

COMMUNITY RISK ASSESSMENT-STANDARDS OF COVER



2023





COMMUNITY RISK ASSESSMENT/ STANDARDS OF COVER

CITY OF ROCKY MOUNT, NC FIRE DEPARTMENT

SENIOR STAFF

Darvin Moore, Fire Chief Michael Roupp, Assistant Fire Chief of Administration & Life Safety Jamey Cooke, Assistant Fire Chief of Operations Marvin Harrison, Division Chief of Budget & Logistics

ACCREDITATION TEAM MEMBERS

Kimberly Wittig, Captain, Administration (Accreditation Manager) Catina Phillips, Interim Captain, Administration (Assistant Accreditation Manager) Charles Bunn III, Battalion Chief of Safety & Training William Hale, Fire Marshal Jonathan Malinowski, Captain – Logistics

COMMAND STAFF

Joshua Floyd, Battalion Chief of Operations William Lanham, Battalion Chief of Operations Travis Avent, Battalion Chief of Operations John Miller, Battalion Chief of Operations The page was intentionally left blank



IN LOVING MEMORY OF



Captain Kimberly Wittig

December 07, 1971 – August 29, 2023

You are remembered and honored for your love, dedication, and commitment to the Rocky Mount Fire Department. Your memory will live on forever in our hearts.



Introduction

The City of Rocky Mount Fire Department's Community Risk Assessment/Standards of Cover (CRA/SOC) thoroughly assesses potential community risks throughout the City while recognizing needed resources to respond to and mitigate identified threats. The department has taken a proactive approach to continually assess community risk to ensure measures are taken to lessen the impact on the quality of service delivered to the community and to incorporate acquired data into the department's planning paradigm. The department has implemented an array of service programs to continuously monitor factors that could impact the quality of life for all who live and visit the City of Rocky Mount. The department's CRA/SOC considers variables associated with potential threats that exist within the community and available resources to ensure mitigation via highly trained and equipped fire service professionals.

The department will utilize the CRA/SOC information to validate further the associated risks coupled with the community's potential threats and adjust planning efforts to ensure proper physical resources are identified for sufficient responses. In conjunction with adequate resources, the department's robust training program ensures emergency responders have the knowledge and skills required to deploy available resources in a highly effective and efficient manner. The department continually evaluates staffing levels to ensure the proficiency of personnel performing critical tasks of the various incident types and risk levels.

MISSION

To serve the City of Rocky Mount by protecting lives and property through quality and excellence in service.

VISION

To provide continuous improvement at a measured and focused pace driven by high professional standards, collaboration, and innovation.

VALUES

INTEGRITY • HONESTY • RESPECT • TEAMWORK • DEDICATION

TABLE OF CONTENTS

Executive Summary	9
Documentation of Area Characteristics	11
History of Rocky Mount	11
Area Description	11
Climate	12
Potential Disasters	
Earthquake	15
Landslide	17
Hurricanes	
Thunderstorms and Tornadoes	22
Winter Storms	23
Wildfire	24
Drought Hazards	25
Flooding	
Radiological/Nuclear	26
Chemical	27
Biological/Bioterrorism	
Transportation	29
Information Systems	29
Population and Demographics	
Schools in Rocky Mount	
Downtown Rocky Mount	
Historic Properties	
Recreational Facilities	35
Roads	
Airports	
Regional Hospital	
Description of Agency Services & Programs	
Services	
Fire Suppression Services	
Emergency Medical Services	
Hazardous Materials Response Services	40
Technical Rescue Services	40

Programs	40
Public Safety Education	41
Community Risk Reduction (Building Inspections/Code Enforcement)	41
Disaster / Emergency Preparedness Education	42
Fire Investigation	42
WMD / Bioterrorism Response	42
External Stakeholder Feedback	43
Customer Priorities	43
Areas for Improvement	44
Expectations of the RMFD	44
Customer Concerns	44
Current Deployment	45
Fire Stations, Apparatus and Staffing	45
Incident Response	50
Fire Suppression	50
Emergency Medical Services	52
Technical Rescue	53
Hazardous Materials	54
Unit Availability/Reliability	55
Stop Loss Points	56
Resource Exhaustion	57
All Hazard Risk Assessment of the Community	58
Risk Assessment Methodology	58
Fire Suppression Risk	59
Critical Tasking and Effective Response Force for Fire Risk Categories	60
Emergency Medical Services Risk	62
Critical Tasking and Effective Response Force for	63
Emergency Medical Services Risk Categories	63
Technical Services Risk	64
Critical Tasking and ERF for Technical Rescue Risk Categories	65
Hazardous Materials Risk	66
Critical Tasking and Effective Response Force for Hazardous Materials Risk Categories	67
Occupancy Risk Assessment	68
Establishment of Performance Objectives	69
Benchmark and Baseline Performance Objectives	69

Fire Suppression Services – Distribution Benchmarks (Baseline)	71
Fire Suppression Services – Concentration Benchmarks (Baseline)	71
Emergency Medical Services – Distribution Benchmarks (Baseline)	72
Emergency Medical Services – Concentration Benchmarks	72
Technical Rescue Services – Distribution Benchmarks (Baseline)	73
Technical Rescue Services – Concentration Benchmarks	73
Hazardous Materials Services – Distribution Benchmarks(Baseline)	74
Hazardous Materials Services – Concentration Benchmarks	74
Baseline Performance Charts	76
Fire Suppression	76
Emergency Medical Services	78
Technical Rescue Services	79
Evaluation of Current Deployment and Performance	81
Compliance Team / Responsibility	81
Performance Evaluation and Compliance Strategy	81
Compliance Verification Reporting	83
Constant Improvement Strategy	83
Evaluation Methodology	84
Evaluation Determinations	85
Reliability – Planning Areas	85
Performance Determinations	85
Conclusions	86
Plan For Maintaining and Improving Response Capabilities	
Response Impacts	
Community Risk Analysis	
Performance	
Appendices/References	
Appendix A: Risk Assessment – Planning Zones 1-7	
Appendix B: Risk Analysis Scores by Planning Zone	109
Appendix C: Individual Apparatus Baseline Charts	
Appendix D: Rocky Mount Fire Department Organizational Chart	

EXECUTIVE SUMMARY

The City of Rocky Mount Fire Department is an accredited, ISO class one department that takes pride in providing high-quality services to the citizens of Rocky Mount. The City of Rocky Mount is legally chartered by the State of North Carolina as a local municipality. The fire department is legally established and was organized within the city's charter and according to G.S. 160A, the city's charter was enacted by Session Law 2003-327, H.B. 313 and ratified July 19, 2003, effective Jan. 1, 2004. An understanding of potential risk along with the ability to provide sufficient resources equipped to address a specific emergency is critical. To provide emergency services to the community in a timely manner, it is



Fire Chief Darvin L. Moore

crucial that the Fire Department continuously monitor response factors that could mean the difference in life and death situations or a family losing their home as opposed to having it repaired, or a business closing after a fire versus making repairs thereby continuing to provide jobs and services to the community. Therefore, the department must remain vigilant in tracking performance and trends within the community. It must also consider all potential factors and analyze all variables and elements that impact response time and service delivery.

Nonetheless, while the City's population has experienced a slight decrease, the Fire Department's response data indicated a steady call volume during the same period, other than in 2020 during the pandemic. This trend is primarily due to the EMS program, which has kept the department's call volume on a relatively steady growth pattern as the City grew and began to develop more.

Overall, the Fire Department continues to research all the variables of emergency response, including community risk, historical response, resource capabilities, and potential resource

needs and considers community variations to help determine what changes are necessary to improve emergency response coverage in the community. This research is a continuously evolving cycle to ensure the department is sufficiently positioned, staffed, trained, equipped, and supported with everything needed to provide the high-quality services deserved by the community.

Services and Programs

Fire department programs and services are proposed to meet city council goals, City Manager initiatives, and/or City policies and are supported by prioritized funding in the Capital Improvement Plan (CIP) and/or annual budget. Fire department programs and services are supported and approved by the AHJ. The administration maintains communication with the City Manager through the Executive Leadership Team (ELT) meetings, one-on-one meetings, and annual reports submitted by the Fire Chief.

Governance and Administration

The department's organizational structure is adequately staffed to carry out the agency's mission, and any changes require approval by the City Manager. The communication process between the governing body and the administrative structure of the department consists of various meetings such as Committee of the Whole (COW), ELT, individual briefings with the City Manager, and it also includes annual reports. To better align the organization to meet the agency's mission and vision, the administrative structure was reorganized in 2020 to improve staff development, departmental planning, emergency management duties, shift scheduling, and provide a more attentive approach to the accreditation process.

DOCUMENTATION OF AREA CHARACTERISTICS History of Rocky Mount

In the early 19th century, near the first post office that opened at Tar River Falls on March 22, 1816, Rocky Mount was born. The name of the city was originally derived from a rocky rock formation located in Tar River Falls, which also housed North Carolina's earliest cotton mill. In 1818, the area known as Rocky Mount Mills was established and has now become one of the most recent areas to be transformed into Rocky Mount. Rocky Mount was originally incorporated as a town on February 19, 1867, and then as a city on February 28, 1907. The city's situated on the county line, and CSX railroad divides it into two counties. In Edgecombe County, one third of the city is located, and in Nash County, two thirds are located. Rocky Mount's economy is now focused on biopharmaceutical products, manufacturing and logistics, a traditionally strong sector in rail transport, textiles, and agriculture.

Area Description

The City of Rocky Mount is located in northeastern North Carolina between the Atlantic Coastal Plain to the East and the Piedmont Region to the west. The western two-thirds of the City lies within Nash County, while the eastern one-third of the City sits in Edgecombe County. The City is neighbored by Dortches to the northwest, Nashville to the west, Sharpsburg to the south, and Whitakers to the north. The total land area of Rocky Mount is 47.16 square miles. The total planning area, including Rocky Mount's extra-territorial jurisdiction (ETJ), is 71.5 square miles. Taking the City and ETJ as a whole, 57% falls within Nash County and 43% falls within Edgecombe County.

According to the U.S. Census Bureau's American Community Survey, (which was the most current data available at the time this plan was developed), the estimated total population of the City of Rocky Mount was 54,342 in 2020. Therefore, the average population density was approximately 1,152 people per square mile, which reflected the urban character of the city. The most significant physical feature in the Study Area is the Tar River. Rocky Mount is located on the fall line of the Tar River, and approximately 40% of the City is located south

and east of the river. The Tar River Reservoir is located southwest of the City and contributes to the municipal water supply as well as provides a large recreational area that has been the focus of recent residential development.

Climate

The City of Rocky Mount typically has a relatively mild climate. Depending on the wind direction, temperature and humidity can be affected by influences from the coastal area about 120 miles away, the mountainous west of the state about 250 miles away, and weather systems to the north and south. Summer months, especially in July and August, can be very sweltering and humid, with temperatures in the high 90s and matching humidity. Winters are usually relatively mild, but temperatures can dip into the teens at night, with daytime highs of 35 degrees for short periods.









Climate (Continued)



Rocky Mount has experienced several weather-related incidents, including hurricanes, tornadoes, severe thunderstorms, snow/ice storms, and severe drought. According to the National Hurricane Center, North Carolina is fourth behind Florida, Texas, and Louisiana for the number of hurricanes that impact the state. The most notable hurricane to affect the Rocky Mount area in recent history was Hurricane Floyd which caused extensive freshwater flooding. Earthquakes have also occurred with the epicenters in Virginia, South Carolina, and western regions of North Carolina, but none in the immediate local vicinity. Emergency response can be hampered by snow and ice accumulation in the winter, but accumulations are not that common. Stormwater street flooding can hamper emergency vehicles during thunderstorms in the summer. The most significant weather-related impact on providing emergency services has been flooding from tropical systems where the river and its tributaries will overflow and affect low-lying areas.

Potential Disasters

The area is susceptible to a wide range of vulnerabilities including natural and man-made incidents. The most prevalent natural vulnerabilities involve severe weather events, such as hurricanes and coastal storms that produce flooding events for the Rocky Mount area. Human-made vulnerabilities revolve around potential events located on major transportation corridors within the jurisdiction of the City of Rocky Mount.

The North Carolina Division of Emergency Management (NCEM) has prepared a qualitative assessment of the relative risk of natural hazards in each North Carolina County. This simple approach is based, in large measure, on past occurrences and a qualitative assessment of the possible impact of each type of hazard. The table below indicates the relative risks regarding the identified hazards for the two counties surrounding the City of Rocky Mount. The risk category assignment displayed in the fourth column was developed utilizing the Department of Homeland Security's (DHS) Enhanced Threat and Risk Assessment Guide obtained via a Texas Engineering and Extension Service (TEEX) course. The DHS guide utilized formulas for hazard values (T), vulnerability values (V), and consequence (C) values to produce probability (T*V) and risk values (T*V*C). A simplified graph of the DHS risk categories is illustrated in the table below.

Hazard	NCEM Nash County Risks	NCEM Edgecombe County Risks	DHS Risk Calculations
Earthquake	Low	Low	Low
Landslide	Low	Low	Low
Hurricane	Moderate	Moderate	High
Severe Thunderstorm/Tornado	High	Moderate	Moderate
Winter Storms	Moderate	Moderate	Low
Wildfire	Low	Low	Low
Drought	Moderate	Moderate	Low
Flood	Moderate	Moderate	High
Nuclear	-	-	Low
Chemical	-	-	Low
Biological / Bioterrorism	-	-	Low
Transportation	-	-	Low
Fire	-	-	Moderate

There are eight climate divisions as designated by the National Weather Service Climate Prediction Center. The figure below illustrates the geographic location of the City of Rocky Mount as being within Division 8 in the northeastern quadrant of the state.

Climate Divisions of North Carolina

(Rocky Mount area in Division 8 denoted by star symbol)



Utilizing the previous table as an index, the following narratives describe the characteristics of the natural hazards in the Rocky Mount area. A description is included as well as a vulnerability assessment.

Earthquake

Earthquakes are geologic events that involve movement or shaking of the earth's crust. Earthquakes are usually caused by the release of stresses accumulated as a result of the rupture of rocks along opposing fault planes in the earth's outer crust. These fault planes are typically found along borders of the earth's 10 major tectonic plates and dozens of minor and tertiary plates. The North American plate follows the continental border of the Pacific Ocean in the west and the Mid-Atlantic trench in the east. As earthquakes occurring in the mid-ocean trench usually pose little threat to humans, unlike earthquakes located along continental boundaries, the greatest earthquake threat in North America is along the Pacific coast. This figure illustrates earthquake epicenters in North Carolina and adjoining states.



North Carolina's vulnerability to earthquakes decreases from west to east in relation to the Eastern Tennessee Seismic Zone. Generally, there are three different zones of seismic risk in North Carolina that correspond to different effective peak velocity-related accelerations of ground movement. The eastern portion of the state, including Rocky Mount, faces minimal effects from seismic activity. Locations in the middle and southeastern areas of the state face a moderate hazard from seismic activity, while the area from Mecklenburg County west through the Blue Ridge Mountains faces the greatest risk from seismic activity. These different levels of risk correspond to proximity to areas with historical seismic activity and changes in topography. Epicenters are generally concentrated in the active Eastern Tennessee Seismic Zone, which is second in activity in the eastern US only to the New Madrid Fault.

Earthquakes are relatively infrequent, but not uncommon in North Carolina. The earliest North Carolina earthquake on record is that of March 8, 1735, near Bath. This event was probably less than intensity V (Slightly strong; sleepers awake). The great earthquake of 1811 centered in the Mississippi Valley near New Madrid, Missouri, was felt throughout North Carolina. Intensity VI (Strong; trees sway) effects were observed in the western part of the state.

The most property damage in North Carolina ever attributed to an earthquake, however, was caused by the August 31, 1886, Charleston, South Carolina shock. The quake left about 65 people dead in Charleston and led to chimney collapses, fallen plaster and cracked walls in Abbottsburg, Charlotte, Elizabethtown, Henderson, Hillsborough, Raleigh, Waynesville, and Whiteville. On February 21, 1916, the Asheville area was the center for a large intensity VI earthquake, which was felt in Alabama, Georgia, Kentucky, South Carolina, Tennessee, and Virginia - some 518,000 square kilometers in all. Subsequent minor earthquakes have caused damage in North Carolina in 1926, 1928, 1957, 1959, 1971, 1973 and 1976. The last damaging earthquake in North Carolina was on August 9, 2020, and was a magnitude of 5.1 centered in Sparta, North Carolina.

The probability of a 5.0 or higher magnitude earthquake within 51 miles of Rocky Mount in the next 50 years is .3% with virtually a 0% chance of a 7.2 or higher magnitude earthquake within 51 miles of Rocky Mount in the next 50 years (homefacts.com). Even with the occurrences of seismic activity in and around eastern North Carolina, the risk categorization for earthquakes in the Rocky Mount area is listed as Low.

<u>Landslide</u>

According to the United States Geological Survey (USGS), landslides are a major geologic hazard occurring in all 50 states. They cause \$1-2 billion in damages and result in an average of more than 25 fatalities each year (USGS, 1997). Landslides are especially troubling because they often occur with other natural hazards, such as earthquakes and floods. In the eastern United States, landslides are common throughout the mountainous Appalachian region of North Carolina and New England, predominantly from sliding of clay-rich soils. Scientists have documented 51 historical debris-flow events between 1844 and 1985 in parts of the Appalachians — most of them in the Blue Ridge area. The North Carolina Geological Survey investigated 202 landslides in the same area. Historical records suggest that destructive landslides and debris flows in the Appalachian Mountains occur when unusually heavy rain from hurricanes and intense storms soaks the ground, reducing the ability of steep slopes to resist the downslope pull of gravity. The potential for landslides in the Rocky Mount area is unlikely and is classified as a low hazard.



NCGS Landslide Locations

<u>Hurricanes</u>

Hurricanes are cyclonic storms that originate in tropical ocean waters. Most hurricanes develop in an area 300 miles wide on either side of the equator. Basically, hurricanes are heat engines, fueled by the release of latent heat from the condensation of warm water. Their formation requires a low-pressure disturbance, sufficiently warm sea surface temperature, rotational force from the spinning of the earth and the absence of wind shear in the lowest 50,000 feet of the atmosphere.

Hurricanes that impact North Carolina form in the Atlantic Basin from the west coast of Africa westward into the Caribbean Sea and the Gulf of Mexico. Hurricanes in this basin generally form between June 1 and November 30, with a peak around mid-September. As an incipient hurricane develops, barometric pressure at its center falls and winds increase. A weather system with winds at or exceeding 39 mph is designated as a tropical storm, which is given a name and closely monitored by the National Oceanic and Atmospheric Administration (NOAA) National Hurricane Center in Miami, Florida. When winds are at or exceed 74 mph, the tropical storm is deemed to be a hurricane. Hurricanes have the greatest potential to inflict damage as they cross the coastline from the ocean, which is called landfall. Because hurricanes derive their strength from warm ocean waters, they are generally subject to deterioration once they make landfall. The forward momentum of a hurricane can vary from just a few miles per hour to up to 40 mph. This forward motion, combined with a counterclockwise surface flow make the right front quadrant of the hurricane the location of the most potentially damaging winds. The typical track of land falling hurricanes that affect the Rocky Mount area is from the North Carolina/South Carolina border area with a northward direction.

Likelihood of Occurrence

By virtue of its position along the Atlantic Ocean adjacent to and protruding to the edge of the Gulf Stream, North Carolina is frequently impacted by hurricanes. In fact, North Carolina has experienced the fourth greatest number of hurricane landfalls since 1851 (after Florida, Texas, and Louisiana). Overall, North Carolina is hit by 19.3 percent of hurricanes and 12.1 percent of major hurricanes that make landfall in the U.S.

Historical Impact

North Carolina has had an extensive hurricane history dating back to colonial times, with notable nineteenth century storms occurring in 1837, 1846, 1856, 1879, 1883 and 1899. From 1960 to 1990, there was a lull in major hurricanes making landfall, with only one (Hurricane Donna in 1960). The 1950s were a busy time for hurricanes in North Carolina, including Hazel, Connie, Diane, and Ione. Recent years have proven busy as well, with Hugo (1989), Emily (1993), Opal (1995), Bertha (1996), Fran (1996), Bonnie (1998), Dennis (1999), Floyd (1999), Irene (2011), Matthew (2016), and Florence (2018) all leaving their mark from the coast to across the state. The table below illustrates significant hurricanes in North Carolina from 1879 – 2021.

Name/Date	Category	Maximum Wind	NC Deaths
August 1879	4	168	40+
September 1883	3	100+	53
August 1899	4	140	25
September 1933	3	125	21
September 1944	3	110	1
Hazel, 1954	4	150	19
lone, 1955	3	107	7
Donna, 1960	3	120	8
Diana, 1984	3	115	3
Gloria, 1985	3	100+	1
Hugo, 1989	3	100	7
Emily, 1993	3	111	0
Fran, 1996	3	100	
Bonnie, 1998	3	100	
Dennis, 1999	2	90	0
Floyd, 1999	3	135	52
Isabel, 2003	2	145	3
Alex, 2004	3	105	1
Charley, 2004	3	125	0
Ophelia 2005	1	75	3
Earl 2010	4	145	0
Irene 2011	1	85	7
Matthew 2016	1	75	31
Florence 2018	4	130	54
Dorian 2019	5	185	74
Isaias 2020	1	85	18
Zeta 2020	TS	41	0
Elsa 2021	TS	40	0

All areas of the state are vulnerable to hurricane hazards, but the greatest impact associated with storm surge is limited to the 18 counties bordering the shoreline and sounds.



Perhaps more than other natural hazards that impact North Carolina, hurricanes have the potential of threatening a large segment of nonresidents. Summer populations of coastal areas can swell to many times the year-round population during the first half of the hurricane season. Other important vulnerability factors for coastal areas include the number evacuation routes and their vulnerability to flooding, as well as the percentage of dwellings in floodplains. Another vulnerability to hurricanes is the population occupying mobile homes. These structures are particularly vulnerable to damage and destruction by high winds. Counties with a high percentage of mobile home dwellings face a higher level of vulnerability. As of July 2022, Nash County had 27.9% mobile home housing while Edgecombe County had 36.8%.

By geographic location, the Rocky Mount area will always be at risk for experiencing hurricanes and tropical systems. Historical evidence proves that the area is susceptible to extreme freshwater flooding from tropical systems that develop and move into North Carolina from the Atlantic basin, Caribbean, or the Gulf of Mexico. Colorado State University released their predictions for the previous hurricane season.

Another factor that adds to the vulnerability is that the North Carolina Division of Emergency Management has developed the Coastal Region Evacuation and Sheltering Standard Operating Guide (CRES-SOG) that outlines geographic risk areas along the coastline and evacuation procedures in the event the barrier islands and immediate coastal areas are to be evacuated. Residents will be instructed to leave their homes and go to designated areas in what are known as Host Counties. Rocky Mount, in Nash and Edgecombe Counties, can expect a large influx of people in the event of a coastal evacuation order. A large-scale coastal evacuation to the Rocky Mount area will impact the response capabilities of all local resources, especially if the local region is also impacted by the effects of a land falling hurricane in North Carolina. The vulnerability of hurricanes is in the NCEM moderate category and in the DHS high risk category.

Thunderstorms and Tornadoes

Thunderstorms are the result of convection in the atmosphere. They are typically the byproduct of atmospheric instability, which promotes the vigorous rising of air parcels that form cumulus and, eventually, the cumulonimbus (thunderstorm) cloud. Instability can be caused by either surface heating or upper-tropospheric (~50,000 feet) divergence of air (rising air parcels can also result from air flows over mountainous areas). Generally, the former "air mass" thunderstorms form on warm-season afternoons and are not severe. The latter "dynamically driven" thunderstorms generally form in association with a cold front or other regional-scaled atmospheric disturbance. These storms can become severe, producing strong winds, frequent lightning, hail, downbursts and even tornadoes. A typical thunderstorm may be three miles wide at its base, rise to between 40,000 to 60,000 feet in the troposphere, and contain half a million tons of condensed water. Conglomerations of thunderstorms along cold fronts (with squall lines) can extend for hundreds of miles. Thunderstorms contain tremendous amounts of energy derived from condensation of water. The half million tons of condensed water release 300 trillion calories of energy, equivalent to about 100 million kilowatt-hours of electricity, or several Hiroshimasized atomic bombs.

