City of Lenexa
Community Risk Assessment

2021

Standards of Cover

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Lenexa Fire Department

Fire Chief Travis Vaughn

Accreditation Manager

Battalion Chief Thomas Miller

Assistant Accreditation Manager

Battalion Chief Randy Pommenville

Revised April 1st 2022

I. Introduction

This report reflects the Community Risk Assessment (CRA) and Standards of Cover (SOC) for the Lenexa Fire Department. The information and data collected for this document represents the identified risks to the community of Lenexa, Kansas as well as the resources and level of coverage available from Lenexa Fire Department along with surrounding agencies to help prevent, mitigate, and recover from risks to the community. The Commission on Fire Accreditation International (CFAI) establishes the need to conduct a risk assessment for the community served to identify vulnerabilities to life and property. As risks to the community are identified, the ability to respond to these risks must be assessed to verify the department's level of service in meeting the needs of its citizens. To successfully complete such a task, it is necessary to conduct a significant amount of research and provide a thorough analytical evaluation of the findings. These findings must not be limited to the department and its practices, but must also include many different general aspects of the community.

The following report contains an overview of the city, fire department services, all hazard/risk assessment for the community, current deployment and performance data, critical tasking for effective response force determinations, and a plan for maintaining and improving response capabilities. This is meant to serve as a living document for the citizens of Lenexa and members of Lenexa Fire Department.

Lenexa City Hall

II. Table of Contents

III. Executive Summary

The City of Lenexa is a progressive, vibrant city in the Kansas City metropolitan area that blends a small-town atmosphere and strong sense of belonging with the best of city life. The city is well-planned, safe, health conscious and environmentally aware with convenient access to extensive open space, natural areas, lakes, parks and trail systems. Frequent recreational activities, community festivals and cultural attractions in first class amenities provide intergenerational opportunities for citizens to connect with and know their neighbors, enhancing community spirit. Lenexa citizens enjoy a beautiful city with lovely landscaping and architecture, infrastructure and amenities featuring unique identifying themes that honor Lenexa's history and midwestern culture. Lenexa is cohesive and active community in which to play, and most importantly, a wonderful place to call home.

The Lenexa Fire Department (LFD) is an integral part of the city and maintains a close relationship with its citizens. The department's career members share a collective mission of providing professional services for community protection. The department has long been known as a progressive leader in the fire service that prioritizes vision as one of City's main values. In addition, the department maintains a pervasive mentality for constant improvement. It was this mentality that initially interested the department in pursuing accredited status through the Center on Fire Accreditation International (CFAI). The CFAI process has provided the LFD with a successful business model since its initial accreditation in 2002.

The LFD has experienced several significant changes since the last Standards of Cover (SOC) document was created in 2016. The agency has experienced the retirement of former Fire Chief Lonny Owens and seen the appointment of current Fire Chief Travis Vaughn. The department also introduced a new Emergency Manager Position with the hiring of Battalion Chief Randy Pommenville. The City of Lenexa has also experienced a large amount of growth including the development of City Center, the additional construction of residential neighborhoods in western Lenexa, and further development of the subsurface Meritex Business Complex. This growth has and will continue to add more service demands to the department.

Throughout the pages of this SOC document, many successes and strengths are documented which validate and verify the quality services provided by the LFD. In addition to these strengths, a few weaknesses have been identified as well. The most glaring of these weaknesses is the emergency response travel times to several planning zones within the city. These findings have led to the full-time staffing of Station 96, temporarily located at the former city hall building at 87th Street Parkway and Monrovia.

This SOC document provides the organization with a 'data driven' examination of performance and an overall risk evaluation. A tremendous amount of research and analysis has gone into the creation of this document. Much of this information will be used as a planning tool to conduct further evaluations and assist in determining the most effective and efficient methods for providing quality services. This document is another instrument to utilize in the pursuit of continuous improvement.

IV. History of the Department

The Lenexa Fire Department (LFD) is a career department directed by a fire chief and utilizes four major divisions for the delivery of work and services. Funding for the department is provided by the City of Lenexa's yearly budget as authorized by the City Council.

Department Staff Circa 1950 to 2016

The department has a long and storied history beginning with the City's incorporation in 1907. Lenexa was one of three initial fire departments in Johnson County. At its inception, the LFD served as a community organized volunteer fire department bucket brigade. At that time, it had one piece of community-owned firefighting equipment – a large copper and brass Babcock Soda-Acid Fire Extinguisher made in 1878 by the Fire Extinguisher Manufacturing Company of New York. The department takes great pride in its continued ownership of this piece of Lenexa history. By 1923, the City placed in service its first piece of fire apparatus – a hand-drawn, two-wheeled Obenchain-Boyer 45-gallon dual-tank chemical cart purchased for $790 from the Obenchain-Boyer Company of Logansport, Indiana. During the March 9, 1923 City Council meeting, the Lenexa Fire Department was given official status as the city fire department At that time, Louis O. Krumm was appointed as the first Fire Chief, a position he held until 1931. The first Lenexa Fire Station was then erected at Santa Fe Drive and 93rd Street near Dave's Skelly Station on donated land. The City Council in 1923 voted unanimously to fund the construction of a 20' by 20' brick and tile fire station with a concrete floor to house the City's fire apparatus. The cost of the project was not to exceed $600 and would be built on City property south of the Post Office at Santa Fe and old Highway 50. Shortly after, the first piece of motorized fire apparatus, a 1923 Dodge Brothers truck, was purchased from W.E. Dickerson for $165. The truck was painted red and converted to hold the dual chemical tanks from the hand-drawn cart. In 1932, the City of Lenexa officially appointed its first volunteer firefighters and purchased a 1932 Dodge Fire Truck and new equipment at a cost of $1,153.

Babcock Extinguisher 1878

The City of Lenexa and Shawnee Township entered into a mutual aid agreement in 1950. Dean Logan was appointed Fire Chief that same year and served in that role until 1955. Chief Logan became Mayor of Lenexa in 1951 and his successor, Bert Gast, served as the City's Fire Chief from 1955 to 1976. Chief Gast became the first paid Fire Chief in 1969. In 1951 the City's fire dispatch office was placed under the Johnson County Commission. At that time a three-person board was appointed to operate a cooperative fire dispatch office for the 13 cities and two townships in northeast Johnson County. Due to the increasing demands of the city's growing population, a new fire station was constructed in 1962 and occupied on May 22 that same year. This new station located at 9220 Haskins, could house four fire apparatus and had a meeting room and office. In 1968 an addition was constructed for housing two ambulances and facilities for members of the fire department. By 1969 Chief Gast had 32 volunteers and four paid members under his direction. In 1973, construction began on a second fire station located at 87th Street and Lackman Road. This three-bay station contained offices and a training room and was completed in March of 1974.

Fire Station #1

E.J. Yow was hired in 1975 as the Director of Operations and became the Fire Chief in 1976 when Chief Gast retired. Fire Station #2 was named in honor of Chief Gast after his retirement to recognize his many years of service to the City of Lenexa. Fire Station #2 bears his name to this day. In 1977, volunteer Don Morris was hired as a full-time Assistant Chief. The department and community were going through tremendous growth in the late 1970's which has continued to this day. In 1978, the department purchased its first aerial ladder – a 110' American LaFrance Water Chief. The department also hired an additional four full-time firefighters. After the retirement of Chief Yow, Kenneth Hobbs was hired in 1981 to serve as the City's Fire Chief. Chief Hobbs served in that position until his retirement in March of 2007. Chief Hobbs served the Liberty Missouri Fire Department prior to becoming the Chief in Lenexa. During his tenure in Lenexa, he led the department through its period of greatest growth.

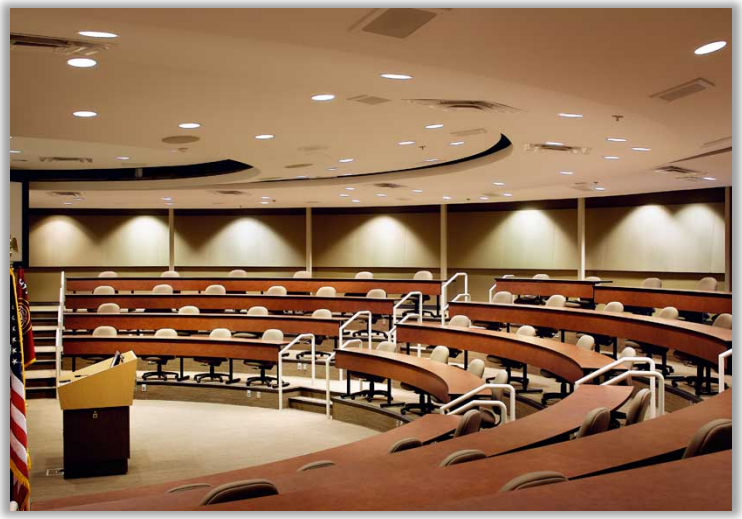
Fire Station #2

In 1986 the City constructed a new Fire Station #1, replacing the old station at 9220 Haskins. The new station located at 96th Terrace and Pflumm Road was a four-bay station that was also designed to accomodate the department administrative offices. In 1986, the City of Lenexa doubled in size with the annexation of the Monticello Township area to the west and began operating Fire Station #3 (the former Monticello Fire Station and Township Hall) at 83rd Street and Gleason Road.

Fire Station #4

In 1990, to better serve the growing industrial area in the southern portion of the City, Fire Station #4 was opened at 108th and Eicher Drive. This station was constructed as a three-bay station that included classrooms for department training and serves as the location that stores extra equipment for department apparatus and personnel. This station also houses the departments first uniform extractor machine that is designed to wash and dry structural firefighter gear. All stations are now equipped with NFPA compliant washing mashines for structural firefighting gear. Any piece of strucutual gear that has become contaminated from particulates during fire operations must be cleaned before being placed back into service.

Fire Station #3 was relocated in 2005 to Prairie Star Parkway and Gleason Road. This facility was constructed to serve as a fire station and training center for the department. A 100-seat auditorium was constructed to facilitate both department and City of Lenexa meetings. Two classrooms were also included to provide additional training opportunities for both city employees and city businesses. This also includes an executive conference room for department and city members to use.



Fire Station #3 Auditorium

After the retirement of Fire Chief Hobbs in 2007, the LFD operated with an interim fire chief until C. Dan Rhodus was appointed to that position. Chief Rhodus had served with the LFD for over 23 years and worked his way from firefighter to division chief of operations prior to his appointment to fire chief.

Fire Station #5 Apparatus Bay

The following year work began on the construction of Fire Station #5. This station was completed in response to Commission on Fire Accreditation International (CFAI) recommendations. The new station, located at 96th Street and Prairie Star Parkway, is a two-bay station which allows for response coverage in areas located around the geographical center of the city. The delivery of medical services to the City of Lenexa was also changed in 2010. Prior to that year the LFD offered an intermediate life support ambulance transport service. Through the partnership previously established with Johnson County Med-Act, the ambulance service was reduced from three front-line and two reserve ambulance units to two 2009 Ford F-350 advanced life support squad units. Due to this change, one Johnson County Med-Act unit was assigned to Lenexa Fire Station #3.

In September of 2015 after the retirement of Chief Dan Rhodus, Deputy Chief Lonny Owens was appointed to the position of Fire Chief having served as the interim fire chief. Chief Owens began his career in with the Lenexa Fire Department in 1987, and during his time with the LFD, served in all ranks to include: firefighter, company officer, battalion chief, division fire chief of administration and as deputy fire chief since 2012.

Deputy Chief Travis Vaughn was promoted in December of 2019 and serves as the department's current Fire Chief following the retirement of Lonny Owens. Chief Vaughn began his career in September of 1994 and spent most of his time as a battalion chief in the department's operations division.

Fire Chief Travis Vaughn

Currently, the department is authorized for 93 full-time personnel to include two full-time civilian positions and an additional four unfunded overhire firefighter positions. In 2002, the department achieved international accreditation from the Commission on Fire Accreditation International (CFAI). At that time Lenexa was one of only 66 departments worldwide, and the first in Kansas to achieve accredited status. The department was re-accredited in 2007, 2012, and 2017.

Effective July 1, 2014, the LFD became a class 1 community based on the Insurance Services Office (ISO) Public Protection Classification rating system for measuring the quality and effectiveness of community fire protection. Lenexa is one of only a small percentage of departments in the U.S. to have earned an elite ISO class 1 rating. Less than a quarter of one percent meet this high standard. Lenexa has held a class 2 rating since 2007, an improvement over its previous class 3/4 rating. There are currently five accredited, ISO class 1 departments in Johnson County.

Fire Department Mission Statement

"The Lenexa Fire Department proudly serves our community with professional services through selfless dedication and compassion."

Values embraced by all members of an organization are extremely important, as they recognize the features that make up the personality of the organization. LFDs internal stakeholders developed the following values

Fire Department Motto

Service ~ Protection ~ Compassion

Fire Department Values

- **Honor through Accountability**

When our customers are in need and access the 911 system, they do not have a choice regarding their emergency services provider. The LFD recognizes the tremendous level of trust that is bestowed upon us by our citizens in their time of need. In an effort to **honor** that trust, we will hold ourselves **accountable** to the needs and expectations of the citizens we serve. Through our organizational and individual efforts, we are **accountable** to provide exceptional service.

- **Professionalism and Education**

The LFD has an established history of outstanding customer satisfaction ratings, currently residing above 90 percent. The intent of LFDs internal stakeholders is to continue to uphold this standard through professional interactions with the public. **Professionalism** is defined as subject matter and customer service experts that proactively advocate for our customers' needs. This level of **professionalism** occurs with an ongoing emphasis in continuing **education**. Members, throughout all levels of the LFD, will dedicate themselves to the ongoing **educational** efforts required to meet both the current and future needs of the citizens we serve.

- **Empowerment through Trust**

The members of the LFD are **empowered** to make decisions that benefit the community, organization, and membership of the department. This requires **trust** through relationships and transparency of communications by all levels of the department. As the members become more **empowered** to make decisions, the level of **trust** will flow more freely up and down the chain of command.

- **Pride and Heritage**

The fire service is rich in tradition and history of selfless public service. The members of the Lenexa Fire Department have great respect and appreciation for those who have given their lives in service to others in this great profession. Admiration is also extended to the many past members of this department that have paved a foundation of excellence through their sacrifice and dedication to the community. It is the intent of the LFD membership to **honor** these lives with an ongoing understanding that we will risk our lives to save the lives of those who can be saved. This ongoing mission produces a sense of **pride** and purpose as we **honor** the **heritage** built by those before us.

- **Opennes through Communication**

Communication has been, and will always be, an area of focus for the Lenexa Fire Department. With so many factors contributing to the way a message can be sent and received, it is impossible to successfully deliver an accurate intent without some level of misunderstanding. It is the goal of the LFD to minimize the level of misunderstanding by building relationships and fostering trust to create an environment where the intent of the message is assumed to be in the best interest of the community, department, and/or members. If all members adhere to this presupposition, then an environment of **openness** to speak and share will foster the flow of new ideas, strengthen interpersonal relationships, and provide an overall sense of ownership from within the department.

City of Lenexa Vision, Mission and Values

In 2011, the City of Lenexa established new Vision, Mission and Values statements to serve as guiding principles and convey the city staff's shared purpose in serving the Lenexa community.

City Vision

The City of Lenexa: Leaders in the delivery of exceptional public service.

City Mission

To provide exceptional service through a team of dedicated professionals working in partnership with the community.

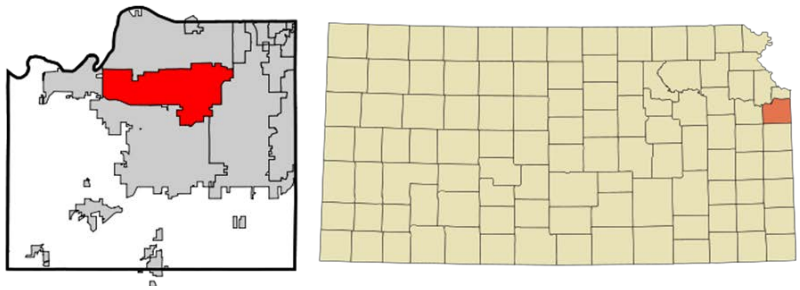
City Values

- Make every decision with integrity
- Deliver results through teamwork
- Provide exceptional service
- Lead into the future with vision
- Be dedicated to excellence
- We care

Lenexa Fire Dept. Strategic Plan Meeting

V. Documentation of Area Characteristics

Founded in 1869 and incorporated in 1907, the City of Lenexa, Kansas is a well-planned community located about 12 miles south of Kansas City, Missouri. The 34.3-square-mile city has a resident population of about 57,434 and enjoys a healthy business base, beautiful residential communities, a historic old-town, a modern residential and commercial city center and district is considered a city of choice for a variety of high tech and bioscience companies, as well as a number of national and international headquarters.



County and City Location

Lenexa City Hall

Service Boundaries

The City of Lenexa exists in Johnson County, Kansas and shares a northern border with the City of Shawnee, an eastern border with the City of Overland Park, a southern border with the City of Olathe, and a western border with the City of De Soto. Legally established service area boundaries are adopted by City of Lenexa municipal code. The fire department provides services to the City of Lenexa within the established borders. Other service boundaries are defined by the county automatic/mutual aid agreement that states that any emergency incident that meets certain priority criteria will have the closest fire department unit respond regardless of established city or district borders. This agreement is addressed later in this document.

Governance - The current city governance model is that of a mayor/council-city manager. The city manager serves as the executive officer supervising all departments. The governing body is responsible for making policy decisions and authorizing ordinances concerning the conduct and affairs of the city.

Council Members

MAYOR

Michael Boehm
mboehm@lenexa.com

CITY COUNCIL WARD 1

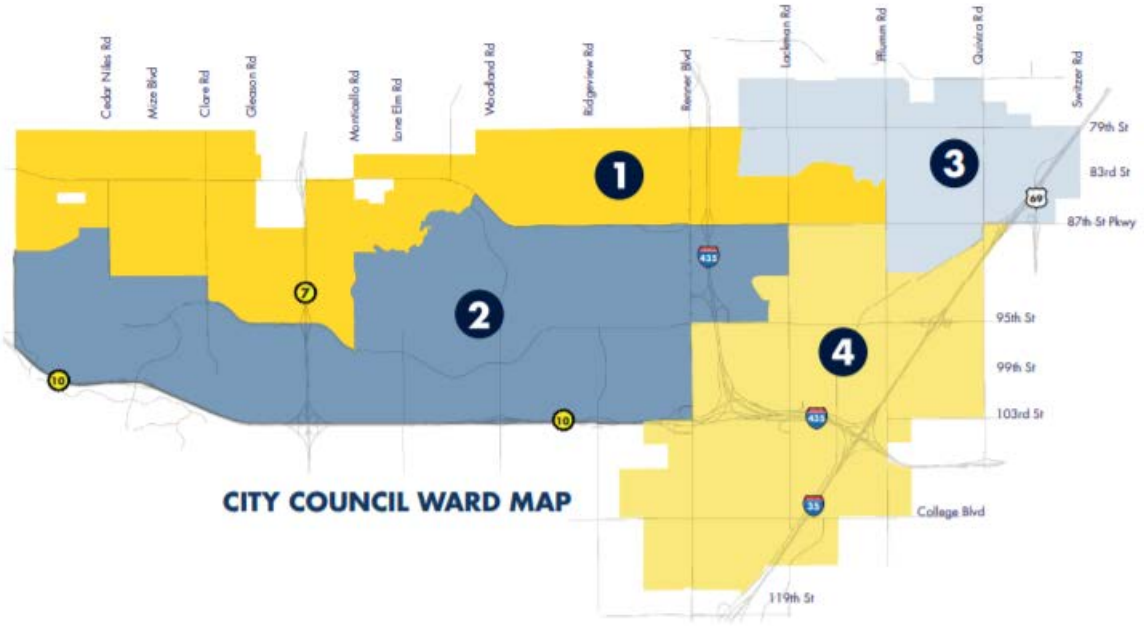
Joe Karlin
jkarlin@lenexa.com

Courtney Eiterich
ceiterich@lenexa.com

CITY COUNCIL WARD 3

Dan Roh
droh@lenexa.com

Melanie Arroyo
marroyo@lenexa.com



CITY COUNCIL WARD MAP

CITY COUNCIL WARD 2

CITY COUNCIL WARD 4

Mayor

The mayor, who provides leadership on all policy deliberations that come before the governing body, is elected at large for a four-year term. When vacancies occur between elections, appointment to fill vacancy is made by the mayor with the consent of the city council. Regular city elections are held every two years.

Michael Boehm

Michael A. Boehm was elected mayor in January of 2003 and ran unopposed for his four-year term as mayor in April 2007, April 2011, April 2015, and April 2019. Mayor Boehm is a lifelong resident of Lenexa. He is senior vice president at Commerce Bank, N.A., and holds a Bachelor of Science in Business Administration from the University of Kansas.

State of the City Address

City Manager

The Lenexa City Manager is responsible for implementing the policies of the Governing Body, submitting a budget to the Governing Body, and directing and coordinating the city's departments.

Beccy Yocham was appointed as Lenexa's City Manager in May 2019. She had previously served Lenexa for more than 20 years, including as the Director of Community Development and Deputy City Attorney. Prior to joining Lenexa, she served as Assistant General Counsel for the League of Kansas Municipalities. She received a Bachelor of Business Administration, Marketing degree from Pittsburg State University and a Juris Doctorate degree from the University of Kansas School of Law.

Beccy Yocham

Deputy City Manager

In addition to the deputy city manager overseeing the development of the Lenexa Civic Center, he also supervises the Municipal Services and Parks and Recreation Departments.

Todd Pelham serves as the Deputy City Manager. Pelham served as the city's project manager for the Civic Center. In this capacity, Pelham worked closely with staff as this important project became a reality. He is currently serving as the project manager for the City of Lenex Justice Center that will serve as future police department headquarters and the Public Safety Complex that will serve as future fire department headquarters. In addition, Pelham's duties include working closely with the Lenexa Chamber of Commerce to promote economic development in Lenexa and assisting in developing short and long-term economic development plans for the city.

Todd Pelham

"City of Festivals"

Residents are drawn to Lenexa in part because it is an attractive and safe city, with a rich history and a strong hometown sense of community spirit. Known as the City of Festivals, Lenexa hosts numerous celebrations and events each year, which draw visitors from the greater metropolitan area and beyond.

Satisfied citizens

According to the most recent citizen satisfaction survey in 2021, ninety-seven percent (97%) of the residents surveyed, who had an opinion, indicated they were "very satisfied" or "satisfied" with the overall quality of life in the City. Ninety-four percent (94%) of those surveyed, who had an opinion, indicated they were "very satisfied" or "satisfied" with the overall appearance of the City, and 94% were satisfied with the overall image of the City. Ninety-eight percent (98%) of those surveyed were "satisfied" or "very satisfied" with the services provided by the fire department. In recent years, the city has earned recogniztion in CNN's Money Magazine's Best 100 Places to Live and was named a finalist for the prestigious All-America City Award. In addition, usa.com ranks Lenexa 18 out of 668 most educated cities in the state of Kansas.

The City of Lenexa has earned a "Leading the Way Award" from ETC Institute and was recognized for outstanding achievement in the delivery of services to residents. Recipients of the award rank in the top 10% of all local governments across the country, regarding their composite performance in these three-core areas that are assessed on ETC Institute's Direction Finder Survey:

- **Satisfaction with the overall quality of services**
- **Satisfaction with customer service provided by employees, and**
- **Satisfaction with the value residents think they receive for local taxes and fees.**

During the most recent strategic planning session in 2021, the LFD enlisted feedback from the community via an external stakeholders' meeting. This meeting was intended to provide an open forum for citizens to voice their comments to the department regarding the services that it provides to the community. Below are some of the positive comments and strengths provided by the community stakeholders during the open forum:

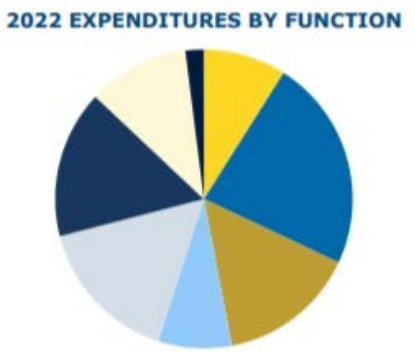
- **Always willing to assist - service oriented**
- **Excellent EMS response**
- **Thorough Fire Marshal inspections**
- **Properly trained and equipped**
- **Responsive and community minded**
- **Very professional, well run organization**
- **You all are simply amazing**

Financial Basis

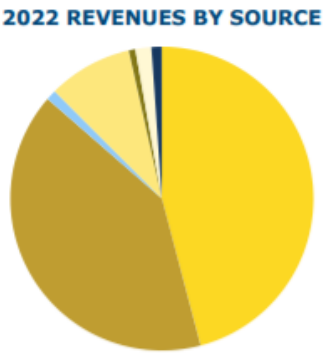
The City of Lenexa Fire Department (LFD) annually adopts an operating budget within the framework and guidance set forth by the City Manager and Finance Director. The LFDs annual financial planning process involves broad frontline and staff participation in the development of annual and long-range financial planning documents. The City's strong financial reserves and conservative planning have provided support for all LFD services, programs, and personnel.

The budget process is defined by: (1) the Finance Director published budget assumptions and guidelines based on the current mill levy and the city's current assessed valuation, (2) each department prepares and submits potential budget alternatives for consideration, (3) the City Managers reviews the budget assumptions and discusses submitted budget alternatives with each department head, (4) the Finance Director presents the recommended budget along with the Capital Improvement Plan to the Governing Body for approval and adoption, (5) the budget is filed with Johnson County, Kansas as prescribed by state law. Graph 1 shows expenditures for the city that is projected for 2022 ($134,970,598). Graph 2 shows revenue sources for the city that is projected for 2022 ($134,970,598).

EXPENDITURES BY FUNCTION		
General Government	$12,546,279	9%
Public Safety	31,278,938	23%
Community Infrastructure	19,611,192	15%
Parks & Recreation	11,395,188	8%
Economic Development	21,691,259	16%
Debt Service	22,213,430	16%
Transfers for Capital Projects	14,441,642	11%
Other Transfers	1,792,670	2%
TOTAL	$134,970,598	100%



Graph 1



REVENUES BY SOURCE		
Property Taxes	$61,923,335	45.9%
Non-Property Taxes	54,676,800	40.5%
Licenses & Permits	1,539,500	1.1%
Charges for Services	12,209,919	9.0%
Fines & Forfeitures	941,000	0.7%
Transfers In & Use of Prior Yr. Bal.	2,241,193	1.7%
Other Revenues	1,438,851	1.1%
TOTAL	$134,970,598	100.0%

Graph 2

Department Budget

EXPENDITURE INFORMATION EXPENDITURE CATEGORY	2020 Actual	2021 Revised Budget	2022 Budget
Personal Services	$11,065,370	$11,523,797	$11,772,395
Contractual Services	351,488	331,972	382,100
Commodities	228,529	339,325	349,025
Capital Outlay	-	-	-
Debt Service	-	-	-
Transfers	-	-	-
TOTAL	$11,645,388	$12,195,094	$12,503,520

Department Budget

The department operates with a budget that includes personal services, contractual services, commodities, capital outlay, debt service, and transfers. The budget for 2022 is projected to be $12,503,520 which is less then a one percent (1%) increase from the previous year.

Major Budget Changes for Fiscal Year 2022

- Funding the diesel emissions control system ($65,000 in contractual services)
- Elimination of Swift Water Rescue Team

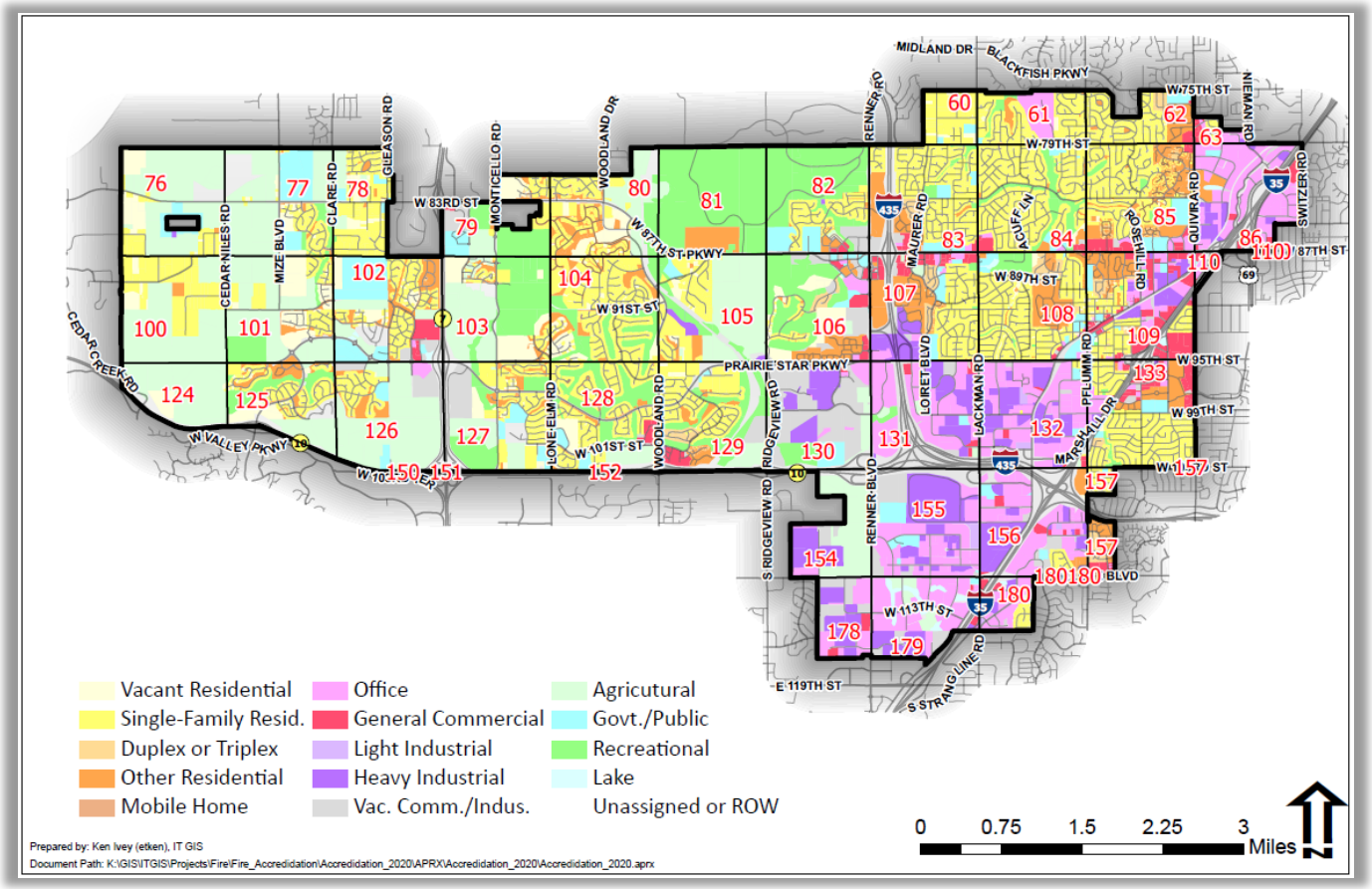
ASSESSED VALUE AND APPRAISED VALUE OF ALL TAXABLE TANGIBLE PROPERTY Year	Assessed Value Real Estate	Ratio of Assessed Value to Appraised Value	Appraised Value	Assessed Value Personal Property	Assessed Value State Assessed Utility	Assessed Value Motor Vehicle	Assessed Total
2012	$771,570,154	14%	$5,397,313,060	$45,628,362	$27,492,147	$74,417,660	$919,108,323
2013	793,950,131	15%	5,429,641,216	36,743,490	29,661,638	76,704,885	937,060,144
2014	849,596,536	15%	5,585,677,480	27,206,191	27,077,031	79,426,145	983,305,903
2015	924,106,434	15%	6,020,523,550	23,679,751	27,548,961	85,542,570	1,060,877,716
2016	989,935,596	16%	6,112,670,017	22,349,586	28,127,653	93,061,812	1,133,474,647
2017	1,053,541,388	15%	7,037,789,230	21,061,775	27,978,598	96,118,010	1,198,699,771
2018	1,146,089,588	17%	6,920,478,999	17,923,645	29,706,402	99,049,196	1,292,768,831
2019	1,214,325,371	15%	8,095,733,570	16,488,515	30,620,263	103,148,304	1,364,582,453
2020	1,296,984,645	15%	8,582,933,048	14,057,813	32,794,898	106,536,824	1,450,374,180
2021	1,382,707,942	15%	8,958,581,320	14,079,657	35,774,003	105,585,673	1,538,147,275

The City's assessed valuation, to which the property tax rate is applied, increased from $1.05 billion in 2017 to $1.38 billion in 2021. This is a twnenty-four percent (24%) increase over a five year period. At the current rate of 29.102 mills, the city estimates $61,923,335 million in property taxes for 2022, which is an increase of $14.4 million (13.5 percent) from 2020. The City of Lenexa takes pride in managing its resources. We realize that the citizens require exceptional stewardship regarding their tax investments and desire to see tangible results from those revenue dollars. Examples of this include projects such as the 87th Street Parkway and Interstate 35 (I-35) interchange, City Center development, 95th Street & I-35 interchange, 95th Street and Quivira Road improvements, Ridgview Road project to content Kansas Highway 10 and Paririe Star Parkway, and improvements to the city's parks.

Topography/Geography

Early Development at 95th and Renner

Lenexa, Kansas, incorporated on May 8, 1907, is in the southwest corner of the Kansas City Metropolitan Area. Lenexa is located in the northeast center of Johnson County, Kansas. Lenexa is bordered by the following cities: Shawnee to the north, Overland Park to the east, Olathe to the south, and De Soto to the west. Lenexa encompasses 34.3 square miles with bodies of water comprising less than 0.5 percent of total area. Undeveloped areas and preserved parks consist of a mix of natural prairie grass, tree groves common among rural areas in northeast Kansas, and agricultural farm ground. Many stream ways, natural and man-made ponds and small lakes accent the landscape of the city. The overall terrain of the city is flat with a lower elevation of 796 ft. and an upper elevation of 1,094 ft. above sea level. Ingress to, and egress from the city is easily attained through many well maintained federal, state, and locally funded roads. Traffic flow can be affected by time of day and weather conditions.

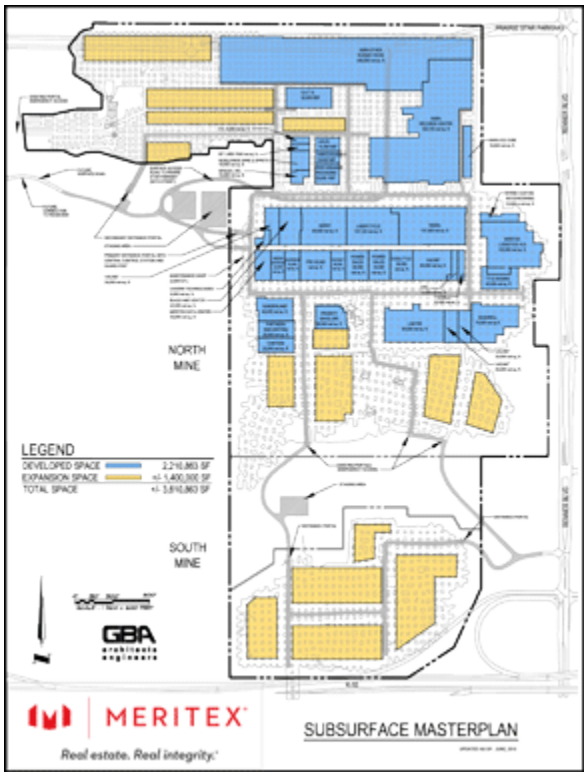


Lenexa Zoning Map

Geology

Lenexa is home to a unique geological feature. Manmade limestone caves run throughout the central portion of the city. These caves have been developed for commercial use and house multiple businesses in what is now the Meritex Lenexa Executive Park. This complex is comprised of more than three million square feet of projected office space and for multiple businesses and government agencies to include a portion of the National Archives and Records Administration. The complex at 17501 W. 98th Street is accessible by motor vehicles including personal, transport vehicles, and fire department apparatus. Included below is a map of the current and future development of the cave system located at the Meritex complex.

Main Portal into Meritex



Layout Map of Meritex

Driving Corridor in Meritex

Climate

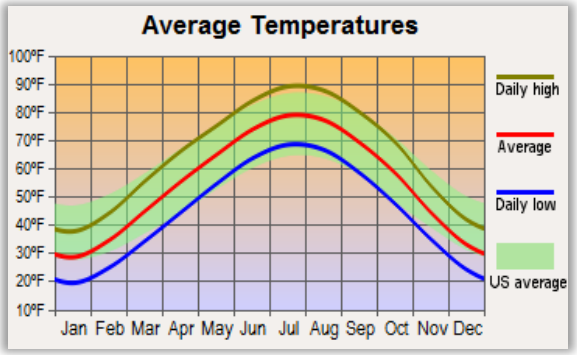


Figure 1 (courtesy of city-data.com)

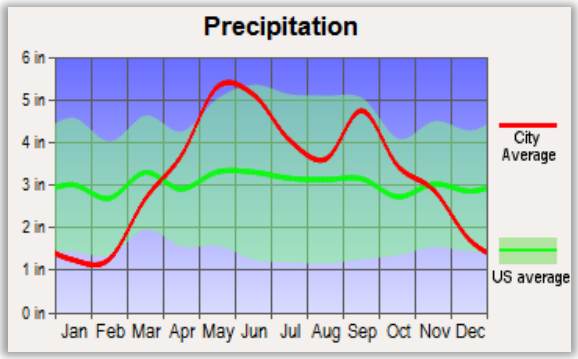


Figure 2 (courtesy of city-data.com)

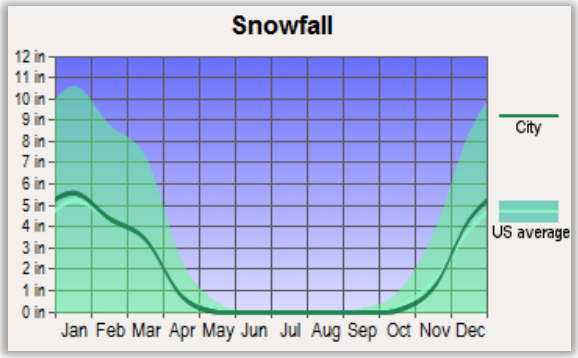


Figure 3 (courtesy of city-data.com)

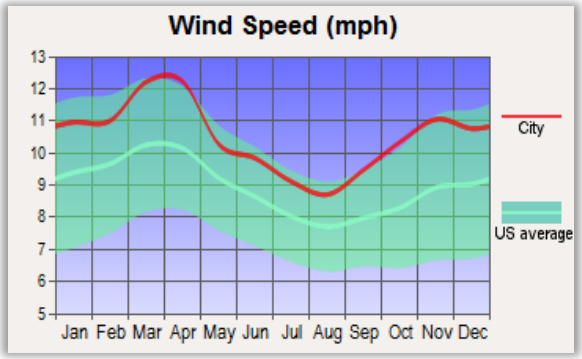


Figure 4 (courtesy of citi-data.com)

Located in the Midwest, a four-season climate is experienced. The average July temperature in Lenexa is 80 Degrees F and the average January temperature is 19 Degrees F (see figure 1). Lenexa averages 38.5” of rain (figure 2) and 19” of snow (figure 3) every year, just over the national average rainfall and below the national average snowfall every year at 37”/25” respectively. Lenexa is situated within “Tornado Alley” a region where Rocky Mountain and Canadian cold air mix with warm gulf air causing common tornadoes and violent thunderstorms. Notably the storms and tornados of 1957, 2003, and 2019 caused severe damage to the Kansas City Metropolitan area as well as Lenexa. The tornado of 2019 caused signfican damage the the area north of Lenexa. In 2002, the Kansas City metropolitan area experienced a relatively mild winter. However, after January 30, 2002, that changed. Nearly all of Lenexa and the Kansas City Metropolitan area were covered with a 3” layer of heavy ice. This ice caused significant damage to property and utilities throughout the metropolitan area. Rolling power outages due to downed power lines was a common occurrence during the ice event. Roads were converted to sheets of ice causing multiple motor vehicle collisions and road closures to include the major interstate highways I-435 and I-35. After the fact, it was estimated that approximately 350,000 KC Metro area citizens had been affected by the storm. For some residences and businesses, power was not restored for close to 14 days. It was a storm that was devastating to the landscape of the Kansas City Metropolitan area.

The Kansas City Metro area experiences average wind speeds around 10 MPH (figure 4). This number can escalate to 30-50 MPH commonly as periods of high winds and thunderstorms rumble through the Kansas Plains traveling eastward. During such heavy thunderstorms, Lenexa storm water structure and streamways are subject to heavy rains and can become overwhelmed during these heavy rainfalls causing potentially hazardous conditions. Dry and windy days are common in the metropolitan area, which leads to occasional “high fire danger” alerts for the potential for wind-driven fires.

On the opposite end of the spectrum, The Kansas City Metropolitan area can be just as readily affected by severe drought (figure 5). In 2010, the area was riddled with early spring rainfall reaching record highs, followed by a very dry summer and fall. This dry period was severe enough that our neighbors in Missouri, just across the state border, were designated a natural disaster area because of the devastation this drought had on farmland. This drought encompassed 28 counties of Missouri. These dry periods influence both farmland and citizens hoping to enjoy community investments of water parks, pools, steamways, and lakes. Citizens can find that during these times, heavy water use restrictions are enforced to maintain the quality of life for themselves and the surrounding Kansas City Metropolitan area.

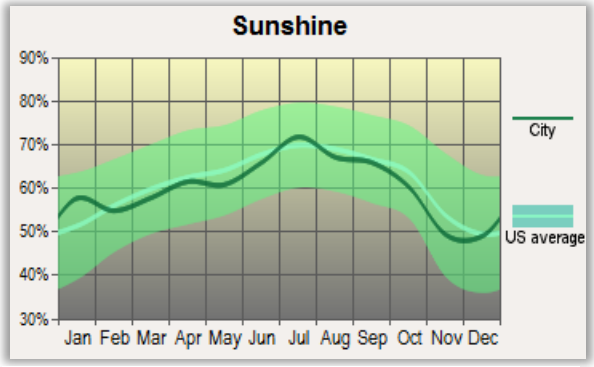


Figure 5 (courtesy of citi-data.com)

Sar Ko Par Trail Park

Disaster Potentials

Johnson County, Kansas Emergency Management, in coordination with representatives from city and county agencies, formed the Johnson County Hazard Mitigation Planning Committee (HMPC). This committee developed a comprehensive hazard mitigation plan based on the requirements of the Federal Emergency Management Agency (FEMA) publication 386-2, Understanding Your Risks: Identifying Hazards and Estimating Losses. The LFD is actively involved with this committee and assisted in the creation of this document.

A major section of this document is the identification and prioritization of non-fire risks within the county and specific to each jurisdiction involved. This assessment was conducted using a scientific methodology and evaluated each hazard based on four elements of risk: probability, magnitude/severity, warning time, and duration. The following formula was used to form a calculated priority risk index (CPRI) for each hazard:

(Probability x .45) + (Magnitude/Severity x .30) + (Warning Time x .15) + (Duration x .10) = CPRI

Based on their CPRI, the hazards were separated into three categories of planning significance: High (3.0-4.0), Moderate (2.0-2.9), and Low (1.1-1.9)

Three disasters were identified as having a high significance for planning based on their CPRI for the City of Lenexa: winter storms, flood events and windstorms. A copy of the CPRI table used to calculate the three potential disasters can be found in the appendix or by following the link provided.

https://www.jocogov.org/sites/default/files/EMM/10.04.2019%20REDACTED%20Kansas%20Homeland%20Security%20Region%20L%20Hazard%20Mitigation%20Plan.pdf

Winter Storm: High probability disaster

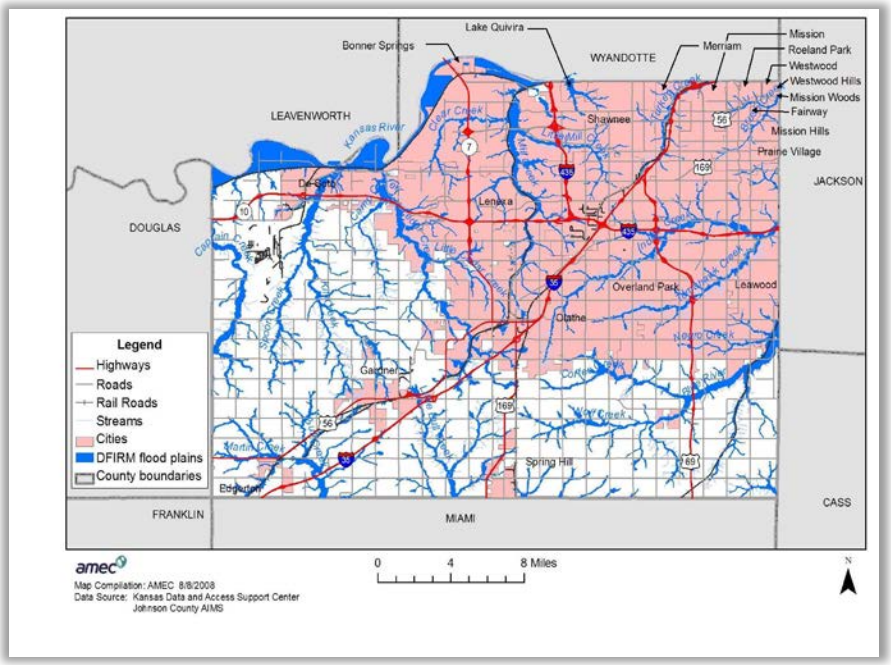
In 2002, the Kansas City Metropolitan Area (KC Metro) was experiencing a relatively mild winter. However, after January 30, 2002, that had changed. Nearly all of Lenexa and the Kansas City Metropolitan area were covered with a 3" layer of heavy ice. This ice-covered homes, businesses, roads, power lines, and trees. Traffic flow was impeded due to multiple road closures and motor vehicle collisions. After the fact, it was estimated that approximately 350,000 Kansas City Metropolitan area citizens had been affected by the storm. For some residences and businesses, power was not restored for close to 14 days. The Johnson County damage estimate was $475,000.

Frozen Pond at Sar Ko Par Trail Park

Water Dam at Lake Lenexa

Flood: High probability disaster

Since 1977, Lenexa has seen approximately $5.75 million dollars in flood insurance claims. The most notable expanse of water in Lenexa is Lake Lenexa, a 30-acre lake 40 feet deep and Shawnee Mission Lake, a 12-acre lake 45 feet deep. If the dam at Lake Lenexa is compromised, it is possible that at least 52 buildings and roughly $9.75 million dollars of property will be affected. The (*Water Dam at Lake Lenexa*) photo illustrates a controlled release of the water from Lake Lenexa during periods of high water. In addition to the potential water release from Lake Lenexa, historical flooding from rainfall is another area of concern. As recent as October 07, 2018, the Kansas City metro area experienced record rainfall of 4.48 inches in a single 24-hour period. This rain amount surpassed the previous record of 4.33 inches set in 2016 as documented by the National Weather Service rain collection site at the Kansas City International Airport. The large amount of rain over a short period of time created flooding of creek beds, rivers, ponds, lakes, and service streets due to the overwhelmed storm/sewer systems. Multiple "water assists" were requested during this time to assist drivers stranded in high water. Storm sewer systems, although overwhelmed for a short period of time, were able to allow the high and fast-moving water to drain further assisting the drivers who were stranded on city streets and intersections. To help further illustrate the most likely areas to flood, the (*100 Year Flood*) map depicts the potential flood areas for Johnson County, Kansas during periods of heavy and sustained rain. Most notable are rivers and streams that can lead to fast moving, and potentially dangerous water flows.



100 Year Flood Map

Wind Storm: High probability disaster

The Kansas City Metropolitan Area experiences average wind speeds of 10 MPH. This number routinely escalates to 30-50 MPH as periods of high winds and thunderstorms rumble through the Kansas Plains traveling eastward. During such heavy thunderstorms, Lenexa storm water structures and streamways are subject to heavy rains and can become overwhelmed during these heavy rainfalls causing potentially hazardous conditions. During the periods of high winds experienced by Lenexa & Johnson County, infrastructure such as water supply, wastewater facilities, communication and cell phone towers, and power lines can be affected.

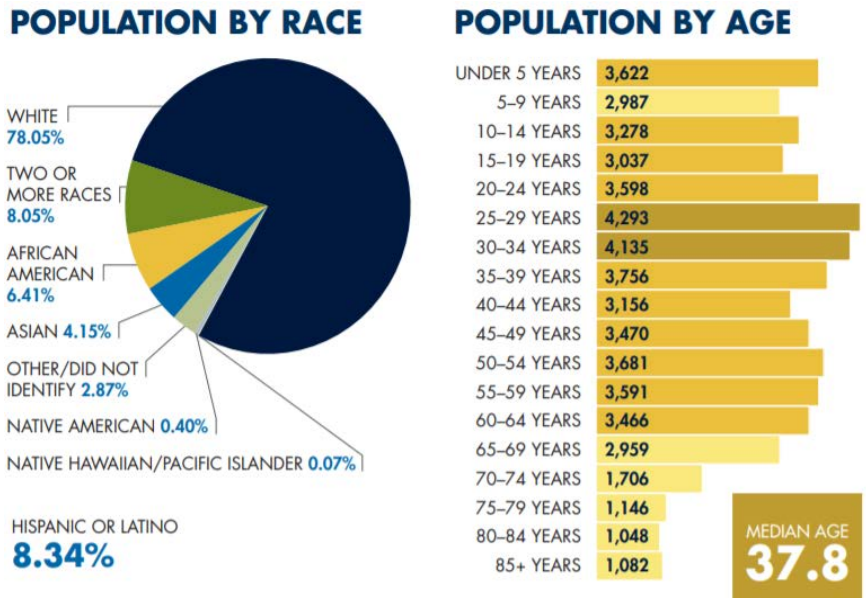
It is worth noting that the undeveloped and natural prairie areas in Lenexa are even more subject to these sustained winds. In these areas, susceptibility to grass/brush fires is increased.

In 2003, FEMA advised that builders of future structures use appropriate disaster resistive materials to withstand the stresses that heavy winds can place on foundations, walls, and roofs. High winds are a common source of damage to light frame construction and proper materials and construction can decrease the vulnerability of damage.

Storm Damage

Demographic Features

As of the 2022 US Census Report, the city of Lenexa has a population of around 57,434 people which is a two percent increase from the previous census conducted in 2021 and a 7 percent increase from 2016. Approximately 97 percent of the population reside within an "urban" population corridor while the remaining 3 percent reside in a "rural" corridor. A demographic breakdown reveals a population comprised of: 78.05 percent White, 8.05 percent Two or More Races 6.41 percent African American, 4.15 percent Asian, 8.34 percent Hispanic, and 2.87 percent listed as other 0.40 percent Native American, and 0.07 percent Native Hawaiian/Pacific Islander. As of 2021, 24,722 households were reported. Population per square mile or census tract was estimated to be 1,649 as of 2021. Table 1 below highlights the quick facts information provided by the city's community profile.

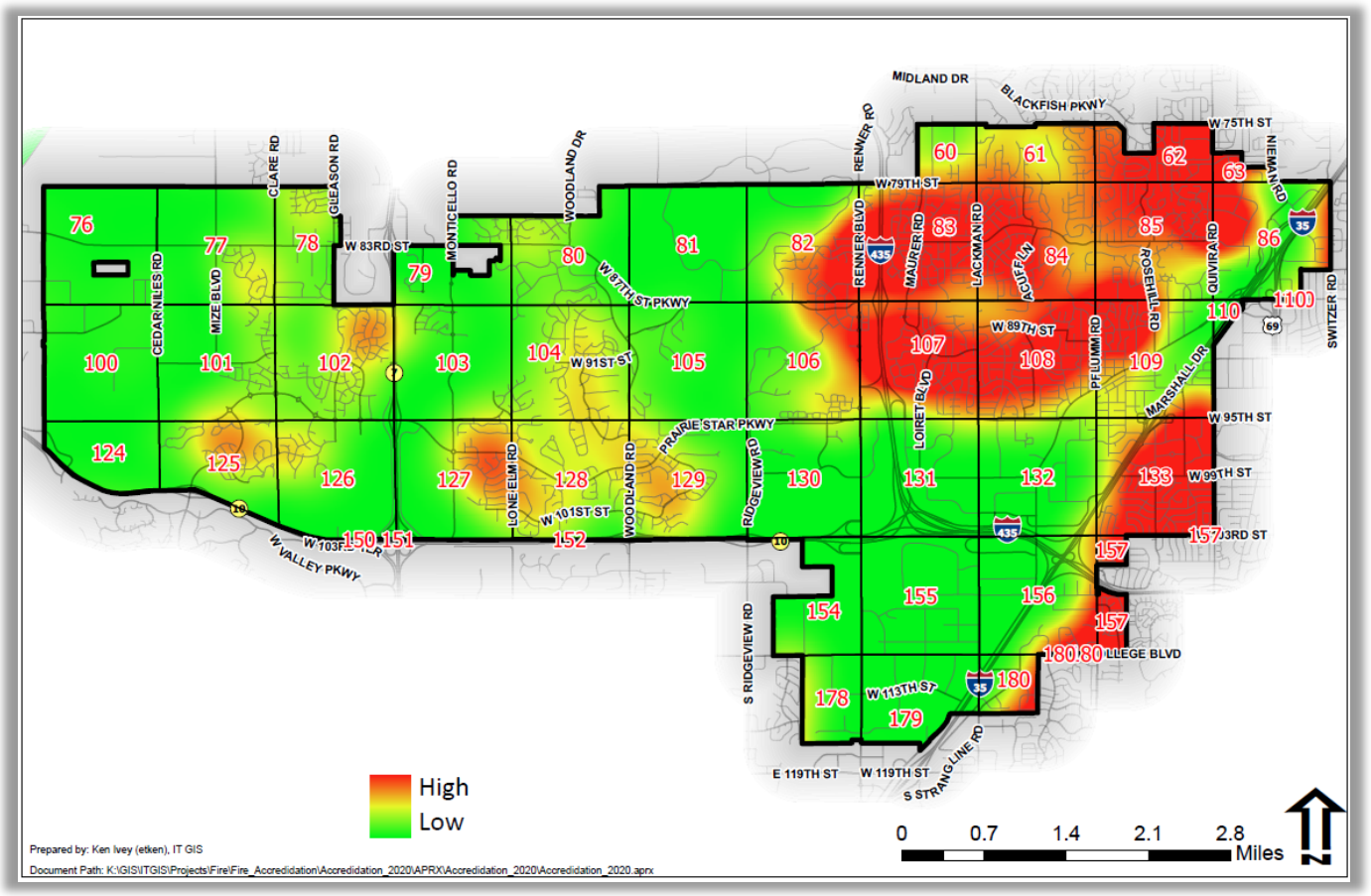


Graph 3

Quick Facts	Year	Population	% Change
Area: 34.3 Square Miles	2012	49,351	
Market Region: Kansas City	2013	50,279	1.88%
Distance from KC: 12 Miles	2014	50,924	1.28%
Year Incorporated: 1907	2015	52,430	2.96%
Website: www.lenexa.com	2016	53,028	1.14%
City Hall: 17101 W. 87th St Pkwy	2017	53,557	1.00%
Phone: 913-477-7500	2018	55,349	3.35%
Population and Growth	2019	55,625	0.50%
	2020	55,901	0.50%
Total Population: 57,434	2021	56,177	0.49%
Male: 48.6%	2022	57,434	2.25%
Female: 51.4%	Tax Structure		
Under 5 Years: 6.7%			
Under 18 Years: 21.7%	**Mill Levy Rate**: $29.242 per $1,000		
Between 18 & 65 Years: 56.9%	*Represents 22% to 25% of the total property tax paid by each property in Lenexa.*		
Over 65 Years: 14.7%			
Median Age: 37.8 years			
Average Household Size: 2.47			

Table 1

As of 2022, Lenexa has a population of around 57,434 people. The main concentration of the population (see hotspot map below) are found on the eastern portion of the city. The western portion of the city is not fully developed. As shown on the attached map, growth in low density residential housing and suburban residential housing is expected to continue for the central to western portion of the city.

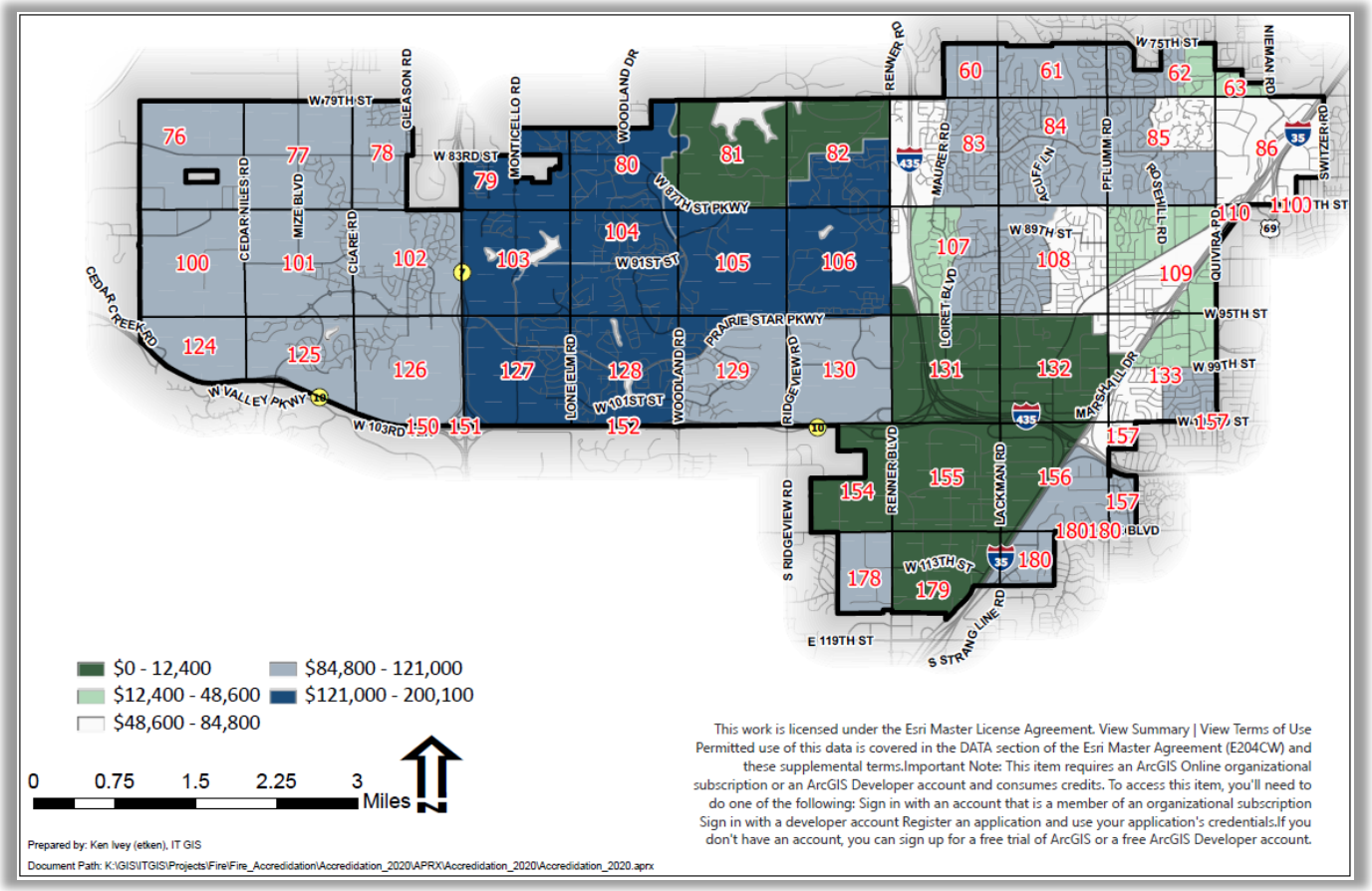


Population Density Map

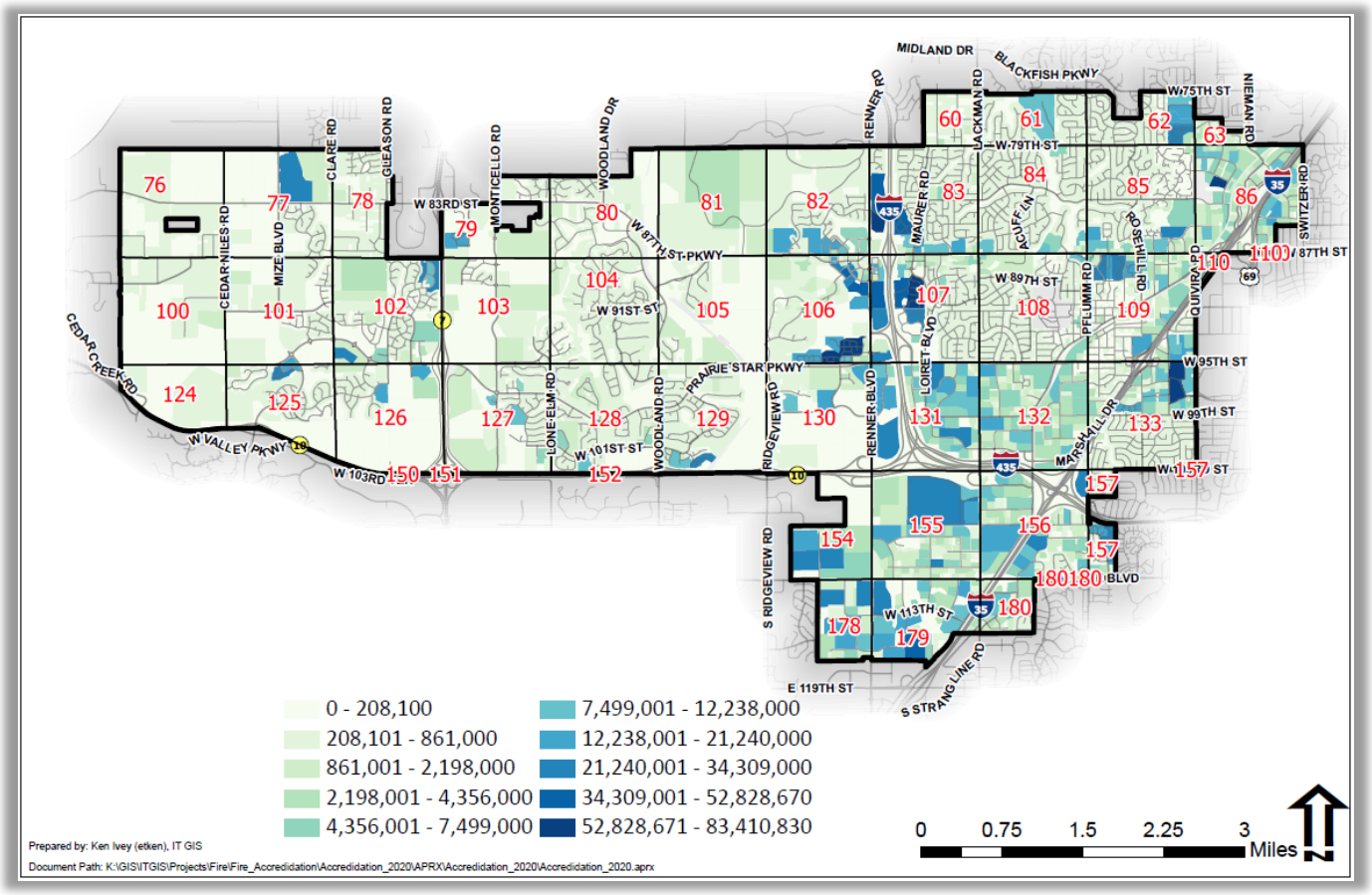
The daytime population of Lenexa increases to 70,000-100,000 people due to those traveling to the city for work. An additional 150,000 people travel through the city on the interstate highway system.

Population Earning Characteristics & Housing

- Estimated median household income in 2021: $88,126.
- Estimated per capita income in 2021: $47,123.
- Estmiated net worth: $218,777.
- Average home value: $352,000
- Average household size: 2.65
- Median gross rent between 2015-2019: $1,148.



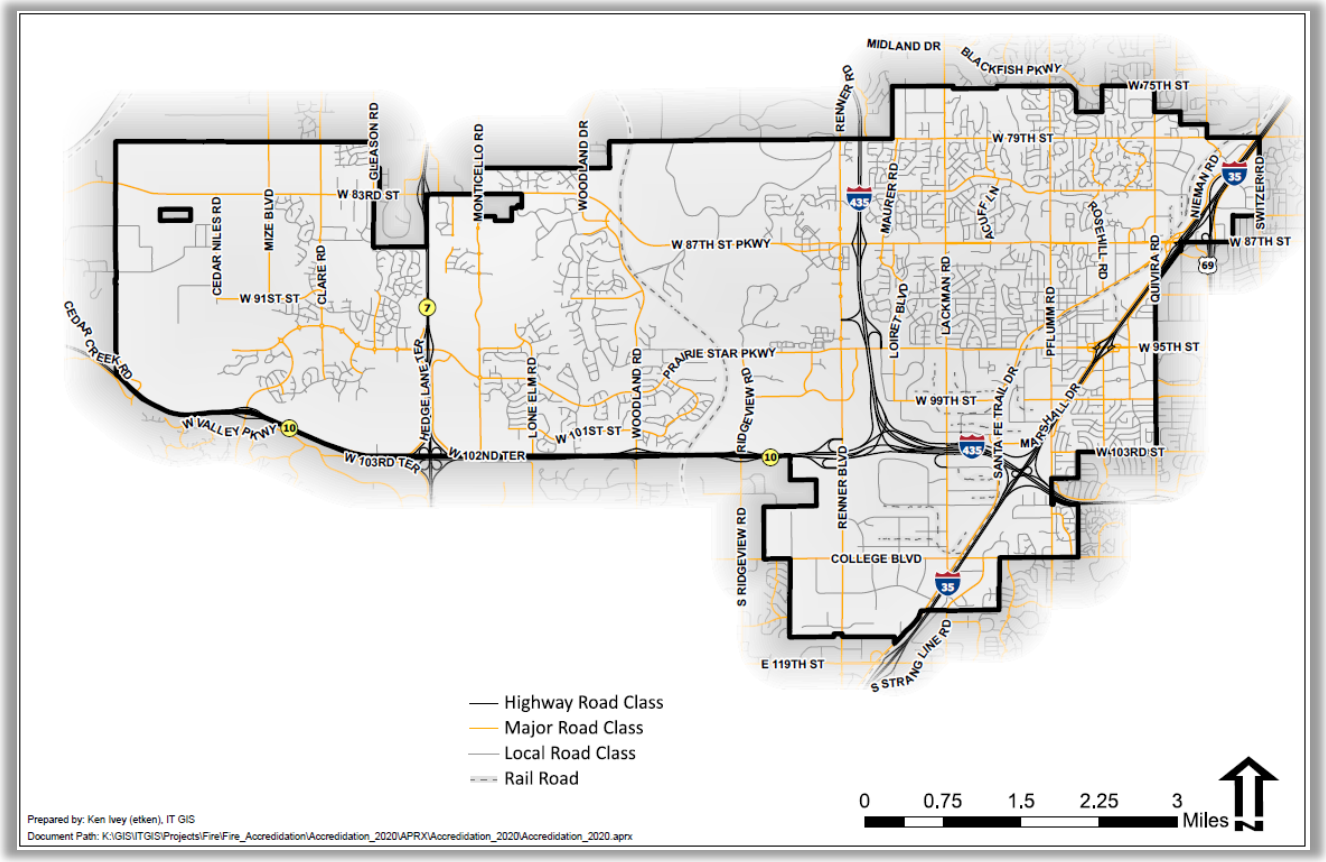
Median Household Income



Total Land Value

Critical Infrastructure

Lenexa has four major highways that route through the city limits: Interstate 35 (I-35) extends northeast/southwest through the eastern portion of the city, Interstate 435 (I-435) continues both east/west and north/south within the city limits, Kansas Highway 10 (K-10) proceeds east/west along the southern boundary of the city, and Kansas Highway 7 (K-7) passes north/south through the western portion of the city. These highways provide very accessible arterials both in and out of the city and within the city limits.

