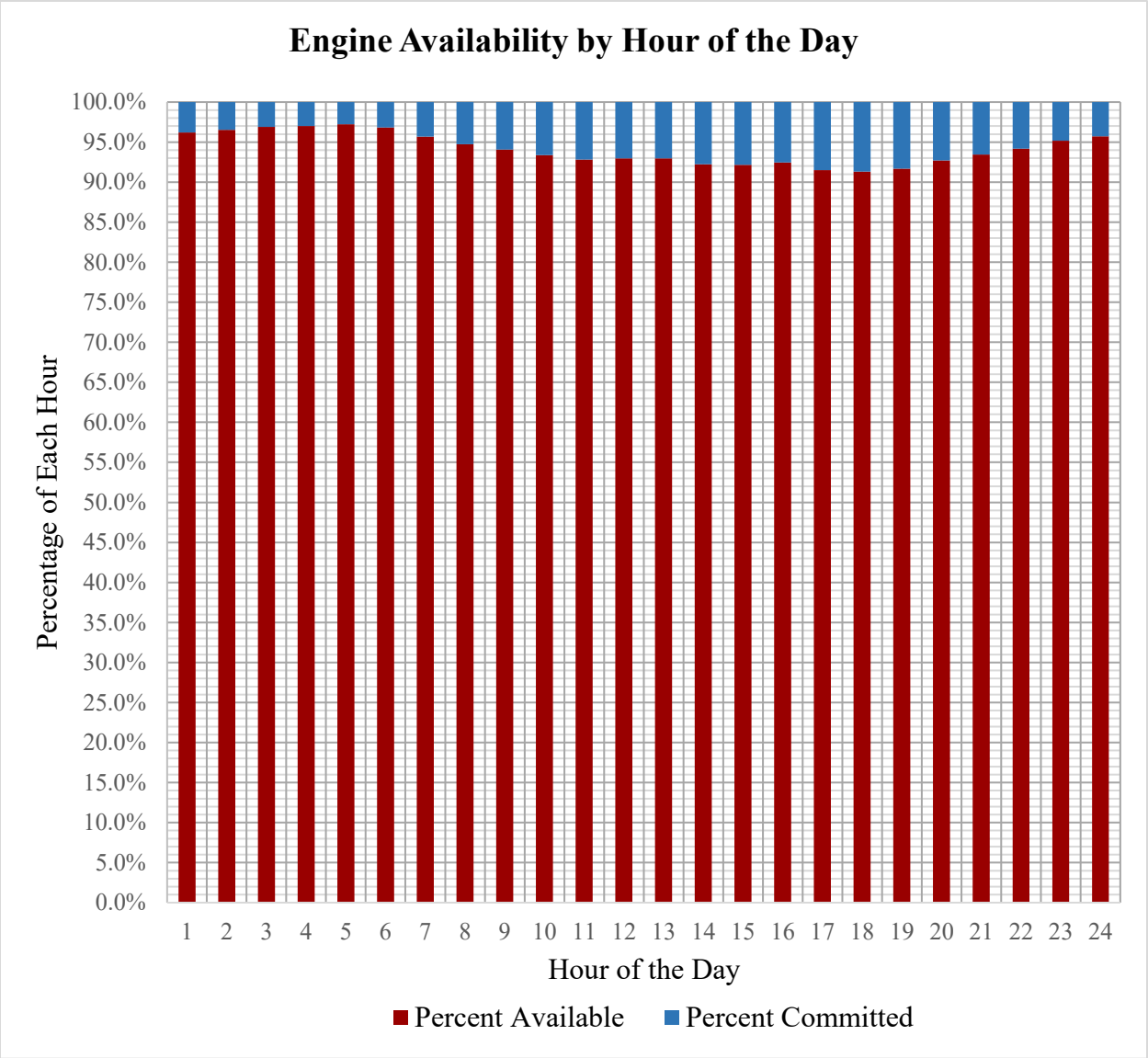
Summary of PPC Review
for
Winston-Salem

FSRS Item	Earned Credit	Credit Available
Emergency Communications		
414. Credit for Emergency Reporting	**2.55**	**3**
422. Credit for Telecommunicators	**4.00**	**4**
432. Credit for Dispatch Circuits	**2.85**	**3**
440. Credit for Emergency Communications	**9.40**	**10**
Fire Department		
513. Credit for Engine Companies	**5.79**	**6**
523. Credit for Reserve Pumpers	**0.38**	**0.5**
532. Credit for Pumper Capacity	**3.00**	**3**
549. Credit for Ladder Service	**2.47**	**4**
553. Credit for Reserve Ladder and Service Trucks	**0.40**	**0.5**
561. Credit for Deployment Analysis	**4.83**	**10**
571. Credit for Company Personnel	**9.89**	**15**
581. Credit for Training	**7.05**	**9**
730. Credit for Operational Considerations	**2.00**	**2**
590. Credit for Fire Department	**35.81**	**50**
Water Supply		
616. Credit for Supply System	**24.96**	**30**
621. Credit for Hydrants	**3.00**	**3**
631. Credit for Inspection and Flow Testing	**7.00**	**7**
640. Credit for Water Supply	**34.96**	**40**
Divergence	**-3.16**	**-**
1050. Community Risk Reduction	**4.31**	**5.5**
Total Credit	**81.32**	**105.5**

Final Community Classification = 02/09

ISO scores, assigned by the Insurance Services Office, assess fire department effectiveness on a 1 to 10 scale. Factors evaluated include fire department capabilities, water supply, communications, community risk reduction, infrastructure, and mutual aid. Lower scores reflect better safety measures, potentially reducing insurance costs for property owners. Approximately 4.7% of fire departments are at or above ISO Class 2.

Unit reliability



This stacked column chart shows the percentage of each hour that the average engine is available for calls (red) or committed on a call (blue).

Incidents by time of day

Hour of the Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	521	388	380	370	399	412	534
2	430	332	323	338	316	316	491
3	396	288	307	282	325	306	387
4	353	293	275	275	277	309	341
5	314	321	288	283	326	297	326
6	355	395	375	350	382	363	321
7	407	526	566	506	501	513	461
8	552	781	695	683	661	684	573
9	612	866	778	799	808	804	659
10	704	937	881	863	943	870	749
11	776	892	940	929	976	932	806
12	784	901	955	934	937	977	885
13	853	918	954	974	917	963	827
14	839	924	965	941	948	1,011	885
15	846	900	911	997	966	972	947
16	792	951	983	971	995	1,033	876
17	942	1,096	1,036	1,128	1,082	1,100	1,026
18	971	1,065	1,074	1,111	1,006	1,114	988
19	922	964	949	976	981	937	1,008
20	834	846	851	864	910	925	944
21	725	748	718	693	820	836	849
22	663	608	650	653	634	751	769
23	524	539	570	533	536	646	680
24	580	432	436	414	442	470	595

This table shows the departments total incidents for 2021 through 2023 by day of the week and hour of the day. By recognizing patterns in emergency incidents, the department can optimize scheduled training, public education, maintenance, and other times out of service. This analysis also informs efficient staff scheduling during anticipated incident surges. Through this analysis, the fire department enhances its responsiveness, resource efficiency, and overall performance while continuously improving its strategies and interventions.