Natural hazards vulnerability is disproportionately linked to severe thunderstorms. According to the National Weather Service, a severe thunderstorm is a thunderstorm that produces tornadoes, hail 0.75 inches or more in diameter, or winds of 50 knots (58 mph) or more. Structural wind damage may imply the occurrence of a severe thunderstorm. Hail, formed by the accretion of super cooled liquid water on ice particles in a thunderstorm updraft, can pose a serious threat to agriculture and exposed objects. Likewise, strong winds can potentially wreak havoc on fragile or flimsy structures or yield secondary damage through the downing of trees. The tornado, however, is by far the greatest natural hazard threat from a severe thunderstorm.

The National Weather Service defines a tornado as a violently rotating column of air in contact with the ground and extending from the base of a thunderstorm. A condensation

funnel does not need to reach to the ground for a tornado to be present; a debris cloud beneath a thunderstorm is all that is needed to confirm the presence of a tornado, even without a condensation funnel.

Tornadoes are distinguishable from waterspouts, which are small, relatively weak rotating columns of air over water beneath a cumulonimbus or towering cumulus cloud. Waterspouts are most common over tropical or subtropical waters. The exact definition of waterspout is debatable. In most cases the term is reserved for small vortices over water that are not associated with storm-scale rotation (i.e., they are the water-based equivalent of land spouts). But there is sufficient justification for calling virtually any rotating column of air a waterspout if it is in contact with a water surface.

Likelihood of Occurrence

Thunderstorms are common throughout North Carolina and have occurred in all months. Thunderstorm-related deaths and injuries in North Carolina have peaked during the spring and summer. Most tornadoes in North Carolina develop in areas of atmospheric disturbance, including along squall lines ahead of an advancing cold front, in an area where warm air masses converge, in some local summer thunderstorms, and in association with a tropical cyclone.

Because mountainous areas disrupt the inflow of air near the surface of squall lines and individual thunderstorms, organized thunderstorm activity is generally not as strong in western North Carolina, and thus tornadic activity is muted in this region. Hurricaneinduced tornadic activity generally occurs close to the coastline as a hurricane makes landfall. Additionally, severe thunderstorms in the spring and summer have spawned tornadic activity in the Rocky Mount area.

Winter Storms

Severe winter storms can produce an array of hazardous weather conditions, including heavy snow, blizzards, freezing rain and ice pellets and extreme cold. Severe winter storms

are extra-tropical cyclones (storms that form outside of the warm tropics) fueled by strong temperature gradients and an active upper-level jet stream. The winter storms that impact North Carolina generally form in the Gulf of Mexico or off the southeast Atlantic Coast. Few of these storms result in blizzard conditions, defined by the presence of winds in excess of 35 mph, falling and blowing snow, and a maximum temperature of 20° Fahrenheit.

The risk for Rocky Mount for severe winter weather is low. However, there have been several winter storms involving ice and /or snow that have closed schools and hampered traveling by automobile. Falling tree branches will down power lines and cause small fires. Severe winter storms adversely affect the region around the City of Rocky Mount in three significant ways:

- Major transportation routes are impaired, requiring significant State resources to clear roadways to maintain traffic flow.
- Local streets become impassable, requiring extensive use of City employees and heavy equipment to clear roads.
- Tree damage may result, causing damage to power lines, affecting residential, commercial, and industrial users.

Wildfire

A wildfire is an uncontrolled burning of grasslands, brush or woodlands. The potential for wildfire depends upon surface fuel characteristics, recent climate conditions, current meteorological conditions and fire behavior. Hot, dry summers and dry vegetation increase susceptibility to fire in the fall, a particularly dangerous time of the year for wildfires. The southern coastal plain is most vulnerable to wildfire hazard. However, the Appalachians have

suffered from numerous large-scale wildfires in recent years. As development has spread into areas which were previously rural, new residents have been relatively unaware of the hazards posed by wildfires and have used highly flammable material for constructing buildings. This has not only increased the threat of loss of life and property but has also resulted in a greater population of people less prepared to cope with wildfire hazards. The North Carolina Forestry Service believes well-timed and frequent prescribed burns are one of the most effective tools to reduce the threat of catastrophic wildfires in the future.

The threat of wildfire in the Rocky Mount area is low with most natural vegetation fires occurring in forested areas with leaves and pine straw ground cover. From 2008, there were 49 fires in forested areas in Rocky Mount with no dollar loss. These fires are typically slow-moving ground fires with little to no crown burning and rapid spread. However, as development has spread into areas which were previously rural, new residents have been relatively unaware of the hazards posed by wildfires and have used highly flammable material for constructing buildings. This has not only increased the threat of loss of life and property, but has also resulted in a greater population of people less prepared to cope with wildfire hazards.

Drought Hazards

Drought conditions in the State can increase the potential for wildfires. However, drought conditions not only precipitate wildfires but also are hazards in and of themselves. The National Drought Mitigation Center (NDMC) explains that droughts are hazards that can adversely affect the economy, the environment, and people. An agricultural drought adversely affects the economy when there is not enough soil moisture to meet a particular crop's needs, and the crop fails. As a result of the crop failure and the revenue that selling the crops would have generated, the economy suffers losses. Additionally, municipalities and communities that rely on wells or reservoirs for water to process for consumption can experience difficulties under drought conditions.

In addition to having adverse economic impacts, droughts are hazardous to the environment when lack of surface and subsurface water threatens the natural habitat of wildlife. Prolonged droughts can go beyond harming the economy and the environment to causing loss of human life. The Rocky Mount area is susceptible to drought and historical records indicate several time periods of extended dry conditions. Drought conditions and wet conditions are affected by weather patterns created by the El Niño and La Niña in the Pacific Ocean equatorial regions. The City has adopted a tiered water conservation policy to help manage water resources during droughts.

Flooding

Flooding is a localized hazard that is generally the result of excessive precipitation. Floods can be generally considered in two categories: flash floods, the product of heavy localized precipitation in a short time period over a given location; and general floods, caused by precipitation over a longer time and over a given river basin. Flooding is the most common environmental hazard, due to the widespread geographical distribution of river valleys and coastal areas, and the attraction of human settlements to these areas. Usually, Presidential declarations of major disasters are associated with flash and general floods.

Flash floods occur within a few minutes or hours of heavy amounts of rainfall, from a dam or levee failure, or from a sudden release of water held by an ice jam. Flash floods can destroy buildings and bridges, uproot trees, and scour out new drainage channels. Heavy rains that produce flash floods can also trigger mudslides. Most flash flooding is caused by slow-moving thunderstorms, repeated thunderstorms in a local area, or by heavy rains from hurricanes and tropical storms. Although flash flooding occurs often along mountain streams, it is also common in urban areas where much of the ground is covered by impervious surfaces. Roads and buildings generate greater amounts of runoff than typical forested land. Fixed drainage channels in urban areas may be unable to contain the runoff that is generated by relatively small, but intense, rainfall events.

Radiological/Nuclear

North Carolina is home to four nuclear facilities utilized to produce electrical power. McGuire Nuclear Station is operated by Duke Energy and is located on Lake Norman in Mecklenburg County. The Shearon Harris Nuclear Plant is in Wake County and is operated by Duke Energy. The Brunswick Nuclear Plant is located near Southport, NC. It was the first nuclear power plant built in North Carolina, beginning operation in 1975. Last, is the Catawba Nuclear Station located near Mecklenburg, NC.



Current Operating Nuclear Power Reactors located within NC

The Rocky Mount area is, by location, susceptible to any major release of radiation by any of the four nuclear plants in the state. The closest plant to Rocky Mount is the Shearon Harris facility in Wake County. It is approximately 70 miles away.. All four nuclear plants in the state have good safety records. Only a few minor incidents have occurred and included failure of heat extraction lines, failure of refueling cavity seal, failure of emergency generators, and similar events. There has been no reported major meltdown or leakage of radiation from any of the plants. Although Rocky Mount is in relatively close proximity to four nuclear power plants, the risk for contamination from radiation is low.

Chemical

There are no major chemical manufacturing plants in the Rocky Mount area. Local manufacturing and business occupancies in the area do, however, utilize various chemicals in daily operations. In the City limits of Rocky Mount, there are approximately 120 facilities that carry at least minimal amounts of chemicals ranging from petroleum fuels to liquid oxygen to sulfuric acid. The largest manufacturing consumers of hazardous chemicals is Pfizer Pharmaceuticals where liquid nitrogen, sulfuric acid, sodium hydroxide, oxygen, and cryogenics are utilized. A railway transportation corridor passes through the downtown area.

Approximately 48 trains pass through daily with about six being Amtrak passenger and the remaining carrying freight. According to CSX railroad, approximately 26,000 rail cars a year pass through Rocky Mount carrying extremely hazardous substances. Molten sulfur, liquid phosphoric acid, and sodium hydroxide solution are the top three transported chemicals, based on volume, through Rocky Mount.

Since 2002, there have been minimal incidents that have involved a chemical release or spill. These incidents have been minor and were mitigated by the use of local resources. There was no dollar loss, deaths, or injuries because of these incidents. No significant chemical spills have resulted from any rail incident since 2002. There are three fire stations located within a half-mile of the rail lines and could potentially be impacted in the event of a spill or leakage, dependent upon the type of product, concentration, toxicity, and wind direction.

Biological/Bioterrorism

A bioterrorism attack is the deliberate release of viruses, bacteria, or other germs (agents) used to cause illness or death in people, animals, or plants. These agents are typically found in nature, but it is possible that they could be changed to increase their ability to cause disease, make them resistant to current medicines, or to increase their ability to be spread into the environment. Biological agents can be spread through the air, through water, or in food. Terrorists may use biological agents because they can be extremely difficult to detect and do not cause illness for several hours to several days. Some bioterrorism agents, like the smallpox virus, can be spread from person to person and some, like anthrax, cannot.

The Rocky Mount area has experienced several instances of reports of suspicious packages that typically presented some level of powdered substance. Several people indicated that they were sick because of exposure, but the symptoms were likely psychosomatic since samples sent to the state laboratory were negative for any biological contaminants. Local responders have worked with the county health departments to establish a response protocol to suspicious package/white powder incidents. The overall risk for a confirmed biological/bioterrorism event for the area is low.

Transportation

Major roadway systems in and near Rocky Mount include Interstate 95 (I95), which runs in a north-south direction, and US Highway 64, which is a major east-west route. Approximately seven miles of I-95 are within the city limits of Rocky Mount as is approximately six miles of US 64. I-95 has an average daily traffic volume of 44,000 vehicles and US 64 traffic volume averages 40,000 daily. As with all major transportation corridors, the highways carry passenger vehicles, commercial vehicles, and all other types of transportation modes. Hazardous materials, radiological, military equipment, and other dangerous commodities flow daily on I-95 and US 64. With the addition of the new CSX Intermodal Terminal in the City, the daily traffic of commodities will only increase.

Vulnerability to major transportation incidents is relatively high given the traffic volume and range of commodities; however, the rate of incidents involving chemical and other hazardous materials spills is low.

Information Systems

An information system (IS) is any combination of information technology and people's activities using that technology to support operations, management, and decision-making. It is a combination of hardware, software, infrastructure and trained personnel organized to facilitate planning, control, and coordination. In a very broad sense, the term information system is frequently used to refer to the interaction between people, algorithmic processes, data and technology. In this sense, the term is used to refer not only to the information and communication technology (ICT) an organization uses, but also to the way in which people interact with this technology in support of business processes. Information systems interrelate with data systems on the one hand and activity systems on the other. An information system is a form of communication system in which data is represented and are processed as a form of social memory. An information system can also be considered a semi-formal language which supports human decision making and action. The City of Rocky Mount utilizes information systems to store data, monitor electrical substations, monitor traffic control devices, financial management, utility billing and collections, inter-departmental

communications, police and fire emergency dispatch, research and procurement, planning and development, engineering processes, water treatment, wastewater management, and a host of other municipal programs and services. The City has main servers located at City Hall and has a redundant server system at Environmental Services that is on a fiber loop to connect all departments of the City.

As with most municipalities, the physical information systems infrastructure is relatively unprotected. The network uses aerial fiber runs along public streets, wireless devices installed on unprotected rooftops, LAN equipment installed in buildings accessible to the public, etc. Data center security is sufficient only to protect against casual unauthorized access, relying on locked doors and cameras that monitor entry and exits. In each case, a determined attack could relatively easily destroy or disable either. Unauthorized electronic access to systems is reasonably well protected using typical approaches, including firewalls on each communications connection and OS level authentication. The City's disaster recovery strategy therefore relies on redundancy, backups and partnering agreements -- a local, remote data center exists for support of critical applications, some key systems are backed up to an ASP location out of state and E911 services can be hosted by the county while communications transfers over to the City's backup public safety answering point (PSAP) housed at Fire Station #7.

POPULATION AND DEMOGRAPHICS

According to the 2020 U.S. Census Bureau's American Community Survey, the estimated total population of the City of Rocky Mount was 54,532. Therefore, the average population density was approximately 1,152 people per square mile, reflecting the city's urban character.



Population by Age Group

The population data allows further classification by age group. The median age is 41 which is 1.8 more than the state's median of 39.2. The 2020 census also provided population data regarding gender for Rocky Mount. Males of all races make up approximately 45.8% of the total population while females of all races represent 54.2%.





Other Population Statistics	City of Rocky Mount	North Carolina
Under 18	21%	22%
18 years to 64 years	60%	62%
65 years and over	19%	16%
Married Persons	41%	51%
Single Persons	59%	49%

Housing Characteristics	City of Rocky Mount	North Carolina
Total Housing Units	26,496	4,673,933
Occupied	84%	86%
Vacant	16%	14%
Single Unit	66%	70%
Multi-Unit	27%	18%
Mobile Home	7%	12%

Economic Characteristics	City of Rocky Mount	North Carolina
Median Household Income	\$46,396	\$60,516
Per Capita Income	\$26,416	\$34,209

Educational Characteristics*	City of Rocky Mount	North Carolina
No Degree	13%	1%
High School Graduate	35%	25%
Some College	30%	31%
Bachelor's Degree	15%	21%
Post-Graduate Degree	7%	12%

*Population 25 years and over

Schools in Rocky Mount

Elementary Schools	 Baskerville Elementary - K-5 Benvenue Elementary - K-5 DS Johnson - 3-5 Englewood Elementary - 3-5 GW Bulluck Elementary - PK-5 Williford Elementary - PK-5 Winstead Avenue Elementary - PK-2
Middle Schools	• GR Edwards Middle - 6-8 • JW Parker Middle - 6-8 • West Edgecombe Middle - 6-8
High Schools	 Nash Centtral High School - 9-12 Northern Nash High School - 9-12 Nash Early College High School - 9-12
Other Schools	 Rocky Mount Preparatory School - K-12 Tar River Academy - 6-12 Rocky Mount Academy - K-12 Faith Christian Academy - K-12

Downtown Rocky Mount

The original downtown area consists mainly of two-and three-story structures built in the late 1800's through the late 40's and early 50's. The predominant construction is wood frame with masonry veneer. Many of the buildings were constructed side-by-side with a party wall that



served as a fire wall with



extended parapets. The City of Rocky Mount is separated by two counties with the county line passing directly through downtown. The CSX Railroad runs along the county line through the area essentially dividing the old downtown in half. The downtown area is designated as being in the Primary Fire District and is subject to more stringent building code requirements. Beginning in the early 1960's, the downtown business district was beginning to be adversely affected by westward growth and development. A new covered mall, offices, retail stores, and more in the western areas began to draw business and business operators away from the old downtown area. Improved parking, lighting, variety, and other amenities in the development areas slowly eroded the downtown area as being the economic powerhouse it once was. The City has been proactive in trying to attract business to the downtown area and to refurbish the area to make it more marketable. Additionally, the City has remodeled the entire downtown streets scape along with many downtown buildings through grants, private sponsorship, and other funds to help symbolize that downtown is a viable marketplace. Notable buildings revitalized by the City are the Imperial Center, train station, old Fire Station Two, and the Douglas Block.

Historic Properties

In 1997, the Rocky Mount City Council appointed nine members to serve on a newlycreated Rocky Mount Historic Preservation Commission (HPC). The Commission meets on the fourth Tuesday of each month. Historic preservation preserves and fosters the use and reuse of historic buildings which add significantly to a community's distinctiveness, personality, and diversity. Historic preservation encourages pride and reinvestment in older existing neighborhoods, thus stabilizing and enhancing values. Types of districts include residential neighborhoods, commercial districts, industrial complexes, and mill villages. The City of Rocky Mount has a total of seven historic districts listed on the National Register. They are the Central City (Downtown) Historic District; Villa Place, Lincoln Park Historic District; Edgemont, (Tarboro/Sycamore) Historic District; Falls Road Historic District, Rocky Mount Mills Village Historic District, and West Haven Historical District. Within these seven districts on the National Register, there are 1,200 individual properties that are included.



November 12, 1999, Edgemont along with

On

Villa Place and Falls Road Historic Districts were formally listed on the National Register of Historic Places. The Rocky Mount City Council approved the designation of the Rocky Mount Mills Village as a Local Historic District in May



2000. Local designation is an honor, meaning the community believes the architecture, history, and character of the area are worthy of recognition and protection. Local historic



districts are generally created to protect entire areas or groups of historic structures. Most often, the reason for creating a local district is to prevent unregulated and insensitive change. Since 2000, the Rocky Mount City Council has approved local designation for the Edgemont Historic District, Rocky Mount Central City Historic District, and Villa Place Historic Districts.

Recreational Facilities

The Rocky Mount Parks & Recreation Department oversees a system of parks linked by a seven-mile Rocky Mount Greenway near the center of Rocky Mount. These large parks comprise nearly 300 acres of parkland. Starting at Sunset Park and following the Tar River through Battle Park, crossing the river into Stith-Talbert Park, trails travel into Dr. Martin Luther King, Jr. Park and the Hillsdale Community. Near South Church Street, a connector trail travels north to the Rocky Mount Sports Complex and Athletic Stadium. The Rocky Mount Sports Complex and Athletic Stadium is on North Church Street and is comprised of

baseball/softball fields, soccer fields, basketball courts, and picnic facilities. The complex plays host to many baseball, softball, and most recently soccer tournaments each year.

The Rocky Mount Event Center (RMEC) is an indoor sports destination located in the heart of Downtown Rocky Mount unlike any sporting event center in eastern North Carolina. The RMEC houses 8 basketball courts, 16 volleyball courts, and a family entertainment area as well as meeting/conference rooms. The RMEC is unique in that it not only caters to sporting tournaments, but also has the capacity to accommodate a multitude of other occasions. This space is ideal for use by both locals and visitors alike and sets Downtown Rocky Mount apart as the perfect destination location of experience for people of all ages and interests.






Roads

There are three major highways that intersect in Rocky Mount: U.S. Route 64, Interstate 95, and U.S. Route 301. Interstate 95 runs through a portion of west Rocky Mount, US 64 is a major east-west freeway through the city, and US 301 forms the major north-south thoroughfare through the city. There are three significant road projects that are underway in the City of Rocky Mount. Those projects are as follows:

- Widen **Eastern Avenue** between Red Oak and North Old Carriage roads into a four-lane road with a raised median (STIP R-5720).
- Convert the **Sunset Avenue** bridge over I-95 into an interchange with ramps and loops to provide new access to the highway (STIP U-5026).
- Widen North Old Carriage Road between Eastern Avenue and Green Hills Road (STIP U-5996).

Information obtained from the North Carolina Department of Transportation <u>https://www.ncdot.gov/projects/nashville-rocky-mount-projects/Documents/nashville-rocky-mount-vicinity-map.pdf</u>

<u>Major Highways</u>

Interstate 95 Exits: N.C 4, Dortches Blvd., and U.S. 64 with a future exit at Sunset Avenue just south of the U.S. 64 exit.

U.S. 64 Exits: Raleigh St, Atlantic. Ave, North Church St, Benvenue. Rd/Peachtree St, U.S 301(Wesleyan. Blvd) Buck Leonard Blvd to Sunset Ave, Winstead Ave, Interstate 95, and Old Carriage Rd.

U.S 301 (Wesleyan. Blvd) Exits: Benvenue Rd, U.S 64, Sunset Ave, Bethlehem Rd, West Mount Dr, and N.C 97 (W. Raleigh Blvd).

<u>Airports</u>

The Rocky Mount-Wilson (RWI) Airport serves the Counties of Nash, Wilson, and Edgecombe with regional air service. It is on NC Highway 97 and is just 6.5 miles from Rocky Mount, 9 miles from Wilson and only minutes from industrial traffic routes I-95, US 64, 264, 301 and NC 98. The Rocky Mount Fire Department will respond to the RWI upon request from



the county. The closest international airport is Raleigh-Durham International (RDU) at approximately 55 miles away. Cargo and charter flights in the area also utilize the Kinston Regional Jetport located in Lenoir County approximately 40 miles from Rocky Mount.

Regional Hospital

Nash Care UNC Health Care Systems offers a wide variety of services in facilities within Rocky Mount, including:

- Nash General Hospital;
- Nash Day Hospital;
- <u>Coastal Plain Hospital;</u>
- Bryant T. Aldridge Rehabilitation Center;
- Danny Talbott Cancer Center;
- Emergency Care Center;
- <u>Heart Center;</u>
- <u>Mayo Surgery Pavilion; and</u>
- Women's Center (https://www.nashunchealthcare.org/)

Nash UNC Heath Care Systems primarily services a six-county area including Nash, Edgecombe, Franklin, Wilson, Warren, and Halifax counties.

DESCRIPTION OF AGENCY SERVICES & PROGRAMS

The department offers the following services to its community:



Services

Fire Suppression Services

The department provides the typical fire suppression services for the community through resources assigned to seven fire stations within two battalions. There are 130 Operations personnel which includes three shift Safety & Training Officers operating seven engine companies, two aerial companies, two rescue units, two command

vehicles, and one safety and training vehicle. Apparatus and personnel are equipped to handle a variety of fire- related incidents ranging from small grass/rubbish fires to residential and commercial structure fires. All personnel are trained and provided the necessary guidance, supervision, apparatus, equipment, and resources to safely and effectively mitigate the common fire incidents for which it encounters.

Emergency Medical Services

The department provides basic level emergency medical service to the community at the basic life support (BLS) level with all Operations Division personnel certified to the Emergency Medical Technician – Basic Level along with several staff members. The City is split between two counties; therefore, Nash County Emergency Services (NCEMS) and Edgecombe County Rescue Services (ECRS) are the primary advanced life support (ALS) providers of pre-hospital emergency care. The department has standard operating guidelines in place to direct the efforts of the EMS program. The department's primary response for each station territory is the engine supplemented by the rescue unit within each battalion. Aerial apparatus is equipped with the same equipment as the engine and rescue units and respond to calls where other units are out of place, and they are in place to provide a timelier response.

Hazardous Materials Response Services

The department provides effective Hazardous Materials Response services that ensure a high level of protection for the community. Engine companies arrive promptly for emergency assessment and begin limited operations under the guidelines of Operations level training. A fully staffed, trained, and equipped hazardous materials team of Hazardous Materials Technicians from the Regional Response Teams (RRT1 or 4) can supplement this initial response within an hour along with a neighboring department with Technician level resources less than 30 minutes away. All three shifts have strategically stationed hazardous materials advisors that receive advanced training and provide support for operations at hazardous materials incidents.

Technical Rescue Services

The department provides basic and advanced level technical rescues services for the community. It has adequately equipped apparatus for the more basic rescue needs along with special rescue teams to address more advanced and specialized rescue disciplines. The apparatus is equipped to handle extrication of trapped or pinned victims involving motor vehicle incidents along with minor rescue incidents such as elevator rescues. The specialty rescue teams provide adequate equipment and personnel to provide more advanced services which include the rescue of victims from swift water, drownings, high/low angle rescues, and confined spaces. They are comprised of three primary disciplines: swift water, dive, and confined space.

Programs

The department offers the following programs to its community. Programs are evaluated quarterly to track and monitor the programs' outcomes, which are incorporated into the department's strategic plan.