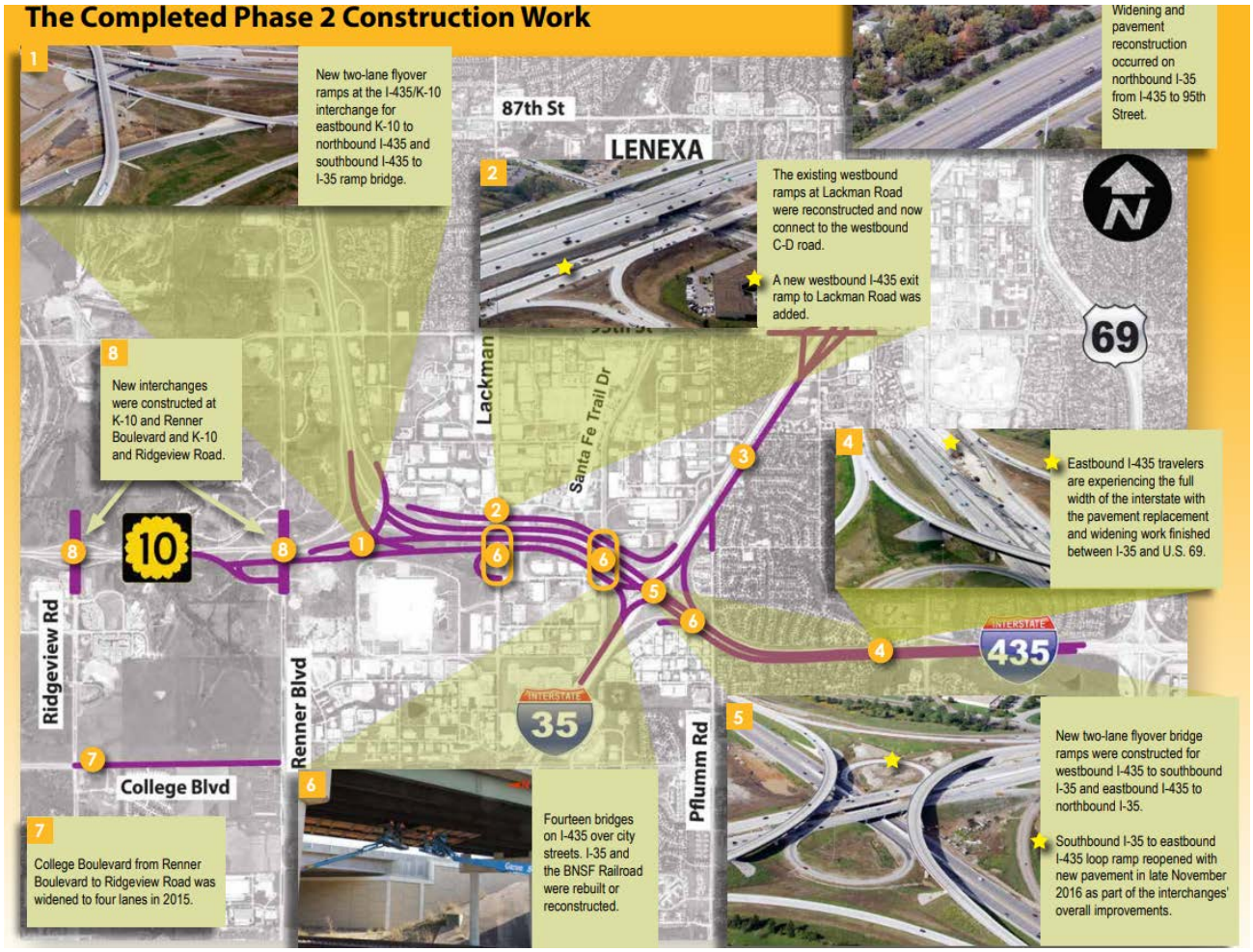


Highways and Roads

Highways can also be the cause of major vehicle emergencies due to the high volume of traffic. The Kansas Department of Transportation (KDOT) estimates that approximately 230,000 vehicles per day use the highways and interstate interchanges located within the City of Lenexa. This number is expected to grow 65 percent to 380,000 vehicles per day by 2040. Obviously, this creates a unique set of challenges for the Lenexa Fire Department. These highways are heavily used by both patrons taking part in the daily activities of Lenexa and commuter/commercial traffic passing through to and from other destinations.

Traffic Flow for Interstate I-35

To assist with traffic flow and congestion, the Johnson County Gateway Project was funded and began construction and traffic flow upgrades to interstate highways I-435 and I-35, and state highway K-10. This project was managed by the Kansas Department of Transportation and construction was completed in phases between 2014 and 2018. This was the largest highway project in Kansas history. It altered the departments access to several areas within the city that relied on the highway system. To overcome these issues, the department entered into temporary automatic aid agreements with the Overland Park Fire Department and the Olathe Fire Department. The Lenexa Fire Department also assisted both of these agencies, though the use of automatic aid agreements, in accessing areas within their city boundaries that were not immediately accessible due to the highway construction project. This was a great example of multiple fire department agencies coming together to overcome temporary service gaps caused by this project.



Gateway Project Construction

Traffic flow patterns are continually assessed to determine any improvement needs in the overall transportation system. The Kansas State Highway System was assessed following the improvements provided by the Gateway project. The result of the traffic flow analysis reveals that all the major highways that cross through the City of Lenexa continue to show high volumes of traffic daily. The legend provided (Figure 4) shows the various traffic congestion levels that were assessed during a study conducted in 2016. Highways I-35 and I-435 remain the most traveled followed by highway K-10 and finally highway K-7. If improvements to these highways had not been implemented, the result would have led to more congestion and potential for accidents.

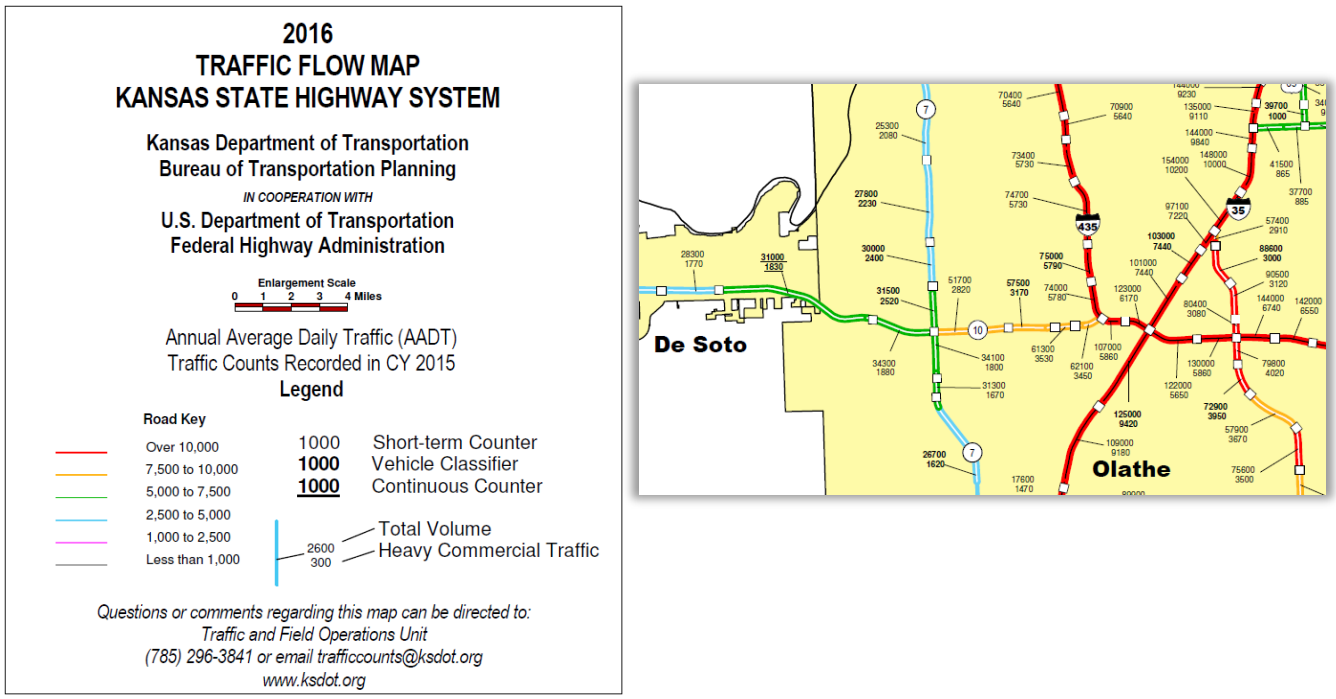
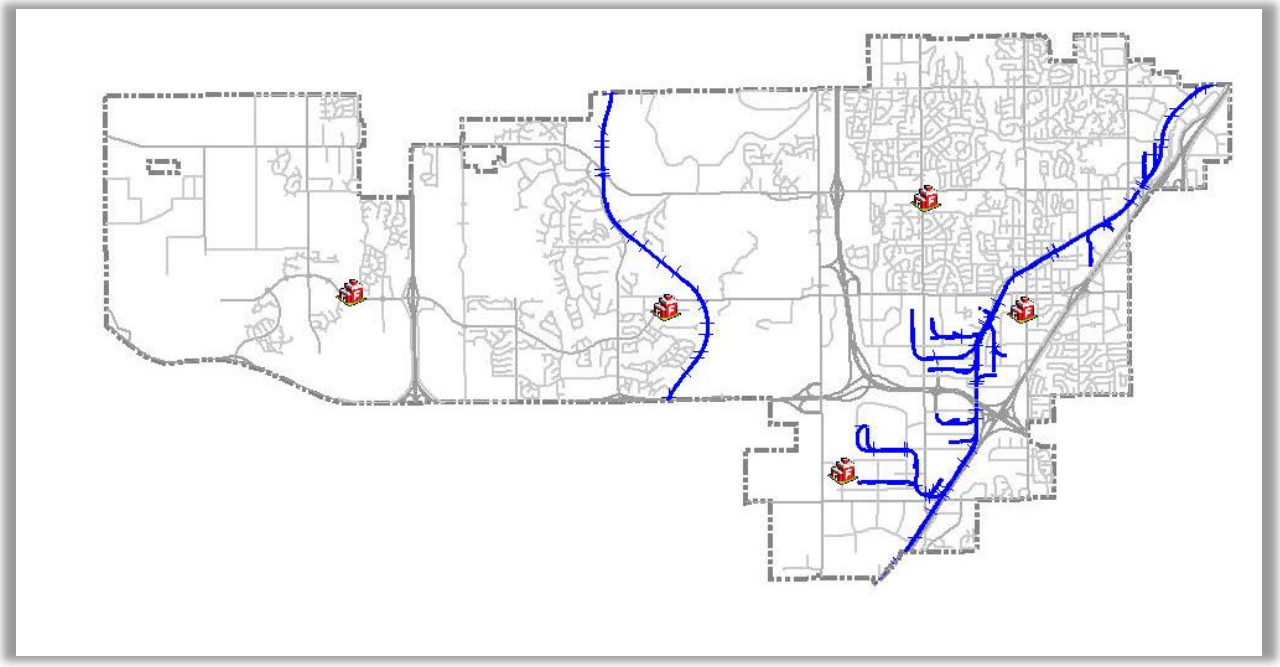


Figure 6

When considering emergency response within the City of Lenexa, it is important to note the geographic shape of the city. This shape is basically rectangular with the east/west portion of the city being a little over three times as wide as the north/south portion of the city. To allow for the needed accessibility created by the city's shape, Lenexa has developed an excellent city roadway system with key east/west arterials such as 95th Street/Prairie Star Parkway, Kansas Highway 10, and 87th Street Parkway. Traveling north and south through the city is also easily accomplished on major city streets such as Lone Elm Road, Kansas Highway 7, Monticello Road, Woodland Road, Renner Blvd, Lackman Road, Pflumm Road, and Quivira Road. The well-planned nature of the city's road network is just as obvious when considering the ease of access in and out of both residential and commercial business areas.

BNSF Rail Line

Burlington Northern Santa Fe Railroad (BNSF) has two main lines that transect the city and provide cargo to the industrial park areas. One of these lines runs northeast/southwest through the eastern portion of the city paralleling Interstate 35. This rail system is heavily used but goes largely unnoticed by Lenexa citizens. There are several viaducts and train bridges that allow for minimal traffic interruptions. There are, however, a few intersections where train traffic does affect the flow of street traffic. These areas are protected and monitored by crossing gates. During heavy rail and street traffic, emergency routes in these areas must be carefully considered to allow for uninterrupted response. The other rail line runs north/south through the central part of the city. Only one intersection is without an over/under bridge and it is protected by crossing gates.



BNSF Tracks Located in Lenexa

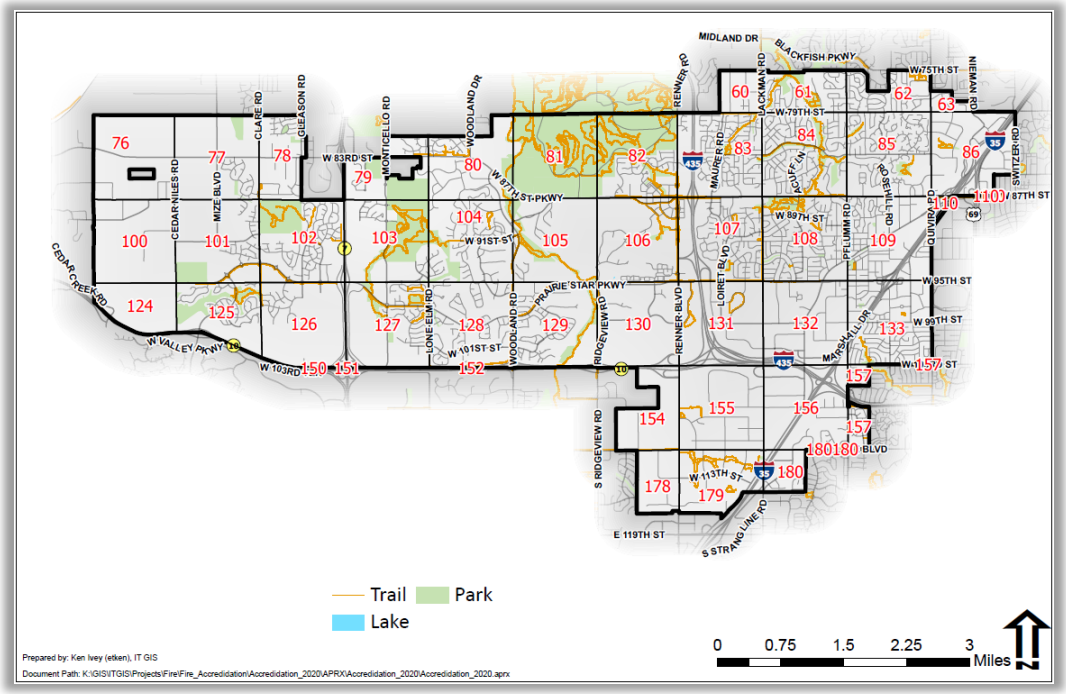
According to BNSF, approximately 45 to 55 trains move through the City of Lenexa every day. Most of the BNSF transports are coal trains, stack trains, and intermodal/manifest trains carrying product all over the country.

Lenexa is also home to many recreational parks and trails. Shawnee Mission Park, a 1,250-acre park, located west of 79th Street and Renner Road has a 120-acre lake, an off-leash dog area and many recreational and picnic areas available for the public. Black Hoof Park, a 210-acre park, located at 83rd Street and Monticello Road, has a 30-acre lake and many recreational

Black Hoof Park

Trail Marker

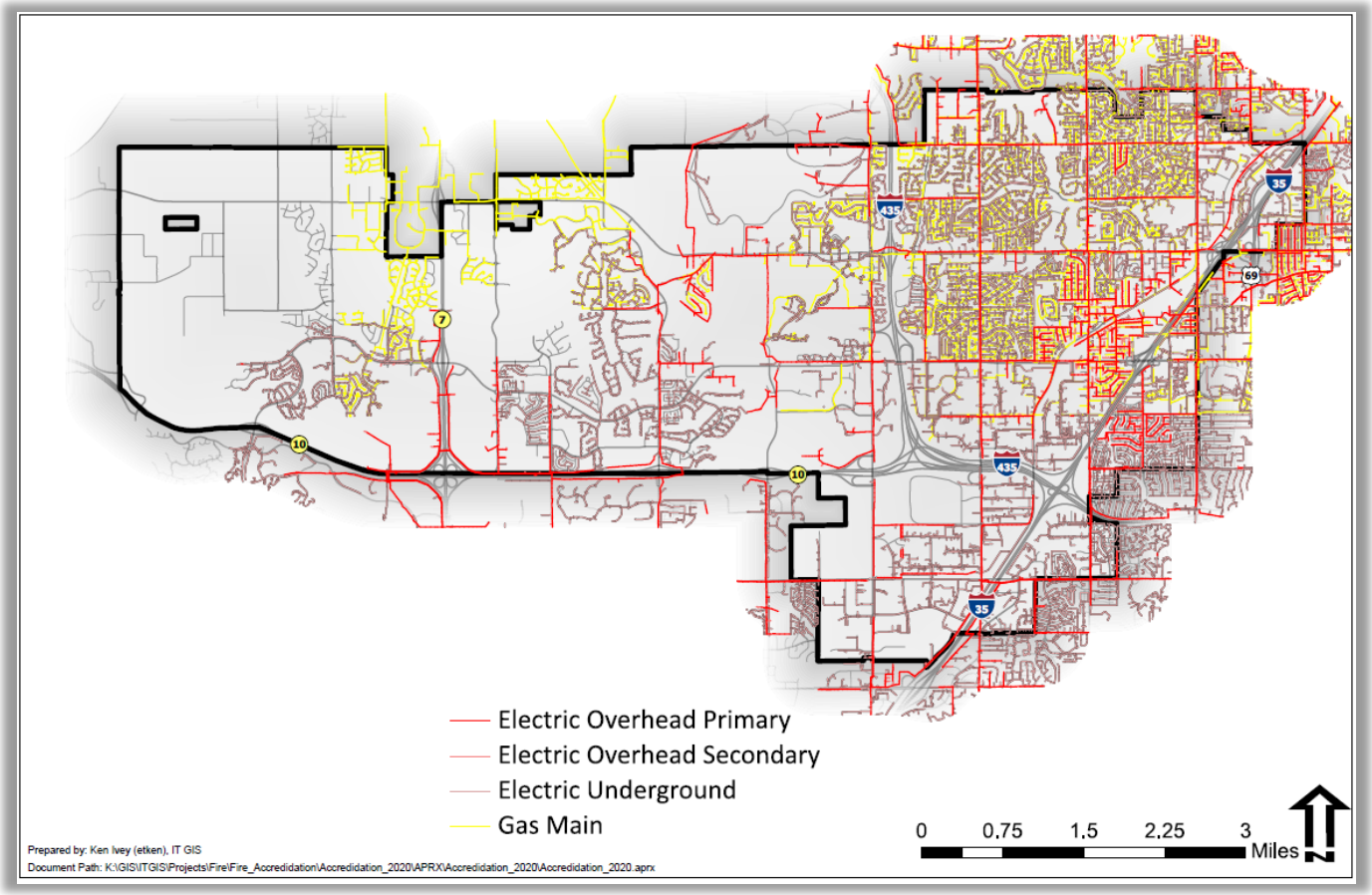
attractions. These parks, along with many other residential parks pose a potential emergency response access challenge. Lenexa, in cooperation with the Johnson County Park and Recreation District, has coordinated with Mid-America Regional Council (MARC) to pilot a regional trail mapping system. This system includes sign markers placed across the Lenexa trails, like those on interstate highways, to provide an exact location for emergency personnel to respond in the event of an emergency. These signs, combined with remote control cameras and emergency phone systems, provide access to emergency resources.



Park & Trail Locations

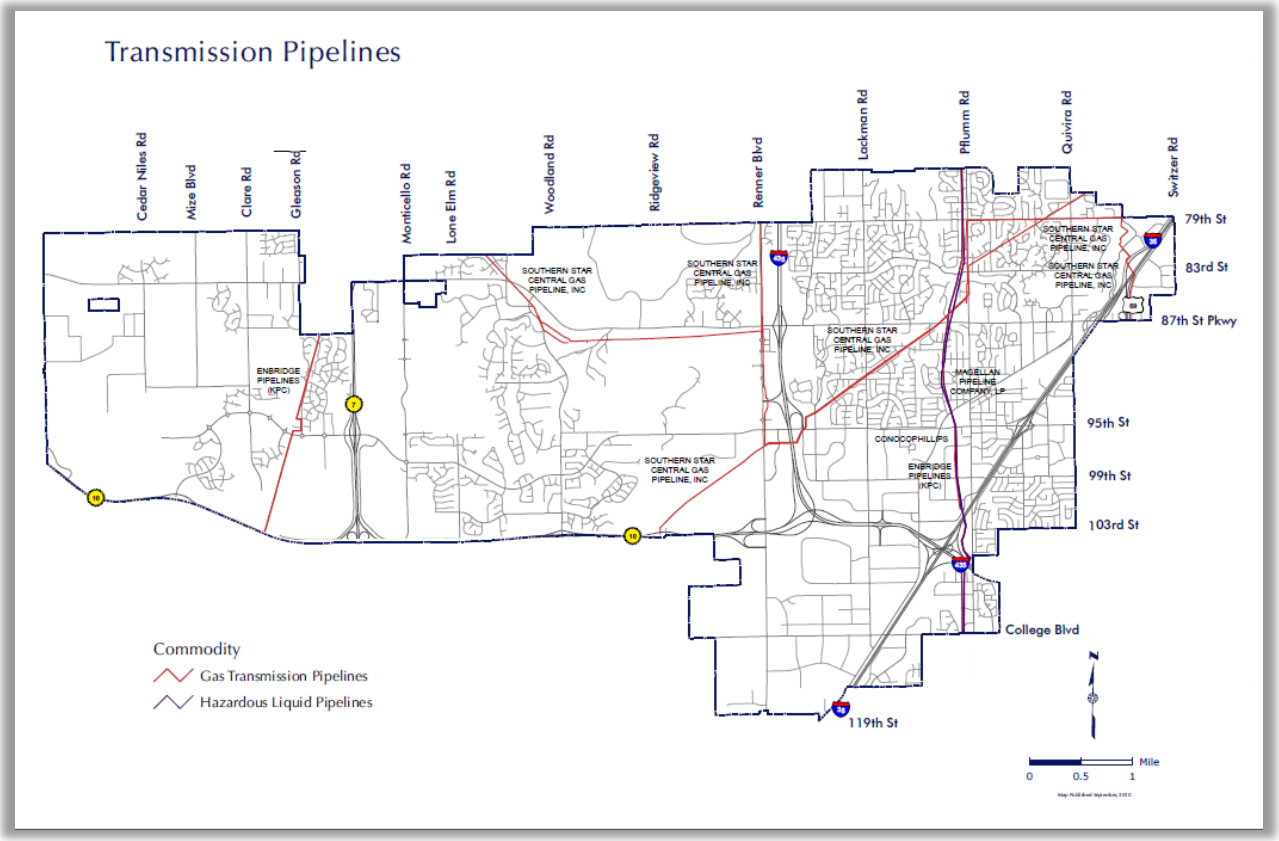
High Voltage Transmission Lines

Power distribution in the City of Lenexa is accomplished via below and above grade electrical transmission lines and a natural gas distribution system. Evergy (formally KCP&L) services all electrical power transmission lines and has a dispatch center located at 16215 W. 108th Street. Evergy provides service to more than 800,000 customers in 47 northwest Missouri and eastern Kansas counties. Their service area includes 18,000 square miles with more than 3,000 miles of transmission lines, 24,000 miles of distribution lines and 400 substations. Two such substation are in Lenexa at 110th Street and Eicher Drive and 95th Street and Loiret Boulevard. The map below illustrates where the electrical transmission lines are located and concentrated within the city.



Electrical & Gas Transmission Lines

Atmos Energy and Kansas Gas service and operate natural gas distribution lines in the city. Combined, the two providers service more than 900,000 customers with approximately 20,000 miles of pipelines. Several major natural gas pipelines from Southern Star extend through the city. According to the U.S. Energy Information Administration, Kansas ranks 15th out of 50 states for natural gas production and distribution. Approximately 158,000 (million cu. ft.) of natural gas was produced and distributed in Kansas in 2020. This almost matches the natural gas production and distribution totals for the State of Alaska. The map provides an overview of the transmission pipelines in Lenexa.



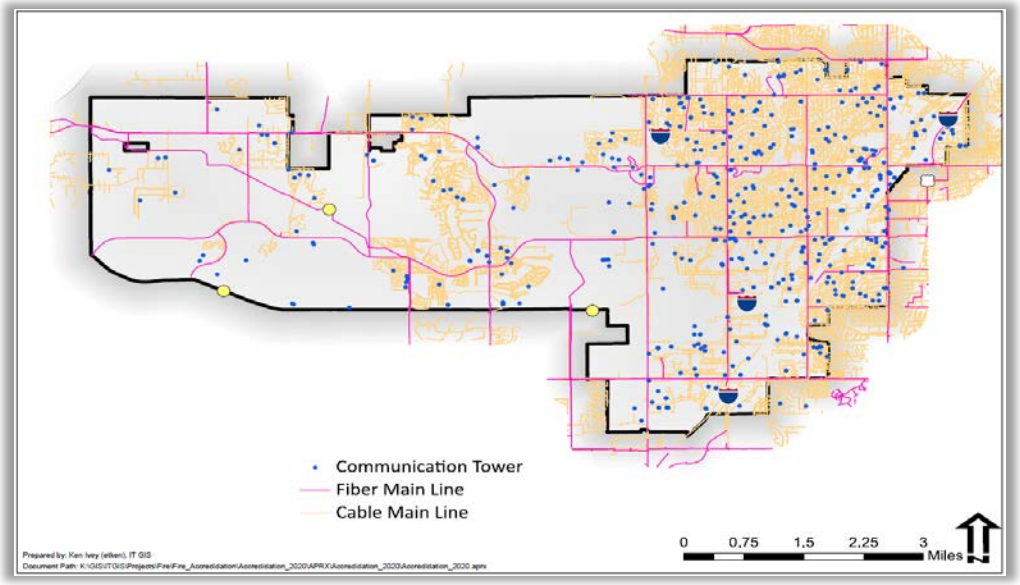
Transmission Pipelines

Mobil Data Terminal (MDT)

The Johnson County Emergency Communications Center (JCECC) is responsible for dispatching all fire departments in the county. Both fire and medical units are equipped with mobile data terminals (MDTs) and are tracked using an automated vehicle locator (AVL) system. Once a call comes into the dispatch center, the appropriate unit is dispatched and the response information is posted to the MDT to inform crews of the appropriate route, type/nature of the call, description of the problem, and appropriate priority/severity of the emergency. For incidents of highest priority, the AVL system is used to determine the closest unit regardless of jurisdictional boundaries.

Communication is accomplished by utilizing the county's 800-megahertz radio system. This system was designed to allow for uninterrupted communication with all units within the county and for the ability to communicate with surrounding counties and metropolitan area emergency services. Regional channels allow for communication across county and state lines also providing the ability to communicate with local hospitals while operating at an emergency scene. JCECC conducts monthly radio exercise to help maintain proficiency when using the radio system during times when regional channels are to be used to communicate with agencies across county lines. Adequate cellular phone coverage exists in the city for the public to access the 911 dispatch center. The map below illustrates the communication cell towers located in the city as well as cable and fiber optic lines.

Portable Radio



Communication Cell Towers Map

Other Service Area Boundaries
MEDICAL

Service demands for the department are not limited to the city boundaries as adopted by City of Lenexa municipal code. In addition, calls for service can also be initiated using the Johnson County Interlocal Agreement (automatic/mutual aid). All fire department related calls for service in the county are dispatched by JCECC. All fire and EMS agencies in the county utilize the Computer Aided Dispatch (CAD) system and responding units are tracked via an AVL. Medical calls received by JCECC are processed using Medical Priority Dispatch System (MPDS) protocols. When JCECC receives a call for service it quickly determines a fire or medical nature. As address, phone number and nature of a medical incident are obtained, JCECC initiates a "rapid posting" to immediately dispatch a medical response. As more information is received the MPDS response code (see Table 2) is updated to responding units MDTs.

Response Code	Medical Response Level
Code-One-Closest (C1C)	Emergent response medical call to include closest unit regardless of jurisdiction
Code-One (C1)	Emergent response medical call for all units
Code-Two (C2)	Urgent response medical call, first-due unit response emergent
Code-Three (C3)	Non-emergent response medical call

Table 2

High priority code-one-closest incidents transcend jurisdictional boundaries and utilize the county automatic/mutual aid agreement. Code-one-closest incidents send the closest unit by AVL regardless of the department. Because of this agreement, the department may provide resources outside of the city to surrounding agencies when their units are closest. This agreement is also reciprocated for any code-one-closest incident within the City of Lenexa when a surrounding agency's unit is closer.

FIRE

For non-medical incidents, units are dispatched based on a defined response plan (matrix), incident type, unit capability, availability, and travel times. Refer to the Lenexa Fire Department Incident Response Matrix in the appendix of this document for additional information.

Area Development

Business continues to grow within the City of Lenexa at an accelerated rate. Through support from the local Chamber of Commerce and other partnering agencies, the number of people who choose Lenexa as a place of commerce is expected to continue to rise.

Currently, Lenexa is home to over 1,500 small and medium-sized businesses as well as over 20 Fortune 500 companies. Ten of these top companies account for nearly 15 percent of the tax revenue for the city. The Meritex subsurface complex, a unique employer in the city, has plans for continued expansion. Meritex is both a subsurface and above ground business park with approximately 2,700,000 square feet of office, light industrial, and warehouse space with the potential to expand up to 3,500,000 square feet. This complex is a thriving business hub within Lenexa and the Kansas City metro area largely because tenants are allowed such types of spaces for about half the cost per square foot of similar property above ground.

Meritex Underground Complex

Meritex Above Ground Development

As development of the area above the Meritex Business Complex expanded, the need for better motor vehicle access was recognized. In 2018-2019, work on Ridgeview Road was completed and finally linked Highway K-10 to Prairie Star Parkway. The expansion of Ridgeview created a more convenient point of access to the Meritex complex and helped ease traffic congestion from both Renner Boulevard and Woodland Road. This also provided faster access for Lenexa Fire Department response in accessing the entrance to the underground portion of the Meritex Business Complex.

Ridgeview Road Expansion

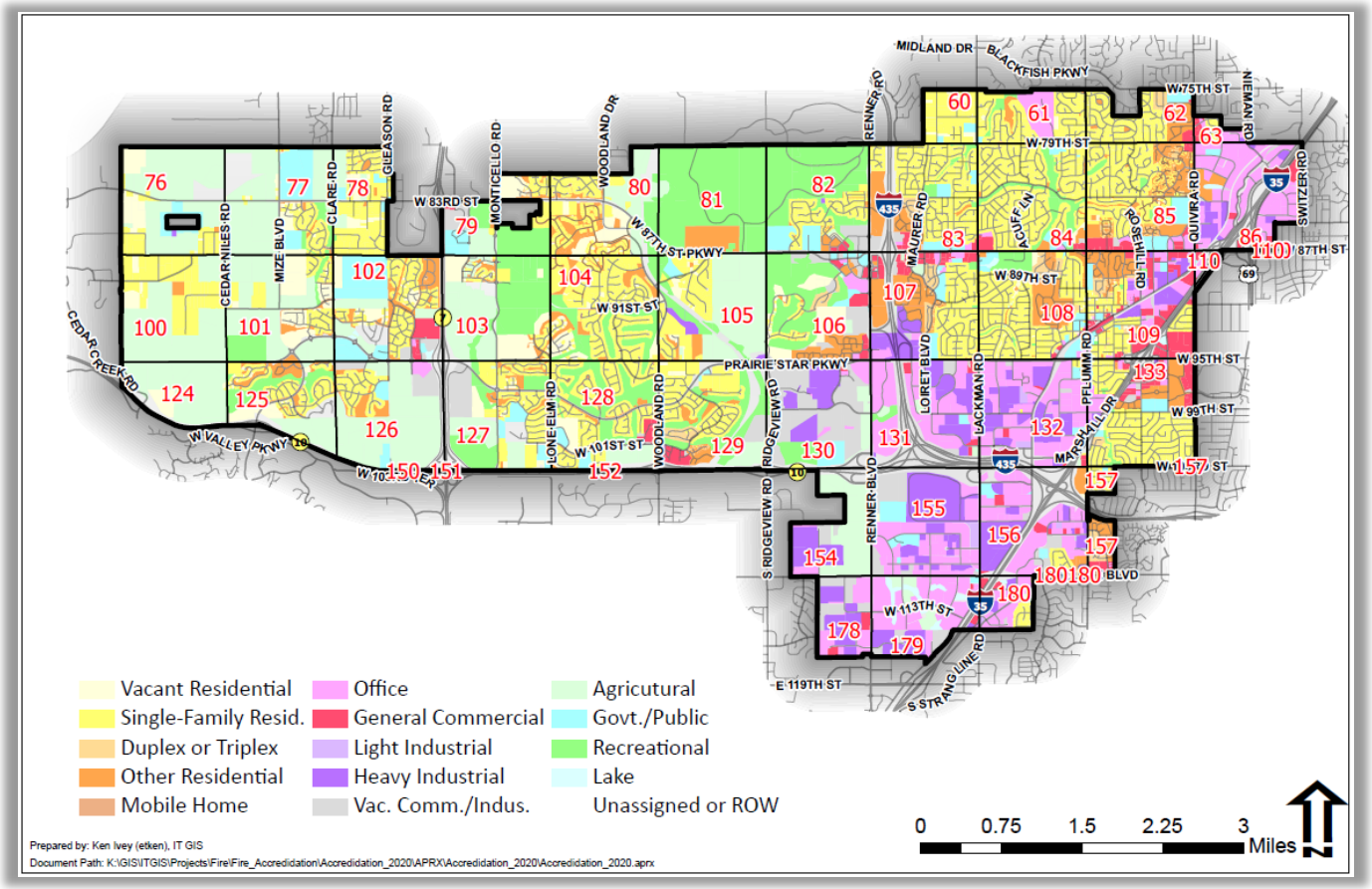
Ridgeview Road Expansion

City Center Public Market

Recently, major commercial and residential development has occurred in the geographical center of the city. Located at the intersection of 87th Street Parkway and Renner Boulevard adjacent to Interstate 435, Lenexa City Center is a new and exciting mixed-use neighborhood. This new growth is part of the City Center development that comprises retail outlets, luxury apartments, and commercial business development to include a new office building for Kiewit Engineering, Lenexa City Hall, and Community and Civic Center. Combining walkability, density, sustainability and community, the Lenexa City Center offers a unique esperience on urban living.

Incorporating approximately 200 acres divided into four quadrants, this commercial and residential hub will encompass nearly 3 million feet of build-out space. The site has been modeled from the country's greatest urban neighborhoods and blends them with amenities found here in the Heartland.

The City of Lenexa is still growing and will continue to develop westward as the urban population moves into the rural portions of the city. Below is a future land use map that shows the potential city growth. Most of the forecasted development will be residential and general commercial in nature.

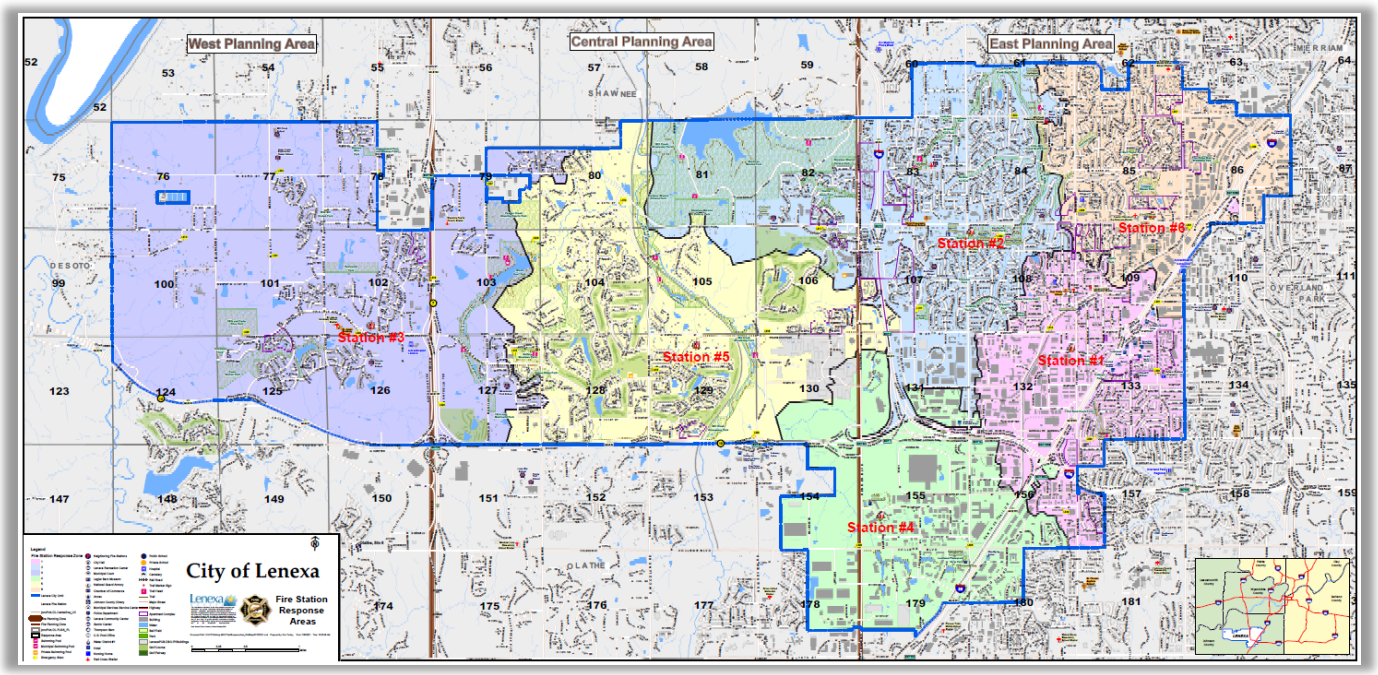


Land Use Map

VI. Description of Agency Programs and Services

Points of Service Delivery and Resources

The Lenexa Fire Department (LFD) operates from six strategically located stations. Fire stations #1, #2, #4 & #6 are in the eastern third part of the City. These stations were located based upon the density of population and business demands at the time, as the city was experiencing its first period of significant growth. Stations #3 & #5 were constructed respectively in 2005 and 2010, at locations to meet the demands realized by the population growth in the western and central portion of the City. In 2020, the department began to operate from the prior city hall location at 87th Street Parkway and Monrovia in the eastern third part of the City. This has now become our Station #6 location and is currently staffed full-time 24/7.



Station Locations within Response Districts

Lenexa Fire Station #1

The current Fire Station #1, located at 9620 Pflumm Road, was constructed in 1986 and equipped with a ladder company (Engine 91), fire medic company (Squad 91) and the shift battalion chief (Battalion 91). Cross-staffed apparatus include a mobile ventilation fan (Vent 91) and a utility/brush unit (Utility 91). Station #1 is also the location of the department's administrative division.

Lenexa Fire Station #2

Fire Station #2, located at 8725 Lackman Road, was constructed in 1974 and is equipped with a quint company (Quint 92) and a part-time fire medic company (Squad 92). Cross-staffed apparatus include an all-terrain utility vehicle (ATV 92) specifically designed for medical rescue from trail and park areas not accessible to other apparatus.

Lenexa Fire Station #3

Fire Station #3, located at 24000 Prairie Star Parkway, was opened in 2005 and equipped with an engine company (Engine 93). Cross-staffed apparatus include a utility/brush unit (Utility 93) and a water rescue boat (Boat 93). Johnson County Med-Act also responds out of this station with an ALS transport unit (Medic 1137) and a cross-staffed rehab apparatus (HM1173). Station #3 is also equipped with a state-of-the-art educational facility and the department's training division.

Lenexa Fire Station #4

Fire Station #4, located at 10855 Eicher Drive, was constructed in 1990 and is equipped with a tiller company (Ladder 94). Cross-staffed apparatus include a utility/brush unit (Utility 94).

Lenexa Fire Station #5

Fire Station #5, located at 19151 Prairie Star Parkway, was opened in 2010 and is equipped with a quint company (Quint 95). Cross-staffed apparatus include an all-terrain utility vehicle (ATV 95) specifically designed for medical response from trail and park areas not accessible to other apparatus. This building was designed and constructed with significant input from stakeholders and was the first "Leadership in Energy & Environmental Design" (LEED) certified building in the city.

Lenexa Fire Station #6

Fire Station #6, located at 12350 W. 87th Street Parkway, was occupied in 2020 using the former city hall building and is staffed from 0800 to 0800 hours with an engine company (Engine 96). It is also the location of the departments' prevention division offices.

Resources

Currently, the department is authorized for 93 full-time personnel to include two full-time civilian positions and an additional four unfunded overhire firefighter positions. The department is managed by the Fire Chief and operates with five divisions: Fire Operations Division, Training Division, Support Services Division, Fire Prevention Division, and Emergency Management Division.

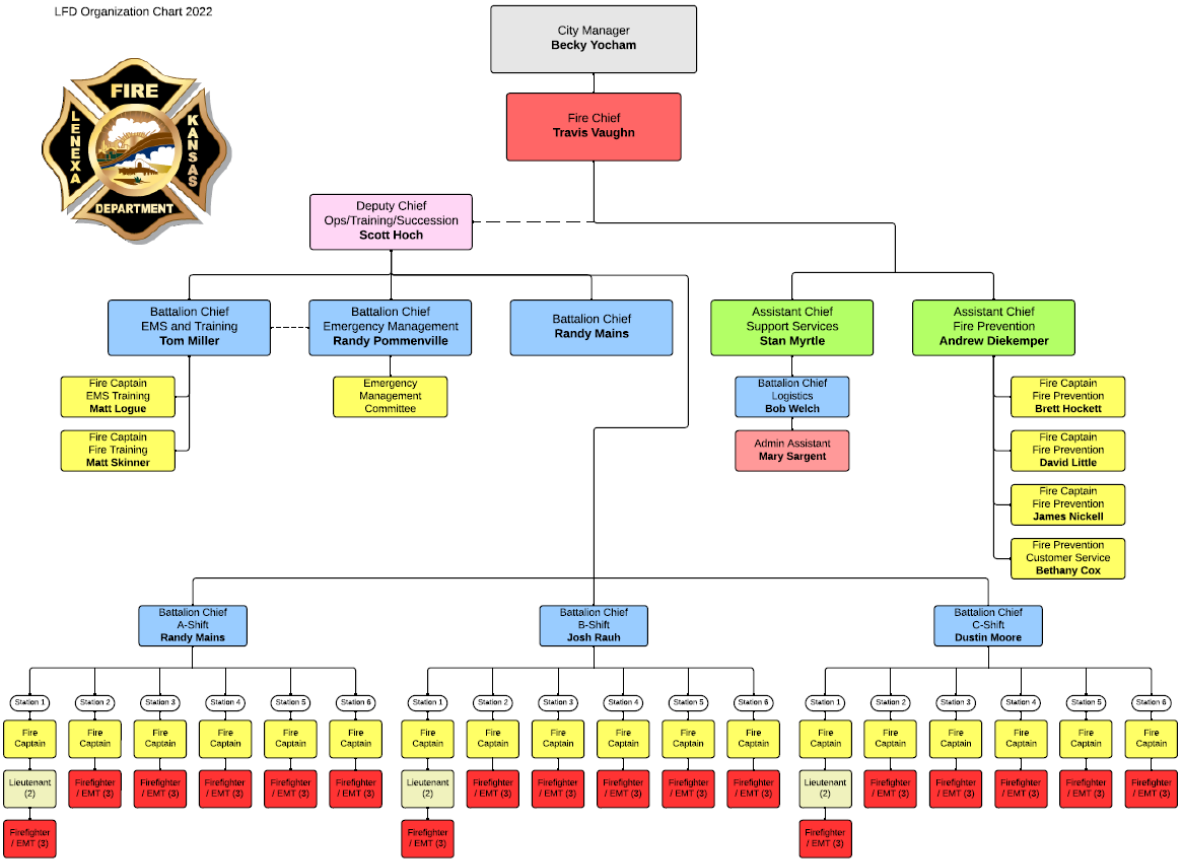


Chart 1

The Fire Operations Division includes an authorized staff of 78 people including three shifts (ABC) of operational personnel, one assistant chief, and three battalion chiefs of operations. Operational staffing provides one ladder company, three engine companies, two quint companies, one squad unit, and one battalion chief operating out of six fire stations. The minimum staffing required for each shift to effectively maintain its operational capability is 22 personnel. The operations division also includes an authorized training staff of three personnel with one battalion chief and two captains to provide for employee development activities and one battalion chief of emergency management. This division is also responsible for managing the department's information technology functions. The Fire Support Services Division includes an authorized staff of four personnel to provide over the administrative and logistical functions of the department and includes the fire chief , one assistant chief, one deputy chief, one battalion chief of logistics, and one customer service representative. The Fire Prevention Division includes an authorized staff of five personnel to provide the fire prevention code enforcement activities of the department and includes one assistant chief, three captains, and one full-time civilian position.

The following tables list the department's frontline and reserve apparatus fleet along with support staff.

Fire Station #1 Fleet

Radio ID	Fleet #	Year	Status	Staffing	Description
Battalion 91	9612	2018	Staffed	1	Chevrolet Suburban
Engine 91	9205	2019	Staffed	3	Pierce Impel Engine
Squad 91	9609	2016	Staffed	2	Ford F-450 Truck
Engine 921	9201	2008	Reserve	NA	Pierce Velocity Engine
Squad 93	9604	2011	Reserve	NA	Ford F-350 Truck
Battalion 99	9606	2013	Reserve	NA	Chevrolet Suburban
Vent 91	9799	2012	Cross Staffed	NA	MVU-125 Trailer
Utility 91	9902	2016	Cross Staffed	NA	Ford F-550 Swap Loader

Table 3

Fire Station #2 Fleet

Radio ID	Fleet #	Year	Status	Staffing	Description
Quint 92	9503	2013	Staffed	3	Pierce Velocity Quint
Squad 92	9607	2016	Part-time Staff	NA	Ford F-450 Truck
Quint 924	954	2006	Reserve	NA	Pierce Velocity Quint
ATV 92	979	2008	Cross Staffed	NA	Polaris ATV

Table 4

Fire Station #3 Fleet

Radio ID	Fleet #	Year	Status	Staffing	Description
Engine 93	9202	2008	Staffed	3	Pierce Velocity Engine
Utility 93	9901	2016	Cross Staffed	NA	Ford F-550 Swap Loader
Boat 93	9710	2018	Cross Staffed	NA	V-16 Boat with Trailer

Table 5

Fire Station #4 Fleet

Radio ID	Fleet #	Year	Status	Staffing	Description
Ladder 94	9502	2012	Staffed	3	Pierce Velocity Tiller
Utility 94	9903	2016	Cross Staffed	NA	Ford F-550 Swap Loader
Truck 94	950	2002	Reserve	NA	E-One Hurricane
Rescue Trailer 94	9701	2009	Reserve	NA	Interstate Trailer
Rescue Trailer 924	9712	2013	Reserve	NA	H&H Trailer
Pub Ed Trailer	9708	2010	Reserve	NA	Safety House

Table 6

Fire Station #5 Fleet

Radio ID	Fleet #	Year	Status	Staffing	Description
Quint 95	9501	2011	Staffed	3	Pierce Velocity Quint
ATV 95	9702	2010	Cross Staffed	NA	Polaris ATV

Table 7

Fire Station #6 Fleet

Radio ID	Fleet #	Year	Status	Staffing	Description
Engine 96	9204	2018	Staffed	3	Pierce Impel Engine

Table 8

Support Staff

Radio ID	Personnel	Radio ID	Personnel	Radio ID	Personnel	Radio ID	Personnel
CH90	Fire Chief Vaughn	INSP92	Lieutenant Foltz	INV92	Lieutenant Foltz	CAR91	Vacant
CH91	Deputy Chief Hoch	INSP93	Paramedic Ambrette	INV93	Paramedic Katzer	CAR92	Captain Little
CH92	Division Chief Diekemper	INSP95	Captain Doughty	INV94	Captain Ellis	CAR93	Captain Nickell
CH93	Vacant	INSP97	Captain Mindedahl	INV95	Vacant	CAR94	Captain Hockett
CH94	Vacant	INSP98	Paramedic Smoke	INV96	Vacant	CAR95	Captain Logue
CH95	Division Chief Myrtle	INSP99	Captain Sellers	INV97	Paramedic Kass	CAR96	Captain Skinner
BC93	Battalion Chief Welch	INSP910	Paramedic DeMaranville	INV98	Paramedic Ambrette		
BC94	Battalion Chief Pommenville	INSP912	Lieutenant Elliott				
BC95	Battalion Chief Miller	INSP913	Fire Medic Erber				
BC96	Battalion Chief Mains	INSP915	Lieutenant Smith				
BC97	Battalion Chief Rauh	INSP916	Fire Medic Clark				
BC98	Battalion Chief Moore						

Table 9

Programs, Services, and Community Expectations

Fire Suppression

The City of Lenexa Fire Department (LFD) provides fire suppression services. These areas include, but are not limited to: structure fires, vehicle fires, rubbish fires, brush/grass fires and flammable liquid fires. For these types of incidents, the LFD is equipped with a front-line response of one 105' tiller, two 75' quints, three engines (with top mounted master streams) and one squad. The reserve line is comprised of one 75' quint, one engine, one 95' aerial platform, one squad, three utility trucks, and two all-terrain vehicles. All heavy fire apparatus has a minimum of 1,250 gallon per minute pumps.

Ladder 94

Quint 95

Most of the structures in the City of Lenexa are single family wood frame dwellings. Other structure include numerous multi-family apartment buildings, light commercial structures, and several industrial buildings. The LFD responds to residential structure fires with an initial alarm assignment of five heavy fire apparatus, one squad, two battalion chiefs, and one advanced life support (ALS) transport unit. Commercial structure fire include an additional heavy fire apparatus.

Vehicle fires have a standard response of one heavy fire apparatus unless located on a highway or in a parking garage. Highway or parking garage vehicle fires have a standard response of two heavy apparatus. All front-line fire apparatus carries a minimum of 470 gallons of water (except for Ladder 91) and are equipped with in-line or exterior foam proportioning systems, and have a full set of extrication equipment including: hydraulic spreaders, hydraulic cutters, a short and a long hydraulic ram, reciprocating saw, steering wheel cutters, rescue jacks and windshield saw.

Appliance and flue fires are responded to with two heavy apparatus and one squad if it is available. This is the same amount of resources sent for modified residential and commercial structure fires.

Brush and/or grass fires are responded to with one heavy fire apparatus. When the topography dictates, three utility trucks with optional brush beds are available for response. Each utility truck has four-wheel drive capability, a minimum of a 150-gallon water tank with at least 100' of 1" forestry line, fire rakes, and other assorted small tools. All front-line apparatus and utility trucks carry lightweight wildland firefighting gear. Any brush or grass fire that extends into a structure receives the same resources as a commercial structure fire.

Engine 96

Flammable liquid and transport/vehicle fires are responded to by a minimum of one heavy fire apparatus. The exception to this are for fires that occur on the highway. Transport/Vehicle fires on the highway receive a minimum of two heavy apparatus. One for fire control operations and one for scene protections.

The LFDs three utility trucks were placed into service in 2016. The purpose of these utility trucks is to offer a modular approach to responding to brush/grass fires, technical rescue incidents as well as post-incident needs for firefighters and citizens. These utility trucks (Utility 94 pictured below) have modular truck pods that can be switched out based on the need of the incident. Utility truck pod options include a brush response pod, flat transport pod, rescue pod eqpuiped with specialized tools, rehab pod equipped with supplemental air cylinders and rehab equipment, investigation pod, and a community storage pod that can be used to transport additional equipment or can be left at the scene of the incident to be used as a storage unit for homeowners recovering after a fire.

Utility 94 Equipped with a Brush Response Pod

Lenexa Fire Department (Fire) Response Matrix

Call Type	Deployed Resources
Grass Fire Outside Fire Small Tank Fire Small Vehicle Fire	Lenexa Heavy Apparatus
Wildland	Lenexa Heavy Apparatus Lenexa Brush Apparatus
All Fires on the Highway or in a Parking Garage Transport Vehicle Fire	Lenexa Heavy Apparatus X2
Appliance Fire Flue Fire Modified Response Building Modified Response House Outside Fire Large	Lenexa Heavy Apparatus X2 Squad (if available)
Tank Fire Large	Lenexa Battalion Chief (if available) Lenexa Heavy Apparatus X2 Squad (if available)
House Fire Note: House fires with a known patient receive an additional ALS transport unit.	Lenexa Battalion Chief Closest Fire Battalion Chief Lenexa Heavy Apparatus X3 Closest Heavy Apparatus X2 Squad (if available) ALS Transport Unit
Wildland Structure	Lenexa Battalion Chief Closest Battalion Chief Lenexa Heavy Apparatus X3 Closest Heavy Apparatus X2 Squad (if available) Lenexa Brush Apparatus (if available)
Building Fire	Lenexa Battalion Chief Closest Fire Battalion Chief Lenexa Heavy Apparatus X4 Closest Heavy Apparatus X2 Squad (if available) ALS Transport Unit
High Rise Fire Plus: Engines X3, Trucks X4, Air Supply Unit, ALS Battalion Chief, ALS Transport Unit X2, HM1173, COMM1, Chief Officers X2	Lenexa Battalion Chief Closest Battalion Chief Lenexa Heavy Apparatus X4 Closest Heavy Apparatus X2 Squad if Available ALS Transport Unit

Table 10

In addition to a highly skilled and well-equipped operations division for fire suppression, the LFD places significant emphasis on fire prevention. The prevention division is staffed with four full-time personnel, one civilian position, and supplemented with off-duty operations personnel for annual life safety inspections.

All commercial occupancies, licensed daycare facilities and residential multi-family dwellings are scheduled for annual life safety inspections with re-inspections as needed. Personnel performing inspections have obtained or are working toward the minimum certification of Inspector I. They receive annual ongoing training in fire prevention and inspections. From 2017-2021 the fire prevention full and part-time staff completed over 25,000 annual life safety inspections.

The prevention division has remained engaged with the community on various levels to build relationships and provide the safest community possible. The staff meets with apartment management and owners to review incident trends, past incidents, and safety concerns. The prevention division also has a standing semi-annual meeting with community homeowner association board members. In 2012 the prevention division began a campaign to reduce the number of fires resulting from the careless disposal of smoking materials in apartment buildings. Prevention staff worked directly with apartment complex management and owners to negotiate lease agreements, impose fines on tenants for the improper disposal of smoking materials and to create multiple smoke free apartment buildings within the city. Between 2016 and 2020, the number of apartment fires caused by smoking materials dropped from 22 to 5. It should also be noted during that time frame the number of apartment buildings grew substantially.

The prevention division works closely with the City of Lenexa Community Development Department during new commercial building and remodel construction. The prevention staff is involved with new construction from the inception of a project through completion. This ensures that proper fire department access is available, proper fire suppression systems are in place and required safety equipment such as emergency lighting and exit signs are appropriate for the building. Residential remodel permits require residential smoke detectors to be replaced with interconnected smoke detectors exceeding the International Residential Code.

Along with a robust inspection program, the LFD takes great pride in its high-quality public education program. This program is managed by a committee consisting of operations personnel chaired by a member of the prevention staff. The LFD provides a variety of public education activities including hands-on fire extinguisher classes for city businesses, emergency preparedness presentations, safety trailer demonstrations, and general safety classes.

During the month of October, The LFD delivers a grade-specific safety presentation to each elementary school class at all Lenexa schools. With support of the local Rotary Club, the department's safety trailer is specifically used for the third and fifth grade curriculums. Members providing instruction receive training and education prior to delivery. This program has been well received by the students, school staff, and administration.

A Juvenile Fire Setter Intervention program exists to provide one-on-one counseling, intervention, and education to local youth who have shown an affinity to setting fires. Juveniles can be referred to the program through a parent's request or by court order. The LFD maintains two (2) Juvenile Fire Setter Intervention Specialists certified by the National Fire Academy.

In 2016 the LFD hosted its inaugural Citizen's Fire Academy. The academy was designed to provide adult community members insight about the day-to-day operations of the fire department. The academy was attended by 13 members of the community over a six-week period. The academy included information on department programs as well as hands-on activities in the areas of fire suppression, rescue, fire suppression systems, and EMS operations. This program has been held annually through 2019 and was temporarily suspended in 2020 and 2021 due to the COVID-19 pandemic.

Citizen Fire Academy

Emergency Medical Services

The department currently provides emergency medical services (EMS) for most incidents in the city at the advanced life support (ALS) level. This EMS first response is accomplished by utilizing either squad units with two personnel or heavy apparatus with a minimum of three personnel.

Squad 91

The Department currently employs personnel at one of three EMS certification levels: emergency medical technician (EMT), advanced emergency medical technician (AEMT), or emergency medical technician paramedic (Paramedic). A technician must be either an AEMT or Paramedic to qualify as a Lenexa Fire Medic. Both certification levels can administer care at the ALS level with actual scope of practice defined by state and local regulations. The department ensures that daily shift staffing maintains at least one fire medic on all front-line apparatus. If current staffing does not support this capability, it is possible to have an apparatus temporarily operate in a basic life support (BLS) first response role.

Med-Act Medic 1137

Primary patient transport is provided by Johnson County Medical Action (Med-Act). This ambulance service operates strictly at the ALS level with two paramedics on each ambulance. Additionally, Med-Act works under the same medical protocols and utilizes the same dispatch center as the LFD. All EMS responders in Johnson County operate under the Johnson County Medical Director's license and adhere to the regulations established by the Kansas Board of EMS.

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Lenexa Fire Department (EMS) Response Matrix

Call Type	Deployed Resources
ALS Transfer	ALS Transport Unit
Medical Assist	Lenexa Heavy Apparatus or Squad
Injury Accident C1	Lenexa Heavy Apparatus or Squad
Injury Accident C2	ALS Transport Unit
Injury Accident C3	
Medical - Trauma C1	
Medical - Trauma C2	
Medical - Trauma C3	
Non - Breather C2	
Standby - EMS	
CO Hazmat C1 CO Hazmat C2 CO Hazmat C3	Lenexa Heavy Apparatus Lenexa Squad if Available ALS Transport Unit
Stabbing GSW C1	Lenexa Heavy Apparatus or Squad
Stabbing GSW C2	ALS Transport Unit
	ALS Battalion Chief
Medical - Trauma C1C	Closest Apparatus (if needed) Lenexa Heavy Apparatus or Squad ALS Transport Unit
CO Hazmat C1C	Closest Heavy Apparatus (if needed)
	Lenexa Heavy Apparatus
	Lenexa Squad (if Available)
	ALS Transport Unit
Injury Accident C1C Inury Accident Rollover	Closest Apparatus (if needed) Lenexa Heavy Apparatus or Squad ALS Transport Unit ALS Battalion Chief Lenexa Battalion Chief
Non - Breather C1C	Closest Apparatus (if needed)
	Lenexa Heavy Apparatus or Squad
	Lenexa Heavy Apparatus
	ALS Transport Unit
	ALS Battalion Chief
	Lenexa Battalion Chief
MCI Level 1 MCI Level 2 & 3 = MCI Level I plus: Heavy Apparartus X3, ALS Transport Unit X5 Closest Fire Battalion Chief	Lenexa Heavy Apparatus X4 Closest Heavy Apparatus X2 Lenexa Squad (if available) ALS Transport Unit X5 ALS Battalion Chief X2 Lenexa Battalion Chief

Table 11

As emergency medical services (EMS) have become the largest percentage of emergency incident response, the LFD has developed and supported programs to enhance our EMS delivery to the community.

The department maintains a "Citizens with Disability List" for all residents of Lenexa to voluntarily provide specific information to the department. Examples are limited mobility, confined to a bed or room, requires oxygen, access information or any other relevant conditions. All information received is submitted to the Johnson County Emergency Communications Center (JCECC) to create a premise record for a specific address. During an incident response to that address, the information can be accessed through mobile data terminals that are installed in all front-line and reserve apparatus.

If crews encounter citizens that could benefit from additional services or care coordination because of physical, mental, or medical limitations, the Johnson County Medical Director's Office provides a "Community Outreach Program." A nurse practitioner, social worker, mental health expert, or other medical resource will conduct a home visit to assess conditions and determine what additional needs the citiazen may require. Examples include individiuals who are no longer able to care for themselves, unsafe home conditions, or patients who require routine home health care.

Kansas State Law requires all automatic external defibrillator (AEDs) located inside a business or public occupancy to be registered with local emergency medical services. Business owners can register AEDs with the Mid-America Regional Council through an on-line registration form to meet registration requirements. AED information for Lenexa-specific occupancies is submitted to the JCECC for addition to premise records for that specific occupancy. In the event of a 911 call suspected to be cardiac in nature the JCECC provides specific instruction in CPR techniques, AED location and use along with aspirin instructions if appropriate. The location of AEDs is also disseminated to emergency responders via mobile data terminals. The departments Prevention Division verifies AEDs during annual inspections.

The LFD maintains multiple American Safety & Health Institute (ASHI)® cardiopulmonary resuscitation (CPR) instructors. Instructors provide certification training in first aid, CPR, and AED use to members of the community. CPR classes are typically delivered to groups of four or more and are scheduled based on availability. A fee schedule has been developed for each specific class. In addition to ASHI CPR classes the department provides hands-only CPR classes that are free to all citizens. Hands-only CPR classes may be requested at any time and are delivered in group settings at scheduled events and festivals throughout the year. Below are courses available to the community.

- CPR, AED, and Basic First Aid Blended Course – All Ages
- Basic Life Support (BLS) Blended Course
- Hands-Only CPR

Technical Rescue

The department has an established program to rescue endangered persons from trapped or life threatening causes. For structural collapse, trench, confined space, high angle rope rescue, vehicle extrication, hazmat, and water rescue, the department responds with a three-tiered principal. All department personnel are trained to the awareness level, with others at the operation and technician levels. Each of the three shift battalions currently have at least one technician for each of the technical disciplines (structural collapse, confined space, high angle rope rescue, vehicle extrication, hazmat, and water rescue) assigned to their shift.

Cave Rescue Training

High-Angle Rope Rescue Training

The Subsurface Meritex Business Complex offers a unique hazard to the City of Lenexa. The cave system contains over 3 million square feet of office space and roadways. Due to this unique subsurface development, the department established a Cave Rescue Team. This team is trained and equipped to handle any cave collapse emergency. Special training has been provided to the Olathe Fire Department, Overland Park Fire Department, and the Shawnee Fire Department to assist with a cave collapse through the County's automatic/mutual aid agreement.

Mutual aid agreements are in place for situations that require additional resources, equipment, or rescue technicians for technical rescue incidents that occur within the City. The Olathe Fire Department and Consolidated Fire District #2 provide automatic aid assistance with specialized below grade capabilities for trench rescues. The Olathe Fire Department also provides mutual aid assistance for specialized structural collapse rescues.

Advanced technical rescue resources have been determined by the Mid-America Regional Council (MARC) Regional Homeland Security Coordinating Committee (RHSCC). The committee funds regional heavy urban search & rescue teams through urban area security initiative (UASI) grants from the U.S. Department of Homeland Security. Resourced and funded departments include the Olathe Fire Department, Kansas City Missouri Fire Department, Kansas City Kansas Fire Department, and Central Jackson County Fire Protection District.

Water Rescue Training

For technical rescue incident response that exceed the resource capability of the LFD, additional resources may be requested from within Johnson County, Kansas that includes a trench rescue taskforce and a confined space rescue taskforce. Each taskforce is resourced by other county agencies that maintain the appropriate staffing, equipment, and certification level for each discipline.

The LFD has hydraulic extrication equipment and hand tools for extrications. Technical rescue equipment is also assigned to all front-line apparatus to aid in the initial actions at technical rescue incidents. Supplemental technical rescue equipment is located on Technical Rescue Trailer 94, and personal protective equipment with individual team members.

Extrication Equipment

Lenexa Fire Department (Tech Rescue) Response Matrix

Call Type	Deployed Resources
Entrapment C1 Entrapment C2 Entrapment C3	Lenexa Heavy Apparatus or Squad ALS Transport Unit
Collapse Modified	Lenexa Heavy Apparatus X2 Lenexa Squad (if available)
Confined Space Rescue Entrapment C1C High Angle Rescue Injury Accident - Extrication	Lenexa Heavy Apparatus Lenexa Squad if Available Extrication Unit ALS Transport Unit ALS Battalion Chief Lenexa Battalion Chief
Ice Rescue Water Rescue: Ice Rescue Response plus Boat	Lenexa Heavy Apparatus Lenexa Heavy or Squad ALS Transport Unit ALS Battalion Chief Lenexa Battalion Chief Dive40 if Needed
Injury Accident - Collapse	Closest Heavy Apparatus Lenexa Heavy Apparatus X2 Lenexa Squad if Available ALS Transport Unit ALS Battalion Chief Lenexa Battalion Chief
Collapse	Closest Heavy Apparatus Lenexa Heavy Apparatus X2 Lenexa Squad if Available ALS Transport Unit ALS Battalion Chief Lenexa Battalion Chief Olathe Collapse Task Force
Trench Rescue	Lenexa Heavy Apparatus X2 Lenexa Squad if Available Extrication Unit ALS Transport Unit ALS Battalion Chief Lenexa Battalion Chief CFD2 and Olathe Task Force

Table 12

Due, in part, to the improvements of the storm water system within the City of Lenexa, the threat of swift moving water to cause flooding within city limits has been reduced. Creeks, streams, and roadways that used to flood during significant rainfall of have been improved to limit the likeliness of flooding to occur. In 2021, the department decided to eliminate the Swift Water Rescue Team as a deployable resource. Water rescue equipment related to “swift water rescue” has been replaced with equipment more suited to “stagnant” water threat that exist in the city. Areas such as Mize Lake, Shawnee Mission Lake, and Lake Lenexa are a few examples of stagnant bodies of water that may pose a risk to the community.