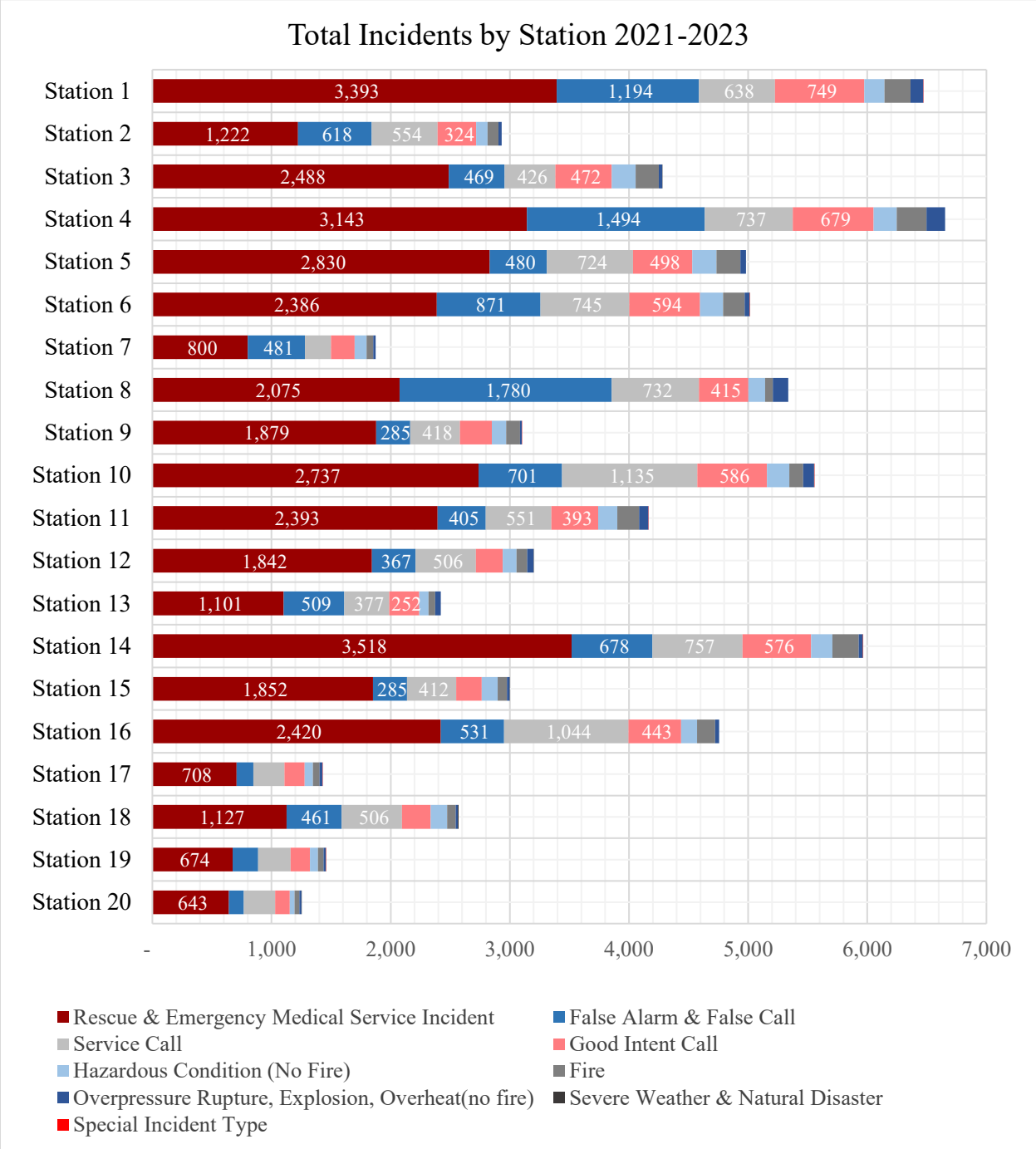
Incidents by Month

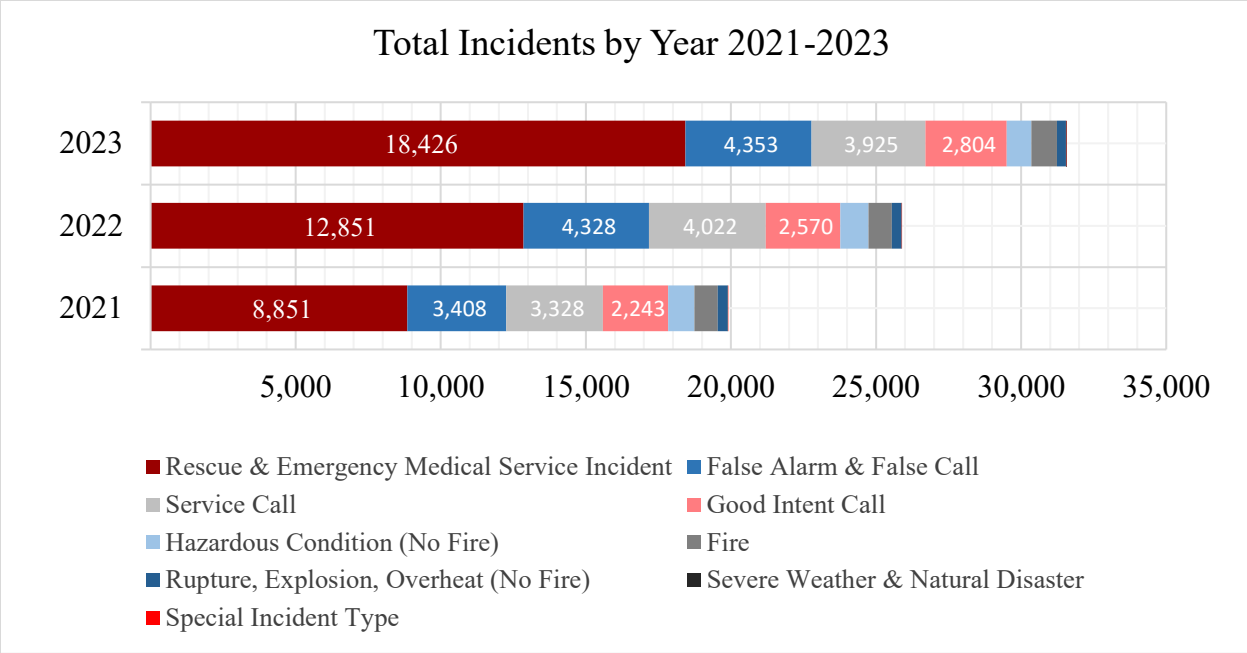
	January	February	March	April	May	June	July	August	September	October	November	December	TOTAL
Station 1	8.8	8.6	8.1	7.1	8.2	7.6	8.2	8.2	9.0	8.8	8.4	9.0	100%
Station 2	9.0	7.9	8.0	8.0	8.2	8.5	8.2	9.2	8.7	8.5	7.8	8.1	100%
Station 3	8.7	8.1	7.9	7.7	8.4	8.2	8.3	8.8	9.0	8.9	7.7	8.3	100%
Station 4	9.0	7.8	8.1	7.9	7.8	7.3	7.9	9.0	9.2	9.6	8.3	8.1	100%
Station 5	9.1	7.9	8.5	7.4	7.9	7.3	8.3	8.3	8.3	8.8	8.9	9.4	100%
Station 6	9.3	8.0	8.6	7.3	8.6	8.4	8.9	8.5	7.9	8.8	7.1	8.7	100%
Station 7	7.6	6.7	6.5	6.6	6.7	6.6	8.0	9.9	9.0	11.5	10.2	10.6	100%
Station 8	8.8	7.9	8.7	7.4	7.1	7.1	7.4	8.6	10.1	10.3	8.3	8.2	100%
Station 9	10.3	7.7	8.0	6.9	7.7	7.8	9.4	8.1	8.6	9.0	7.5	8.8	100%
Station 10	8.9	7.8	7.7	7.5	8.4	7.9	7.9	9.0	8.3	9.1	8.2	9.2	100%
Station 11	8.9	8.4	7.7	7.7	7.7	7.9	8.8	8.4	8.0	8.8	8.1	9.6	100%
Station 12	9.0	8.5	9.3	7.7	8.4	7.6	8.6	8.2	8.3	8.8	7.5	8.0	100%
Station 14	9.4	7.6	9.0	7.9	8.2	8.3	8.3	8.2	8.0	9.0	7.6	8.3	100%
Station 15	10.2	7.1	7.5	7.5	7.7	7.0	8.8	8.7	8.7	9.0	8.5	9.2	100%
Station 16	10.5	7.5	8.5	7.4	7.5	7.6	8.3	8.0	8.0	8.8	8.5	9.2	100%
Station 17	8.8	8.9	8.1	8.2	9.4	8.7	7.8	8.1	8.2	8.1	8.1	7.5	100%
Station 18	8.7	6.9	7.8	7.4	9.0	8.7	9.4	7.9	8.5	8.9	7.7	9.0	100%
Station 19	9.3	8.7	8.6	7.4	8.3	9.9	7.4	7.2	7.6	8.4	8.8	8.5	100%
Station 20	10.2	7.3	8.3	7.6	8.5	8.9	7.6	9.2	7.8	8.0	8.1	8.4	100%

This table displays the percentage of a station territory's incidents that occurred in each month from 2021 through 2023. Generally, the department responded to less incidents in February through June than in other months. By recognizing patterns in emergency incidents, the department can optimize scheduled training, public education, maintenance, and other times out of service. This analysis also informs efficient staff scheduling during anticipated incident surges. Through this analysis, the fire department enhances its responsiveness, resource efficiency, and overall performance while continuously improving its strategies and interventions.

Total incidents

This chart shows the total incidents by station territory for the years 2021 through 2023.