- Fire Safety Education
- Disaster / Emergency Preparedness Education (Domestic Preparedness& Response)
- Community Risk Reduction (Building Inspections/Code Enforcement)
- Fire Investigation
- WMD / Bioterrorism Response

Public Safety Education

The department has a comprehensive fire and life safety education program which addresses a wide range of fire and life safety issues observed in Rocky Mount. The department conducts numerous fire and life safety programs aimed at children, adults, senior adults, civic groups, churches, and neighborhood associations. Employers and their employees at business and industrial occupancies are targeted with fire drill planning, fire extinguisher training, evacuation planning, automatic alarm systems operation, and emergency preparedness. The department shapes its public education program and targets specific risks, behaviors, and audiences in response to national trends identified by the National Fire Protection Association and local needs identified through incidents, demographics, program data analysis, and community risk assessment. Many of the fire and life safety education programs are designed by request according to the needs of the group or business, using materials and the most current information from NFPA. Fire Prevention Week activities include fire safety puppet shows, fire safety house tours, equipment displays, and informational booths at various public locations. Fire department staff members meet with citizens at least annually to maintain awareness of their service needs. Annual appraisals of the Public Education Program show that through coordination and planning, the program is constantly evolving to better meet the needs of the community. The program focuses on targeted audiences and risks identified within the City to be consistent with the department's mission of "Protecting Lives and Property through Quality and Excellence in Service."

Community Risk Reduction (Building Inspections/Code Enforcement)

The department has an effective and efficient business inspection/code enforcement program that places a maximum effort to reduce injuries and deaths related to fire and life safety incidents. It utilizes a records management system to capture data and identify areas of risk within our community. The department enforces the North Carolina Fire Prevention Code, City ordinances and local codes to provide a safe environment for the community. The department's Fire Marshal's Office contains the Fire Marshal along with three Deputy/Assistant Fire Marshals that serve as field inspectors. These staff members are responsible for enforcing codes, gathering data, and supporting public education efforts within the community when necessary. The department also utilizes approximately 40 shift fire inspectors to enforce fire code and support its community risk reduction goals.

Disaster / Emergency Preparedness Education

The department has a comprehensive disaster/emergency preparedness program which provides for the needs of the organization and community. The department maintains strong partnerships with the two county emergency management coordinators along with the area coordinator for the State. The organization's emergency management duties are the responsibility of the department's Assistant Chief of Administration & Planning. This position, in cooperation with the county emergency management coordinators, work together to ensure the community and City organization remain informed of any/all disaster/emergency preparedness issues. The City's emergency management coordinator is the driver for sharing education materials, in addition to ensuring City personnel are involved in relevant exercises to maintain organizational preparedness.

Fire Investigation

The department utilizes a comprehensive approach to determine fires' correct cause and origin. The department's Fire Investigations Team (FIT) comprises 15 members tasked with performing the scene processing and documentation. Each operational shift has three to five FIT members that begin the processing while on duty at the scenes. Each shift has a team leader responsible for daily operations, communications, or direction for that shift's team members. The Fire Marshal's Office is responsible for supporting the FIT members' goals, objectives, and operations. Each investigation has documentation conducted for record-keeping. Each investigation folder goes through three reviews of quality assurance and approval before filing. Once the department performs the scene processing, evidence and details are handed over to the Police Department for further processing.

WMD / Bioterrorism Response

The department's WMD / Bioterrorism response is considered as part of its Hazardous Materials service that is previously mentioned. Sufficient resources are in place to provide for the initial response to these type events with the necessary relationships to request additional resources that surpass the capabilities of the department.

EXTERNAL STAKEHOLDER FEEDBACK

The Rocky Mount Fire Department has always had a high level of commitment to the public it serves. Personnel will make an extra effort to accommodate the needs of the public. To obtain information on customer needs and their expectations of the fire department, a community survey was shared during a stakeholder meeting to obtain specific data on service priorities, expectations, concerns, and any other thoughts or comments regarding the fire department. Additional functional relationships have also been developed to help secure basic needs during the immediate and extended phases following an emergency and provide vital community risk reduction for citizens. New agreements with community-based organizations, such as the American Red Cross, are established to meet citizens' needs better after an incident has been mitigated.

Customer Priorities

External stakeholders were asked to prioritize the current services provided by the department. This helps to identify what is important to the customer. The priorities of the public were:

SERVICES	RANK
Emergency Medical Care	1
Basic Rescue (i.e. Vehicle extrication)	2
Fire Suppression	3
Advanced Rescue (i.e. Swift water)	4
Fire Safety Education	5
Disaster / Emergency Preparedness Education	6
Hazardous Materials Response	7
Building Inspections / Code Enforcement	8
Fire Investigation	9
WMD / Bioterrorism Response	10

Areas for Improvement

The external stakeholders offered the following in terms of areas for improvement:

Public Safety Education
Continue to find avenues to connect with and educate the public including
training at fire stations for citizens and children
Disaster/Emergency Preparedness Education
Improvements to Emergency Medical Services
Explore higher levels of services
Reach out to the community organizations to see what is needed
Offer more public safety education and recruitment in the inner city and high
schools
More community involvement and education
More visibility in the communities
Junior Fire Academy

Expectations of the RMFD

The external stakeholder participants offered the following in terms of expectations:

To be safe, prompt, and preventative
Commitment to serve the city and citizens
To provide top notch service
To be friendly and engaging within the community
Work with landlords to make houses safer
Maintain professionalism
Prompt response to medical emergencies and fire needs
Improvement in medical emergency services

Customer Concerns

The external stakeholder participants provided the following concerns for the Rocky Mount

Fire Department:

More visible signage in older communities so that addresses can be seen from the
street
More community engagement and opportunities
Check rental homes for fire alarms
More visibility in the community and fire awareness for kids
More focus on fire prevention

CURRENT DEPLOYMENT

Fire Stations, Apparatus and Staffing

Emergency response apparatus are located throughout the city from seven fire stations. The corporate limits have been divided into seven fire response territories that meet the time constraints for initial arriving engine and initial full alarm assignment in accordance with the general criteria of NFPA 1710. Fire stations are strategically located within each of seven fire response territories with a goal of providing the most effective response possible and dividing workload as equally as practical. Apparatus is strategically located and staffed to maintain levels for effective response to emergency and non-emergency calls.

The Rocky Mount Fire Department service area comprises seven fire response districts which are used to analyze fire department programs and services. Each district includes designations of smaller geographical areas called Geo-Proximity. The Geo- Proximity sectors can also be viewed as service demand zones with the intent of both being the same. There are 100 Geo-Proximity sectors in the City. Development within the response districts comprises residential, commercial, industrial, manufacturing, business, and assembly occupancies. Service area boundaries are documented and approved by the AHJ in accordance with the City of Rocky Mount Municipal Code – Chapter 2 Article 1. In addition to the seven fire response zones, the extra-territorial jurisdiction (ETJ) and the automatic aid areas in which the department provides services are defined, service areas utilized, agreements documented in the City's GIS system, and approved by the AHJ.

	POPULATION DENSITIES FOR EACH FIRE STATION									
	2022									
	Sq. Miles	Population	Density/Sq. Mile	% Of Population	Designation					
Sta 1	4.00	9,716	2,429	17.88	Rural					
Sta 2	6.43	13,678	2,127	25.17	Rural					
Sta 3	9.83	14,341	1,459	26.39	Rural					
Sta 4	7.03	5,157	734	9.49	Rural					
Sta 5	9.42	5,440	578	10.01	Rural					
Sta 6	8.12	4,934	608	9.08	Rural					
Sta 7	2.33	1,076	462	1.98	Rural					



Apparatus ID	Туре	Rated GPM	Aerial Length	Status	Minimum/Normal Staffing
E1	Pumper	1500	*	Frontline	3/4
L10	Aerial	2000	100′	Frontline	3/3
R1	Equipment	*	*	Frontline	2/3
BATT1	Command	*	*	Frontline	Battalion Chief
STO1	Support	*	*	Frontline	Safety & Training Officer
		LOC	GISTICS		
SERT2	Trailer	*	*	*	*
TERT1	Trailer	*	*	*	*
BOAT 1 & 2	Trailer	*	*	*	*
Support 11	Mobile Air Supply	*	*	Standby	*
Support 12	High Clearance	*	*	Standy	*



Apparatus ID	Туре	Rated GPM	Aerial Length	Status	Minimum/Normal Staffing
E2	Pumper	1250	*	Frontline	4/4
BR1	Brush Truck	150	*	Standby	*



Apparatus ID	Туре	Rated GPM	Aerial Length	Status	Minimum/Normal Staffing
E3	Pumper	1250	*	Frontline	4/4



Apparatus ID	Туре	Rated GPM	Aerial Length	Status	Minimum/Normal Staffing
E4	Pumper	1250	*	Frontline	4/4



Apparatus ID	Туре	Rated GPM	Aerial Length	Status	Minimum/Normal Staffing
E5	Pumper	1250	*	Frontline	4/4



Apparatus ID	Туре	Rated GPM	Aerial Length	Status	Minimum/Normal Staffing
E6	Pumper	1500	*	Frontline	3/4
L30	Aerial	2000	100′	Frontline	3/3
R2	Equipment/Air Supply	*	*	Frontline	2/3
BATT2	Command	*	*	Frontline	Battalion Chief



Apparatus ID	Туре	Rated GPM	Aerial Length	Status	Minimum/Normal Staffing
E7	Pumper	1250	*	Frontline	4/4
L20	Quint	1250	75′	Reserve	*

Other Reserves located at Logistics or other stations: E21, E22, E23, E24 (Pumper, 1250 GPM)

Incident Response

The table below indicates the frequency of historical emergency and non-emergency service demand for the previous five years. The incident count for the general incident type categories is further expanded in each service area.

All Incident Types	2018	2019	2020	2021	2022
Residential	101	65	59	69	50
Non-residential	71	71	75	67	96
TOTAL STRUCTURE FIRES	172	136	134	136	146
Highway Vehicles	65	57	60	61	52
Natural Vegetation	72	44	39	63	74
Fires in Rubbish, Including Dumpsters	34	48	30	29	36
All Other Fires	18	23	16	12	12
TOTAL FOR ALL FIRES	361	308	279	301	320
Emergency Medical Responses	8,180	8,114	3,017	6,063	6,212
Technical Rescue Responses	39	38	56	32	44
False Alarm Responses	798	723	842	861	956
Hazardous Materials Responses	96	129	97	276	380
Other Hazardous Responses	114	127	205	101	89
All Other Responses	1,286	1,171	762	1,101	1,085
TOTAL FOR ALL INCIDENTS	10,874	10,610	5,258	8,735	9,086

Fire Suppression

The department provides fire suppression for various types of fires such as structure fires, vehicle fires, brush fires, and rubbish fires. On average for a five-year period from 2018 to 2022, fires made up approximately 3.5% of the total call volume with approximately 1.6% being structure fires. The chart and graph below list fires by year according to the National Incident Reporting System (NFIRS) incident type classifications.

Year	Total Calls	Fire Calls	% Fire Calls	Structure Fire Calls	% Structure Fire Calls
2018	10,874	361	3.3%	172	1.5%
2019	10,610	308	2.9%	136	1.2%
2020	5,258	279	5.3%	134	2.5%
2021	8,735	301	3.4%	136	1.5%
2022	9,086	320	3.5%	146	1.6%
Future	8,912	314	3.5%	145	1.6%
Probability					

Fire Suppression Incident Type	2018	2019	2020	2021	2022
Fire, Other	4	16	11	6	12
Building fire	99	63	56	68	49
Fires in structure other than in a building	0	1	3	4	4
Cooking fire, confined to container	60	54	58	38	44
Chimney fire, confined to chimney	3	3	2	0	0
Incinerator overload or malfunction, fire confined	0	1	1	1	0
Fuel burner/boiler malfunction, fire confined	5	10	1	3	1
Commercial Compactor Fire, confined to rubbish	0	0	1	0	1
Trash or rubbish, contained	3	2	10	21	34
Fire in mobile home used as fixed residence	2	2	2	1	0
Fire in motor home, camper, recreational vehicle	0	0	0	0	1
Mobile property (vehicle) fire, other	0	0	7	2	2
Passenger vehicle fire	59	51	48	45	43
Road freight or transport vehicle fire	5	4	4	7	4
Rail vehicle fire	0	0	0	2	1
Water vehicle fire	0	1	0	0	0
Camper or recreational vehicle (RV) fire	0	0	0	2	0
Off-road vehicle or heavy equipment fire	1	1	1	3	2
Natural vegetation	0	0	12	21	17
Forest, woods or wildland fire	1	2	2	6	10
Brush or brush and grass mixture fire	51	28	18	21	28
Grass fire	20	14	7	15	19
Outside rubbish fire, other	3	0	9	6	8
Outside rubbish, trash or waste fire	23	33	17	14	21
Dumpster or other trash receptacle fire	8	15	4	9	7
Outside stationary compactor/compacted trash fire	0	0	0	0	0
Special outside fire, other	1	0	0	1	4
Outside storage fire	6	4	1	2	0
Outside equipment fire	5	1	3	3	6
Outside gas or vapor combustion explosion	0	0	0	0	0
Cultivated vegetation, crop fire, other	0	0	1	0	0
Cultivated grain or crop fire	1	2	0	0	2
Cultivated trees or nursery stock fire	1	0	0	0	0

Dollar Value Saved/Loss	2018	2019	2020	2021	2022
Property/Contents Value	\$28,057,916	\$32,351,494	\$33,711,303	\$21,852,859	\$30,408,841
Property/Contents Loss	\$1,477,344	\$1,726,320	\$1,121,971	\$2,198,993	1,664,975
% of Property/Contents Saved	94.73%	94.66%	96.67%	89.94%	94.52%

Emergency Medical Services

The fire department provides basic life support to requested calls for EMS and relies on Nash County Emergency Services or Edgecombe County Emergency Services for higher levels of medical services. Seven fire stations provide EMS services at the basic level. The probability of these stations responding to EMS calls is a result of several factors. Concentrations of geriatric care facilities, demographics, and historical data provide indications of the likelihood of an EMS response. Emergency medical calls have historically accounted for approximately 76% of the total call volume since implementation of the EMS program. The department does not provide transport services as it sits in two counties and each one has its own ambulance transport services staffed with paramedics. The fire department can arrive on scene anywhere from one to six minutes or more before a county unit arrives. This allows the initiation of patient care before the arrival of the transport unit and typically results in increased levels of patient care. The initiation of early patient care is essential. The probability of the fire department responding to medical calls is greater if the request for assistance is for emergency response and not for convalescent calls.

Providing emergency medical responses to the community dynamic as it is most often experienced by the affected community members themselves. Injury, illness, and other medical issues affect the patient who must deal with the physical and emotional repercussions and the family members who must deal with the emotional side and perhaps with providing short- and/or long-term care for the patient. Currently, budget allocations are approximately \$55,000 per year not including staffing, fuel, and training. At times, multiple and simultaneous calls for EMS services are received and other units must provide services outside their primary response area that may result in reduced reliability and increased response times before arriving to assist the patient.

Year	Total Calls	EMS Calls	% EMS Calls
2018	10,874	8,180	75.2%
2019	10,610	8,114	76.5%
2020	5,258	3,017	57.4% (Covid)
2021	8,735	6,063	69.4%
2022	9,086	6,212	68.4%
Future Probability	8,912	6,317	70.8%

Emergency Medical Incident Type	2018	2019	2020	2021	2022
Abdominal Pain	212	244	77	185	179
Allergic Reaction	61	27	24	43	40
Altered Mental Status	356	397	133	256	243
Back Pains	48	50	21	32	48
Burns	6	4	3	11	6
Cardiac Arrest	146	134	158	145	153
Chest Pain	1,028	981	325	768	809
Stroke	223	224	75	174	170
Diabetic Emergency	330	343	106	227	205
Intoxicated Person	54	73	16	56	49
Lifting Assistance	262	280	95	66	67
Malicious false call	2	4	1	0	0
Medic Alert Alarm	151	128	27	27	29
Medical Emergency Other	1,362	1,282	353	938	1,231
Motor Vehicle Accident with injuries	279	256	230	287	264
Motor Vehicle Accident with no injuries	77	84	75	113	111
Motor vehicle / pedestrian accident	20	27	20	26	22
OB Emergency	144	131	42	75	74
Overdose	136	125	70	201	149
Respiratory Distress	1,604	1,588	604	1,375	1,281
Seizure	434	487	139	359	437
Trauma	830	866	238	268	256
Unconscious / Unresponsive	389	371	137	259	245
Cleared due to non-emergency	26	8	48	172	144

Technical Rescue

The Rocky Mount Fire Department provides technical rescue response services that include vehicle extrication, rope rescue, confined space rescue, trench rescue, and swift water rescue.. The department has adequately equipped apparatus and teams to provide the level of technical rescue service typically experienced in the community. The apparatus is equipped to handle common rescue incidents such as persons trapped in elevators, children locked in vehicles, and extrication of trapped or pinned victims involving motor vehicle incidents. The specialty rescue teams provide adequate equipment and personnel to rescue victims from swift water, underwater drownings, high/low angle rescues, and confined spaces. They are comprised of three teams: swift water, dive, and technical rescue responsible for the confined space, trench rescue, and high/low angle disciplines. Most rescue responses have only a local effect in terms of injuries, lost time, and other personal losses. The most prevalent consequences, other than a major human-made or natural disaster, are interruptions to traffic flow, delayed access to victims, emotional stress for responders,

Year	Total Calls	Technical Rescue Calls	% Technical Rescue
2018	10,874	39	0.36%
2019	10,610	38	0.36%
2020	5,258	58	1.10%
2021	8,735	32	0.37%
2022	9,086	44	0.5%
Future Probability	8,912	42	0.5%

incident scene safety issues, and potential evacuation activities. Most rescue incidents are

Technical Rescue Incident Type (NFIRS)	2018	2019	2020	2021	2022
Lock-in	13	16	7	16	15
Search for person on land	0	0	2	0	0
Search for person in water	0	0	3	0	3
Extrication, rescue, other	10	12	1	3	1
Extrication of victim(s) structure or vehicle	0	0	7	3	5
Removal of victim(s) from stalled elevator	10	9	8	7	14
Extrication of victim(s) from machinery	1	0	2	0	0
Water & ice-related rescue, other	4	1	3	1	2
Swift water rescue	1	0	20	1	0
Watercraft rescue	0	0	1	0	0
Trench/below-grade rescue	0	0	0	0	0
High-angle rescue	0	0	0	0	0
Electrical rescue, other	0	0	1	0	0
Trapped by power lines	0	0	1	1	0
Rescue or EMS standby	0	0	0	0	4

short-term; however, there have been incidents that have long-term consequences such as

flooding from hurricanes or other storm events. On average, technical rescue incidents comprise approximately .53% of all calls based on data from 2018-2022.

Hazardous Materials

The City of Rocky Mount Fire Department provides hazardous materials response at the Hazardous Materials Operations level. Several personnel are certified as technicians who serve as part of a HazMat Advisory Group and are utilized as on-scene resources for mitigating hazardous materials incidents. These personnel also are members of the North Carolina State Hazardous Materials Regional Response Team in Williamston, NC. The department has responded to relatively few chemical leaks and spills. Most calls are related to

hydrocarbon spills and damaged supply lines for small liquid propane tanks and natural gas lines. On average for a five-year period from 2018 to 2022, hazardous material incidents made up approximately 3.6% of the total call volume.

Year	Total Calls	Hazardous Materials Calls	% Hazardous Materials
2018	10,874	210	1.9%
2019	10,610	256	2.4%
2020	5,258	302	5.7%
2021	8,735	377	4.3%
2022	9,086	469	5.2%
Future Probability	8,912	322	3.6%

Hazardous Materials Incident Type	2018	2019	2020	2021	2022
Hazardous Condition, other	3	0	2	3	2
Comb./flamm gas/liq condition, other	1	2	2	7	13
Gasoline or other flamm liquid spill	8	15	8	5	14
Gas leak (natural gas or LPG)	75	94	167	247	330
Oil or other combustible liquid spill	4	5	2	1	2
Toxic condition, Other	0	0	0	0	0
Chemical hazard (no spill or leak)	0	0	4	0	2
Chemical spill or leak	1	2	0	0	2
Refrigeration leak	0	1	3	2	1
Carbon monoxide incident	7	10	19	14	14
Electrical wiring/equipment problem, other	4	0	18	35	24
Heat from short circuit (wiring), defective/worn	20	28	15	16	17
Overheated motor	10	20	10	13	9
Breakdown of light ballast	5	1	2	1	3
Power line down	20	9	6	4	3
Arcing, shorted electrical equipment	47	61	34	24	31
Biological hazard, confirmed or suspected	1	2	0	0	0
Accident, potential accident, other	0	1	0	1	0
Building or structure weakened or collapsed	0	0	3	0	0
Aircraft standby	2	2	3	3	0
Vehicle accident, general cleanup	1	3	4	1	1
Attempt to burn	0	0	0	0	1

Unit Availability/Reliability

Multiple and simultaneous calls occur at every fire station at some point in time. The busier the call volume for any one facility, the more likely there will be a second, third, or even more calls while the primary unit is already in service at an incident. The table below states the number of incidents handled by a unit other than the primary unit and the unit's percentage of reliability.

	2018	2019	2020	2021	2022	Total Average
E1	83%	84%	81%	82%	83%	83%
E2	89%	89%	91%	91%	90%	90%
E3	88%	89%	91%	89%	89%	89%
E4	94%	94%	91%	93%	90%	92%
E5	94%	94%	91%	91%	93%	93%
E6	73%	68%	72%	78%	75%	73%
E7	98%	95%	97%	96%	95%	96%

Reliability

Department Total Reliability - 88%

Stop Loss Points

For this discussion, stop-loss points are defined as "the resource level an agency will not go below when asked for mutual aid." For requests from adjoining jurisdictions for any Automatic Aid or Mutual Aid assistance, where applicable and approved by the on-duty Battalion Chief, the department will generally permit its emergency response resources to drawdown to a minimum level by allowing up to one engine, one aerial, and one rescue to simultaneously respond to areas outside the corporate limits of the City. Units may respond as a Single Resource or as a Task Force. This results in a drawdown to 73% of available front-line apparatus and up to 74% of personnel availability. Realizing this would be an extreme situation; the on-duty battalion chief could initiate personnel call backs to staff additional units, if needed. Requests for assistance from either of the department's special teams (Swift Water Rescue or Confined Space Team) will be honored based on the immediate availability of those resources. Support for our neighboring communities at this level demonstrates the RMFD commitment to regionalization and willingness to share and commit resources.

Resource Exhaustion

Resource Exhaustion can be defined as "the situation that occurs when a system is out of resources for both an initial response and for an area-wide effective response". In the few cases where the department has experienced resource exhaustion during periods of high fire activity and/or responses to large all-risk incidents, an emergency recall of off duty staff and shift personnel has been requested by the Incident Commander. Past procedures have included directing off-duty personnel to return to their respective assigned stations to check-in and wait for assignments, as well as directing all available off-duty personnel to report to the incident scene for assignment. At any given time, the department has enough personnel that can be called back to duty to fill reserve apparatus. This procedure could be utilized in conjunction with activation of mutual aid or automatic aid procedures when the department is close to resource exhaustion. In most cases, mutual aid, automatic aid, and personnel call back will be sufficient to fill needed staffing levels. It is possible that the area's resources are simultaneously impacted. Then the City and adjoining jurisdictions will request regional, state, and/or federal support through the county and state emergency management system.

Resource exhaustion influences response reliability and occurs when a system is out of resources for both an initial response and/or an area-wide effective response force. As described above, the department has entered into agreements that ensure the City of Rocky Mount citizens will have adequate available resources and protection. Currently, this potentially provides the fire department access to adequate engine companies, water tenders, and equipment vehicles along with staffing provided through the volunteer forces.

Over the years, additional resources were available through the mutual aid system and adequate coverage remained in individual county jurisdictions during the few major incidents in the City. All automatic aid and mutual aid activities are tracked and recorded in the department's data management system.

ALL HAZARD RISK ASSESSMENT OF THE COMMUNITY Risk Assessment Methodology

The Rocky Mount Fire Department identifies, categorizes, and prioritizes risk within the community. The Three-Axis Heron's Formula is used to calculate risk by classification (fire, emergency medical services, technical rescue, and hazardous materials). This model provides an accurate means of communicating the organizational impact of emergency responses. The formula considers the probability of an occurrence (frequency), the severity of consequence (life loss, community impact, financial), and the impact on the department's resources.

Risk =
$$-\sqrt{\frac{(PC)^2 + (CI)^2 + (IP)^2}{2}}$$

The risk is graphically illustrated through a three-axis model as follows:
P = Probability (Y-Axis)
C = Consequences (X-Axis)
I = Impact (Z-Axis)

The probability (P) of risk was determined

through a review of individual incident types and the cumulative total of incident responses from 2018 to 2022 to determine the likelihood of an event. The consequences (C) to the community were determined through an evaluation of the incidents' impact on lives and property. The organizational impact (I) was determined through critical tasking and analysis of the RMFD personnel needed to mitigate the risk. The following table illustrates the assessment model that was applied to calculate a risk category of Low, Moderate, High, or Maximum. The ranking scale established two (2) as the lowest score and ten (10) as the highest score to measure the risk.