As part of the on-going effort to develop risk specific training with our automatic and mutual aid partners, The Lenaxa Fire Department coordinates hands-on training related to structural collapse within the Meritex Business Park. Any structural collapse automatic aid response requires all first alarm assignment units to be from the Overland Park Fire Department, Olathe Fire Department, or the Shawnee Fire Department. Given the unique nature of this location and the specific training required to safely respond to a structure collapse incident, cooperative training was developed and conducted in 2019. The goal is to conduct this training on a regular basis to refresh all automatic aid partners with the Meritex Business Park Complex.

Cave Rescue Automatic Aid Training

Hazardous Materials

The department operates a hazardous materials program in response to any environmental release of toxic or hazardous materials. The LFD functions at the "operations" level for all hazardous materials calls as outlined by the National Fire Protection Association (NFPA) 472, Chapter *5 – Competencies for the First Responder at the Operational Level.* The LFD currently has 16 technician level certified members. These members can be utilized by surrounding hazardous materials teams at up to the technician level as outlined by NFPA 472, *Chapter 6 – Competencies for the Hazardous Materials Technician* and *Article 24. – Regional Hazardous Materials Response* of the State of Kansas Fire Marshal's Office.

Olathe Hazmat Response Unit

Resources above the operations level can be requested or respond as automatic aid from area hazardous materials response teams. These teams can be requested from the Overland Park Fire Department, the Olathe Fire Department, the Kansas City Missouri Fire Department, and private companies such as Haz-mat Inc. LFD technicians can support any of these organizations up to the technician level.

Hazardous materials equipment on front-line apparatus include granular absorbent, Combustible Gas Indicator (CGI), Emergency Response Guide (ERG), National Institute for Occupational Safety and Health (NIOSH) Pocket Guide, Response to Terrorism Manual, Jane's Chem-Bio Handbook, 40 gallons of AFFF-ATC, binoculars, Thermal Imaging Camera (TIC), Underflow Diking Buoys, and Radiological Meter. All equipment is inventoried and updated by the LFD Hazardous Materials Coordinator.

Hazardous Materials Decontamination Training

Lenexa Fire Department (Hazmat) Response Matrix

Call Type	Deployed Resources
EOD Activation EOD Investigation EOD Recovery EOD Standby EOD Tactical	Lenexa Chief Page Olathe EOD Task Force
Carbon Monoxide Investigation Explosion Oil Tank Battery Spill Standy - Gas Leak	Lenexa Heavy Apparatus
Haz - Mat Investigation	Lenexa Heavy Apparatus Lenexa Squad (if available)
Investigate Gas Odor Inside	Lenexa Heavy Apparatus X2
Haz - Mat Modified	Lenexa Heavy Apparatus X2 Lenexa Squad (if available) Lenexa Battalion Chief (if available)
Haz - Mat	Lenexa Heavy Apparatus X2 Lenexa Squad (if available) ALS Transport Unit ALS Battalion Chief Lenexa Battalion Chief (if available) HM1173 OPFD Hazmat Task Force
Train Derailment	Closest Heavy Apparatus X2 Lenexa Heavy Apparatus X2 Lenexa Squad (if available) ALS Transport Unit ALS Battalion Chief Lenexa Battalion Chief (if available)

Table 13

Hazardous material training is developed by the Lenexa Fire Department (LFD) Hazardous Materials Coordinator along with the department's Professional Development Division. Hazardous material training is conducted quarterly to maintain operational level certification. Weapons of Mass Destruction (WMD) are also included in this curriculum.

In March 2014, the LFD purchased a variety of Unmanned Aircraft System (UAS) drones and received its Certificate of Authorization in October 2014. Although the program is still in its infancy, the department foresees great potential in the future use of its UAS. The program is operational and has been used for aerial photography following structure fires for investigations, training purposes and for aerial photos of new construction including structures and infrastructure. The system can provide a live video feed to the operator or command post during emergency incidents. In addition, the UAS can also be utilized for large scale incidents such as a hazardous materials release. The deployment of this resource allows an Incident Commander to survey the affected area and gather important information and data without the need to commit human resources into a hazard area.

LFD Drone

Community Expectations

The department has achieved an excellent reputation by meeting our customers' needs. Public input during the strategic planning process has revealed community expectations and assists in establishing approaches to assessing risk. Through adherence to aggressive benchmark and baseline service level objectives, we are continually evaluating and improving services. Risk assessment is a continuous process and any significant risk changes are evaluated for possible adjustments in service delivery. The department will continue to employ a 'best practices' philosophy with a constant eye toward improvement in every facet of services provided. The findings in this document are a tribute to past successes as well as a guide for the future.

Lenexa 4th of July Parade 2016

The department values input from the community and strives to meet public expectations. In 2021, as part of the development of a strategic plan, community members were invited to participate in an "external stakeholders" survey to identify the needs, concerns, strengths, and expectations of the community. To start the process, community members were asked to rank each program/service against all others that the department provides. Results from the ranking process are below.

PROGRAMS	RANKING	SCORE
Emergency Medical Services	1	304
Fire Suppression	2	257
Fire Prevention	3	223
Domestic Preparedness Planning and Response	4	178
Hazardous Materials Mitigation	5	164
Rescue- Basic and Technical	6	162
Public Fire / EMS Safety Education	7	129
Fire Investigation	8	108

Table 14

The department concluded the development of its strategic plan in the Spring of 2022. Below is a review of both the external and internal stakeholders assessment as well as the department's goals and objectives for the 2022-2025 Lenexa Fire Department Strategic Plan.

Community expectations were developed and assessed during the 2021 stakeholder meeting. Participants were asked to rank in order of importance the expectations that the community has for the fire department. Included are the top ten results from that assessment.

Most Common Themes:

- Quick response to emergencies
- Well trained and knowledgeable personnel
- Fire Inspections / public education
- Professional staff

External stakeholders were then given the opportunity to to provide positive feedback for the service that the department provides. Below are examples of some of the positive feedback listed by the stakeholders during the meeting.

- Community minded, professional, highly responsive
- Excellent EMS response
- Great communication
- Quick response times to emergencies
- Top notch and professional at all levels
- Well trained
- History of providing excellent fire prevention

Finally, concerns by the citizens of the community were expressed. Each participant was asked to list the concerns that they have for the City of Lenexa and the surrounding communities. Below are examples of concerns listed by the stakeholders during the meeting.

- Appropriate distribution across the community
- Coverage and response time for northeast Lenexa
- Keeping response times up as population grows
- Using current response data, anticipated growth, and areas of program weakness develop and implement a plan for improvement
- Budget cuts and the ability to find and keep recruits
- Keeping emergency fire and medical services on pace with rapid growth of the community

At the conclusion of the "outside stakeholders," meeting, the department membership met regarding "internal stakeholders" needs, expectations, and concerns. The goal was to develop a five year strategic plan that will guide the department from community and membership input. During this process, a list of goals and objectives were created to provide direction over the next five year period. Listed below are the goals and objectives that were identified.

- **Goal 1**: **Evaluate existing facilities and identify needs for new or improved facilities.**
  - Development of a plan for the replacement of Fire Station #6.
  - Construct a fire department training facility to allow for more versatile and realistic hands-on training, as well as creating opportunities for cooperative training.
  - Develop a plan for the replacement of Fire Station 2.
  - Foster a greater sense of pride and ownership among membership in station appearance.
- **Goal 2**: **Evaluate factors that affect apparatus and equipment readiness.**
  - Identify solutions to improve apparatus repair accuracy.
  - Establish systems that allow for rapid transition between front line and reserve apparatus.
- **Goal 3**: **Enhance an organizational culture that recognizes achievement.**
  - Identify achievements of personnel and how they will be recognized.
  - Develop a process that recognizes exceptional service resulting in positive customer outcomes.
- **Goal 4**: **Evaluate potential challenges the fire service may encounter resulting from current political/cultural climate.**
  - Identify educational opportunities to expose LFD personnel to differing cultural perspectives.
  - Highlight situations in the fire service that are creating job loss and/or lawsuits.
- **Goal 5**: **Evaluate if current recruitment practices are sufficient to ensure adequate firefighter applicants.**
  - Generate a larger group of qualified and diverse applicants through various means of recruitment and marketing of the department
- **Goal 6**: **Ensure training programs, facilities, and practices adequately meet the evolving needs of the organization.**
  - Evaluate current training outlets to ensure adequate opportunities for practical scenarios.
  - Formalize a development process for each level of fire officer advancement.
- **Goal 7**: **Evaluate professional appearance standard to ensure LFD is displaying the desired image.**
  - Generate a uniform policy aimed at ensuring every member understands organizational expectations.
- **Goal 8**: **Enhance organizational communication systems and practices.**
  - Evaluate current internal communication systems.
  - Educate membership on efficiencies of current communication systems.
- **Goal 9**: **Reduce overextension in both day-to-day operation and career development opportunities.**
  - Evaluate the level of involvement of new firefighters.
  - Evaluate day-today obligations of operations personnel.
  - Assess day-to-day involvement of administrative personnel.

VII. All- Hazards Risk Assessment and Response Strategies

Risk Assessment Methodology

For a fire department to properly determine the programs, services, force strength, and station locations necessary for its community's protection, it is necessary to complete an in-depth community risk assessment. The Lenexa Fire Department (LFD) has chosen to utilize the community risk assessment model recommended by the Commission on Fire Accreditation International (CFAI). Specifically, a tri-axial approach was utilized by assessing the probability for certain risks to occur, the consequence that these risks will have on the community, and the impact that these events will have on department resources.

The tri-axial measurement approach uses a modified Heron's Formula to insert numerical values based on the three measurements listed above to produce a qualitative mathematical representation in the form of a tetrahedron triangle. This new approach allows the department to assess the impact these risks have on available resources.

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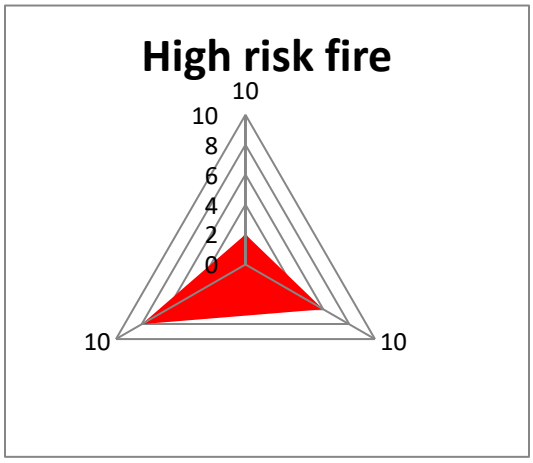


Figure 7

Below are the definitions for the three areas of evaluation for risk assessment as provided by CFAI.

Probability: Measuring the likelihood that an emergency will occur.

Consequence: An effect, result, impact, or outcome of some significance.

Impact: A forceful consequence; in this context it is the drain effect on the community's standard of deployment and coverage capacity when an emergency event occurs.

To determine the values needed for calculating the risk using Heron's Formula, members of the department's executive staff along with members of the accreditation task force met to discuss and document the various numerical values associated with probability, consequence, and impact for all incident types listed in the Lenexa Fire Department Incident Response Matrix. Members represented in this group consisted of one deputy chief, two division chiefs, three battalion chiefs, the accreditation manager, and the assistant accreditation manager. Table 15 represents the scoring definitions determined by the executive staff and the accreditation task force. Each area of risk was assessed on a numerical scale of 2 thru 8 with 2 representing minimal risk and 8 representing maximum risk.

Probability
2 = Quarterly/Yearly
4 = Monthly
6 = Weekly
8 = Daily
Consequence
2 = Individual/Business
4 = Multiple People/Businesses
6 = Multiple People/Businesses/Financial Impact to City
8 = City/Community/Region
Impact
2 = Four or Less
4 = Five to Eight
6 = Nine to Fourteen
8 = Fifteen Plus
Probability, Consequence, and Impact Scale
Low = 0.0000000 to 8.48529999
Moderate = 8.48530000 to 19.79890000
High = 19.79890001 to 33.94110000
Maximum = 33.94110001 and Above

Table 15

Class: Fire Suppression	
Incident Types:	Building Fire
	House Fire
	High Rise Fire
	Appliance Fire
	Vehicle Fire
	Dumpster Fire

Figure 8

To assist with the risk identification process, incident types were grouped into five main classifications: emergency medical services (EMS), fire suppression (non-structural and structural), hazardous materials, technical rescue, and other. These classifications were then reduced to specific incident types within the class represented by the example in Figure 8. Each incident type was analyzed further by creating four risk levels: low, moderate, high, and maximum. As numerical values increased for each area of evaluation, so did the total score for each risk level (Table 16 thru 20).

Fire	Probability	Consequence	Impact	Risk Score	Risk Assessment
Appliance Fire	4	2	4	13.8564	Moderate
Building Fire	4	4	8	33.9411	High
Flue Fire	2	2	4	8.4852	Low
Grass Fire	4	2	2	8.4852	Low
High Rise Fire	2	4	8	25.9229	High
House Fire	4	2	8	25.9229	High
House Fire with Patient	2	2	8	19.5959	High
Investigation Smoke Odor Inside	4	2	2	8.4852	Low
Investigation Smoke Odor Outside	4	2	2	8.4852	Low
Modified Response - Building	4	4	4	19.5959	High
Modified Response - House	4	2	4	13.8564	Moderate
Outside Fire Large	2	2	6	12.3288	Moderate
Outside Fire Small	4	2	2	8.4852	Low
Tank Fire Small	2	2	2	4.8989	Low
Tank Fire Large	2	2	6	12.3288	Moderate
Transport Vehicle Fire	4	2	2	8.4852	Low
Vehicle Fire	4	2	2	8.4852	Low
Wildland	2	4	4	13.8564	Moderate
Wildland Structure	2	2	8	16.248	Moderate

Table 16

EMS	Probability	Consequence	Impact	Risk Score	Risk Assessment
ALS Transfer	8	2	2	16.248	Moderate
CO Medical C1, C2, C3	4	2	4	13.8564	Moderate
CO Medical C1C	4	2	4	13.8564	Moderate
Injury Accident C1, C2, C3	8	2	2	16.248	Moderate
Injury Accident C1C	6	2	4	19.7989	High
Injury Accident Rollover	4	2	6	19.7989	High
MCI Level 1, 2, 3	2	4	8	25.9229	High
Medical - Trauma C1, C2, C3	8	2	2	16.248	Moderate
Medical - Trauma C1C	8	2	2	16.248	Moderate
Medical Assist	6	2	2	12.3288	Moderate
Non - Breather C2	6	2	2	12.3288	Moderate
Non - Breather C1C	6	2	6	28.1424	High
Overdose - Poisoning NonBreath	6	2	6	28.1424	High
Seizure Agonal C1C	6	2	6	28.1424	High
Stabbing-GSW-Pen Trauma C1C	4	2	6	19.7989	High
Stabbing-GSW-Pen Trauma C1, C2	4	2	4	16.248	Moderate
Standby EMS	4	2	2	8.4852	Low
Trauma Plan	6	2	2	12.3288	Moderate
Unconscious Agonal C1C	6	2	6	28.1424	High

Table 17

Tech Rescue	Probability	Consequence	Impact	Risk Score	Risk Assessment
Collapse	2	2	6	12.3288	Moderate
Collapse Modified	2	4	4	13.8564	Moderate
Confined Space	2	2	6	12.3288	Moderate
Entrapment C1, C2, C3	2	2	2	4.8989	Low
Entrapment C1C	2	2	6	12.3288	Moderate
High Angle Rescue	2	2	6	12.3288	Moderate
Ice Rescue	2	2	6	12.3288	Moderate
Injury Accident - Collapse	2	4	6	19.7989	High
Injury Accident W Extric C1C	6	2	6	28.1424	High
Injury Accident Structure	2	4	6	19.7989	High
Trench Rescue	2	2	6	12.3288	Moderate
Water Rescue	2	2	6	12.3288	Moderate

Table 18

Hazardous Materials	Probability	Consequence	Impact	Risk Score	Risk Assessment
Carbon Monoxide Investigation	6	2	2	12.3288	Moderate
EOD Activation	2	2	2	4.8989	Low
EOD Investigation	2	2	2	4.8989	Low
EOD Recovery	2	2	2	4.8989	Low
EOD Standby	2	2	2	4.8989	Low
EOD Tactical	2	2	2	4.8989	Low
Explosion	2	4	2	8.4852	Low
Explosion Modified	2	4	4	13.8564	Moderate
Haz - Mat	2	4	6	19.7989	High
Haz - Mat Investigation	2	2	4	8.4852	Low
Haz - Mat Modified	2	4	6	12.3288	Moderate
Haz - Mat Taskforce	2	4	6	19.7989	High
Investigate Gas Odor Inside	4	2	4	13.8564	Moderate
Investigate Gas Odor Outside	4	2	4	13.8564	Moderate
Oil Tank Battery	2	2	2	4.8989	Low
Spill	4	2	2	8.4852	Low
Standby - Gas Leak	2	2	2	4.8989	Low
Train Derailment	2	6	8	36.7695	Maximum

Table 19

Other	Probability	Consequence	Impact	Risk Score	Risk Assessment
Aircraft Emergency	2	4	8	25.9229	High
Aircraft Standby	2	2	2	4.8989	Low
Assist	8	2	2	16.248	Moderate
Auto Alarm - Building	8	2	2	16.248	Moderate
Auto Alarm - Residence	8	2	2	16.248	Moderate
Auto Alarm - Water Flow	6	2	2	12.3288	Moderate
Critical Infrastructure	2	6	8	36.7695	Maximum
Elevator Assist	4	2	2	8.4852	Low
Hostile Event Level 1, 2, 3	2	4	8	25.9229	High
Investigate	6	2	2	12.3288	Moderate
Lift Assist	6	2	2	12.3288	Moderate
Lightning Strike Investigation	2	2	2	4.8989	Low
Mayday	2	4	8	25.9229	High
Mutual Aid Agency	2	2	2	4.8989	Low
Mutual Aid Response	2	2	2	4.8989	Low
Standby	2	2	2	4.8989	Low
Stanby - Police	2	2	2	4.8989	Low
Standby - Fill In	4	2	2	8.4852	Low
Tornado Strike	2	8	8	48	Maximum
Water Assist	2	2	2	4.8989	Low

Table 20

Probability was assessed by analyzing the last five years (2017-2021) of response data to determine the frequency of each kind of incident type. These values represent the y-axis of the Heron's Formula graph. As magnitude of the risk visually grows, the greater the risk score assigned. The probability of an event occurring was scored based on a comparison of the five-year data set to the occurrence of the incident type related to frequency that was defined as daily, weekly, monthly, or quarterly/yearly.

Consequence was evaluated by comparing its effect on loss of life, critical infrastructure, and financial impact. These values represent the x-axis of the Heron's Formula graph. Each of the five main classifications revealed a direct correlation to consequence with various degrees of magnitude. Although EMS incident responses occur frequently, their consequence to the community was relatively low and normally only affect individuals or families. Fire suppression, hazardous materials, and technical rescue incidents occur less frequently, but had the potential to inflict greater consequence to the community. Numerical values for this assessment were discussed and determined based on the Commission of Fire Accreditation International (CFAI) definition provided, with group discussion that was further supported by experience, and with a process comparison to a similar accredited agency.

Agency impact was determined from the Lenexa Fire Department Incident Response Matrix resourcing criteria for each incident type. These values represent the z-axis of the Heron's Formula graph. The number of personnel needed for each incident type was validated through critical task analysis and local, state, or federal response standards. Ultimately, each of the four levels of risk were assigned a range that depicts the level of resources committed for each incident type to mitigate the risk safely and successfully. Refer to the appendix of this document for a breakdown of these risk levels as they relate to impact.

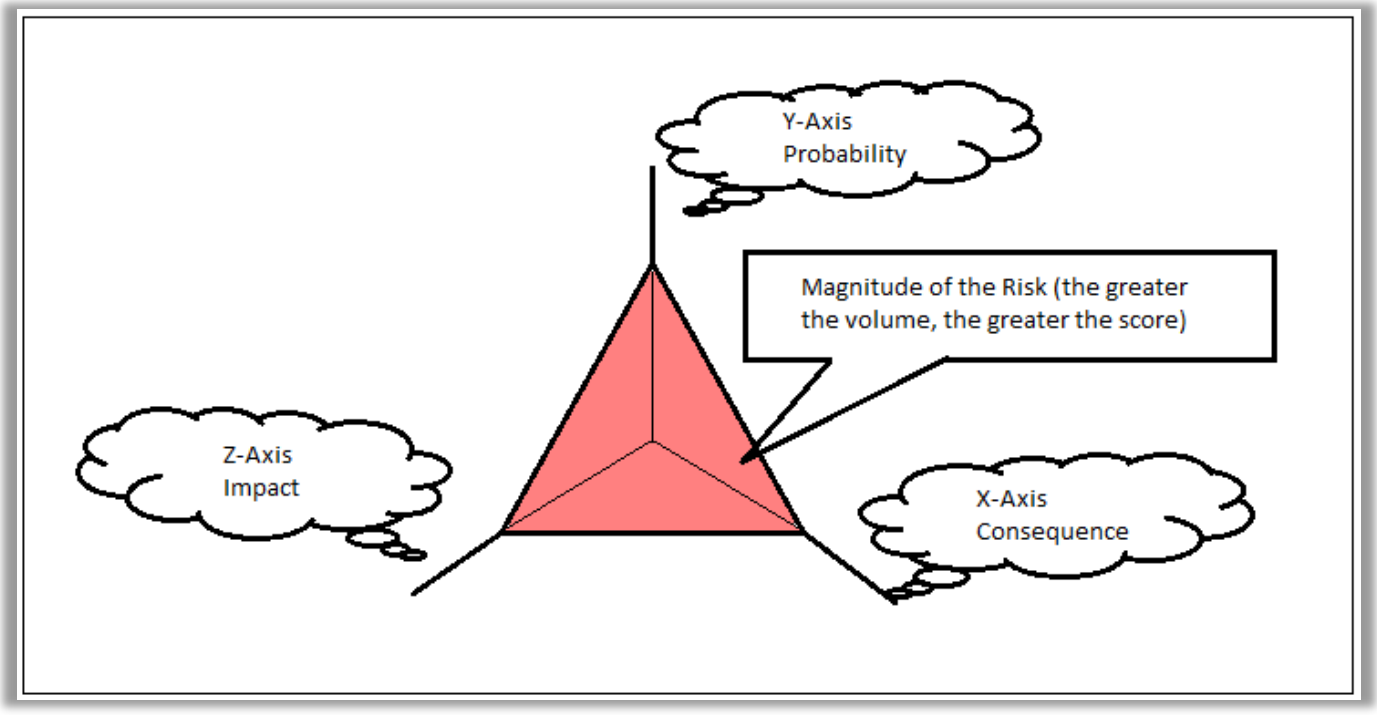


Figure 9

In addition to the tri-axial methodology approach, code-enforced occupancies were also assessed. In Lenexa, the fire department first completed an assessment of the community's risk from fires in 1999. For fire risk, a system utilizing needed fire flows with building type and size was used from the National Fire Academy's *Fire Risk Analysis: A Systems Approach*. Then as an addendum, in 2001, a Risk, Hazard and Value Evaluation (RHAVE) instrument was applied as an evaluation tool from the Commission on Fire Accreditation International (CFAI). In 2006, the LFD began using the VISION® fire risk assessment model to determine the Occupancy Vulnerability Assessment Profile (OVAP) score. Currently, all code-enforced occupancies have been assessed using this model with a summary of risk levels identified in Table 21. As the table illustrates, no maximum risk occupancies have been identified in the city, less than 6 percent of the occupancies are of significant risk, and over 94 percent of all code-enforced occupancies are of a moderate risk level. Figure 10 is an example of the occupancy hazard report created using the VISION® software which depicts all code-enforced occupancies alphabetically listed with the corresponding OVAP score.

LENEXA FIRE DEPARTMENT

Occupancy Hazard Report

Occupancy Name	Address	NFF GPM	Flow Available	OVAP Score
109 Business park	15333 W 109TH ST Building #25978 Lenexa, KS 66215	837	Sufficient	26.16
2C-West Engineering Plastics	10902 Strangeline RD Lenexa, KS 66215	1135	Sufficient	25.30
3 & 2 Ball Fields	18300 W 87th ST Lenexa, KS 66220	945	Sufficient	22.37
4T Total Lawn Care	10960 Eicher Lenexa, KS 66219	966	Sufficient	27.38
84 Lumber	8940 Marshall DR Lenexa, KS 66215	1146	Sufficient	30.80
9350-60 Renner Blvd (Shell)	9350-60 Renner BLVD Building #25860 Lenexa, KS 66215	1034	Sufficient	34.10
A Z Automotive	16945 W 116th ST Lenexa, KS 66219	1708	Sufficient	28.13
A-One Enterprises	13500 Santa Fe Trail Lenexa, KS 66215	455	Sufficient	24.20
A.T. Laboratories, Inc.	7917 Bond Lenexa, KS 66214	178	Sufficient	24.20
AAA of Missouri	9820 Alden Lenexa, KS 66215	503	Sufficient	24.00
Aaron Rents	8035 Lenexa DR Lenexa, KS 66214	1080	Sufficient	25.30
Aarons	8035 Lenexa DR Lenexa, KS 66214	1038	Sufficient	24.20
ABC Adoption	9230 Pflumm Lenexa, KS 66215	1257	Sufficient	30.80
Accessible Technologies	14801 W 114th TER Lenexa, KS 66210	1440	Sufficient	26.15
ACCP	13000 W 87th ST #100 Lenexa, KS 66215	2645	Insufficient	36.30
Ace Caster	8931 Rosehill RD Lenexa, KS 66215	1708	Sufficient	31.41
Acme Floor Company	10100 Marshall DR Lenexa, KS 66215	1577	Sufficient	29.70

Figure 10

Lenexa VISION® Fire Hazard OVAP Statistics

Risk Level	OVAP Score	# of Occupancies	%
Maximum	60+	0	0.00%
Significant	40-59	192	4.92%
Moderate	15-39	3708	95.08%
Low	0-14	0	0.00%
Total		**3900**	

Table 21

The VISION® fire risk assessment model analyzes and categorizes the risk levels present for each code-enforced occupancy using the 19 criteria listed below. This list is from the hazards tab overview section of the VISION® software.

General

- **Number of Employees**: Total number of people employed by the business.
- **Avg. Exposure Separation** (ft): The distance, in feet, to the nearest building.
- **Number of Floors**: Number of stories present in occupancy.
- **Square Footage**: Number of total square feet (ft2) for occupancy.
- **Property Value**: Indicate that which best represents the value of this property to the community. The number of employees and sales revenue should be considered when trying to differentiate between a business loss, moderate economic or severe economic impact. Also consider those businesses with few employees and small storefronts that generate a large amount of sales tax revenue. Information can be obtained from Community Development and Economic Development representatives for your jurisdiction.

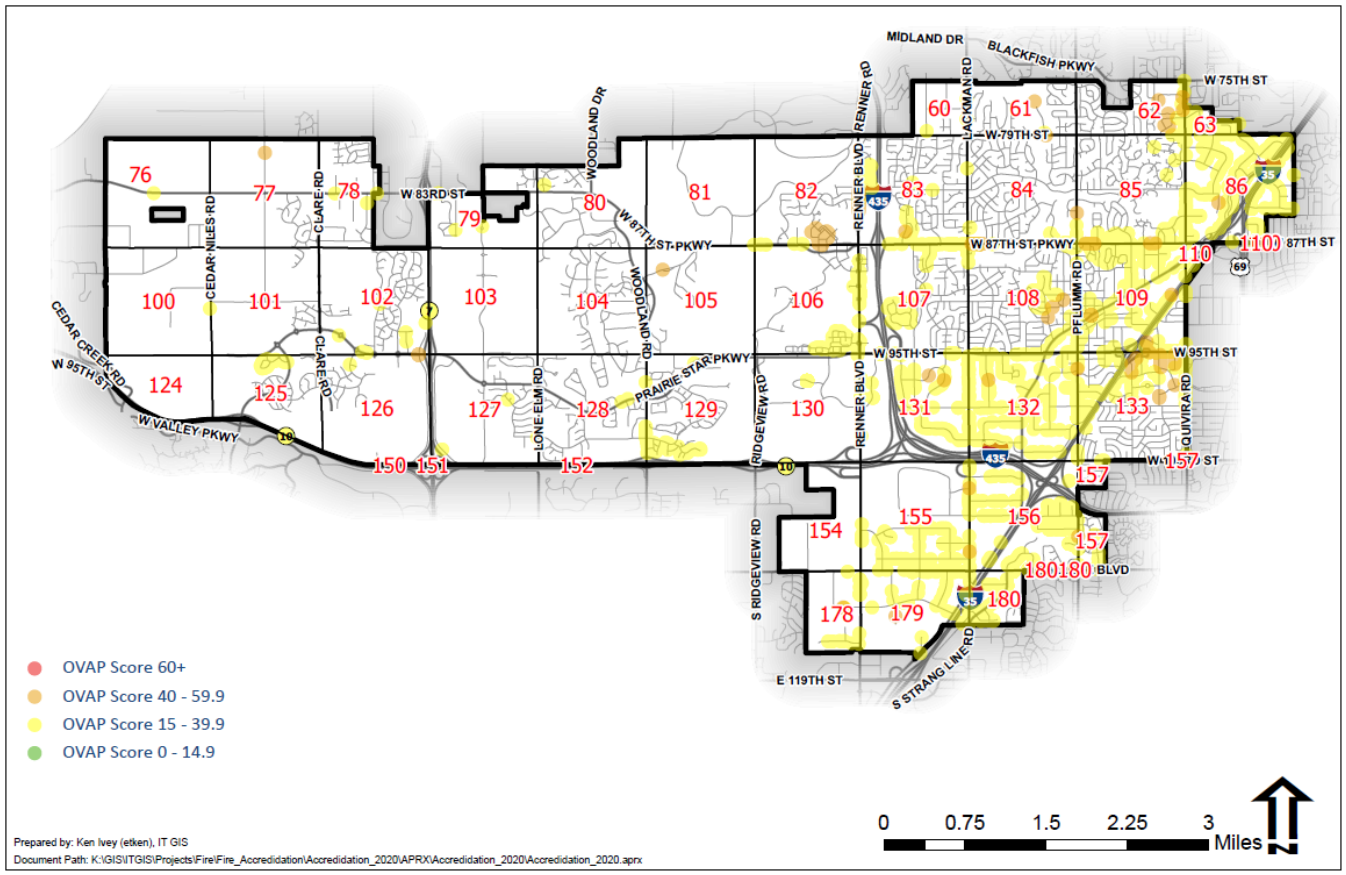
Life Safety

- **Occupancy Load**: Indicate the occupant load of the building. For buildings with more than one occupancy, indicate the occupant load of the occupancy that has the highest occupant load.
- **Occupancy Access**: Indicate the appropriate number of sides that there is fire department access. This is relative to the ability to advance interior attack lines, and not the placement of apparatus. However, the ability to place an apparatus close enough to support the attack line must be considered. Most fire codes reference the ability to place fire apparatus within a certain distance of exterior walls.
- **Occupant Mobility**: Indicate the mobility characteristics of the occupants relative to building height or relative to the freedom to exit the building. For buildings not normally occupied, indicate that occupant mobility is not a factor. Buildings primarily used for the storage of equipment and only occupied at times when the equipment needs servicing would be rated as Not a Factor.
- **Warning Alarm System**: Indicate the appropriate installed warning alarm. For buildings with more than one occupancy, indicate no alarm system unless all occupancies are protected by a warning alarm.
- **Exits**: Indicate if the existing system is conforming or non-conforming to applicable exit requirements.
- **Construction Type**: Identify the type of construction. Reference the applicable building code for a description on the different types of construction.
- **Available Water Flow**: Indicate the available fire flow for 100 percent fire involvement for the first floor only, in gallons per minute (GPM). The end calculation is the total amount of water that can be delivered to the building. Take into account various factors, such as multiple available hydrants and/or the water delivery method, such as tanker shuttle versus tender shuttle.
- **Fire Load Sprinklers**: Indicate whether the sprinklers present meet NFPA requirements for design and maintenance.

Risks

- **Regulatory Oversight**: Degree of enforcement activity upon the premise.
- **Human Activity**: Human activity relative to the ability to access the premise.
- **Experience**: Experience refers to the frequency of incidents at this occupancy. More frequent incidents equate to more familiarity with the Occupancy and slightly less risk, while less frequent incidents equate to less familiarity with the Occupancy and slightly increase risk. Reference local/regional fire statistics on an annual basis to determine shifts in frequencies for the type of occupancy.
- **Capacity to Control**: The degree of difficulty that can be expected during a firefighting activity in this building.
- **Hazard Index**: The appropriate type of hazards present.
- **Fire Load**: The appropriate fire load characteristics of the Occupancy.

The map below depicts the location and OVAP score for the occupancies located within the response area. Note that most assessed occupancies reside in the East Planning Area. The city does not have any identified maximum risk buildings.



OVAP Hotspot Map with Legend

Target Hazards

The combination of the risk assessment methodology described above and the use of VISION® software to obtain OVAP scores for code-enforced occupancies has allowed the department to further identify specific target hazards and rank them in each planning zone (Grid). Special target hazards include such occupancies as apartments, nursing homes, hotels, schools, large commercial structures, critical infrastructure, special occupancies, and the Meritex Subsurface Underground Business Complex. A list of these special target hazard locations are listed on pages 82 thru 85 with the corresponding OVAP score. These target hazards were selected based on size, life safety concerns, financial impact, special needs occupants, and the effect on critical infrastructure. All the target hazards that are listed meet an OVAP category of “moderate” or “significant” and are represented by the color chart provided. Moderate risks are listed in yellow while the significant risks are listed in orange.

Significant Risk
Moderate Risk

Commercial Construction

Apartments

APARTMENT NAME	ADDRESS	Planning Area	District	Grid	OVAP
Barrington Park	13208 W. 107th Ter	EAST	1	157	30.80
Birchwood Villas	9780 Montclaire Dr	CENTRAL	5	127	33.67
Chelsea Court Apartments	9240 Rosehill Rd	EAST	1	109	40.80
Crescent Apartments	8532 Maurer Rd	EAST	2	83	39.60
District Flats	8757 Penrose Ln	CENTRAL	2	107	41.07
Dunes at Falcon Valley	10221 Millstone Dr	CENTRAL	5	129	36.80
Edgewater at City Center	8395 Renner Blvd	EAST	2	83	45.60
Estancia at City Center	8901 Renner Blvd	EAST	2	107	31.87
Lakeview Village 4 Plex	8911 Cottonwood St	EAST	1	108	32.63
Lenexa Crossing	12445 W. 97th Ter	EAST	1	133	36.67
London House	9800 Rosehill Rd	EAST	1	133	31.17
Mansion at Canyon Creek	9550 Zarda Dr	WEST	3	125	32.55
Meadows Apartments	7620 Halsey St	EAST	1	62	49.60
Park Edge Apartments	8141 Renner Blvd	EAST	2	83	30.40
Penny Green Apartments	9521 Noland Rd	EAST	1	133	35.47
Pinnacle Pointe	10486 Pflumm Rd	EAST	1	156	31.87
Prairie Creek Apartments	17371 W. 94th Ter	CENTRAL	5	106	34.55
Quail Valley Cooperative	8700 Noland Rd	EAST	2	109	33.85
Rosehill Pointe Apartments	12701 W 88th Cir	EAST	2	109	36.40
Rosewood Place	8500 Pflumm Rd	EAST	2	84	33.87
The Crossings	8510 Monrovia St	EAST	2	85	36.67
The Domain at City Center	8800 Penrose	CENTRAL	2	106	45.60
The LoFTS at City Center	8787 renner Blvd	CENTRAL	2	107	37.73
The Peak at Sonoma	8875 Maurer Ct	EAST	2	107	41.73
The Pointe at City Center	8655 Schweiger Ct	EAST	2	83	37.87
The Reserve at 77	11904 W. 77th Ter	EAST	1	62	40
The Reserves	9101 Renner Blvd	EAST	5	107	36.67
The Reserves Townhomes	8888 Findley St	WEST	3	102	33.61
The Retreat at Mill Creek	8714 Pflumm Rd	EAST	2	108	32.78
The Retreat at Woodridge	13245 W. 87th Ter	EAST	2	109	36.40
Village Cooperative	14000 W. 87th St Pkwy	EAST	6	84	36.00
The Wilder	9515 Monrovia St	EAST	1	133	43.87
Wadman Apartments	9523 Noland Rd	EAST	1	133	35.47
WaterCrest	8411 Renner Blvd	EAST	2	83	48.00
Waterside	8201 Quivira Rd	EAST	1	86	36.89
West End at City Center	8650 Winchester St	CENTRAL	2	82	42.93
Westchester	8719 Haskins Pl	EAST	2	109	34.47
Wind River Lodge	9250 Lichtenauer Dr	EAST	2	83	37.87

Table 22

Nursing Homes

NURSING HOME NAME	ADDRESS	Planning Area	District	Grid	OVAP
Benton House of Lenexa	22000 Prairie Star Pkwy	CENTRAL	5	127	34.95
Delmar Gardens of Lenexa	9701 Monrovia St	EAST	1	133	43.20
Garden Villas of Lenexa	9705 Monrovia	EAST	1	133	41.73
Homestead of Lenexa	8740 Caenan Lake Rd	EAST	2	109	24.69
Lakeview Village	9100 Park St	EAST	1	108	44.67
Lakeview Village Eastside Ter	9000 Park St	EAST	1	108	44.67
Lakeview Village Med Center	13840 W. 91st Ter	EAST	1	108	44.67
Lakeview Village Southridge	14001 W. 92nd St	EAST	1	108	45.07
Silvercrest at College View	13600 W. 110th Ter	EAST	1	156	43.30
Sunrise Assisted Living	15055 W. 87th St Pkwy	EAST	2	108	34.00
Vintage Park	8710 Caenen Lake Rd	EAST	2	109	29.33
Westchester Village	8505 Pflumm Rd	EAST	2	85	42

Table 23

Schools

SCHOOL NAME	ADDRESS	Planning Area	District	Grid	OVAP
Canyon Creek Elementary	24001 W. 97th Ter	WEST	3	126	37.8
Christa McAuliffe Elementary	15600 W. 83rd St	EAST	2	83	36.4
Holy Trinity	13600 W. 92nd St	EAST	1	108	35.33
Lenexa Hills Elementary	8650 Haven St	CENTRAL	2	82	37.33
Manchester Park Elementary	9810 Prairie Creek Rd	CENTRAL	5	127	34.07
Mill Creek Elementary	13951 W. 79th St	EAST	6	84	43.6
Mill Creek Middle School	8001 Mize Blvd	WEST	3	77	41.45
Rising Star Elementary	8600 Candlelight Rd	EAST	2	84	37.02
Rosehill Elementary	9801 Rosehill Rd	EAST	1	133	37.8
St. James Academy	24505 Prairie Star Pkwy	WEST	3	102	29.33
Sunflower Elementary	8955 Loiret Blvd	EAST	2	107	38.42
Trailridge Middle School	7500 Quivira Rd	EAST	1	62	37.8

Table 24

Hotels

HOTEL NAME	ADDRESS	Planning Area	District	Grid	OVAP
Candlewood Suites	9630 Rosehill Rd	EAST	1	133	44.27
Extended Stay Studios	9775 Lenexa Dr	EAST	1	133	30.93
Extended Stay America	8015 Lenexa Dr	EAST	1	86	29.94
Holiday Inn Express	9620 Rosehill Rd	EAST	1	133	43.33
Hyatt Place	8741 Ryckert St	EAST	2	107	41.73
La Quinta Inn	9461 Lenexa Dr	EAST	1	109	40.80
Motel 6	9725 Lenexa Dr	EAST	1	133	36.00
Quality Inn & Suites	12601 W. 96th Ter	EAST	1	133	37.60
Radisson Hotel	12601 W. 95th St	EAST	1	133	47.60
Springhill Suites	17190 W. 87th St	EAST	2	82	44.13
Studio 6 Extended Stay	15151 W. 101st Ter	EAST	6	131	35.47
Super 8 Motel	9601 Westgate	EAST	1	133	30.67
Woodspring Suites	14700 W. 112th St	EAST	4	180	32.67

Table 25

Commercial Buildings

COMMERCIAL NAME	ADDRESS	Planning Area	District	Grid	OVAP
Amazon.con Services	11011 Lackman Rd	EAST	4	156	40.73
Amazon.com Services	16851 W. 113th St	CENTRAL	4	178	31.78
Amazon Warehouse	10800 Mill Creek Rd	CENTRAL	4	154	33.08
Coca-Cola Bottling	9000 Marshall	EAST	1	109	42.03
Costco	9350 Marshall Dr	EAST	1	109	37.70
JC Penny Company, Inc	10500 Lackman	EAST	4	155	47.52
Kiewit Power Engineers	9801 Renner Blvd	CENTRAL	2	107	33.00
Kiewit Power Engineers	9401 Renner Blvd	EAST	5	107	39.60
Sam's Club	12200 W. 95th St	EAST	1	109	34.09
Turn 5	17000 College Blvd	CENTRAL	4	154	36.4
United Parcel Service	14650 Santa Fe Trail	EAST	4	156	36.98

Table 26

Critical Infrastructure

CRITICAL INFRASTRUCTURE	ADDRESS	Planning Area	District	Grid	OVAP
AT&T	9532 Pflumm Rd	EAST	1	132	22.49
Evergy	16215 W. 108th	EAST	4	155	39.2
Shawnee Mission Medical	23401 Prairie Star Pkwy	WEST	3	126	49.47
Southern Star Central Gas	19600 W. 87th St Pkwy	CENTRAL	5	105	45.58
Sprint	15500 W. 113th	EAST	4	179	36.27
Verizon	9725 Pflumm Rd	EAST	1	132	25.79
Waterone	10747 Renner Blvd	EAST	4	155	32.82

Table 27

Special

SPECIAL NAME	ADDRESS	Planning Area	District	Grid	OVAP
City of Lenexa Service Center	7700 Cottonwood	EAST	2	61	53.2
Environmental Protection Agency	11201 Renner Blvd	EAST	4	179	36.27
Johnson County Developmental	10501 Lackman	EAST	4	156	29.2
Lenexa City Hall	17101 W. 87th St Pkwy	CENTRAL	2	107	36.87
Lenexa Fire Station #1	9620 Pflumm Rd	EAST	1	132	42.15
Lenexa Fire Station #2	8725 Lackman	EAST	2	108	30.92
Lenexa Fire Station #3	24000 Prairie Star Pkwy	WEST	3	102	27.87
Lenexa Fire Station #4	10855 Eicher	EAST	4	155	33.75
Lenexa Fire Station #5	19151 Prairie Star Pkwy	CENTRAL	5	129	27.07
Lenexa Fire Station #6	12350 W. 87th St Pkwy	EAST	6	85	39.20
Lifetime Fitness	16851 W. 90th	CENTRAL	2	106	37.87
Meritex Underground	17501 W. 98th	CENTRAL	5	130	28.84
National Guard Armory	18200 W. 87th St Pkwy	CENTRAL	2	82	37.02
Olathe Water Treatment Plant 2	27065 W. 83rd	WEST	3	76	35.62
Praxair	9725 Alden St	EAST	1	132	53.60

Table 28

Property, Life, Injury and Environmental Loss Assessment

The department's risk management philosophy is to protect life, property, and the environment. To verify the effectiveness of the services provided by the department, data was collected to illustrate the impact of these services to the community. An analysis was conducted on fire loss, property value saved, life loss and save data regarding cardiac arrest, casualty statistics, and environmental impact data. By tracking loss and save data, the department was able to include this information in developing a critical task analysis for each risk level identified in the risk assessment methodology. This helped determine the scores for each risk type regarding low, moderate, high, or maximum as it related to both impact and consequence.

Loss vs. Save Fire Analysis (2017-2021)

Fire loss to the community is tracked and analyzed on an annual basis relative to actual damage to the occupancy and any subsequent contents within the building. For tracking purposes, the department utilizes FIREHOUSE Software® to document fire loss within the National Fire Incident Reporting System (NFIRS) report. To ensure loss estimates are accurate, insurance companies are often contacted to obtain actual loss totals. Loss data is then compared to the actual value to the property. The difference between these two values reflects the actual value saved by fire suppression activities or the building fire suppression system. Given the relative low number of annual building and house fires in the community, it is difficult to predict future fire loss trends since any predictive outcomes would be altered by a single major fire within the five-year data set. Below is the fire loss chart for the department for years 2017-2021.

Fire loss is reported to the agency through auto-generated weekly reports generated from the NFIRS reports as documented in FIREHOUSE Software®. These reports are sent to the executive staff for review and discussed and analyzed on an annual basis to identify fire loss trends for cause, occupancy type, location, and any other trending characteristic.

Table 29 represents reported fire loss and property saved for the city for years 2017-2021. Dollar loss ranged from a low of $787,063 in 2019 to a high of $2,460,859 in 2017.

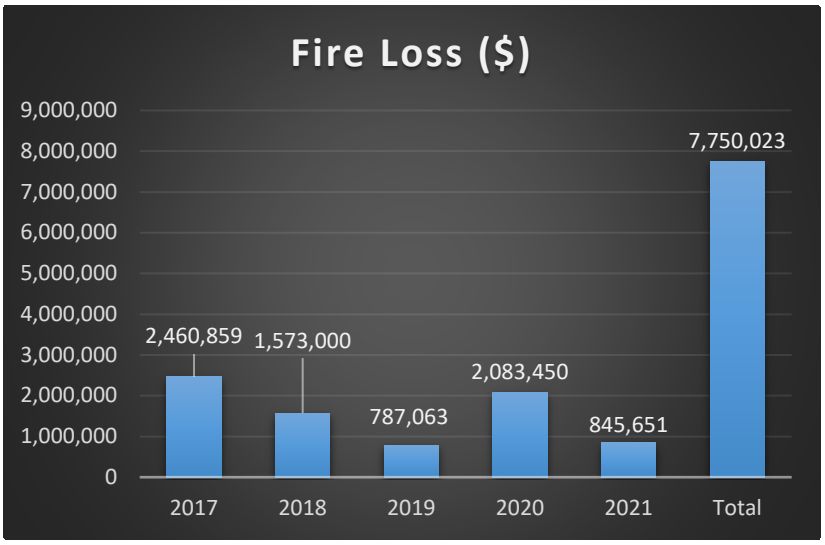
Year	$ Loss	$ Saved
2017	2,460,859	18,995,102
2018	1,573,000	81,044,779
2019	787,063	18,118,242
2020	2,083,450	45,887,068
2021	845,651	7,814,873
Total	**7,750,023**	**171,860,064**

Table 29

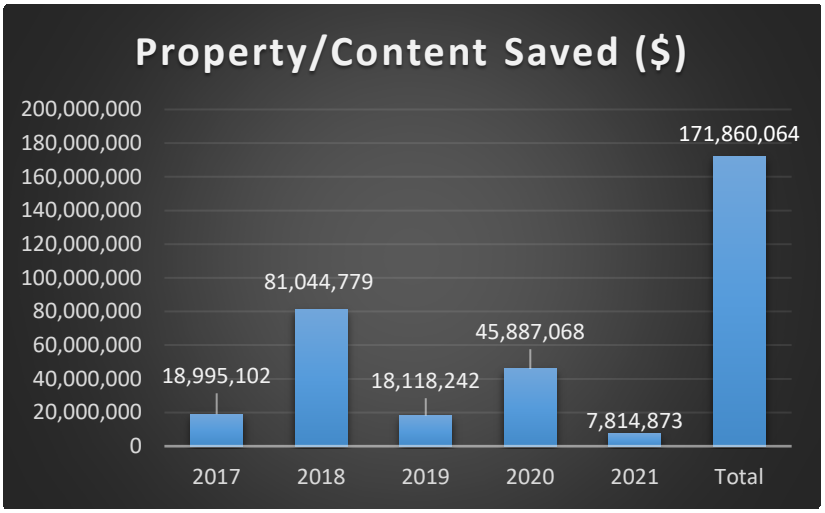
Millcreek Apartment Fire

Fire Loss (2017-2021)

To help reduce the chance of a fire occurring, or at least minimize its impact on the home or business, the department's prevention division inspects all city commercial occupancies. A walk-through of the building by a fire inspector is completed to identify the presence of a building or fire code violation including a test of the fire suppression system. New commercial construction must comply with the adopted fire code that includes sprinkler systems and automatic alarms requiring notification to a central monitoring station. The prevention division has also developed relationships and worked with local apartment complexes to help reduce fires from careless disposal of smoking materials. Please refer to Section VI (Programs, Services, and Community Expectations) of this document for more information on this program.

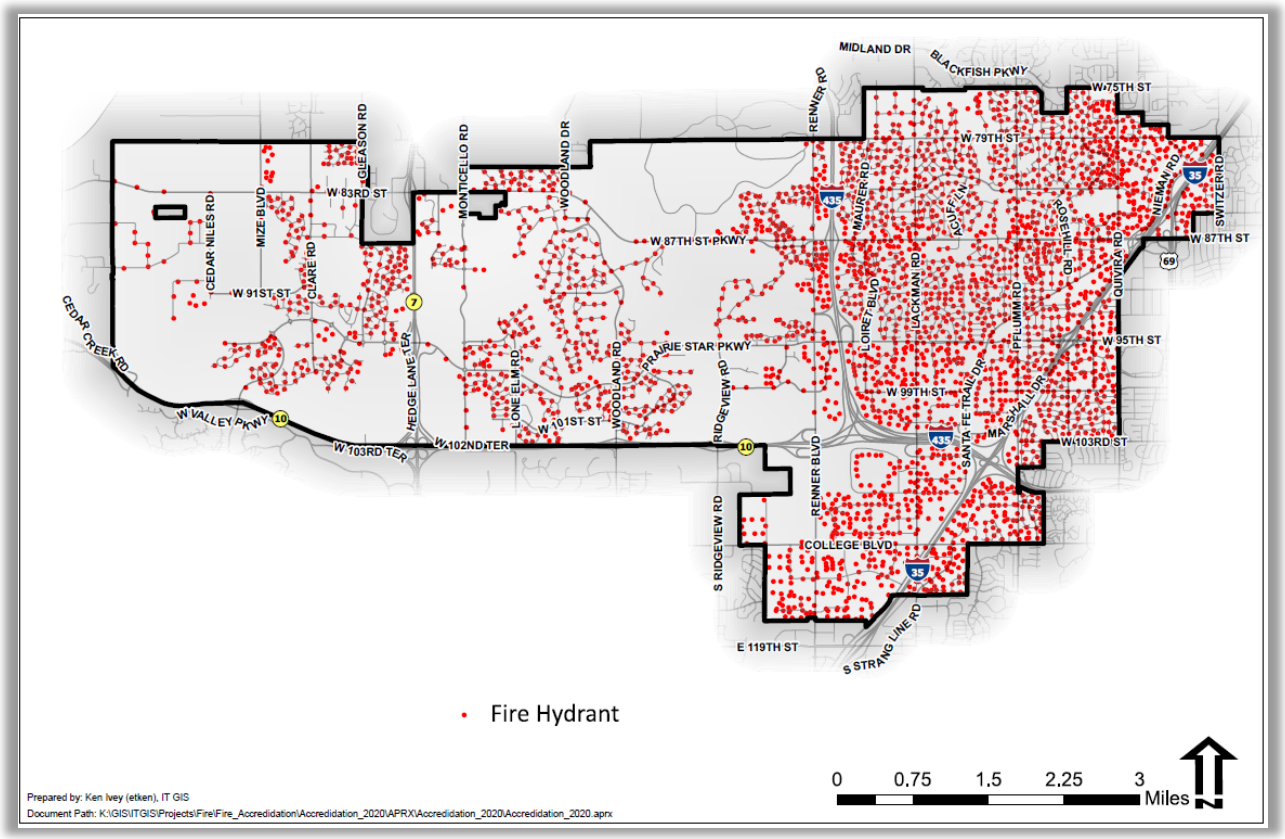


Graph 4

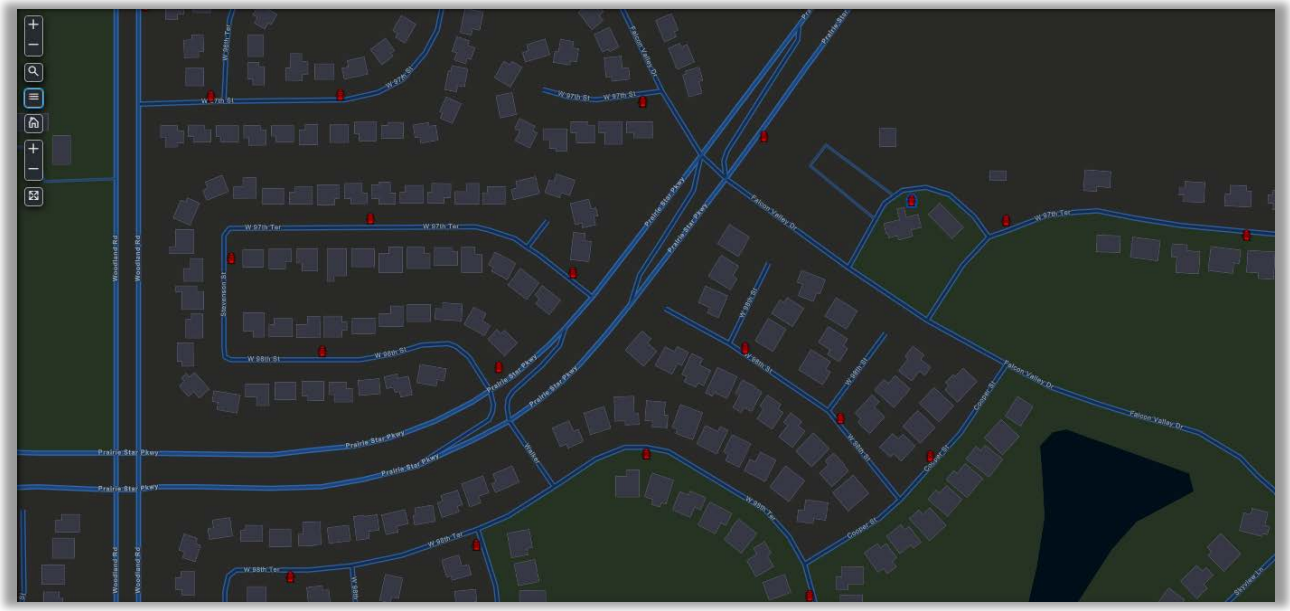


Graph 5

Water supply and hydrant locations are also considered for each type of occupancy in the city. For commercial buildings that meet higher fire flow requirements, fire pumps have been added to supplement fire suppression systems. In most cases, hydrants are spaced every 600 feet in the city. The (*Hydrant Locations)* map on page 88 of this document shows the location of all city fire hydrants. For structures that are more than 600 feet from a municipal hydrant, private hydrants are required. Apparatus mobile data terminals (MDTs) show all municipal hydrant locations. In addition to municipal hydrant locations, apparatus map books include private hydrant locations. All MDTs display each municipal hydrant by color that reflects gallons-per-minute (GPM) capabilities as stated in NFPA 291. Hydrants depicted in red will provide less than 500 GPM, hydrants in orange will provide 500 to 999 GPM, hydrants in green will provide 1000 to 1499 GPM, and blue hydrants will provide 1500+ GPM. Any hydrant shown in yellow could not be safely flow tested at the time and does not have any available information. Note that the (*Hydrant Locations*) map on page 86 depicts location only and does not list the hydrants by capacity. Refer to the (*MDT Map with Hydrants map*) on page 88 for an example of the hydrant coloring system available from an MDT map view.



Hydrant Locations



MDT Map with Hydrants

Life Loss/Save Analysis (2017-2021)

Life loss and casualty data are recorded on an annual basis and in collaboration with Johnson County Med-Act and Johnson County Medical Director. This county initiative tracks all response data for medical incidents involving resuscitation efforts for pulseless and apneic or "non-breathing" patients. In 2014, the Heart of America Metro Fire Chiefs in conjunction with surrounding metro emergency service providers, included the "Hard and Fast" Hands-Only Cardio-Pulmonary Resuscitation (CPR) as part of the out-of-hospital cardiac arrest chain-of-survival.

AHA Cardiac Arrest Chain of Survival

Recent data reported from the American Heart Association has shown that early and effective CPR creates the greatest chance of survival for individuals who experience cardiac arrest. Given the importance of this chain-of-survival step, it was determined that early hands-on compressions help support the necessary blood flow needed for more advanced medical interventions to be effective in returning cardiac function. The Lenexa Fire Department has determined the hands-only initiative is a vital step in providing the best chance of cardiac arrest patient survival. This program is delivered to the community formally and at various city events during the year.

Table 30 depicts the cardiac arrest data for Johnson County, Kansas for the years 2017-2021. The table illustrates the yearly total of cardiac arrests, percentage of those patients who had a pulse as they arrived at the emergency department, when bystander CPR was initiated, and if a public access defibrillator was used prior to EMS arrival.

Utstein: Witnessed by bystander and found in a shockable rhythm.

Utstein Bystander: Witnessed by bystander, found in shockable rhythm, and received some bystander intervention (CPR and/or AED application).

Bystander CPR rate excludes 911 Responder Witnessed, Nursing Home, and Healthcare Facility arrests.

Year	Bystander CPR Rate	Public Access Defibrillation	Overall Non-Traumatic Survival Rate	Utstein	Utstein Bystander	Number of Patients
2017	66.20%	13.20%	17.00%	48.50%	52.10%	380
2018	60.40%	18.80%	17.60%	50.80%	21.00%	367
2019	63.20%	15.40%	13.10%	46.60%	52.40%	389
2020	58.60%	10.50%	14.30%	32.80%	34.80%	447
2021	69.90%	10.60%	15.20%	46.20%	45.90%	457

Table 30

Environmental Impact Analysis (2017-2021)

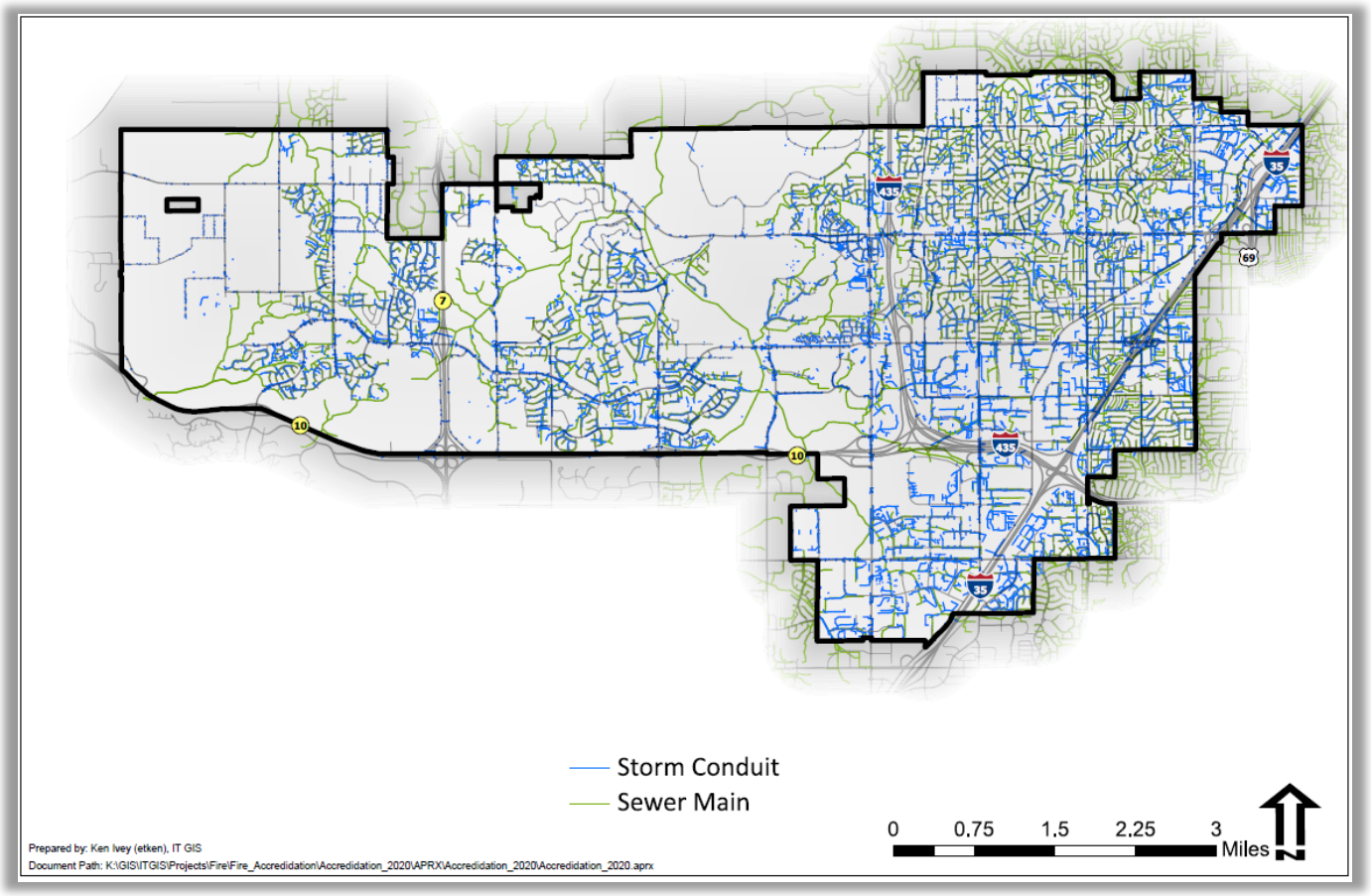
The department's hazardous materials response program is tasked with the responsibility to respond to any hazardous materials incident with the objective to preserve life, property, and the environment. Although rare, specific hazardous materials release into the environment are reported to and recorded by the Kansas Department of Health and Environment (KDHE) in conjunction with the Kansas Environmental Protection Agency Region 7. There were 25 incidents that met the reporting thresholds 2017-2021 (Table 31). Reportable incidents are determined using "Form A" that is available for download from the KDHE website. This form lists the criteria that must be met for a release to be reported to the state. These incidents are tracked by location (address), release type, and responsible party for clean-up and impact mitigation.

Year	Reported Release
2017	Gasoline Spill Ferric Sulfate Spill Sodium Hydroxide Spill Insulating Oil Spill (3)
2018	Motor Oil Spill (2) Insulating Oil Spill (8)
2019	Gasoline Spill Insulating Oil Spill (4)
2020	Diesel Spill
2021	Hydraulic Oil Diesel Fuel Mercury

Table 31

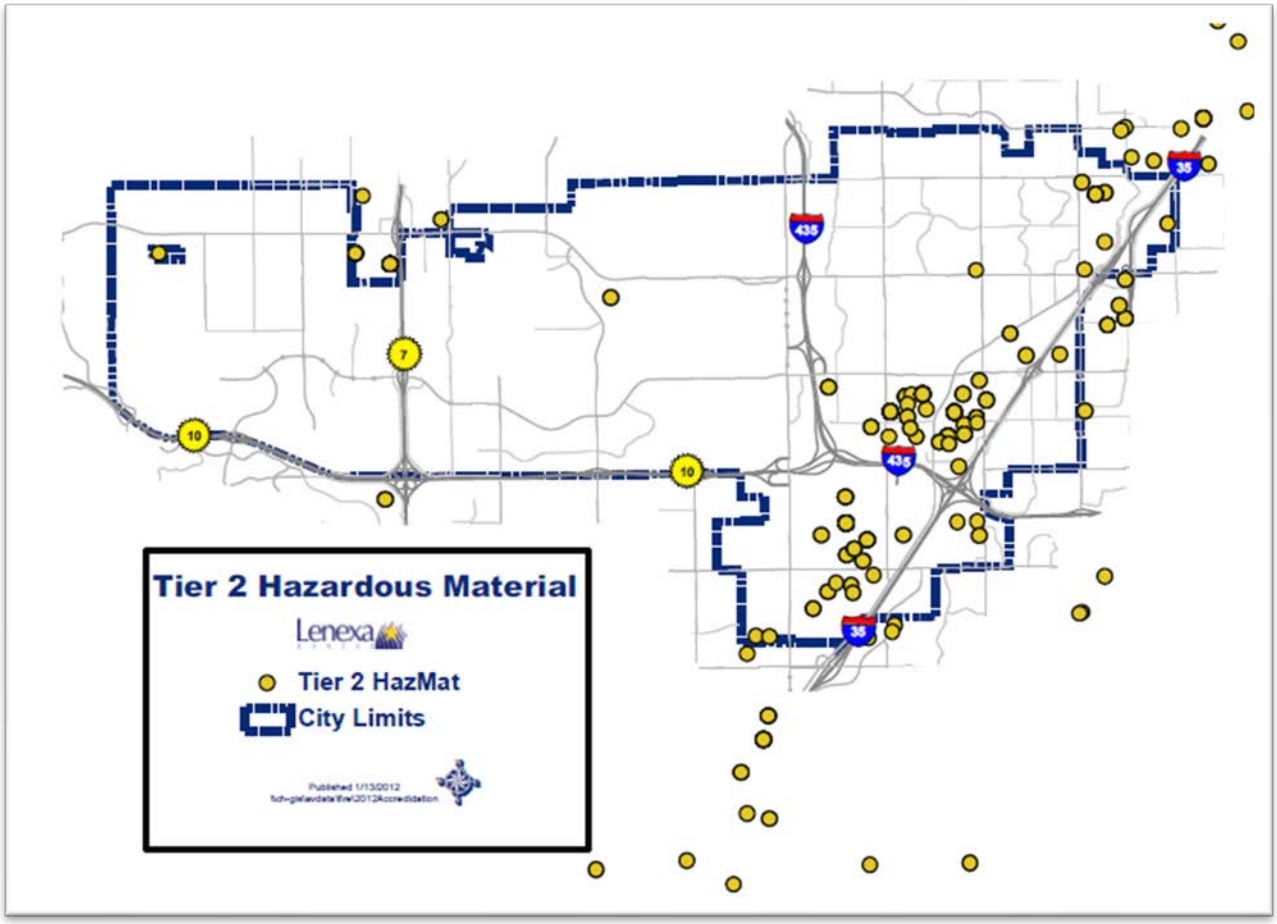
Impact to the environment from the incidents was limited due to the nature of the releases and the infrequency of events. Due to the limited size and scope of the releases, financial loss and responsible party liability, clean-up and mitigation was minimal. The LFD role is to identify, isolate, and contain the release until it is stopped and a qualified clean-up agency arrives. In some cases, the spill or release was small enough that fire department intervention was not needed, and Lenexa resources were never dispatched. This has been verified by contacting KDHE and comparing the date and address to any corresponding LFD incident report. In most cases, the spill was either handled by the property owner or through a private contracted hazmat mitigation service. A total of 761 hazardous materials related incidents have been documented by the department for years 2017-2021. The resulting totals only account for 3.2 percent of incidents that met the threshold to be reported to KDHE. No actual loss or financial impact data was available for further analysis. The relative low amount of data being reported makes it difficult to predict any trends for future incidents. The department will continue to utilize KDHE in the annual tracking of reportable hazardous materials releases.