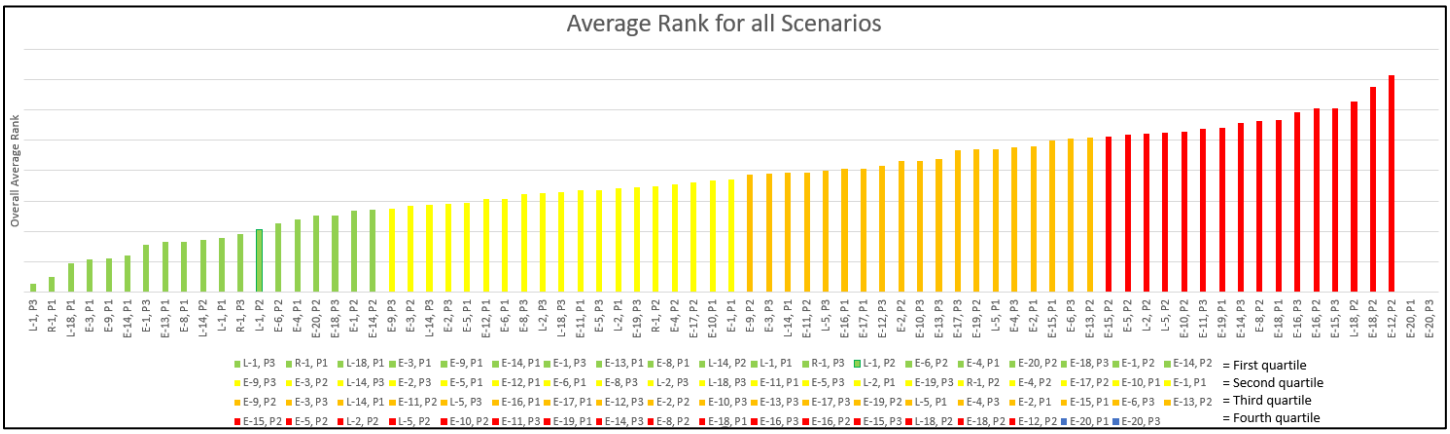


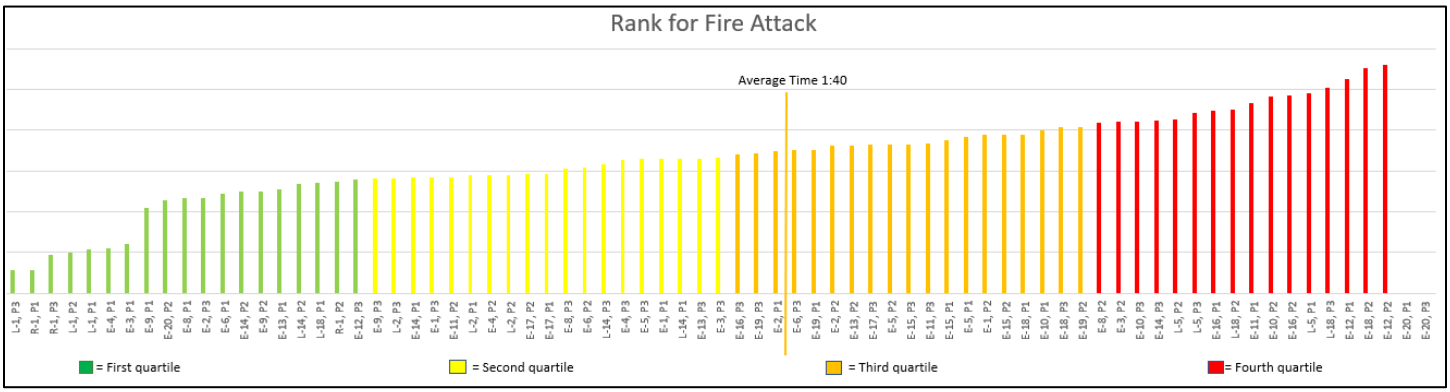


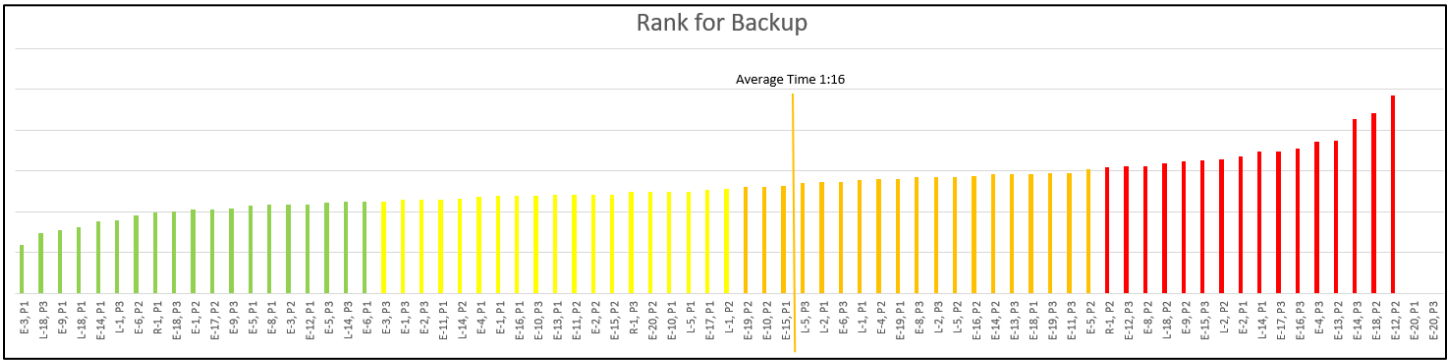
This chart shows the total incidents by year for the years 2021 through 2023. The increase in Rescue & Emergency Medical Service calls in the years 2022 and 2023 reflect a return to pre-COVID-19 dispatch protocols. To reduce exposure to the virus during 2020, department units were only dispatched to the most significant medical calls, including calls for CPR or calls with significant trauma. The department also began running more service calls for lift assistance to help reduce the workload of Forsyth County EMS. Once the worst of the pandemic ended, the department returned to the former dispatch protocols for medical calls, but continued to run service calls for lift assistance.

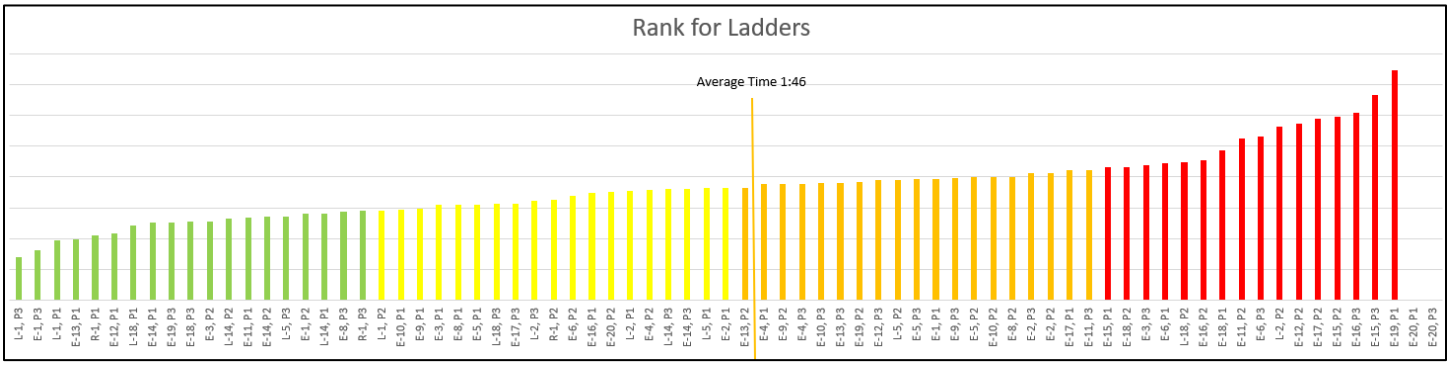
Drill Ground Results

Recognizing the need for additional data to measure the performance of both operations personnel and the training branch, the department began tracking detailed drill ground performance times. The charts below provide an example of the measured times.