	Probability	Consequence				Impact		
Value	Frequency	Value	Life Loss	Community Impact	Financial	Value	Units Dispatched	
2	Infrequent (> 5 years) 0-2	2	Low potential/single	No impact	\$0-\$10,000 loss	2	1-2 unit response	
4	Does not occur often (Yearly) 3-32	4	Moderate potential/single	Minor impact	\$10,000-\$100,000 loss	4	3-4 unit response	
6	Occurs often (Monthly) 33-159	6	High potential/single	Moderate impact	\$100,000-\$500,000 loss	6	5-7 unit response	
8	Occurs frequently (Weekly) 160-1042	8	Moderate potential/multiple	Major impact	\$500,000-\$1,000,000 loss	8	8-9 unit response	
10	Occurs very frequently (Daily) ^1043	10	High potential/multiple	Max impact (disruption)	^\$1,000,000 loss	10	10 or ^ unit response	

Risk Assessment

The Rocky Mount Fire Department is responsible for mitigating various incidents within the following classifications: fire suppression, EMS, technical rescue, and hazmat. Using the 3-axis method allows the department to assign a score to each incident type and assign it a risk level ranging from Low to Maximum. This method is then applied to assess risk within each planning zone (see Appendix A). A sample incident from each classification and risk category was analyzed and illustrated below using the standard risk assessment scoring process previously described. In the following sections, the effective response force (ERF) needed to mitigate a given emergency is elaborated upon following every risk assessment.

Description	Low 0 to 24.99		M	odera	ate		High		Maximum*				
Risk Score Range			25 to 49.99			50 to 74.99			75 to 100				
Incident Type	Ve	Vehicle Fire 0		Co	Cooking Fire			Building Fire			Building Fire		
D' L C	Р	С	I	Р	С	I	Р	С	I	Р	С	I	
HISK Score	4	4	2	8	2	8	8	6	8	4	10	10	
Score Assigned	13.86			48.00)		65.97			81.2			

Fire Suppression Risk.



(*) denotes a simulated maximum-risk incident as there were no instances in the 2018-2022 response data.

Critical Tasking and Effective Response Force for Fire Risk Categories

Low-Risk Responses

Critical Task(s)	Number of Staff
Incident Command/Safety	1
Extinguishment	2
Total Effective Response Force:	3

Moderate-Risk Fire Responses

Critical Task(s)	Number of Staff
Incident Command	1
Safety	1
Accountability Officer	1
Water Supply	1
Pump Operator	1
Fire Attack	4
Backup Line	4
Rapid Intervention Crew	4
Search and Rescue	2
Ventilation	2
Total Effective Response Force:	21

High-Risk Fire Responses

Critical Task(s)	Number of Staff
Incident Command	1
Safety	1
Accountability Officer	1
Water Supply	1
Pump Operator	1
Fire Attack	4
Fire Attack (2) Aerial Ops	4
Backup Line	4
Rapid Intervention Crew	4
Search and Rescue	2
Ventilation	2
Total Effective Response Force:	25

Maximum-Risk Fire Responses

Critical Task(s)	Number of Staff
Incident Command	1
Safety	1
Operations Officer	1
Accountability Officer	1
Water Supply	1
Pump Operator	1
Fire Attack	4
Fire Attack (2) Aerial Ops	4
Backup Line	4
Rapid Intervention Crew	4
Search and Rescue	2
Ventilation	2
Total Effective Response Force:	26

Emergency Medical Services Risk

Description		Low		Moderate				High		
Risk Score Range	0	0 to 30.99		31 to 65.99			66 to 100			
Incident Type	Abde	Abdominal Pain		Cardiac Arrest			Motor Vehicle Accident - Injuries			
Pick Soore	Р	С	I	Р	C	I	Р	С	I	
nisk Score	8	2	2	8	6	2	10	8	4	
Score Assigned		16.25		36.77		67.17				



Critical Tasking and Effective Response Force for Emergency Medical Services Risk Categories

Low-Risk EMS Responses

Critical Task(s)	Number of Staff
Incident Command/Safety/Medical Provider	2
Total Effective Response Force:	2

Moderate-Risk EMS Responses

Critical Task(s)	Number of Staff
Incident Command/Safety	1
Medical Provider	2
Total Effective Response Force:	3

High-Risk EMS Responses

Critical Task(s)	Number of Staff
Incident Command	1
Safety	1
Medical Provider	5
Total Effective Response Force:	7

Technical Services Risk

Description		Low		Moderate		*High			*Maximum			
Risk Score Range	0	to 24.	99	25 to 44.99		45 to 69.99		70 to 100				
Incident Type	Eleva	ator Re	escue	Vehicle Accident with Entrapment		High Angle Rescue			Swift Water Rescue			
Bish Cases	Р	С	1	Р	С	I	Р	С	1	Р	С	1
RISK Score	6	2	2	4	6	4	2	8	8	2	10	10
Score Assigned	S. 2	12.33		26.53		48		73.48				



(*) denotes simulated high and maximum-risk incidents as there were no instances in the 2018-2022 response data.

Critical Tasking and ERF for Technical Rescue Risk Categories

Low-Risk Technical Rescue Responses

Critical Task(s)	Number of Staff
Incident Command/Safety	1
Patient Access	1
Additional Rescue Techs	1
Total Effective Response Force:	3

Moderate-Risk Technical Rescue Responses

Critical Task(s)	Number of Staff
Incident Command	1
Safety	1
Patient Access	1
Additional Rescue Techs	4
Total Effective Response Force:	7

High-Risk Technical Rescue Responses

Critical Task(s)	Number of Staff
Incident Command	1
Safety	1
Patient Access	1
Additional Rescue Tech	7
Total Effective Response Force:	10

Maximum-Risk Technical Rescue Responses

Critical Task(s)	Number of Staff
Incident Command	1
Safety	1
Patient Access	1
Additional Rescue Tech	13
Total Effective Response Force:	16

Hazardous Materials Risk

Description	Low		Moderate			High*			Maximum*			
Risk Score Range	0	to 24.	99	25 to 44.99			45 to 69.99			70 to 100		
Incident Type	Elect	rical V	/iring	Gas Leak Rad		adiation Leak			Explosive Bomb Removal			
Rick Coore	Р	С	L	Ρ	С	1	Р	С	I	Р	С	I
NISK Score	6	2	2	8	4	6	2	10	6	2	10	10
Score Assigned	12.33		44.18			45.52			73.48			



(*) denotes simulated high and maximum-risk incidents as there were no instances in the 2018-2022 response data.

<u>Critical Tasking and Effective Response Force for Hazardous Materials Risk</u> <u>Categories</u>

Low-Risk Hazardous Materials Rescue Responses

Critical Task(s)	Number of Staff
Incident Command/Safety	1
Patient Access	1
Additional HazMat Techs	1
Total Effective Response Force:	3

Moderate-Risk Hazardous Materials Rescue Responses

Critical Task(s)	Number of Staff
Incident Command	1
Safety	1
Patient Access	1
Additional HazMat Techs	4
Total Effective Response Force:	7

High-Risk Hazardous Materials Rescue Responses

Critical Task(s)	Number of Staff
Incident Command	1
Safety	1
Patient Access	1
Additional HazMat Techs	7
Total Effective Response Force:	10

Maximum-Risk Hazardous Materials Rescue Responses

Critical Task(s)	Number of Staff
Incident Command	1
Safety	1
Patient Access	1
Additional HazMat Techs	13
Total Effective Response Force:	16

Occupancy Risk Assessment

Approach One: This method involves a formula-based calculation to generate an occupancy vulnerability assessment profile (OVAP) that is incorporated into the department's records management system to assign a numerical value to various risk factors related to building features, life hazards, water factors, and other factors, such as historical value and economic impact. These numerical assignments are then calculated to produce a numerical score that places the overall occupancy risk into one of four categories.

Approach Two: A second approach is recognition and classification of occupancies following the hazard classifications consistent with those identified in the state's building and fire prevention codes. Additional risk data is collected by the department's risk assessment program titled the Community Hazard Analysis Program (CHAP). This program begins with the Fire Marshal's Office during a certificate of occupancy (CO) inspection. The Fire Marshal's Office (FMO) will perform a preliminary risk assessment evaluation of the property and transfer the information to the Risk Assessment Manager (FMO staff member) who adds the information to the "CO to Active Alert" spreadsheet. The Pre-Plan Manager (Active Alert admin) receives the information to establish pre-plans for the department's RMS and Active Alert app. If required, engine companies will acquire additional data and conduct a scale drawing depicting any occupancy features that are of great value to the incident commander when assessing fire ground operations and managing response resources. Consideration shall be given to the current requirements set forth by the QIFES and NC Response Rating. The department also examines historical data regarding community risks as well as a reliance on institutional knowledge gained from experience and education regarding the area risks and risk levels.

ESTABLISHMENT OF PERFORMANCE OBJECTIVES Benchmark and Baseline Performance Objectives

Response times are analyzed at least annually based on the Commission on Fire Accreditation International (CFAI) standards. The department is predominantly a rural community by census standards with a population density of 1,152 people per square mile. For the purposes of this document and response time analysis, all stations will be included in the Urban category and response performance will be evaluated as such.

The department has established a methodology to determine what data shall be included in the analysis of department operations for alarm processing, turnout time, and travel time. Only qualified data from emergency calls with outliers removed is used for accreditation reporting. Outliers are defined as data points that differ substantially and are an abnormal distance from other data in the sample. Outliers are identified using the interquartile range method. This method is used to build a fence below and above the middle half (interquartile range) of the data set. Data points that are outside of this fence are outliers. This method is applied to total response time for emergency incidents only. Calls with qualified data are used to monitor and evaluate the quality of emergency response performance for each service type within each planning zone, by apparatus, and the total response area.

The response time formula is based on the response time elements included in NFPA 1710 with minor modifications to address department expectations.

Benchmark Statements - Statements concerning the department's future desired goals and the critical tasks required to achieve them.

Baseline Performance Measurements: These measurements, shown in <u>red</u>, illustrate the RMFD's actual performance from 2018-2022.

Alarm Processing - the time interval from the receipt of the alarm at the primary PSAP until the beginning of the transmittal of the response information via voice or electronic means to emergency response facilities (ERFs) or the emergency response units (ERUs) in the field.

The department's Benchmark is 90 seconds for 90 percent of all calls.

Turnout Time - the time interval that begins when the emergency response facilities and emergency response units (ERUs) notification process begins by either an audible alarm or visual annunciation or both and ends at the beginning point of travel time.

The department's Benchmark is 90 seconds for 90 percent of emergency calls.

Travel Time - the time interval that begins when a unit is enroute to the emergency incident and ends when the unit arrives at the scene.

The department's Benchmark for first due units is 4 minutes.

Total Response Time - the time interval from the receipt of the alarm at the agency's PSAP to when the first emergency response unit is initiating action or intervening to control the incident.

Fire Suppression

Fire Suppression Services – Distribution Benchmarks (Baseline)

For 90 percent of all low, moderate, high, and maximum-risk fire suppression incidents, the total response time for the arrival of the first- due unit, staffed with 3 firefighters and officers, shall be: 7

minutes (Low: 7 minutes and 43 seconds; Moderate: 7 minutes and 37 seconds;

High: 7 minutes and 01 seconds; Maximum: no incidents). The first-due unit for all risk levels shall be capable of: providing 500 gallons of water and 1,250 gallons per minute (gpm) pumping capacity; initiating command/safety, advancing a first attack line flowing a minimum of 125 gallons per minute, and establishing an uninterrupted water source. These operations shall be done in accordance with departmental standard operating guidelines while providing for the safety of responders and the public.

Fire Suppression Services – Concentration Benchmarks (Baseline)

For 90 percent of all **moderate-risk** fire incidents, the total response time for the arrival of the effective response force (ERF), staffed with 21 firefighters and officers, shall be: 11 minutes (<u>6 minutes and 46 seconds</u>). The ERF staffing for moderate-risk fires shall be capable of establishing command; providing an uninterrupted water supply; assigning a safety officer; advancing an attack line and a backup line for fire control; complying with the Occupational Safety and Health Administration (OSHA) requirements of two in-two out; completing forcible entry; searching and rescuing at-risk victims; ventilating the structure; controlling utilities; and performing salvage and overhaul.

For 90 percent of all **high-risk** fire incidents, the total response time for the arrival of the effective response force (ERF), staffed with 25 firefighters and officers, shall be: 11 minutes (<u>9 minutes and 15 seconds</u>). The ERF staffing for moderate-risk fires shall be capable of establishing command; providing an uninterrupted water supply; assigning a safety officer; advancing an attack line and a backup line for fire control; complying with the Occupational Safety and Health Administration (OSHA) requirements of two in-two out; completing forcible entry; searching and rescuing at-risk victims; ventilating the structure; controlling utilities; and performing salvage and overhaul.

For 90 percent of all **maximum-risk** fire incidents, the total response time for the arrival of the effective response force (ERF), staffed with 26 firefighters and officers, shall be: 14 minutes (**no incidents**). The ERF staffing for moderate-risk fires shall be capable of establishing command; providing an uninterrupted water supply; assigning a safety officer; advancing an attack line and a backup line for fire control; complying with the Occupational Safety and Health Administration (OSHA) requirements of two in-two out; completing forcible entry; searching and rescuing at-risk victims; ventilating the structure; controlling utilities; and performing salvage and overhaul.

Emergency Medical Services – Distribution Benchmarks (Baseline)

Emergency Medical Services For 90 percent of all low, moderate, and high-risk EMS responses, the total response time for the arrival of the first-due unit, staffed with 2 firefighters shall be: 7 minutes (Low: 7 minutes and 30 seconds; Moderate: 7 minutes and 34 seconds; High: 6 minutes and 35

seconds). The first- due unit shall be capable of: assessing scene safety and establishing command; sizing-up the situation; conducting initial patient assessment; obtaining vitals and patient's medical history; initiating mitigation efforts within one minute of arrival; providing first responder medical aid including automatic external defibrillation; and assisting transport personnel with packaging the patient.

Emergency Medical Services – Concentration Benchmarks

For 90 percent of all **moderate-risk** EMS response incidents, the total response time for the arrival of the department's effective response force (ERF), staffed with 3 firefighters and officers, shall be: 8 minutes (<u>7 minutes and 57 seconds</u>). The ERF shall be capable of providing incident command and producing related documentation; appointing a site safety officer; completing patient assessment; providing appropriate treatment; performing AED; initiating cardiopulmonary resuscitation (CPR); and providing for traffic control when necessary.
For 90 percent of all **high-risk** EMS response incidents, the total response time for the arrival of the department's effective response force (ERF), staffed with 7 firefighters and officers, shall be: 8 minutes (<u>7 minutes and 39 seconds</u>). The ERF shall be capable of providing incident command and producing related documentation; appointing a site safety officer; completing patient assessment; providing appropriate treatment; performing AED; initiating cardiopulmonary resuscitation (CPR); and providing for traffic control when necessary.

The department relies upon Nash and Edgecombe County Emergency Medical Services, third-party providers, to be the primary responders to EMS incidents in the city and complete the transport component of the ERF. If the third-party provider unit arrives on scene first, its personnel shall initiate care and the staff from the department shall provide support as needed.

Technical Rescue Services

Technical Rescue Services - Distribution Benchmarks (Baseline)

For 90 percent of all low, moderate, high, and maximum-risk technical rescue incidents, the total response time for the arrival of the first-due unit, staffed with 3 firefighters and officers, shall be: 7 minutes (Low: 7

minutes and 02 seconds; Moderate, High, Maximum: no incidents).

The first due unit shall be capable of: establishing command; assignment of a formal safety officer; sizing up to determine if a technical rescue response is required; requesting additional resources; and providing basic life support to any victim without endangering response personnel.

Technical Rescue Services – Concentration Benchmarks

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 7 firefighters and officers, shall be: 10 minutes (**no incidents**). The ERF shall be capable of: establishing command; assignment of a formal safety officer; establishing patient contact; staging resources; providing technical expertise, knowledge, skills, and abilities during technical rescue incidents.

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 10 firefighters and officers, shall be: 15 minutes (**no incidents**). The ERF shall be capable of: establishing command; assignment of a formal safety officer; establishing patient contact; staging resources; providing technical expertise, knowledge, skills, and abilities during technical rescue incidents. Additional resources are contacted to mitigate technical rescue incidents involving environmental or man-made catastrophes.

For 90 percent of all **maximum-risk** technical rescue incidents, the total response time for the arrival of the effective response force (ERF), staffed with 16 firefighters and officers, shall be: 30 minutes (<u>no incidents</u>). The ERF shall be capable of: establishing command; assignment of a formal safety officer; establishing patient contact; staging resources; providing technical expertise, knowledge, skills, and abilities during technical rescue incidents. Additional resources are contacted to mitigate technical rescue incidents involving environmental or man-made catastrophes.

Hazardous Materials Services - Distribution Benchmarks(Baseline)

Hazardous Materials Response Services For 90 percent of all hazardous materials response incidents, the total response time for the arrival of the first-due unit, staffed with 3 firefighters and officers, shall be: 6 minutes and 20 seconds (Low: 7 minutes and 39 seconds; Moderate: 7 minutes and 35 seconds; High, Maximum: no

incidents). The first-due unit shall be capable of: establishing command; sizing up and assessing the situation to determine the presence of a potential hazardous material or explosive device; determining the need for additional resources; estimating the potential harm without intervention; and begin establishing a hot, warm, and cold zone.

Hazardous Materials Services - Concentration Benchmarks

For 90 percent of all **moderate-risk** hazardous materials response incidents, the total response time for the arrival of the effective response force (ERF) including the hazardous materials response team, staffed with 7 firefighters and officers, shall be: 10 minutes and 20 seconds (7 minutes and 51 seconds). The ERF shall be capable of: establishing command; assignment

of a formal safety officer; establishing patient contact; staging resources; providing technical expertise, knowledge, skills, and abilities to mitigate a hazardous materials incident in accordance with department standard operating guidelines. Additional resources are contacted to mitigate hazardous materials incidents.

For 90 percent of all **high-risk** hazardous materials response incidents, the total response time for the arrival of the effective response force (ERF) including the hazardous materials response team, staffed with 10 firefighters and officers, shall be: 10 minutes and 20 seconds (<u>no</u> <u>incidents</u>). The ERF shall be capable of: establishing command; assignment of a formal safety officer; establishing patient contact; staging resources; providing technical expertise, knowledge, skills, and abilities to mitigate a hazardous materials incident in accordance with department standard operating guidelines. Additional resources are contacted to mitigate hazardous materials incidents.

For 90 percent of all **maximum-risk** hazardous materials response incidents, the total response time for the arrival of the effective response force (ERF) including the hazardous materials response team, staffed with 16 firefighters and officers, shall be: 60 minutes (<u>no incidents</u>). The ERF shall be capable of: establishing command; assignment of a formal safety officer; establishing patient contact; staging resources; providing technical expertise, knowledge, skills, and abilities to mitigate a hazardous materials incident in accordance with department standard operating guidelines. Additional resources are contacted to mitigate hazardous materials incidents.

Baseline Performance Charts

Fire Suppression

(Low Risk) Fire Suppression - 90th PercentileTimes - Baseline Performance		Benchmark	2018-2022	2022	2021	2020	2019	2018	Gap
Alarm Handling	Pick-up to Dispatch		02:27	02:41	02:35	02:10	02:24	02:04	
Turnout Time	Turnout time 1st Unit		01:29	01:29	01:27	01:30	01:30	01:28	
Travel Time	Travel Time 1st Unit Distribution		05:02	05:03	05:28	04:53	04:58	04:41	
Total Response Time	Total Response Time 1st Unit on Scene Distribution	7:00	07:43	07:51	08:02	07:23	07:27	07:29	0:43
			n=832	n=201	n=181	n=143	n=161	n=146	

(Moderate Risk) Fire Suppression - 90th Percentile Times - Baseline Performance		Benchmark	2018-2022	2022	2021	2020	2019	2018	Gap
Alarm Handling	Pick-up to Dispatch		02:28	02:22	02:18	02:44	02:39	02:30	
Turnout Time	Turnout time 1st Unit		01:23	01:29	01:13	01:21	01:28	01:17	
Travel	Travel Time 1st Unit Distribution		05:09	05:15	05:16	05:22	04:56	04:47	
Time	Travel Time ERF Concentration		05:08	05:44	05:08	04:23	-	-	
	Total Response Time 1st Unit on Scene Distribution	7:00	07:37	07:50	07:32	07:41	07:23	07:04	0:37
Response			n=235	n=43	n=37	n=57	n=51	n=47	
TIME	Total Response Time ERF Concentration	11:00	06:46	08:21	06:41	06:09	-	-	4:14
			n=6	n=2	n=3	n=1	-	-	

(High Risk) Fire PercentileTi Perfo	Suppression - 90th mes - Baseline rmance	Benchmark	2018-2022	2022	2021	2020	2019	2018	Gap
Alarm Handling	Pick-up to Dispatch		02:16	02:03	02:02	02:05	02:27	02:14	
Turnout Time	Turnout time 1st Unit		01:40	01:28	01:31	01:50	02:01	01:30	
Travel	Travel Time 1st Unit Distribution		04:19	04:08	04:10	03:40	03:53	04:58	
Time	Travel Time ERF Concentration		06:25	06:31	-	-	-	05:54	
	Total Response Time 1st Unit on Scene Distribution	7:00	07:01	07:04	06:32	06:46	07:01	07:24	0:01
Response			n=303	n=46	n=62	n=56	n=58	n=81	
Time	Total Response Time ERF Concentration	11:00	09:15	09:33	-	-	-	08:31	1:45
			n=2	n=1	-	-	-	n=1	

Maximum Risk: No Incidents

Emergency Medical Services

(Low Risk) EN - 90th Perc Baseline F	MS Suppression entile Times - Performance	Benchmark	2018-2022	2022	2021	2020	2019	2018	Gap
Alarm Handling	Pick-up to Dispatch		01:50	02:05	01:52	01:50	01:39	01:41	
Turnout Time	Turnout time 1st Unit		01:23	01:23	01:21	01:26	01:23	01:24	
Travel Time	Travel Time 1st Unit Distribution		05:15	05:19	05:20	05:15	05:13	05:10	
Total Response Time	Total Response Time 1st Unit on Scene Concentration	7:00	07:30	07:43	07:35	07:30	07:23	07:22	0:30
			n=9,665	n=2,128	n=1,877	n=845	n=2,636	n=2,179	

(Moderat Suppression Times Perfo	e Risk) EMS - 90th Percentile - Baseline rrmance	Benchmark	2018-2022	2022	2021	2020	2019	2018	Gap
Alarm Handling	Pick-up to Dispatch		01:51	02:03	01:47	02:00	01:42	01:48	
Turnout Time	Turnout time 1st Unit		01:24	01:23	01:21	01:27	01:25	01:23	
Travel	Travel Time 1st Unit Distribution		05:20	05:17	05:30	05:16	05:15	05:22	
Time	Travel Time ERF Concentration		05:11	05:11	05:26	05:00	05:03	04:54	
Total	Total Response Time 1st Unit 7:00 on Scene Distribution	7:00	07:34	07:40	07:37	07:36	07:26	07:36	0:34
Response			n=11,566	n=2,368	n=2,438	n=1,265	n=3,021	n=2,474	
Time	Total Response Time ERF Concentration	8:00	07:57	07:46	08:07	07:44	07:55	07:53	0:03
			n=1,121	n=275	n=397	n=229	n=138	n=82	

(High Risk) El - 90th Perc Baseline I	MS Suppression entile Times - Performance	Benchmark	2018-2022	2022	2021	2020	2019	2018	Gap
Alarm Handling	Pick-up to Dispatch		01:57	02:12	02:01	01:45	01:51	01:51	
Turnout Time	Turnout time 1st Unit		01:23	01:16	01:14	01:30	01:25	01:25	
Travel	Travel Time 1st Unit Distribution		04:32	04:44	04:14	04:48	04:21	04:21	
Time	Travel Time ERF Concentration		05:20	05:14	05:27	05:28	05:06	05:32	
Total	Total Response Time 1st Unit on Scene Distribution	otal ponse st Unit 7:00 cene bution	06:35	06:46	06:11	06:56	06:27	06:33	:25
Response			n=1,217	n=254	n=271	n=213	n=246	n=233	
Time	Total Response Time ERF Concentration	8:00	07:39	07:38	07:36	07:44	07:32	07:47	0:21
			n=493	n=137	n=127	n=82	n=80	n=67	