Given the training and scope of hazardous materials response within the City of Lenexa, one of the primary goals of the department is to limit the impact of hazardous materials responses and events on the community. The LFD will conduct defensive measures to isolate and contain to limit environmental impact. Lenexa has an extensive storm water sewer system. The release of a hazardous material into this system is limited because of defensive measures taken by the department directly related to the low number of reported incidents to KDHE. The *Sewer and Storm Water System* map below illustrates this system.



Sewer and Storm water System

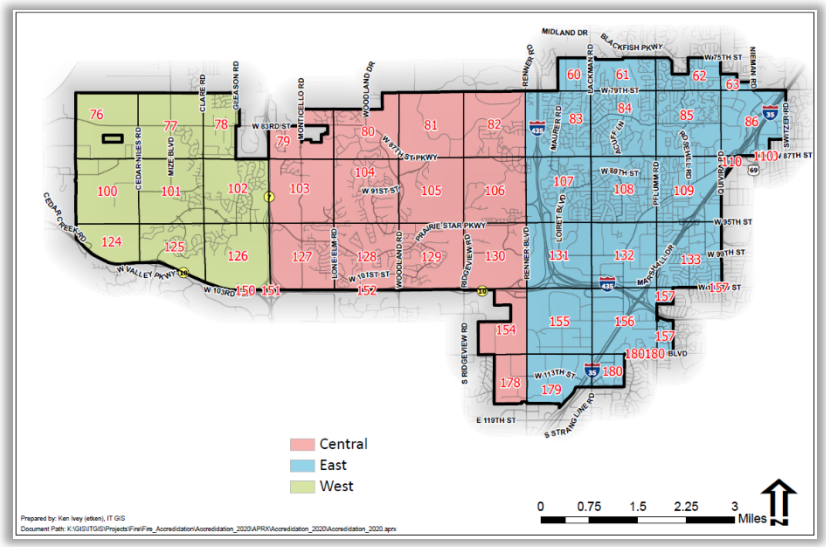
The department tracks the required hazardous materials reporting for any business within the city that submits an annual Tier II inventory. Reports submitted to the department's prevention division are reviewed to determine allowable quantities stored at facilities as well as safety measures required to prevent a release or limit community and environmental impact. The illustration below shows the locations of the Tier II facilities that fall within the city. By requiring the annual reporting of such materials, the department has taken steps to minimize the probability of a release or accident.



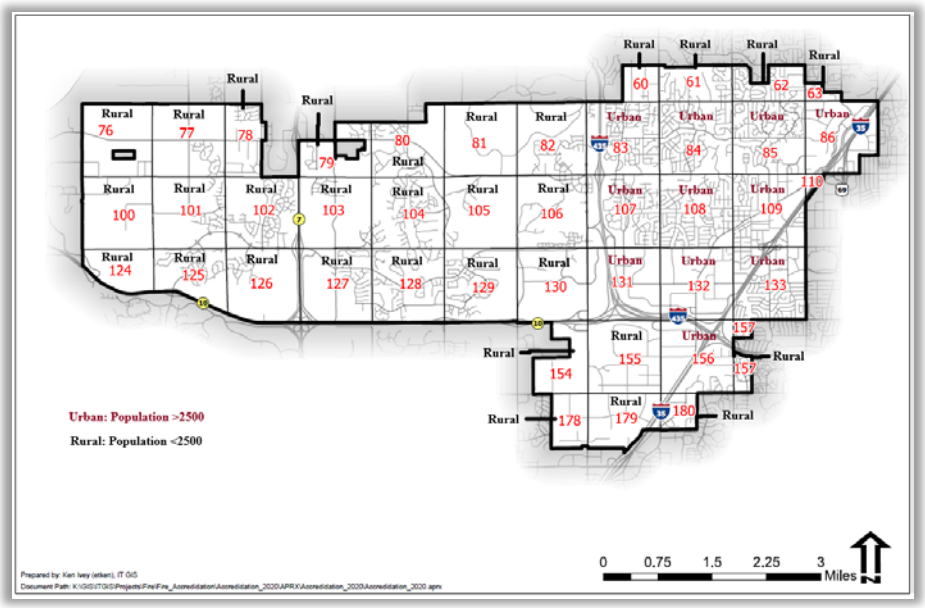
Tier II Hazmat Locations

Planning Areas and Planning Zones

The department has defined planning areas and planning zones as the geographical components used to assess and analyze risk to the community. Three distinct layers have been created to assess and analyze data that include the city as a whole, by planning areas and by planning zones. The planning zones are one-square-mile grids or census tracts, some of which only partially contain City of Lenexa boundaries. The LFD is specifically responsible for the incorporated city limits which is 34.3 square miles. All 43 planning zones are grouped into the three distinct planning areas. These planning areas divide the city into equal thirds and consist of east, central, and west (*Planning Area Layout Map above).* The planning zones combined represent the boundaries identified by the department in relation to the population density of the city. Population density is defined by CFAI and is categorized as either urban or rural. Any grid with a population of less than 2,500 people is defined as rural. A grid with a population of 2,500 people or above is defined as urban. The (*Planning Zone Layout)* map below shows the urban/rural breakdown of each planning zone.



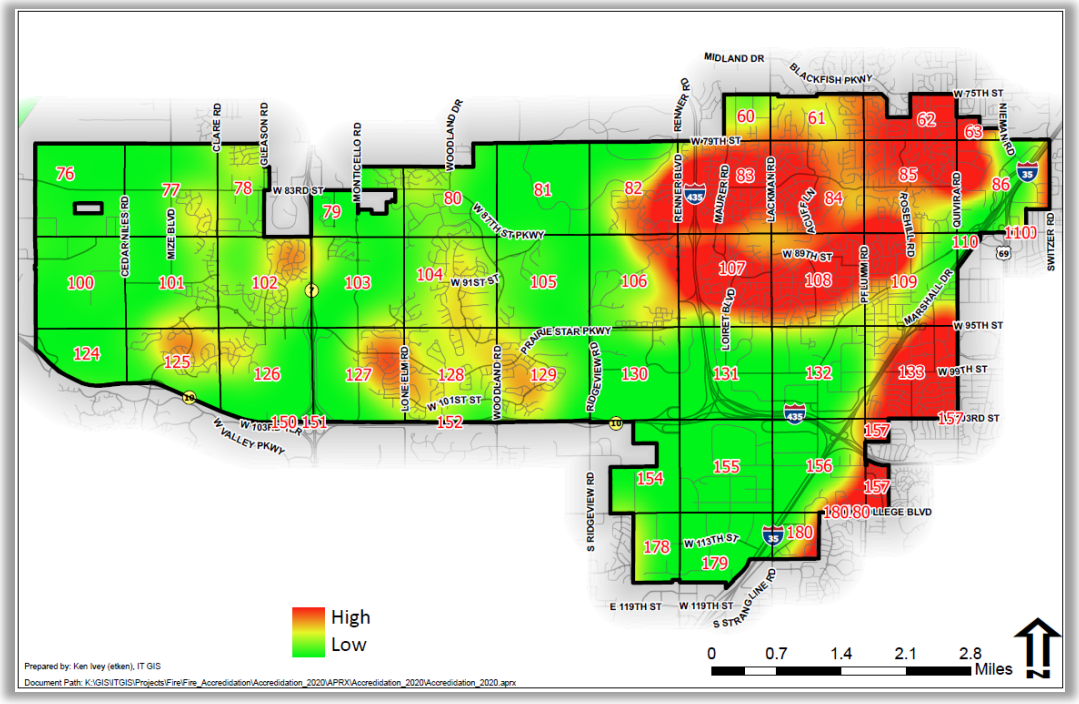
Planning Area Layout



Planning Zone Layout

Urban: Must encompass at least 2,500 people, at least 1,500 of which reside outside of institutional group quarters.

Rural: Encompasses all population, housing, and territory not included within an urban area.



Population Density by Planning Zone

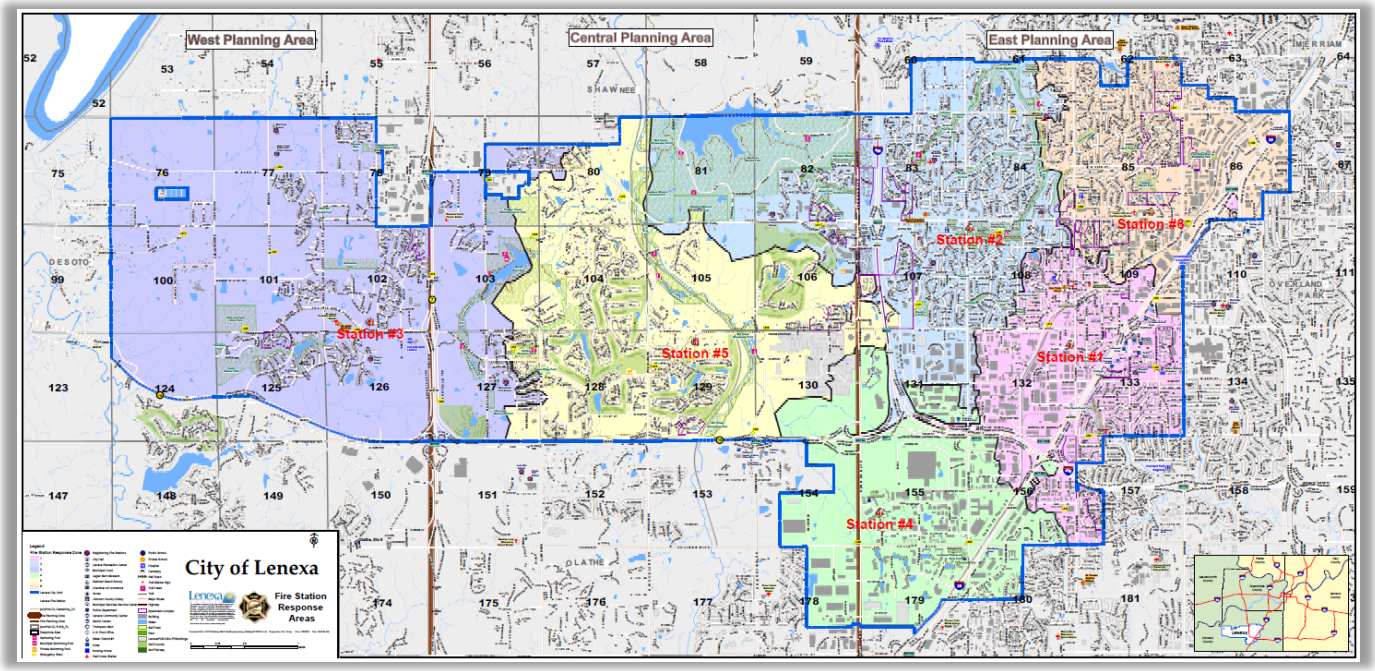
- East Planning Area (Planning Zones 60, 61, 62, 63, 83, 84, 85, 86, 107, 108, 109, 110, 131, 132, 133, 155, 156, 157, 179, 180) – The highest density of structures and call demand lies within this area of the City which is located with an east boundary of the City limits, and a west boundary of Renner Boulevard. This planning area is primarily "Urban" and encompasses approximately 14.25 square miles and includes 20 grids. Within this planning area there are four fire stations (Fire Stations #1, #2, #4, and #6) that maintain four staffed heavy apparatus, one staffed fire medic squad, and one shift battalion chief.

- Central Planning Area (Planning Zones 79, 80, 81, 82, 103, 104, 105, 106, 127, 128, 129, 130, 154, 178) – This is a community corridor which had been primarily "Rural" in recent years. It is rapidly developing with both residential and commercial occupancies moving closer to the definition of "Urban" density. It has an east boundary of Renner Boulevard and a west boundary of Kansas Highway 7. This planning area encompasses approximately 12.25 square miles and includes 14 grids. There is one fire station in this planning area (Fire Station #5) that maintains one staffed heavy apparatus.

- West Planning Area (Planning Zones 76, 77, 78, 100, 101, 102, 124, 125, 126) – This is an area which is primarily "Rural", but residential neighborhoods and commercial construction are beginning to develop. It has an east boundary of Kansas Highway 7, and a west boundary of the City limits. This planning area encompasses 7.90 square and includes 9 grids. There is one fire station in this planning area (Fire Station #3) that maintains one staffed heavy apparatus.

The 43 grids are represented in the (*Planning Zone Layout Map pg. 93*). This is the smallest geographical breakdown for response and risk analysis. As mentioned, planning zones are one-square-mile grids that may only be partially contained within city boundaries. Each grid is sequentially numbered starting at the northwest corner of the county running east to west to the southeast corner of the county. Johnson County is comprised of 475 planning zones starting with grid one located in the most northwestern point in the county and ending with grid 475 located in the most southeastern point in the county.

Fire station locations represent the distribution-based component to planning zones described previously. Each station location is responsible for a 1st due response district within the city. Unlike planning areas and planning zones, districts remain dynamic in their response based on travel time as influenced by road construction, street closures, and other computer aided dispatch criteria. The department currently deploys from six fire stations strategically located throughout the city. The defined districts within each planning area have dynamic borders that extend over multiple planning zone boundaries. The *District Borders* map below illustrates the six stations and their first-due response districts.



District Borders Map

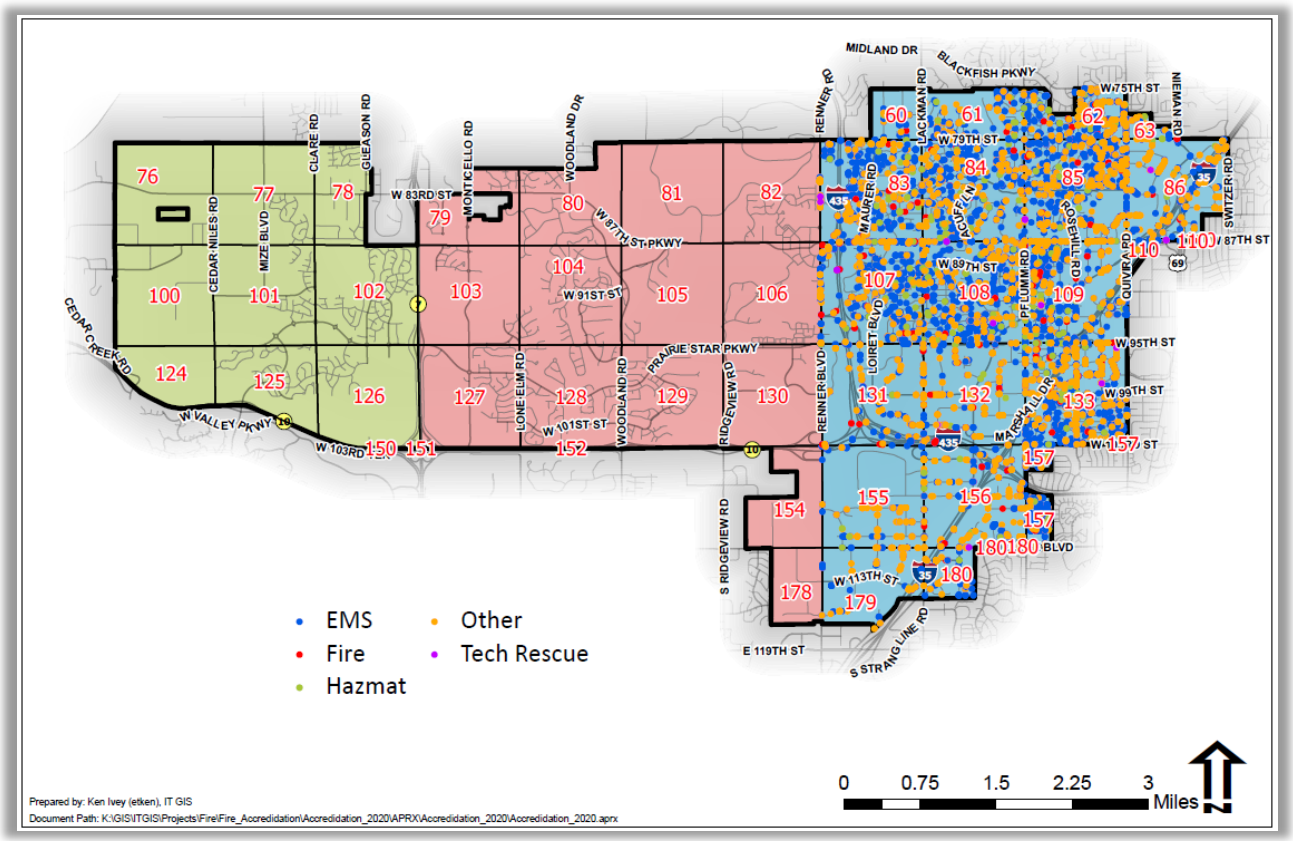
Historical Emergency and Non-Emergency Total Service Demands

The department monitors and documents historical emergency and non-emergency service demands both within and outside of city boundaries. Data is collected based on the incident type retrieved from FIREHOUSE Software®. These incidents are further tracked by location as it relates to the East, Central, and West planning areas as well as for each planning zone (grid). Call location and frequency are further analyzed in each response district to identify service demand changes, specific target hazard locations, and service gaps.

The historical emergency and non-emergency service demand frequency have been organized by each planning area.

Planning Area:

The East Planning Area (Planning Zones 60, 61, 62, 63, 83, 84, 85, 86, 107, 108, 109, 110, 131, 132, 133, 155, 156, 157, 179, 180) attributes to most of the call volume or service demands for the community. For the years 2017-2021, the department responded to 29,151 in city calls for service. The East Planning Area accounted for 24,207 of these calls which is roughly 83 percent of all calls for service in Lenexa for these years.



Call Volume by East Planning Area 2017-2021

A breakdown of the East Planning Area reveals 16,748 emergency calls for service and 7,316 non-emergency calls for service over the five-year period 2017-2021. A grand total for the East Planning Area for the five-year (5) period was 24,207 calls for service including incidents in which responding units were cancelled prior to arrival.

East Planning Area Total Service Demands 2017-2021

Risk	2017	2018	2019	2020	2021	2017-2021
Fire	182	147	126	141	138	734
EMS	3627	3845	3806	3586	3793	18657
Hazmat	125	137	99	98	98	557
Tech Rescue	14	18	35	19	15	101
Other	821	779	835	737	986	4158
Total	**4769**	**4926**	**4901**	**4581**	**5030**	**24207**

Table 32

East Planning Area Emergency Service Demands 2017-2021

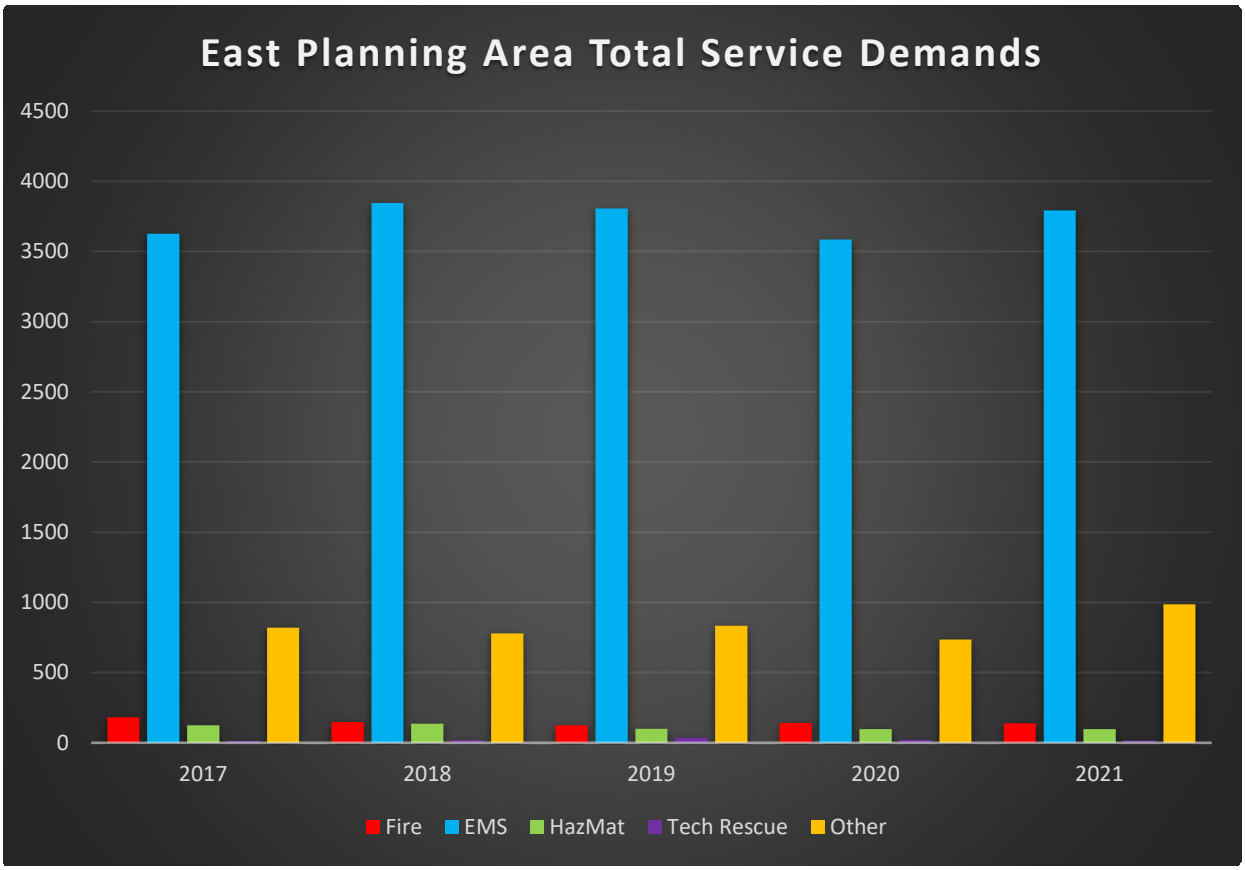
Risk	2017	2018	2019	2020	2021	2017-2021
Fire	170	129	112	117	115	643
EMS	2542	2662	2533	2394	2566	12697
Hazmat	73	99	75	62	64	373
Tech Rescue	14	18	35	18	15	100
Other	609	602	593	505	626	2935
Total	**3408**	**3510**	**3348**	**3096**	**3386**	**16748**

Table 33

East Planning Area Non-Emergency Service Demands 2017-2021

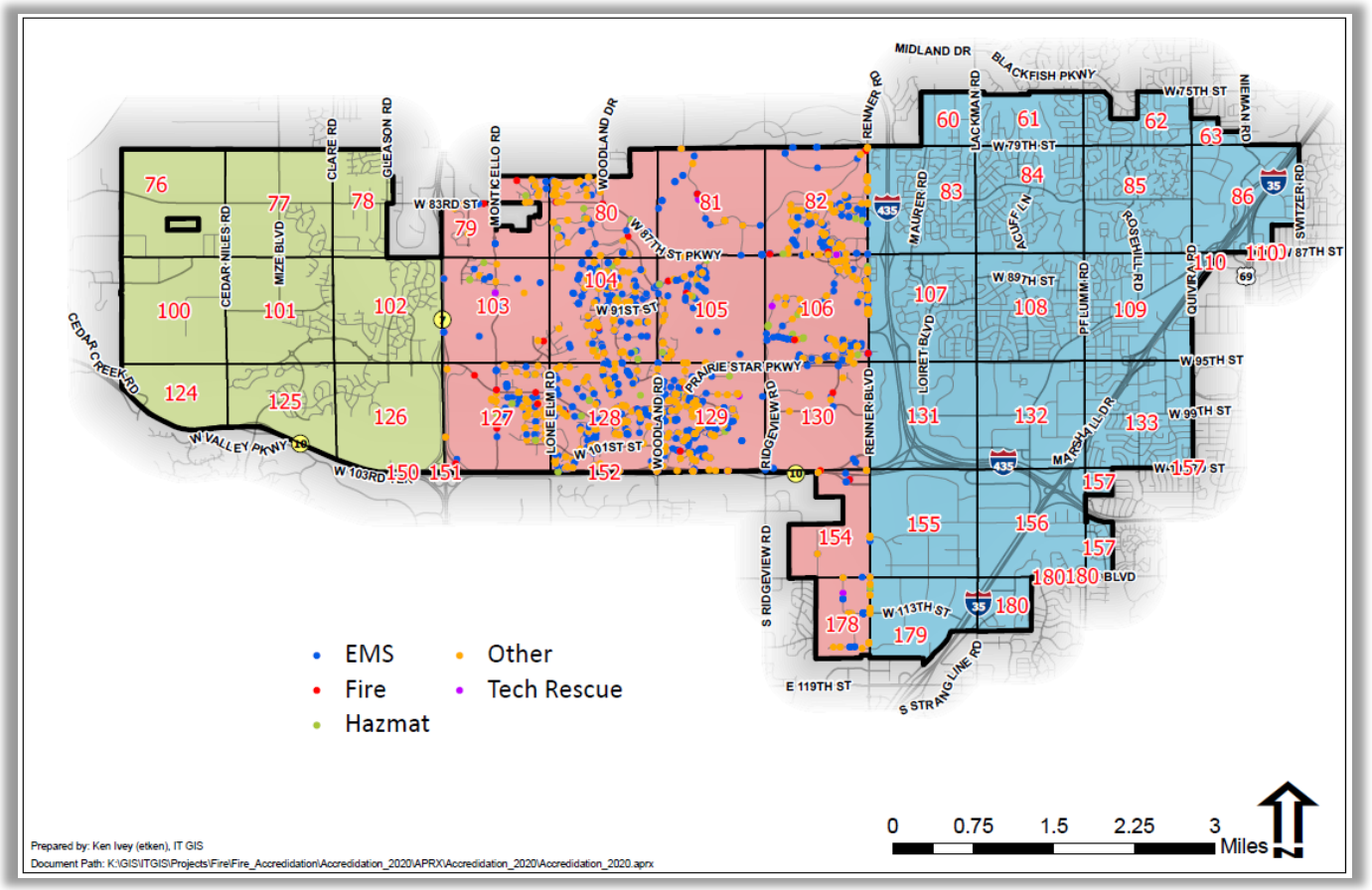
Risk	2017	2018	2019	2020	2021	2017-2021
Fire	12	18	14	24	23	91
EMS	1085	1183	1273	1192	1227	5960
Hazmat	9	9	5	6	12	41
Tech Rescue	0	0	0	1	0	1
Other	212	177	242	232	360	1223
Total	**1318**	**1387**	**1534**	**1455**	**1622**	**7316**

Table 34


East Planning Area Total Service Demands
4500
4000
3500
3000
2500
2000
1500
1000
500
0
2017
2018
2019
2020
2021
Fire
EMS
HazMat
Tech Rescue
Other

Graph 6

The Central Planning Area (Planning Zones 79, 80, 81, 82, 103, 104, 105, 106, 127, 128, 129, 130, 154, 178) are rapidly growing. This rapid growth is directly attributed to the expansion of the City Center at 87th Street Parkway and the development of multiple apartment complexes and new businesses on Renner Road. In addition, public buildings such as Lenexa Civic Campus will increase service demands.



Call Volume by Central Planning Area 2017-2021

A breakdown of the Central Planning Area reveals 2,491 emergency, and 965 non-emergency calls for service 2017-2021. The total for the Central Planning Area for the five-year (5) period was 3,456 calls for service including incidents in which responding units were cancelled prior to arrival.

Central Planning Area Total Service Demands 2017-2021

Risk	2017	2018	2019	2020	2021	2017-2021
Fire	22	24	24	24	29	123
EMS	385	453	478	403	522	2241
Hazmat	30	29	24	24	26	133
Tech Rescue	4	3	8	7	3	25
Other	171	176	199	177	211	934
Total	**612**	**685**	**733**	**635**	**791**	**3456**

Table 35

Central Planning Area Emergency Service Demands 2017-2021

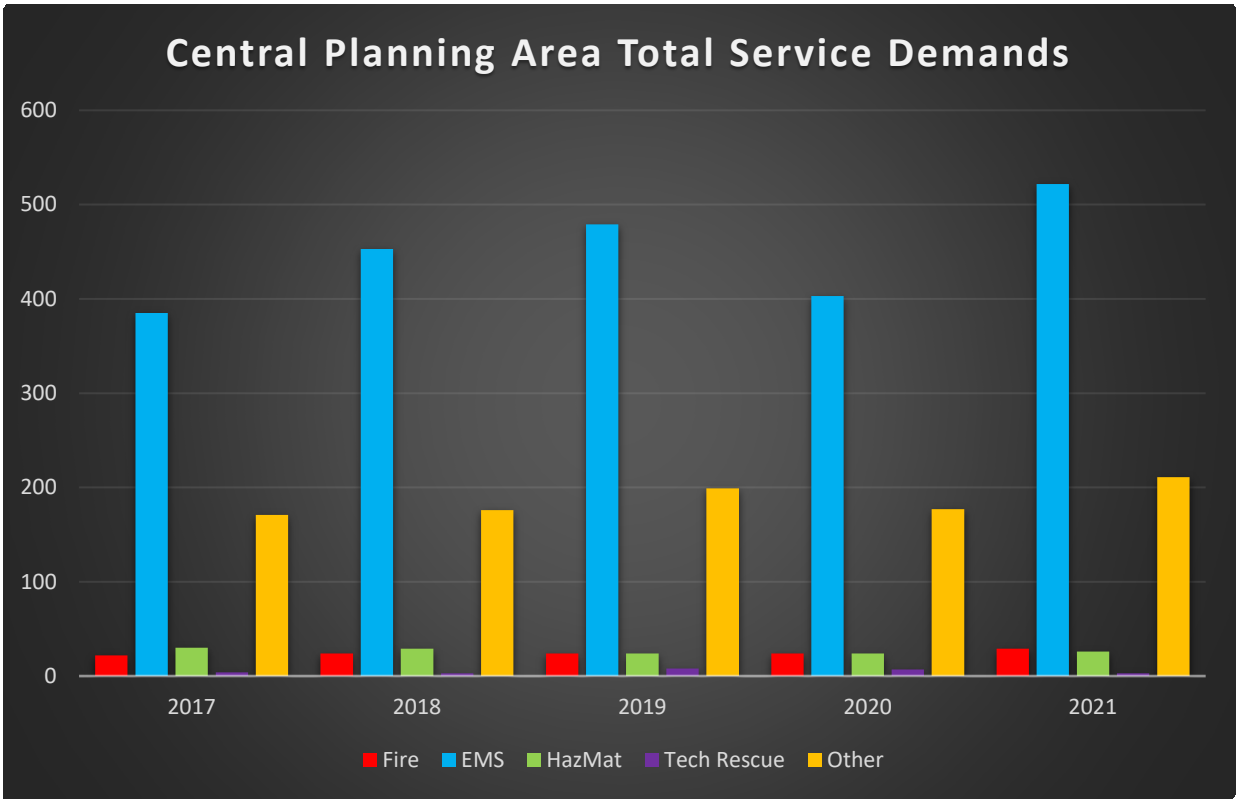
Risk	2017	2018	2019	2020	2021	2017-2021
Fire	22	22	22	20	20	106
EMS	270	320	325	274	377	1566
Hazmat	22	15	12	20	18	87
Tech Rescue	4	3	8	7	3	25
Other	146	136	147	123	155	707
Total	**464**	**496**	**514**	**444**	**573**	**2491**

Table 36

Central Planning Area Non-Emergency Service Demands 2017-2021

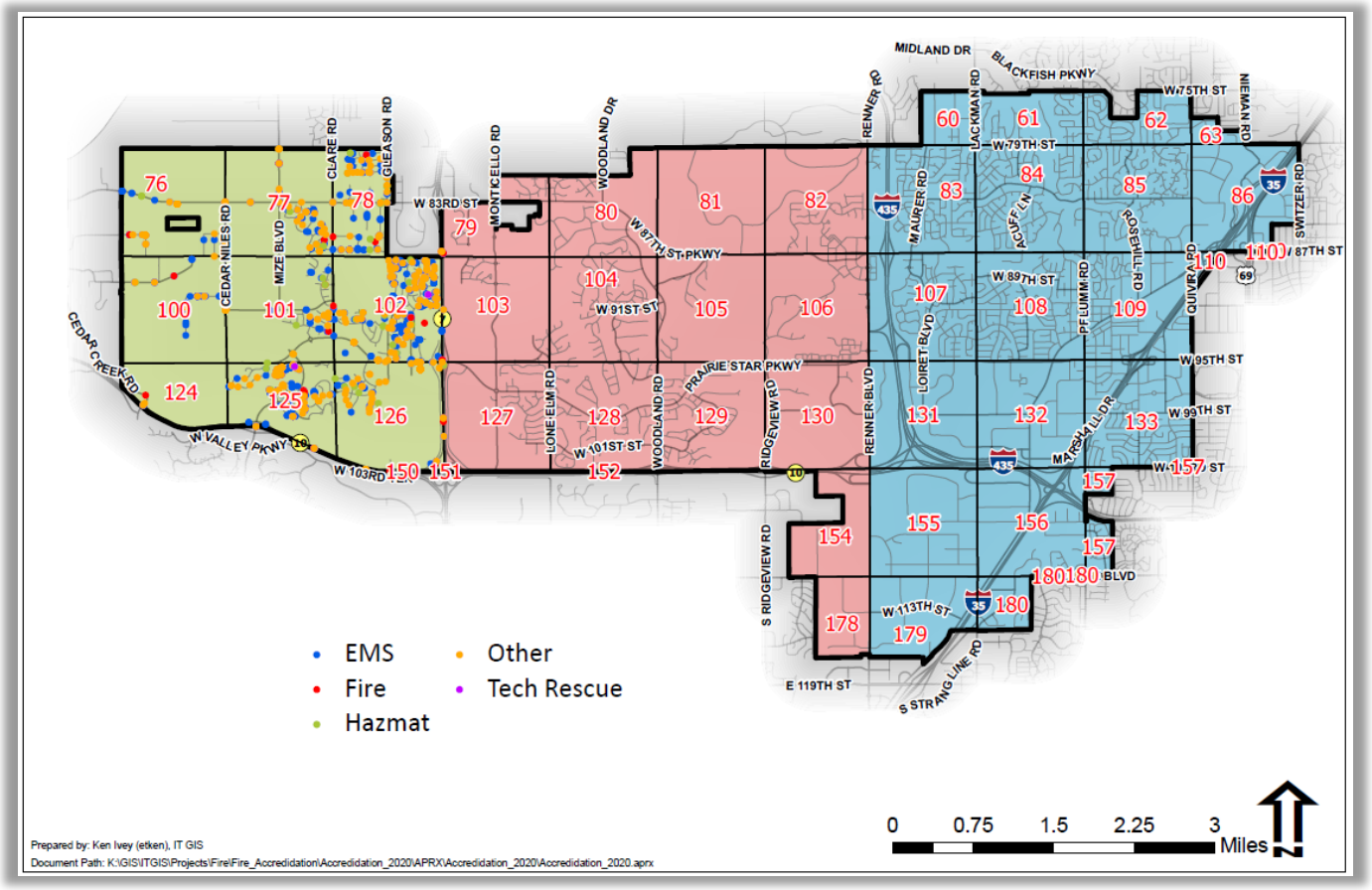
Risk	2017	2018	2019	2020	2021	2017-2021
Fire	0	2	2	4	9	17
EMS	115	133	153	129	145	675
Hazmat	8	14	12	4	8	46
Tech Rescue	0	0	0	0	0	0
Other	25	40	52	54	56	227
Total	**148**	**189**	**219**	**191**	**218**	**965**

Table 37


Central Planning Area Total Service Demands
600
500
400
300
200
100
0
2017
2018
2019
2020
2021
Fire
EMS
HazMat
Tech Rescue
Other

Graph 7

The West Planning Area (Planning Zones 76, 77, 78, 100, 101, 102, 124, 125, 126) remain mostly rural. Current growth in this planning area include commercial and residential development. Most of this growth is located near the area of Prairie Star Parkway and Highway K-10.



Call Volume by West Planning Area 2017 - 2021

A breakdown of the West Planning Area reveals 942 emergency, and 557 non-emergency calls for service 2017-2021. The grand total for the West Planning Area for the five (5) year period was 1,507 calls for service including incidents in which responding units were cancelled prior to arrival.

West Planning Area Total Service Demands 2017-2021

Risk	2017	2018	2019	2020	2021	2017-2021
Fire	14	14	15	9	9	61
EMS	175	215	197	184	279	1050
Hazmat	11	11	11	11	18	62
Tech Rescue	2	1	3	3	1	10
Other	62	67	65	52	78	324
Total	**264**	**308**	**291**	**259**	**385**	**1507**

Table 38

West Planning Area Emergency Service Demands 2017-2021

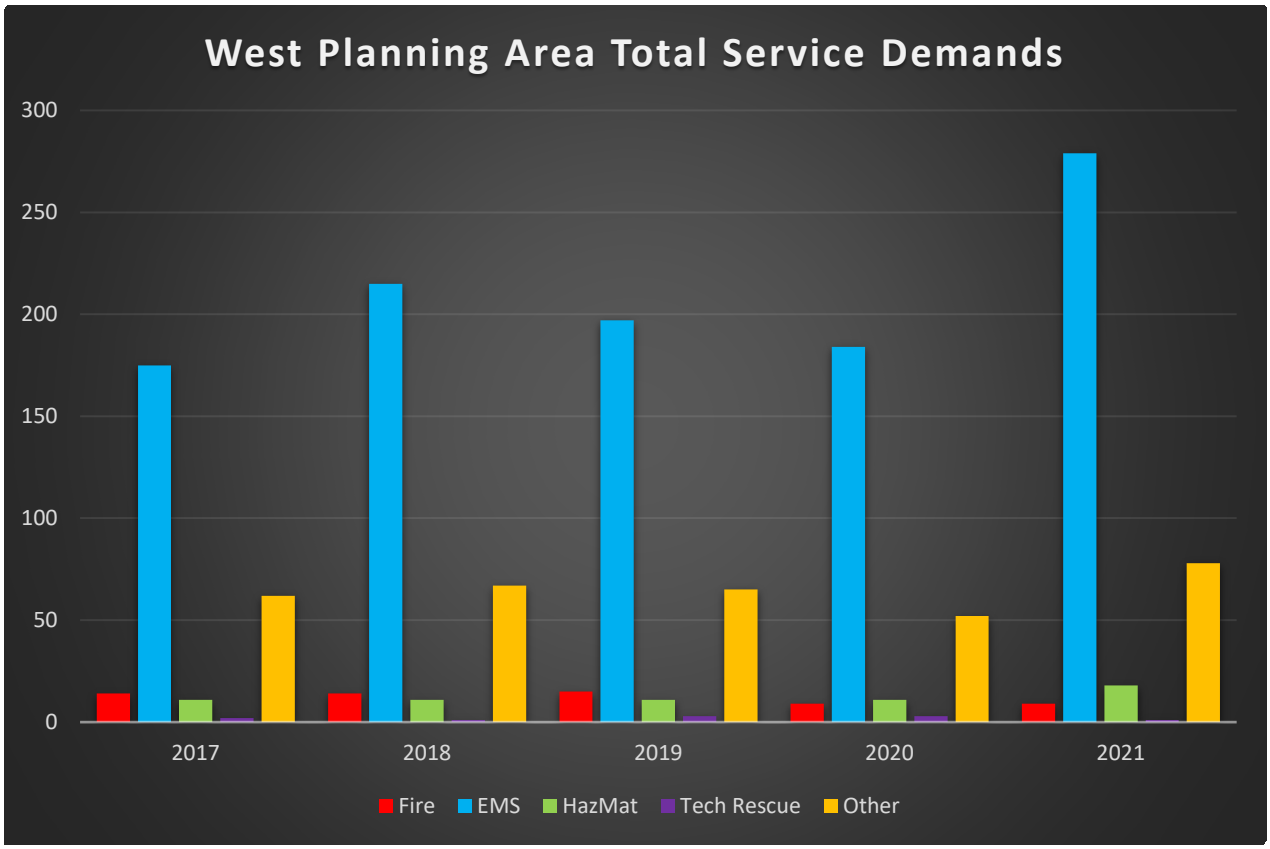
Risk	2017	2018	2019	2020	2021	2017-2021
Fire	14	14	11	6	9	54
EMS	104	122	129	96	141	592
Hazmat	9	9	5	6	12	41
Tech Rescue	2	1	3	3	1	10
Other	52	53	51	41	48	245
Total	**181**	**199**	**199**	**152**	**211**	**942**

Table 39

West Planning Area Non-Emergency Service Demands 2017-2021

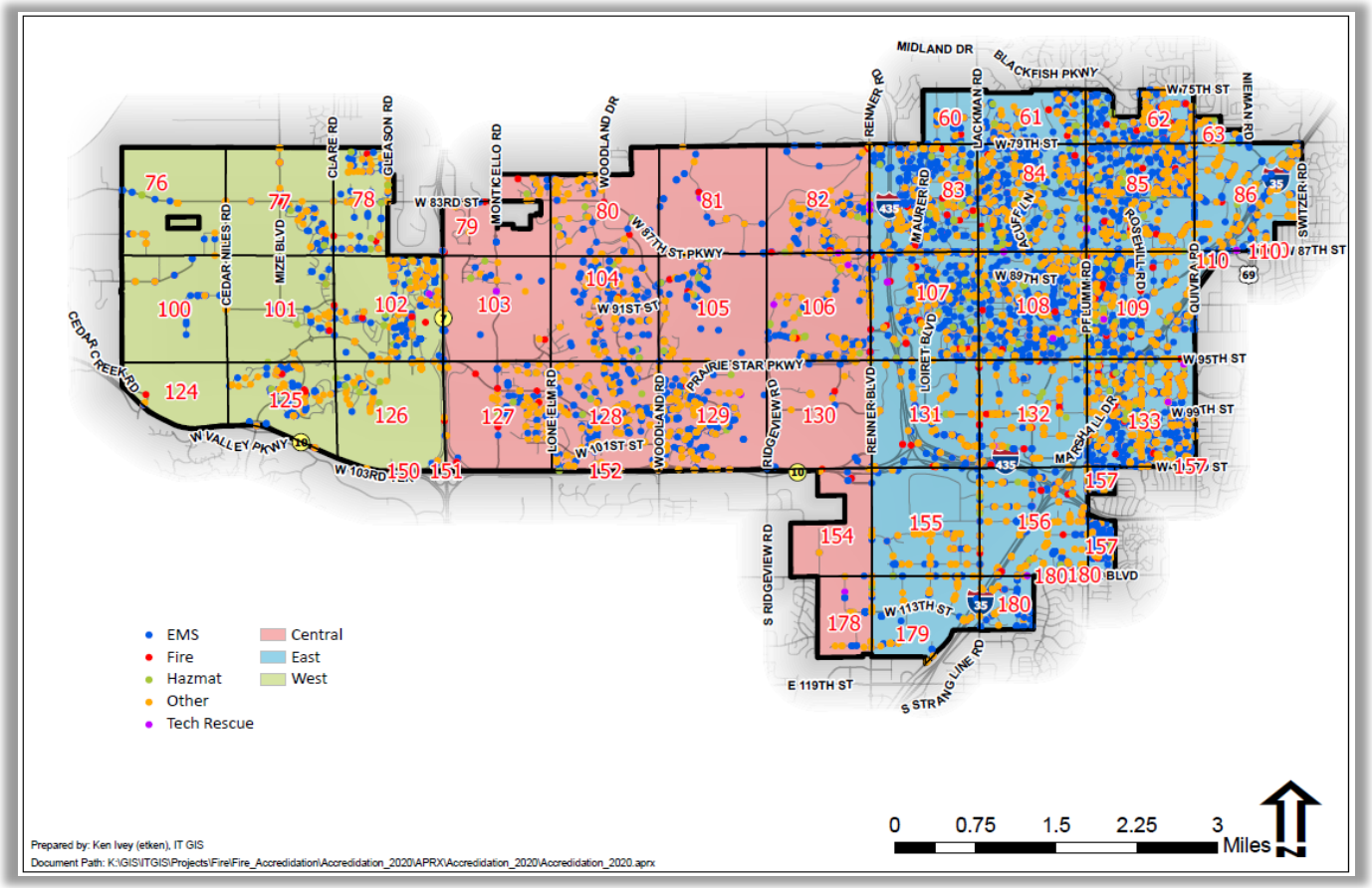
Risk	2017	2018	2019	2020	2021	2017-2021
Fire	0	0	4	3	0	7
EMS	71	93	68	88	138	458
Hazmat	2	2	6	5	6	21
Tech Rescue	0	0	0	0	0	0
Other	10	14	14	11	22	71
Total	**83**	**109**	**92**	**107**	**166**	**557**

Table 40


West Planning Area Total Service Demands
300
250
200
150
100
50
0
2017
2018
2019
2020
2021
Fire
EMS
HazMat
Tech Rescue
Other

Graph 8

East, Central, and West Planning Areas (Planning Zones: East - 60, 61, 62, 63, 83, 84, 85, 86, 107, 108, 109, 110, 131, 132, 133, 155, 156 Central - 79, 80, 81, 82, 103, 104, 105, 106, 127, 128, 129, 130, 154, 178 West - 76, 77, 78, 100, 101, 102, 124, 125, 126).



Call Volume All City 2017 - 2021

A breakdown of the East, Central, and West Planning Areas reveals 20,181 emergency, and 8,989 non-emergency calls for service 2017-2021. The grand total for the West Planning Area for the five (5) year period was 29,170 calls for service including incidents in which responding units were cancelled prior to arrival.

All Planning Areas Total Service Demands 2017-2021

Risk	2017	2018	2019	2020	2021	2017-2021
Fire	218	185	165	174	176	918
EMS	4187	4513	4481	4173	4594	21948
Hazmat	166	177	134	133	142	752
Tech Rescue	20	22	46	29	19	136
Other	1054	1022	1099	966	1275	5416
Total	**5645**	**5919**	**5925**	**5475**	**6206**	**29,170**

Table 41

All Planning Areas Emergency Service Demands 2017-2021

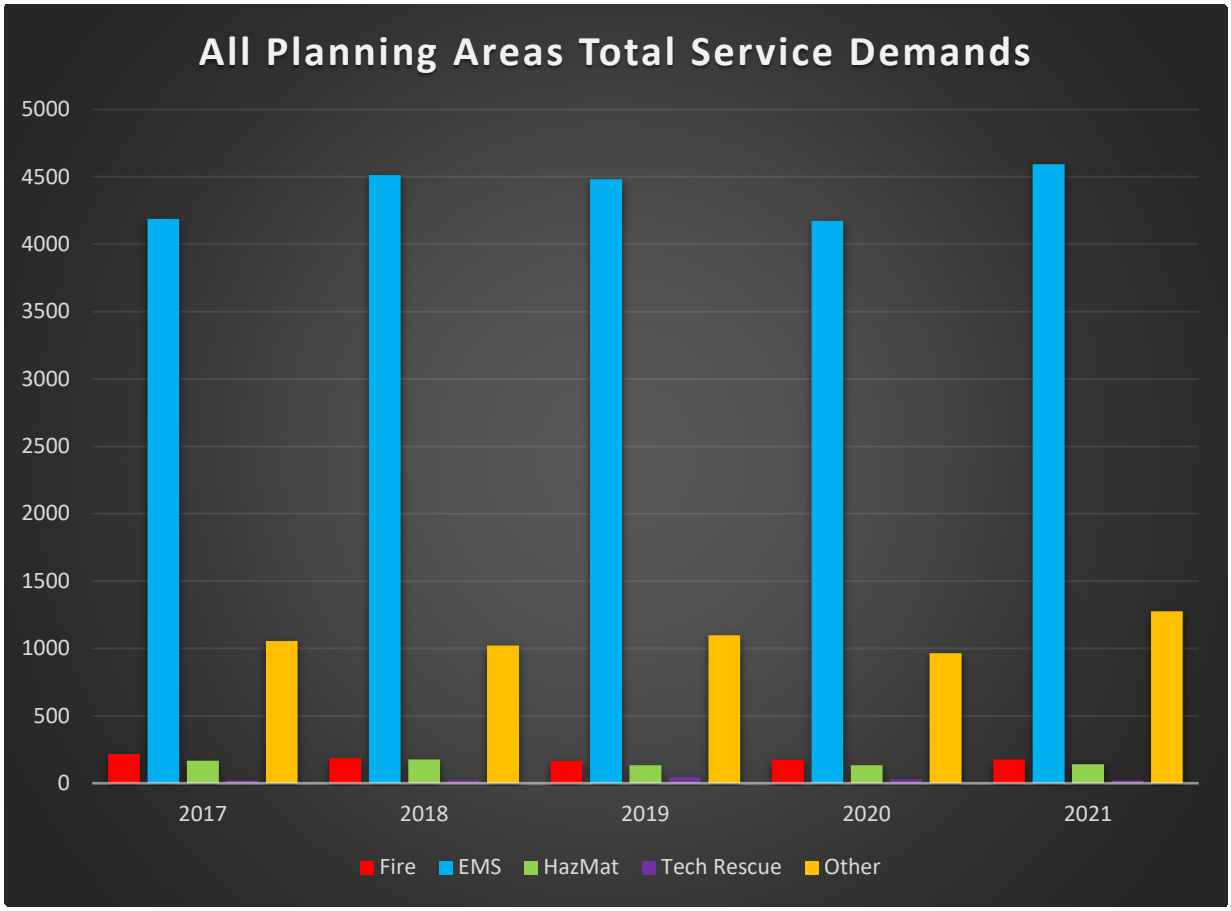
Risk	2017	2018	2019	2020	2021	2017-2021
Fire	206	165	145	143	144	803
EMS	2916	3104	2987	2764	3084	14855
Hazmat	104	123	92	88	94	501
Tech Rescue	20	22	46	28	19	135
Other	807	791	791	669	829	3887
Total	**4053**	**4205**	**4061**	**3692**	**4170**	**20181**

Table 42

All Planning Areas Non-Emergency Service Demands 2017-2021

Risk	2017	2018	2019	2020	2021	2017-2021
Fire	12	20	20	31	32	115
EMS	1271	1409	1494	1409	1510	7093
Hazmat	62	54	42	45	48	251
Tech Rescue	0	0	0	1	0	1
Other	247	231	308	297	446	1529
Total	**1592**	**1714**	**1864**	**1783**	**2036**	**8989**

Table 43


All Planning Areas Total Service Demands
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
2017
2018
2019
2020
2021
Fire
EMS
HazMat
Tech Rescue
Other

Graph 9

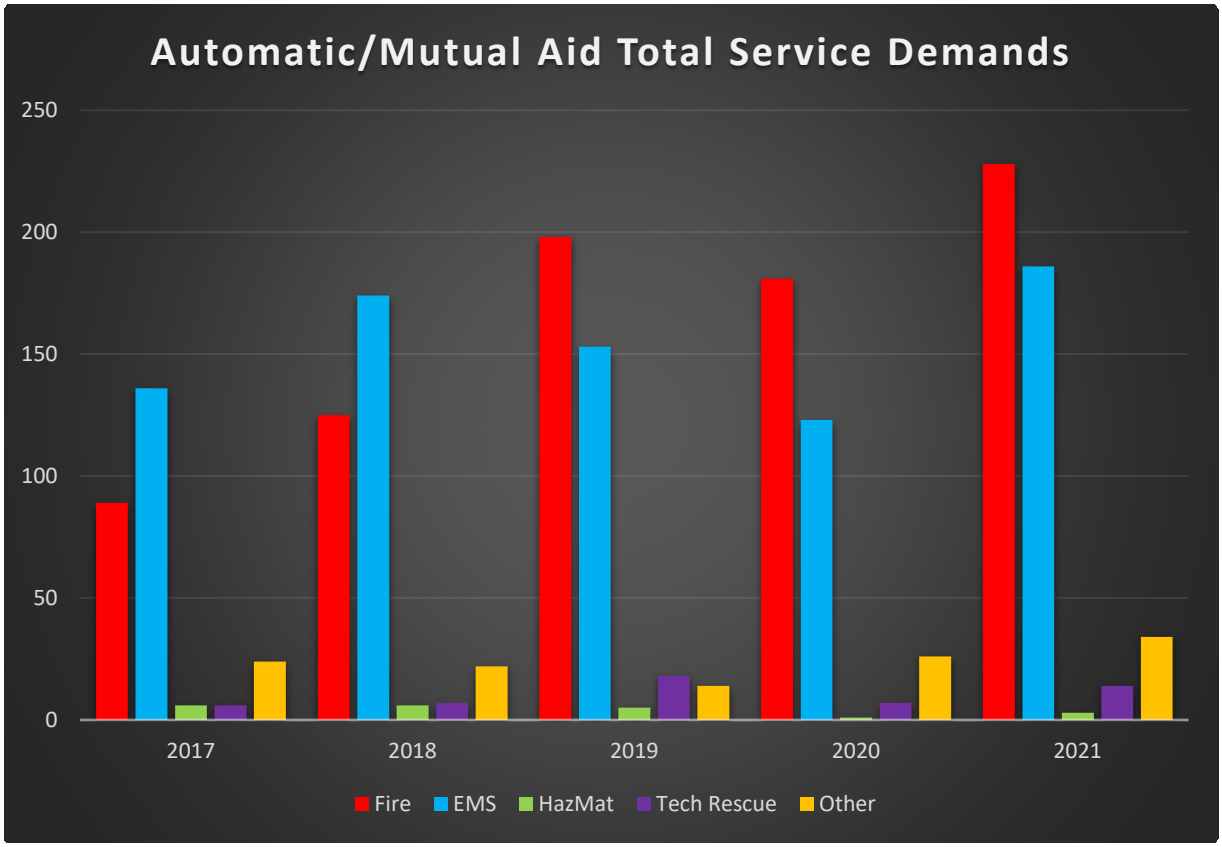
Automatic/Mutual Aid Agreement Area

The grand total for automatic/mutual aid service demands for the five (5) year period (2017-2021) was 1,786 calls for service including incidents in which responding units were cancelled prior to arrival.

Automatic/Mutual Aid Total Service Demands 2017-2021

Risk	2017	2018	2019	2020	2021	2017-2021
Fire	89	125	198	181	228	821
EMS	136	174	153	123	186	772
Hazmat	6	6	5	1	3	21
Tech Rescue	6	7	18	7	14	52
Other	24	22	14	26	34	120
Total	**261**	**334**	**388**	**338**	**465**	**1786**

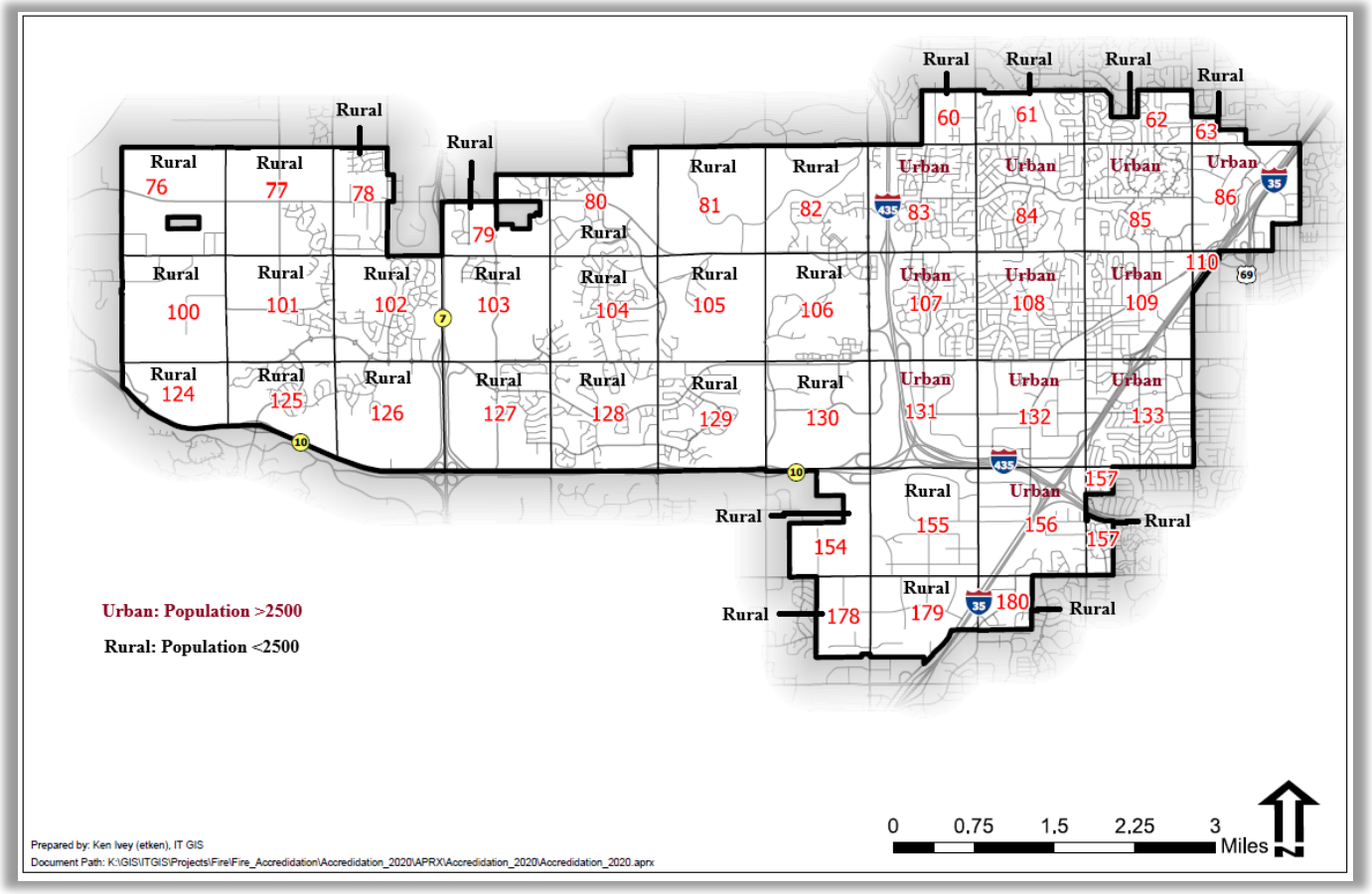
Table 44



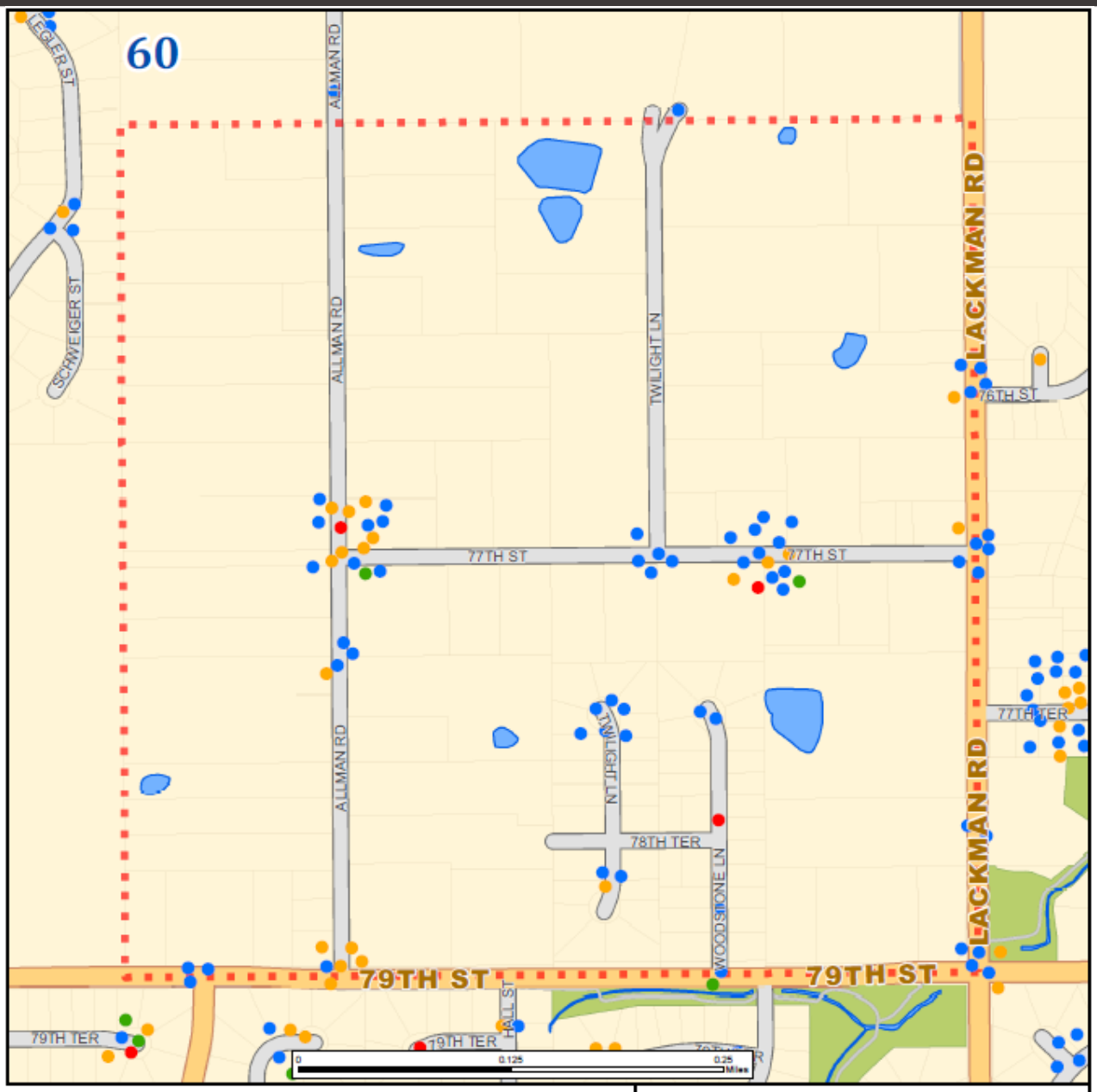
Graph 10

Planning Zone (Grids):

As previously mentioned, the LFD uses planning zone (grids) as the smallest geographical component to conduct risk analysis to the community by defining each grid based on urban and rural populations. The following sections show a breakdown of all 43 planning zone grids located within the city. The planning zones are grouped by their appropriate planning area and are sequenced in ascending numerical grid order. Within each planning zone (grid), an analysis was conducted for incident types and count, demographic features, population estimates, number of dwelling units, inspected occupancies, critical infrastructure data, and property values. The objective is to illustrate the unique characteristics and specific hazards of each grid. Specific target hazards for each planning zone were identified with the use of the VISION® fire risk assessment model to calculate an Occupancy Vulnerability Assessment Profile (OVAP) score.



Planning Zone Grid Map

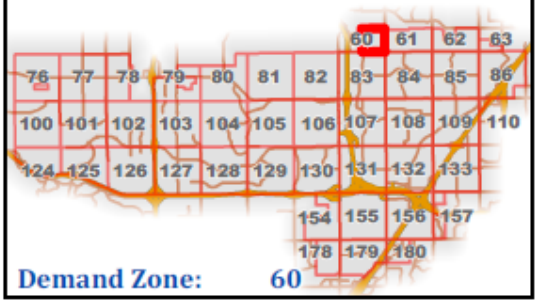


Community Profile

Community Profile Type: Residential
Number of Residential Structures: 171
Number of Commercial Structures: 0
Total Number of Structures: 171
Average Value of Each Structure: $134,201
Estimated Value of Structures at Risk: $22,948,420
Code Enforced Occupancies: 6
Estimated Daytime Population: 256
Estimated Nighttime Population: 83
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 6
- EMS - 69
- Hazmat - 6
- Tech Rescue - 0
- Other - 31
- Demand Zone



Zone Boundaries (Grid 60) Rural

The planning zone boundaries are Lackman Road to the east, 79th Street to the south, city limit to the west, and city limit to the north. This zone is residential in nature.

Transportation Issues

Major transportation routes in this zone are the east/west travels of 79th Street, and the north/south travels of Lackman Road. A traffic light exists at the intersection of 79th Street and Lackman Road. This intersection is equipment with an OPTICOM™ emergency traffic control receiver.

Identified Special Risks

Identified significant risks in this planning zone:

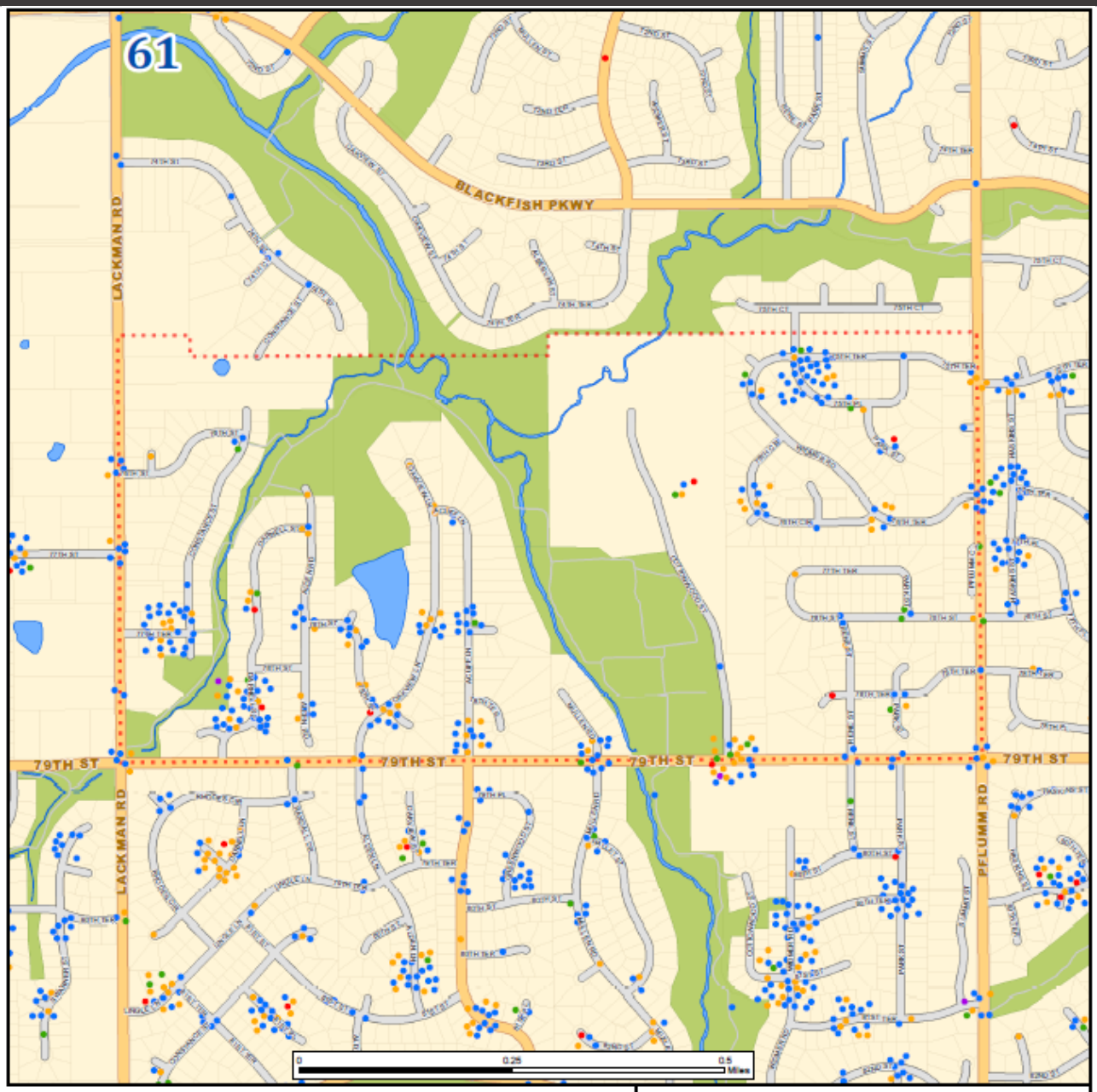
Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
St. Paul's United Methodist Church	7740 Lackman Road	27.13
LDS Church	7845 Allman Road	24.93

Table 45

Target Hazards: None

This planning zone contains 171 structures, with 6 fire inspected occupancies.