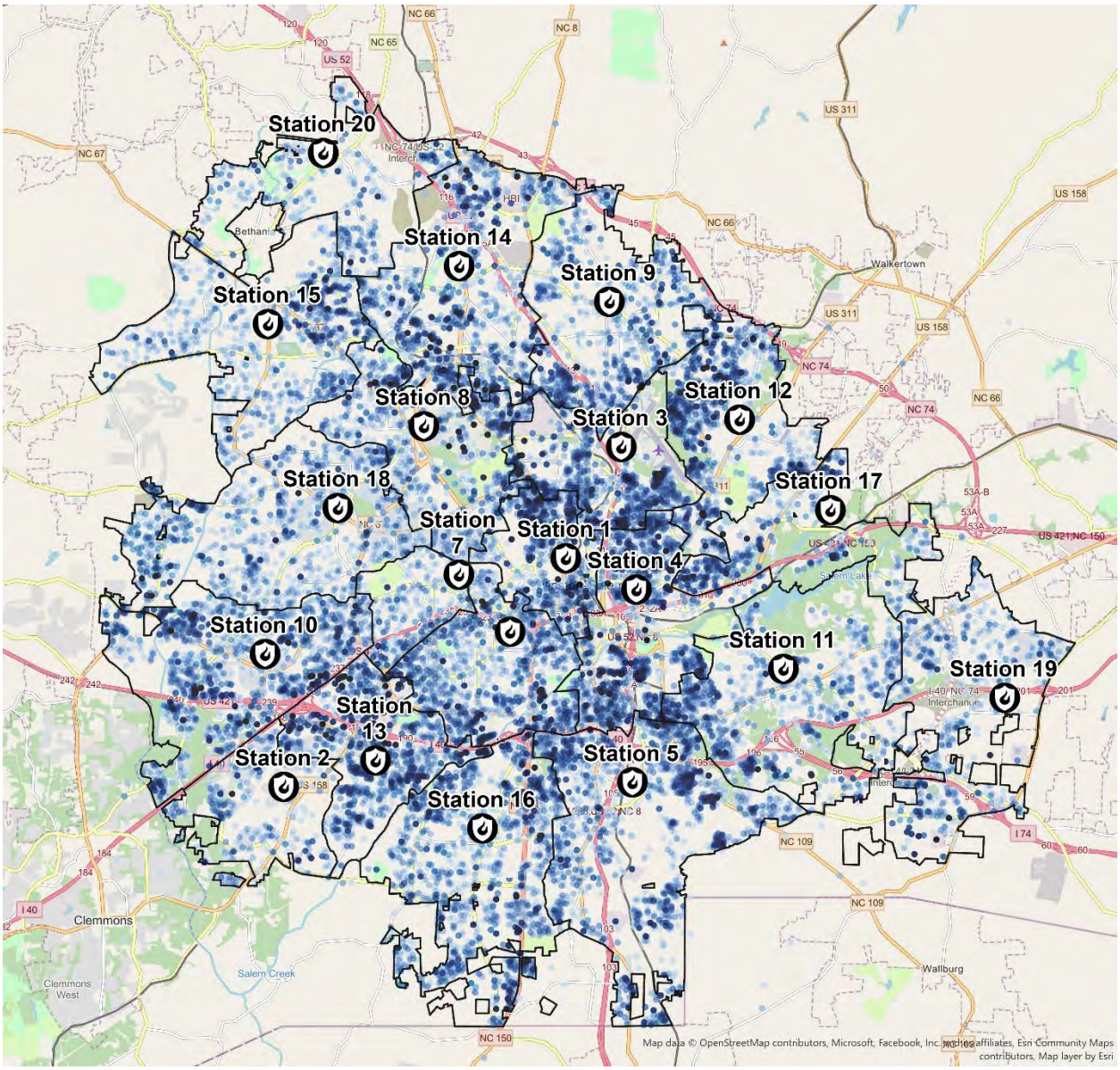






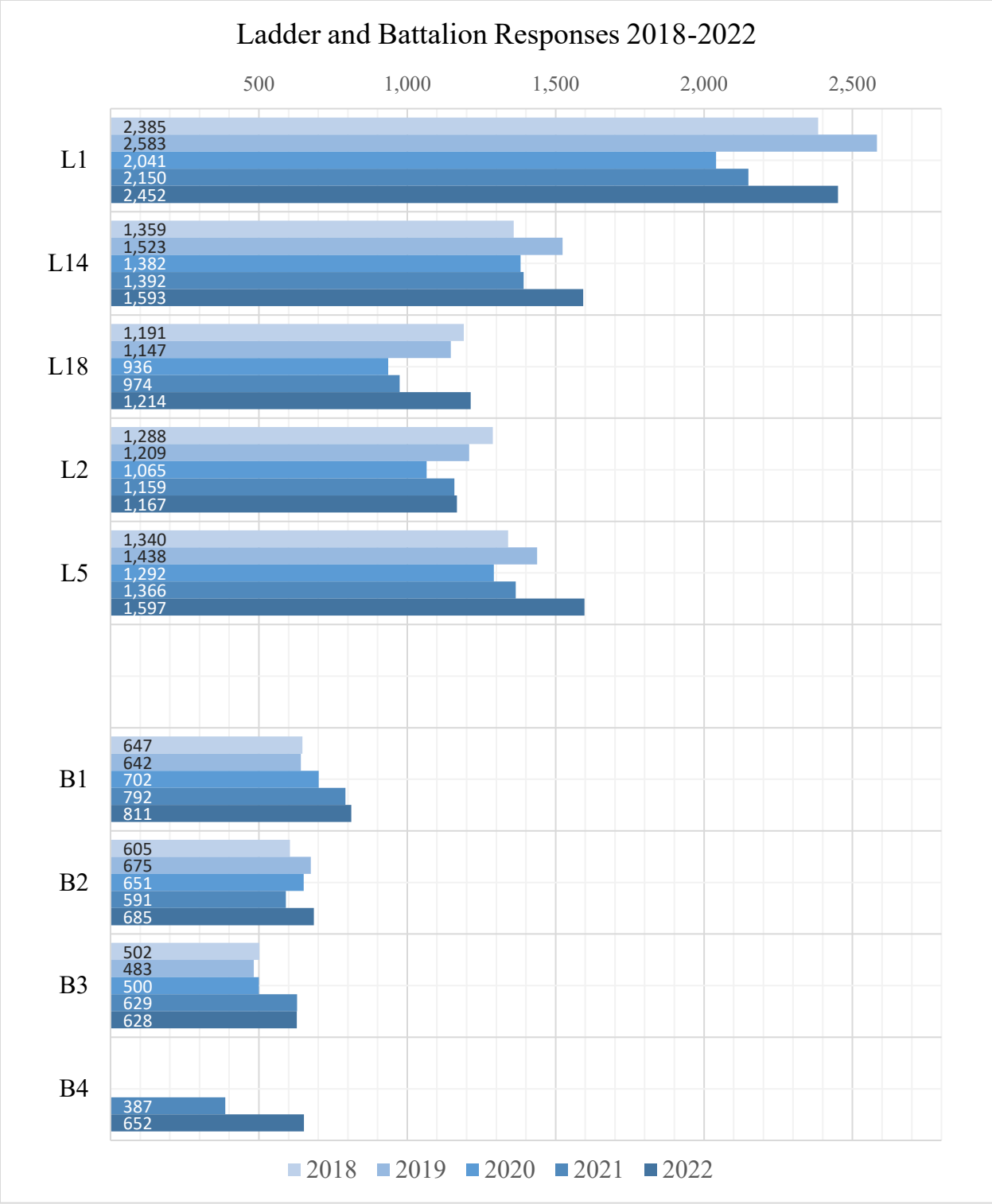


Distribution: Incident Heatmap Outside of Four Minute Travel

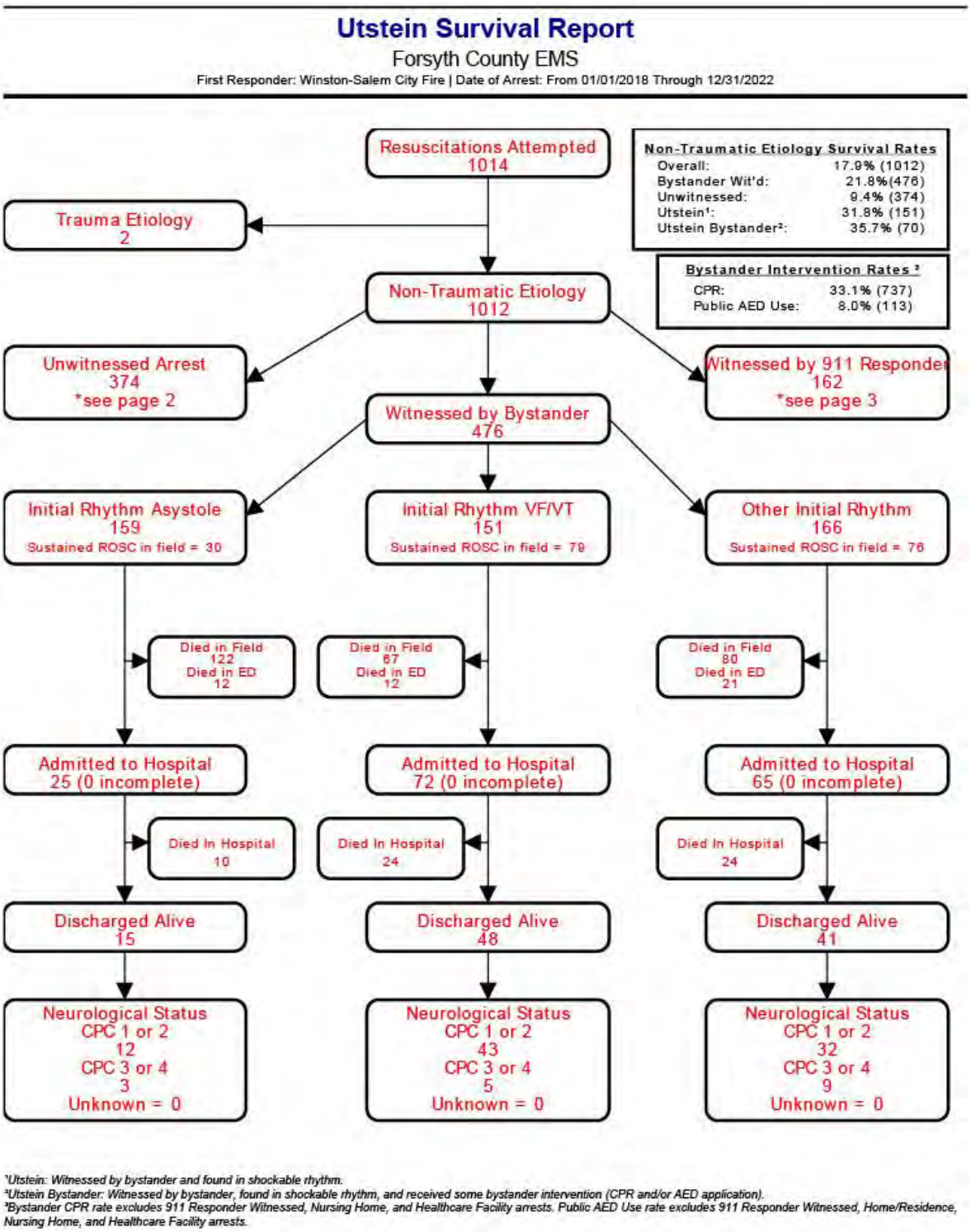


This is a custom heatmap for 2021 through 2023 incidents where the first-in engine company reported a travel time greater than four minutes. Each point represents an incident, and the points are darker as travel time increases and as they overlap. Analyzing historical incident hotspots that fall outside of NFPA 1710 benchmark travel times provides an understanding of response limitations and challenges. In addition, examining these incidents reveals patterns, such as recurring locations or incident types, which aids in developing targeted strategies for the prevention and mitigation of extensive travel times.