Technical Rescue Services

(Low Risk)Tea Suppression - Times - Baselir	chnical Rescue 90th Percentile ne Performance	Benchmark	2018-2022	2022	2021	2020	2019	2018	Gap
Alarm Handling	Pick-up to Dispatch		03:15	03:46	02:05	03:32	02:14	02:42	
Turnout Time	Turnout time 1st Unit		01:19	01:17	01:07	01:23	01:33	01:13	
Travel Time	Travel Time 1st Unit Distribution		04:25	04:31	04:19	04:20	04:08	04:06	
Total Response Time	Total Response Time 1st Unit on Scene Concentration	7:00	07:02	07:12	06:47	07:19	07:15	06:54	:02
			n=74	n=20	n=12	n=25	n=8	n=9	

Moderate, High and Maximum Risk: No Incidents

Hazardous Materials

(Low Risk) Hazardous Materials Suppression - 90th Percentile Times - Baseline Performance		Benchmark	2018-2022	2022	2021	2020	2019	2018	Gap
Alarm Handling	Pick-up to Dispatch		02:37	02:47	02:39	02:49	02:35	02:22	
Turnout Time	Turnout time 1st Unit		01:29	01:25	01:29	01:36	01:25	01:26	
Travel Time	Travel Time 1st Unit Distribution		04:51	04:42	05:06	05:01	04:31	04:41	
Total Response Time	Total Response Time 1st Unit on Scene Concentration	6:20	07:39 n=533	07:23 n=121	08:11 n=110	07:51 n=103	07:11 n=118	07:33 n=81	1:19

(Moderate R Materials Sup Percentile Ti Perfo	isk) Hazardous ppression - 90th mes - Baseline rmance	Benchmark	2018-2022	2022	2021	2020	2019	2018	Gap
Alarm Handling	Pick-up to Dispatch		02:37	02:53	02:23	02:24	02:32	02:15	
Turnout Time	Turnout time 1st Unit		01:24	01:22	01:23	01:32	01:26	01:21	
Travel	Travel Time 1st Unit Distribution		04:48	04:49	04:49	04:40	04:50	04:41	
Time	Travel Time ERF Concentration		04:41	04:41	04:49	04:31	05:36	04:07	
Total	Total Response Time 1st Unit on Scene Distribution	6:20	07:35	07:51	07:32	07:23	07:12	07:08	1:15
Response Time			n=839	n=317	n=232	n=143	n=89	n=58	
	Total Response Time ERF Concentration	10:20	07:51	08:01	07:52	07:28	07:22	06:58	2:29
Time Total Response Time	Travel Time ERF Concentration Total Response Time 1st Unit on Scene Distribution Total Response Time ERF Concentration	6:20	04:41 07:35 n=839 07:51 n=152	04:41 07:51 n=317 08:01 n=37	04:49 07:32 n=232 07:52 n=40	04:31 07:23 n=143 07:28 n=39	05:36 07:12 n=89 07:22 n=19		04:07 07:08 n=58 06:58 n=17

High and Maximum Risk: No Incidents

EVALUATION OF CURRENT DEPLOYMENT AND PERFORMANCE

Compliance Team / Responsibility

The functional element of a formal accreditation manager's position is part of the department's overall organizational structure. The position currently lies within the overall job responsibilities of the Administrative Captain. The accreditation manager position was originally integrated into the department's organizational structure in 1999 when the department first began the self-assessment process. The position was needed to oversee, and coordinate department initiatives related to organizational goals, objectives, and work plans.

The accreditation manager relies heavily on the department's record management system in the effort to comply with the requirements outlined in the Quality Improvement for the Fire and Emergency Services. Additionally, all members participate in initiation of action drills annually as coordinated by the Office of Training & Emergency Management to compare performance with established baselines. Ongoing and annual analysis of the standard is conducted through actions, research, and reports developed by the department.

The fire chief has committed to the continuation of the self-assessment process through the establishment of the accreditation manager position, by budgetary processes, and through support of the Office of the City Manager. Additionally, the department is committed to the continuous improvement model by continually analyzing and evaluating actual performance as compared to the adopted standard of cover. The records management system will also be reviewed and analyzed to assure that the data produced is an accurate reflection of actual performance. The Standards of Cover and all documents comprising the self-assessment process will be coordinated and managed by the designated accreditation manager.

Performance Evaluation and Compliance Strategy

The department has data analysis capability through the CAD system and its records management software, Emergency Reporting. The CAD data, which is stored on a server

within the Technology Services hardware, is available for analysis. Emergency Reporting software is the primary data management system for the department. The incident reporting format coincides with the National Fire Incident Reporting System (NFIRS). Incident data is captured in the field then entered into the computer by the company officer or their designee.

There are several components of the source data: 1) Computer Aided Dispatch System Records: This data is collected as part of the dispatching and status keeping functions related to an incident. These data provide time stamps on unit responses, type of response, location, etc. Such information is invaluable in assessing the performance of tele- communicators and responders arriving on-scene, incident control time, and total time on calls. 2) Incident Report Records: The department collects data on incidents based on a national standard that has been adopted by the State of North Carolina. These reports are created by the first arriving unit and reviewed to assure quality control and consistency in reporting.

NFIRS is just one of the information management modules available in the Emergency Reporting software. Occupancy, inspections, journal, staff, training, inventory, hydrants, and messaging are important features that mesh together to make a powerful information network capable of producing numerous reports. The data sources and reporting technologies allow the department to assess its performance in meeting established goals and objectives, identifying trends and deficiencies, and documenting progress. Annual reports are used for the development of performance measures for the budget process.

Additionally, Geographic Information System (GIS) technologies are available for response planning and development of standards of coverage models. There is a component of ArcMap called Network Analyst. This tool develops models on potential fire station locations and can forecast the ability to respond based on street speed limits, intersections, and other data elements. The ability to capture data and generate a wide variety of reports and graphs is an essential tool for fire service organizations. Trends, historical data, industry data collection and dissemination, and other elements of data management are immensely important to provide data necessary for progressive and proactive departments to provide higher quality levels of service. It also provides justification for budget items and long- range expenditures in capital planning.

Compliance Verification Reporting

Compliance verification reporting regarding the standard of cover is accomplished through the annual compliance report submitted to the Center for Public Safety Excellence and through periodic reviews. The process is established and accomplished on a regular basis by assignment of specific responsibilities to the accreditation manager. The compliance report is reviewed by the fire chief and the department's senior staff prior to submission.

Constant Improvement Strategy

The department is committed to a constant improvement strategy by moving forward with institutionalizing the accreditation model. As an example of ongoing commitment to continuous improvement, an analysis of response area coverage has resulted in several adjustments to first due response areas due to findings that indicated that a unit from an adjacent response area could arrive on the scene in quicker time thereby increasing the level of service. This strategy will continue as the department examines all aspects of service delivery. Specific practices implemented to ensure program performance is monitored and gaps are identified so they can be addressed in the following manner:

- Development of quarterly program reports
- Development of annual program appraisals from quarterly program reports
- Development of annual departmental report
- Development of annual compliance report for CFAI
- Completion of performance measures for annual budget process
- Development of various proposals in support of capital improvement request

Each of the processes/practices stated above will serve as tools to monitor program performance as it relates to stated deployment objectives. These processes and practices will serve to identify outcomes that support established objectives while identifying gaps in service delivery and performance. As gaps are identified, the department's staff will develop and implement strategies to close gaps where feasibly possible. In cases where gaps are a result of station location, the department will conduct the necessary research, make recommendations, and initiate progressive action to validate and work toward a reasonable solution that meets the needs of the community and works within the organization's fiscal opportunities and limitations.

Evaluation Methodology

The approach utilized to develop the department's Standards of Cover was comprehensive. An analysis of community demographics and risk was a critical element in the completion of the process. Research was conducted to identify community demographics and characteristics to adequately identify the potential effects of a variety of hazards and emergencies. Emergency response historical data was evaluated to identify areas of the community that pose the greatest risk along with the greatest history of demand for service.

The department further analyzed its available resources relative to station location and apparatus placement and capability. Historical data has shown that station location for response throughout the community is effective; however, improvement is possible through the addition of station eight. The proposed station eight is part of the department's capital improvement plan. Response data further indicates effective response force resources are sufficiently located to meet departmental deployment objectives.

Overall, evaluation of community demographics, service needs, departmental resources, and performance capabilities support the department's success at meeting performance goals for the community. Consequently, results demonstrate that departmental resources are sufficient to meet the service demands of the community.

Evaluation Determinations

The evaluation conducted in support of the department's Standards of Cover yielded several determinations. A primary area of focus that has received a great deal of attention regarding improvement is call processing time. The department has experienced extended call processing times for years and continues to make improvements in that area. Efforts have included implementation of Priority Dispatch – Emergency Fire Dispatching software, EFD Quality Assurance monitoring, and implementation of the Rapid Dispatching procedure which was intended to more quickly dispatch units before gathering all the details that can be received from the caller. All these efforts have made positive impacts on the dispatch system; however, call processing times, while continuing to decrease, are not at the level desired by the department. Additional efforts are in place to further improve call processing times through implementation of a new position to conduct quality assurance monitoring/training. Also, automated dispatching software is in the City's capital improvement plan which will result in a positive impact on call processing times thus bringing them to near desired performance.

Reliability – Planning Areas

The Rocky Mount Fire Department's performance illustrates that the community receives a high level of service in a timely manner. Department deployment objectives are realistic and relevant to the needs of the community and capabilities of the department's resources. Department reliability percentages are all above 88% and responses are within benchmark response times. The department will continue to evaluate community demographics, service demands, and performance with the intent of improving future performance and service efforts.

Performance Determinations

The results of the department's response data demonstrate a sound response network exists throughout the community. Baseline total response time data supports a high percentage of response coverage compliance within all risk and incident types. Based on Census standards

for population, Station 1 is considered rural; however, the remaining station territories are considered rural. The department chooses to evaluate performance within all response zones with consistent deployment response standards. As population densities shift and call volumes within FRZs follow, the department has and will continue to evaluate all impacts and plan for the addition of resources and/or modification of existing resources to ensure service demands are met in compliance with its performance goals.

Conclusions

The evaluation of community demands in relation to department capabilities indicates the department possesses sufficient resources to respond to the service demands of the community. An area of concern will continue to involve Hazardous Material incidents along the two major traveling corridors and the rail lines that lie within the department's response area. However, department resources are sufficient to initiate the established level of service the department is trained and equipped to meet. Relationships and agreements are in place to request assistance as needed dependent on the specific incident need. Otherwise, response coverage and performance throughout the community is within the department's available resources to mitigate.

PLAN FOR MAINTAINING AND IMPROVING RESPONSE CAPABILITIES

The intent of the evaluation process conducted to develop the department's Standards of Response Coverage was to identify community risks, evaluate historical demands, and determine if the department has sufficient resources to meet overall community emergency response needs. While analysis indicates the department overall performs very well in meeting its performance goals, several areas indicate a need for further evaluation and focus on improvement.

Response Impacts

- The department should continue efforts to further improve call processing times.
- The department should continue efforts to monitor turnout time to ensure performance in this area continues to remain at desired levels and improve where feasible.
- The department should analyze historical and current community demographics and service demands for current planning efforts relative to resource placement.

Community Risk Analysis

- The department should continue to monitor and evaluate changes in community risk.
- The department should evaluate historical population shifts and continue to monitor impacts of those shifts for planning purposes.
- The department should continue to evaluate historical service demand and research efforts to reduce those of highest frequency within the community.

Performance

- The department should continue to evaluate service demands of the community and ensure training efforts support current and forecasted needs.
- The department should continue to evaluate performance relative to critical tasking within the various risks.
- The department should continue to evaluate response performance relative to improving baseline performance goals in various critical tasks.

APPENDICES/REFERENCES

Appendix A: Risk Assessment – Planning Zones 1-7



Area Characteristics					
Size	19.19 square miles				
Census Blocks	288				
GeoProximities	F1A, F1B, F1C, F1D, F1E, F1F, F1G, F1H, F1I, F1K, F1M, F1O, F1				
Estimated Population	7,822				
Population Density	393.06 per square mile				
Residential Structures	5,039 (total structures - 5,504)				
Housing Density	253.21 per square mile				
Residential Zoning Districts (RZD)	387 of the 583 Zoning Districts are residential				
	99% of RZD considered Low to Medium Density				
Hydrants	354 (339 city owned/15 private)				
Local Roads	64.10 miles				

Critical Infrastructure				
Emergency Medical Services	Rocky Mount Fire Department – Station 1			
Nursing Homes	Heritage Care of Rocky Mount			
Schools	Edgecombe Community College			
	DS Johnson Elementary School			
Major Businesses	CSX Railroad			
	Rocky Mount Event Center			
	Water Hazards			
River	Tar River			
Creeks and Streams	Cowlick Branch (E. Grand Avenue to Atlantic Avenue)			
	Little Cokey Swamp			
Lakes and Ponds near Residential Areas	Pond between Berkshire Road and Eaglecrest Circle			

Risk Assessment of Planning Zone 1								
*Top 10 incident types from each class, listed in order from highest to lowest 3-axis risk score – ALL scores in Appendix B								
FI	RE							
Incident Type	Risk							
Building Fire	HIGH							
Cooking fire, contined to container	MODERATE							
Fire in mobile home used as fixed residence	LOW							
Passenger vehicle fire	LOW							
Fires in structure other than in a building	LOW							
Final Other	LOW							
Chimpov fire, confined to chimpov	LOW							
Fuel burner/beiler melfunction, fire confined	LOW							
Trash or rubbish contained	LOW							
	Bick							
Motor//obiolo Accident with injurice								
Respiratory Distroco								
Indulla								
Cardiae Arrest	INIDERATE							
Overdese	LOW							
Motorychicle / podostrian accident	LOW							
Motor Vehicle Accident with no injuries	Low							
Cheet Pain	Low							
Seizure	Low							
Тесныса								
	Bisk							
Extrication of victim(s) from vahiele								
Water & ice-related rescue other	Low							
Search for person on land	Low							
Search for person in water	Low							
Extrication rescue other	Low							
Extrication of victims from building/structure	Low							
Watercraft rescue	Low							
Trapped by power lines	Low							
Removal of victim(s) from stalled elevator	Low							
Hazardous	Materials							
Incident Type	Risk							
Gas leak (natural gas or LPG)	Moderate							
Chemical spill or leak	Moderate							
Accident, potential accident, other	Low							
Building or structure weakened or collapsed	Low							
Arcing, shorted electrical equipment	Low							
Comb./flamm gas/liquid condition, other	Low							
Gasoline or other flamm liquid spill	Low							
Carbon monoxide incident	Low							
Electrical wiring/equipment problem, other	Low							
Heat from short circuit (wiring), defective/worn	Low							



Area Characteristics	
Size	26.03 square miles
Census Blocks	411
GeoProximities	F2A, F2B, F2C, F2D, F2E, F2F, F2G, F2H, F2I, F2J, F2K,
	F2L, F2M, F2N, F2V
Estimated Population	11,148
Population Density	428.24 per square mile
Residential Structures	6,998 (total structures – 7,937)
Housing Density	268.84 per square mile
Residential Zoning Districts (RZD)	560 of the 971 zoning districts are residential. 55.2% of
	RZD considered Low to Medium density
Hydrants	566 (562 city owned – 4 private)
Local Roads	97.24 miles (arterial major, arterial minor, local and
	collector)

Critical Infrastructure	
Emergency Medical Services	Rocky Mount Fire Department Station 2
	Nash County Emergency Medical Services 700
Nursing Homes	Somerset Court of Rocky Mount
	The Landings of Rocky Mount Mills
Schools	Our Lady of Perpetual Help
	Grace Christian School
	Mount Zion Christian Academy
	Shaw University
	Edwards Middle School
	Rocky Mount Middle/CITI/Tar River Schools
	Williford Elementary School
Major Businesses	City of Rocky Mount - City Hall
	City of Rocky Mount Imperial Centre
	Rocky Mount Mills
	Water Treatment Plant
Water Hazards	
River	Tar River
Creeks and Streams	City Lake
Lakes and Ponds near Residential Areas	Pond adjacent to apartments on Sunset Harbour Lane

Risk Assessment of Planning Zone 2		
*Top 10 incident types from each class, listed in order from h	ighest to lowest 3-axis risk score – ALL scores in Appendix B	
FI	RE	
Incident Type	Risk	
Building fire	HIGH	
Cooking fire, confined to container	MODERATE	
Passenger vehicle fire	Low	
Fires in structure other than in a building	Low	
Mobile property (vehicle) fire, other	Low	
Brush or brush and grass mixture fire	Low	
Fire, Other	Low	
Fuel burner/boiler malfunction, fire confined	Low	
Trash or rubbish, contained	Low	
Road freight or transport vehicle fire	Low	
EMERGENCY ME	DICAL SERVICES	
Incident Type	Risk	
Motor Vehicle Accident with injuries	MODERATE	
Respiratory Distress	MODERATE	
Cardiac Arrest	MODERATE	
Trauma	MODERATE	
Unconscious / Unresponsive	MODERATE	
Overdose	Low	
Motor vehicle / pedestrian accident	Low	
Motor Vehicle Accident with no injuries	Low	
Chest Pain	Low	
Stroke	Low	
Technica	l Rescue	
Incident Type	Risk	
High-angle rescue	Moderate	
Extrication of victim(s) from vehicle	Moderate	
Lock-in	Low	
Extrication of victim(s) from machinery	Low	
Water & ice-related rescue, other	Low	
Search for person in water	Low	
Extrication, rescue, other	Low	
Extrication of victims from building/structure	Low	
Trapped by power lines	Low	
Removal of victim(s) from stalled elevator	Low	
HAZARDOUS MATERIALS		
Incident Type	Risk	
Gas leak (natural gas or LPG)	Moderate	
Chemical spill or leak	MODERATE	
Biological hazard, confirmed or suspected	Low	
Arcing, shorted electrical equipment	Low	
Hazardous Condition, other	Low	
Comb./flamm gas/lig condition, other	Low	
Gasoline or other flamm liquid spill	Low	
Oil or other compustible liquid spill	Low	
Carbon monoxide incident	Low	
Electrical wiring/equipment problem, other	Low	



Area Characteristics	
Size	43.41 square miles
Census Blocks	252
GeoProximities	F3A, F3B, F3C, F3D, F3E, F3F, F3G, F3H, F3I, F3J, F3K,
	F3L, F3M, F3N, F3O, F3P, F3R, F3S, F3Y, F3Z
Estimated Population	15,450
Population Density	355.9 per square mile
Residential Structures	7,607 (total structures – 8,271)
Housing Density	175.23 per square mile
Residential Zoning Districts (RZD)	575 of the 871 zoning districts are considered
	residential. 71.1% of RZD are considered Very Low to
	Low density
Hydrants	790 (708 city owned – 82 private)

Critical Infrastructure	
Local Roads	106.9 miles (arterial major, arterial minor, local and
	collector)
Freeway	9.17 miles (mainly US64)
Emergency Medical Services	Rocky Mount Fire Department – Station 3
	Nash County Emergency Medical Services 800
Hospitals	UNC Health Care – Nash General Hospital
Nursing Homes	Spring Arbor of Rocky Mount
	Nash Rehabilitation and Nursing Center
	Guardian Care of Rocky Mount
	The Lodge
Schools/Colleges	Faith Christian School
	Rocky Mount Academy
	Benvenue Elementary School
	Englewood Elementary School
	Winstead Avenue Elementary School
	Nash Central High School
Major Businesses	Crown Distributors
	WaterTreatment Plant
Water I	Hazards
River	
Creeks and Streams	Stoney Creek
	Maple Creek
	Grape Branch
Lakes and Ponds near Residential Areas	Pond behind Weathervane Way
	Pond between Banner Way and Legacy Drive
	Pond at the end of Daffodil Way
Retention or Drainage Ponds	Nash General Health Complex
	Area between Outback Steakhouse and Residence Inn

Risk Assessment of Planning Zone 3		
*Top 10 incident types from each class, listed in order from highest to lowest 3-axis risk score – ALL scores in Appendix B		
Incident Type	Bisk	
Building fire	Ніяк	
Cooking fire, confined to container	MODERATE	
Fire in mobile home used as fixed residence	Low	
Passenger vehicle fire	Low	
Fires in structure other than in a building	Low	
Mobile property (vehicle) fire, other	Low	
Chimney fire, confined to chimney	Low	
Fuel burner/boiler malfunction, fire confined	Low	
Trash or rubbish, contained	Low	
Road freight or transport vehicle fire	Low	
Emergency Me	DICAL SERVICES	
Incident Type	Risk	
Motor Vehicle Accident with injuries	Moderate	
Respiratory Distress	Moderate	
Trauma	Moderate	
Unconscious / Unresponsive	Moderate	
Cardiac Arrest	Low	
Overdose	Low	
Motor vehicle / pedestrian accident	Low	
Motor Vehicle Accident with no injuries	Low	
Chest Pain	Low	
Stroke	Low	
TECHNICA	l Rescue	
Incident Type	Risk	
Extrication of victim(s) from vehicle	Low	
Lock-in	Low	
Water & ice-related rescue, other	Low	
Search for person in water	Low	
Extrication, rescue, other	Low	
Extrication of victims from building/structure	Low	
Removal of victim(s) from stalled elevator	Low	
HAZARDOUS MATERIALS		
Incident Type	Risk	
Gas leak (natural gas or LPG)	MODERATE	
Biological hazard, confirmed or suspected	Low	
Building or structure weakened or collapsed	Low	
Arcing, shorted electrical equipment	Low	
Comb. /flamm. gas/liquid condition, other	Low	
Gasoline or other flamm liquid spill	Low	
Chemical hazard (no spill or leak)	Low	
Carbon monoxide incident	Low	
Electrical wiring/equipment problem, other	Low	
Heat from short circuit (wiring), defective/worn	Low	



Area Characteristics	
Size	23.3 square miles
Census Blocks	133
GeoProximities	F4A, F4B, F4C, F4D, F4E, F4F, F4G, F4H, F4I, F4P
Estimated Population	6,523
Population Density	279.95 per square mile
Residential Structures	2,852 (total structures – 3,294)
Housing Density	122.4 per square mile
Residential Zoning Districts (RZD)	146 of the 296 Zoning Districts are considered
	residential. 78.76% of the RZD are considered Low to
	Medium Density Residential Districts
Hydrants	380 (306 city owned – 74 private)

Critical Infrastructure	
Local Roads	60.77 miles (arterial major, arterial minor, local and
	collector)
Emergency Medical Services	Rocky Mount Fire Department – Station 4
Nursing Homes	
Schools/Colleges	North Carolina Wesleyan College
	Rocky Mount Prep School
Major Businesses	
Water Hazards	
Creeks and Streams	Hornbeam Branch
	Compass Creek
	Beech Branch
Lakes and Ponds near Roadway	Pond at N. Wesleyan Blvd and Fabrication Way
Lakes and Ponds near Residential Areas	Ponds on Northgreen Golf Course
	Pond off Brentwood Drive
	Pond at the end of Northridge Drive
	Ponds at Belmont Lake Preserve Subdivision

Risk Assessment of Planning Zone 4		
* lop 10 incident types from each class, listed in order from r	nighest to lowest 3-axis risk score – ALL scores in Appendix B	
	Bisk	
Building fire	MODERATE	
Cooking fire, confined to container	MODERATE	
Fire in mobile home used as fixed residence	Low	
Passenger vehicle fire	Low	
Trash or rubbish, contained	Low	
Mobile property (vehicle) fire, other	Low	
Rail vehicle fire	Low	
Water vehicle fire	Low	
Natural vegetation	Low	
Brush or brush and grass mixture fire	Low	
EMERGENCY ME	EDICAL SERVICES	
Incident Type	Risk	
Motor Vehicle Accident with injuries	Moderate	
Respiratory Distress	MODERATE	
Cardiac Arrest	Low	
Overdose	Low	
Trauma	Low	
Unconscious / Unresponsive	Low	
Motor vehicle / pedestrian accident	Low	
Motor Vehicle Accident with no injuries	Low	
Chest Pain	Low	
Stroke	Low	
Technica	L RESCUE	
Incident Type	Risk	
High-angle rescue	Moderate	
Extrication of victim(s) from vehicle	Low	
Lock-in	Low	
Search for person in water	Low	
Water & ice-related rescue, other	Low	
Removal of victim(s) from stalled elevator	Low	
HAZARDOUS MATERIALS		
Incident Type	Risk	
Gas leak (natural gas or LPG)	MODERATE	
Biological hazard, confirmed or suspected	Low	
Gasoline or other flamm liquid spill	Low	
Carbon monoxide incident	Low	
Electrical wiring/equipment problem, other	Low	
Heat from short circuit (wiring), defective/worn	Low	
Overheated motor	Low	
Arcing, shorted electrical equipment	Low	
Hazardous Condition, other	Low	
Comb./flamm gas/lig condition, other	Low	