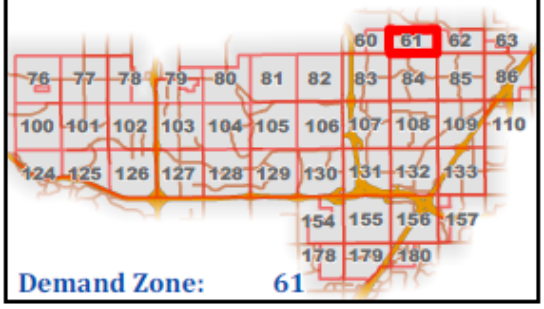


Community Profile

Community Profile Type: Residential
Number of Residential Structures: 531
Number of Commercial Structures: 0
Total Number of Structures: 531
Average Value of Each Structure: $206,521
Estimated Value of Structures at Risk: $109,662,880
Code Enforced Occupancies: 21
Estimated Daytime Population: 1152
Estimated Nighttime Population: 156
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 4
- EMS - 159
- Hazmat - 19
- Tech Rescue - 0
- Other - 50
- Demand Zone



Zone Boundaries (Grid 61) Rural

This area is all residential in nature and is divided in half between the City of Shawnee and the City of Lenexa. It is in the northeast aspect of the city and receives an initial automatic aid Engine Company from the Shawnee Fire Department and is the primary response district for Lenexa Fire Station #6.

Transportation Issues

All of the transportation routes are residential streets. The primary north/south street at the east end is Pflumm Road. Lackman Road is the primary north /south street at the west. The primary east/west street is 79th Street which is a main residential access thoroughfare. A traffic light exists at the intersection of 79th Street and Pflumm Road and 79th Steet and Lackman Road. Both intersections have an OPTICOM™ emergency traffic control receiver.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

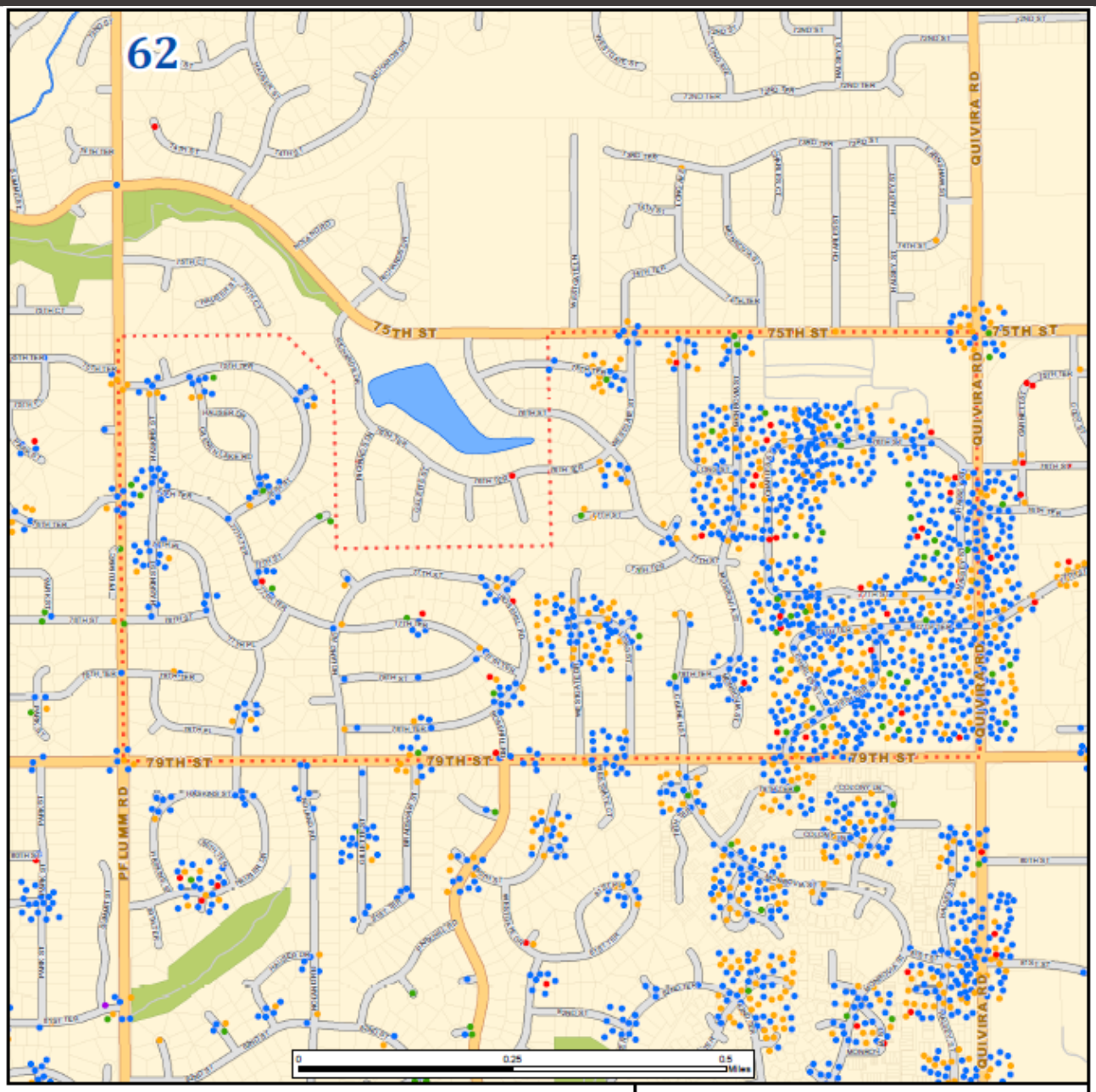
Occupancy	Address	OVAP Score
City of Lenexa Service Center	7700 Cottonwood Street	34.53
Lenexa Church of Christ	7845 Cottonwood Street	53.20

Table 46

Target Hazards:

The City of Lenexa Service Center is clearly the highest risk within this zone. The City Service Center has a paint shop, fueling station for city vehicles, a five bay service auto repair shop with multiple vehicle service lifts, tire and parts storage, truck and equipment staging bays, and public works offices. The Service Center is located at the northern boundary.

This planning zone contains 531 structures, with 21 fire inspected occupancies.

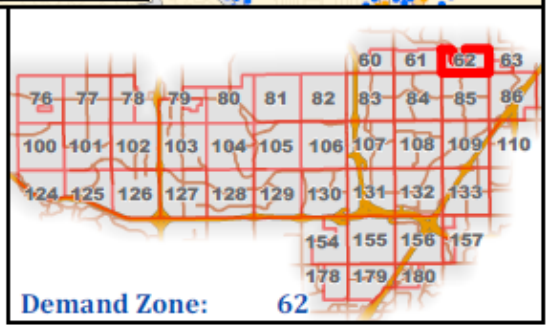


Community Profile

Community Profile Type: Residential
Number of Residential Structures: 641
Number of Commercial Structures: 4
Total Number of Structures: 645
Average Value of Each Structure: $210,278
Estimated Value of Structures at Risk: $135,629,520
Code Enforced Occupancies: 23
Estimated Daytime Population: 2310
Estimated Nighttime Population: 260
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 30
- EMS - 746
- Hazmat - 48
- Tech Rescue - 1
- Other - 271
- Demand Zone



Zone Boundaries (Grid 62) Rural

This area is mostly residential in nature lying predominately in the City of Shawnee, Kansas. There are some retail strip shops and light commercial construction to the east of Quivira Road at 75th Street and at the intersection of 79th Street. This zone is in the northeast aspect of the city and receives an initial Engine Company from Lenexa's Fire Station #6.

Transportation Issues

The majority of the transportation routes are residential streets. The primary north/south street at the east end is Quivira Road which is a divided roadway. Pflumm Road is the primary north/south street at the west. The primary east/west street is 79th Street which is a main residential access thoroughfare. Traffic Lights exist at the intersections of 75th Street and Quivira Road, 79th Street and Quivira Road, and at 79th Street and Pflumm Road. All three intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

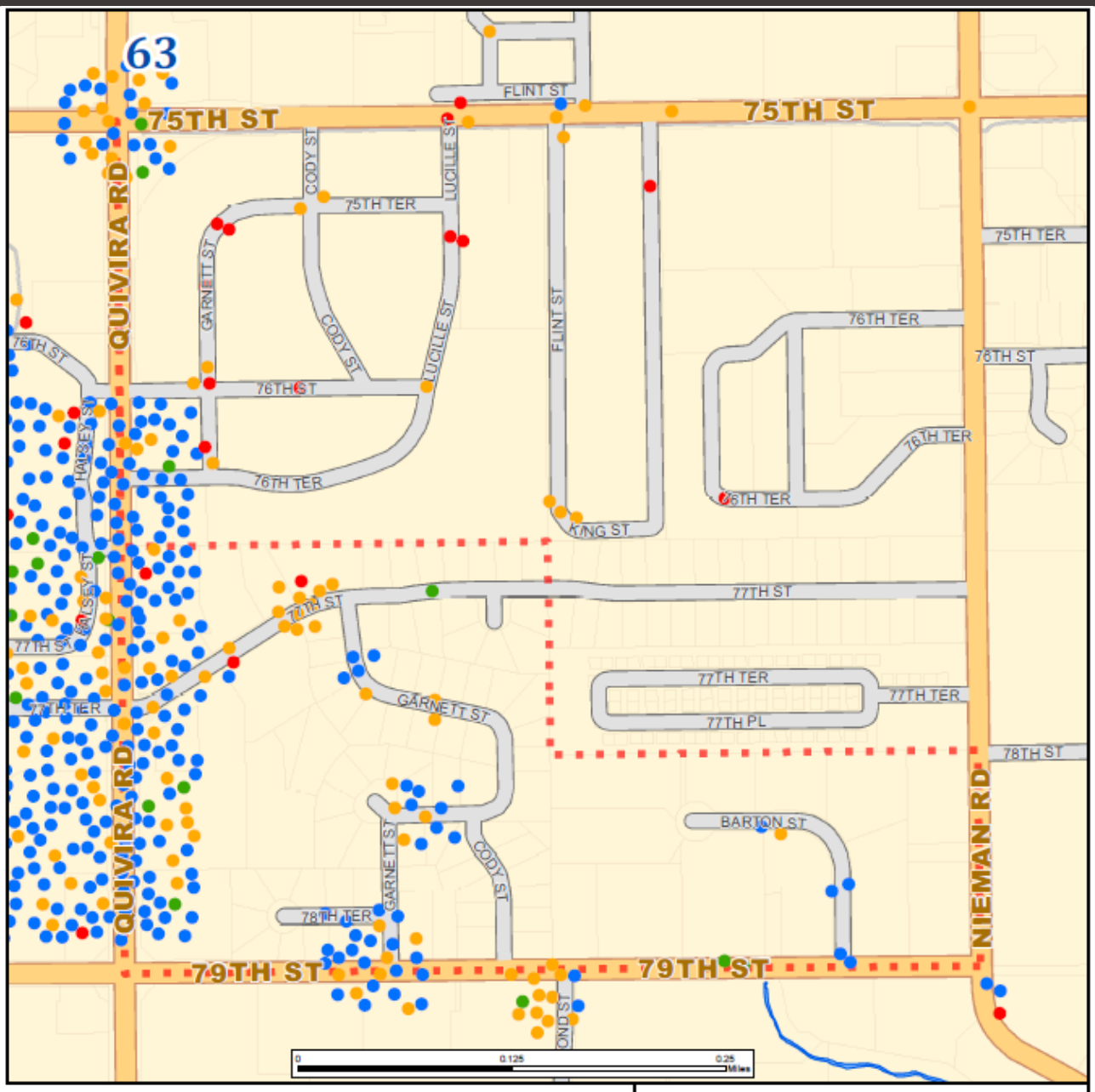
Occupancy	Address	OVAP Score
The Meadows Apartment Complex	7620 Halsey Street	49.60
The Reserve at 77	12000 W. 77th Terrace	40.00
Trailridge Middle School	7500 Quivira Road	37.80

Table 47

All three of these occupancies are located at the northeast boarder of the City challenging the Lenexa response time service level objectives. Further, any structure fire incidents will be an incident where the Lenexa Fire Department and Shawnee Fire Department agencies will work together.

Target Hazards:
Element Fitness

This planning zone contains 645 structures, with 23 fire inspected occupancies.

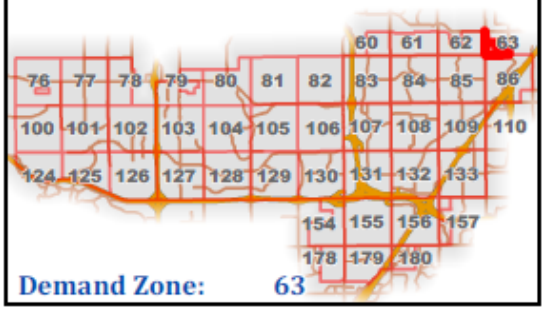


Community Profile

Community Profile Type: Mixed Use
Number of Residential Structures: 83
Number of Commercial Structures: 26
Total Number of Structures: 109
Average Value of Each Structure: $238,288
Estimated Value of Structures at Risk: $25,973,500
Code Enforced Occupancies: 51
Estimated Daytime Population: 428
Estimated Nighttime Population: 516
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 10
- EMS - 41
- Hazmat - 13
- Tech Rescue - 1
- Other - 42
- Demand Zone



Lenexa KANSAS

Zone Boundaries (Grid 63) Rural

The planning zone boundaries are Nieman Road to the east, 79th street to the south, Quivira Road to the west, and 77th Street to the north. This zone is a mix of commercial and residential properties.

Transportation Issues

Major transportation routes in this zone are the north/south travels of Quivira Road and the east/west travels of 79th Street. Traffic lights exist on Quivira Road at 79th Street and 77th Street. Both intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks
Identified significant risks in this planning zone:

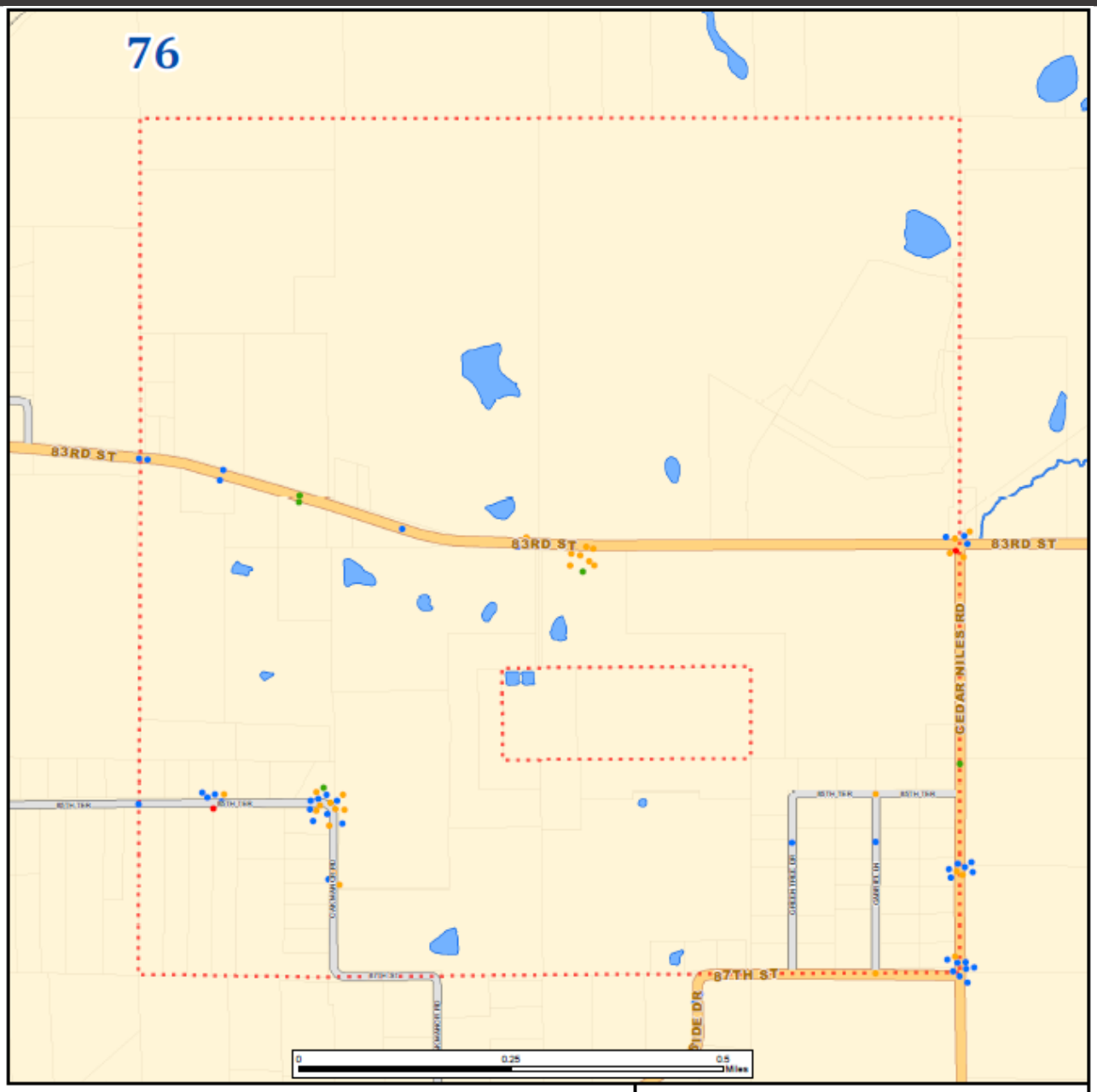
Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Bank of America	7747 Quivia Road	34.09
CCS Presentation Systems	7820 Barton Street	33.00
Lenexa Plaza	7727 Quivira Road	32.75
Tender Hearts	11740 W. 77th Street	25.73
Casey's General Store	7875 Quivira Road	23.47

Table 48

Target Hazards: None

This planning zone contains 109 structures, with 51 fire inspected occupancies.

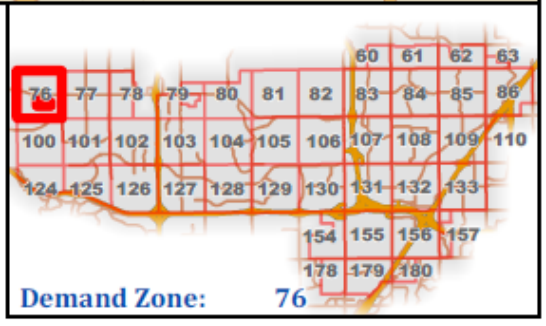


Community Profile

Community Profile Type: Rural / Residential
Number of Residential Structures: 139
Number of Commercial Structures: 0
Total Number of Structures: 139
Average Value of Each Structure: $81,039
Estimated Value of Structures at Risk: $11,264,550
Code Enforced Occupancies: 7
Estimated Daytime Population: 125
Estimated Nighttime Population: 30
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 5
- EMS - 30
- Hazmat - 1
- Tech Rescue - 0
- Other - 67
- Demand Zone



Zone Boundaries (Grid 76) Rural

The planning zone boundaries are Cedar Niles Road to the east, 8700 block to the south, City limits to the west, and 7900 block to the north. The Lenexa area in the zone is currently rural land and residential occupancies. The City of Olathe has a City water treatment facility located within this zone.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Cedar Niles Road and the east/west travel of 83rd Street. No traffic lights exist in this zone.

Identified Special Risks

Identified significant risks in this planning zone:

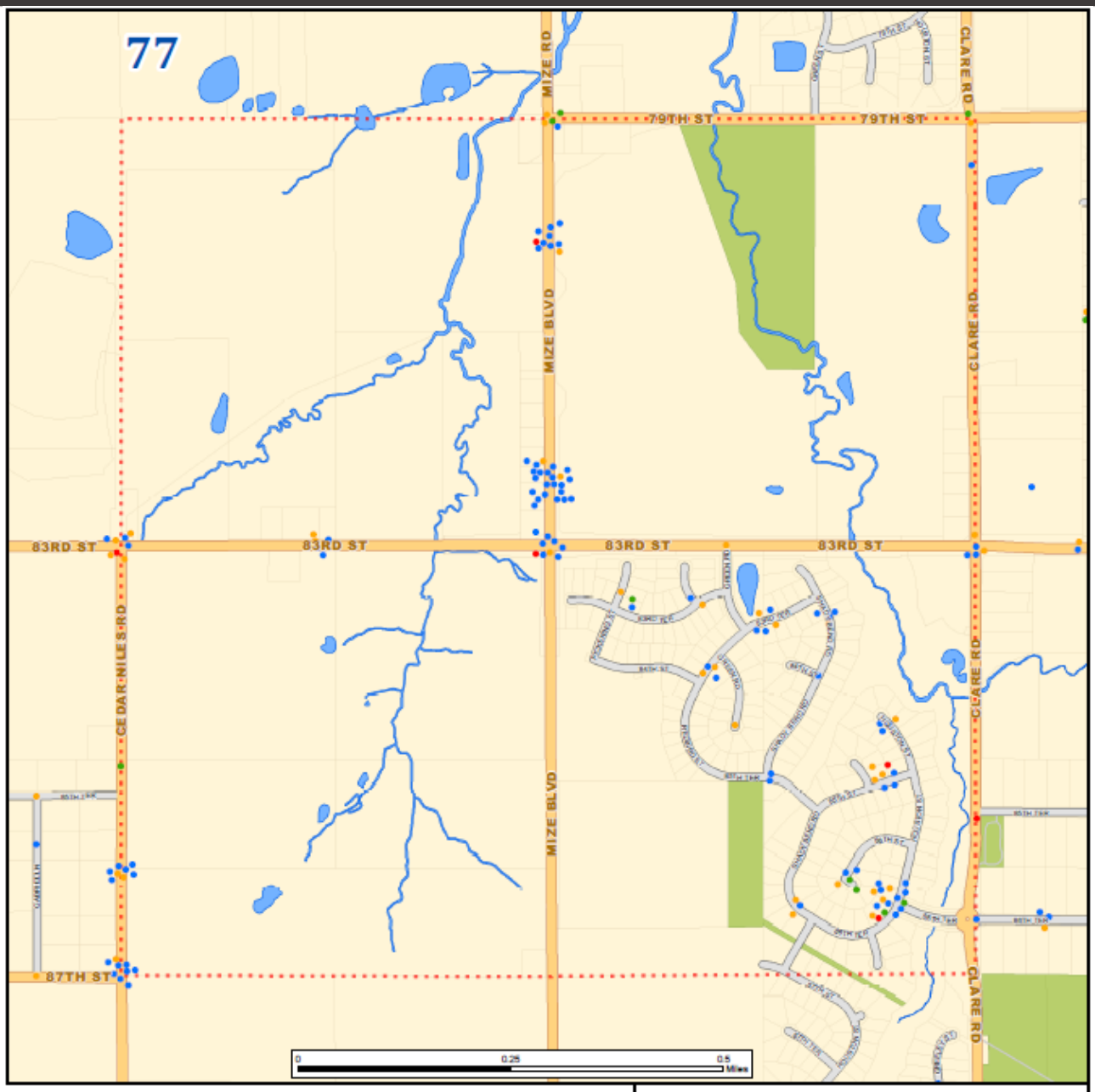
Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Olathe Water Treatment Plant #2	27065 W. 83rd Street	35.62

Table 49

Target Hazards: None

This planning zone contains 139 structures, with 7 fire inspected occupancies.

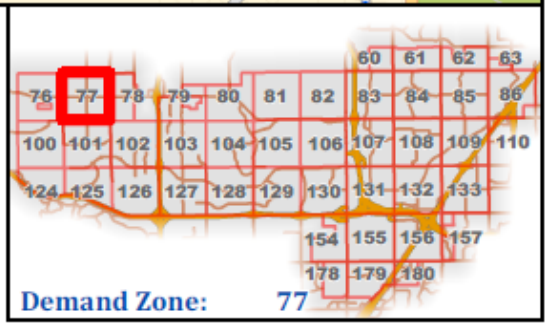


Community Profile

Community Profile Type: Rural / Residential
Number of Residential Structures: 136
Number of Commercial Structures: 0
Total Number of Structures: 136
Average Value of Each Structure: $385,457
Estimated Value of Structures at Risk: $52,422,200
Code Enforced Occupancies: 6
Estimated Daytime Population: 215
Estimated Nighttime Population: 23
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 9
- EMS - 28
- Hazmat - 1
- Tech Rescue - 0
- Other - 21
- Demand Zone



Zone Boundaries (Grid 77) Rural

The planning zone boundaries are Clare Road to the east, 8700 block to the south, Cedar Niles Road to the west, and 7900 block to the north. The Lenexa area in the zone is currently rural land, residential occupancies, and a middle school.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Clare Road and Mize Boulevard, and the east/west travel of 83rd Street.

Identified Special Risks

Identified significant risks in this planning zone:

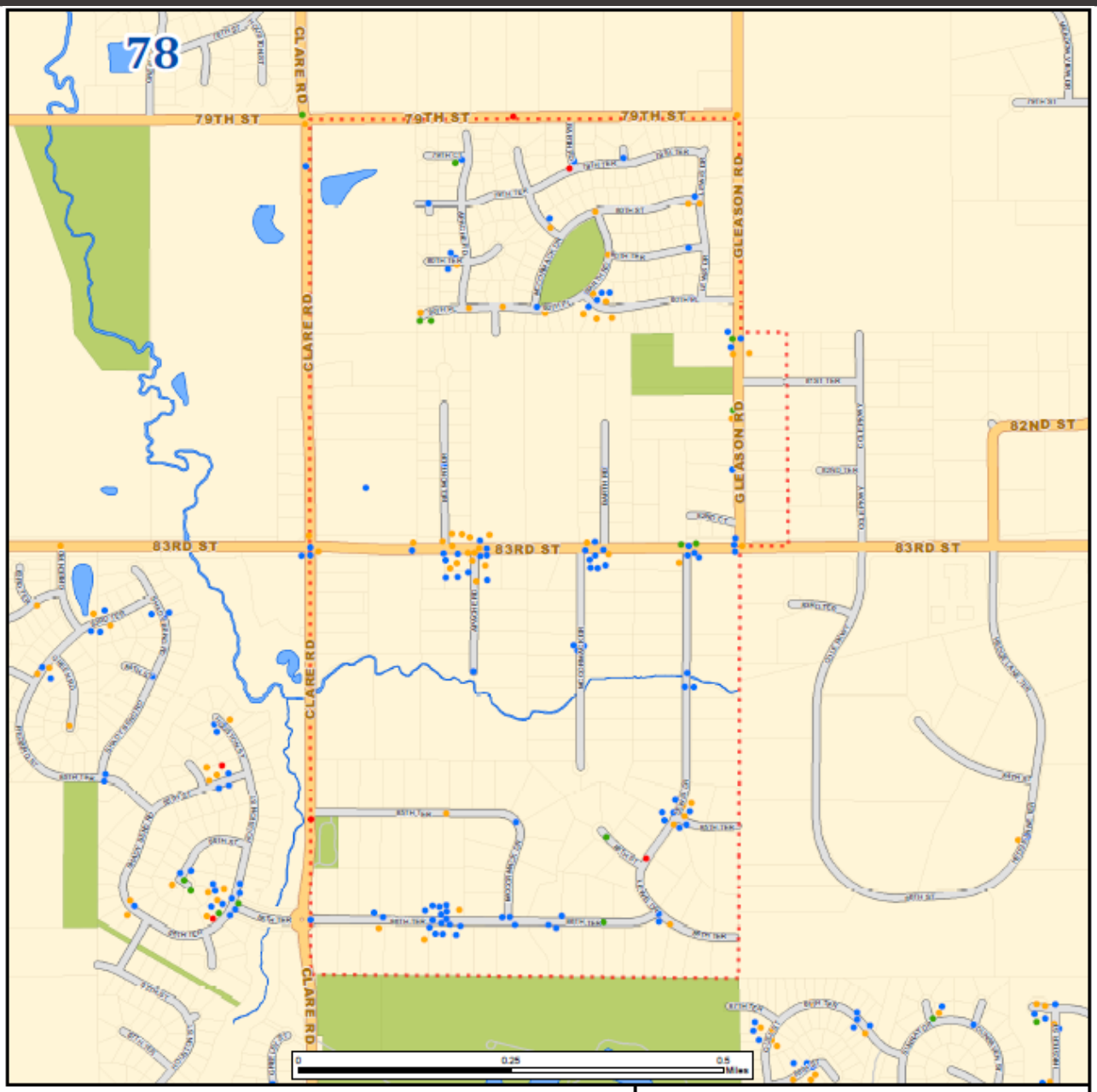
Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Mill Creek Middle School	8001 Mize Boulevard.	41.45

Table 50

Target Hazards: None

This planning zone contains 136 structures, with 6 fire inspected occupancies.

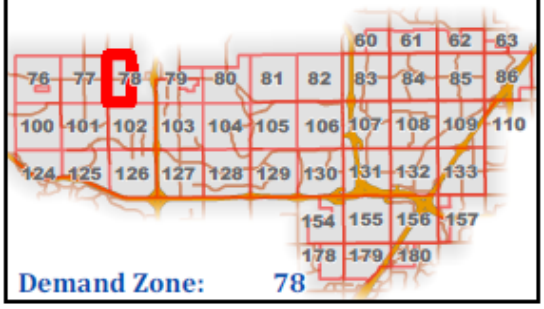


Community Profile

Community Profile Type: Residential
Number of Residential Structures: 457
Number of Commercial Structures: 0
Total Number of Structures: 457
Average Value of Each Structure: $133,112
Estimated Value of Structures at Risk: $60,832,280
Code Enforced Occupancies: 19
Estimated Daytime Population: 576
Estimated Nighttime Population: 45
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 12
- EMS - 90
- Hazmat - 6
- Tech Rescue - 0
- Other - 58
- Demand Zone



Zone Boundaries (Grid 78) Rural

The planning zone boundaries are Kansas Highway 7 to the east, 8700 block to the south, Clare Road to the west, and 7900 block to the north, but just over half of the zone is in the City limits of Lenexa. The Lenexa area in the zone is residential occupancies. The City of Shawnee area in the zone is an industrial park. Lenexa Fire Station #3 was located in this planning zone in 2004, but relocated to planning zone 102 in 2005. Incident demand dropped after the move as Lenexa was no longer the closest unit for the Shawnee call demands in the zone.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Clare Road and Kansas Highway 7, and the east/west travel of 83rd Street. Traffic lights exist at the major intersection of 83rd Street and Kansas Highway 7 and 83rd Street and Cole Avenue. These traffic light intersections have an OPTICOM™ emergency traffic control receiver.

Identified Special Risks

Identified special risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

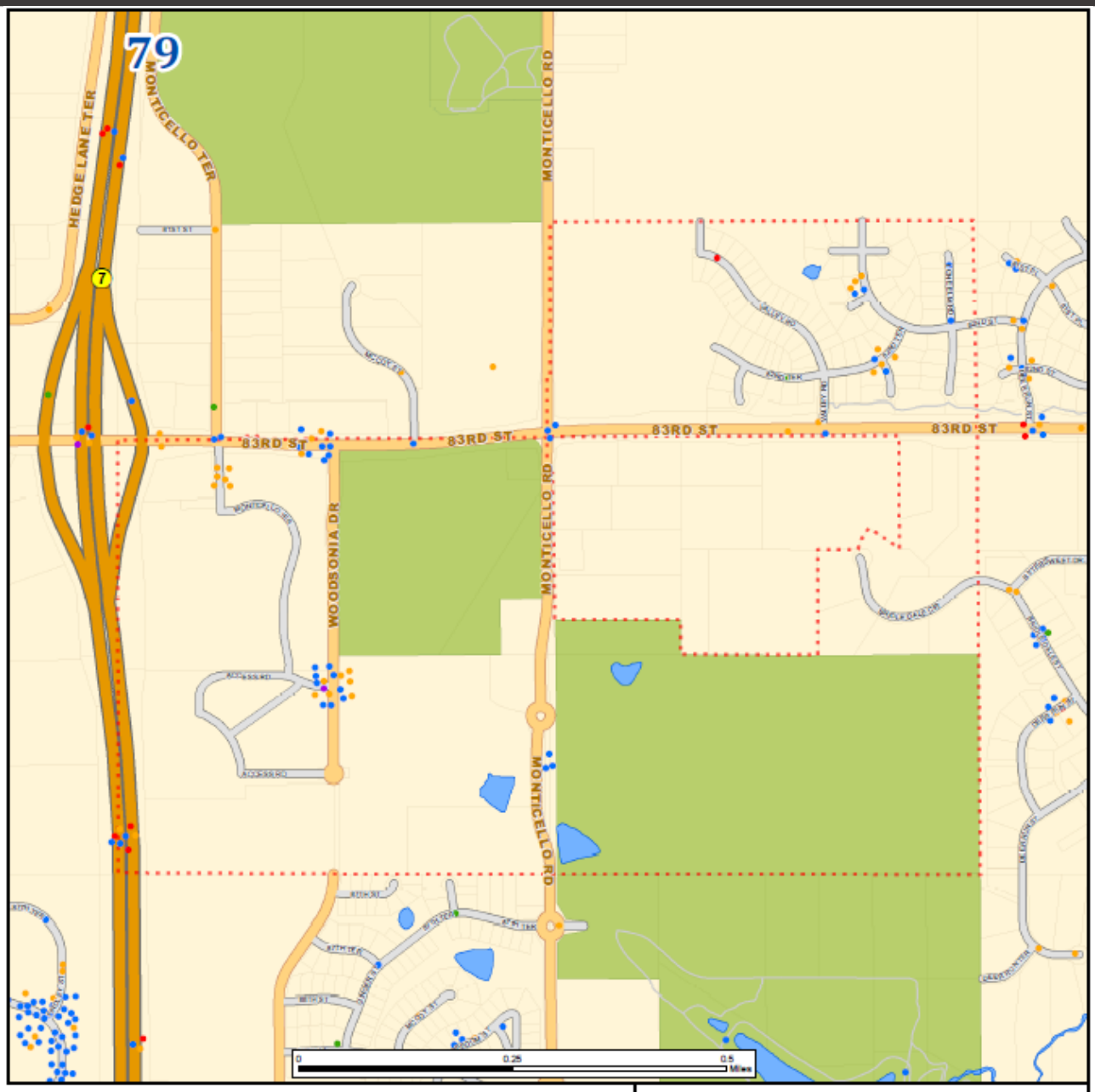
Occupancy	Address	OVAP Score
Monticello Community Historical Society	23860 W. 83rd Street	33.29
Seventh-Day Adventist Church	24450 W. 83rd Street	24.93
Fresh Start Church of God	8305 Lewis Drive	23.60

Table 51

Target Hazards:

- Traffic incidents on Kansas Highway 7

This planning zone contains 457 structures, with 19 fire inspected occupancies.

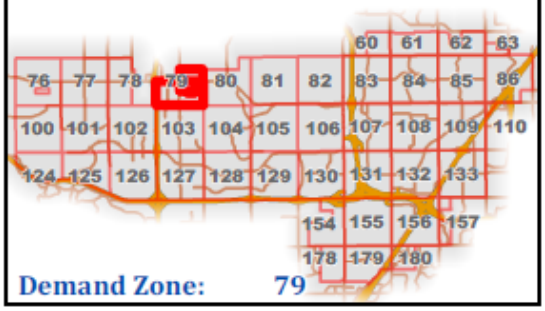


Community Profile

Community Profile Type: Rural / Residential
Number of Residential Structures: 47
Number of Commercial Structures: 4
Total Number of Structures: 51
Average Value of Each Structure: $443,481
Estimated Value of Structures at Risk: $22,617,540
Code Enforced Occupancies: 4
Estimated Daytime Population: 378
Estimated Nighttime Population: 18
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 4
- EMS - 27
- Hazmat - 2
- Tech Rescue - 0
- Other - 24
- Demand Zone



Zone Boundaries (Grid 79) Rural

The planning zone boundaries are Bridledale Street to the east, 8700 block to the south, Kansas 7 Highway to the west, and 8100 block to the north.

Transportation Issues

The major transportation route in this zone is 83rd Street. There is a traffic light at Kansas 7 Highway and 83rd Street and Woodsonia Drive and 83rd Street. These traffic light intersections have an OPTICOM™ emergency traffic control receiver.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Westside Family Church	8500 Woodsonia Drive	38.27
Powder Creek Gun Club	8601 Monticello Road	27.50
K-7 Retail Center	22907-22919 W. 83rd Street	26.15

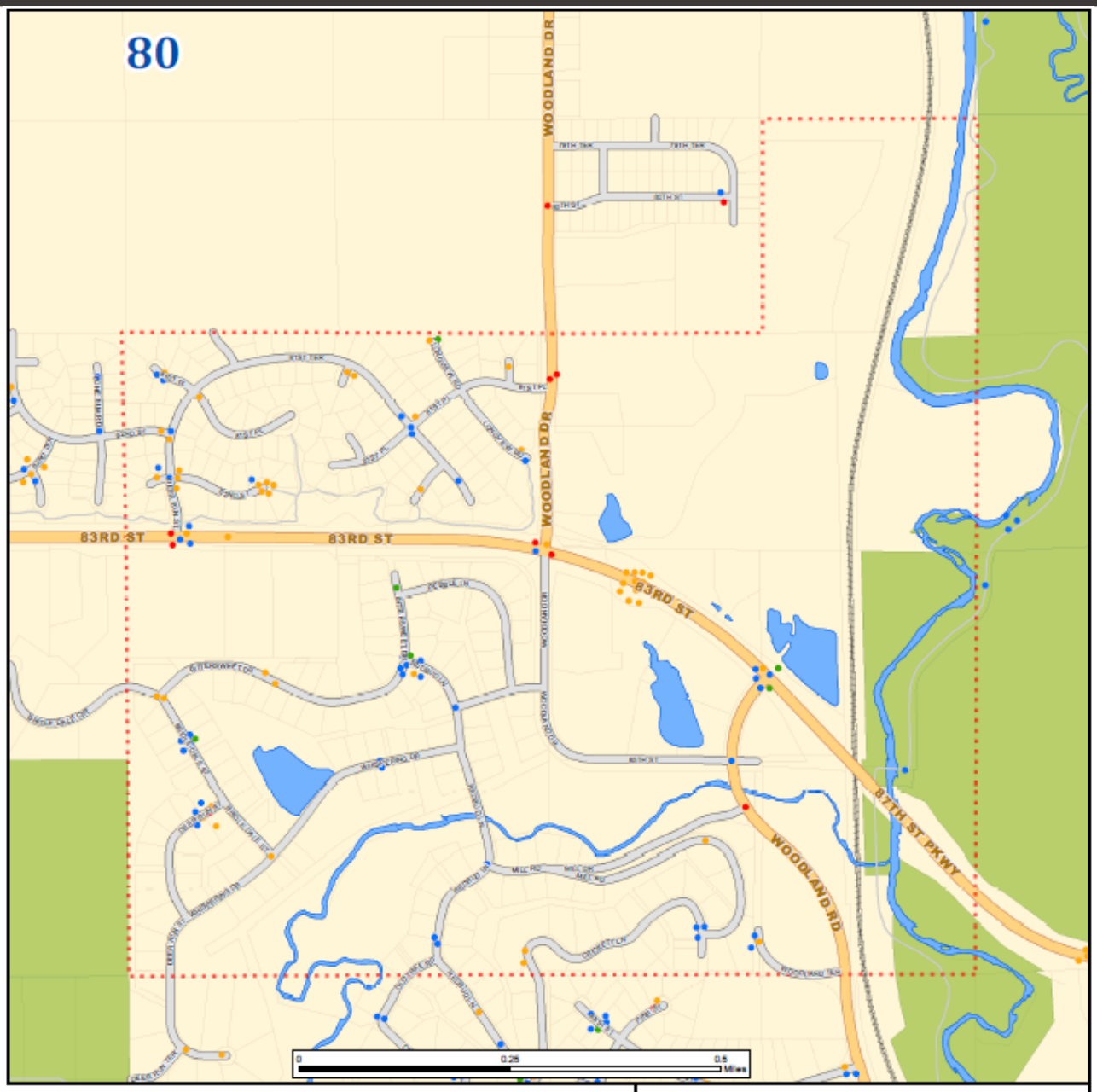
Table 52

Target Hazard:

- Traffic incidents on Kansas Highway 7
- Freedom Fields

Kansas Highway 7 does not currently have the traffic volume of the 3 primary highways running through the City of Lenexa, but volume will continue to increase as the northwestern portion of Johnson County develops.

This planning zone contains 51 structures, with 4 fire inspected occupancies.

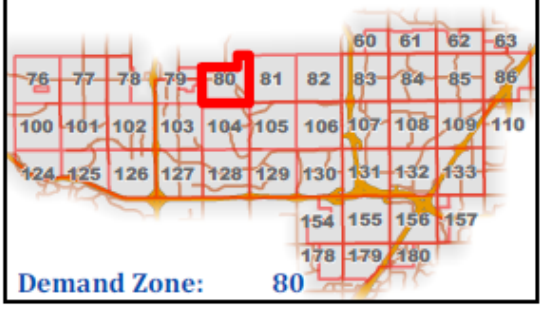


Community Profile

Community Profile Type: Rural / Residential
Number of Residential Structures: 288
Number of Commercial Structures: 1
Total Number of Structures: 289
Average Value of Each Structure: $297,220
Estimated Value of Structures at Risk: $85,896,630
Code Enforced Occupancies: 10
Estimated Daytime Population: 608
Estimated Nighttime Population: 107
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 7
- EMS - 59
- Hazmat - 12
- Tech Rescue - 1
- Other - 33
- Demand Zone



Zone Boundaries (Grid 80) Rural

The planning zone boundaries are Woodland Drive to the east, 8700 block to the south, Bridledale to the west, and 7900 block to the north.

Transportation Issues

The major transportation route in this zone is 87th Street Parkway/83rd Street. There are no traffic lights in this planning zone.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Bristol Ridge	21315 W. 82nd Street	24.57

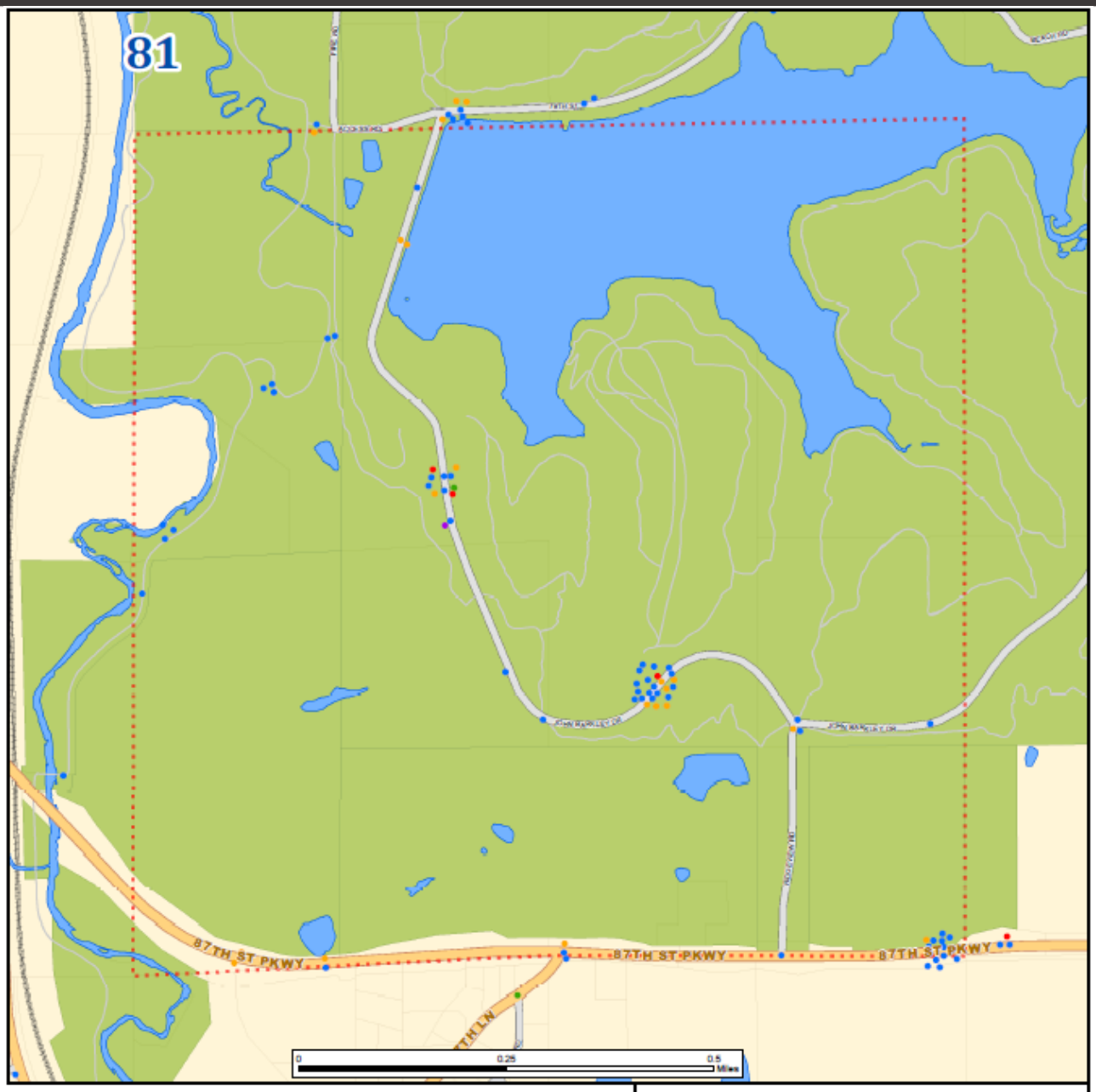
Table 53

Target Hazard:

- Whispering Hills Residential Subdivision
- Private residence, 8141 Woodland Drive
- Private residence, 8275 Woodland Drive

Whispering Hills Subdivision provides some unique response challenges, including narrow, steep roadways, covered bridge, low water crossing with flash flooding concerns, and reduced hydrant flows. The private residences at 8141 and 8275 Woodland Road have difficult access points that require a hose lay of 2000’ or more from the nearest hydrant.

This planning zone contains 289 structures, with 10 fire inspected occupancies.

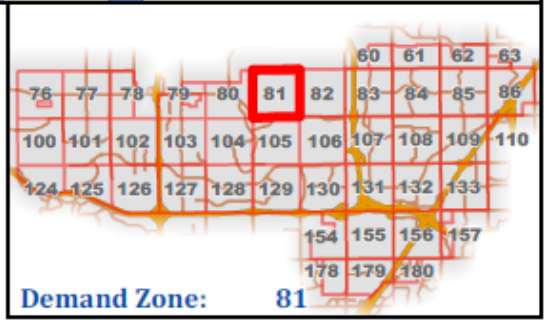


Community Profile

Community Profile Type: Rural / Residential
Number of Residential Structures: 42
Number of Commercial Structures: 0
Total Number of Structures: 42
Average Value of Each Structure: $18,654
Estimated Value of Structures at Risk: $783,480
Code Enforced Occupancies: 1
Estimated Daytime Population: 74
Estimated Nighttime Population: 111
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 2
- EMS - 45
- Hazmat - 0
- Tech Rescue - 3
- Other - 13
- Demand Zone



Zone Boundaries (Grid 81) Rural

The planning zone boundaries are 18300 block to the east, 87th Street Parkway to the south, 19900 block to the west, and 7900 block to the north. This area is predominately Johnson County parkland.

Transportation Issues

The major transportation route in this zone is 87th Street Parkway. There are no traffic lights in this planning zone.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Johnson Co. 3&2 Baseball Inc.	18300 W. 87th Street	16.87

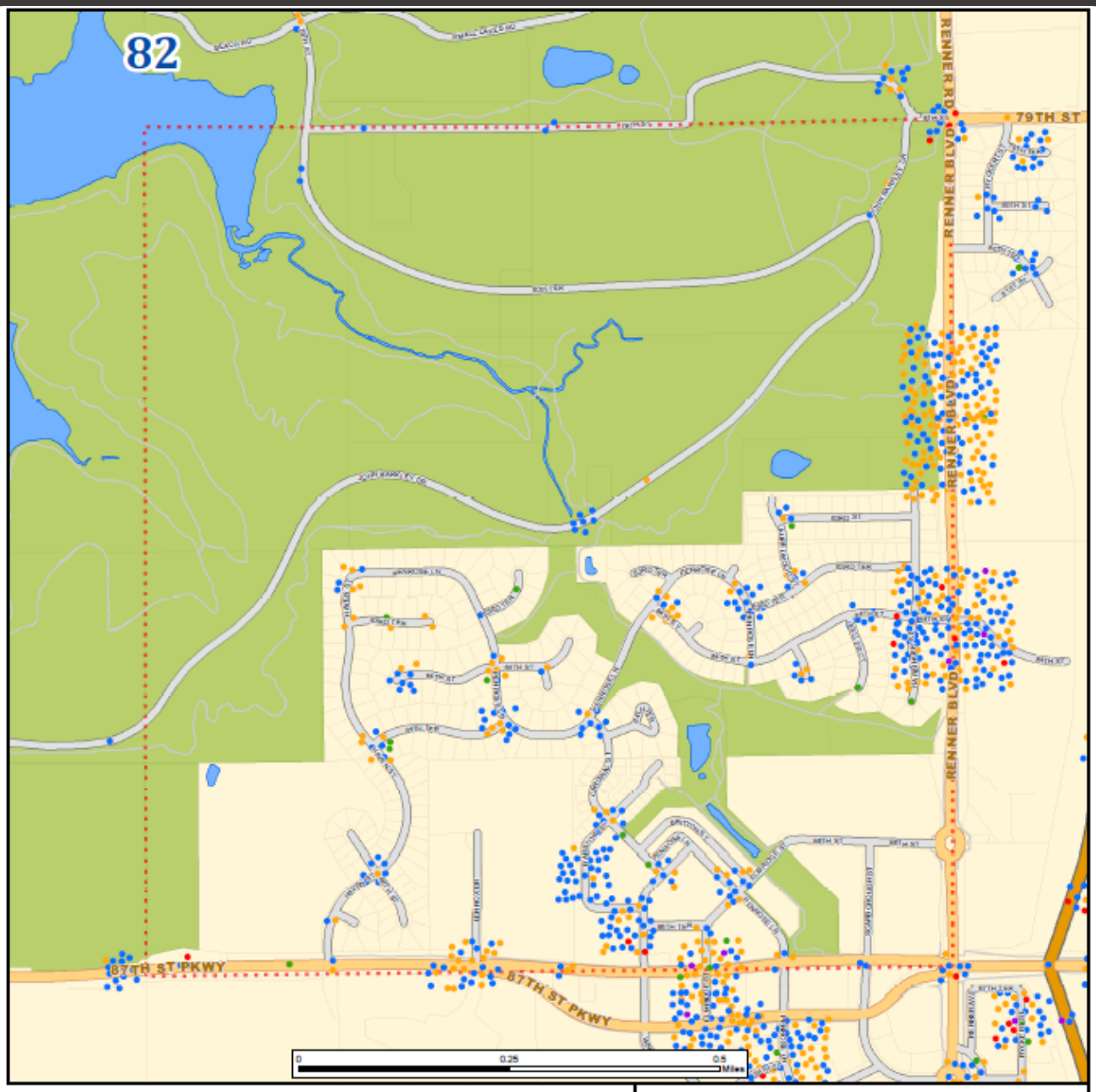
Table 54

Target Hazards:

- Shawnee Mission Park

Shawnee Mission Park is the flagship park for the Johnson County Park and Recreation District. The park is 1250 acres in size with a 120 acre lake, marina, swimming beach, numerous picnic shelters, a 53 acre dog off-leash area with many miles of hiking, biking, and horseback riding trails. Visitation is in excess of one million people annually. Significant portions of the park are not vehicle accessible.

This planning zone contains 42 structures, with 1 fire inspected occupancies.

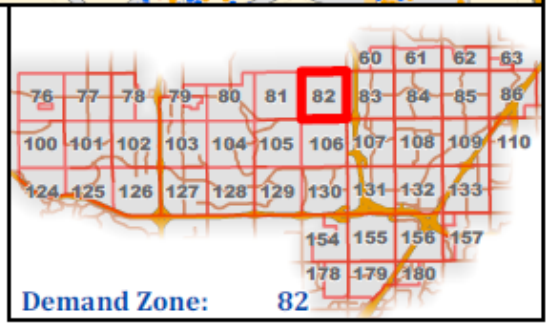


Community Profile

Community Profile Type: Residential
Number of Residential Structures: 368
Number of Commercial Structures: 36
Total Number of Structures: 404
Average Value of Each Structure: $398,403
Estimated Value of Structures at Risk: $160,954,890
Code Enforced Occupancies: 18
Estimated Daytime Population: 1839
Estimated Nighttime Population: 590
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 11
- EMS - 147
- Hazmat - 11
- Tech Rescue - 0
- Other - 62
- Demand Zone



Zone Boundaries (Grid 82) Rural

The planning zone boundaries are Renner Boulevard to the east, 87th Street Parkway to the south, Shawnee Mission Park (18300 Block) to the west, and 7900 block to the north. This area is currently residential with major commercial and multi-family development in Lenexa City Center.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Renner Boulevard and the east/west travel of 87th Street Parkway. Traffic lights exist at the major intersections of Renner Boulevard and on 87th Street Parkway. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Springhill Suites	17190 W. 87th Street	44.13
West End at City Center Apartment Complex	17410 W. 86th Terrace.	42.93
National Guard Armory	18200 W. 97th Street Parkway	37.02
City Center Church	17450 W. 87th Street Parkway	36.40
Community of Christ Church	17620 W. 87th Street Parkway	29.73

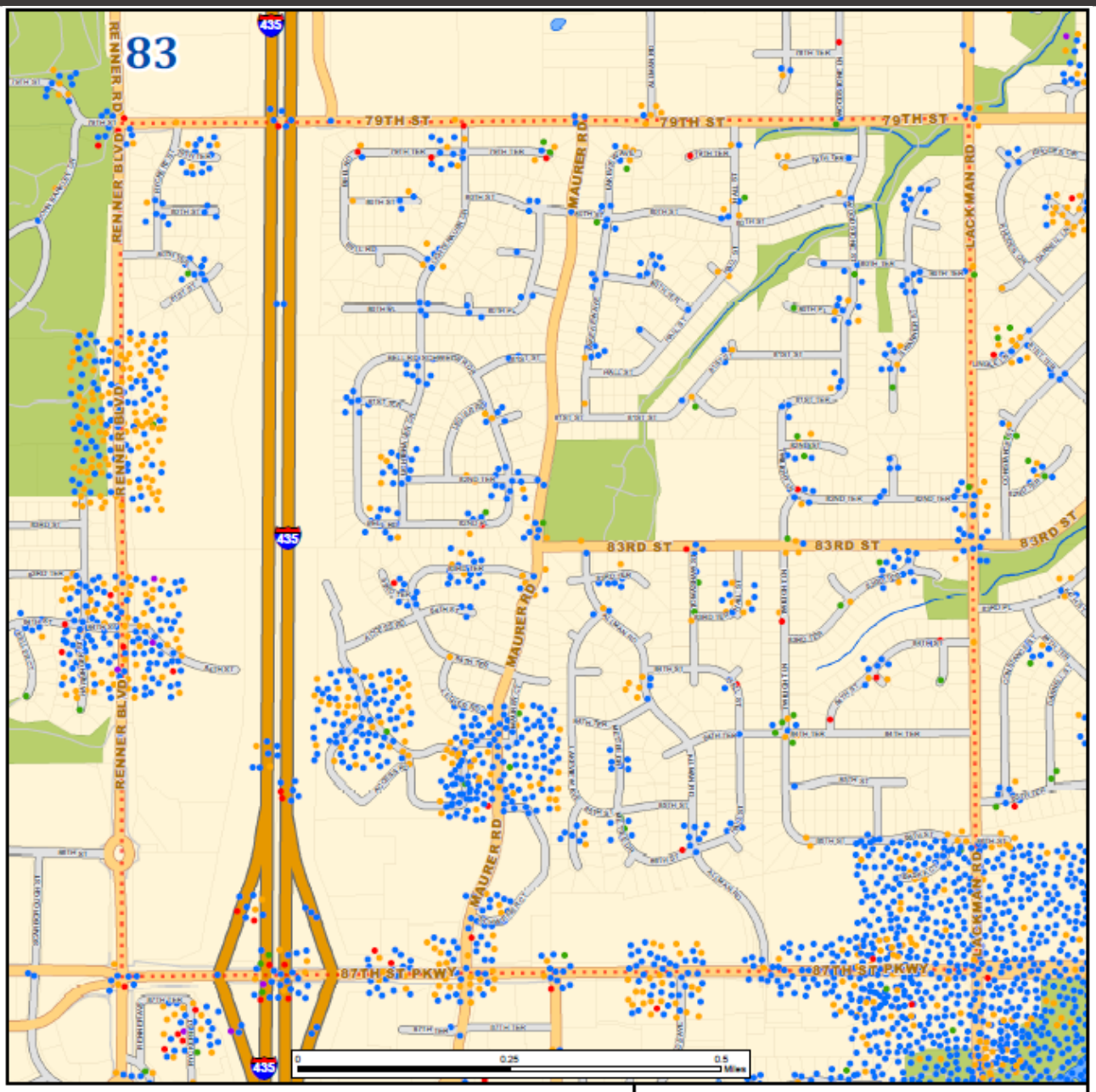
Table 55

Target Hazard:

- National Guard Armory
- Shawnee Mission Park, 7900 Renner Road

The proposed build-out of City Center will include the new locations for future retail, commercial, hospital, and residential development.

This planning zone contains 404 structures, with 18 fire inspected occupancies.

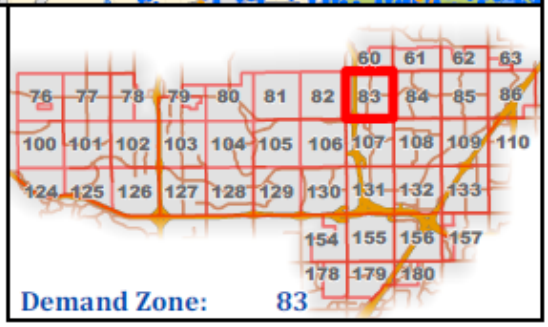


Community Profile

Community Profile Type: Residential
Number of Residential Structures: 1348
Number of Commercial Structures: 7
Total Number of Structures: 1355
Average Value of Each Structure: $270,049
Estimated Value of Structures at Risk: $365,917,250
Code Enforced Occupancies: 56
Estimated Daytime Population: 4623
Estimated Nighttime Population: 570
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 37
- EMS - 642
- Hazmat - 48
- Tech Rescue - 0
- Other - 322
- Demand Zone



Zone Boundaries (Grid 83) Urban

The planning zone boundaries are Lackman Road to the east, 87th Street Parkway to the south, Renner Boulevard to the west, and 79th Street to the north. This area is predominately residential except for the 87th Street Parkway and Interstate Highway 435 corridors.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Interstate Highway 435, Renner and Lackman Roads, the east/west travel of 79th Street and 87th Street Parkway. Traffic lights exist at the major intersections of 87th Street Parkway and Lackman Road, 87th Street Parkway and Renner Boulevard, and the on/off ramps to Interstate Highway 435. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
WaterCrest Apts	8451 Renner Road	48.00
Edge Water Apts	8395 Renner Road	45.60
Urban Air Park	8554 Maurer Road	41.60
Crescent Apts	8502 Maurer Road	39.60
The Pointe at City Center	8640 Schweiger Court	37.87
Christa McAuliffe Elementary	15600 W. 83rd Street	36.40
Lenexa Ad Astra Pool	8265 Maurer Road	31.17
Park Edge Apartments	8201 Renner Road	30.40

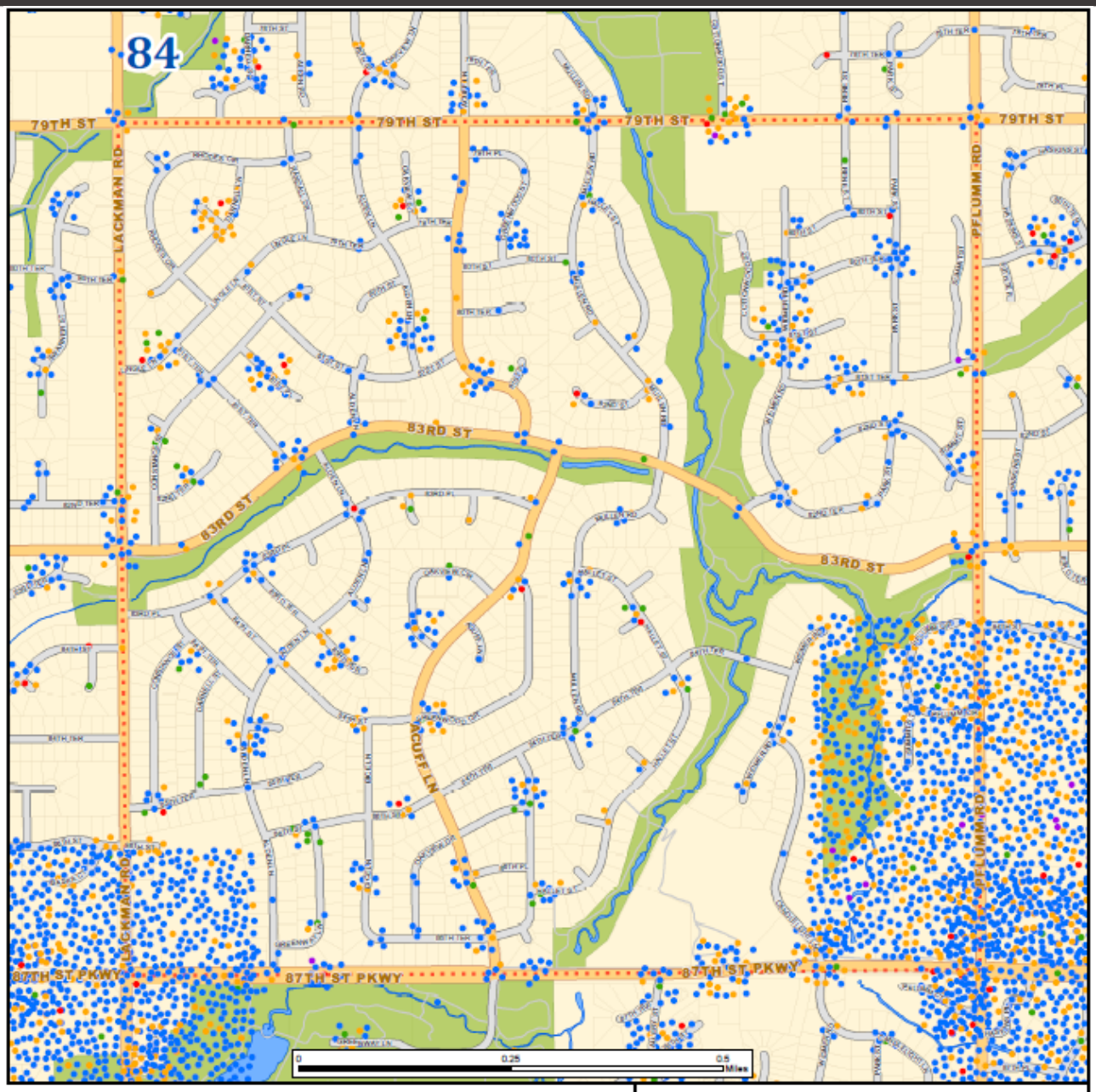
Table 56

Target Hazards:

- Interstate Highway 435
- The Pointe at City Center
- Calvary Baptist Church
- Community Covenant Church
- Lenexa Baptist Church

This is a dense residential zone with some commercial structures along 87th Street Parkway including strip shops, churches and restaurants. The Pointe at City Center Apartments are not equipped with residential sprinklers. Interstate Highway 435 is heavily traveled with high speed transportation passengers, goods and hazardous materials. Calvary Baptist, Community Covenant, and Lenexa Baptist Church have “high” occupancy loads during worship service times.

This planning zone contains 1355 structures, with 56 fire inspected occupancies.