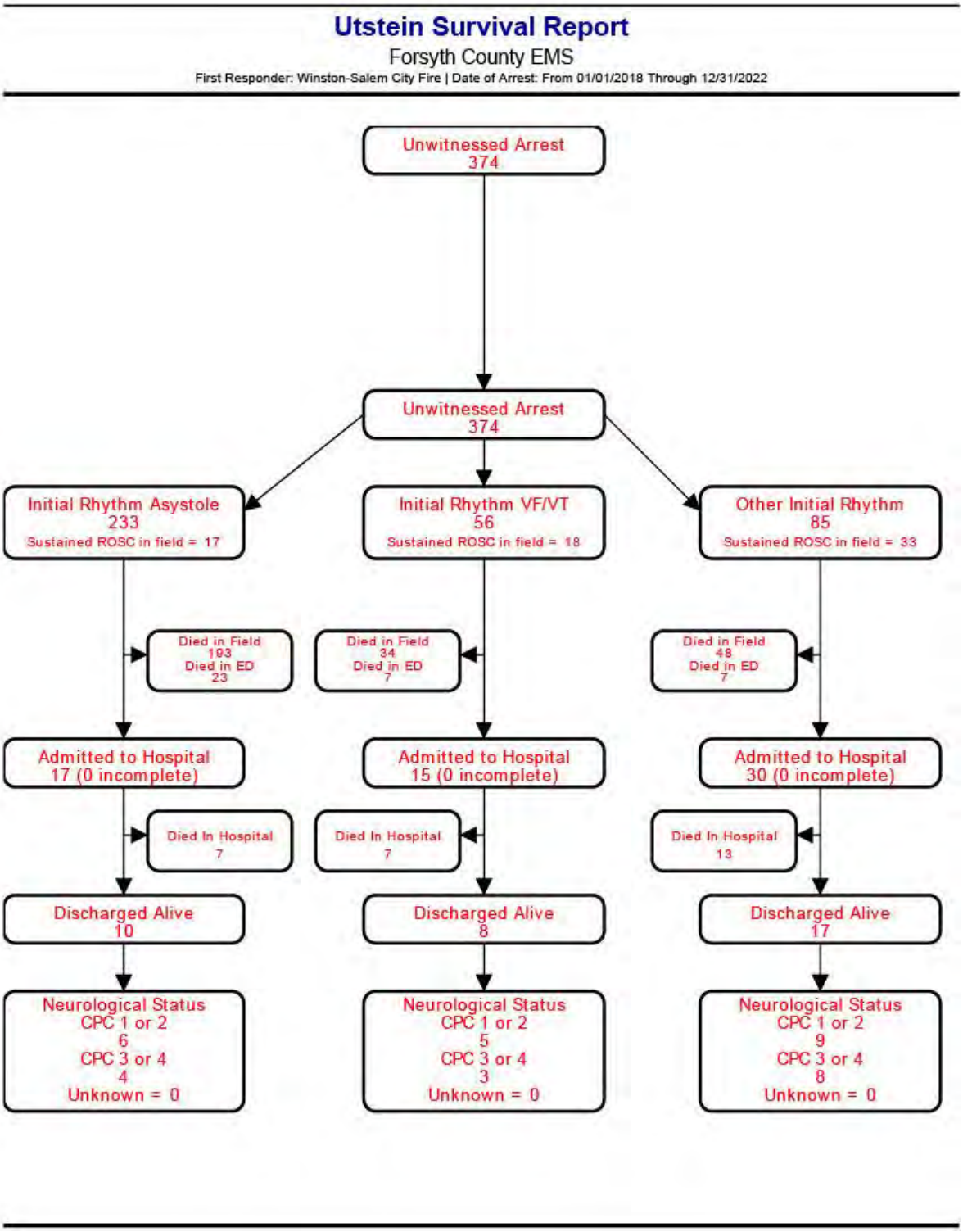
Unit Workload

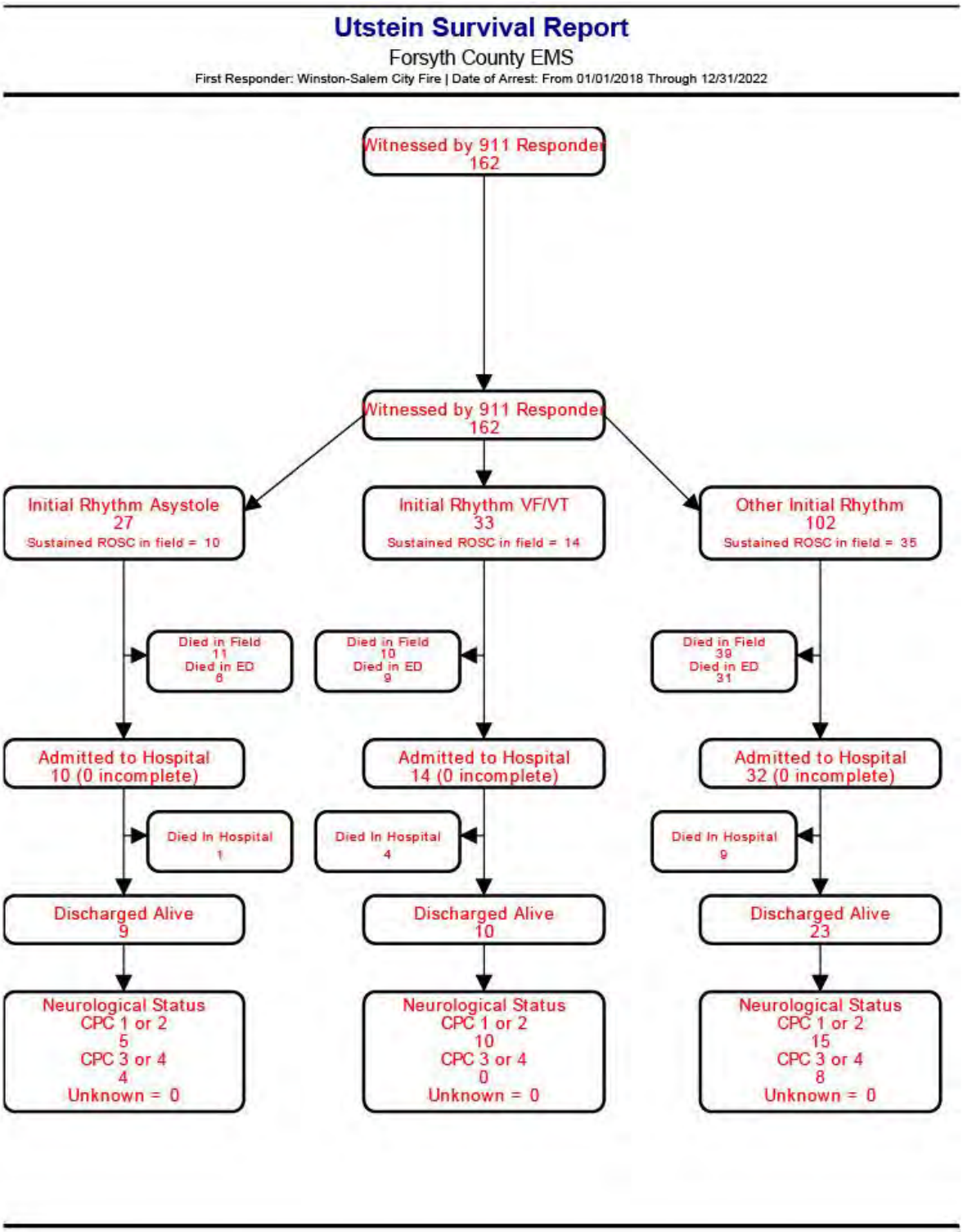

Ladder and Battalion Responses 2018-2022
500
1,000
1,500
2,000
2,500
L1
2,385
2,583
2,041
2,150
2,452
L14
1,359
1,523
1,382
1,392
1,593
L18
1,191
1,147
936
974
1,214
L2
1,288
1,209
1,065
1,159
1,167
L5
1,340
1,438
1,292
1,366
1,597
B1
647
642
702
792
811
B2
605
675
651
591
685
B3
502
483
500
629
628
B4
387
652
2018
2019
2020
2021
2022

Cardiac Arrests Outcomes



¹Utstein: Witnessed by bystander and found in shockable rhythm.
²Utstein Bystander: Witnessed by bystander, found in shockable rhythm, and received some bystander intervention (CPR and/or AED application).
³Bystander CPR rate excludes 911 Responder Witnessed, Nursing Home, and Healthcare Facility arrests. Public AED Use rate excludes 911 Responder Witnessed, Home/Residence, Nursing Home, and Healthcare Facility arrests.


Utstein Survival Report
Forsyth County EMS
First Responder: Winston-Salem City Fire | Date of Arrest: From 01/01/2018 Through 12/31/2022
Unwitnessed Arrest 374
Unwitnessed Arrest 374
Initial Rhythm Asystole 233 Sustained ROSC in field = 17
Initial Rhythm VF/VT 56 Sustained ROSC in field = 18
Other Initial Rhythm 85 Sustained ROSC in field = 33
Died in Field 193 Died in ED 23
Died in Field 34 Died in ED 7
Died in Field 48 Died in ED 7
Admitted to Hospital 17 (0 incomplete)
Admitted to Hospital 15 (0 incomplete)
Admitted to Hospital 30 (0 incomplete)
Died In Hospital 7
Died In Hospital 7
Died In Hospital 13
Discharged Alive 10
Discharged Alive 8
Discharged Alive 17
Neurological Status CPC 1 or 2 6 CPC 3 or 4 4 Unknown = 0
Neurological Status CPC 1 or 2 5 CPC 3 or 4 3 Unknown = 0
Neurological Status CPC 1 or 2 9 CPC 3 or 4 8 Unknown = 0


Utstein Survival Report
Forsyth County EMS
First Responder: Winston-Salem City Fire | Date of Arrest: From 01/01/2018 Through 12/31/2022
Witnessed by 911 Responder
162
Witnessed by 911 Responder
162
Initial Rhythm Asystole
27
Sustained ROSC in field = 10
Initial Rhythm VF/VT
33
Sustained ROSC in field = 14
Other Initial Rhythm
102
Sustained ROSC in field = 35
Died in Field
11
Died in ED
6
Died in Field
10
Died in ED
9
Died in Field
39
Died in ED
31
Admitted to Hospital
10 (0 incomplete)
Admitted to Hospital
14 (0 incomplete)
Admitted to Hospital
32 (0 incomplete)
Died In Hospital
1
Died In Hospital
4
Died In Hospital
9
Discharged Alive
9
Discharged Alive
10
Discharged Alive
23
Neurological Status
CPC 1 or 2
5
CPC 3 or 4
4
Unknown = 0
Neurological Status
CPC 1 or 2
10
CPC 3 or 4
0
Unknown = 0
Neurological Status
CPC 1 or 2
15
CPC 3 or 4
8
Unknown = 0

Section 6: Plan for Maintaining and Improving Performance

The department employs a systematic approach to evaluate its performance levels. This involves evaluating the adequacy, consistency, and reliability of its operations across the entire response area. Continual monitoring takes place, with quarterly internal reports that assess the existing delivery system's ability to meet anticipated outcomes. Any shortcomings identified are then prioritized for corrective action. The department also looks ahead by annually analyzing potential external influences, changing conditions, growth trends, and emerging risks. This analysis helps align service capabilities with future demands. Regular assessments are conducted to gauge the efficiency and effectiveness of each service program, and the impacts of community programs are factored into this evaluation. Performance gaps within the response area are pinpointed annually, prompting the development of a comprehensive improvement plan that outlines strategies to address these gaps within specific timeframes. City Council is kept informed about any disparities in capabilities, capacity, and service levels on an annual basis, as determined by community risk assessments or standards of cover. Additionally, the fire department engages with external stakeholders and City Council every three years to align its services with their expectations, ensuring a collaborative and effective approach to service provision. This methodology feeds into our strategic plan and leads to the identification of other shortcomings, which are summarized in the following sections.

Strategic Planning

To maintain and improve performance, the department set twelve goals in the Strategic Plan. These twelve goals collectively aim to enhance and maintain the fire department's performance through a range of strategies. They focus on strengthening fire suppression services, optimizing resource deployment, promoting diversity and inclusivity, improving recruitment and retention, streamlining fire code enforcement, bolstering fire investigation efforts, engaging with the community, enhancing safety and training, and establishing a dedicated training facility. By addressing training, culture, efficiency, diversity, and community engagement, these goals work together to create a safer, more effective, and well-prepared fire department that can efficiently respond to emergencies and reduce risks within the community.

Enhancing Fire Suppression Services: By strengthening officer training and refining operational procedures, the fire department aims to ensure that its personnel are well-prepared to handle various emergency scenarios. With updated standard operating guidelines, improved incident reporting, and revised pre-fire planning processes, the department seeks to enhance its overall effectiveness in responding to fires and other emergencies. This proactive approach will lead to quicker, more efficient responses and better mitigation of potential damages.

Optimizing Resources and Station Support: Through evaluating fleet readiness and replacements, the fire department ensures that its apparatus are in optimal condition for prompt response. Standardizing equipment and planning for station and apparatus updates will enhance consistency across the department, contributing to smoother operations. This goal aims to provide firefighters with reliable equipment and facilities, thereby improving their ability to carry out their duties effectively.

Fostering Diversity, Equity, and Inclusion: Creating a culture of diversity, equity, and inclusion through ongoing training and establishing a core DEI team will make the fire department more reflective of the community it serves. This initiative enhances understanding, collaboration, and empathy among personnel, leading to improved communication and better outcomes in various aspects of the department's operations.

Promoting an Inclusive Work Environment: The creation of internal communication channels and an anonymous idea and concern box encourages open dialogue within the department. This strategy ensures that all employees have a platform to share their perspectives, ideas, and concerns. An inclusive environment boosts morale, promotes creativity, and facilitates the exchange of valuable insights that can lead to continuous improvement.

Enhancing Recruitment and Retention: By reaching out to underrepresented demographics and advertising with diverse media, the fire department aims to recruit a broader range of personnel. Leadership engagement in cultural competency and mentorship programs will foster a more supportive atmosphere, making employees feel valued and invested in their roles. This holistic approach not only enhances staff diversity but also improves overall job satisfaction and retention.

Streamlining Fire Code Enforcement: Evaluating and improving processes, staffing levels, and technological resources for fire code enforcement enhances efficiency and effectiveness. This leads to a more thorough inspection process, faster response times, and timely identification of compliance issues. By utilizing technology and optimizing procedures, the department ensures that buildings and properties adhere to safety standards, reducing risks in the community.