Area Characteristics	
Size	46.44 square miles
Census Blocks	180
GeoProximities	F5A, F5B, F5C, F5D, F5E, F5F, F5G, F5H, F5I, F5J, F5K,
	F5L, F5M, F5N, F5O, F5P, F5Q, F5R, F5S, F5T, F5X
Estimated Population	7,017
Population Density	151.09 per square mile
Residential Structures	3,187 (total structures – 3,624)
Housing Density	68.62 per square mile
Residential Zoning Districts (RZD)	211 of the 342 Zoning Districts are considered
	residential. 88.2% of the RZD district are considered
	Low to Medium Density Residential Districts
Hydrants	345 (301 city owned - 44 private)

Critical Infrastructure	
Local Roads	67.06 miles (arterial major, arterial minor, local and
	collector
Freeway	10.17 miles (US64 and US64 Ramps)
Emergency Medical Services	Rocky Mount Fire Department Station 5
Nursing Homes	
Schools	Baskerville Elementary School
	Johnson Elementary School
	Parker Junior High School
Major Businesses	Tri-County Industries
	Wastewater Treatment Plant
Water	Hazards
River	Tar River
Rock Quarry	Hanson Aggregates, 10471 NC 97 West
Creeks and Streams	Cowlick Branch
Lakes and Ponds near Roadway	Pond off Atlantic Avenue near NC 97 West
Lakes and Ponds near Residential Areas	Ponds in the Lakeshore Drive area
	Ponds behind Marshall Lane

Risk Assessment of Planning Zone 5		
*Top 10 incident types from each class, listed in order from highest to lowest 3-axis risk score – ALL scores in Appendix B		
FI	KE	
Incident Type	Kisk	
Building fire	HIGH	
Cooking fire, confined to container	MODERATE	
Fire in mobile home used as fixed residence	LOW	
Passenger venicle fire	LOW	
Fires in structure other than in a building	LOW	
Mobile property (vehicle) fire, other	LOW	
Road freight or transport vehicle fire	LOW	
Irash or rubbish, contained	LOW	
Rail vehicle fire	LOW	
Off-road vehicle or heavy equipment fire	Low	
EMERGENCY ME	DICAL SERVICES	
Incident Type	Risk	
Motor Vehicle Accident with injuries	Moderate	
Respiratory Distress	Moderate	
Trauma	Moderate	
Unconscious / Unresponsive	Moderate	
Cardiac Arrest	Low	
Overdose	Low	
Motor vehicle / pedestrian accident	Low	
Motor Vehicle Accident with no injuries	Low	
Chest Pain	Low	
Seizure	Low	
TECHNICA	IL RESCUE	
Incident Type	Risk	
Extrication of victim(s) from vehicle	Low	
Lock-in	Low	
Search for person on land	Low	
Search for person in water	Low	
Extrication, rescue, other	Low	
Water & ice-related rescue, other	Low	
Removal of victim(s) from stalled elevator	Low	
HAZARDOUS MATERIALS		
Incident Type	Risk	
Gas leak (natural gas or LPG)	MODERATE	
Chemical spill or leak	Moderate	
Accident, potential accident, other	Low	
Gasoline or other flamm liquid spill	Low	
Carbon monoxide incident	Low	
Electrical wiring/equipment problem, other	Low	
Heat from short circuit (wiring), defective/worn	Low	
Overheated motor	Low	
Power line down	Low	
Arcing, shorted electrical equipment	Low	



Area Characteristics	
Size	40.4 square miles
Census Blocks	161
GeoProximities	F6A, F6B, F6C, F6D, F6F, F6G, F6H, F6I, F6J, F6K, F6L, F6M, F6N, F6Q
Estimated Population	6,066
Population Density	150.15 per square mile
Residential Structures	2,726
Housing Density	67.47 per square mile
Residential Zoning Districts (RZD)	241 of the 555 Zoning Districts are considered
	residential. 86.30% of the RZD are considered Low to
	Medium Density Residential Districts
Hydrants	621 (515 city owned - 106 private)

Critical Infrastructure	
Local Roads	105.78 miles (arterial major, arterial minor, local and collector)
Freeway	105.26 miles (Interstate 95 and US 64)
Emergency Medical Services	Rocky Mount Fire Department Station 6 Stoney Creek Fire and Rescue Department Station 3
Nursing Homes	Sterling House of Rocky Mount Hunter Hill Senior Village Brekenridge Retirement Center
Hospitals	LifeCare Hospitals of North Carolina
Medical Facilities	Nash Day Hospital Cardiopulmonary Rehabilitation
Schools	
Major Businesses	Golden East Shopping Center
	Lowe's
	Sam's Club
	Rocky Mount Sports Complex
	Target
	Walmart
	ТАТА
Water	Hazards
River	lar River
Rock Quarry	Old quarry behind 905 Old Mill Road
	Old quarry at the end of Quarry Lane
Creeks and Streams	Stoney Creek
Lakas and Banda near Baadway	Bond off S. Weeleven Plud couth of the rollroad tracks
Lakes and Pollus hear Roadway	Pond at North Church Street and Airport Road
Lakes and Ponds near Residential Areas	Pond at Benvenue Boad and Samphire Boad
Lakes and I onus near nesidendial Areas	Pond off Nicodemus Mile Boad, near Wildberry Drive
	Pond at the end of Falling River Walk
Retention or Drainage Bonds	Sam's Club
	Lowe's Home Improvement
	Word Tabernacle Church
	Walmart
	Rocky Mount Sports Complex
	Rocky Mount Sports Complex

Risk Assessment of Planning Zone 6		
*Top 10 incident types from each class, listed in order from highest to lowest 3-axis risk score – ALL scores in Appendix B		
Fire		
Incident Type	Risk	
Building fire	Нідн	
Cooking fire, confined to container	Moderate	
Fire in motor home, camper, recreational vehicle	Low	
Passenger vehicle fire	Low	
Road freight or transport vehicle fire	Low	
Fuel burner/boiler malfunction, fire confined	Low	
Trash or rubbish, contained	Low	
Camper or recreational vehicle (RV) fire	Low	
Natural vegetation	Low	
Brush or brush and grass mixture fire	Low	
EMERGENCY ME	DICAL SERVICES	
Incident Type	Risk	
Motor Vehicle Accident with injuries	MODERATE	
Respiratory Distress	Moderate	
Trauma	MODERATE	
Unconscious / Unresponsive	MODERATE	
Cardiac Arrest	Low	
Overdose	Low	
Motor vehicle / pedestrian accident	Low	
Motor Vehicle Accident with no injuries	Low	
Chest Pain	Low	
Seizure	Low	
Τεςηνιζα	l Rescue	
Incident Type	Risk	
Extrication of victim(s) from vehicle	Low	
Electrical rescue, other	Low	
Lock-in	Low	
Search for person in water	Low	
Water & ice-related rescue, other	Low	
Extrication, rescue, other	Low	
Extrication of victim(s) from machinery	Low	
Swift water rescue	Low	
Trapped by power lines	Low	
Removal of victim(s) from stalled elevator	Low	
HAZARDOUS MATERIALS		
Incident Type	Risk	
Gas leak (natural gas or LPG)	MODERATE	
Aircraft standby	Low	
Comb. /flamm gas/liquid condition, other	Low	
Gasoline or other flamm liquid spill	Low	
Oil or other combustible liquid spill	Low	
Carbon monoxide incident	Low	
Electrical wiring/equipment problem, other	Low	
Heat from short circuit (wiring), defective/worn	Low	
Overheated motor	Low	
Power line down	Low	



Area Characteristics	
Size	17.3 square miles
Census Blocks	60
GeoProximities	F7B, F7C, F7D, F7E, F7F, F7G, F7H
Estimated Population	1,140
Population Density	65.89 per square mile
Residential Structures	666 (total structures – 862)
Housing Density	38.49 per square mile
Residential Zoning Districts (RZD)	43 of the 83 zoning districts are residential. 90.6% of
	the RZD are considered Low to Medium density
	residential districts
Hydrants	136 (105 city owned – 31 private)
Local Roads	15.73 miles (arterial major, arterial minor, local and
	collector

Critical Infrastructure		
Emergency Medical Services	Rocky Mount Fire Department Station 7	
	Battleboro Rural Fire Department	
	Nash County Emergency Medical Services 900	
Nursing Homes		
Schools		
Major Businesses	Pfizer Pharmaceuticals	
Water Hazards		
River		
Creeks and Streams	Beech Branch	
Lakes and Ponds near Residential Areas	Pond behind Station 7	
	Ponds at Belmont Lake Preserve Subdivision	

Risk Assessment of Planning Zone 7		
FIRE		
Incident Type	Risk	
Building fire	Moderate	
Cooking fire, confined to container	MODERATE	
Fire in mobile home used as fixed residence	Low	
Passenger vehicle fire	Low	
Road freight or transport vehicle fire	Low	
Camper or recreational vehicle (RV) fire	Low	
Brush or brush and grass mixture fire	Low	
Fire, Other	Low	
Trash or rubbish, contained	Low	
Natural vegetation	Low	
EMERGENCY ME	DICAL SERVICES	
Incident Type	Risk	
Respiratory Distress	Moderate	
Motor Vehicle Accident with injuries	Moderate	
Trauma	Low	
Unconscious / Unresponsive	Low	
Cardiac Arrest	Low	
Chest Pain	Low	
Overdose	Low	
Seizure	Low	
Motor Vehicle Accident with no injuries	Low	
Allergic Reaction	Low	
Technica	l Rescue	
Incident Type	Risk	
Extrication of victim(s) from vehicle	Low	
Lock-in	Low	
HAZARDOUS MATERIALS		
Incident Type	Risk	
Chemical spill or leak	MODERATE	
Gas leak (natural gas or LPG)	MODERATE	
Carbon monoxide incident	Low	
Arcing, shorted electrical equipment	Low	
Hazardous Condition, other	Low	
Oil or other combustible liquid spill	Low	
Chemical hazard (no spill or leak)	Low	
Electrical wiring/equipment problem, other	Low	
Overheated motor	Low	
Power line down	Low	
Appendix B: Risk Analysis Scores by Planning Zone

2018-2022

Risk Analysis Scores: Planning Zone 1

Fire Suppression Incident Type	FZ1	Probability	Consequence	Impact	Score	Risk
117 - Commercial Compactor Fire, confined to rubbish	0		2	2		
122 - Fire in motor home, camper, recreational vehicle	0		4	6		
130 - Mobile property (vehicle) fire, other	0		4	2		
134 - Water vehicle fire	0		4	2		
137 - Camper or recreational vehicle (RV) fire	0		4	2		
155 - Outside stationary compactor/compacted trash fire	0		2	2		
163 - Outside gas or vapor combustion explosion	0		4	6		
170 - Cultivated vegetation, crop fire, other	0		2	2		
173 - Cultivated trees or nursery stock fire	0		4	2		
121 - Fire in mobile home used as fixed residence	1	2	4	6	19.80	1 - LOW
131 - Passenger vehicle fire	37	6	4	2	19.80	1 - LOW
112 - Fires in structure other than in a building	1	2	4	4	13.86	1 - LOW
132 - Road freight or transport vehicle fire	3	4	4	2	13.86	1 - LOW
100 - Fire, Other	10	4	2	2	8.49	1 - LOW
114 - Chimney fire, confined to chimney	3	4	2	2	8.49	1 - LOW
116 - Fuel burner/boiler malfunction, fire confined	3	4	2	2	8.49	1 - LOW
118 - Trash or rubbish, contained	14	4	2	2	8.49	1 - LOW
133 - Rail vehicle fire	1	2	4	2	8.49	1 - LOW
140 - Natural vegetation	8	4	2	2	8.49	1 - LOW
141 - Forest, woods or wildland fire	4	4	2	2	8.49	1 - LOW
142 - Brush or brush and grass mixture fire	22	4	2	2	8.49	1 - LOW
143 - Grass fire	10	4	2	2	8.49	1 - LOW
150 - Outside rubbish fire, other	8	4	2	2	8.49	1 - LOW
151 - Outside rubbish, trash or waste fire	25	4	2	2	8.49	1 - LOW
154 - Dumpster or other trash receptacle fire	3	4	2	2	8.49	1 - LOW
162 - Outside equipment fire	3	4	2	2	8.49	1 - LOW
171 - Cultivated grain or crop fire	1	2	4	2	8.49	1 - LOW
115 - Incinerator overload or malfunction, fire confined	1	2	2	2	4.90	1 - LOW
138 - Off-road vehicle or heavy equipment fire	2	2	2	2	4.90	1 - LOW
160 - Special outside fire, other	1	2	2	2	4.90	1 - LOW
161 - Outside storage fire	1	2	2	2	4.90	1 - LOW
113 - Cooking fire, confined to container	51	6	2	8	36.77	2 - MOD
111 - Building fire	93	6	6	8	54.33	3 - HIGH

ROCKY MOUNT FIRE DEPARTMENT

Emergency Medical Incident Type	FZ1	Probability	Consequence	Impact	Score	Risk
Cardiac Arrest	120	6	6	2	28.14	1 - LOW
Overdose	137	6	6	2	28.14	1 - LOW
Motor vehicle / pedestrian accident	24	4	6	4	26.53	1 - LOW
Motor Vehicle Accident with no injuries	74	6	4	4	26.53	1 - LOW
Chest Pain	818	8	4	2	25.92	1 - LOW
Seizure	440	8	4	2	25.92	1 - LOW
Medical Emergency Other	1102	10	2	2	20.20	1 - LOW
Stroke	109	6	4	2	19.80	1 - LOW
Abdominal Pain	189	8	2	2	16.25	1 - LOW
Altered Mental Status	251	8	2	2	16.25	1 - LOW
Diabetic Emergency	261	8	2	2	16.25	1 - LOW
Allergic Reaction	32	4	4	2	13.86	1 - LOW
Burns	7	4	4	2	13.86	1 - LOW
Intoxicated Person	55	6	2	2	12.33	1 - LOW
Lifting Assistance	157	6	2	2	12.33	1 - LOW
Medic Alert Alarm	58	6	2	2	12.33	1 - LOW
OB Emergency	112	6	2	2	12.33	1 - LOW
Back Pains	32	4	2	2	8.49	1 - LOW
Cleared due to non-emergency	3	4	2	2	8.49	1 - LOW
Malicious false call	2	2	2	2	4.90	1 - LOW
Motor Vehicle Accident with injuries	228	8	8	4	55.43	2 - MOD
Respiratory Distress	1362	10	6	2	45.52	2 - MOD
Trauma	408	8	6	2	36.77	2 - MOD
Unconscious / Unresponsive	265	8	6	2	36.77	2 - MOD

Technical Rescue Incident Type	FZ1	Probability	Consequence	Impact	Score	Risk
356 - High-angle rescue	0		6	6		
357 - Extrication of victim(s) from machinery	0		4	4		
363 - Swift water rescue	0		4	4		
370 - Electrical rescue, other	0		6	4		
381 - Rescue or EMS standby	0		2	2		
331 - Lock-in	8	4	4	4	19.60	1 - LOW
360 - Water & ice-related rescue, other	8	4	4	4	19.60	1 - LOW
341 - Search for person on land	1	2	4	4	13.86	1 - LOW
342 - Search for person in water	1	2	4	4	13.86	1 - LOW
350 - Extrication, rescue, other	1	2	4	4	13.86	1 - LOW
351 - Extrication of victims from building/structure	1	2	4	4	13.86	1 - LOW
365 - Watercraft rescue	1	2	4	4	13.86	1 - LOW
372 - Trapped by power lines	1	2	4	4	13.86	1 - LOW
353 - Removal of victim(s) from stalled elevator	9	4	2	2	8.49	1 - LOW
352 - Extrication of victim(s) from vehicle	3	4	6	4	26.53	2 - MOD

ROCKY MOUNT FIRE DEPARTMENT

Hazardous Materials Incident Type	FZ1	Probability	Consequence	Impact	Score	Risk
400 - Hazardous Condition, other	0		2	2		
420 - Toxic condition, Other	0		6	6		
421 - Chemical hazard (no spill or leak)	0		2	2		
451 - Biological hazard, confirmed or suspected	0		4	6		
460 - Accident, potential accident, other	1	2	4	4	13.86	1 - LOW
461 - Building or structure weakened or collapsed	1	2	4	4	13.86	1 - LOW
445 - Arcing, shorted electrical equipment	35	6	2	2	12.33	1 - LOW
410 - Comb. /flamm gas/liquid condition, other	5	4	2	2	8.49	1 - LOW
411 - Gasoline or other flamm liquid spill	5	4	2	2	8.49	1 - LOW
424 - Carbon monoxide incident	15	4	2	2	8.49	1 - LOW
440 - Electrical wiring/equipment problem, other	12	4	2	2	8.49	1 - LOW
441 - Heat from short circuit (wiring), defective/worn	21	4	2	2	8.49	1 - LOW
442 - Overheated motor	9	4	2	2	8.49	1 - LOW
443 - Breakdown of light ballast	4	4	2	2	8.49	1 - LOW
444 - Power line down	9	4	2	2	8.49	1 - LOW
462 - Aircraft standby	1	2	4	2	8.49	1 - LOW
413 - Oil or other combustible liquid spill	2	2	2	2	4.90	1 - LOW
423 - Refrigeration leak	1	2	2	2	4.90	1 - LOW
463 - Vehicle accident, general cleanup	2	2	2	2	4.90	1 - LOW
481 - Attempt to burn	1	2	2	2	4.90	1 - LOW
412 - Gas leak (natural gas or LPG)	176	8	4	6	44.18	2 - MOD
422 - Chemical spill or leak	2	2	6	6	28.14	2 - MOD

ROCKY MOUNT FIRE DEPARTMENT

Fire Suppression Incident Type	FZ2	Probability	Consequence	Impact	Score	Risk
114 - Chimney fire, confined to chimney	0		2	2		
115 - Incinerator overload or malfunction, fire confined	0		2	2		
117 - Commercial Compactor Fire, confined to rubbish	0		2	2		
121 - Fire in mobile home used as fixed residence	0		4	6		
122 - Fire in motor home, camper, recreational vehicle	0		4	6		
133 - Rail vehicle fire	0		4	2		
134 - Water vehicle fire	0		4	2		
137 - Camper or recreational vehicle (RV) fire	0		4	2		
138 - Off-road vehicle or heavy equipment fire	0		2	2		
155 - Outside stationary compactor/compacted trash fire	0		2	2		
163 - Outside gas or vapor combustion explosion	0		4	6		
170 - Cultivated vegetation, crop fire, other	0		2	2		
171 - Cultivated grain or crop fire	0		4	2		
131 - Passenger vehicle fire	69	6	4	2	19.80	1 - LOW
112 - Fires in structure other than in a building	8	4	4	4	19.60	1 - LOW
130 - Mobile property (vehicle) fire, other	3	4	4	2	13.86	1 - LOW
142 - Brush or brush and grass mixture fire	44	6	2	2	12.33	1 - LOW
100 - Fire, Other	13	4	2	2	8.49	1 - LOW
116 - Fuel burner/boiler malfunction, fire confined	4	4	2	2	8.49	1 - LOW
118 - Trash or rubbish, contained	8	4	2	2	8.49	1 - LOW
132 - Road freight or transport vehicle fire	2	2	4	2	8.49	1 - LOW
140 - Natural vegetation	8	4	2	2	8.49	1 - LOW
143 - Grass fire	14	4	2	2	8.49	1 - LOW
150 - Outside rubbish fire, other	8	4	2	2	8.49	1 - LOW
151 - Outside rubbish, trash or waste fire	29	4	2	2	8.49	1 - LOW
154 - Dumpster or other trash receptacle fire	14	4	2	2	8.49	1 - LOW
161 - Outside storage fire	6	4	2	2	8.49	1 - LOW
162 - Outside equipment fire	3	4	2	2	8.49	1 - LOW
173 - Cultivated trees or nursery stock fire	1	2	4	2	8.49	1 - LOW
141 - Forest, woods or wildland fire	2	2	2	2	4.90	1 - LOW
160 - Special outside fire, other	2	2	2	2	4.90	1 - LOW
113 - Cooking fire, confined to container	64	6	2	8	36.77	2 - MOD
111 - Building fire	91	6	6	8	54.33	3 - HIGH

Emergency Medical Incident Type	FZ2	Probability	Consequence	Impact	Score	Risk
Overdose	159	6	6	2	28.14	1 - LOW
Motor vehicle / pedestrian accident	30	4	6	4	26.53	1 - LOW
Motor Vehicle Accident with no injuries	105	6	4	4	26.53	1 - LOW
Chest Pain	1033	8	4	2	25.92	1 - LOW
Stroke	213	8	4	2	25.92	1 - LOW
Seizure	467	8	4	2	25.92	1 - LOW
Medical Emergency Other	1577	10	2	2	20.20	1 - LOW
Allergic Reaction	61	6	4	2	19.80	1 - LOW
Abdominal Pain	264	8	2	2	16.25	1 - LOW
Altered Mental Status	354	8	2	2	16.25	1 - LOW
Diabetic Emergency	317	8	2	2	16.25	1 - LOW
Lifting Assistance	175	8	2	2	16.25	1 - LOW
Burns	6	4	4	2	13.86	1 - LOW
Back Pains	64	6	2	2	12.33	1 - LOW
Intoxicated Person	84	6	2	2	12.33	1 - LOW
Medic Alert Alarm	137	6	2	2	12.33	1 - LOW
OB Emergency	127	6	2	2	12.33	1 - LOW
Cleared due to non-emergency	2	2	2	2	4.90	1 - LOW
Malicious false call	2	2	2	2	4.90	1 - LOW
Motor Vehicle Accident with injuries	314	8	8	4	55.43	2 - MOD
Respiratory Distress	1712	10	6	2	45.52	2 - MOD
Cardiac Arrest	170	8	6	2	36.77	2 - MOD
Trauma	595	8	6	2	36.77	2 - MOD
Unconscious / Unresponsive	298	8	6	2	36.77	2 - MOD

Technical Rescue Incident Type	FZ2	Probability	Consequence	Impact	Score	Risk
341 - Search for person on land	0		4	4		
363 - Swift water rescue	0		4	4		
365 - Watercraft rescue	0		4	4		
370 - Electrical rescue, other	0		6	4		
381 - Rescue or EMS standby	0		2	2		
331 - Lock-in	13	4	4	4	19.60	1 - LOW
357 - Extrication of victim(s) from machinery	5	4	4	4	19.60	1 - LOW
360 - Water & ice-related rescue, other	4	4	4	4	19.60	1 - LOW
342 - Search for person in water	1	2	4	4	13.86	1 - LOW
350 - Extrication, rescue, other	1	2	4	4	13.86	1 - LOW
351 - Extrication of victims from building/structure	1	2	4	4	13.86	1 - LOW
372 - Trapped by power lines	2	2	4	4	13.86	1 - LOW
353 - Removal of victim(s) from stalled elevator	11	4	2	2	8.49	1 - LOW
356 - High-angle rescue	2	2	6	6	28.14	2 - MOD
352 - Extrication of victim(s) from vehicle	4	4	6	4	26.53	2 - MOD