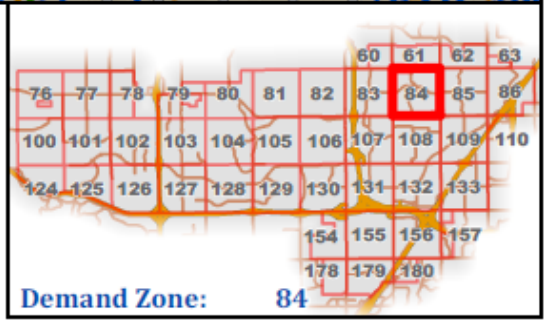


Community Profile

Community Profile Type: Residential
Number of Residential Structures: 1489
Number of Commercial Structures: 11
Total Number of Structures: 1500
Average Value of Each Structure: $221,216
Estimated Value of Structures at Risk: $331,825,050
Code Enforced Occupancies: 67
Estimated Daytime Population: 3557
Estimated Nighttime Population: 678
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 22
- EMS - 717
- Hazmat - 56
- Tech Rescue - 6
- Other - 266
- Demand Zone



Zone Boundaries (Grid 84) Urban

The planning zone boundaries are Pflumm Road to the east, 87th Street Parkway to the south, Lackman Road to the west, and 79th Street to the north. This area is predominately residential except for the 87th Street Parkway corridor.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Pflumm and Lackman Roads, and the east/west travel of 79th Street and 87th Street Parkway. Traffic lights exist at the intersection of 79th Street and Pflumm Road, 87th Street Parkway and Pflumm Road, 83rd Street and Pflumm Road, 87th Street Parkway and Candlelight Road, 87th Street Parkway and Greenway Lane, and 87th Street Parkway and Lackman Road. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Mill Creek Elementary	13951 W. 79th Street	43.60
Lackman Business Center	14910-14950 W. 87th Street Parkway	42.90
Rising Star Elementary	8600 Candlelight Road	37.02
Village Cooperative	14000 W. 87th Street Parkway	36.00
Rosewood Place	8500 Pflumm Road	33.87

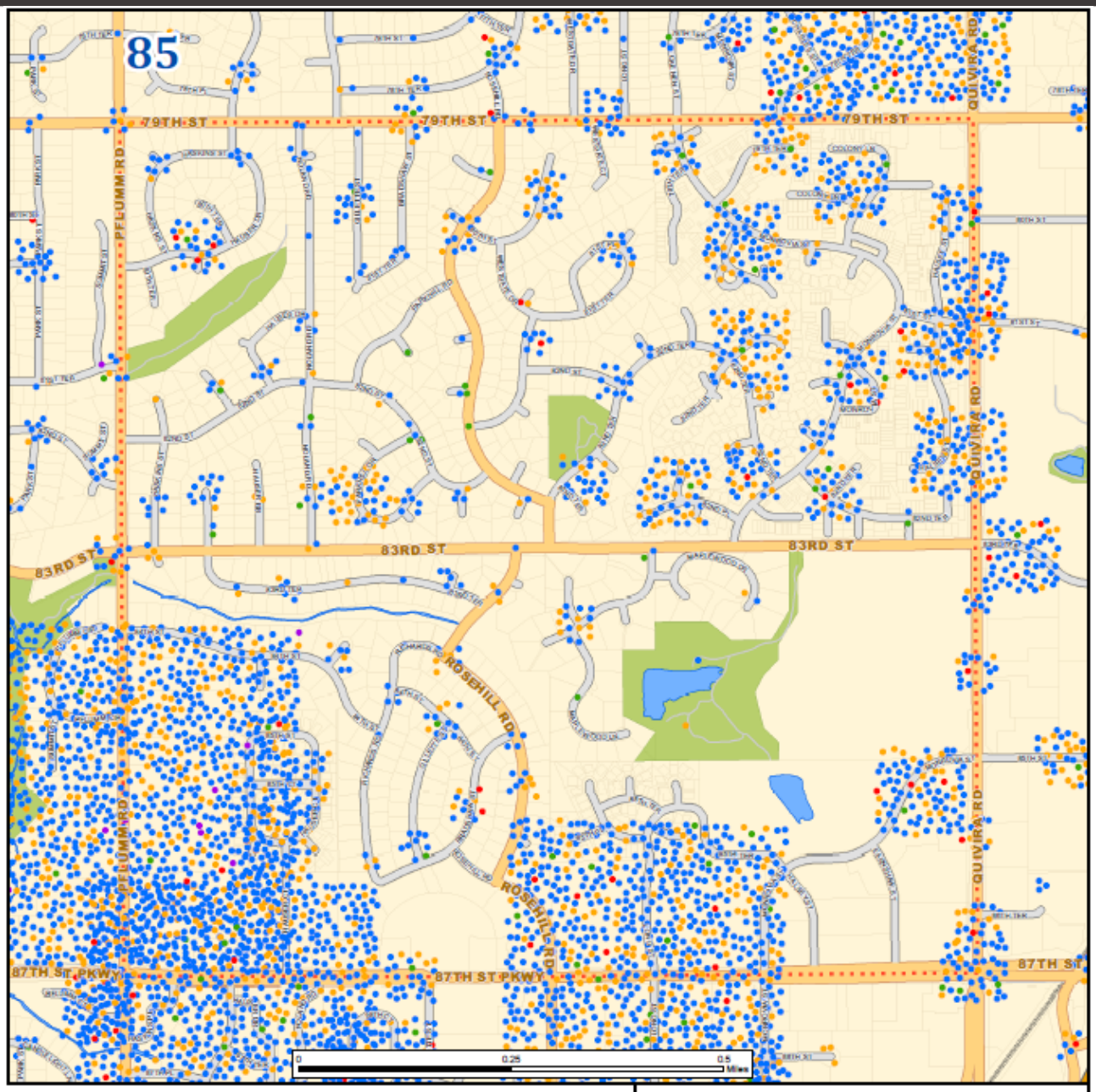
Table 57

Target Hazards:

- La Petite Daycare
- Rising Star Elementary
- Village Cooperative

This is a densely populated residential zone with some commercial occupancies along 87th Street Parkway including strip shops, office buildings and restaurants. LaPetite is a daycare facility with numerous children ranging from infant to toddler age. The Village Cooperative is a retirement community within this planning area grid.

This planning zone contains 1500 structures, with 67 fire inspected occupancies.

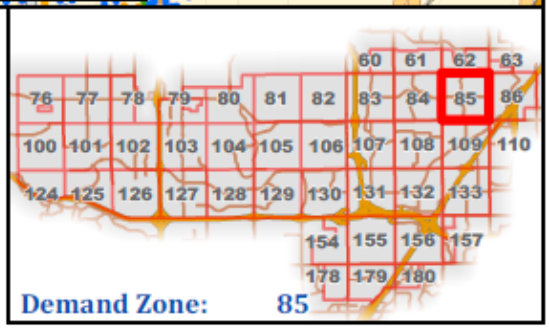


Community Profile

Community Profile Type: Residential
Number of Residential Structures: 1332
Number of Commercial Structures: 37
Total Number of Structures: 1369
Average Value of Each Structure: $258,111
Estimated Value of Structures at Risk: $353,354,550
Code Enforced Occupancies: 174
Estimated Daytime Population: 3737
Estimated Nighttime Population: 2459
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 25
- EMS - 1390
- Hazmat - 71
- Tech Rescue - 3
- Other - 314
- Demand Zone



Zone Boundaries (Grid 85) Urban

The planning zone boundaries are Quivira Road to the east, 87th Street Parkway to the south, Pflumm Road to the west, and 79th Street to the north. This area is predominately residential except for the 87th Street Parkway and Quivira Road corridors. Residential occupancies are west of Quivira Road and north of 87th Street Parkway.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Quivira Road and Pflumm Road, and the east/west travel of 79th Street and 87th Street Parkway. Traffic lights exist at the intersection of 79th Street and Quivira Road, 87th Street and Quivira Road, 79th Street Parkway and Pflumm Road, 87th Street Parkway and Pflumm Road and all major intersections on Quivira between 79th Street and 87th Street Parkway. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Westchester Square	13248-13306 W. 87th Street Parkway	42.90
Westchester Village	8500 Pflumm Road	42.00
Lenexa Public Safety Complex	12350-12500 W. 87th Street Parkway	39.20
Central Church of the Nazarene	12600 W. 87th Street Parkway	38.73
Greystone Shops	12808 W. 87th Street Parkway	38.27
The Crossing Apts	8528 Monrovia Steet	36.67

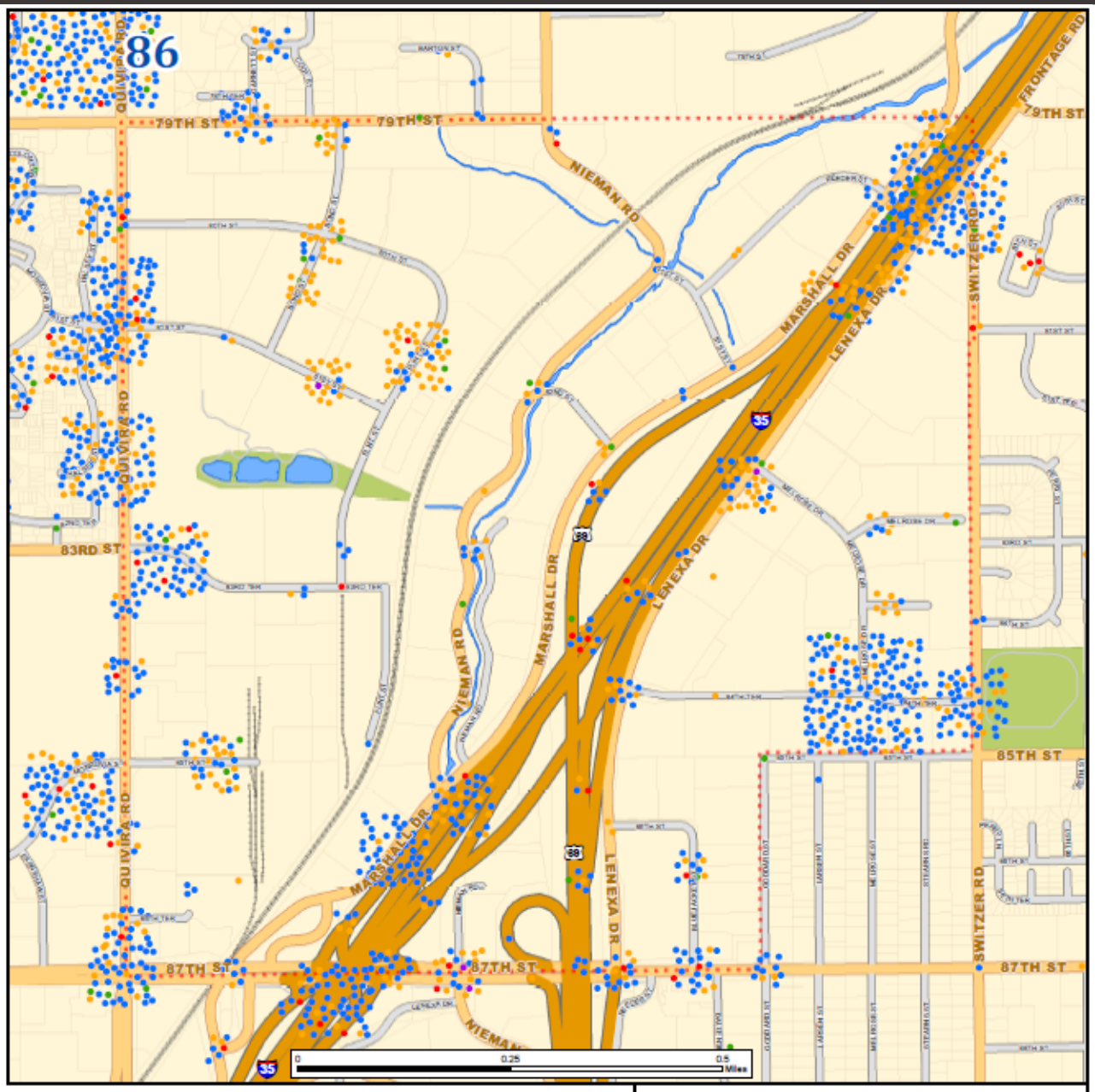
Table 58

Target Hazards:

- Lenexa Police Department, 12500 W. 87th Street Parkway
- Kreative Kids Daycare
- Davita Dialysis

This is a dense residential zone with some commercial structures along the main transport routes including strip shops, office buildings and restaurants. The City of Lenexa Public Safety Complex is at risk as a terrorism target. Kreative Kids is a daycare facility with numerous children ranging from infant to toddler age. Davita Dialysis has multiple patients receiving dialysis and who may not be ambulatory.

This planning zone contains 1369 structures, with 174 fire inspected occupancies.

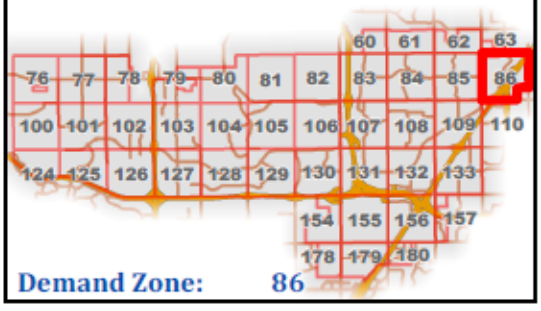


Community Profile

Community Profile Type: Industrial
Number of Residential Structures: 0
Number of Commercial Structures: 128
Total Number of Structures: 128
Average Value of Each Structure: $1,835,907
Estimated Value of Structures at Risk: $234,996,140
Code Enforced Occupancies: 36
Estimated Daytime Population: 4446
Estimated Nighttime Population: 9236
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 36
- EMS - 702
- Hazmat - 35
- Tech Rescue - 3
- Other - 354
- Demand Zone



Zone Boundaries (Grid 86) Urban

This area is predominately office parks, industrial and commercial/retail occupancies east. This planning zone is in the northeast aspect of the city and receives an initial Engine Company responds from Lenexa's Fire Station #6 and the City of Shawnee (automatic aid) for structure fire incidents north of 83rd Street and west of Interstate Highway 35, and initial automatic aid from the City of Overland Park east of Interstate Highway 35 because of the distance from Lenexa's Fire Stations #1 and #2.

Transportation Issues

Major transportation routes in this zone are Interstate Highway 35 which transects the zone diagonally southwest to northeast. A Burlington Northern Santa Fe (BNSF) main rail line also extends along the west side of Interstate Highway 35. Major north/south routes are Switzer Road to the east, and Quivira Road to the west. Traffic lights exist at the intersection of 79th Street and Quivira Road, 87th Street and Quivira Road, 79th Street and Switzer Road, 87th Street Parkway and Switzer Road, and also at the on and entry/exit ramps of Interstate Highway 35 at 79th and 87th Streets. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Lenexa BP/Amoco	10700 W. 87th Street Parkway	41.80
WaterSide Apts	8181 Quivira Road	36.89
Extended Stay	8015 Lenexa Drive	35.44

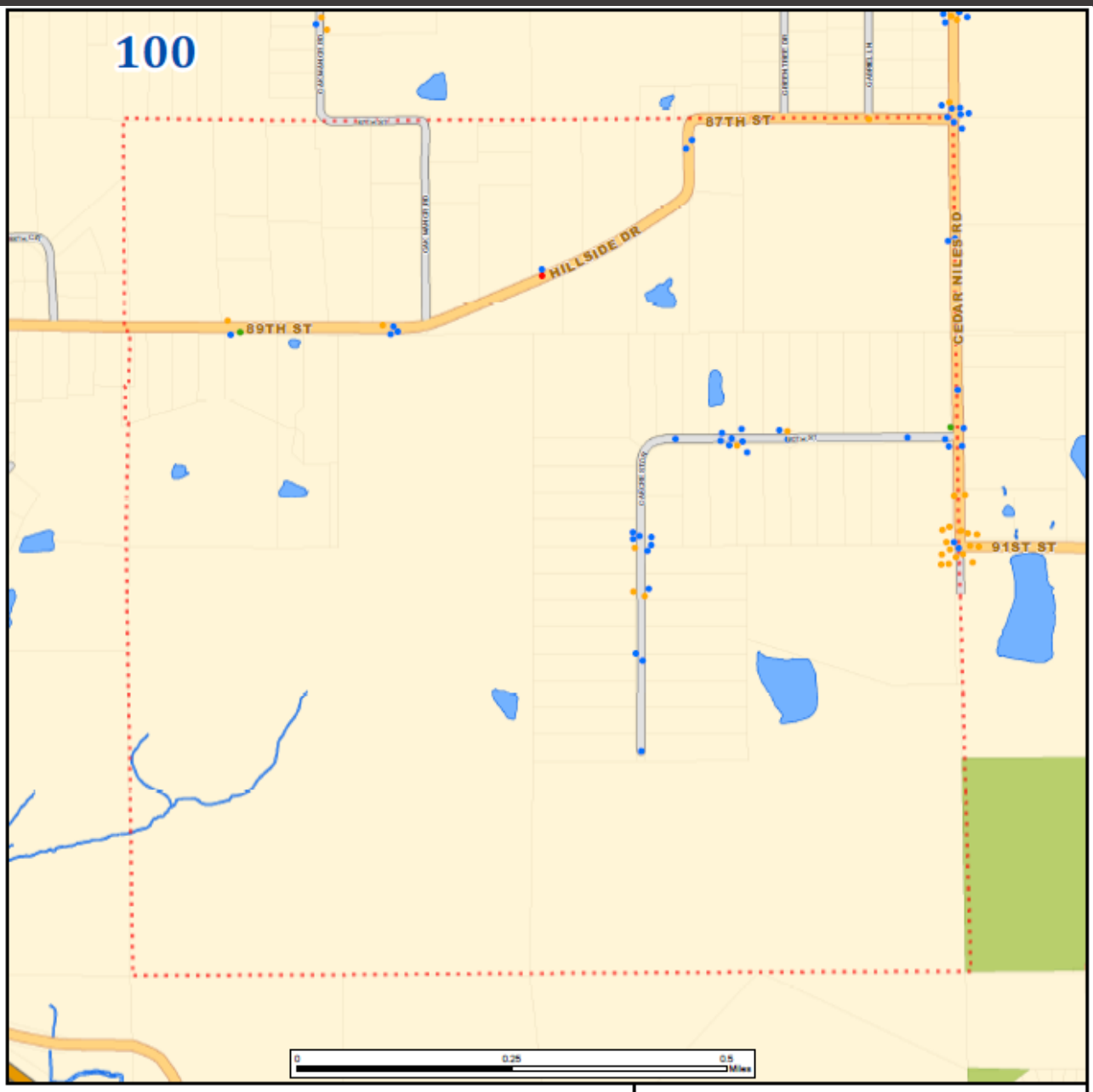
Table 59

Target Hazards:

- Federal Office of Regulatory Affairs, 11630 W. 80th Street
- Food and Drug Administration, 11510 W. 80th Street
- Clinical Reference Laboratory, 8433 Quivira
- Interstate Highway 35

Strip shops, office buildings and warehouses are common in this zone. The Federal Office of Regulatory Affairs and the Food and Drug Administration Buildings are potential terrorist targets. The Clinical Reference Labs host a biological hazard, and Interstate Highway 35 and the BNSF rail lines are significant transportation target risks. Any structure fire incident would be an incident where the Lenexa Fire Department and Shawnee or Overland Park Fire Department personnel would work together. Interstate Highway 35 is heavily traveled with high speed transportation passengers, goods and hazardous materials.

This planning zone contains 128 structures, with 36 fire inspected occupancies.

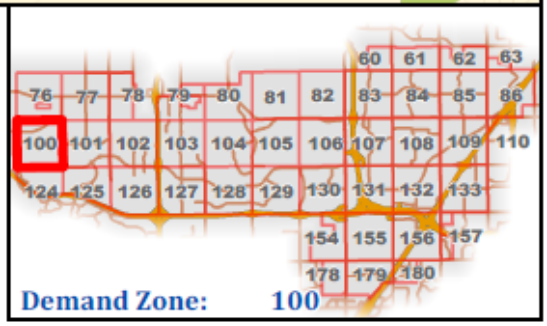


Community Profile

Community Profile Type: Rural / Residential
Number of Residential Structures: 180
Number of Commercial Structures: 0
Total Number of Structures: 180
Average Value of Each Structure: $86,070
Estimated Value of Structures at Risk: $15,492,730
Code Enforced Occupancies: 4
Estimated Daytime Population: 104
Estimated Nighttime Population: 15
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 1
- EMS - 29
- Hazmat - 4
- Tech Rescue - 0
- Other - 39
- Demand Zone



Zone Boundaries (Grid 100) Rural

The planning zone boundaries are Cedar Niles Road to the east, 9500 block to the south, western City limits to the west, and 8700 block to the north. The area in the zone is currently rural land and developing residential occupancies.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Cedar Niles Road. No traffic lights exist in this zone.

Identified Special Risks

Identified significant risks in this planning zone:

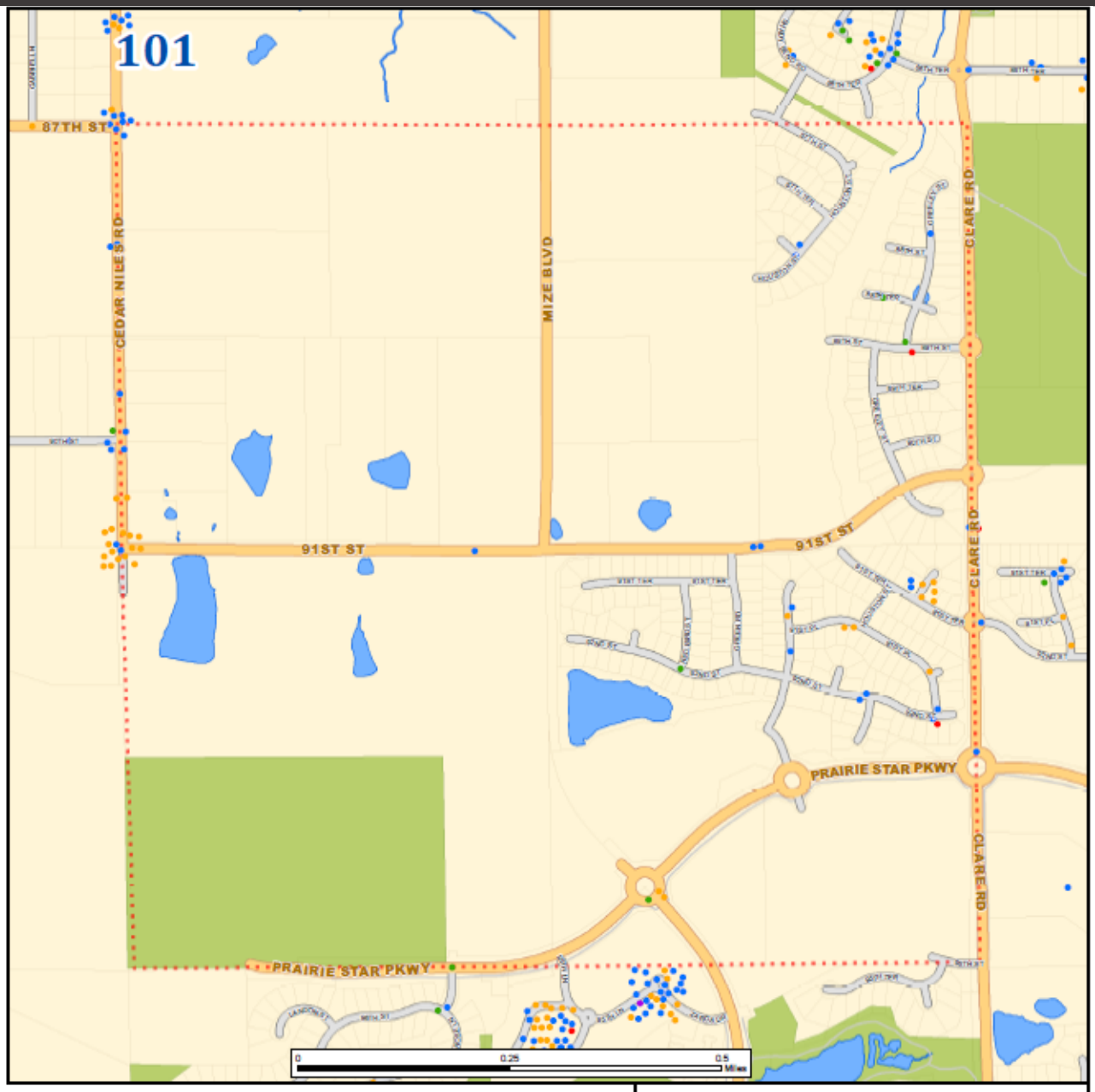
Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Fire Stables	9100 Cedar Niles Road.	30.80

Table 60

Target Hazards: None

This planning zone contains 180 structures, with 4 fire inspected occupancies.

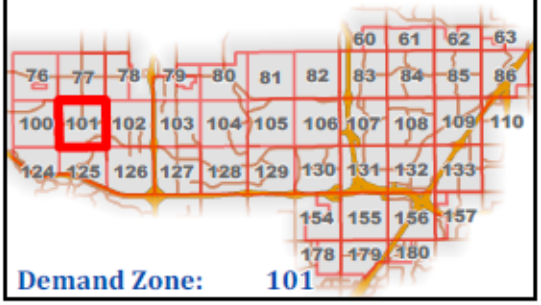


Community Profile

Community Profile Type: Rural / Residential
Number of Residential Structures: 56
Number of Commercial Structures: 0
Total Number of Structures: 56
Average Value of Each Structure: $216,226
Estimated Value of Structures at Risk: $12,108,660
Code Enforced Occupancies: 1
Estimated Daytime Population: 340
Estimated Nighttime Population: 45
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 6
- EMS - 12
- Hazmat - 4
- Tech Rescue - 0
- Other - 32
- Demand Zone



Zone Boundaries (Grid 101) Rural

The planning zone boundaries are Clare Road to the east, 9500 block to the south, Cedar Niles Road to the west, and 8700 block to the north. The area in the zone is currently rural land and rapidly developing residential occupancies.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Clare Road and Cedar Niles Road, and the east/west travel of Prairie Star Parkway. No traffic lights exist in this zone.

Identified Special Risks

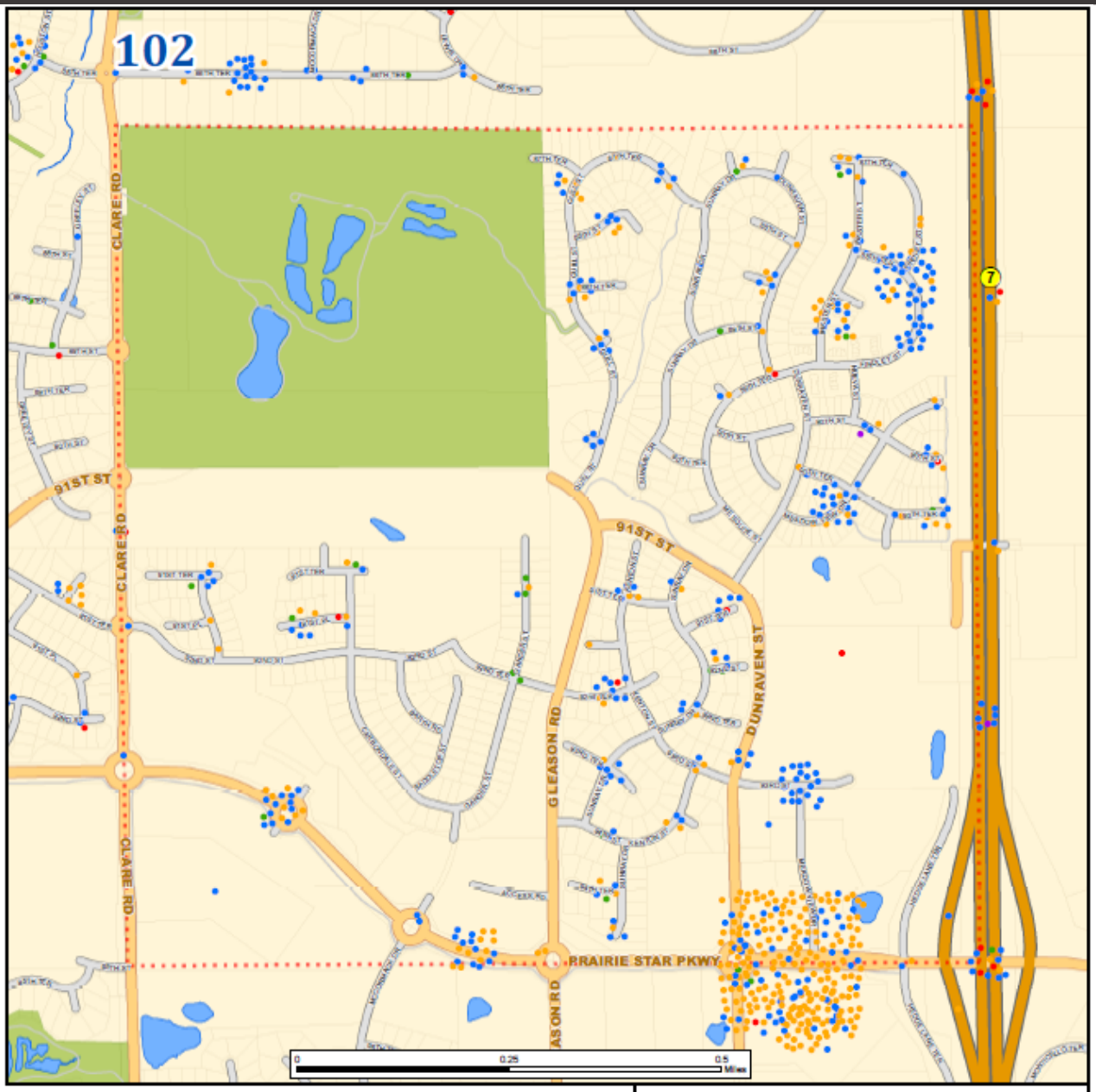
Identified significant risks in this planning zone: None, all residential.

Fire Risk(s):

There are no commercial occupancies within this planning zone. This zone is largely rural, agricultural land with residential development.

Target Hazards: None

This planning zone contains 56 structures, with 1 fire inspected occupancy.

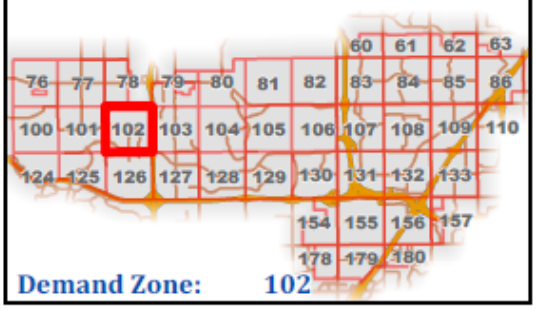


Community Profile

Community Profile Type: Rural / Residential
Number of Residential Structures: 387
Number of Commercial Structures: 12
Total Number of Structures: 399
Average Value of Each Structure: $290,231
Estimated Value of Structures at Risk: $115,802,450
Code Enforced Occupancies: 14
Estimated Daytime Population: 921
Estimated Nighttime Population: 105
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 9
- EMS - 106
- Hazmat - 4
- Tech Rescue - 1
- Other - 59
- Demand Zone



Zone Boundaries (Grid 102) Rural

The planning zone boundaries are Kansas Highway 7 to the east, Prairie Star Parkway to the south, Clare Road to the west, and 8700 block to the north. The Lenexa area in the zone is currently rural land and rapidly developing residential occupancies. Lenexa Fire Station #3 and St. James Academy Catholic High School are located in this planning zone.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Clare Road and Kansas Highway 7, and the east/west travel of Prairie Star Parkway. No traffic lights exist in this zone.

Identified Special Risks

Identified special risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Kaw Prairie Church	9421 Meadow View Drive	36.93
The Enclave Reserve Townhomes	23403-23421 W. 89th Terrace. 8920-8941 Inkster	33.61
Monticello Gospel Assembly	9200 Hedge Lane	30.56

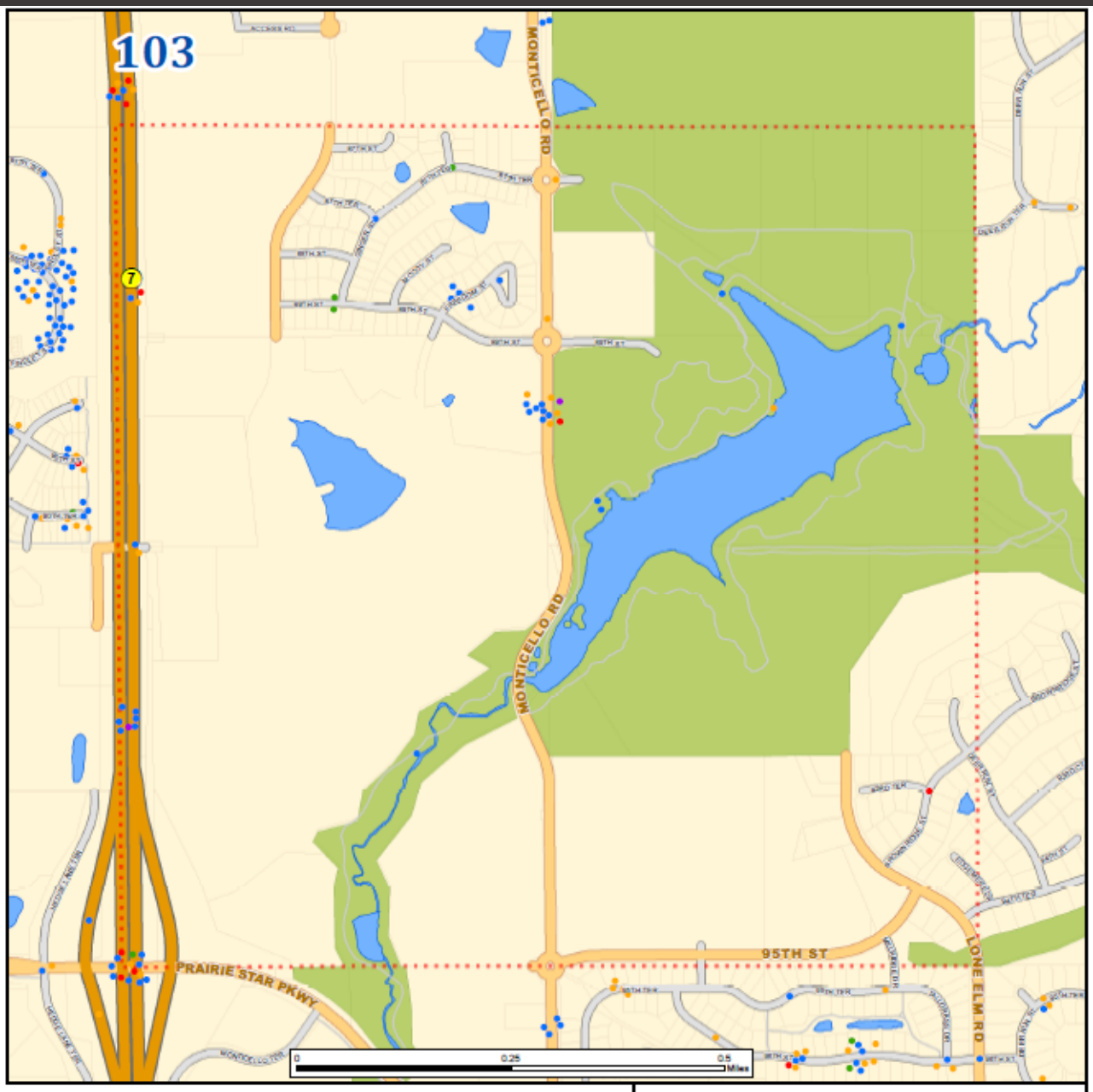
Table 61

Target Hazards:

- St. James Academy Catholic High School, 24505 Prairie Star Parkway
- Lenexa Fire Station #3 and Police Sub-Station
- Suburban Lawn and Garden
- Traffic incidents on Kansas Highway 7

St. James Academy is a high school with a current enrollment of about 700 students. The high school hosts typical school activities throughout the year that draw large crowds. Suburban Lawn and Garden consists of canopy style open greenhouses and a wood framed utility building. Kansas Highway 7 does not currently have the traffic volume of the other 3 primary highways in the City of Lenexa but volume will continue to increase as the northwestern portion of Johnson County develops.

This planning zone hosts 399 structures, with 14 code enforced occupancies.

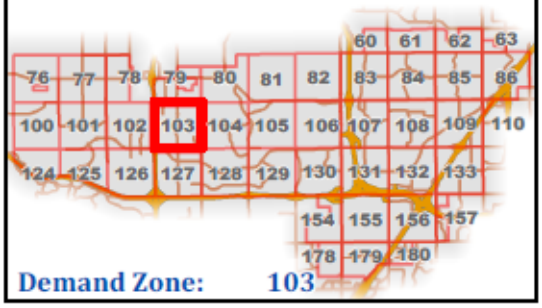


Community Profile

Community Profile Type: Rural / Residential
Number of Residential Structures: 15
Number of Commercial Structures: 4
Total Number of Structures: 19
Average Value of Each Structure: $192,013
Estimated Value of Structures at Risk: $3,648,260
Code Enforced Occupancies: 0
Estimated Daytime Population: 174
Estimated Nighttime Population: 72
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 3
- EMS - 17
- Hazmat - 1
- Tech Rescue - 1
- Other - 5
- Demand Zone



Zone Boundaries (Grid 103) Rural

The planning zone boundaries are 21500 Block to the east, 9500 block to the south, Kansas Highway 7 to the west, and 8700 block to the north. This area is mostly rural with a major City park & lake.

Transportation Issues

The major transportation route in this zone is the north/south Kansas Highway 7. There are no traffic lights in this zone.

Identified Special Risks

Identified significant risks in this planning zone: None.

Fire Risk(s):

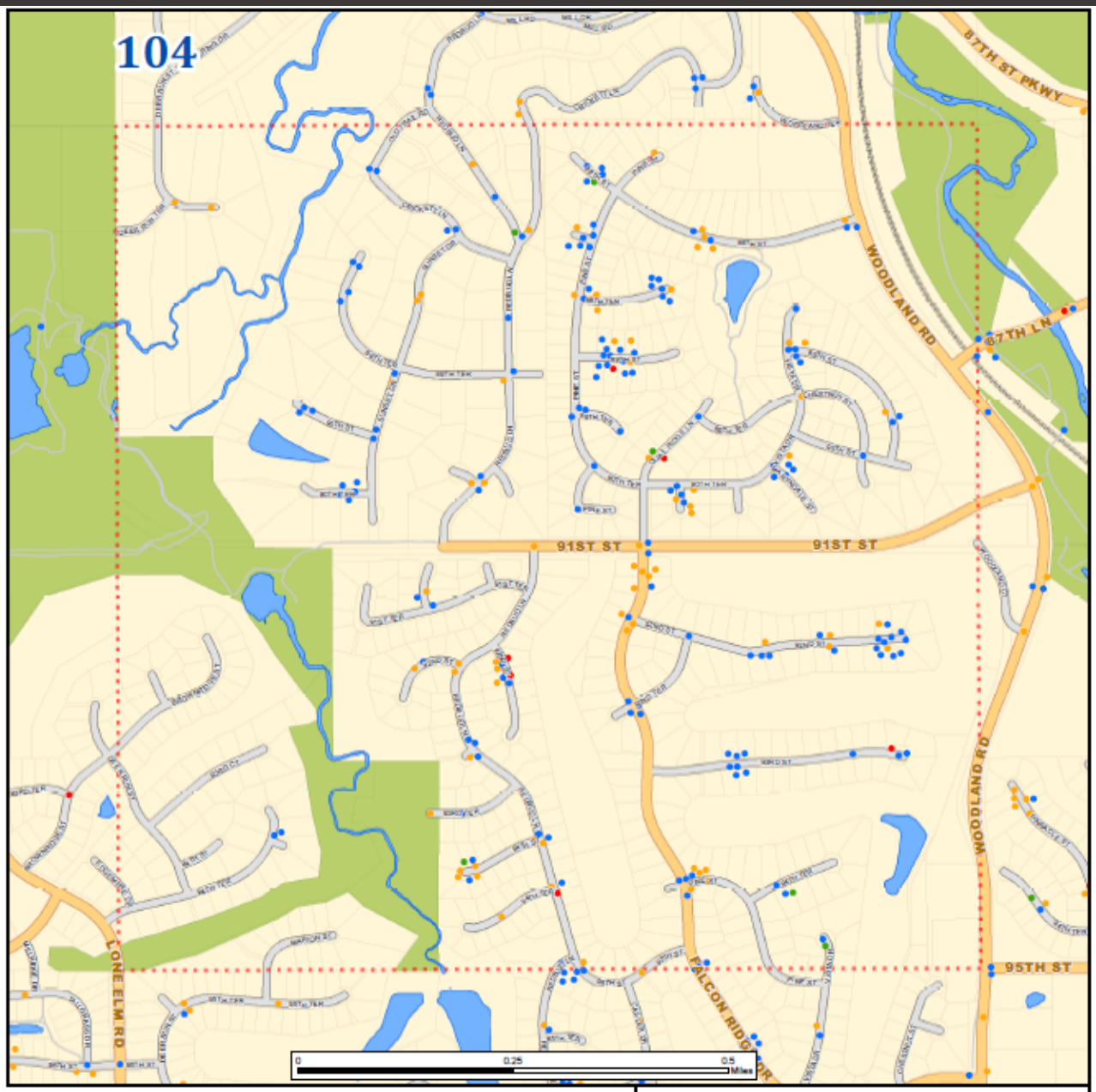
There are no commercial occupancies located within this planning zone. The most significant fire hazard is ignition of the natural cover – prairie land.

Target Hazards:

- Black Hoof Park and Lake Lenexa
- Traffic incidents on Kansas Highway 7

Black Hoof Park is one of the city's newest outdoor recreation facilities. The park covers 231 acres with a 35 acre deep water lake named Lake Lenexa. The Lake Lenexa dam is a very unique structure that combines art with functionality. It embodies an artistic representation of the water cycle with features including fountains, sculptures and cascading pools. Due to the unique design, a technical rescue plan has been developed for the rescue of individuals that choose to trespass on off-limit areas of the structure. Miles of hiking/biking trails surround the lake providing additional response access challenges. Kansas Highway 7 does not currently have the traffic volume of the 3 primary highways running through the City of Lenexa, but volume will continue to increase as the northwestern portion of Johnson County develops.

This planning zone contains 19 structures, with 0 fire inspected occupancies.

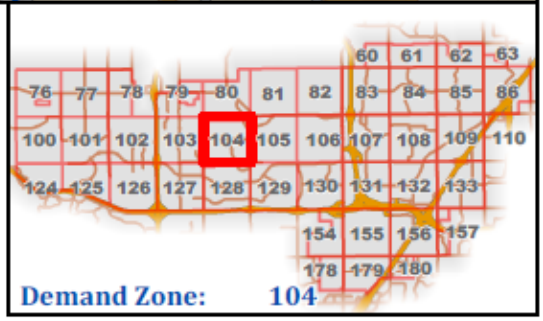


Community Profile

Community Profile Type: Residential
Number of Residential Structures: 559
Number of Commercial Structures: 0
Total Number of Structures: 559
Average Value of Each Structure: $426,263
Estimated Value of Structures at Risk: $238,281,020
Code Enforced Occupancies: 10
Estimated Daytime Population: 957
Estimated Nighttime Population: 163
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 12
- EMS - 116
- Hazmat - 12
- Tech Rescue - 0
- Other - 82
- Demand Zone



Zone Boundaries (Grid 104) Rural

The planning zone boundaries are Woodland Road to the east, 9500 block to the south, 21500 block to the west, and 8700 block to the north. This area is currently all residential.

Transportation Issues

The major transportation route in this zone is the north/south Woodland Road. There are no traffic lights in this planning zone.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s):

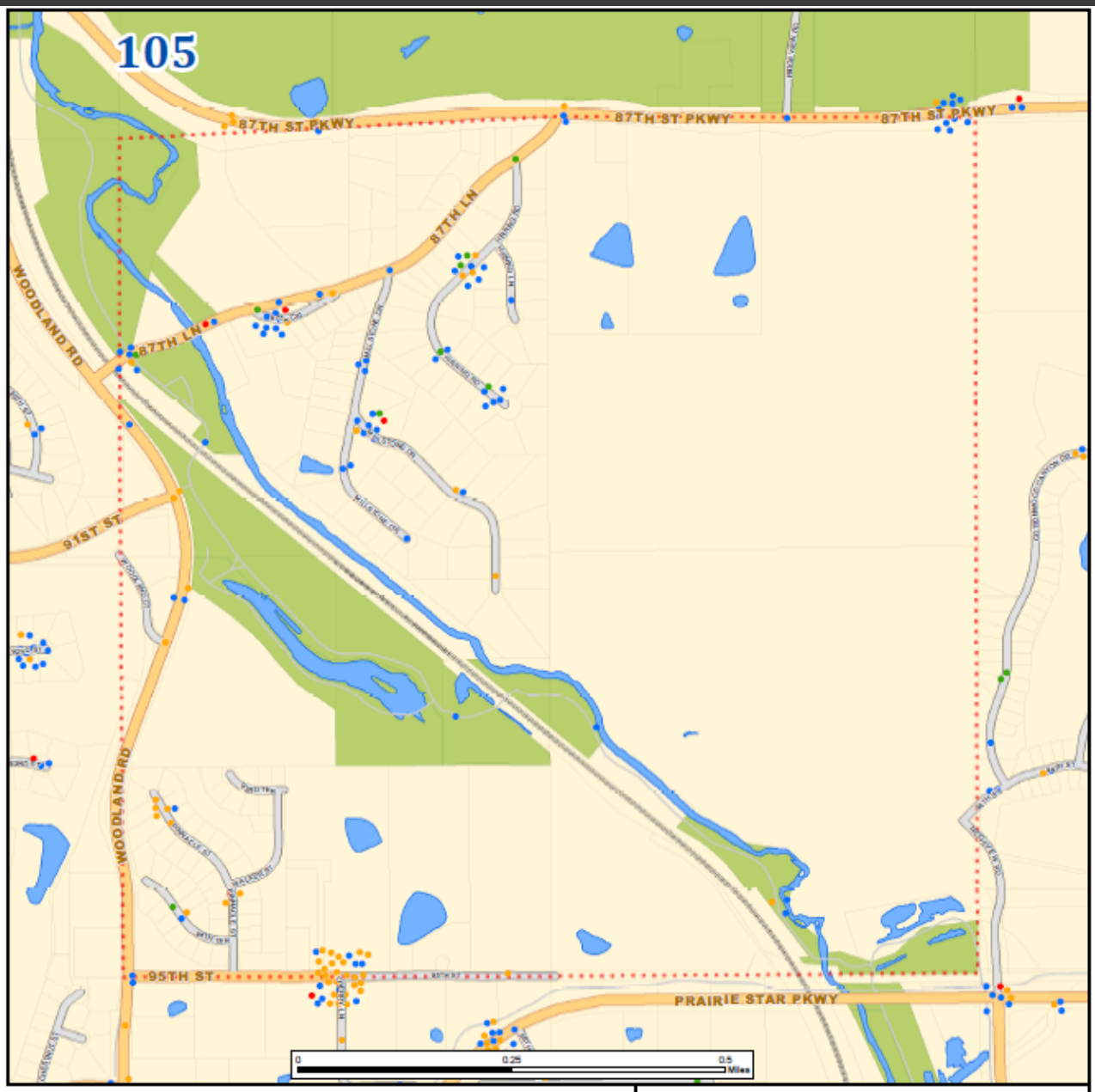
There are no commercial occupancies located within this planning zone. The most significant fire hazard is ignition of large single family residential homes.

Target Hazards:

- Falcon Ridge Estates Residential Community

Falcon Ridge Estates is home to multiple single family residences that range 5,000-10,000 square foot. The golf course is a championship style course which provides certain access challenges for emergency response.

This planning zone contains 559 structures, with 10 fire inspected occupancies.

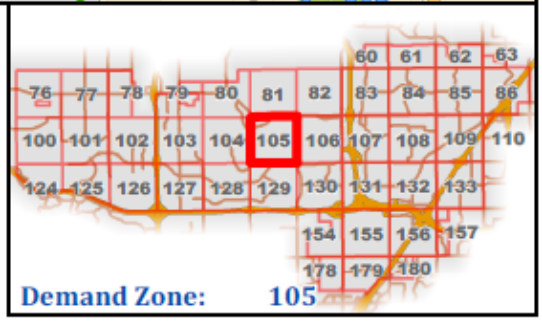


Community Profile

Community Profile Type: Rural / Residential
Number of Residential Structures: 219
Number of Commercial Structures: 3
Total Number of Structures: 222
Average Value of Each Structure: $172,465
Estimated Value of Structures at Risk: $38,287,310
Code Enforced Occupancies: 6
Estimated Daytime Population: 409
Estimated Nighttime Population: 120
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 5
- EMS - 56
- Hazmat - 7
- Tech Rescue - 0
- Other - 41
- Demand Zone



Zone Boundaries (Grid 105) Rural

The planning zone boundaries are 18300 block to the east, 9500 block to the south, Woodland Road to the west, and 87th Street Parkway to the north. This area is currently residential.

Transportation Issues

The major transportation route in this zone is the east/west 87th Street Parkway/83rd Street and the north/south Woodland Road. Burlington Northern Santa Fe (BNSF) railroad main line passes north/south through the center of this zone. There are no traffic lights in this planning zone.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Southern Star Central Gas Pipeline	19600 W. 87th Street Parkway	45.58

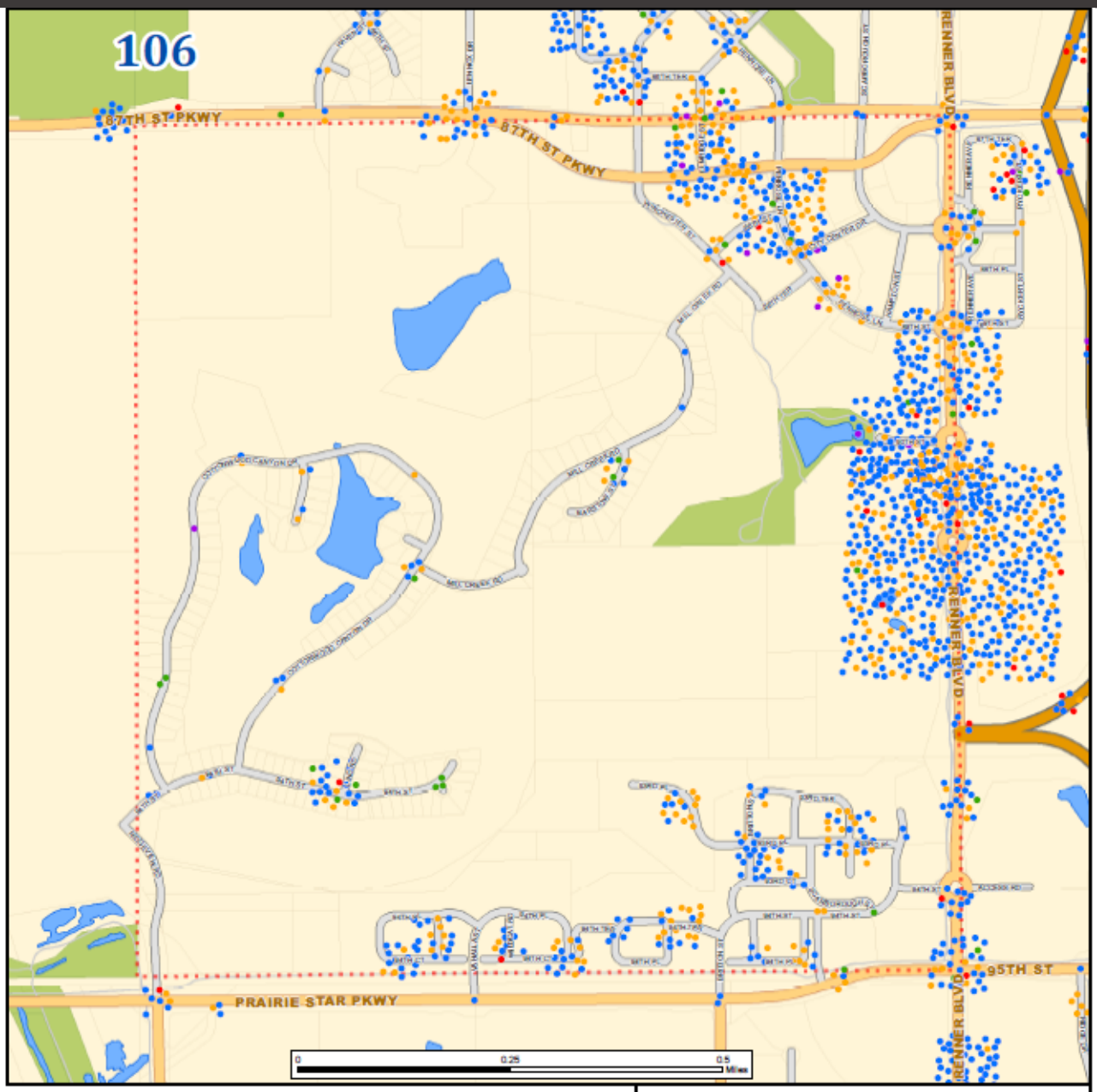
Table 62

Target Hazards:

- BNSF Railroad Line

Elevation fluctuations and access to some residential structures. Past history of flash-flooding of Little Mill Creek along residential and public recreation areas requiring rescues.

This planning zone contains 222 structures, with 6 fire inspected occupancies.

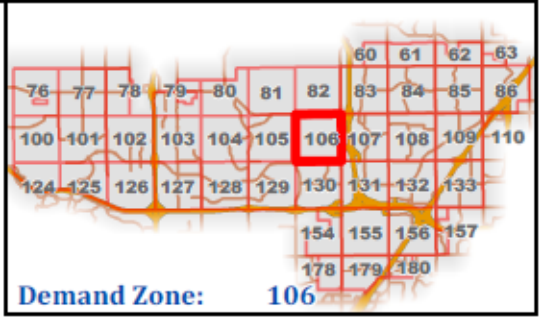


Community Profile

Community Profile Type: Mixed Use
Number of Residential Structures: 62
Number of Commercial Structures: 14
Total Number of Structures: 76
Average Value of Each Structure: $1,707,477
Estimated Value of Structures at Risk: $129,768,320
Code Enforced Occupancies: 15
Estimated Daytime Population: 2096
Estimated Nighttime Population: 479
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 6
- EMS - 105
- Hazmat - 10
- Tech Rescue - 1
- Other - 50
- Demand Zone



Zone Boundaries (Grid 106) Rural

The planning zone boundaries are Renner Boulevard to the east, 9500 block to the south, Ridgeview Road (18300 Block West) to the west, and 87th Street Parkway to the north. This area was predominately rural and residential, but land development has occurred at the southwest corner of 87th Street Parkway and Renner Boulevard for City Center that include retail/commercial occupancies.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Renner Boulevard and the east/west travel of 87th Street Parkway. Traffic lights exist at the major intersections of Renner Boulevard and on 87th Street Parkway. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
The Domain	8800 Penrose Lane	45.60
Civic Center Garage	17101 W. 87th Street Parkway	42.93
The Distict Flats	8757 Penrose Lane	41.07
Lifetime Fitness	16851 W. 90th Street	37.87
The LoFTS	8787 Renner Boulevard	37.73
Lenexa City Hall	17101 W. 97th Stree Parkway	36.87
Kiewit Properties	8950 Renner Boulevard	35.73

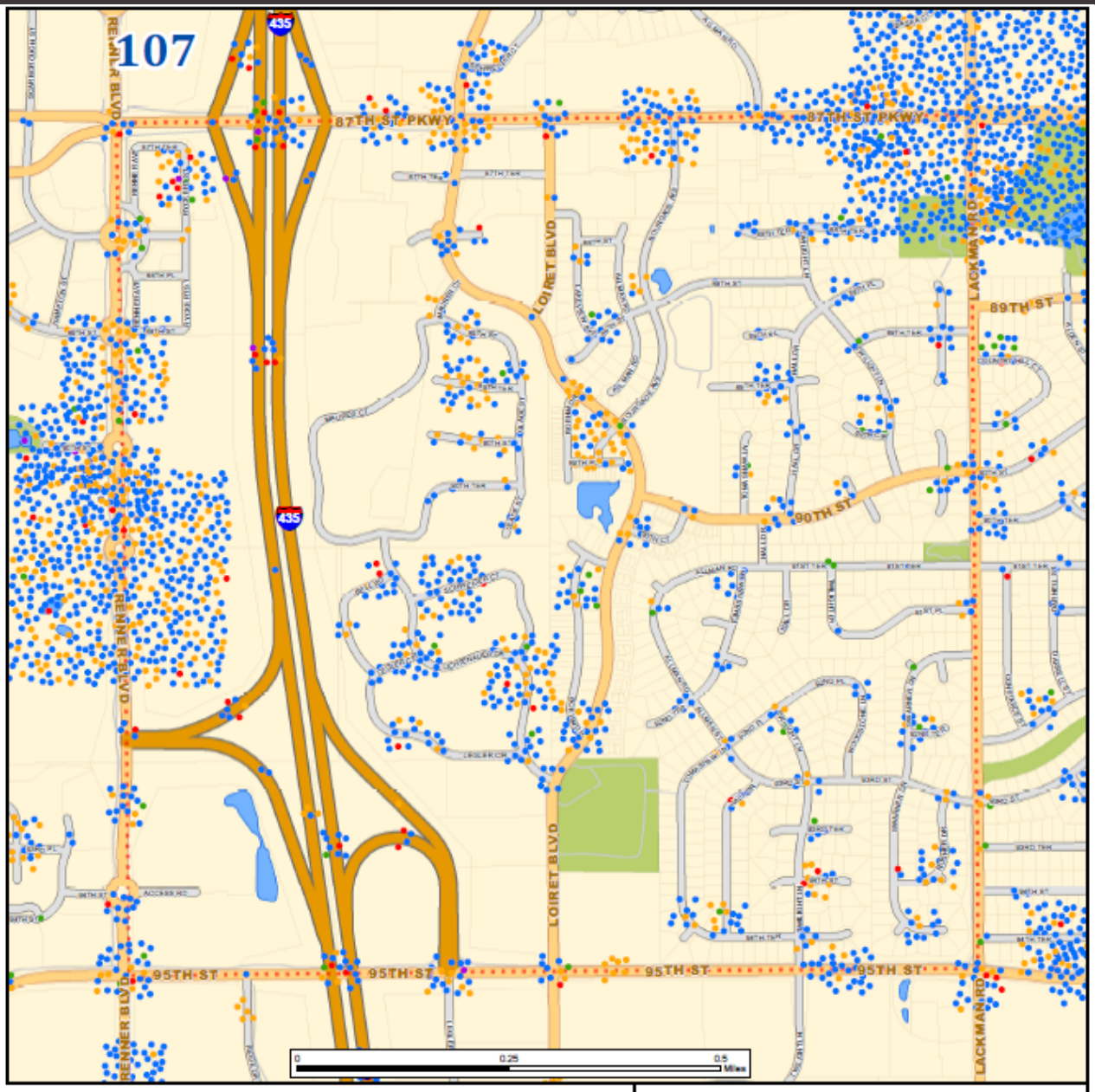
Table 63

Target Hazards:

- Canyon Farms Golf Club, 18145 W. 87th Street Parkway.
- Underground Mine, 17500 W. 91st Street
- Lenexa Rec Center 17201 W. 87th Street Parkway
- Shawnee Mission Aquatics Center 17251 W. 87th Street Parkway
- Prairie Creek Apartments 9350 Britton Street

This is currently a rural residential planning zone with an undeveloped underground mine. Significant future development is planned for this area with a large commercial/retail and residential center. Canyon Farms Golf Club is a championship style golf course which provides certain response access challenges.

This planning zone contains 76 structures, with 15 fire inspected occupancies.

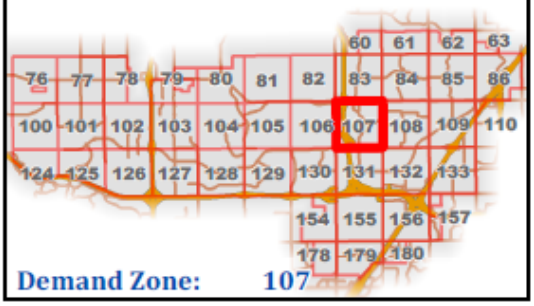


Community Profile

Community Profile Type: Residential
Number of Residential Structures: 975
Number of Commercial Structures: 40
Total Number of Structures: 1015
Average Value of Each Structure: $288,555
Estimated Value of Structures at Risk: $292,883,760
Code Enforced Occupancies: 114
Estimated Daytime Population: 3686
Estimated Nighttime Population: 1267
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 66
- EMS - 928
- Hazmat - 51
- Tech Rescue - 1
- Other - 411
- Demand Zone



Zone Boundaries (Grid 107) Urban

The planning zone boundaries are Lackman Road to the east, 95th Street to the south, Renner Boulevard to the west, and 87th Street Parkway to the north. This area is predominately residential except for the 87th Street Parkway, 95th Street and Interstate Highway 435 corridors.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Interstate Highway 435, Renner Boulevard and Lackman Road, and the east/west travel of 95th Street and 87th Street Parkway. Traffic lights exist at the major intersections of 87th Street Parkway and Lackman Road, 87th Street Parkway and Renner Boulevard, 95th Street and Lackman Road, 95th Street and Renner Boulevard, and the on/off ramps to Interstate Highway 435. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Hyatt Place Conference Center	8741 Ryckert Street	41.73
Sunflower Elementary School	8955 Loiret Boulevard	38.42
Wind River Lodge Apts	9220 Lictenhaur Drive	37.87
The Pointe at Sonoma Apts	8875 Maurer Court	37.87
The Reserves Apts	9103 Renner Boulevard	36.67
Vacant Office Building	9401 Renner Boulevard	34.80
Estancia at City Center	9011 Renner Boulevard	31.87

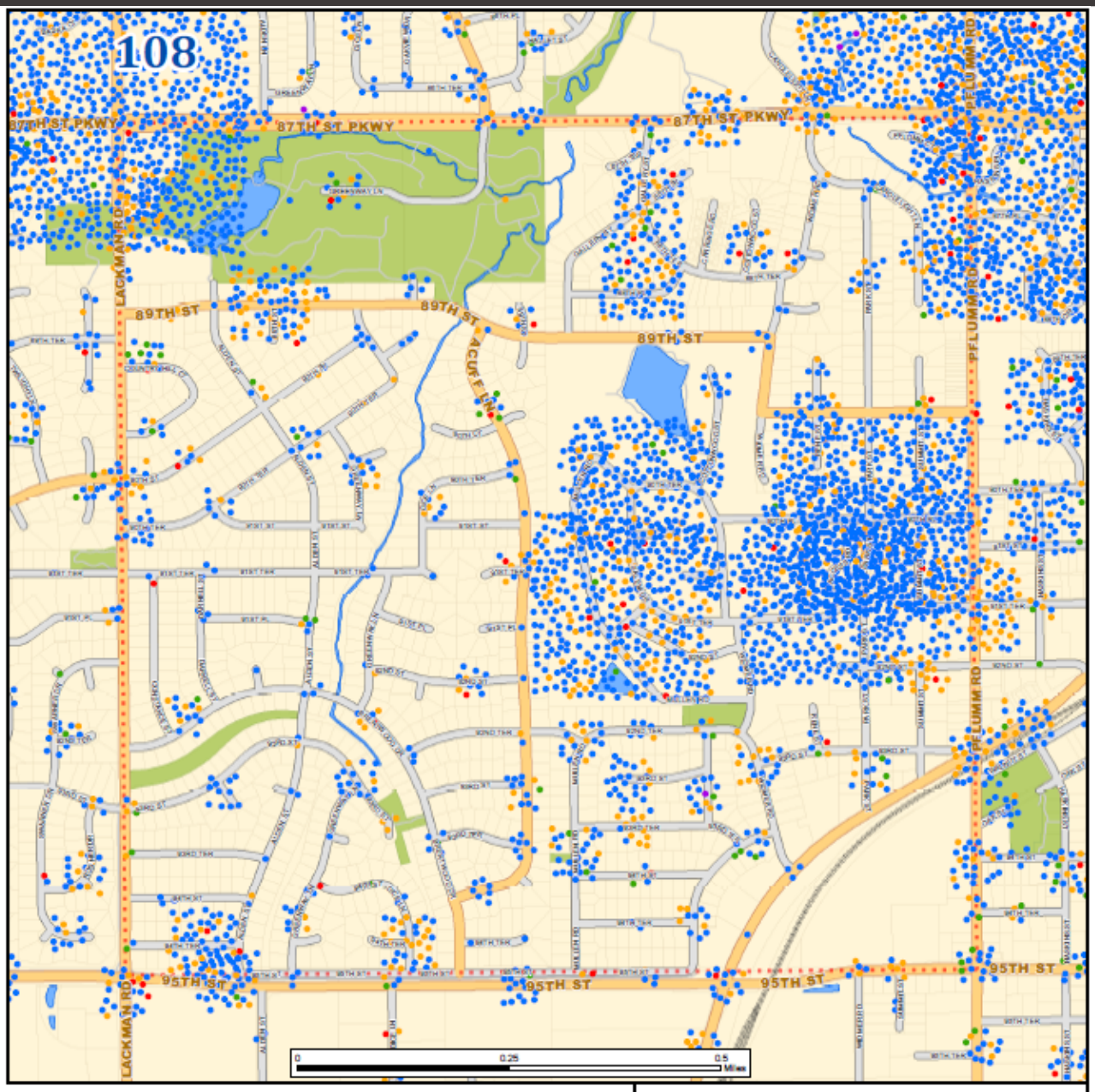
Table 64

Target Hazards:

- Country Kids Daycare, 8745 Bourgade Street
- Interstate Highway 435

This is a residential zone with some commercial structures along 87th Street Parkway and 95th Street including strip shops, restaurants and some warehouses. Interstate Highway 435 is heavily traveled with high speed transportation passengers, goods and hazardous materials. Country Kids is a daycare facility with numerous children ranging from infant to toddler age.

This planning zone contains 1015 structures, with 114 fire inspected occupancies.