Strengthening Fire Investigation Efforts: Through training operations staff, transitioning to a shift investigator model, and leveraging investigation data, the fire department aims to improve its investigative capabilities. This leads to better identification of fire causes and trends, contributing to risk reduction strategies. More effective investigations lead to improved community safety and informed decision-making.

Increasing Community Engagement: Developing outreach programs aligned with community risk reduction plans enhances the department's relationship with the public. By measuring the impact of these programs and making necessary adjustments, the fire department demonstrates its commitment to public safety. This proactive engagement fosters trust, enhances preparedness, and reduces risks through education and awareness.

Enhancing Safety and Training: Collaborating with safety agencies and ensuring continuous training for safety officers contributes to a safer work environment. This focus on safety prevents accidents and injuries among personnel, promoting a culture of well-being. Adequate training ensures that firefighters are well-prepared for emergencies, thereby maintaining high levels of effectiveness.

Establishing a Training Site: By identifying resources and developing a training facility, the fire department enhances training opportunities for its personnel. A dedicated training site provides a controlled environment for realistic simulations and skill development. This

investment improves readiness and response capabilities, leading to more effective firefighting and emergency response efforts.

Defining Safety Training Officer Role: Through a comprehensive job description, updated tasks, and credentials for Safety Training Officers, the fire department establishes a clear framework for safety training. This ensures that personnel receive the necessary training to prevent accidents and injuries. Effective safety training and officers contribute to safer workplace and more prepared personnel.

Planning Comprehensive Training: Developing an annual training plan, budget, and staffing model for the Safety & Training Branch ensures continuous improvement. By aligning training needs with performance goals, the department maintains high standards of preparedness and professional development. A dedicated budget and staffing model enable efficient implementation of training programs, ensuring that personnel are equipped to handle diverse challenges.

In summary, these 12 interconnected goals work in tandem to enhance various aspects of the fire department's operations. From improving response times and resource deployment to fostering diversity, promoting safety, and engaging with the community, each goal contributes to the overarching objective of maintaining and improving the fire department's performance, resulting in a safer and more effective emergency response system for the community.

Risk Assessment: Pre-Planning

Pre-planning involves systematically gathering and organizing detailed insights about structures, facilities, and potential hazards within a specified area. The primary objective is to formulate effective strategies for firefighting, rescue operations, and other emergency interventions. During the community risk assessment process, the department identified shortcomings in the ease of collecting and mapping relevant information, and in the ability of responding units to access pre-plan information while en route to an emergency incident.

Data-Informed Benchmarking

For the department's first attempt at evaluating performance using 90th percentile baseline response times, NFPA 1710 and 1221 benchmarks were used as performance targets. The department recognizes that it can use geographical information system data to draft benchmarks that reflect optimal first unit and effective response force times for each risk category. Better benchmarking will lead to more accurate and effective gap analysis.

Data Accuracy: Turnout and Travel Times

Turnout times provide a quantitative measurement of one aspect of operational performance, while travel times are used to evaluate metrics including resource distribution and concentration. Unfortunately, both turnout times and travel times rely on a time stamp entered manually by the responding apparatus officer, at which point error can be introduced. The department tested a system that utilized automatic vehicle location (AVL) technology to automatically time stamp en route and arrival times based on apparatus location, but the AVL data was not precise enough for effective time stamping. The department plans on running tests at the communication center to verify time stamping, and the department continues to look for technological solutions.

Data Visualization: External and Internal

The department's accumulation of valuable data presents a prime opportunity to enhance incident response and community safety. To foster a culture of transparency and continuous improvement, the department should reassess its methods for effectively sharing incident and performance data with its governing body, external stakeholders, and internal staff. This will involve employing tools for data integration and visualization to create comprehensible dashboards that display incident trends and performance metrics. The department is currently working with a graduate student team from Wake Forest University to produce dashboard visualizations. Routine reporting mechanisms will be established to provide the governing body with regular updates on response times, outcomes, and other pertinent metrics. The creation of public-facing dashboards can further promote transparency by sharing key performance indicators and incident summaries with the community. Engaging external stakeholders through regular meetings or presentations can offer insights into the department's data-driven strategies while soliciting valuable feedback. Internally, training sessions can cultivate a data-centric mindset among staff members, encouraging their active participation in continuous improvement efforts.

Section 7: Correlation to CFAI Accreditation Model

(CC) PI	Performance Indicator Text	Page
	Category 1 – Governance and Administration	
CC 1A.1	The agency is legally established.	
1A.3	The governing body of the agency periodically reviews and approves services and programs.	
1A.5	The governing body or designated authority approves the organizational structure that carries out the agency's mission.	
1A.7	A communication process is in place between the governing body and the administrative structure of the agency.	
CC 1B.2	The administrative structure and allocation of financial, equipment and personnel resources reflect the agency's mission, goals, objectives, size and complexity.	
	Category 2 - Assessment and Planning	
2A.1	Service area boundaries for the agency are identified, documented and legally adopted by the authority having jurisdiction.	
2A.2	Boundaries for other service responsibility areas, such as automatic aid, mutual aid and contract areas, are identified, documented and appropriately approved by the authority having jurisdiction.	
CC 2A.3	The agency has a documented and adopted methodology for organizing the response area(s) into geographical planning zones.	
CC 2A.4	The agency assesses the community by planning zone and considers the population density within planning zones and population areas, as applicable, for the purpose of developing total response time standards.	
2A.5	Data that include property, life, injury, environmental and other associated losses, as well as the human and physical assets preserved and/or saved, are recorded for a minimum of three (initial accreditation agencies) to five (currently accredited agencies) immediately previous years.	
2A.6	The agency utilizes its adopted planning zone methodology to identify response area characteristics such as population, transportation systems, area land use, topography, geography, geology, physiography, climate, hazards, risks, and service provision capability demands.	
2A.7	Significant socioeconomic and demographic characteristics for the response area are identified, such as key employment types and centers, assessed values, blighted areas, and population earning characteristics.	

2A.8	The agency identifies and documents all safety and remediation programs, such as fire prevention, public education, injury prevention, public health, and other similar programs, currently active within the response area.
2A.9	The agency defines and identifies infrastructure that is considered critical within each planning zone.
CC 2B.1	The agency has a documented and adopted methodology for identifying, assessing, categorizing and classifying all risks (fire and non-fire) throughout the community or area of responsibility.
2B.2	The historical emergency and nonemergency service demands frequency for a minimum of three immediately previous years and the future probability of emergency and nonemergency service demands, by service type, have been identified and documented by planning zone.
2B.3	Event outputs and outcomes are assessed for three (initial accrediting agencies) to five (currently accredited agencies) immediately previous years.
CC 2B.4	The agency's risk identification, analysis, categorization, and classification methodology has been utilized to determine and document the different categories and classes of risks within each planning zone.
2B.5	Fire protection and detection systems are incorporated into the risk analysis.
2B.6	The agency assesses critical infrastructure within the planning zones for capabilities and capacities to meet the demands posed by the risks.
2B.7	The agency engages other disciplines or groups within its community to compare and contrast risk assessments in order to identify gaps or future threats and risks.
CC 2C.1	Given the levels of risks, area of responsibility, demographics, and socioeconomic factors, the agency has determined, documented and adopted a methodology for the consistent provision of service levels in all service program areas through response coverage strategies.
CC 2C.2	The agency has a documented and adopted methodology for monitoring its quality of emergency response performance for each service type within each planning zone and the total response area.
2C.3	Fire protection systems and detection systems are identified and considered in the development of appropriate response strategies.
CC 2C.4	A critical task analysis of each risk category and risk class has been conducted to determine the first due and effective response force capabilities and a process is in place to validate and document the results.
CC 2C.5	The agency has identified the total response time components for delivery of services in each service program area and found those services consistent and reliable within the entire response area.

2C.6	The agency identifies outcomes for its programs and ties them to the community risk assessment during updates and adjustments of its programs, as needed.
2C.7	The agency has identified the total response time components for delivery of services in each service program area and assessed those services in each planning zone.
CC 2C.8	The agency has identified efforts to maintain and improve its performance in the delivery of its emergency services for the past three (initial accreditation agencies) to five (currently accredited agencies) immediately previous years.
2C.9	The agency's resiliency has been assessed through its deployment policies, procedures and practices.
CC 2D.1	The agency has a documented and adopted methodology for assessing performance adequacy, consistency, reliability, resiliency and opportunities for improvement for the total response area.
2D.2	The agency continuously monitors, assesses and internally reports, at least quarterly, on the ability of the existing delivery system to meet expected outcomes and identifies and prioritizes remedial actions.
CC 2D.3	The performance monitoring methodology identifies, at least annually, future external influences, altering conditions, growth and development trends, and new or evolving risks, for purposes of analyzing the balance of service capabilities with new conditions or demands.
2D.4	The performance monitoring methodology supports the assessment of the efficiency and effectiveness of each service program at least annually in relation to industry research.
2D.5	Impacts of incident mitigation program efforts, such as community risk reduction, public education, and community service programs, are considered and assessed in the monitoring process.
CC 2D.6	Performance gaps for the total response area, such as inadequacies, inconsistencies, and negative trends, are determined at least annually.
CC 2D.7	The agency has systematically developed a continuous improvement plan that details actions to be taken within an identified timeframe to address existing gaps and variations.
2D.8	The agency seeks approval of its standards of cover by the authority having jurisdiction (AHJ).
CC 2D.9	On at least an annual basis, the agency formally notifies the AHJ of any gaps in current capabilities, capacity and the level of service provided within its delivery system to mitigate the identified risks within its service area, as identified in its community risk assessment /standards of cover.

2D.10	The agency interacts with external stakeholders and the AHJ at least once every three years to determine the stakeholders' and AHJ's expectations for types and levels of services provided by the agency.