ROCKY MOUNT FIRE DEPARTMENT COMMUNITY RISK ASSESSMENT - STANDARDS OF COVER

Hazardous Materials Incident Type	FZ2	Probability	Consequence	Impact	Score	Risk
420 - Toxic condition, Other	0		6	6		
421 - Chemical hazard (no spill or leak)	0		2	2		
460 - Accident, potential accident, other	0		4	4		
461 - Building or structure weakened or collapsed	0		4	4		
481 - Attempt to burn	0		2	2		
451 - Biological hazard, confirmed or suspected	1	2	4	6	19.80	1 - LOW
445 - Arcing, shorted electrical equipment	43	6	2	2	12.33	1 - LOW
400 - Hazardous Condition, other	3	4	2	2	8.49	1 - LOW
410 - Comb./flamm gas/liquid condition, other	6	4	2	2	8.49	1 - LOW
411 - Gasoline or other flamm liquid spill	8	4	2	2	8.49	1 - LOW
413 - Oil or other combustible liquid spill	3	4	2	2	8.49	1 - LOW
424 - Carbon monoxide incident	12	4	2	2	8.49	1 - LOW
440 - Electrical wiring/equipment problem, other	25	4	2	2	8.49	1 - LOW
441 - Heat from short circuit (wiring), defective/worn	24	4	2	2	8.49	1 - LOW
442 - Overheated motor	7	4	2	2	8.49	1 - LOW
443 - Breakdown of light ballast	4	4	2	2	8.49	1 - LOW
444 - Power line down	13	4	2	2	8.49	1 - LOW
462 - Aircraft standby	1	2	4	2	8.49	1 - LOW
423 - Refrigeration leak	2	2	2	2	4.90	1 - LOW
463 - Vehicle accident, general cleanup	2	2	2	2	4.90	1 - LOW
412 - Gas leak (natural gas or LPG)	250	8	4	6	44.18	2 - MOD
422 - Chemical spill or leak	1	2	6	6	28.14	2 - MOD

Fire Suppression Incident Type	FZ3	Probability	Consequence	Impact	Score	Risk
115 - Incinerator overload or malfunction, fire confined	0		2	2		
117 - Commercial Compactor Fire, confined to rubbish	0		2	2		
122 - Fire in motor home, camper, recreational vehicle	0		4	6		
133 - Rail vehicle fire	0		4	2		
134 - Water vehicle fire	0		4	2		
137 - Camper or recreational vehicle (RV) fire	0		4	2		
155 - Outside stationary compactor/compacted trash fire	0		2	2		
163 - Outside gas or vapor combustion explosion	0		4	6		
170 - Cultivated vegetation, crop fire, other	0		2	2		
173 - Cultivated trees or nursery stock fire	0		4	2		
121 - Fire in mobile home used as fixed residence	2	2	4	6	19.80	1 - LOW
131 - Passenger vehicle fire	35	6	4	2	19.80	1 - LOW
112 - Fires in structure other than in a building	1	2	4	4	13.86	1 - LOW
130 - Mobile property (vehicle) fire, other	3	4	4	2	13.86	1 - LOW
114 - Chimney fire, confined to chimney	3	4	2	2	8.49	1 - LOW
116 - Fuel burner/boiler malfunction, fire confined	6	4	2	2	8.49	1 - LOW
118 - Trash or rubbish, contained	11	4	2	2	8.49	1 - LOW
132 - Road freight or transport vehicle fire	2	2	4	2	8.49	1 - LOW
140 - Natural vegetation	8	4	2	2	8.49	1 - LOW
142 - Brush or brush and grass mixture fire	24	4	2	2	8.49	1 - LOW
143 - Grass fire	11	4	2	2	8.49	1 - LOW
151 - Outside rubbish, trash or waste fire	15	4	2	2	8.49	1 - LOW
154 - Dumpster or other trash receptacle fire	10	4	2	2	8.49	1 - LOW
171 - Cultivated grain or crop fire	1	2	4	2	8.49	1 - LOW
100 - Fire, Other	2	2	2	2	4.90	1 - LOW
138 - Off-road vehicle or heavy equipment fire	1	2	2	2	4.90	1 - LOW
141 - Forest, woods or wildland fire	2	2	2	2	4.90	1 - LOW
150 - Outside rubbish fire, other	2	2	2	2	4.90	1 - LOW
160 - Special outside fire, other	2	2	2	2	4.90	1 - LOW
161 - Outside storage fire	2	2	2	2	4.90	1 - LOW
162 - Outside equipment fire	2	2	2	2	4.90	1 - LOW
113 - Cooking fire, confined to container	46	6	2	8	36.77	2 - MOD
111 - Building fire	49	6	6	8	54.33	3 - HIGH

Emergency Medical Incident Type	FZ3	Probability	Consequence	Impact	Score	Risk
Cardiac Arrest	158	6	6	2	28.14	1 - LOW
Overdose	127	6	6	2	28.14	1 - LOW
Motor vehicle / pedestrian accident	14	4	6	4	26.53	1 - LOW
Motor Vehicle Accident with no injuries	78	6	4	4	26.53	1 - LOW
Chest Pain	686	8	4	2	25.92	1 - LOW
Stroke	228	8	4	2	25.92	1 - LOW
Seizure	289	8	4	2	25.92	1 - LOW
Allergic Reaction	35	6	4	2	19.80	1 - LOW
Altered Mental Status	309	8	2	2	16.25	1 - LOW
Diabetic Emergency	162	8	2	2	16.25	1 - LOW
Medical Emergency Other	954	8	2	2	16.25	1 - LOW
Burns	3	4	4	2	13.86	1 - LOW
Abdominal Pain	138	6	2	2	12.33	1 - LOW
Back Pains	34	6	2	2	12.33	1 - LOW
Lifting Assistance	147	6	2	2	12.33	1 - LOW
Medic Alert Alarm	46	6	2	2	12.33	1 - LOW
OB Emergency	50	6	2	2	12.33	1 - LOW
Cleared due to non-emergency	8	4	2	2	8.49	1 - LOW
Intoxicated Person	17	4	2	2	8.49	1 - LOW
Malicious false call	1	2	2	2	4.90	1 - LOW
Motor Vehicle Accident with injuries	206	8	8	4	55.43	2 - MOD
Respiratory Distress	1144	10	6	2	45.52	2 - MOD
Trauma	555	8	6	2	36.77	2 - MOD
Unconscious / Unresponsive	277	8	6	2	36.77	2 - MOD

Technical Rescue Incident Type	FZ3	Probability	Consequence	Impact	Score	Risk
341 - Search for person on land	0		4	4		
356 - High-angle rescue	0		6	6		
357 - Extrication of victim(s) from machinery	0		4	4		
363 - Swift water rescue	0		4	4		
365 - Watercraft rescue	0		4	4		
370 - Electrical rescue, other	0		6	4		
372 - Trapped by power lines	0		4	4		
381 - Rescue or EMS standby	0		2	2		
352 - Extrication of victim(s) from vehicle	1	2	6	4	19.80	1 - LOW
331 - Lock-in	24	4	4	4	19.60	1 - LOW
360 - Water & ice-related rescue, other	4	4	4	4	19.60	1 - LOW
342 - Search for person in water	2	2	4	4	13.86	1 - LOW
350 - Extrication, rescue, other	1	2	4	4	13.86	1 - LOW
351 - Extrication of victims from building/structure	1	2	4	4	13.86	1 - LOW
353 - Removal of victim(s) from stalled elevator	17	4	2	2	8.49	1 - LOW

Hazardous Materials Incident Type	FZ3	Probability	Consequence	Impact	Score	Risk
420 - Toxic condition, Other	0		6	6		
422 - Chemical spill or leak	0		6	6		
423 - Refrigeration leak	0		2	2		
460 - Accident, potential accident, other	0		4	4		
463 - Vehicle accident, general cleanup	0		2	2		
481 - Attempt to burn	0		2	2		
451 - Biological hazard, confirmed or suspected	1	2	4	6	19.80	1 - LOW
461 - Building or structure weakened or collapsed	2	2	4	4	13.86	1 - LOW
445 - Arcing, shorted electrical equipment	40	6	2	2	12.33	1 - LOW
410 - Comb. /flamm gas/liquid condition, other	5	4	2	2	8.49	1 - LOW
411 - Gasoline or other flamm liquid spill	12	4	2	2	8.49	1 - LOW
421 - Chemical hazard (no spill or leak)	4	4	2	2	8.49	1 - LOW
424 - Carbon monoxide incident	13	4	2	2	8.49	1 - LOW
440 - Electrical wiring/equipment problem, other	17	4	2	2	8.49	1 - LOW
441 - Heat from short circuit (wiring), defective/worn	16	4	2	2	8.49	1 - LOW
442 - Overheated motor	13	4	2	2	8.49	1 - LOW
444 - Power line down	5	4	2	2	8.49	1 - LOW
462 - Aircraft standby	1	2	4	2	8.49	1 - LOW
400 - Hazardous Condition, other	1	2	2	2	4.90	1 - LOW
413 - Oil or other combustible liquid spill	1	2	2	2	4.90	1 - LOW
443 - Breakdown of light ballast	1	2	2	2	4.90	1 - LOW
412 - Gas leak (natural gas or LPG)	183	8	4	6	44.18	2 - MOD

Fire Suppression Incident Type	FZ4	Probability	Consequence	Impact	Score	Risk
112 - Fires in structure other than in a building	0		4	4		
114 - Chimney fire, confined to chimney	0		2	2		
122 - Fire in motor home, camper, recreational vehicle	0		4	6		
132 - Road freight or transport vehicle fire			4	2		
137 - Camper or recreational vehicle (RV) fire	0		4	2		
138 - Off-road vehicle or heavy equipment fire	0		2	2		
154 - Dumpster or other trash receptacle fire	0		2	2		
155 - Outside stationary compactor/compacted trash fire	0		2	2		
160 - Special outside fire, other	0		2	2		
163 - Outside gas or vapor combustion explosion	0		4	6		
170 - Cultivated vegetation, crop fire, other	0		2	2		
173 - Cultivated trees or nursery stock fire	0		4	2		
121 - Fire in mobile home used as fixed residence	2	2	4	6	19.80	1 - LOW
131 - Passenger vehicle fire	12	4	4	2	13.86	1 - LOW
118 - Trash or rubbish, contained	3	4	2	2	8.49	1 - LOW
130 - Mobile property (vehicle) fire, other	1	2	4	2	8.49	1 - LOW
133 - Rail vehicle fire	1	2	4	2	8.49	1 - LOW
134 - Water vehicle fire	1	2	4	2	8.49	1 - LOW
140 - Natural vegetation	3	4	2	2	8.49	1 - LOW
142 - Brush or brush and grass mixture fire	7	4	2	2	8.49	1 - LOW
143 - Grass fire	10	4	2	2	8.49	1 - LOW
150 - Outside rubbish fire, other	3	4	2	2	8.49	1 - LOW
151 - Outside rubbish, trash or waste fire	5	4	2	2	8.49	1 - LOW
161 - Outside storage fire	3	4	2	2	8.49	1 - LOW
171 - Cultivated grain or crop fire	1	2	4	2	8.49	1 - LOW
100 - Fire, Other	2	2	2	2	4.90	1 - LOW
115 - Incinerator overload or malfunction, fire confined	1	2	2	2	4.90	1 - LOW
116 - Fuel burner/boiler malfunction, fire confined	1	2	2	2	4.90	1 - LOW
117 - Commercial Compactor Fire, confined to rubbish	1	2	2	2	4.90	1 - LOW
141 - Forest, woods or wildland fire	2	2	2	2	4.90	1 - LOW
162 - Outside equipment fire	2	2	2	2	4.90	1 - LOW
111 - Building fire	21	4	6	8	44.18	2 - MOD
113 - Cooking fire, confined to container	13	4	2	8	25.92	2 - MOD

Emergency Medical Incident Type	FZ4	Probability	Consequence	Impact	Score	Risk
Cardiac Arrest	55	6	6	2	28.14	1 - LOW
Overdose	58	6	6	2	28.14	1 - LOW
Trauma	123	6	6	2	28.14	1 - LOW
Unconscious / Unresponsive	86	6	6	2	28.14	1 - LOW
Motor vehicle / pedestrian accident	7	4	6	4	26.53	1 - LOW
Motor Vehicle Accident with no injuries	34	6	4	4	26.53	1 - LOW
Chest Pain	260	8	4	2	25.92	1 - LOW
Stroke	59	6	4	2	19.80	1 - LOW
Seizure	118	6	4	2	19.80	1 - LOW
Medical Emergency Other	415	8	2	2	16.25	1 - LOW
Allergic Reaction	12	4	4	2	13.86	1 - LOW
Abdominal Pain	74	6	2	2	12.33	1 - LOW
Altered Mental Status	70	6	2	2	12.33	1 - LOW
Diabetic Emergency	78	6	2	2	12.33	1 - LOW
Lifting Assistance	44	6	2	2	12.33	1 - LOW
OB Emergency	39	6	2	2	12.33	1 - LOW
Back Pains	13	4	2	2	8.49	1 - LOW
Burns	1	2	4	2	8.49	1 - LOW
Intoxicated Person	21	4	2	2	8.49	1 - LOW
Medic Alert Alarm	14	4	2	2	8.49	1 - LOW
Cleared due to non-emergency	2	2	2	2	4.90	1 - LOW
Malicious false call	2	2	2	2	4.90	1 - LOW
Motor Vehicle Accident with injuries	89	6	8	4	44.18	2 - MOD
Respiratory Distress	380	8	6	2	36.77	2 - MOD

Technical Rescue Incident Type	FZ4	Probability	Consequence	Impact	Score	Risk
341 - Search for person on land	0		4	4		
350 - Extrication, rescue, other	0		4	4		
351 - Extrication of victims from building/structure	0		4	4		
357 - Extrication of victim(s) from machinery	0		4	4		
363 - Swift water rescue	0		4	4		
365 - Watercraft rescue	0		4	4		
370 - Electrical rescue, other	0		6	4		
372 - Trapped by power lines	0		4	4		
381 - Rescue or EMS standby	0		2	2		
352 - Extrication of victim(s) from vehicle	1	2	6	4	19.80	1 - LOW
331 - Lock-in	6	4	4	4	19.60	1 - LOW
342 - Search for person in water	1	2	4	4	13.86	1 - LOW
360 - Water & ice-related rescue, other	1	2	4	4	13.86	1 - LOW
353 - Removal of victim(s) from stalled elevator	1	2	2	2	4.90	1 - LOW
356 - High-angle rescue	1	2	6	6	28.14	2 - MOD

Hazardous Materials Incident Type	FZ4	Probability	Consequence	Impact	Score	Risk
413 - Oil or other combustible liquid spill	0		2	2		
420 - Toxic condition, Other	0		6	6		
421 - Chemical hazard (no spill or leak)	0		2	2		
422 - Chemical spill or leak	0		6	6		
460 - Accident, potential accident, other	0		4	4		
461 - Building or structure weakened or collapsed	0		4	4		
462 - Aircraft standby	0		4	2		
481 - Attempt to burn	0		2	2		
451 - Biological hazard, confirmed or suspected	1	2	4	6	19.80	1 - LOW
411 - Gasoline or other flamm liquid spill	5	4	2	2	8.49	1 - LOW
424 - Carbon monoxide incident	5	4	2	2	8.49	1 - LOW
440 - Electrical wiring/equipment problem, other	8	4	2	2	8.49	1 - LOW
441 - Heat from short circuit (wiring), defective/worn	10	4	2	2	8.49	1 - LOW
442 - Overheated motor	7	4	2	2	8.49	1 - LOW
445 - Arcing, shorted electrical equipment	18	4	2	2	8.49	1 - LOW
400 - Hazardous Condition, other	1	2	2	2	4.90	1 - LOW
410 - Comb./flamm gas/liquid condition, other	2	2	2	2	4.90	1 - LOW
423 - Refrigeration leak	1	2	2	2	4.90	1 - LOW
443 - Breakdown of light ballast	2	2	2	2	4.90	1 - LOW
444 - Power line down	1	2	2	2	4.90	1 - LOW
463 - Vehicle accident, general cleanup	1	2	2	2	4.90	1 - LOW
412 - Gas leak (natural gas or LPG)	56	6	4	6	34.99	2 - MOD

2018-2022 Risk Analysis: Planning Zone 5		
Risk Analysis: Planning	Zone	5

Fire Suppression Incident Type	FZ5	Probability	Consequence	Impact	Score	Risk
117 - Commercial Compactor Fire, confined to rubbish	0		2	2		
122 - Fire in motor home, camper, recreational vehicle	0		4	6		
134 - Water vehicle fire	0		4	2		
137 - Camper or recreational vehicle (RV) fire	0		4	2		
155 - Outside stationary compactor/compacted trash fire	0		2	2		
163 - Outside gas or vapor combustion explosion	0		4	6		
170 - Cultivated vegetation, crop fire, other	0		2	2		
173 - Cultivated trees or nursery stock fire	0		4	2		
121 - Fire in mobile home used as fixed residence	1	2	4	6	19.80	1 - LOW
131 - Passenger vehicle fire	34	6	4	2	19.80	1 - LOW
112 - Fires in structure other than in a building	2	2	4	4	13.86	1 - LOW
130 - Mobile property (vehicle) fire, other	4	4	4	2	13.86	1 - LOW
132 - Road freight or transport vehicle fire	3	4	4	2	13.86	1 - LOW
118 - Trash or rubbish, contained	13	4	2	2	8.49	1 - LOW
133 - Rail vehicle fire	1	2	4	2	8.49	1 - LOW
138 - Off-road vehicle or heavy equipment fire	3	4	2	2	8.49	1 - LOW
140 - Natural vegetation	8	4	2	2	8.49	1 - LOW
141 - Forest, woods or wildland fire	8	4	2	2	8.49	1 - LOW
142 - Brush or brush and grass mixture fire	22	4	2	2	8.49	1 - LOW
143 - Grass fire	13	4	2	2	8.49	1 - LOW
150 - Outside rubbish fire, other	3	4	2	2	8.49	1 - LOW
151 - Outside rubbish, trash or waste fire	19	4	2	2	8.49	1 - LOW
154 - Dumpster or other trash receptacle fire	10	4	2	2	8.49	1 - LOW
162 - Outside equipment fire	4	4	2	2	8.49	1 - LOW
171 - Cultivated grain or crop fire	1	2	4	2	8.49	1 - LOW
100 - Fire, Other	2	2	2	2	4.90	1 - LOW
114 - Chimney fire, confined to chimney	1	2	2	2	4.90	1 - LOW
115 - Incinerator overload or malfunction, fire confined	1	2	2	2	4.90	1 - LOW
116 - Fuel burner/boiler malfunction, fire confined	1	2	2	2	4.90	1 - LOW
160 - Special outside fire, other	1	2	2	2	4.90	1 - LOW
161 - Outside storage fire	1	2	2	2	4.90	1 - LOW
113 - Cooking fire, confined to container	42	6	2	8	36.77	2 - MOD
111 - Building fire	39	6	6	8	54.33	3 - HIGH

Emergency Medical Incident Type	FZ5	Probability	Consequence	Impact	Score	Risk
Malicious false call	0		2	2		
Cardiac Arrest	88	6	6	2	28.14	1 - LOW
Overdose	71	6	6	2	28.14	1 - LOW
Motor vehicle / pedestrian accident	15	4	6	4	26.53	1 - LOW
Motor Vehicle Accident with no injuries	39	6	4	4	26.53	1 - LOW
Chest Pain	448	8	4	2	25.92	1 - LOW
Seizure	212	8	4	2	25.92	1 - LOW
Stroke	108	6	4	2	19.80	1 - LOW
Medical Emergency Other	523	8	2	2	16.25	1 - LOW
Allergic Reaction	27	4	4	2	13.86	1 - LOW
Burns	4	4	4	2	13.86	1 - LOW
Abdominal Pain	90	6	2	2	12.33	1 - LOW
Altered Mental Status	157	6	2	2	12.33	1 - LOW
Diabetic Emergency	154	6	2	2	12.33	1 - LOW
Lifting Assistance	68	6	2	2	12.33	1 - LOW
Medic Alert Alarm	53	6	2	2	12.33	1 - LOW
OB Emergency	75	6	2	2	12.33	1 - LOW
Back Pains	18	4	2	2	8.49	1 - LOW
Cleared due to non-emergency	4	4	2	2	8.49	1 - LOW
Intoxicated Person	32	4	2	2	8.49	1 - LOW
Motor Vehicle Accident with injuries	135	6	8	4	44.18	2 - MOD
Respiratory Distress	855	8	6	2	36.77	2 - MOD
Trauma	185	8	6	2	36.77	2 - MOD
Unconscious / Unresponsive	207	8	6	2	36.77	2 - MOD

Technical Rescue Incident Type	FZ5	Probability	Consequence	Impact	Score	Risk
351 - Extrication of victims from building/structure	0		4	4		
356 - High-angle rescue	0		6	6		
357 - Extrication of victim(s) from machinery	0		4	4		
363 - Swift water rescue	0		4	4		
365 - Watercraft rescue	0		4	4		
370 - Electrical rescue, other	0		6	4		
372 - Trapped by power lines	0		4	4		
381 - Rescue or EMS standby	0		2	2		
352 - Extrication of victim(s) from vehicle	2	2	6	4	19.80	1 - LOW
331 - Lock-in	4	4	4	4	19.60	1 - LOW
341 - Search for person on land	1	2	4	4	13.86	1 - LOW
342 - Search for person in water	1	2	4	4	13.86	1 - LOW
350 - Extrication, rescue, other	1	2	4	4	13.86	1 - LOW
360 - Water & ice-related rescue, other	1	2	4	4	13.86	1 - LOW
353 - Removal of victim(s) from stalled elevator	3	4	2	2	8.49	1 - LOW

Hazardous Materials Incident Type	FZ5	Probability	Consequence	Impact	Score	Risk
420 - Toxic condition, Other	0		6	6		
421 - Chemical hazard (no spill or leak)	0		2	2		
451 - Biological hazard, confirmed or suspected	0		4	6		
461 - Building or structure weakened or collapsed	0		4	4		
481 - Attempt to burn	0		2	2		
460 - Accident, potential accident, other	1	2	4	4	13.86	1 - LOW
411 - Gasoline or other flamm liquid spill	5	4	2	2	8.49	1 - LOW
424 - Carbon monoxide incident	6	4	2	2	8.49	1 - LOW
440 - Electrical wiring/equipment problem, other	6	4	2	2	8.49	1 - LOW
441 - Heat from short circuit (wiring), defective/worn	13	4	2	2	8.49	1 - LOW
442 - Overheated motor	12	4	2	2	8.49	1 - LOW
444 - Power line down	4	4	2	2	8.49	1 - LOW
445 - Arcing, shorted electrical equipment	26	4	2	2	8.49	1 - LOW
462 - Aircraft standby	1	2	4	2	8.49	1 - LOW
400 - Hazardous Condition, other	2	2	2	2	4.90	1 - LOW
410 - Comb./flamm gas/liquid condition, other	2	2	2	2	4.90	1 - LOW
413 - Oil or other combustible liquid spill	2	2	2	2	4.90	1 - LOW
423 - Refrigeration leak	1	2	2	2	4.90	1 - LOW
443 - Breakdown of light ballast	1	2	2	2	4.90	1 - LOW
463 - Vehicle accident, general cleanup	1	2	2	2	4.90	1 - LOW
412 - Gas leak (natural gas or LPG)	113	6	4	6	34.99	2 - MOD
422 - Chemical spill or leak	1	2	6	6	28.14	2 - MOD

Fire Suppression Incident Type	FZ6	Probability	Consequence	Impact	Score	Risk
112 - Fires in structure other than in a building	0		4	4		
115 - Incinerator overload or malfunction, fire confined	0		2	2		
121 - Fire in mobile home used as fixed residence	0		4	6		
130 - Mobile property (vehicle) fire, other	0		4	2		
133 - Rail vehicle fire	0		4	2		
134 - Water vehicle fire	0		4	2		
155 - Outside stationary compactor/compacted trash fire	0		2	2		
160 - Special outside fire, other	0		2	2		
161 - Outside storage fire	0		2	2		
163 - Outside gas or vapor combustion explosion	0		4	6		
173 - Cultivated trees or nursery stock fire	0		4	2		
122 - Fire in motor home, camper, recreational vehicle	1	2	4	6	19.80	1 - LOW
131 - Passenger vehicle fire	53	6	4	2	19.80	1 - LOW
132 - Road freight or transport vehicle fire	12	4	4	2	13.86	1 - LOW
116 - Fuel burner/boiler malfunction, fire confined	5	4	2	2	8.49	1 - LOW
118 - Trash or rubbish, contained	20	4	2	2	8.49	1 - LOW
137 - Camper or recreational vehicle (RV) fire	1	2	4	2	8.49	1 - LOW
140 - Natural vegetation	14	4	2	2	8.49	1 - LOW
142 - Brush or brush and grass mixture fire	22	4	2	2	8.49	1 - LOW
143 - Grass fire	16	4	2	2	8.49	1 - LOW
151 - Outside rubbish, trash or waste fire	13	4	2	2	8.49	1 - LOW
154 - Dumpster or other trash receptacle fire	6	4	2	2	8.49	1 - LOW
162 - Outside equipment fire	4	4	2	2	8.49	1 - LOW
171 - Cultivated grain or crop fire	1	2	4	2	8.49	1 - LOW
100 - Fire, Other	2	2	2	2	4.90	1 - LOW
114 - Chimney fire, confined to chimney	1	2	2	2	4.90	1 - LOW
117 - Commercial Compactor Fire, confined to rubbish	1	2	2	2	4.90	1 - LOW
138 - Off-road vehicle or heavy equipment fire	2	2	2	2	4.90	1 - LOW
141 - Forest, woods or wildland fire	2	2	2	2	4.90	1 - LOW
150 - Outside rubbish fire, other	1	2	2	2	4.90	1 - LOW
170 - Cultivated vegetation, crop fire, other	1	2	2	2	4.90	1 - LOW
113 - Cooking fire, confined to container	35	6	2	8	36.77	2 - MOD
111 - Building fire	37	6	6	8	54.33	3 - HIGH