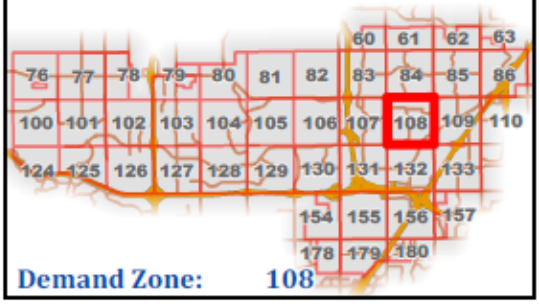


Community Profile

Community Profile Type: Residential
Number of Residential Structures: 1613
Number of Commercial Structures: 22
Total Number of Structures: 1635
Average Value of Each Structure: $209,862
Estimated Value of Structures at Risk: $343,125,330
Code Enforced Occupancies: 79
Estimated Daytime Population: 4186
Estimated Nighttime Population: 1207
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 42
- EMS - 2737
- Hazmat - 94
- Tech Rescue - 5
- Other - 467
- Demand Zone



Zone Boundaries (Grid 108) Urban

The planning zone boundaries are Pflumm Road to the east, 95th Street to the south, Lackman Road to the west, and 87th Street Parkway to the north. This area is predominately residential except for the 87th Street Parkway, and 95th Street corridors.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Lackman Road and Pflumm Road, and the east/west travel of 95th Street and 87th Street Parkway. Traffic lights exist at the major intersections of 87th Street Parkway and Lackman Road, 87th Street Parkway and Pflumm Road, 95th Street and Lackman Road, and 95th Street and Pflumm Road. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Lakeview Village Eastside Terrace	9000 Park Street	46.25
Lakeview Village at Southridge	14001 W. 92nd Street	45.07
Lakeview Village Retirement Center	9100 Park Street	44.67
Lakeview Village Northpoint	14100 W. 90th Terrace	37.73

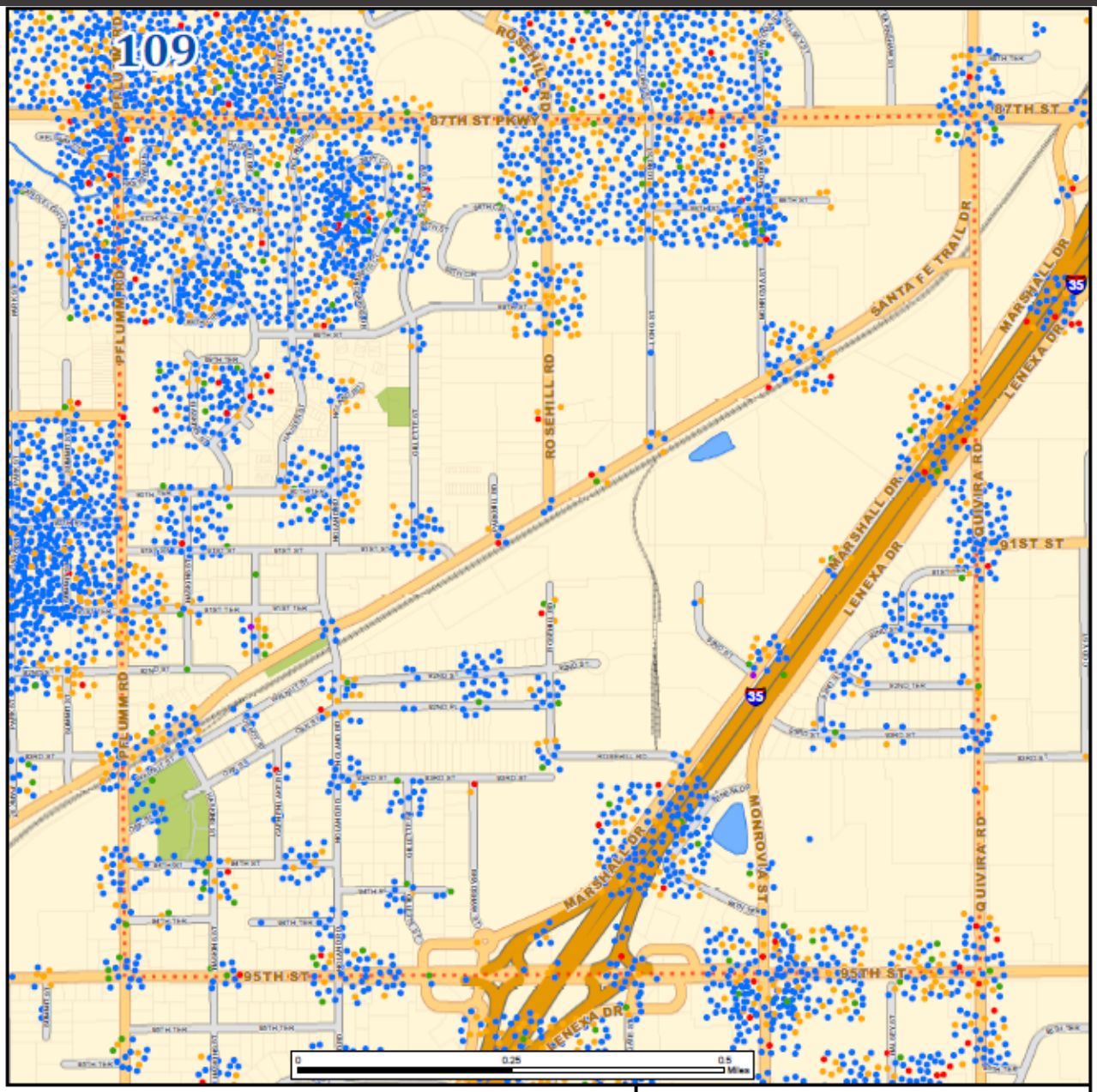
Table 65

Target Hazards:

- The Lakeview Village Retirement Community (EMS Demand)
- Sunrise Assisted Living Center, 15055 W. 87th Street Parkway (EMS Demand)
- Holy Trinity School Campus
- The Oaks at Millcreek & Madison at Mill Creek Apts
- Lenexa Fire Department Fire Station #2

This is a residential zone with some commercial structures along 87th Street Parkway and 95th Street including strip shops, restaurants and some warehouses. The Lakeview Village Retirement Community is a high density, elderly population, multi-story, multiple building community with an open atrium in one of its multi-story buildings. The Sunrise Assisted Living Center is a multi-story elderly living facility with one lock down floor for Alzheimer's patients. Holy Trinity consists of multiple school buildings, a daycare, and worship center.

This planning zone hosts 1635 structures, with 79 fire inspected occupancies.

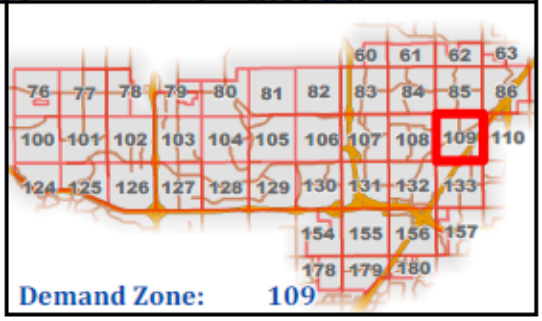


Community Profile

Community Profile Type: Mixed Use
Number of Residential Structures: 817
Number of Commercial Structures: 215
Total Number of Structures: 1032
Average Value of Each Structure: $275,247
Estimated Value of Structures at Risk: $284,055,140
Code Enforced Occupancies: 366
Estimated Daytime Population: 4425
Estimated Nighttime Population: 5255
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 63
- EMS - 1647
- Hazmat - 82
- Tech Rescue - 4
- Other - 505
- Demand Zone



Zone Boundaries (Grid 109) Urban

This area includes the original plat of Lenexa. The planning zone boundaries are Quivira Road to the east, 95th Street to the south, Pflumm Road to the west, and 87th Street Parkway to the north. This area is mixed residential and commercial with light industrial.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Quivira Road and Pflumm Road, and the east/west travel of 95th Street and 87th Street Parkway. Also included as major traffic ways are the southwest to northeast Santa Fe Trail Drive, Marshall Drive, Interstate Highway 35, and Lenexa Drive. Traffic lights exist at the major intersections of 87th Street Parkway and Quivira Road, 87th Street Parkway and Pflumm Road, 95th Street and Quivira Road, 95th Street and Pflumm Road, Santa Fe Trail Drive and Pflumm Road, and the entrance/exit ramps of Interstate Highway 35 at both 95th Street and 87th Street Parkway. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Jerry's Bait Shop	13412 Santa Fe Trail Drive	43.33
Coca-Cola Bottling	9000 Marshall Drive	42.03
La Quinta Motor Inn	9461 Lenexa Drive	40.80
Chelsea Court Apts	9220 Rosehill Road	40.80
Lenexa Methodist Church	9138 Caenen Lake Road	39.04
Costco	9350 Marshall Drive	37.70
Rosehill Pointe Apts	13101 W. 88th Circle	36.40
Sam's Club	12200 95th Street	34.09

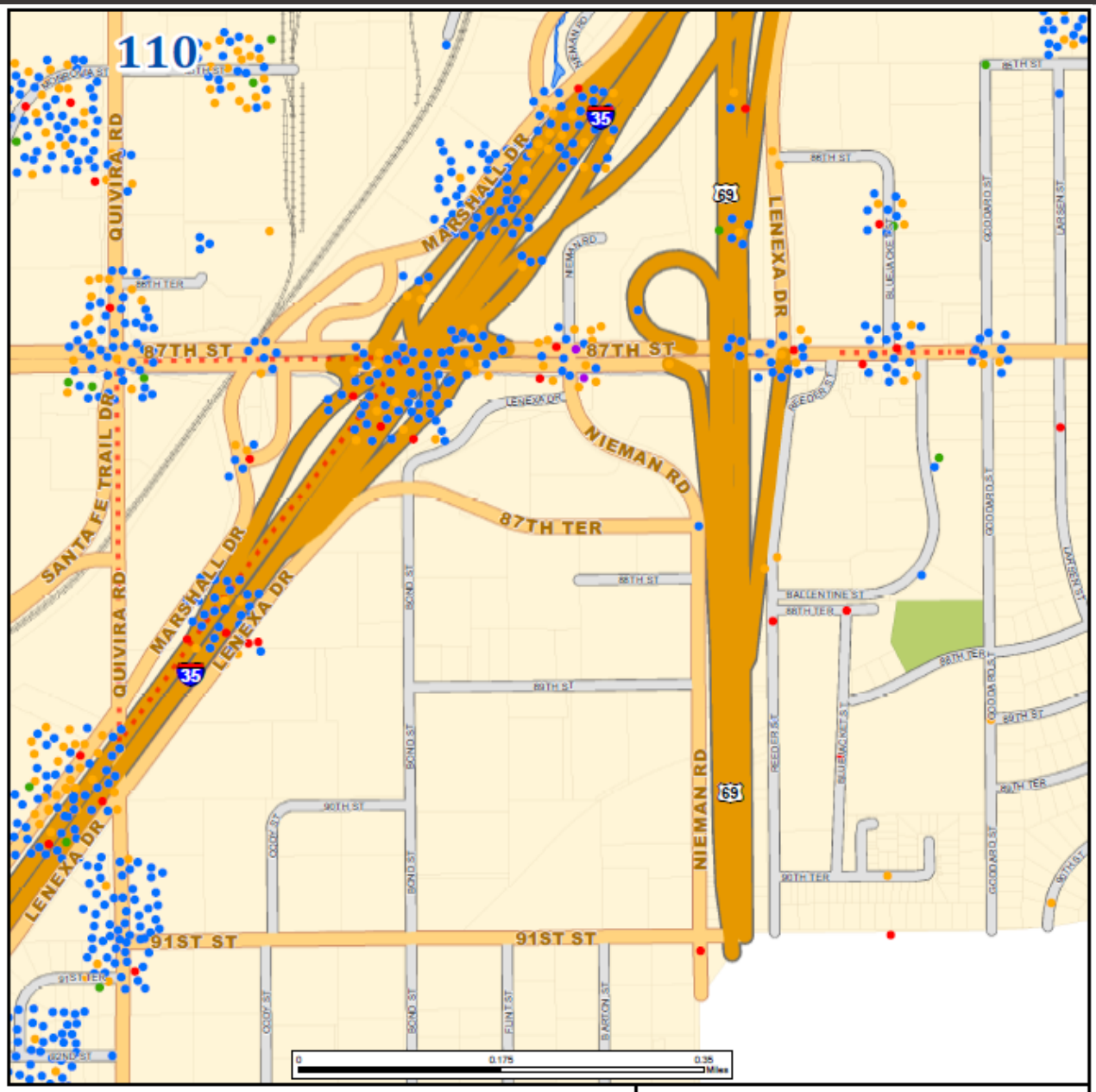
Table 66

Target Hazards:

- Interstate Highway 35
- Old Town Lenexa Retail Shops/Businesses, Santa Fe Trail Drive, Pflumm Road to Monrovia Street
- Westchester Townhomes, 8727 Haskins Street
- Madison at Woodridge Apartments, 13245 W. 87th Terrace.
- Homestead of Lenexa, 8740 Canean Lake Road
- Vintage Park, 8710 Canean Lake Road
- United States Post Office, 8820 Monrovia Street
- Spar Hawk Laboratory, 12340 Santa Fe Trail Drive.
- CEVA/Biomune Veterinary Laboratory, 8915 Rosehill Road

This is a mixed occupancy zone with old downtown structures, more than 100 years old with some of the original homes in the City. Two large volume wholesale centers with significant economic impact are located in this planning zone. The Rosehill Point Apartments and Madison at Woodridge Apartments are not equipped with residential sprinklers. Homestead of Lenexa and Vintage Park are elderly assisted living facilities with a high EMS demand. Spar Hawk and CEVA laboratories store some hazardous materials on-site. The United States Post Office and Interstate Highway 35 are considered terrorism risks. In addition, Interstate Highway 35 is heavily traveled with high speed transportation passengers, goods and hazardous materials.

This planning zone hosts 1032 structures, with 366 fire inspected occupancies.

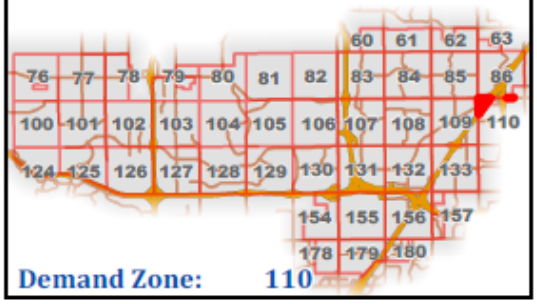


Community Profile

Community Profile Type: Commercial
Number of Residential Structures: 0
Number of Commercial Structures: 2
Total Number of Structures: 2
Average Value of Each Structure: $1,324,935
Estimated Value of Structures at Risk: $2,649,870
Code Enforced Occupancies: 3
Estimated Daytime Population: 21
Estimated Nighttime Population: 14
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 16
- EMS - 99
- Hazmat - 4
- Tech Rescue - 3
- Other - 38
- Demand Zone



Zone Boundaries (Grid 110) Rural

The planning zone boundaries are Interstate Highway 35 to the east, Quivira Road to the west, 9100 block to the south, and 87th Street Parkway to the north. The area in the zone is currently commercial property.

Transportation Issues

Major transportation routes in this zone are the north/south travels of Quivira Road and the east/west travels of 87th Street Parkway. Traffic lights exist on 87th Street Parkway at Quivira Road and Interstate Highway 35 in this zone. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
84 Lumber	8940 Marshall Drive	41.47
½ of ½ Name Brand Clothing	8800 Marshall Drive	30.08

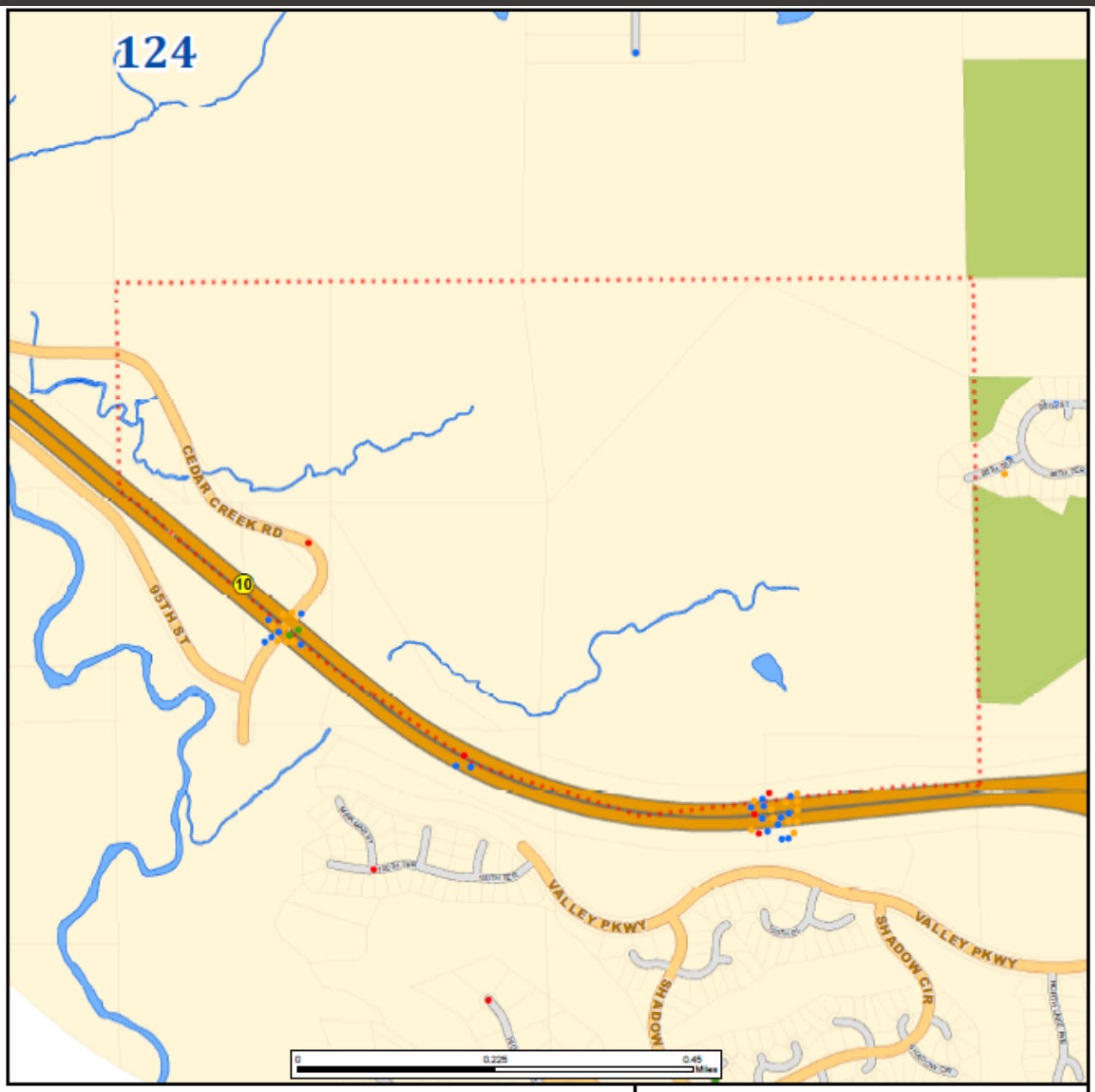
Table 67

Target Hazards:

- Interstate Highway 35 at 87th Street Pkwy

Interstate Highway 35 is heavily traveled with high speed transportation passengers, goods and hazardous materials.

This planning zone hosts 2 structures, with 3 fire inspected occupancies.

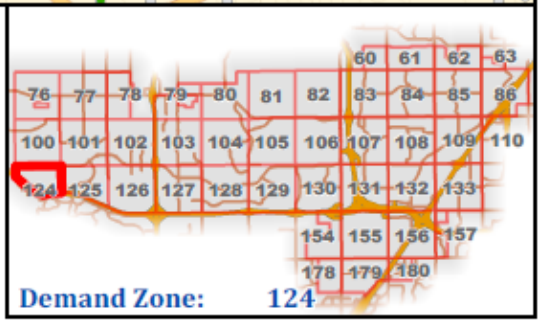


Community Profile

Community Profile Type: Rural
Number of Residential Structures: 4
Number of Commercial Structures: 0
Total Number of Structures: 4
Average Value of Each Structure: $38,337
Estimated Value of Structures at Risk: $153,350
Code Enforced Occupancies: 0
Estimated Daytime Population: 0
Estimated Nighttime Population: 0
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 6
- EMS - 14
- Hazmat - 1
- Tech Rescue - 0
- Other - 7
- Demand Zone



Zone Boundaries (Grid 124) Rural

The planning zone boundaries are Cedar Niles Road to the east, Kansas Highway 10 to the south, Cedar Creek Road to the west, and 95th Street to the north. The area in the zone is currently rural residential land.

Transportation Issues

Major transportation routes in this zone are the east/west travels of Kansas Highway 10. No traffic lights exist in this zone.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s):

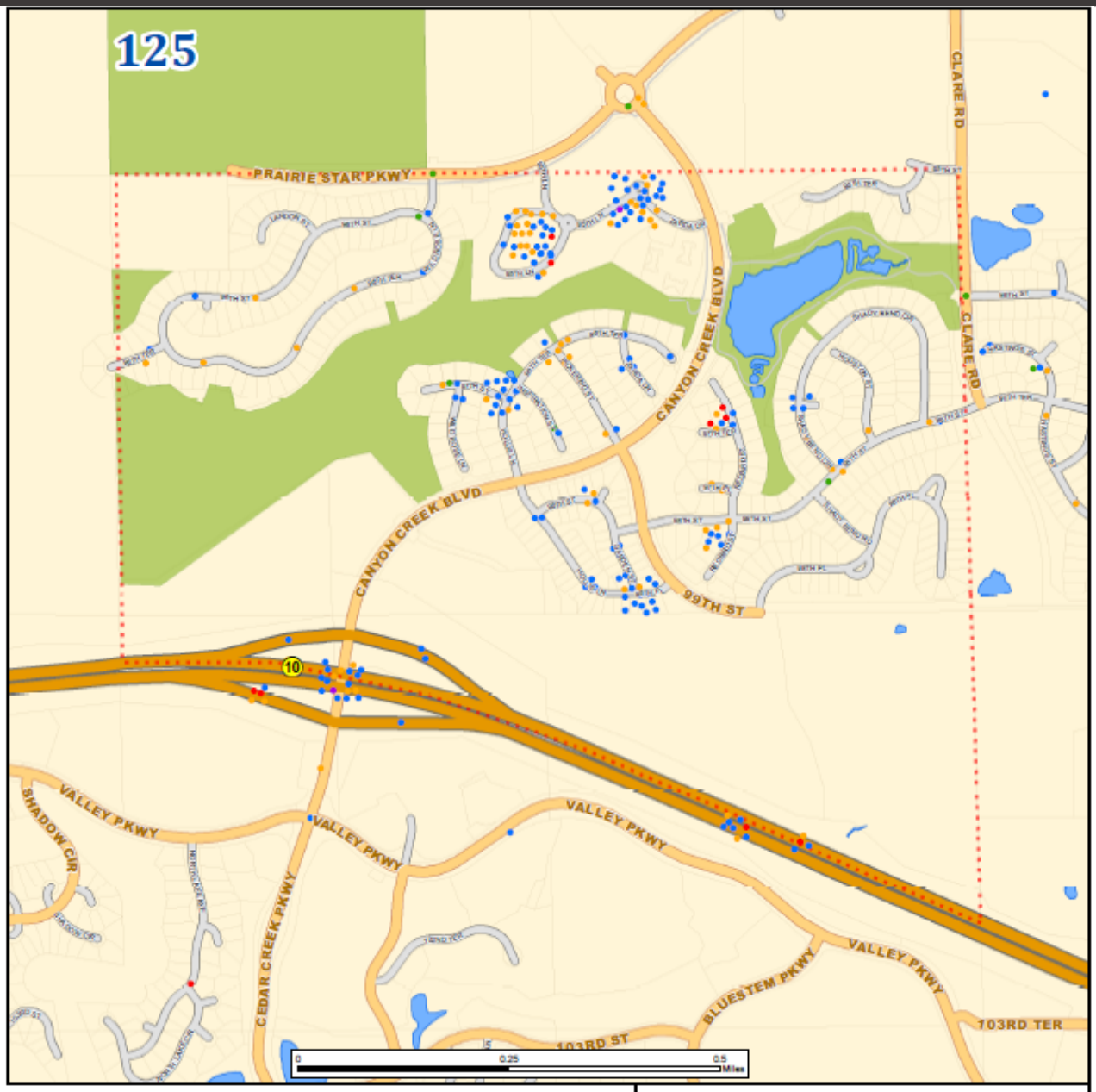
There are no commercial occupancies in this planning zone within the City of Lenexa. The most significant fire risk is groundcover fire due to the natural prairie landscape.

Target Hazards:

- High volume traffic on Kansas Highway 10

Kansas Highway 10 is a high traffic volume roadway and has a significant history of MVC injuries/fatalities.

This planning zone hosts 4 structures, with 0 fire inspected occupancies.

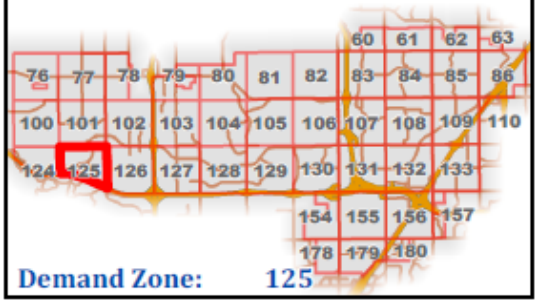


Community Profile

Community Profile Type: Mixed Use
Number of Residential Structures: 124
Number of Commercial Structures: 0
Total Number of Structures: 124
Average Value of Each Structure: $810,401
Estimated Value of Structures at Risk: $100,489,830
Code Enforced Occupancies: 2
Estimated Daytime Population: 471
Estimated Nighttime Population: 23
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 4
- EMS - 38
- Hazmat - 6
- Tech Rescue - 0
- Other - 48
- Demand Zone



Zone Boundaries (Grid 125) Rural

The planning zone boundaries are Clare Road to the east, Kansas Highway 10 to the south, Cedar Creek Road to the west, and 95th Street to the north. The area in the zone is currently rural land and developing residential occupancies.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Canyon Creek Boulevard, and the east/west travels of 95th Street and Kansas Highway 10. No traffic lights exist in this zone.

Identified Special Risks

Identified special risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Mansions at Canyon Creek Clubhouse	9550 Zarda Drive.	32.55

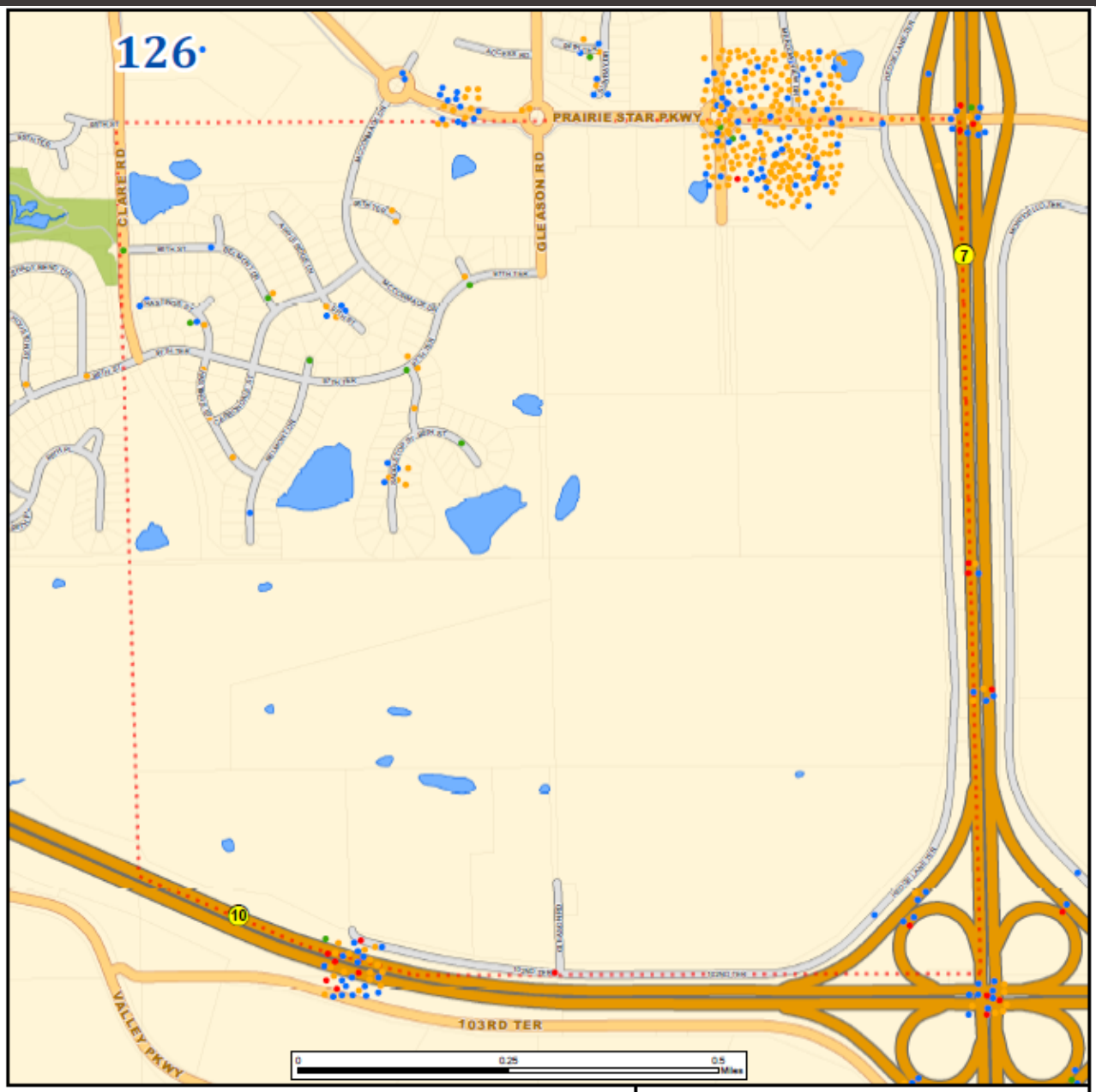
Table 68

Target Hazards:

- High volume traffic on Kansas Highway 10

Kansas Highway 10 is a high traffic volume roadway and has a significant history of MVC injuries/fatalities.

This planning zone hosts 124 structures, with 2 fire inspected occupancies.

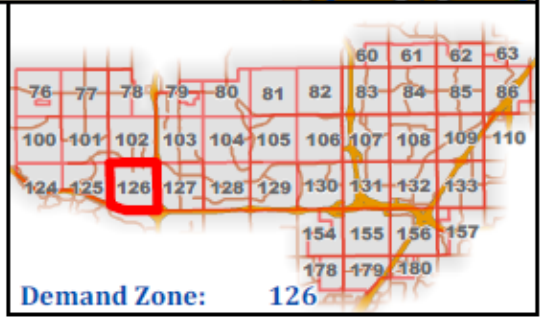


Community Profile

Community Profile Type: Rural / Residential
Number of Residential Structures: 87
Number of Commercial Structures: 1
Total Number of Structures: 88
Average Value of Each Structure: $704,237
Estimated Value of Structures at Risk: $61,972,920
Code Enforced Occupancies: 16
Estimated Daytime Population: 812
Estimated Nighttime Population: 68
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 5
- EMS - 68
- Hazmat - 4
- Tech Rescue - 1
- Other - 235
- Demand Zone



Zone Boundaries (Grid 126) Rural

The planning zone boundaries are Kansas Highway 7 to the east, Kansas Highway 10 to the south, Clare Road to the west, and 95th Street to the north. The area in the zone is currently rural land and developing mixed use occupancies.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Kansas Highway 7, and the east/west travels of 95th Street and Kansas Highway 10. No traffic lights exist in this zone.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Advent Health Hospital	23401 Prairie Star Parkway.	49.47

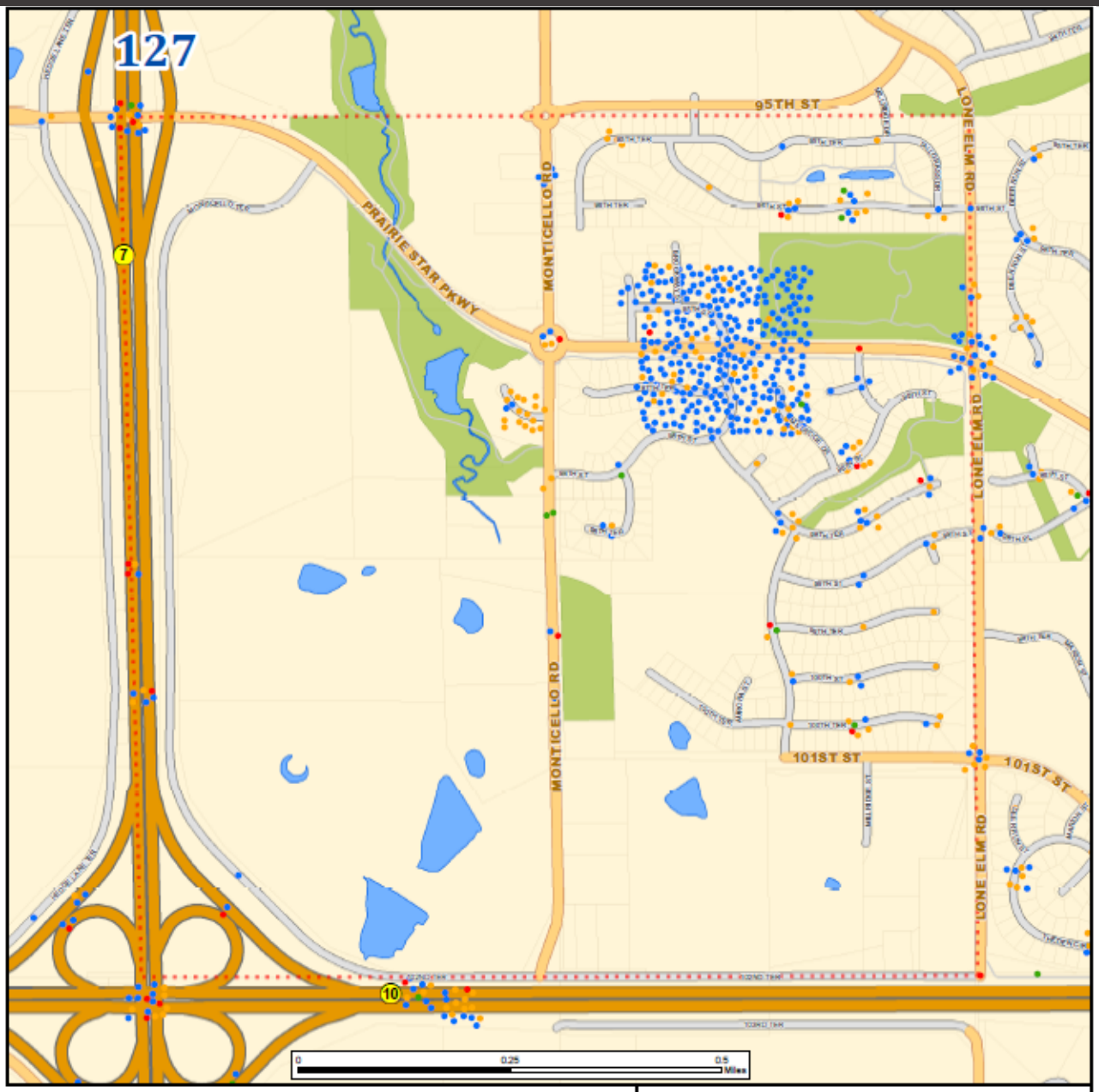
Table 69

Target Hazards:

- High traffic volume on Kansas Highway 10
- Traffic incidents on Kansas Highway 7

Kansas Highway 10 is a high traffic volume roadway with a significant history of MVC injuries/fatalities. Kansas Highway 7 does not currently have the traffic volume of the 3 primary highways running through the City of Lenexa, but volume will continue to increase as the northwestern portion of Johnson County develops.

This planning zone hosts 88 structures, with 16 fire inspected occupancies.

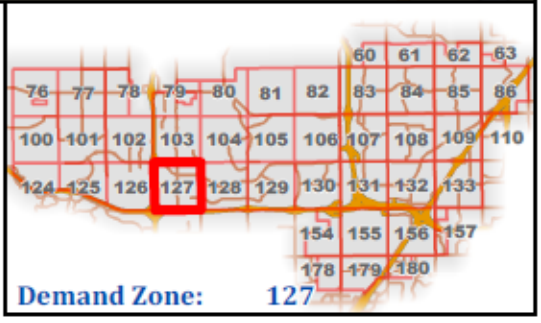


Community Profile

Community Profile Type: Rural / Residential
Number of Residential Structures: 425
Number of Commercial Structures: 2
Total Number of Structures: 427
Average Value of Each Structure: $261,155
Estimated Value of Structures at Risk: $111,513,330
Code Enforced Occupancies: 10
Estimated Daytime Population: 1129
Estimated Nighttime Population: 49
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 22
- EMS - 87
- Hazmat - 6
- Tech Rescue - 0
- Other - 73
- Demand Zone



Zone Boundaries (Grid 127) Rural

The planning zone boundaries are Lone Elm Road to the east, Kansas Highway 10 to the south, Kansas Highway 7 to the west, and 95th Street to the north. This area is currently mostly residential occupancies and a golf course.

Transportation Issues

The major transportation routes in this zone are the north/south Kansas Highway 7 and Monticello Road, and the east/west traffic of Kansas Highway 10 and Prairie Star Parkway. Traffic lights in this zone are along Woodland Road at Prairie Star Parkway and at 101st Street. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
LDS Church	21515 W. 101st Street	35.73
Benton House	22000 Prairie Star Parkway	34.95
Manchester Park Elementary	9810 Prairie Creek Road.	34.07

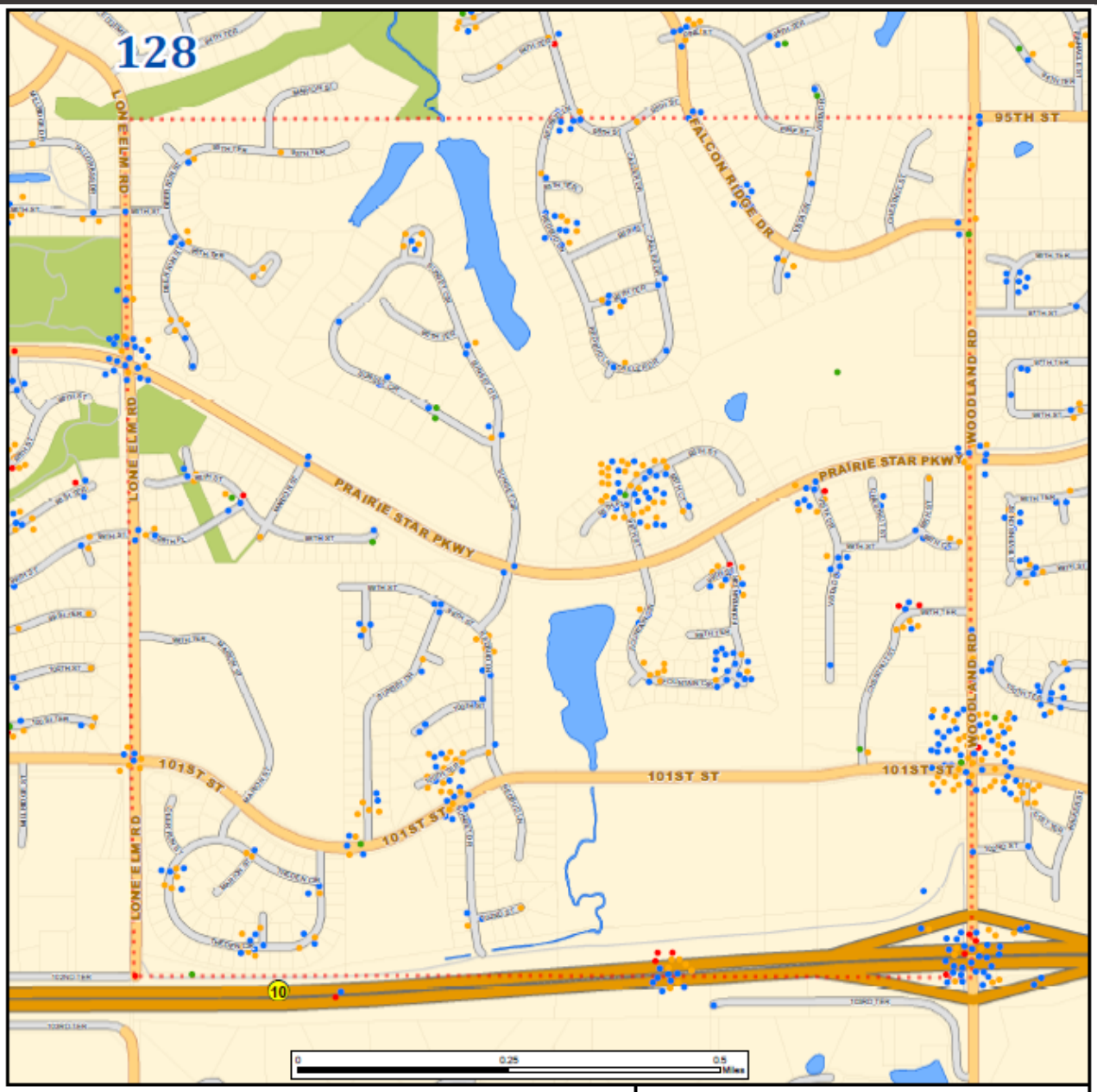
Table 70

Target Hazards:

- High traffic volume on Kansas Highway 10
- Traffic incidents on Kansas Highway 7
- Smiley's Golf Course

Kansas Highway 10 is a high traffic volume roadway and has a significant history of MVC injuries/fatalities. Kansas Highway 7 does not currently have the traffic volume of the other three primary highways running through the City of Lenexa, but volume will continue to increase as the northwestern portion of Johnson County develops.

This planning zone hosts 427 structures, with 10 fire inspected occupancies.

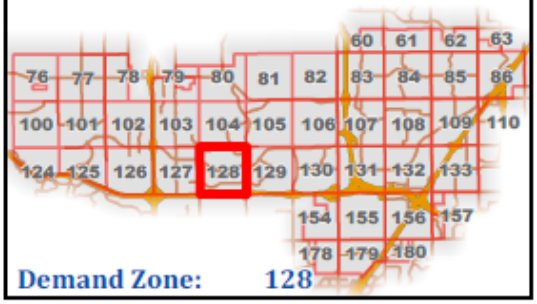


Community Profile

Community Profile Type: Residential
Number of Residential Structures: 710
Number of Commercial Structures: 2
Total Number of Structures: 712
Average Value of Each Structure: $355,171
Estimated Value of Structures at Risk: $252,881,970
Code Enforced Occupancies: 34
Estimated Daytime Population: 2073
Estimated Nighttime Population: 256
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 12
- EMS - 194
- Hazmat - 10
- Tech Rescue - 0
- Other - 148
- Demand Zone



Zone Boundaries (Grid 128) Rural

The planning zone boundaries are Woodland Road to the east, Kansas Highway 10 to the south, Lone Elm Road to the west, and 95th Street to the north. This area is currently residential occupancies and a golf course.

Transportation Issues

The major transportation routes in this zone are the north/south Woodland Road and the east/west traffic of Kansas Highway 10, Prairie Star Parkway and 101st Street. The only traffic lights in this zone are along Woodland Road at Prairie Star Parkway and at 101st Street. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Kiddie Kollege	9950 Chestnut Street	33.90
Falcon Ridge Pool House	20140 Prairie Star Parkway.	32.88
Falcon Ridge Clubhouse	20200 Prairie Star Parkway.	31.90
Falcon Plaza	10052-10098 Woodland Road	26.03

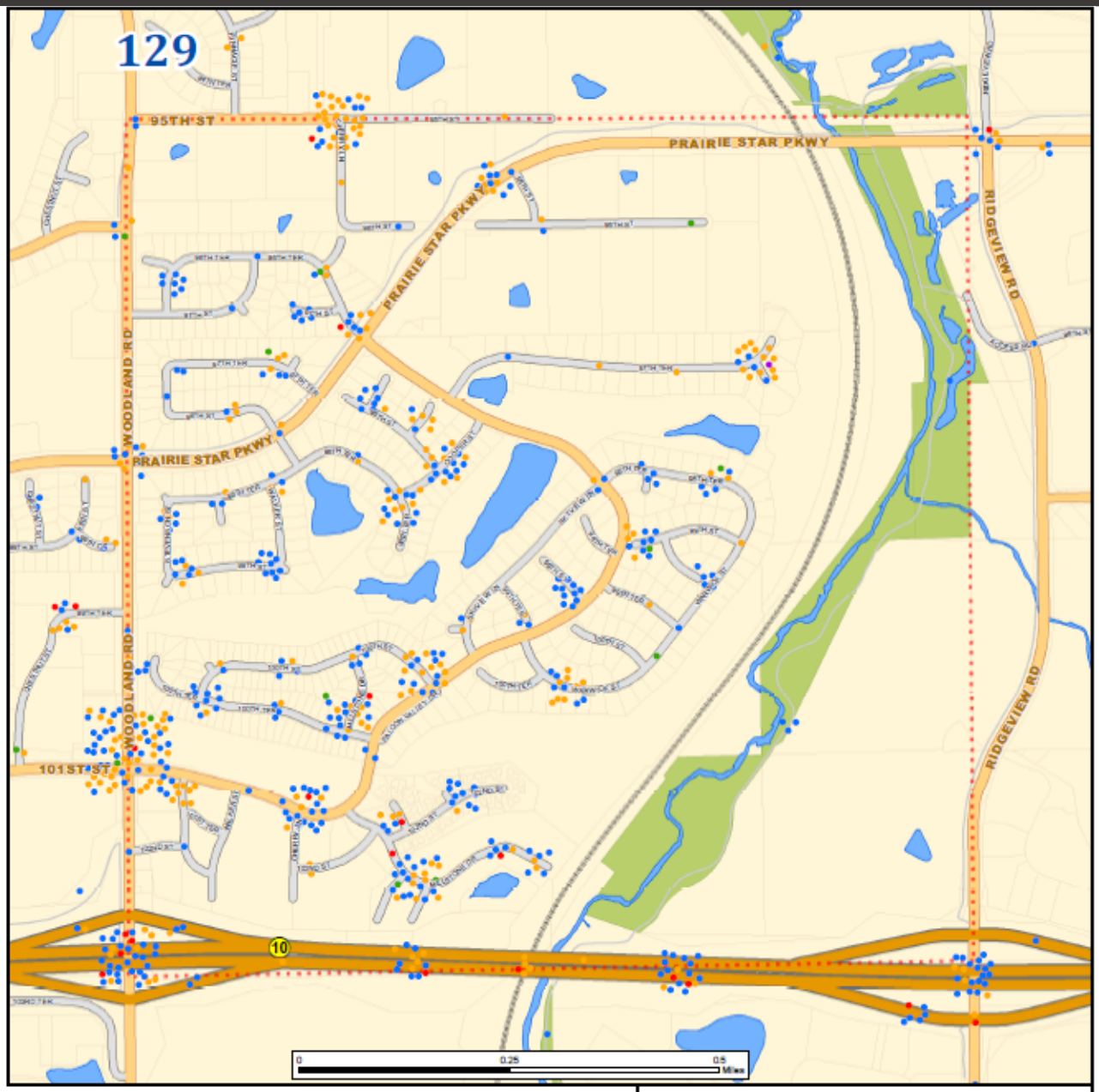
Table 71

Target Hazards:

- High traffic volume on Kansas Highway 10
- Falcon Ridge Golf Course
- Life Church

Kansas Highway 10 is a high traffic volume roadway that has a significant history of MVC injuries/fatalities. The Falcon Ridge Golf Course provides some unique response access challenges.

This planning zone hosts 712 structures, with 34 fire inspected occupancies.

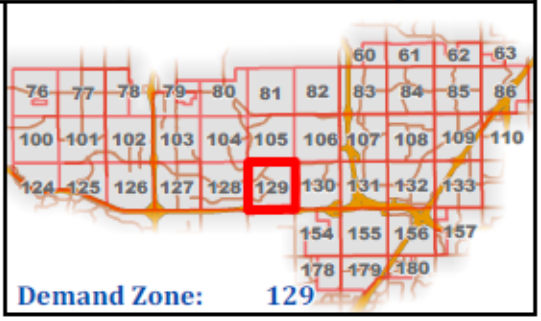


Community Profile

Community Profile Type: Residential
Number of Residential Structures: 493
Number of Commercial Structures: 12
Total Number of Structures: 505
Average Value of Each Structure: $426,212
Estimated Value of Structures at Risk: $215,237,160
Code Enforced Occupancies: 35
Estimated Daytime Population: 1659
Estimated Nighttime Population: 697
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 20
- EMS - 185
- Hazmat - 17
- Tech Rescue - 0
- Other - 91
- Demand Zone



Zone Boundaries (Grid 129) Rural

The planning zone boundaries are Ridgeview Road to the east, Kansas Highway 10 to the south, Woodland Road to the west, and 95th Street to the north. This area is currently residential with a small commercial area on Woodland Road north of Kansas Highway 10.

Transportation Issues

The major transportation routes in this zone are the north/south Woodland Road and the east/west traffic of Kansas Highway 10 and Prairie Star Parkway. The only traffic lights in this zone are along Woodland Road at Prairie Star Parkway and at 101st Street. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Price Chopper	19601 W. 101st Street	37.20
Dunes at Falcon Valley	10221 Millstone Drive	36.80

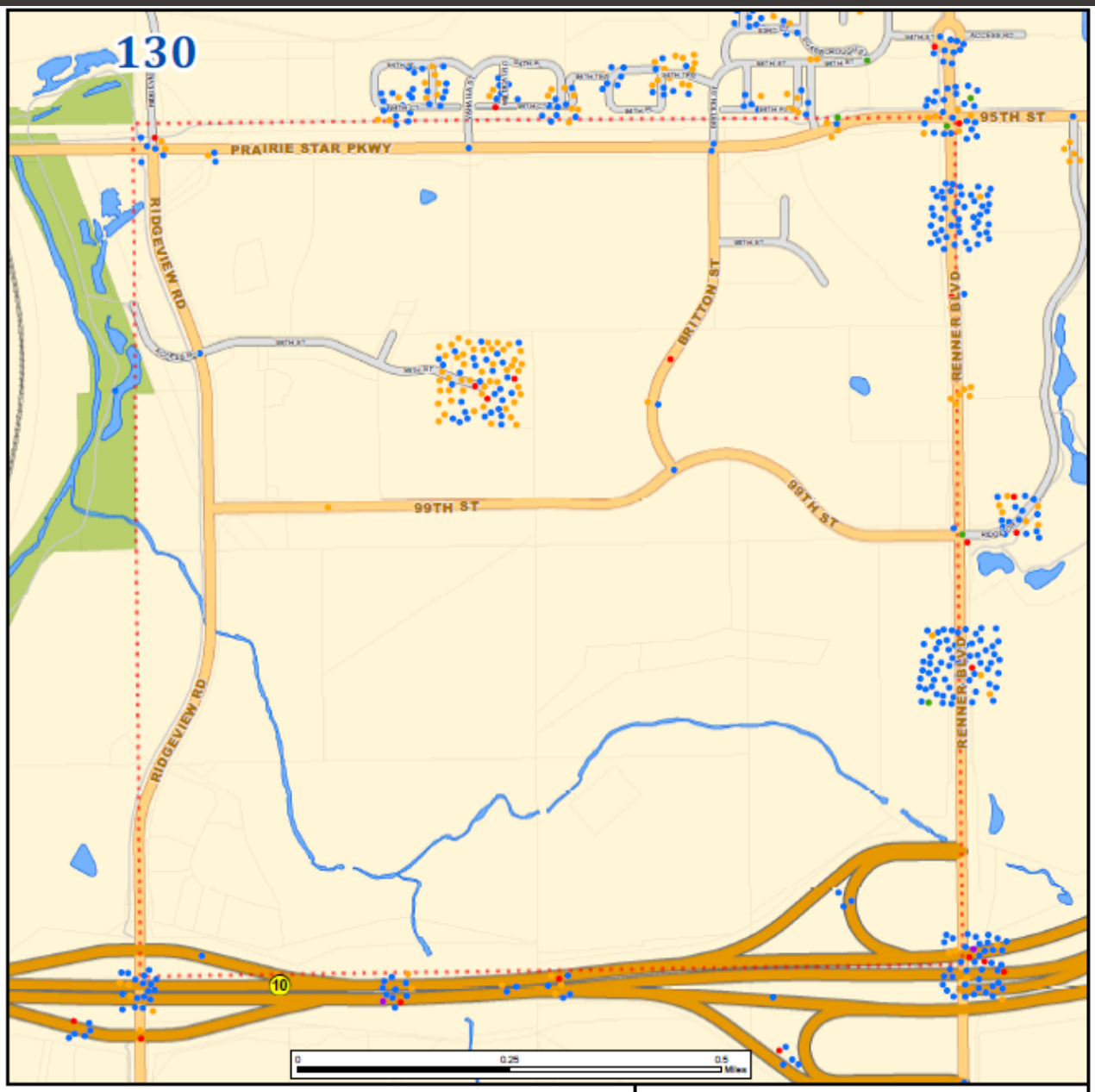
Table 72

Target Hazards:

- BNSF Railroad main line
- High traffic volume on Kansas Highway 10
- Falcon Valley Golf Course
- Lenexa Fire Station #5

Kansas Highway 10 is a high traffic volume roadway with a significant history of MVC injuries/fatalities. The Falcon Valley Golf Course provides some unique response access challenges.

This planning zone hosts 505 structures, with 35 fire inspected occupancies.

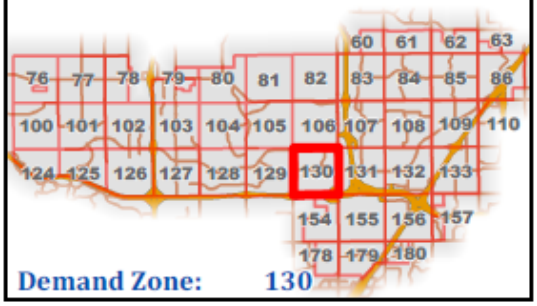


Community Profile

Community Profile Type: Mixed Use
Number of Residential Structures: 3
Number of Commercial Structures: 1
Total Number of Structures: 4
Average Value of Each Structure: $4,262,752
Estimated Value of Structures at Risk: $17,051,010
Code Enforced Occupancies: 46
Estimated Daytime Population: 398
Estimated Nighttime Population: 595
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 8
- EMS - 62
- Hazmat - 2
- Tech Rescue - 0
- Other - 90
- Demand Zone



Zone Boundaries (Grid 130) Rural

The planning zone boundaries are Renner Boulevard to the east, Kansas Highway 10 to the south, Ridgeview Road to the west, and Prairie Star Parkway to the north. This area is currently rural with a major underground industrial center occupying a former mine.

Transportation Issues

The major transportation routes in this zone are the north/south Renner Boulevard and the east/west traffic of Kansas Highway 10 and Prairie Star Parkway. The only traffic lights in this zone are along Renner Boulevard. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Church of the Nazarene Global HQ	17001 Prairie Star Parkway.	38.13

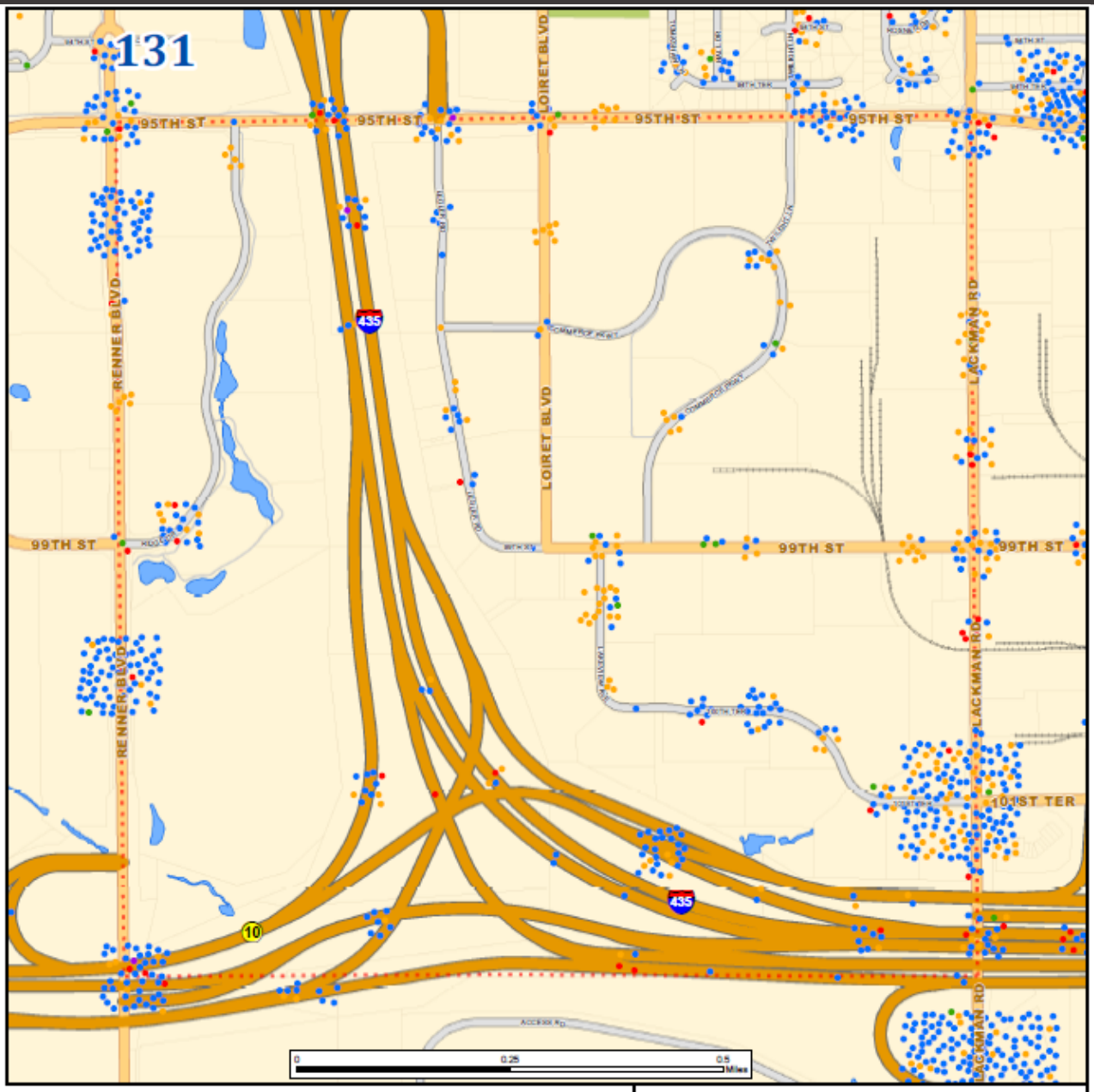
Table 73

Target Hazards:

- High traffic volume on Kansas Highway 10
- Meritex Sub Surface Industrial Center, 17501 W. 98th Street

This is a rural/industrial planning zone. Kansas Highway 10 is a high traffic volume roadway with a significant history of MVC injuries/fatalities. Along with the associated fire risks, the Meritex Sub-Surface Industrial Center provides challenges due to limited access and difficult communications.

This planning zone hosts 4 structures, with 46 fire inspected occupancies.

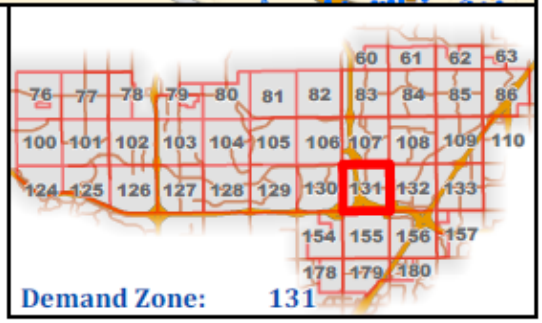


Community Profile

Community Profile Type: Industrial
Number of Residential Structures: 0
Number of Commercial Structures: 64
Total Number of Structures: 64
Average Value of Each Structure: $3,500,347
Estimated Value of Structures at Risk: $224,022,270
Code Enforced Occupancies: 151
Estimated Daytime Population: 4775
Estimated Nighttime Population: 5487
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 27
- EMS - 455
- Hazmat - 20
- Tech Rescue - 9
- Other - 227
- Demand Zone



Zone Boundaries (Grid 131) Urban

The planning zone boundaries are Lackman Road to the east, Kansas 10 Hwy & Interstate Highway 435 to the south, Renner Boulevard to the west, and 95th Street to the north. This area is mostly office buildings and light industrial facilities.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Renner Boulevard, Lackman Road and Interstate Highway 435, the east/west travel of 95th Street, Kansas 10 Highway and Interstate Highway 435. Traffic lights exist at the major intersections of 95th Street, Renner Boulevard, Lackman Road, and the entrance/exit ramps of Interstate Highway 435 and Kansas 10 Highway. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Gear for Sports	9700 Commerce Parkway	42.18
Iron Mountain	15400 W. 99th Street	40.88
Sprint OCSC	15201 W. 99th Street	38.73
Pharmaceutical Research Assoc	9755 Ridge Drive	38.53
Quest Diagnostics Laboratory	10101 Renner Boulevard	35.97
Studio 6 Extended Stay	15151 W 101st Terrace	35.47

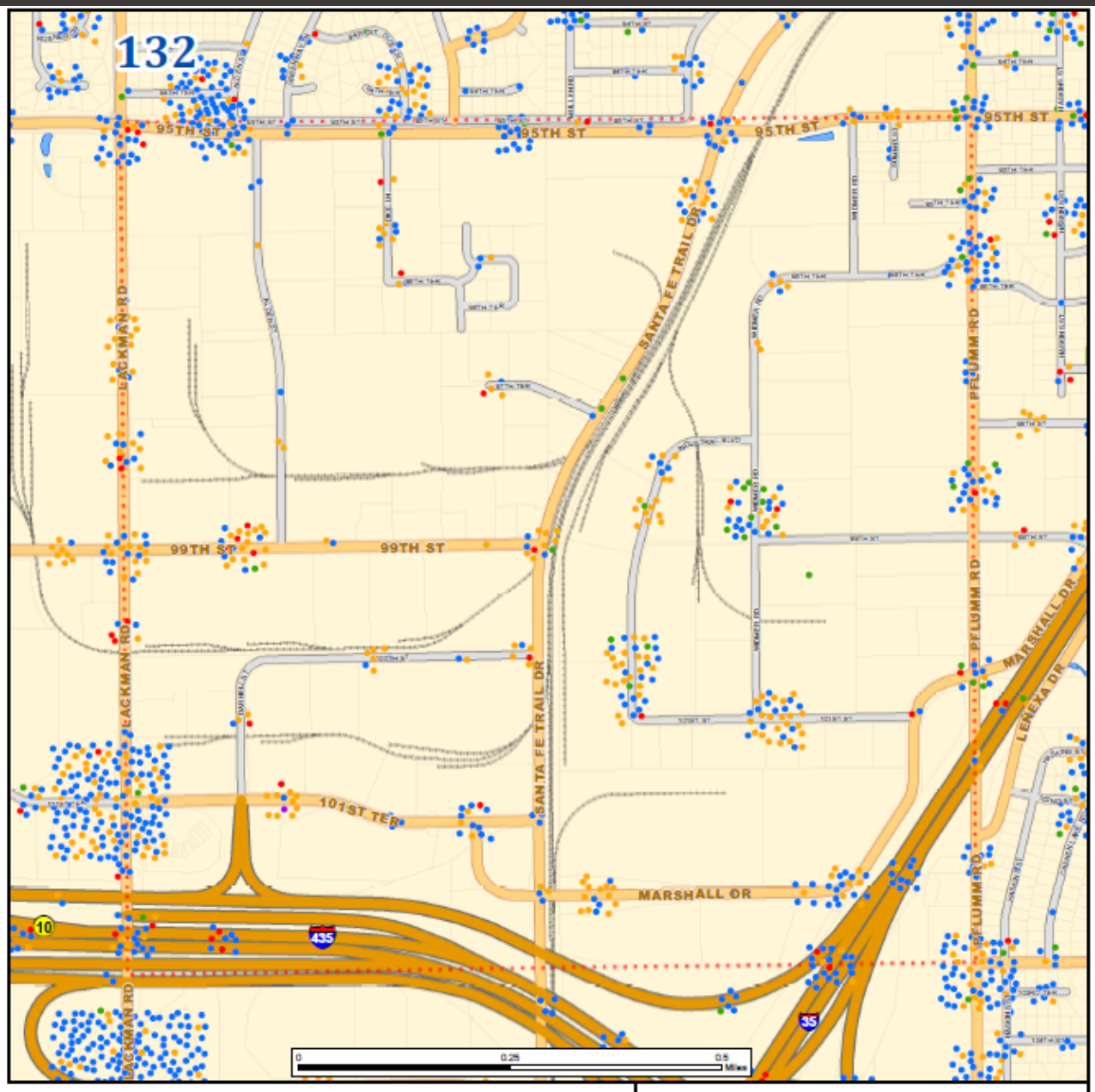
Table 74

Target Hazards:

- Interstate Highway 435 and Kansas Highway 10 Interchange.
- Sprint Communications OCSC Bunker 16020 W. 113th Street.
- Quest Laboratory, 9705 Renner Boulevard.

This is a predominately light industrial planning zone with two major highways transecting the zone. The interchange of Interstate Highway 435 and Kansas Highway 10 is half of the relative confluence of the three primary highways running through the City of Lenexa. The Kansas Department of Transportation estimates that more than 200,000 vehicles a day travel through these interchanges. Quest Diagnostics Laboratories processes blood samples and other biological agents and presents bio-hazard risks.

This planning zone hosts 64 structures, with 151 fire inspected occupancies.

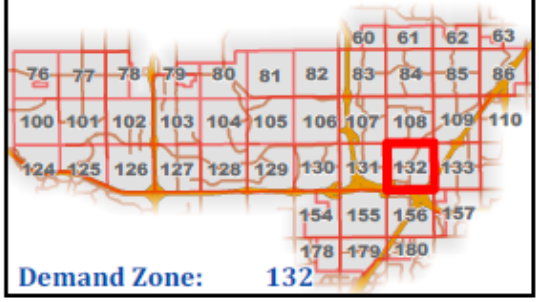


Community Profile

Community Profile Type: Industrial
Number of Residential Structures: 20
Number of Commercial Structures: 167
Total Number of Structures: 187
Average Value of Each Structure: $987,515
Estimated Value of Structures at Risk: $184,665,360
Code Enforced Occupancies: 350
Estimated Daytime Population: 2783
Estimated Nighttime Population: 12141
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 24
- EMS - 294
- Hazmat - 30
- Tech Rescue - 4
- Other - 207
- Demand Zone



Zone Boundaries (Grid 132) Urban

The planning zone boundaries are Pflumm Road to the east, 103rd Street to the south, Lackman Road to the west, and 95th Street to the north. This area is mostly light industrial.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Pflumm Road, Lackman Road and Santa Fe Trail Drive, the east/west travel of 95th Street and Interstate Highway 435, and the northeast/southwest travel of Interstate Highway 35. A Burlington Northern Santa Fe (BNSF) main rail line parallels Interstate Highway 35. Traffic lights exist at the major intersections of 95th Street, Quivira Road, Pflumm Road, Santa Fe Trail Drive, and the on/off ramps of Interstate Highway 435 at 101st Street. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Praxair	9725 Alden Street	53.60
City of Lenexa Fire Station #1	9620 Pflumm Road	42.15
1-800-GOT-JUNK	9851	39.20
Systemair Mfg	10048 Industrial Boulevard	37.99
FSA Logistix	9606	36.00
Heartland Coca-Cola	10001 Industrial Boulevard	35.97

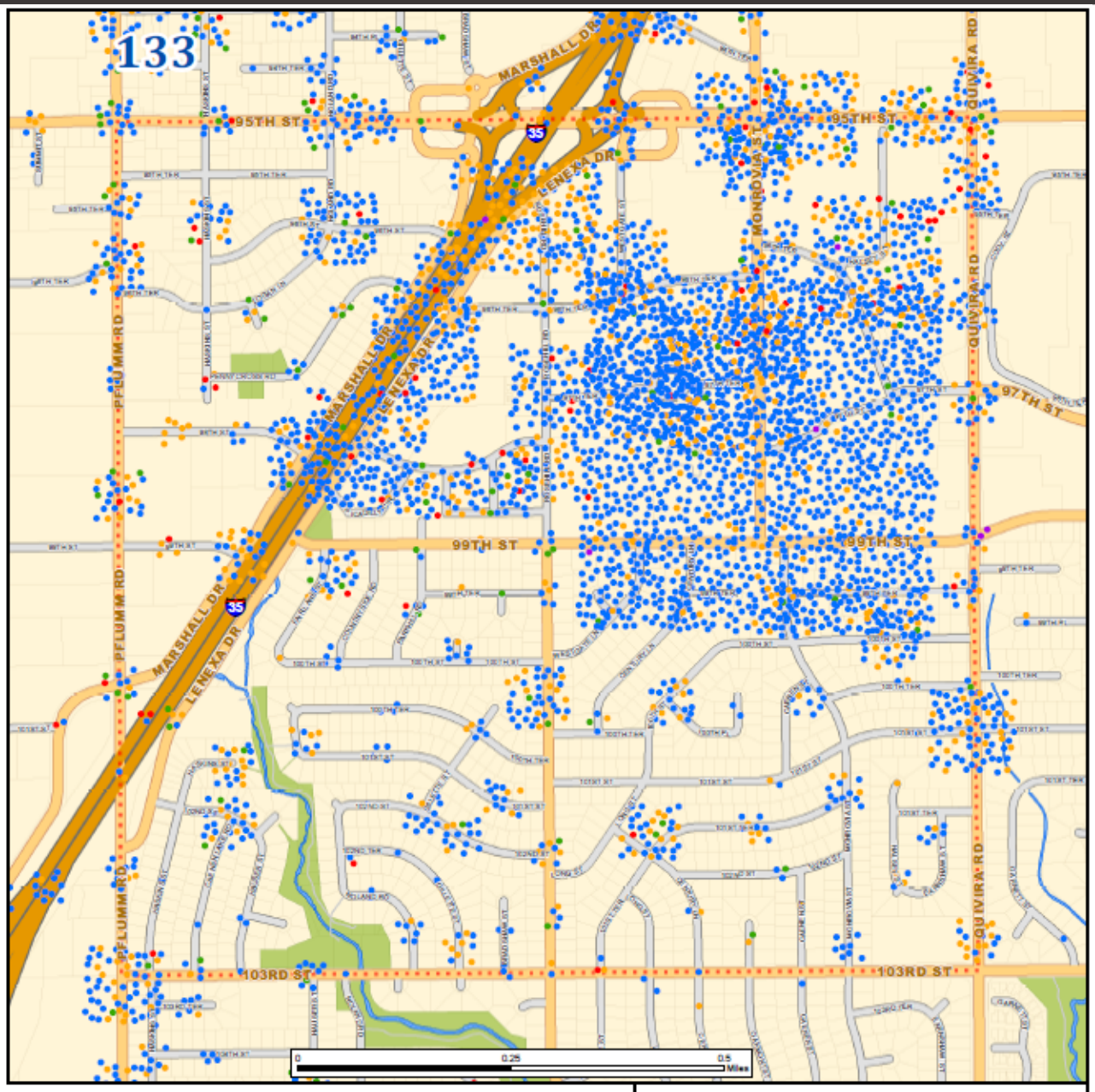
Table 75

Target Hazards:

- Interstate Highway 35
- Interstate Highway 435
- Burlington Northern – Santa Fe Railroad
- Westlake Hardware Distribution Center, 14000 Marshall Drive
- Shasta Bottling, 9901 Widmer Street
- Consolidated Communications, 9701 Lackman Road

This is a predominately light industrial planning zone with major highways and rail transportation route dissecting the zone. Interstate Highways 35 and 435 are heavily traveled with high speed transportation passengers, goods and hazardous materials. Praxair contains a supply of high-pressure cylinders and presents an explosive and hazmat risk.