Category 3 – Goals and Objectives

CC 3A.1	The agency has a current and published strategic plan that has been submitted to the authority having jurisdiction.
3A.2	The agency coordinates with the jurisdiction's planning component to ensure the strategic plan is consistent with the community master plan.
CC 3B.1	The agency publishes current, general organizational goals and S.M.A.R.T. objectives, which use measurable elements of time, quantity and quality. These goals and objectives directly correlate to the agency's mission, vision and values and are stated in the strategic plan.
3B.2	The agency conducts an environmental scan when establishing its goals and objectives.
CC 3B.3	The agency solicits feedback and direct participation from internal and external stakeholders in the development, implementation and evaluation of the agency's goals and objectives.
3B.4	The agency uses internal input to implement and evaluate its goals and objectives and to measure progress in achieving the strategic plan.
3B.5	The governing body reviews the agency's goals and objectives and considers all budgetary and operational proposals in order to ensure success.
3B.6	When developing organizational values, the agency seeks input from its members and is in alignment with its community.
CC 3C.1	The agency identifies personnel to manage its goals and objectives and uses a defined organizational management process to track progress and results.
CC 3C.2	The agency's personnel receive information explaining its goals and objectives.
3C.3	The agency, when necessary, identifies and engages appropriate external resources to help accomplish its goals and objectives.
CC 3D.1	The agency reviews its goals and objectives at least annually and modifies as needed to ensure they are relevant and contemporary.
CC 3D.2	The agency reviews, at least annually, its overall system performance and identifies areas in need of improvement, which should be considered for inclusion in the organizational goals and objectives.
3D.3	The agency provides progress updates, at least annually, on its goals and objectives to the AHJ, its members and the community it serves.

Category 4 – Financial Resources

CC 4A.7	The agency's budget, short and long-range financial planning, and capital project plans are consistent with the agency's strategic plan and support achievement of identified goals and objectives.
CC 4C.1	Given current and forecasted revenues, the agency sustains the level of service adopted by the AHJ.
4C.3	The agency budgets future asset maintenance and repair costs with related funding plans.

Category 5 – Community Risk Reduction Program

CC 5A.2	The code enforcement program ensures compliance with applicable fire protection law(s), local jurisdiction, hazard abatement and agency objectives as defined in the community risk assessment/ standards of cover.
5A.6	The agency sets specific, targeted, and achievable annual loss reduction benchmarks for fire incidents and fire casualties based upon the community risk assessment and baseline performance.
CC 5A.7	The agency conducts a formal and documented program appraisal, at least annually, to determine the program's impacts and outcomes, and to measure performance and progress in reducing risk based on the community risk assessment/standards of cover.
CC 5B.1	The public education program targets specific risks, behaviors and audiences identified through incident, demographic and program data analysis and the community risk assessment/standards of cover.
5B.3	Programs are in place to identify large loss potential or high-risk audiences (such as low socioeconomic status, age and cultural/ethnic differences, where appropriate), forge partnerships with those who serve those constituencies, and enable specified programs to mitigate fires and other emergency incidents (such as home safety visits, smoke alarm installations, free bicycle helmet programs, fall prevention programs, etc.).
CC 5B.4	The agency conducts a formal and documented program appraisal, at least annually, to determine the program's impacts and outcomes, and to measure performance and progress in reducing risk.
CC 5C.4	The agency conducts a formal and documented program appraisal, at least annually, to determine the program's impacts and outcomes, and to measure performance and progress in reducing risk.
CC5D.1	The agency maintains a local emergency operations/all-hazards plan that defines roles and responsibilities of all participating departments and/or external agencies. The agency participates in maintaining and revising the plan with the AHJ.

5D.5	The agency conducts and documents a vulnerability assessment and has operational plans to protect the agency's specific critical infrastructure, including but not limited to materials, supplies, apparatus, facilities security, fuel and information systems.
5D.6	The agency has a documented continuity of operations plan that is reviewed annually and updated at least every five years to ensure essential operations are maintained.
CC 5D.9	The agency conducts a formal and documented program appraisal, at least annually, to determine the program's impacts and outcomes, and to measure performance and progress in reducing risk.
CC 5E.1	Given the agency's community risk assessment/standards of cover and emergency performance statements, the agency meets its staffing, response time, station(s), pumping capacity, apparatus and equipment deployment objectives for each type and magnitude of fire suppression incident(s).
CC 5E.3	The agency conducts a formal and documented program appraisal, at least annually, to determine the impacts, outcomes, and effectiveness of the program, and to measure its performance toward meeting the agency's goals and objectives.
CC 5F.1	Given the agency's community risk assessment/standards of cover and emergency performance statements, the agency meets its staffing, response time, station(s), apparatus and equipment deployment objectives for each type and magnitude of emergency medical incident(s).
CC 5F.2	The agency has standing orders/protocols in place to direct EMS response activities to meet the stated level of EMS response including determination criteria for specialty transport and receiving facility destination.
CC 5F.5	The agency creates and maintains a patient care record, hard copy or electronic, for each patient encountered. This report records a provider impression, patient history, data regarding treatment rendered and the patient disposition. The agency must make reasonable efforts to protect reports from public access and maintain them as per local, state/provincial and federal records retention requirements.
5F.7	The agency has a quality improvement/quality assurance (QI/QA) program in place to improve system performance and patient outcomes including provisions for the exchange of patient outcome data between the agency and receiving facilities.
5F.8	The agency has implemented or developed a plan to implement a cardiopulmonary resuscitation (CPR) and public access defibrillation program for the community.

CC 5F.9	The agency conducts a formal and documented program appraisal, at least annually, to determine the impact, outcomes and effectiveness of the program and to measure its performance toward meeting the agency's goals and objectives.
CC 5G.1	Given the agency's community risk assessment/standards of cover and emergency performance statements, the agency meets its staffing, response time, station(s), apparatus, and equipment deployment objectives for each type and level of risk of a technical rescue incident(s).
CC 5G.2	The agency conducts a formal and documented program appraisal, at least annually, to determine the impacts, outcomes and effectiveness of the program, and to measure its performance toward meeting the agency's goals and objectives.
CC 5H.1	Given the agency's community risk assessment/standards of cover and emergency performance statements, the agency meets its staffing, response time, station(s), apparatus and equipment deployment objectives for each type and magnitude of hazardous materials incident(s).
5H.2	The agency complies with all aspects of applicable hazardous material regulations such as annual refresher training, medical monitoring of response personnel, annual physical examinations as applicable per standards, and exposure record retention.
CC 5H.3	The agency conducts a formal and documented program appraisal, at least annually, to determine the impacts, outcomes, and effectiveness of the program, and to measure its performance toward meeting the agency's goals and objectives.
CC 5I.1	Given the agency's community risk assessment/standards of cover and emergency performance statements, the agency meets its staffing, response time, station(s), extinguishing agent requirements, apparatus and equipment deployment objectives for each type and magnitude of aviation incident.
CC 5I.2	The agency conducts a formal and documented program appraisal, at least annually, to determine the impacts, outcomes and effectiveness of the program, and to measure its performance toward meeting the agency's goals and objectives.
CC 5J.1	Given the agency's community risk assessment/standards of cover and emergency performance statements, the agency meets its staffing, response time, station(s), extinguishing agency requirements, apparatus and equipment deployment objectives for each type and magnitude of marine and shipboard incident.

CC 5J.2	The agency conducts a formal and documented program appraisal, at least annually, to determine the impacts, outcomes and effectiveness of the program, and to measure its performance toward meeting the agency's goals and objectives.
CC 5K.1	Given the agency's community risk assessment/standards of cover and emergency performance statements, the agency meets its staffing, response time, station(s), apparatus and equipment deployment objectives for each type and magnitude of wildland fire services incident.
CC 5K.2	The agency has developed a wildland risk assessment including: a fuel management plan, a fire adapted communities plan, and an inspection and code enforcement program.
CC 5K.3	The agency conducts a formal and documented program appraisal, at least annually, to determine the impact, outcomes and effectiveness of the program, and to measure its performance toward meeting the agency's goals and objectives.
5L	Your agency must insert appropriate performance indicators and/or core competencies in the area below when other programs are considered.

Category 6 – Physical Resources

6A.1	The development, construction or purchase of physical resources is consistent with the agency's goals and strategic plan.
CC 6A.2	The governing body, administration and staff are involved in the planning for physical facilities.
6B.1	Each function or program has adequate facilities and storage space (e.g., operations, prevention, training, support services and administration).
CC 6B.3	Facilities comply with federal, state/provincial and local codes and regulations at the time of construction; required upgrades for safety are identified and, where resources allow, addressed. For those items that warrant further attention, a plan for implementation is identified in the agency's long-term capital improvement plan (i.e. fire alarm systems, sprinkler system, seismic, vehicle exhaust system, asbestos abatement, etc.).
CC 6C.1	Apparatus and vehicle types are appropriate for the functions served (e.g., operations, staff support services, specialized services and administration).
6C.2	A current replacement schedule exists for all apparatus and support vehicles based on current federal and state/provincial standards, vehicle condition, department needs and requirements.
CC 6D.5	The inspection, testing, preventive maintenance, replacement schedule and emergency repair of all apparatus are well established and meet the needs of the agency.

6E.1	Tools and equipment are distributed appropriately, are in adequate quantities and meet the operational needs of the specific functional area or program (e.g., fire suppression, prevention, investigations, hazmat, etc.).
6E.2	Tool and equipment replacement is scheduled, budgeted and implemented, and is adequate to meet the agency's needs.
CC 6E.3	Equipment maintenance, testing and inspections are conducted by qualified personnel, following manufacturer's recommended schedules.
6E.5	Supplies and materials allocation is based on established objectives and appropriate to meet the operational needs of the specific functional area or program (e.g., fire suppression, prevention, investigations, hazmat, etc.), and is compliant with local, state/provincial and national standards.
6F.1	Safety equipment is identified and distributed to appropriate personnel.

Category 7 – Human Resources

7B.1	A mechanism is in place to identify and announce potential entry-level, lateral and promotional positions.
7B.10	The agency conducts workforce assessments and has a plan to address projected personnel resource needs, including retention and attrition of tenured and experienced employees.

Category 8 – Training and Competencies

CC8A.1	The organization has a process in place to identify training needs, including tasks, activities, knowledge, skills and abilities.
8A.2	The agency's training program is consistent with the mission statement, goals and objectives, and helps the agency meets those goals and objectives.
8A.4	The agency identifies minimum levels of training and education required for all positions in the organization.
8B.1	A process is in place to ensure that personnel are appropriately trained.
8B.3	The agency evaluates individual and crew performance through validated and documented performance-based measurements.
8B.4	The agency analyzes student evaluations to determine reliability of training conducted.
CC8B.6	The agency conducts a formal and documented program appraisal, at least annually, to determine the program's effectiveness and compliance with meeting the needs of the organization.
CC 8C.2	The agency has access to instructional personnel, within the organization or from identified external resources, with teaching qualifications and expertise to meet its needs.
CC 8C.8	Training materials are evaluated, at least annually, to reflect current practices and meet the needs of the agency.