Emergency Medical Incident Type	FZ6	Probability	Consequence	Impact	Score	Risk
Malicious false call	0		2	2		
Cardiac Arrest	126	6	6	2	28.14	1 - LOW
Overdose	113	6	6	2	28.14	1 - LOW
Motor vehicle / pedestrian accident	25	4	6	4	26.53	1 - LOW
Motor Vehicle Accident with no injuries	133	6	4	4	26.53	1 - LOW
Chest Pain	557	8	4	2	25.92	1 - LOW
Seizure	287	8	4	2	25.92	1 - LOW
Stroke	134	6	4	2	19.80	1 - LOW
Altered Mental Status	219	8	2	2	16.25	1 - LOW
Diabetic Emergency	174	8	2	2	16.25	1 - LOW
Lifting Assistance	165	8	2	2	16.25	1 - LOW
Medical Emergency Other	817	8	2	2	16.25	1 - LOW
Allergic Reaction	24	4	4	2	13.86	1 - LOW
Burns	7	4	4	2	13.86	1 - LOW
Abdominal Pain	123	6	2	2	12.33	1 - LOW
Intoxicated Person	34	6	2	2	12.33	1 - LOW
Medic Alert Alarm	50	6	2	2	12.33	1 - LOW
OB Emergency	54	6	2	2	12.33	1 - LOW
Back Pains	29	4	2	2	8.49	1 - LOW
Cleared due to non-emergency	6	4	2	2	8.49	1 - LOW
Motor Vehicle Accident with injuries	314	8	8	4	55.43	2 - MOD
Respiratory Distress	830	8	6	2	36.77	2 - MOD
Trauma	556	8	6	2	36.77	2 - MOD
Unconscious / Unresponsive	228	8	6	2	36.77	2 - MOD

Technical Rescue Incident Type	FZ6	Probability	Consequence	Impact	Score	Risk
341 - Search for person on land	0		4	4		
351 - Extrication of victims from building/structure	0		4	4		
356 - High-angle rescue	0		6	6		
365 - Watercraft rescue	0		4	4		
381 - Rescue or EMS standby	0		2	2		
352 - Extrication of victim(s) from vehicle	2	2	6	4	19.80	1 - LOW
370 - Electrical rescue, other	2	2	6	4	19.80	1 - LOW
331 - Lock-in	11	4	4	4	19.60	1 - LOW
342 - Search for person in water	5	4	4	4	19.60	1 - LOW
360 - Water & ice-related rescue, other	4	4	4	4	19.60	1 - LOW
350 - Extrication, rescue, other	1	2	4	4	13.86	1 - LOW
357 - Extrication of victim(s) from machinery	1	2	4	4	13.86	1 - LOW
363 - Swift water rescue	1	2	4	4	13.86	1 - LOW
372 - Trapped by power lines	1	2	4	4	13.86	1 - LOW
353 - Removal of victim(s) from stalled elevator	7	4	2	2	8.49	1 - LOW

ROCKY MOUNT FIRE DEPARTMENT COMMUNITY RISK ASSESSMENT - STANDARDS OF COVER

Hazardous Materials Incident Type	FZ6	Probability	Consequence	Impact	Score	Risk
420 - Toxic condition, Other	0		6	6		
421 - Chemical hazard (no spill or leak)	0		2	2		
422 - Chemical spill or leak	0		6	6		
443 - Breakdown of light ballast	0		2	2		
451 - Biological hazard, confirmed or suspected	0		4	6		
460 - Accident, potential accident, other	0		4	4		
461 - Building or structure weakened or collapsed	0		4	4		
481 - Attempt to burn	0		2	2		
462 - Aircraft standby	6	4	4	2	13.86	1 - LOW
410 - Comb. /flamm gas/liquid condition, other	5	4	2	2	8.49	1 - LOW
411 - Gasoline or other flamm liquid spill	15	4	2	2	8.49	1 - LOW
413 - Oil or other combustible liquid spill	5	4	2	2	8.49	1 - LOW
424 - Carbon monoxide incident	10	4	2	2	8.49	1 - LOW
440 - Electrical wiring/equipment problem, other	11	4	2	2	8.49	1 - LOW
441 - Heat from short circuit (wiring), defective/worn	12	4	2	2	8.49	1 - LOW
442 - Overheated motor	12	4	2	2	8.49	1 - LOW
444 - Power line down	8	4	2	2	8.49	1 - LOW
445 - Arcing, shorted electrical equipment	32	4	2	2	8.49	1 - LOW
463 - Vehicle accident, general cleanup	4	4	2	2	8.49	1 - LOW
400 - Hazardous Condition, other	2	2	2	2	4.90	1 - LOW
423 - Refrigeration leak	2	2	2	2	4.90	1 - LOW
412 - Gas leak (natural gas or LPG)	117	6	4	6	34.99	2 - MOD

Fire Suppression Incident Type	FZ7	Probability	Consequence	Impact	Score	Risk
112 - Fires in structure other than in a building	0		4	4		
114 - Chimney fire, confined to chimney	0		2	2		
115 - Incinerator overload or malfunction, fire confined	0		2	2		
116 - Fuel burner/boiler malfunction, fire confined	0		2	2		
117 - Commercial Compactor Fire, confined to rubbish	0		2	2		
122 - Fire in motor home, camper, recreational vehicle	0		4	6		
130 - Mobile property (vehicle) fire, other	0		4	2		
133 - Rail vehicle fire	0		4	2		
134 - Water vehicle fire	0		4	2		
138 - Off-road vehicle or heavy equipment fire	0		2	2		
154 - Dumpster or other trash receptacle fire	0		2	2		
155 - Outside stationary compactor/compacted trash fire	0		2	2		
160 - Special outside fire, other	0		2	2		
161 - Outside storage fire	0		2	2		
162 - Outside equipment fire	0		2	2		
163 - Outside gas or vapor combustion explosion	0		4	6		
170 - Cultivated vegetation, crop fire, other	0		2	2		
171 - Cultivated grain or crop fire	0		4	2		
173 - Cultivated trees or nursery stock fire	0		4	2		
121 - Fire in mobile home used as fixed residence	1	2	4	6	19.80	1 - LOW
131 - Passenger vehicle fire	6	4	4	2	13.86	1 - LOW
132 - Road freight or transport vehicle fire	2	2	4	2	8.49	1 - LOW
137 - Camper or recreational vehicle (RV) fire	1	2	4	2	8.49	1 - LOW
142 - Brush or brush and grass mixture fire	5	4	2	2	8.49	1 - LOW
100 - Fire, Other	2	2	2	2	4.90	1 - LOW
118 - Trash or rubbish, contained	1	2	2	2	4.90	1 - LOW
140 - Natural vegetation	1	2	2	2	4.90	1 - LOW
141 - Forest, woods or wildland fire	1	2	2	2	4.90	1 - LOW
143 - Grass fire	1	2	2	2	4.90	1 - LOW
150 - Outside rubbish fire, other	1	2	2	2	4.90	1 - LOW
151 - Outside rubbish, trash or waste fire	2	2	2	2	4.90	1 - LOW
111 - Building fire	5	4	6	8	44.18	2 - MOD
113 - Cooking fire, confined to container	3	4	2	8	25.92	2 - MOD

Emergency Medical Incident Type	FZ7	Probability	Consequence	Impact	Score	Risk
Malicious false call	0		2	2		
Motor vehicle / pedestrian accident	0		6	4		
Trauma	36	6	6	2	28.14	1 - LOW
Unconscious / Unresponsive	40	6	6	2	28.14	1 - LOW
Cardiac Arrest	19	4	6	2	19.80	1 - LOW
Chest Pain	109	6	4	2	19.80	1 - LOW
Overdose	16	4	6	2	19.80	1 - LOW
Seizure	43	6	4	2	19.80	1 - LOW
Motor Vehicle Accident with no injuries	17	4	4	4	19.60	1 - LOW
Allergic Reaction	4	4	4	2	13.86	1 - LOW
Stroke	15	4	4	2	13.86	1 - LOW
Diabetic Emergency	65	6	2	2	12.33	1 - LOW
Medical Emergency Other	150	6	2	2	12.33	1 - LOW
Abdominal Pain	19	4	2	2	8.49	1 - LOW
Altered Mental Status	25	4	2	2	8.49	1 - LOW
Back Pains	9	4	2	2	8.49	1 - LOW
Burns	2	2	4	2	8.49	1 - LOW
Intoxicated Person	5	4	2	2	8.49	1 - LOW
Lifting Assistance	14	4	2	2	8.49	1 - LOW
Medic Alert Alarm	4	4	2	2	8.49	1 - LOW
OB Emergency	9	4	2	2	8.49	1 - LOW
Cleared due to non-emergency	1	2	2	2	4.90	1 - LOW
Respiratory Distress	169	8	6	2	36.77	2 - MOD
Motor Vehicle Accident with injuries	30	4	8	4	33.94	2 - MOD

Technical Rescue Incident Type	FZ7	Probability	Consequence	Impact	Score	Risk
341 - Search for person on land	0		4	4		
342 - Search for person in water	0		4	4		
350 - Extrication, rescue, other	0		4	4		
351 - Extrication of victims from building/structure	0		4	4		
353 - Removal of victim(s) from stalled elevator	0		2	2		
356 - High-angle rescue	0		6	6		
357 - Extrication of victim(s) from machinery	0		4	4		
360 - Water & ice-related rescue, other	0		4	4		
363 - Swift water rescue	0		4	4		
365 - Watercraft rescue	0		4	4		
370 - Electrical rescue, other	0		6	4		
372 - Trapped by power lines	0		4	4		
381 - Rescue or EMS standby	0		2	2		
352 - Extrication of victim(s) from vehicle	1	2	6	4	19.80	1 - LOW
331 - Lock-in	1	2	4	4	13.86	1 - LOW

Hazardous Materials Incident Type	FZ7	Probability	Consequence	Impact	Score	Risk
410 - Comb. /flamm gas/liquid condition, other	0		2	2		
411 - Gasoline or other flamm liquid spill	0		2	2		
420 - Toxic condition, Other	0		6	6		
423 - Refrigeration leak	0		2	2		
441 - Heat from short circuit (wiring), defective/worn	0		2	2		
443 - Breakdown of light ballast	0		2	2		
451 - Biological hazard, confirmed or suspected	0		4	6		
460 - Accident, potential accident, other	0		4	4		
461 - Building or structure weakened or collapsed	0		4	4		
462 - Aircraft standby	0		4	2		
463 - Vehicle accident, general cleanup	0		2	2		
481 - Attempt to burn	0		2	2		
424 - Carbon monoxide incident	3	4	2	2	8.49	1 - LOW
445 - Arcing, shorted electrical equipment	3	4	2	2	8.49	1 - LOW
400 - Hazardous Condition, other	1	2	2	2	4.90	1 - LOW
413 - Oil or other combustible liquid spill	1	2	2	2	4.90	1 - LOW
421 - Chemical hazard (no spill or leak)	2	2	2	2	4.90	1 - LOW
440 - Electrical wiring/equipment problem, other	2	2	2	2	4.90	1 - LOW
442 - Overheated motor	2	2	2	2	4.90	1 - LOW
444 - Power line down	2	2	2	2	4.90	1 - LOW
422 - Chemical spill or leak	1	2	6	6	28.14	2 - MOD
412 - Gas leak (natural gas or LPG)	18	4	4	6	26.53	2 - MOD

Appendix C: Individual Apparatus Baseline Charts

Single Company Response ALL Calls 90th Percentile									
All Units	2018	2019	2020	2021	2022	2018-2022			
Alarm Handling	01:53	01:54	02:06	02:04	02:21	02:04			
Turnout	01:26	01:27	01:29	01:24	01:26	01:26			
Travel	05:30	05:26	05:33	05:32	05:30	05:30			
Total Response	07:49	07:45	08:03	07:57	08:02	07:54			

E1	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	01:47	01:47	02:06	01:55	02:09	01:57
Turnout	01:24	01:24	01:28	01:23	01:26	01:25
Travel	04:29	04:27	04:36	04:35	04:53	04:35
Total Response	06:42	06:44	07:07	07:05	07:22	07:00

E2	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	01:46	01:48	01:55	01:51	02:07	01:54
Turnout	01:20	01:24	01:25	01:20	01:23	01:22
Travel	04:33	04:45	05:00	04:53	04:39	04:45
Total Response	06:41	07:01	07:18	07:14	07:10	07:03

E3	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	01:50	01:45	01:49	01:57	02:17	01:57
Turnout	01:27	01:27	01:29	01:23	01:20	01:26
Travel	06:00	05:59	05:45	06:11	05:59	06:00
Total Response	08:16	08:12	08:05	08:30	08:24	08:18

E4	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	01:45	01:53	02:09	01:59	02:20	02:00
Turnout	01:27	01:25	01:28	01:26	01:27	01:27
Travel	05:32	05:39	05:37	05:14	05:07	05:28
Total Response	07:59	07:46	08:08	07:37	08:04	07:53

E5	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	01:46	01:43	01:59	01:57	02:14	01:57
Turnout	01:23	01:24	01:27	01:26	01:27	01:25
Travel	05:32	05:07	05:56	05:45	05:35	05:34
Total Response	07:54	07:20	08:18	08:01	08:01	07:54

Single Company Response ALL Calls 90th Percentile

E6	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	01:47	01:51	02:07	02:02	02:15	02:00
Turnout	01:27	01:29	01:32	01:26	01:25	01:28
Travel	05:18	05:29	05:51	05:37	05:41	05:34
Total Response	07:46	07:52	08:25	08:10	08:21	08:03

E7	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	01:42	01:38	01:53	02:07	01:57	01:52
Turnout	01:28	01:22	01:29	01:24	01:28	01:27
Travel	05:56	06:09	06:23	06:10	06:17	06:10
Total Response	08:33	08:25	08:26	08:56	08:40	08:38

Single Company Response FIRE Calls 90th Percentile

All Units	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	02:23	02:30	02:09	02:36	02:34	02:26
Turnout	01:38	01:48	01:43	01:30	01:45	01:41
Travel	06:17	05:50	06:02	06:04	05:57	06:04
Total Response	09:06	08:51	08:54	08:47	08:50	08:53

E1	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	02:26	02:29	01:55	02:36	02:41	02:31
Turnout	01:25	01:39	01:30	01:26	01:42	01:30
Travel	04:30	04:09	04:54	05:14	05:34	04:47
Total Response	07:09	06:59	07:24	07:36	08:24	07:33

E2	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	02:09	02:49	02:00	02:08	02:12	02:15
Turnout	01:35	01:47	01:35	01:30	01:33	01:36
Travel	05:38	05:05	05:06	06:02	04:40	05:32
Total Response	08:29	08:00	07:41	09:14	07:36	08:08

E3	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	02:32	02:39	02:28	02:36	02:29	02:37
Turnout	01:28	01:51	01:40	01:29	01:35	01:37
Travel	06:02	06:00	05:47	05:45	05:09	05:54
Total Response	08:52	09:02	09:16	08:40	08:20	08:55

E4	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	02:30	01:54	01:52	02:28	01:50	02:12
Turnout	01:42	01:46	01:21	01:29	01:29	01:33
Travel	07:04	06:53	05:57	05:59	06:33	06:47
Total Response	09:47	09:32	08:36	08:32	09:17	09:15

Single Company Response FIRE Calls 90th Percentile

E5	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	02:02	02:16	01:52	02:16	02:19	02:12
Turnout	01:50	01:35	01:37	01:31	01:39	01:40
Travel	06:44	05:48	06:10	05:53	06:08	06:08
Total Response	09:06	08:01	08:59	08:47	08:49	08:50

E6	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	02:01	02:23	02:02	02:39	02:18	02:24
Turnout	01:52	01:53	01:54	01:43	01:43	01:51
Travel	06:54	06:16	06:30	06:21	06:11	06:29
Total Response	09:24	09:11	09:18	09:03	08:55	09:16

E7	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	01:35	01:26	01:59	01:50	02:31	01:56
Turnout	01:31	01:25	01:15	01:29	02:28	01:37
Travel	06:54	07:18	06:41	06:38	06:18	06:55
Total Response	09:26	09:36	09:12	09:24	09:45	09:37

Single Company Response EMS Calls 90th Percentile

All Units	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	01:45	01:41	01:48	01:48	02:04	01:49
Turnout	01:24	01:25	01:26	01:21	01:23	01:24
Travel	05:22	05:24	05:27	05:30	05:30	05:26
Total Response	07:35	07:34	07:44	07:41	07:50	07:40

E1	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	01:40	01:35	01:45	01:45	01:55	01:44
Turnout	01:24	01:23	01:25	01:22	01:25	01:24
Travel	04:26	04:30	04:26	04:37	04:53	04:34
Total Response	06:33	06:38	06:49	06:58	07:10	06:51

E2	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	01:37	01:33	01:38	01:41	01:58	01:43
Turnout	01:18	01:23	01:22	01:18	01:23	01:21
Travel	04:29	04:45	05:04	04:47	04:38	04:42
Total Response	06:33	06:56	07:08	07:00	07:04	06:55

E3	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	01:44	01:36	01:41	01:38	02:07	01:45
Turnout	01:26	01:26	01:27	01:21	01:19	01:25
Travel	06:00	06:02	05:44	06:14	06:11	06:05
Total Response	08:17	08:12	08:00	08:30	08:31	08:18

E4	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	01:36	01:39	01:48	01:42	01:59	01:47
Turnout	01:25	01:25	01:26	01:27	01:25	01:26
Travel	05:32	05:30	05:29	05:07	05:04	05:18
Total Response	07:46	07:34	07:45	07:25	07:26	07:36

Single Company Response EMS Calls 90th Percentile

E5	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	01:36	01:32	01:48	01:45	01:59	01:44
Turnout	01:20	01:22	01:25	01:23	01:25	01:23
Travel	05:25	05:05	05:46	05:40	05:26	05:27
Total Response	07:39	07:12	07:48	07:51	07:48	07:41

E6	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	01:39	01:37	01:48	01:46	01:59	01:45
Turnout	01:25	01:28	01:29	01:24	01:23	01:26
Travel	05:02	05:20	05:38	05:35	05:40	05:23
Total Response	07:14	07:34	07:52	07:50	08:09	07:41

E7	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	01:41	01:32	01:50	01:41	01:49	01:42
Turnout	01:26	01:22	01:30	01:23	01:27	01:25
Travel	05:51	06:02	06:20	06:03	06:24	06:08
Total Response	08:19	08:16	08:07	08:37	08:39	08:25

Single Company Response TECH RESCUE Calls 90th Percentile

All Units	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	03:09	01:41	03:37	02:02	03:29	03:09
Turnout	01:16	01:26	01:28	01:37	01:18	01:26
Travel	04:31	05:17	05:42	04:44	04:31	05:10
Total Response	07:51	07:04	08:46	07:15	08:20	08:16

E1	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	00:00	00:00	03:50	01:54	02:09	03:09
Turnout	00:00	00:00	01:12	01:06	00:59	01:09
Travel	00:00	00:00	04:22	03:20	03:42	04:12
Total Response	00:00	00:00	07:16	06:01	06:46	07:16

E2	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	03:23	00:50	02:44	01:05	02:40	03:07
Turnout	01:10	01:22	01:29	01:07	01:24	01:24
Travel	03:00	03:35	03:44	04:09	03:29	04:04
Total Response	06:31	05:41	07:25	06:21	06:35	06:50

E3	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	02:15	01:29	01:24	02:00	01:46	01:48
Turnout	01:21	01:39	01:23	01:50	02:04	01:39
Travel	05:45	04:31	04:23	04:04	05:55	05:20
Total Response	07:43	06:18	07:07	07:45	09:14	08:10

E4	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	01:28	01:17	02:02	00:00	01:17	01:44
Turnout	00:56	01:01	03:47	00:00	01:17	02:15
Travel	04:32	06:02	05:28	00:00	03:30	06:09
Total Response	06:56	07:45	06:55	00:00	06:04	07:18

Single Company Response TECH RESCUE Calls 90th Percentile

	0010	0010	0000	0001	0000	0010 0000
E5	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	00:28	00:00	02:10	01:23	00:00	02:07
Turnout	00:51	00:00	01:47	00:37	00:00	01:38
Travel	04:00	00:00	03:45	04:07	00:00	04:03
Total Response	05:19	00:00	06:07	06:07	00:00	06:14

E6	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	04:20	03:53	01:37	02:42	01:32	04:02
Turnout	01:04	01:17	00:57	00:38	01:12	01:24
Travel	04:18	03:06	06:41	03:01	04:10	04:22
Total Response	08:45	06:47	08:24	06:21	06:20	08:44

E7	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	00:00	00:23	00:00	01:23	00:00	01:17
Turnout	00:00	01:14	00:00	01:02	00:00	01:13
Travel	00:00	05:20	00:00	04:21	00:00	05:14
Total Response	00:00	06:57	00:00	06:46	00:00	06:56

Single Company Response HAZMAT Calls 90th Percentile

All Units	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	02:28	02:36	02:36	02:45	03:01	02:45
Turnout	01:39	01:33	01:40	01:29	01:28	01:31
Travel	05:21	05:55	05:37	05:16	05:25	05:31
Total Response	08:23	08:38	08:54	08:24	08:31	08:33

E1	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	02:30	02:43	03:03	02:45	02:51	02:51
Turnout	01:19	01:21	01:35	01:26	01:27	01:27
Travel	04:14	04:00	05:10	04:08	04:35	04:38
Total Response	07:09	06:52	08:18	07:07	07:13	07:32

E2	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	02:50	03:08	02:19	02:20	03:10	02:38
Turnout	01:31	01:22	01:36	01:28	01:16	01:26
Travel	05:02	04:53	04:26	04:51	04:45	04:50
Total Response	08:11	07:13	07:16	07:54	07:48	07:45

E3	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	01:51	02:20	02:24	02:23	02:45	02:29
Turnout	01:28	01:30	01:28	01:20	01:22	01:24
Travel	05:18	06:23	05:30	05:30	05:17	05:31
Total Response	07:43	09:34	08:22	08:15	07:47	08:02

E4	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	01:38	02:17	02:36	02:51	03:21	02:42
Turnout	01:28	01:23	01:28	01:20	01:23	01:26
Travel	05:03	05:47	05:23	06:05	05:02	05:52
Total Response	07:31	07:53	09:30	08:51	08:48	08:48

Single Company Response HAZMAT Calls 90th Percentile

E5	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	02:17	02:14	03:01	02:35	02:45	02:35
Turnout	01:28	01:25	01:23	01:28	01:43	01:29
Travel	04:44	04:27	06:27	05:27	06:01	05:39
Total Response	07:17	07:13	09:29	08:53	08:31	08:48

E6	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	02:10	02:37	03:18	02:17	02:28	02:34
Turnout	01:37	01:26	01:39	01:19	01:24	01:26
Travel	05:05	06:03	06:12	05:01	05:34	05:35
Total Response	08:18	08:28	09:16	07:39	09:04	08:56

E7	2018	2019	2020	2021	2022	2018-2022
Alarm Handling	01:46	02:34	01:39	01:39	01:53	01:56
Turnout	01:22	01:21	01:21	01:36	02:01	01:29
Travel	06:17	06:24	05:41	06:23	06:57	06:28
Total Response	08:26	09:18	07:29	09:11	08:48	09:06

Appendix D: Rocky Mount Fire Department Organizational Chart