Category 9 – Essential Resources

CC 9A.1	The agency establishes minimum fire flow requirements for new development in accordance with nationally and internationally recognized standards and includes this information in the fire risk evaluation and pre-incident planning process.
CC 9A.2	An adequate and reliable water supply is available for firefighting purposes for identified risks. The identified water supply sources are adequate in volume and pressure, based on nationally and internationally recognized standards, to control and extinguish fires.
9A.4	The agency maintains copies of current water supply sources and annually reviews fire hydrant maps for its service area to ensure they are accurate.
9A.5	Fire hydrant adequacy and placement are based on nationally and internationally recognized standards and reflect the hazards of the response area.
9A.6	Public fire hydrants are inspected, tested, maintained, visible and accessible in accordance with nationally and internationally recognized standards. The agency's fire protection-related processes are evaluated, at least annually, to ensure adequate and readily available public or private water.
9A.7	The agency identifies, plans and trains for the possibility of a water supply system failure, including fire hydrants with insufficient capacity and areas where fire hydrants are unavailable or inaccessible.
9A.8	The agency has operational procedures in place outlining the available water supply and reviews those procedures as part of their documented review policy.
CC 9B.1	A system is in place to ensure communication with portable, mobile and fixed communications systems in the field. When an area is identified as not allowing for adequate emergency scene communication, such as inside buildings or below grade level, an operational plan is documented and tested.
9B.3	The agency's communications center(s) is/are adequately equipped and designed (e.g., security, telephones, radios, equipment status, alarm devices, computers, address files, dispatching circuits, playback devices, recording systems, printers, consoles, desks, chairs, lighting and map displays).
9B.5	Adequate numbers of fire or emergency telecommunicators, supervisors and management personnel are on duty to handle the anticipated call volume.

9B.7	The agency has established time-based performance objectives for alarm handling. These objectives are formally communicated to communications center managers through direct report, contracts, service level agreements and/or memorandums of agreement and are reviewed at least annually to ensure time-based performance objectives are met.
9B.9	The interoperability of the communications system is documented, tested and evaluated. The agency has processes in place to provide for interoperability with other public safety agencies in the field including portable, mobile and fixed communications systems, tools and equipment.
9B.10	The dispatch process utilizes a formal and recognized emergency medical dispatch (EMD) system that allows for pre-arrival instructions and adequate triaging of medical calls for service.
9B.11	The agency has a documented and tested system in place for the notification and recall of off-duty agency personnel and telecommunicators for unplanned, large-scale incidents.
9B.12	The agency has a documented plan, which is reviewed and tested annually, to ensure continuity in communicating during any partial or total disruption or failure of a communications system or facility.
9B.13	A formal and documented appraisal is conducted, at least annually, to determine the effectiveness of the emergency communications systems and their impact on meeting the agency's goals and objectives.
CC 9C.1	The administrative support services are appropriate for the agency's size, function, complexity, and mission, and are adequately managed.
CC 9C.3	Organizational documents, forms, standard operating procedures or general guidelines, and manuals are reviewed at least every three years and updated as needed for all agency programs.
CC 9D.1	Hardware, software and IT personnel are appropriate for the agency's size, function, complexity and mission.
9D.2	Software systems are integrated, and policies are in place addressing data governance, data accuracy and data analysis.
9D.3	A comprehensive technology plan is in place to update, evaluate and procure hardware and software.
9D.4	A cybersecurity policy is in place to protect the integrity of the infrastructure, including networks, programs and devices, from unauthorized access that could disrupt essential services.

Category 10 – External Systems Relationships

CC 10A.1	The agency develops and maintains external relationships that support its mission, operations and/or cost-effectiveness.
10A.2	The agency's strategic plan identifies relationships with external agencies/systems and outlines a process to identify any impact or benefit to the agency's mission, operations or cost-effectiveness.

10.3	The agency researches, evaluates and considers all types of functional relationships that may aid in the achievement of its goals and objectives.
CC 10B.1	External agency agreements are reviewed every three years and revised as necessary to meet objectives.
10B.2	The agency has a process to manage, review and, if needed, revise agreements.
10B.3	The agency evaluates external agency performance annually to ensure that external agencies are capable and effective in supporting the agency's goals and objectives.

Category 11 – Health and Safety

11A.4	The agency has established and communicated procedures and guidelines for preventing the transmission of blood-borne pathogens and other infectious diseases and reducing exposure to harmful chemicals. Guidelines should include an improvement of practices process.
CC 11A.5	The agency's occupational health and safety training program instructs the workforce in general safe work practices, from point of initial employment through each job assignment and/or whenever new substances, processes, procedures or equipment are introduced. It provides instructions on operations and hazards specific to the agency.
11A.6	The agency uses near miss reporting to elevate the level of situational awareness to teach and share lessons learned from events that could have resulted in a fatality, injury or property damage.
11A.8	The agency incorporates risk management practices to increase the level of decision-making and the ability to identify unsafe conditions and practices during emergency operations.
11A.9	The agency has adopted a comprehensive program to address direct- and cross-contamination of clothing, personal protective equipment, other equipment, apparatus and fixed facilities.
11A.11	The agency has established procedures to ensure effective and qualified deployment of an Incident Safety Officer to all risk events.
11A.12	The agency establishes and consistently follows procedures for maintaining accountability of all personnel operating at all risk events.
CC 11B.6	A formal and documented appraisal is conducted, at least annually, to determine the effectiveness of the wellness/fitness programs and its impact on meeting the agency's goals and objectives.

Section 8: Appendices and Exhibits

In this section, you will find supplemental materials that complement and enrich the main content of this document. These materials include charts, graphs, tables, photographs, maps, and other relevant documents that provide a deeper understanding of the information presented in the preceding sections.

Risk Assessment Methodology – The chart below gives each possible 3-axis risk score where risk variables 1 through 5 are utilized for probability, consequence, and impact and the chart gives examples of the of fire suppression incidents with those scores. The risk score is calculated based on the area of the triangle formed by plotting each risk score on a 3-axis chart. The department determined that risks scored 1.3 to 6.1 were low risk, 6.5 to 11.7 were moderate risk, and 12.6 to 32.5 were high risk. Scores were calculated for all fire suppression, EMS, technical rescue, and hazmat incidents to determine the risk levels used for the charts in Section 3.

Probability, Consequence, or Impact			Risk Score	Incident Type
1	1	1	1.3	Off-road vehicle or heavy equipment fire
1	1	2	2.2	Construction or demolition landfill fire
1	1	3	3.0	Cooking fire, confined to container
1	2	2	3.5	Forest, woods, or wildland fire
1	1	4	3.9	Brush or brush-and-grass mixture fire
1	1	5	4.8	Passenger vehicle fire
1	2	3	4.8	
2	2	2	5.2	
1	2	4	6.1	
1	3	3	6.5	Fire in motor home, camper, recreational vehicle
2	2	3	6.9	
1	2	5	7.4	
1	3	4	8.2	Building fire - Warehouse
2	2	4	8.7	
2	3	3	9.1	
1	3	5	10.0	
1	4	4	10.4	
2	2	5	10.4	Building fire - Department or discount store
2	3	4	11.3	Building fire - 1 or 2 family dwelling
3	3	3	11.7	
1	4	5	12.6	Building fire - Hospital - medical or psychiatric
2	3	5	13.4	
2	4	4	13.9	
3	3	4	14.3	
2	4	5	16.5	
3	3	5	16.9	
3	4	4	17.3	Building fire - Multifamily dwelling
2	5	5	19.5	
3	4	5	20.4	
4	4	4	20.8	
3	5	5	23.8	
4	4	5	24.2	
4	5	5	28.1	
5	5	5	32.5	

Critical Task Analysis

Critical task analysis involves examining the tasks that are essential to the department's ability to effectively respond to emergencies and determining the necessary resources and personnel required to carry out these tasks. This analysis was used to determine the effective response force needed for the different levels and categories of risks used to produce the charts in Section 3.

Low Risk Fire Incidents
Critical Task Analysis

Critical Task	Minimum Personnel
Command/Safety/Documentation	1
Pump Operator	1
Fire Attack	1
Total Effective Response Force (ERF)	**3**

Moderate Risk Fire Incidents
Critical Task Analysis

Critical Task	Minimum Personnel
Command/Accountability	1
Pump Operator/Water Supply	1
Fire Attack	2
Back Up	2
Ventilation	2
Search and Rescue	2
RIT	4
Safety	1
Utilities/Forcible Entry	2
Total Effective Response Force (ERF)	**17**

High Risk Fire Incidents
Critical Task Analysis

Critical Task	Minimum Personnel
Command/Accountability	2
Pump Operator/Water Supply	1
Fire Attack	4
Back Up	4
Ventilation	3
Search and Rescue	2
RIT	4
Safety	1
Aerial Operator	1
Utilities/Forcible Entry	2

Total Effective Response Force (ERF)	24

Low Risk Technical Rescue Incidents
Critical Task Analysis

Critical Task	Minimum Personnel
Command/Safety	1
Rescue	2
Total Effective Response Force (ERF)	**3**

Moderate and High Risk Technical Rescue Incidents
Critical Task Analysis

Critical Task	Minimum Personnel
Command	1
Accountability	1
Safety	1
Task Force Leader	1
Entry Team Officer	1
Back-up Team Officer	1
Back-Up Team	3
Entry Team/Rope Team/Shoring Team	4
Patient Care	2
Total Effective Response Force (ERF)	**15**

Low and Moderate Risk Hazmat Incidents
Critical Task Analysis

Critical Task	Minimum Personnel
Command/Safety	1
Mitigation	2
Total ERF Needed	**3**

High Risk Hazmat Incidents
Critical Task Analysis

Critical Task	Minimum Personnel
Command	1
Hazmat Supervisor	1
Hazmat Operations	8
Hazmat Support	7
Safety	1
Total Effective Response Force (ERF)	**18**

All Emergency Medical Incidents Critical Task Analysis	
Critical Task	**Minimum Personnel**
Command/Safety/Documentation	1
Patient Care	2
Total Effective Response Force (ERF)	**3**