This planning zone hosts 87 structures, with 350 fire inspected occupancies.

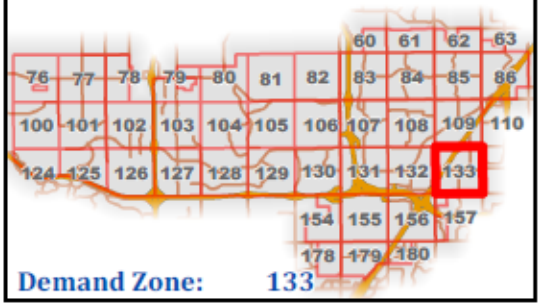


Community Profile

Community Profile Type: Residential
Number of Residential Structures: 1400
Number of Commercial Structures: 62
Total Number of Structures: 1462
Average Value of Each Structure: $219,689
Estimated Value of Structures at Risk: $321,185,880
Code Enforced Occupancies: 163
Estimated Daytime Population: 5672
Estimated Nighttime Population: 4251
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 85
- EMS - 2824
- Hazmat - 111
- Tech Rescue - 5
- Other - 620
- Demand Zone



Zone Boundaries (Grid 133) Urban

The planning zone boundaries are Quivira Road to the east, 103rd Street to the south, Pflumm Road to the west, and 95th to the north. This area is a mix of residential, commercial and light industrial.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Quivira Road and Pflumm Road, the east/west travel of 95th Street and 103rd Street and the Northeast/Southwest travel of Interstate Highway 35. A Burlington Northern Santa Fe (BNSF) main rail line parallels Interstate Highway 35. Traffic lights exist at the major intersections of 95th Street and Quivira Road, 95th Street and Pflumm Road, 103rd Street and Quivira Road, 103rd Street and Pflumm Road, and the on/off ramps of Interstate Highway 35 at 95th Street. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Radisson Hotel	12601 W. 95th Street	47.60
The Wilder Apts	9670 Monrovia Street	45.09
Candlewood Suites	9630 Rosehill Road	44.27
Holiday Inn Express	9620 Rosehill Road	43.33
Silvercrest Senior Living	13600 College Boulevard	43.33
Delmar Gardens of Lenexa	9701 Monrovia Street	43.20
Garden Villas of Lenexa	9705 Monrovia Street	41.73
Rosehill Elementary School	9801 Rosehill Road	37.80
Quality Inn & Suites	12601W. 96th Terrace	3760
Orchard Corners	9562-9596 Quivira Road	37.40
Lenexa Crossing Apts	12445 W. 97th Terrace	36.67
Motel 6	9725 Lenexa Drive	36.00
Williams Foods, Inc	13301 W 99th Street	35.97
London House Apartments	12901 Lord Nelson Drive	31.17

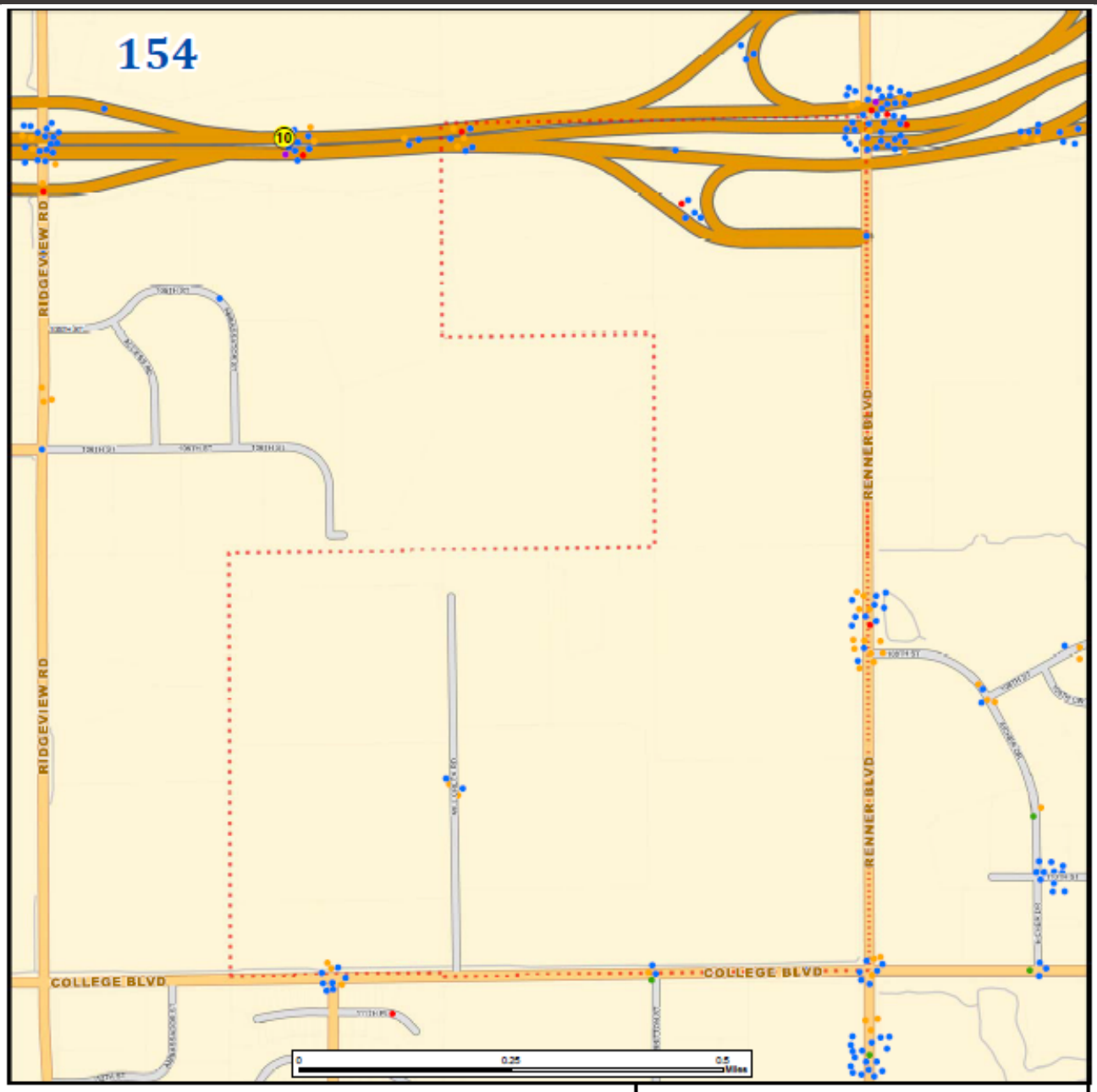
Table 76

Target Hazards:

- Interstate Highway 35
- Burlington Northern – Santa Fe Railroad

This is a mixed occupancy zone with residential mixed with commercial/retail along 95th Street and Quivira Street. A major highway and rail transportation route dissect the planning zone. The London House Apartments, Lenexa Crossing Apartments and The Wilder Apartments are not equipped with residential sprinklers with the exception of two buildings. Delmar Gardens Nursing Center and Garden Villas Retirement Community has an elderly population with significant EMS demands. Interstate Highway 35 is heavily traveled with high speed transportation passengers, goods and hazardous materials.

This planning zone hosts 1462 structures, with 163 fire inspected occupancies.

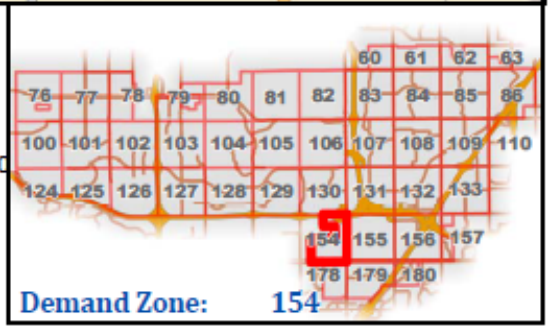


Community Profile

Community Profile Type: Industrial
Number of Residential Structures: 0
Number of Commercial Structures: 2
Total Number of Structures: 2
Average Value of Each Structure: $21,273,905
Estimated Value of Structures at Risk: $42,547,810
Code Enforced Occupancies: 2
Estimated Daytime Population: 21
Estimated Nighttime Population: 0
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 2
- EMS - 30
- Hazmat - 1
- Tech Rescue - 0
- Other - 18
- Demand Zone



Zone Boundaries (Grid 154) Rural

The planning zone boundaries are Renner Boulevard to the east, College Boulevard to the south, Olathe City Limits to the west, and Kansas Highway 10 to the north. The area in the zone is primarily rural farm land with one commercial building currently being constructed.

Transportation Issues

Major transportation routes in this zone are the east/west travels of Kansas Highway 10 and the north/south travels of Renner Boulevard. Traffic lights exist in this zone along Renner Boulevard at the East exit ramp of Kansas Highway 10 and at College Boulevard. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified special risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Turn 5	17700 College Blvd	40.73
Lenexa Logistics Center	16851 W. 113th Street	30.19

Table 77

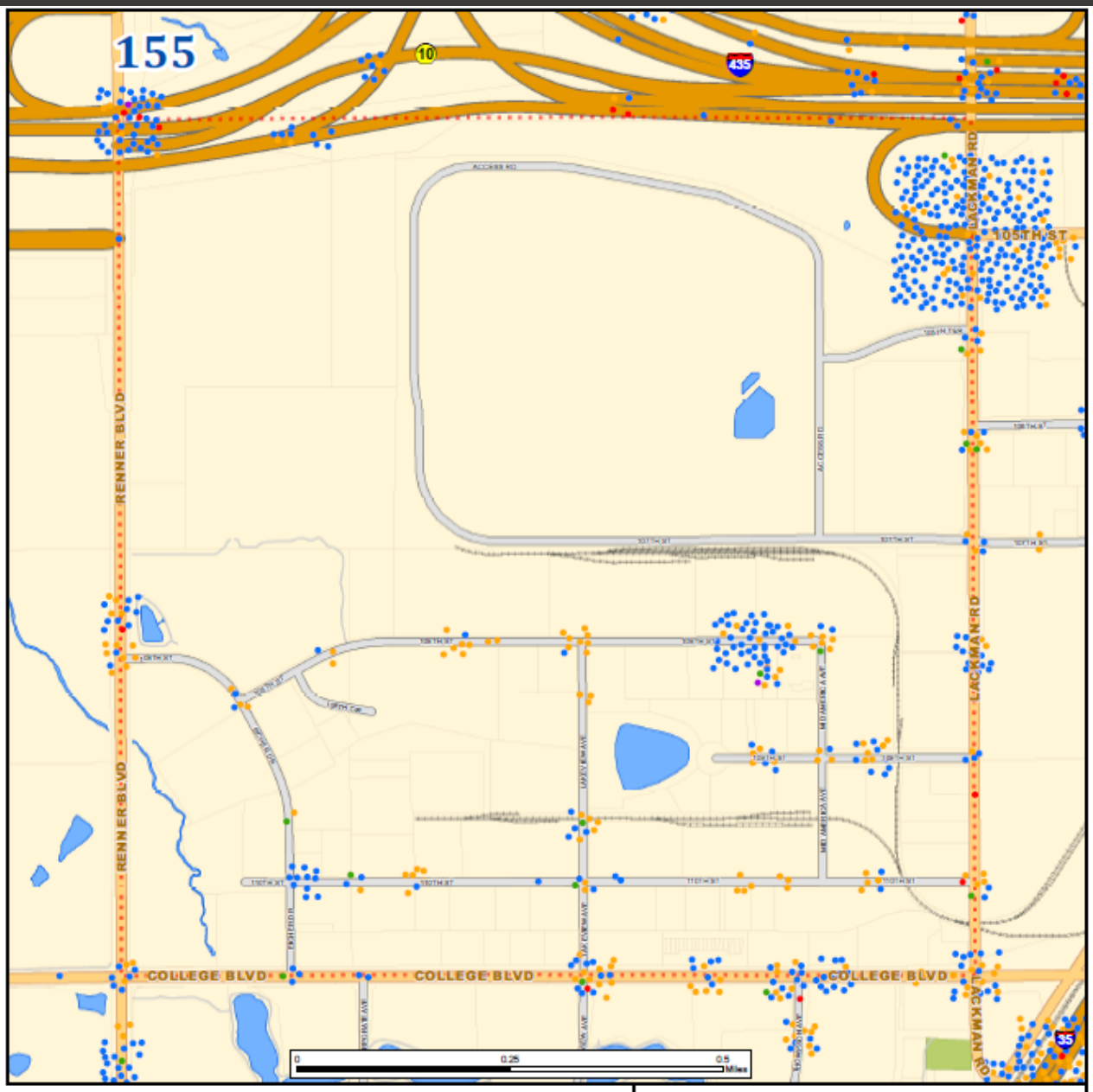
Target Hazards:

- High volume traffic on Kansas Highway 10

Kansas Highway 10 is a high traffic volume roadway with a significant history of MVC injuries/fatalities. The Lenexa Logistics complex is still growing and adding occupancies.

This planning zone hosts 2 structures, with 2 code enforced occupancies.

*Code enforced occupancies include all city plan reviews, permits, and inspections.

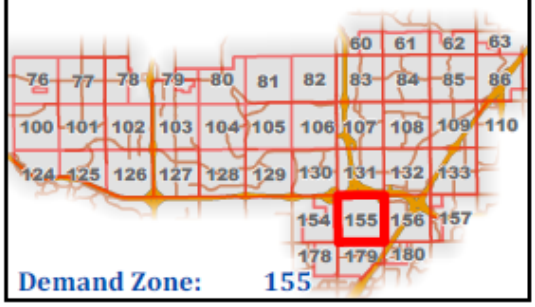


Community Profile

Community Profile Type: Industrial
Number of Residential Structures: 0
Number of Commercial Structures: 92
Total Number of Structures: 92
Average Value of Each Structure: $1,481,632
Estimated Value of Structures at Risk: $136,310,160
Code Enforced Occupancies: 121
Estimated Daytime Population: 1369
Estimated Nighttime Population: 4207
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 10
- EMS - 261
- Hazmat - 17
- Tech Rescue - 1
- Other - 114
- Demand Zone



Zone Boundaries (Grid 155) Rural

The planning zone boundaries are Lackman Road to the east, College Boulevard to the south, Renner Boulevard to the west, and Interstate Highway 435 to the north. This area is made up of light industrial occupancies.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Lackman Road, Renner Boulevard and the east/west travel of College Boulevard. Traffic lights exist at the major intersections of College Boulevard, Renner Road and Lackman Road. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
JC Penny Warehouse	10500 Lackman Road	47.52
Evergy	16125 W. 108th Street	39.20
Arrow Acquisitions	16000 W. 108th Street	38.28
Gill Studios	10800 Lackman Road	37.33
Cargill	15405 College Boulevard	36.27
Bio Microbics, Inc	16002 W. 110th Street	35.2
Lenexa Fire Station #4	10855 Eicher Drive	33.75

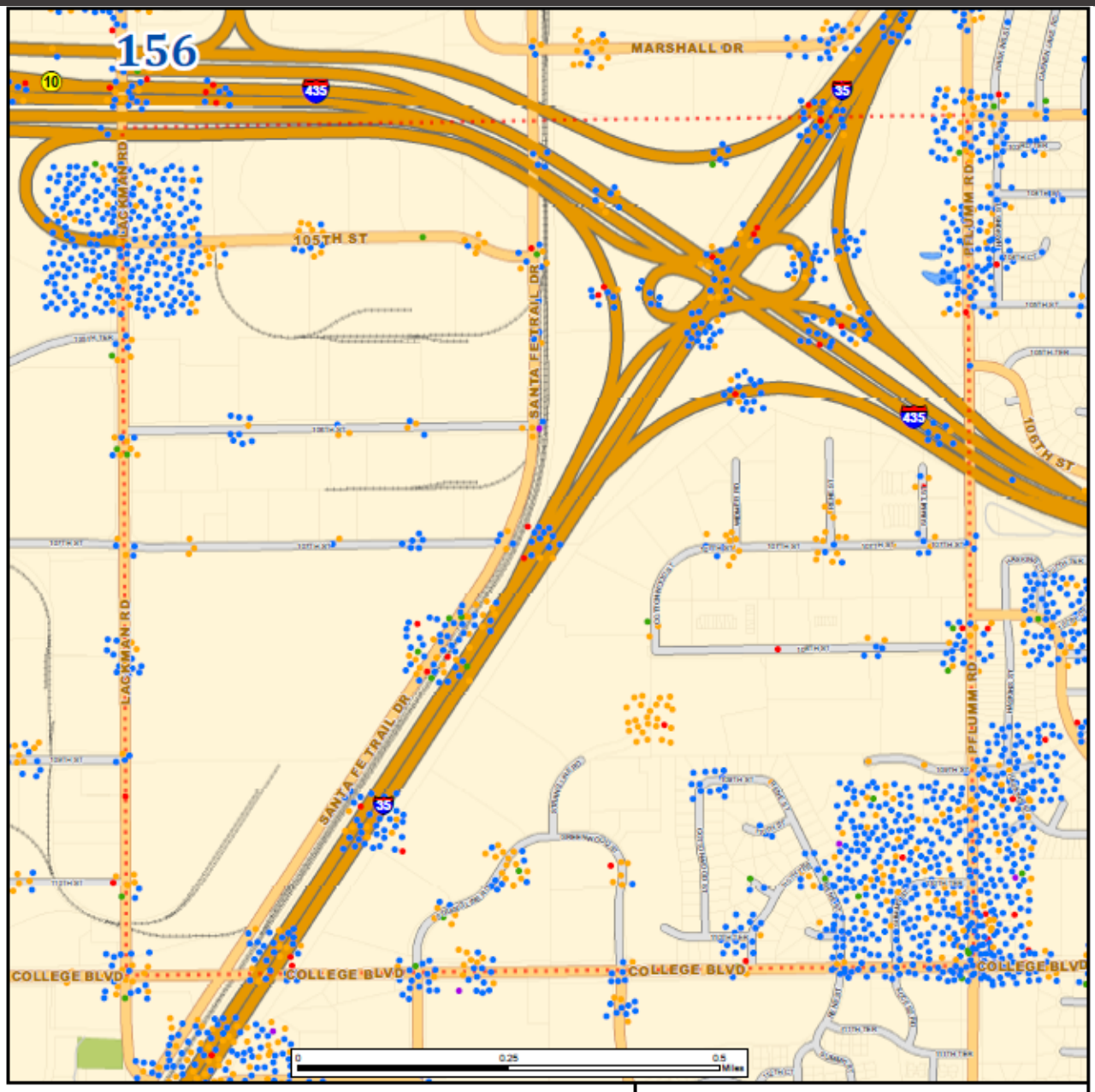
Table 78

Target Hazards:

- Johnson County Water District #1, 10747 Renner Blvd
- Robbie Manufacturing, 10810 Mid America Drive

This is predominately an industrial planning zone.

This planning zone hosts 92 structures, with 121 fire inspected occupancies.

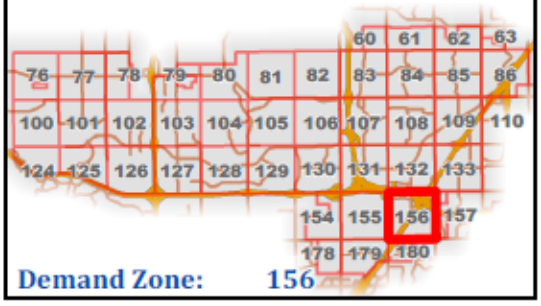


Community Profile

Community Profile Type: Industrial
Number of Residential Structures: 147
Number of Commercial Structures: 119
Total Number of Structures: 266
Average Value of Each Structure: $658,862
Estimated Value of Structures at Risk: $175,257,500
Code Enforced Occupancies: 323
Estimated Daytime Population: 3263
Estimated Nighttime Population: 4955
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 33
- EMS - 629
- Hazmat - 23
- Tech Rescue - 5
- Other - 296
- Demand Zone



Zone Boundaries (Grid 156) Urban

The planning zone boundaries are Pflumm Road to the east, College Boulevard to the south, Lackman Road to the west, and 103rd Street to the north. This area is a mixed use of residential, commercial, industrial and major transportation routing.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Pflumm Road and Lackman Road, the east/west travel of College Boulevard, the northeast/southwest travel of Interstate Highway 35, the northwest and southeast travel of Interstate Highway 435, and the intersection of both Interstate Highways 35 and 435. A Burlington Northern Santa Fe (BNSF) main rail line parallels Interstate Highway 35. Traffic lights exist at the major intersections of College Boulevard, Pflumm Road, Lackman Road, and Santa Fe Trail Drive. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Dial Senior Living	13600 W. 110th Street	43.33
Amazon	11011 Lackman Road	40.73
Pinnacle Pointe Apts	14400 Pflumm Road	37.87
Amcor PET Packaging	11011 Lackman Road	34.23
United Parcel Service	14650 Santa Fe Trail Drive	33.08

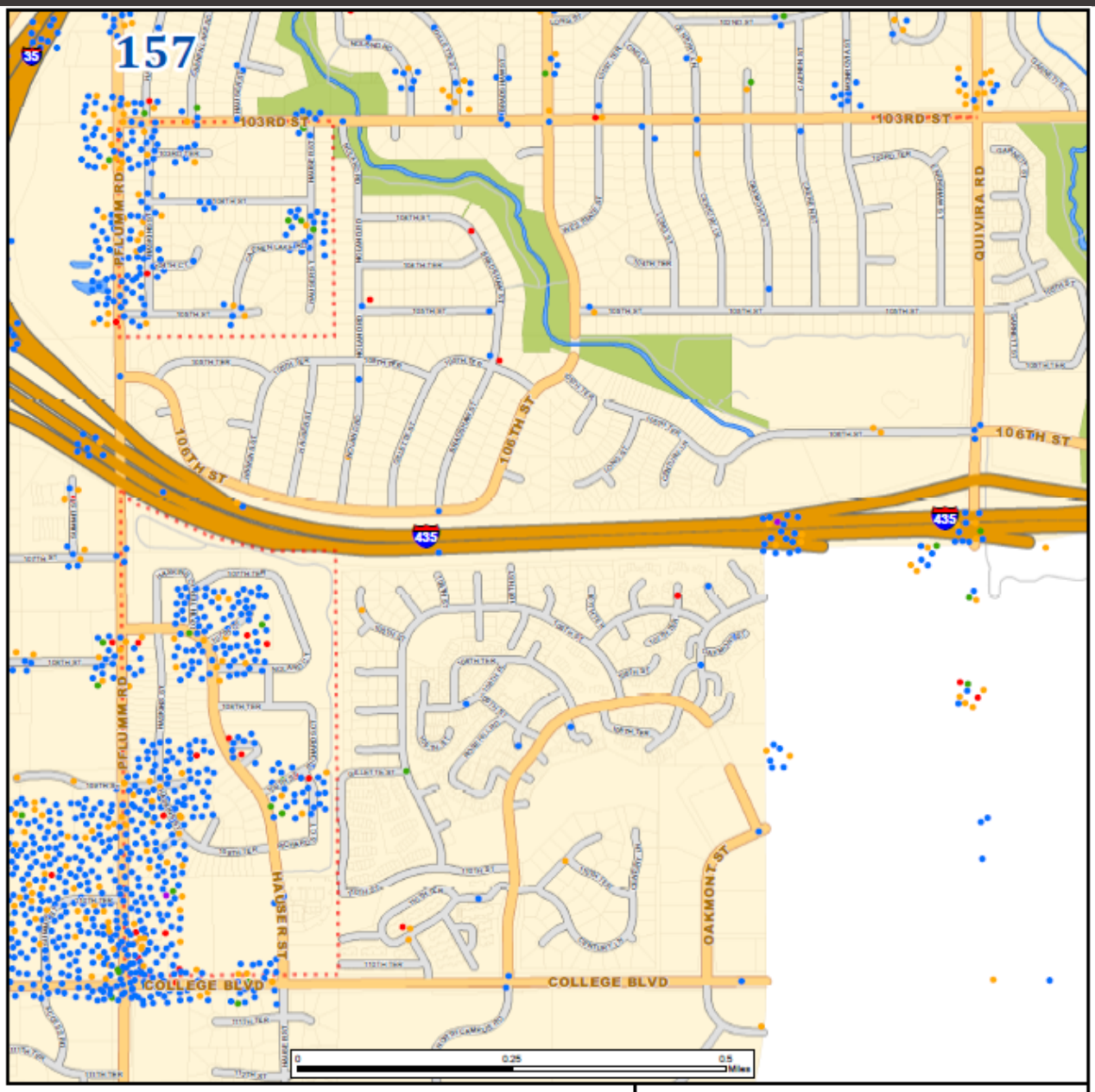
Table 79

Target Hazards:

- Interstate Highway 435 and Interstate Highway 35 Interchange
- BNSF
- United Parcel Service Distribution Center, 14650 Santa Fe Trail Drive

This is a predominately light industrial planning zone with two major highways and one major railway transecting the zone. The interchange of I-35 and I-435 is half of the relative confluence of the three primary highways running through the City of Lenexa (see Planning Zone 131 for the other half – K-10 and I-435). The Kansas Department of Transportation estimates that more than 200,000 vehicles a day travel through these interchanges.

This planning zone hosts 266 structures, with 323 fire inspected occupancies.

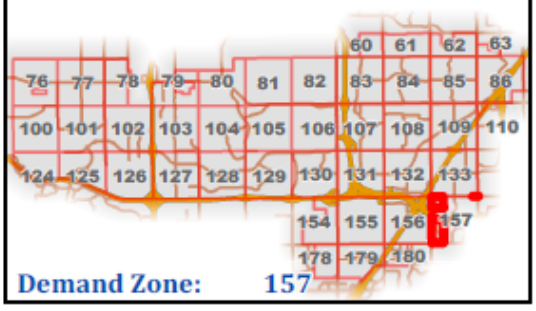


Community Profile

Community Profile Type: Residential
Number of Residential Structures: 289
Number of Commercial Structures: 22
Total Number of Structures: 311
Average Value of Each Structure: $208,140
Estimated Value of Structures at Risk: $64,731,650
Code Enforced Occupancies: 42
Estimated Daytime Population: 1225
Estimated Nighttime Population: 366
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 22
- EMS - 339
- Hazmat - 19
- Tech Rescue - 2
- Other - 73
- Demand Zone



Zone Boundaries (Grid 157) Rural

The planning zone boundaries are Hauser Road to the east, College Boulevard to the south, Pflumm Road to the west, and 103rd Street to the north. The area in the zone is currently residential land with a small retail center at College Boulevard and Pflumm Road.

Transportation Issues

Major transportation routes in this zone are the north/south travels of Pflumm Road and the east/west travels of College Boulevard. Traffic lights exist along Pflumm Road in this zone. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Barrington Park Storage	13236 W. 108th Terrace.	30.07

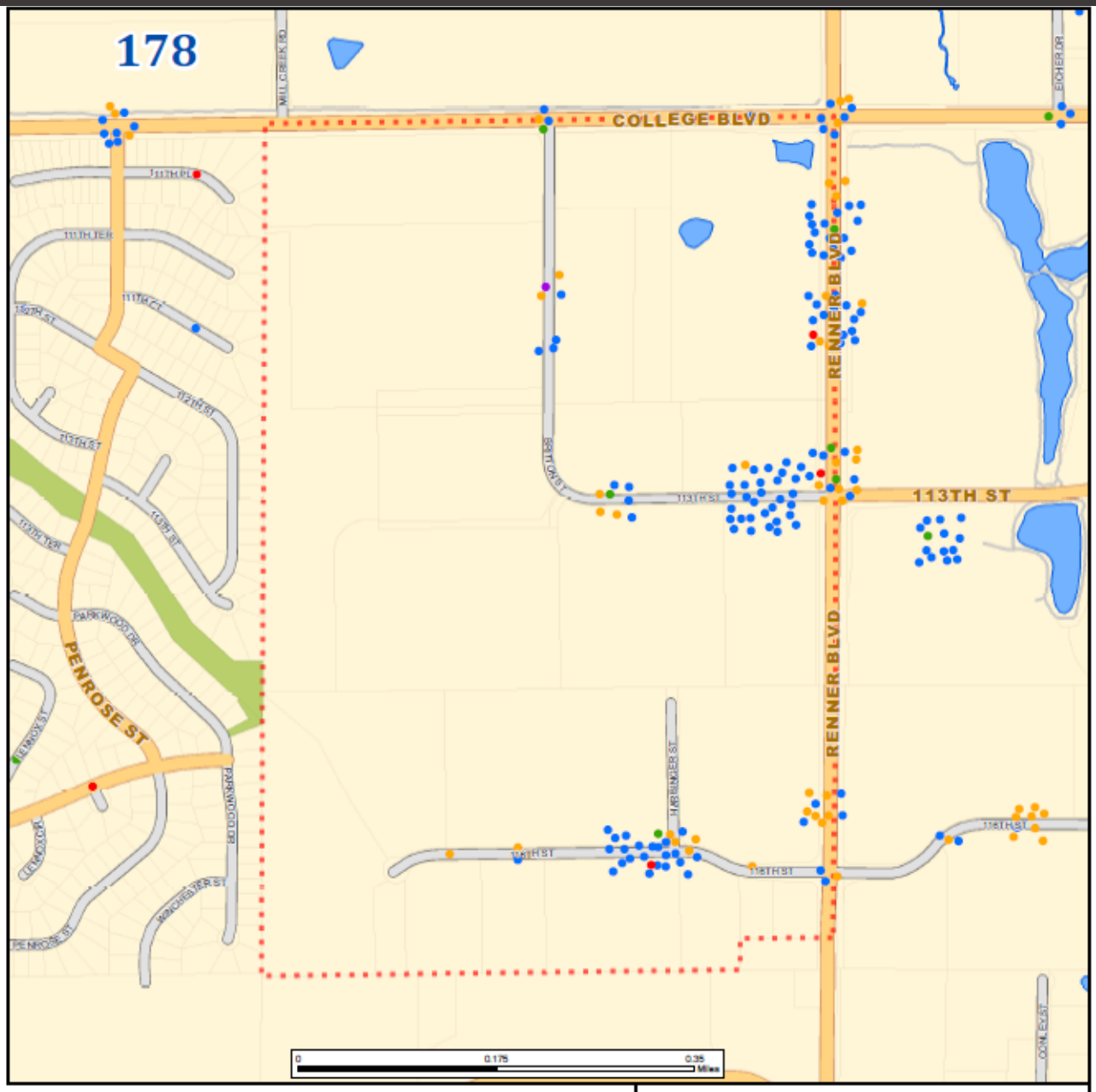
Table 80

Target Hazards:

- Heavy traffic volume at the Pflumm Road and College Boulevard intersection
- Barrington Park Townhome Complex

The intersection of Pflumm Road and College Boulevard has significant commuter traffic due to several occupancies in the area including a large high school and a community college. The Barrington Park Town Home complex contains several multi-occupancy structures without residential sprinkler protection.

This planning zone hosts 311 structures, with 42 fire inspected occupancies.

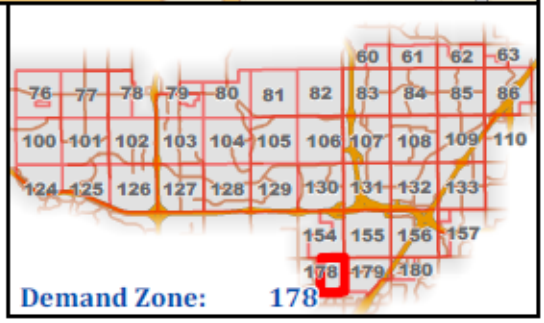


Community Profile

Community Profile Type: Industrial
Number of Residential Structures: 0
Number of Commercial Structures: 14
Total Number of Structures: 14
Average Value of Each Structure: $4,895,372
Estimated Value of Structures at Risk: $68,535,220
Code Enforced Occupancies: 28
Estimated Daytime Population: 311
Estimated Nighttime Population: 619
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 7
- EMS - 98
- Hazmat - 4
- Tech Rescue - 1
- Other - 54
- Demand Zone



Zone Boundaries (Grid 178) Rural

The planning zone boundaries are Renner Boulevard to the east, 116th Street to the south, Olathe City limits to the west, and College Boulevard to the north. The area in the zone is currently industrial occupancies.

Transportation Issues

Major transportation routes in this zone are the north/south travels of Renner Boulevard and the east/west travels of College Boulevard. Traffic lights exist at the intersection of Renner and College Boulevard. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

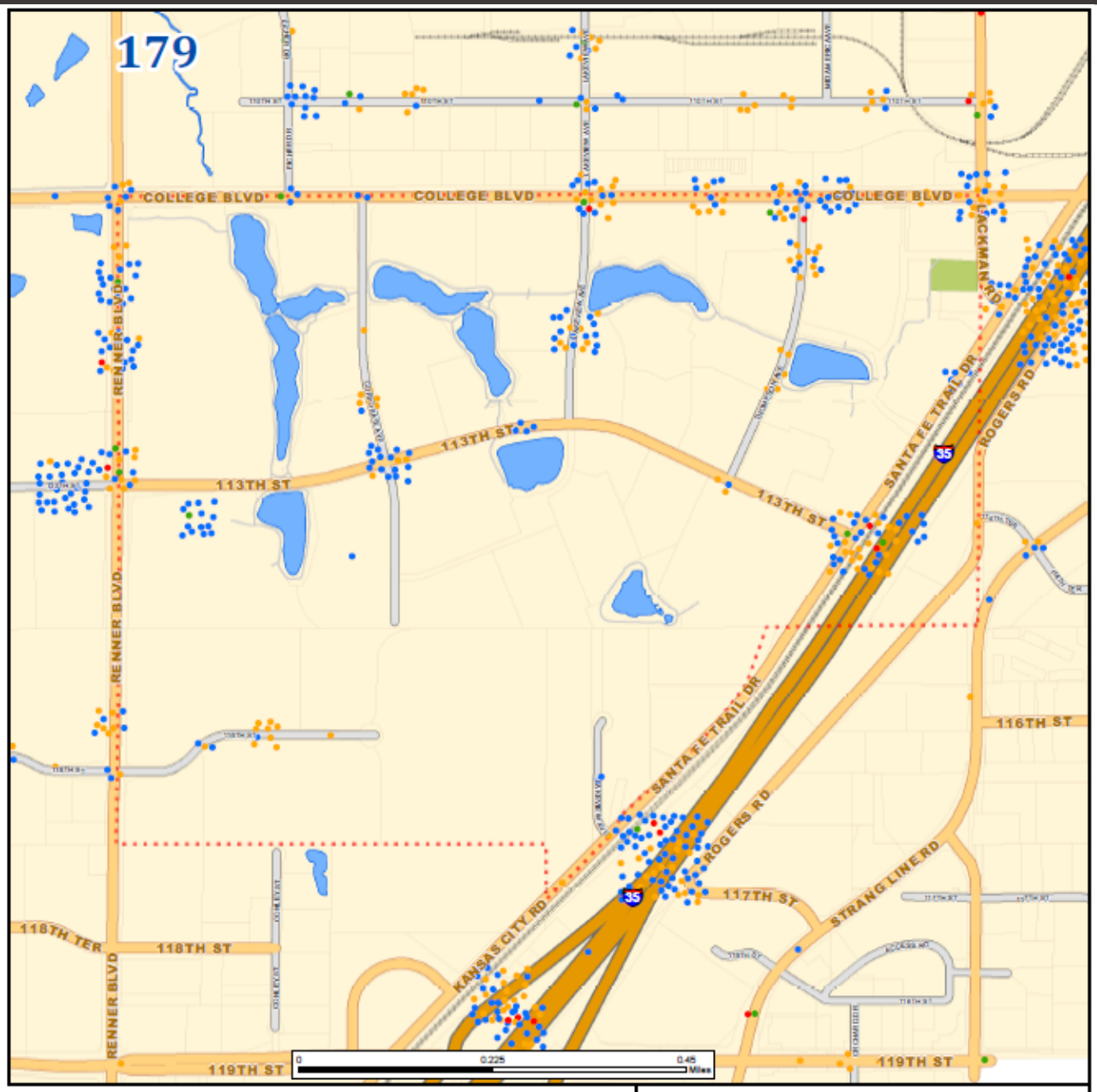
Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Composite One	16900 W. 113th Street	40.73
Sprint PCS	11300 Corporate Avenue	37.70
Amazon	16851 W. 113th Street	30.19

Table 81

Target Hazards: None

This planning zone hosts 14 structures, with 28 fire inspected occupancies.

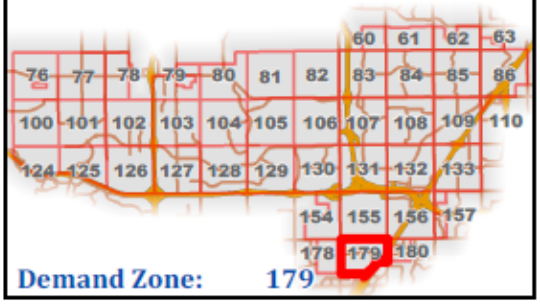


Community Profile

Community Profile Type: Industrial
Number of Residential Structures: 0
Number of Commercial Structures: 39
Total Number of Structures: 39
Average Value of Each Structure: $2,735,530
Estimated Value of Structures at Risk: $106,685,700
Code Enforced Occupancies: 61
Estimated Daytime Population: 1580
Estimated Nighttime Population: 2284
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 11
- EMS - 237
- Hazmat - 10
- Tech Rescue - 1
- Other - 147
- Demand Zone



Zone Boundaries (Grid 179) Rural

The planning zone boundaries are Lackman Road to the east, 119th Street to the south, Renner Boulevard to the west, and College Boulevard to the north. This area is made up of light industrial occupancies.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Lackman Road and Renner Boulevard and the east/west travel of College Boulevard and 119th Street in Olathe. Traffic lights exist at the major intersections of College Boulevard and Renner Boulevard in Lenexa, and 119th Street in Olathe. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Vacant Structure	11300 Corporate Boulevard.	44.2
EPA	11201 Renner Road	37.84
Sprint/Nextel	15500 W. 113th Street	36.27

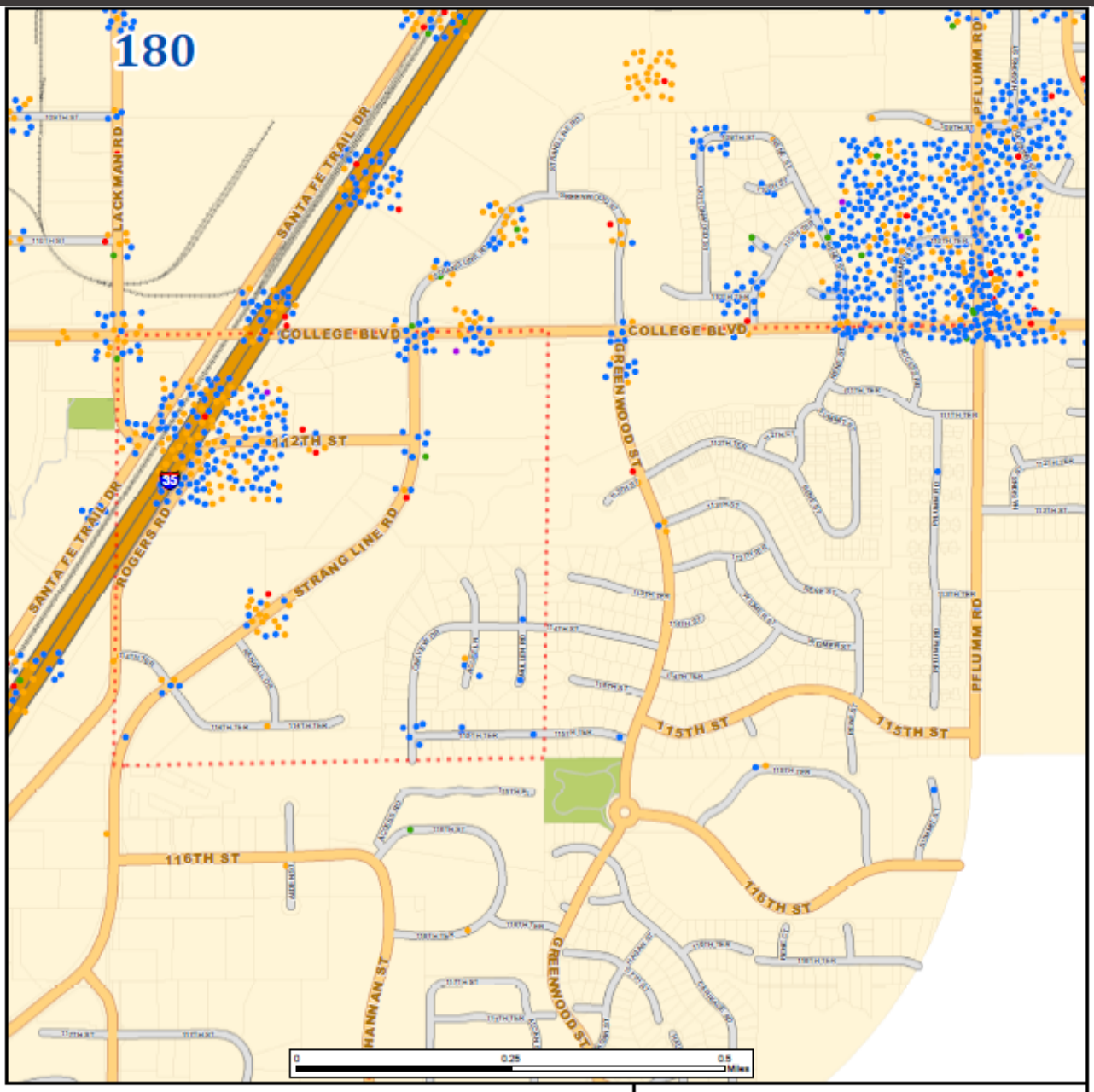
Table 82

Target Hazards:

- Interstate Highway 35.
- Nexus Church 15101 College Bouldevard.
- Lenexa Chamber of Commerce 11180 Lackman Road.

Interstate Highway 35 is heavily traveled with high speed transportation passengers, goods and hazardous materials. The Sprint Spectrum bunker presents a unique feature of being located underground. Nexus Church is a worship facility that now occupies a former strip mall complex. The Lenexa Chamber of Commerce is identified as a potential terrorist target.

This planning zone hosts 39 structures, with 61 fire inspected occupancies.

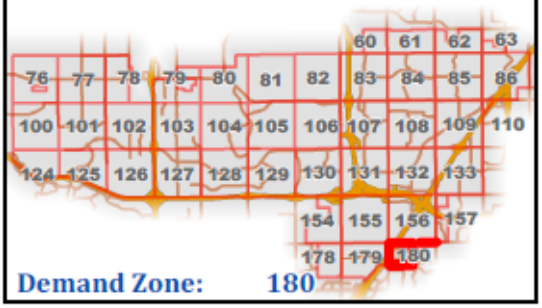


Community Profile

Community Profile Type: Mixed Use
Number of Residential Structures: 89
Number of Commercial Structures: 28
Total Number of Structures: 117
Average Value of Each Structure: $544,331
Estimated Value of Structures at Risk: $63,686,830
Code Enforced Occupancies: 133
Estimated Daytime Population: 1017
Estimated Nighttime Population: 1460
Incident Date Range 01/01/2017 - 12/31/2021

Incident Type & Quantity

- Fire - 15
- EMS - 174
- Hazmat - 8
- Tech Rescue - 1
- Other - 288
- Demand Zone



Zone Boundaries (Grid 180) Rural

The planning zone boundaries are Lackman Road to the west, 119th Street to the south, Pflumm Road to the east, and College Boulevard to the north. This area is made up of mixed use occupancies.

Transportation Issues

Major transportation routes in this zone are the north/south travel of Strang Line, the east/west travel of College Boulevard in Lenexa and 119th Street in Olathe, and the northeast/southwest travel of Interstate Highway 35. Traffic lights exist at the major intersections of College Boulevard and Lackman Road and College Boulevard and Strang Line Road. The traffic light intersections have OPTICOM™ emergency traffic control receivers.

Identified Special Risks

Identified significant risks in this planning zone:

Fire Risk(s): Highest OVAP Scores in Planning Zone

Occupancy	Address	OVAP Score
Title Boxing	14705-11 W. 112th Street	36.53
Standard Register	14609 W. 112th Street	34.67
WoodSpring Suites	14700 W. 112th Street	29.07

Table 83

Target Hazards:

- Interstate Highway 35

Interstate Highway 35 is heavily traveled with high speed transportation passengers, goods and hazardous materials.

This is a mixed occupancy zone consisting of residential housing mixed with commercial/retail along Strang Line Road and College Boulevard.

This planning zone hosts 117 structures, with 133 fire inspection occupancies.

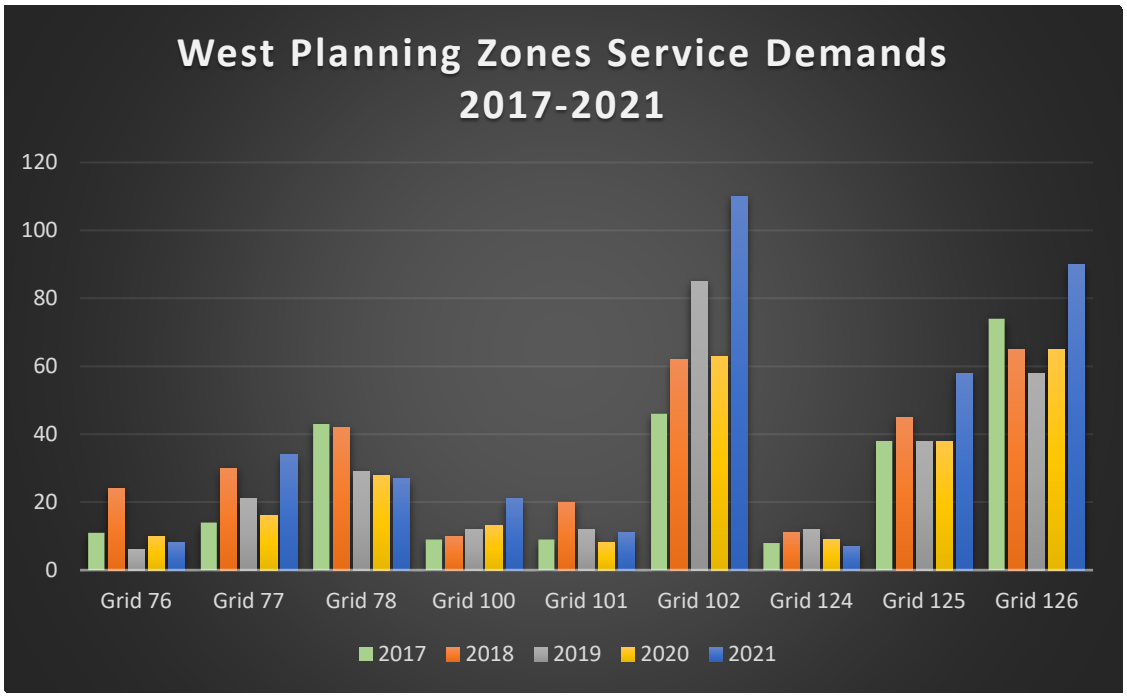
SUMMARY OF All RURAL/URBAN GRIDS

The following is a summary table of key planning zone statistics for each grid:

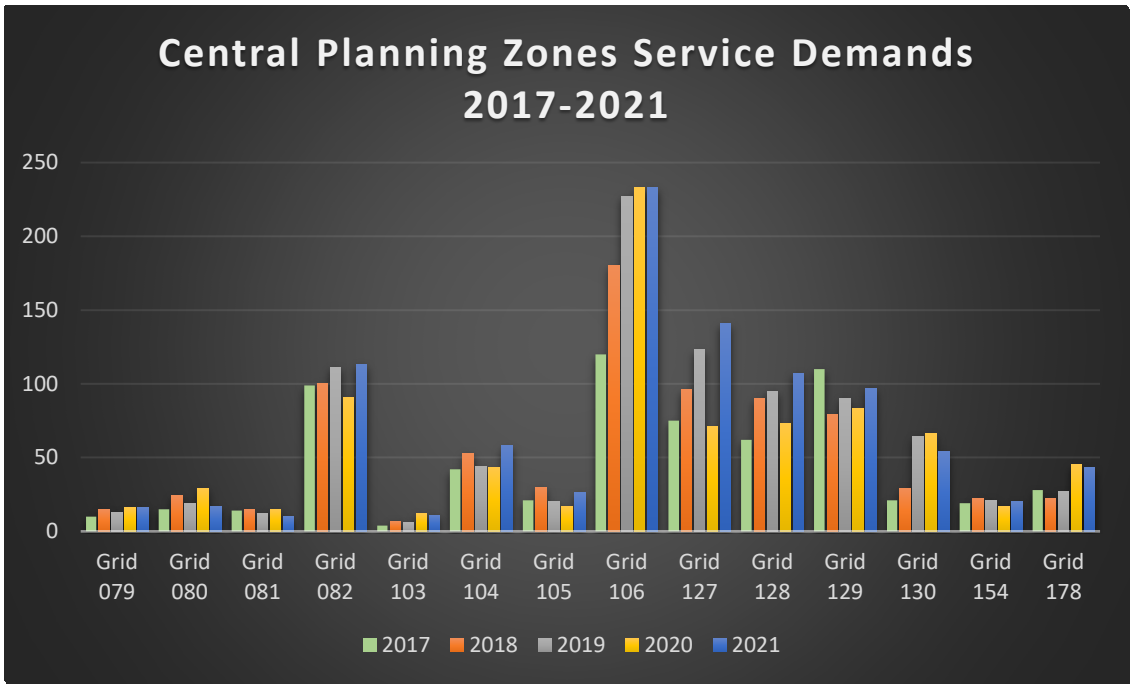
Planning Zone	Est. Day Population	# of Structures	# of Code Enforced	Estimated $ Value	Fire	EMS	Hazmat	Tech	Other	2017-2021 Incidents
60	256	171	6	$22,948,420	6	69	6	0	31	112
61	1152	531	21	$109,662,880	4	159	19	0	50	232
62	2310	645	23	$135,629,520	30	746	48	1	271	1096
63	428	109	51	$25,973,500	10	41	13	1	42	107
76	125	139	7	$11,264,550	5	30	1	0	67	103
77	215	136	6	$52,422,200	9	28	1	0	21	59
78	576	457	19	$60,832,280	12	90	6	0	58	166
79	378	51	4	$22,617,540	4	27	2	0	24	57
80	608	289	10	$85,896,630	7	59	12	1	33	112
81	74	42	1	$783,480	2	45	0	3	13	63
82	1839	404	18	$160,954,890	11	147	11	0	62	231
83	4623	1355	56	$365,917,250	37	642	48	0	322	1049
84	3557	1489	67	$3,318,285,050	22	717	56	6	266	1067
85	3737	1369	174	$353,354,550	25	1390	71	3	314	1803
86	4446	128	363	$234,996,140	36	702	35	3	354	1130
100	104	180	4	$15,492,730	1	29	4	0	39	73
101	340	56	1	$12,108,660	6	12	4	0	32	54
102	921	399	14	$115,802,450	9	106	4	1	59	179
103	174	19	0	$3,648,260	3	17	1	1	5	27
104	957	559	10	$238,281,020	12	116	12	0	82	222
105	409	219	6	$38,287,310	5	56	7	0	41	109
106	2096	76	15	$129,768,320	6	105	10	1	50	172
107	3686	1015	114	$292,883,760	66	928	51	1	411	1457
108	4186	1635	79	$343,125,330	42	2737	94	5	467	3345
109	4425	1032	366	$284,055,140	63	1647	82	4	505	2301
110	21	2	3	$2,649,870	16	99	4	3	38	160
124	0	4	0	$153,350	6	14	1	0	7	28
125	471	124	2	$100,489,830	4	38	6	0	48	96
126	812	88	16	$61,972,920	5	68	4	1	235	313
127	1129	427	10	$111,513,330	22	87	6	0	73	188
128	2073	712	34	$252,881,970	12	194	10	0	148	364
129	1659	505	35	$215,237,160	20	185	17	0	91	313
130	398	4	46	$17,051,010	8	62	2	0	90	162
131	4775	64	151	$224,022,270	27	455	20	9	227	738
132	2783	187	350	$184,665,360	24	294	30	4	207	559
133	5672	1462	163	$321,185,880	85	2824	111	5	620	3645
154	21	2	2	$42,547,810	2	30	1	0	18	51
155	1369	92	121	$136,310,160	10	261	17	1	114	403
156	3263	266	323	$175,257,500	33	629	23	5	296	986
157	1225	311	42	$64,731,650	22	339	19	2	73	455
178	311	14	28	$68,535,220	7	98	4	1	54	164
179	1580	39	61	$106,685,700	11	237	10	1	147	106
180	1017	117	133	$63,686,830	15	174	8	1	288	486
Total	70201	16925	2955	$8,584,569,680	762	16733	891	64	6393	24543

Table 84

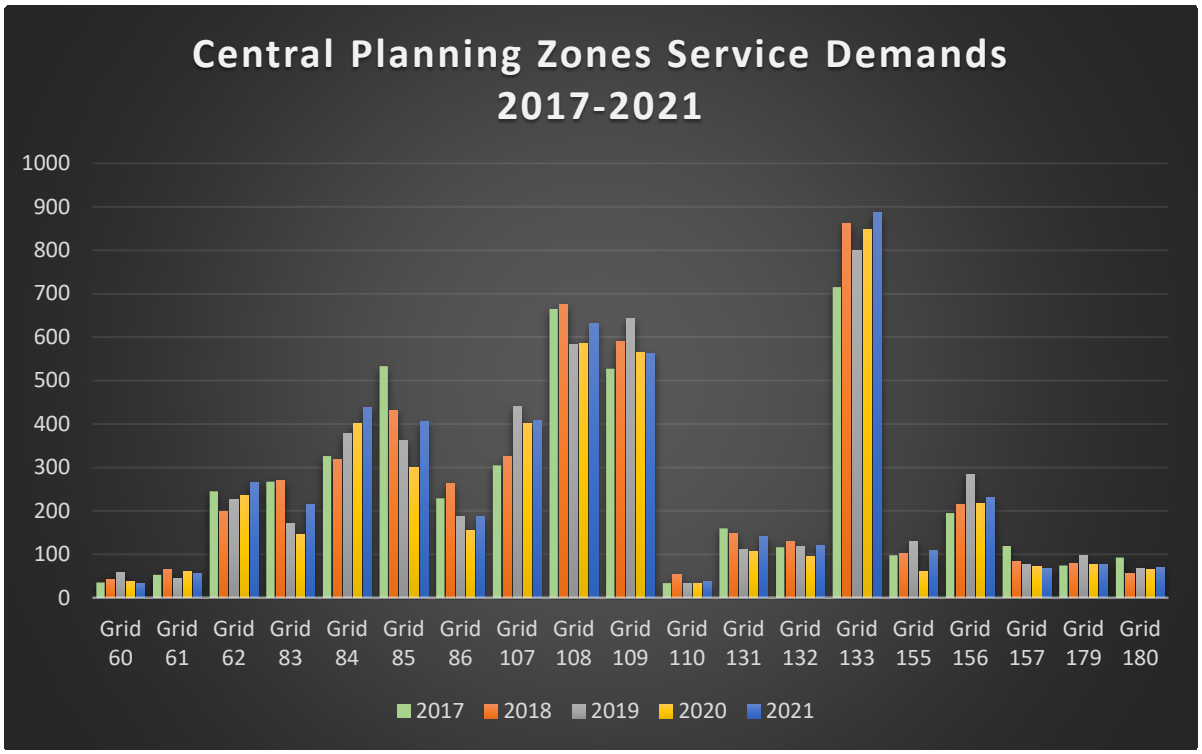
Planning Zone Service Demands 2017-2021



Graph 11



Graph 12


Central Planning Zones Service Demands
2017-2021
1000
900
800
700
600
500
400
300
200
100
0
Grid 60
Grid 61
Grid 62
Grid 83
Grid 84
Grid 85
Grid 86
Grid 107
Grid 108
Grid 109
Grid 110
Grid 131
Grid 132
Grid 133
Grid 155
Grid 156
Grid 157
Grid 179
Grid 180
2017
2018
2019
2020
2021

Graph 13

Critical Task Assessment and Effective Response Force Determination

Fire Dynamics

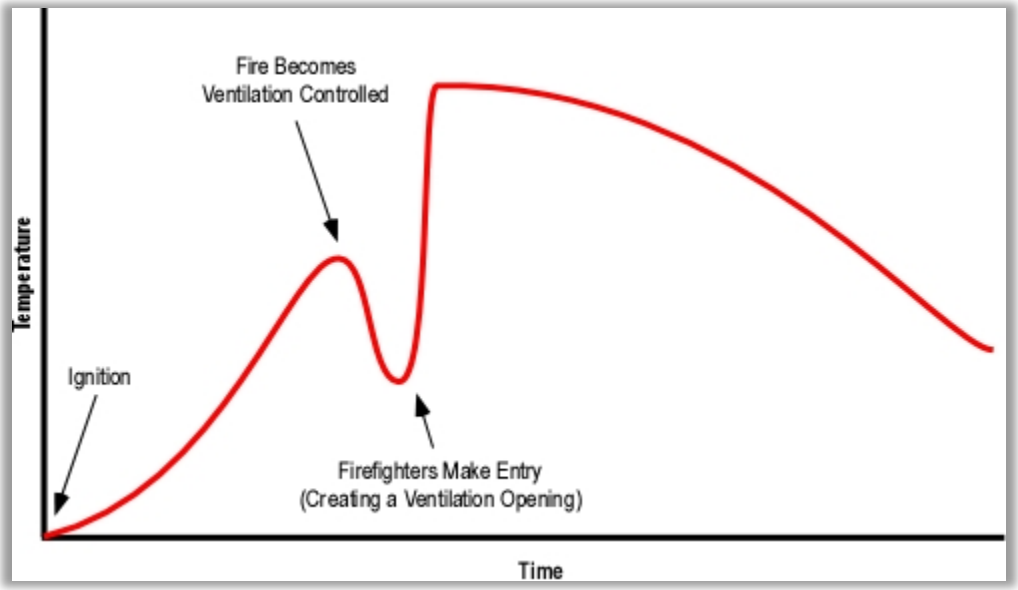
Time is the enemy of emergency response forces. The two most critical time elements to consider when evaluating response standards for fire and EMS agencies are as follows:

- Fire – the time point at which the fire extends beyond its room of origin and/or reaches flashover.
- EMS – the time point at which brain death occurs for a cardiac arrest patient.

Although many variables impact the rate and growth of a fire, it is generally recognized that a fire will progress through four main stages if not mitigated. The first stage is known as the incipient phase and occurs from ignition to open flame. The second stage is the growth phase characterized by rapid development and heat production. During this phase, the fire can reach the point of flashover. Flashover is the sudden and simultaneous ignition of everything in a room. When hot gases rise to the ceiling and spread out across to the walls heat radiates downward until all combustible items reach their ignition temperatures. Temperatures in a room can exceed 1000 degrees Fahrenheit within seconds and eliminates survivability including a firefighter in full protective gear. The third stage of fire is the fully developed phase, when the fire has spread over much if not all the available fuel as temperatures reaches their peak and oxygen is rapidly consumed. The final stage of fire is decay (burnout) in which the fire continues to consume the remaining available fuel while temperatures and fire intensity decrease.

Smoke contains many toxic gases released as by-products of the combustion process. Carbon monoxide is one of these gases. Test fires in furnished residential structures have demonstrated the production of carbon monoxide in lethal amounts after three-and one-half minutes from fire ignition.

When considering the ability to mitigate the rapid deterioration of property due to fire, consideration must be given to the science of the fire propagation curve related in time and temperature inside a modern-day room of origin. Over the past 40 years, a dramatic increase rate of heat release has resulted from contents. This is due to the increased use of synthetic materials and polymers in household room furnishings. A significant influence on the rate of fire growth is not only the contents, or modern light-weight construction, but the introduction and control of ventilation by fire crews entering the structure. Contemporary research in fire propagation has determined that firefighters making entry into an unventilated fire can have the most impact on fire spread. Graph 13 depicts the affect firefighters have on fire growth in a modern environment.



Note: Adapted from National Institute of Standards and Technology (NIST) Fire Dynamics for the Fire Service, D. Madryzkowski.
Graph 14

As illustrated in (Graph 14), fire growth remains constant up to the point in which the available oxygen is consumed and the fire begins to smolder. Once the initial fire crew makes entry, depleted oxygen levels are replaced with fresh air allowing the fire to continue its natural growth at an accelerated rate. It is important to understand the rate of fire propagation increases at this point which can lead to flashover.

In addition to the fire propagation changes that have been documented in the fire service, there has been an increased focus on flow path or air flow dynamics. The National Institute of Standards and Technology (NIST) has conducted numerous studies about flow path and the effect it has on civilian survivability. In the past, it was believed that any indirect attack on the fire from an outside position would pose a danger for any civilian still inside a compartment. The expansion of super-heated steam from the water stream would presumably kill anyone within the compartment and potentially affect anyone else located within the occupancy.

NIST partnered with Underwriters Laboratory (UL) and the Fire Department of New York (FDNY) to conduct live fire studies about the impact of cooling the fire from a safe location and the effect it would have on victim survivability. Armed with multiple sensors and monitoring equipment, live fire exercises were conducted using a multitude of fire tactics. The result revealed that using an “indirect attack” or “outside offensive” strategy increased the survivability profile for victims while increasing firefighter safety. The results from the studies are a stark contrast to strongly held beliefs that such tactics would further endanger lives of victims inside a structure. The NIST studies are a prime example of how modern science has impacted decades of outdated strategies and tactics.

Principles of Modern Fire Attack

Driven by the latest fire dynamic research from NIST, modern principles of fire attack have evolved to match the ever-changing fire scene experienced today. In 2014, the International Society of Fire Service Instructors (ISFSI) in collaboration with the International Association of Fire Chiefs Fire Rescue International Conference released the new modern fire attack model known as SLICE-RS. The acronym stands for **S**ize-up, **L**ocate the fire, **I**dentify and control the flow path, **C**ool the space from safest location, **E**xtinguish the fire, **R**escue and **S**alvage. This new acronym acts as a modern tactical checklist for first-arriving officers and incident commanders when mitigating structural fire incidents.

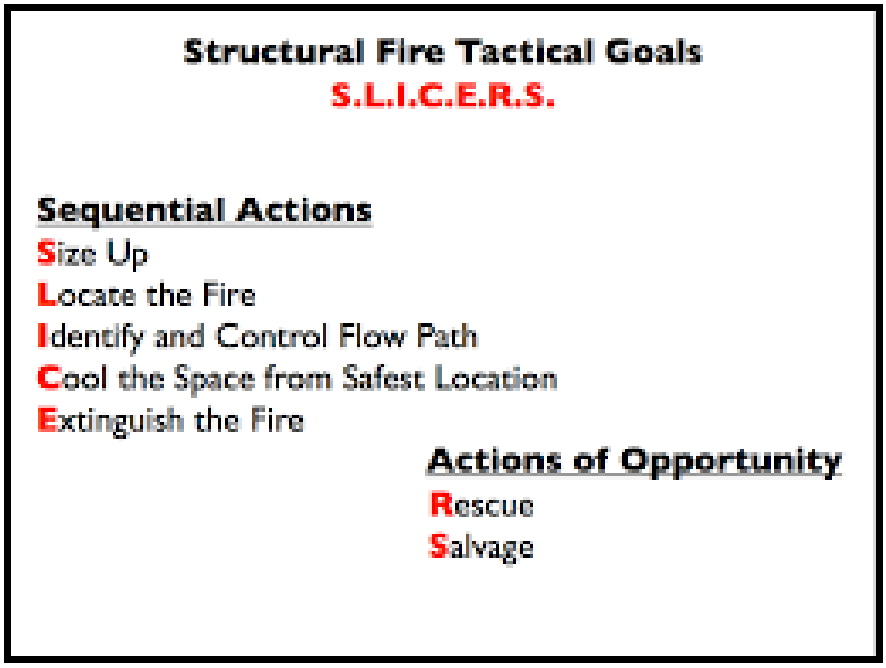


Figure 11

EMS Dynamics

When considering emergency medical service responses, time is the compromising factor as it relates to overall survivability. If emergency response forces are to mitigate pain, suffering and death in human beings, then response time is a key factor. Emergency medical service-related incidents have time benchmarks in which critically ill or injured patients need to be stabilized and transported to a medical facility to achieve the best possible outcome. Because spontaneous circulation can cease in almost every type of medical emergency, it is necessary to consider cardiac arrest time frames. Physiologically, brain death begins four to six minutes after cessation of circulation. Documented research has shown that patient survivability is unlikely after the loss of spontaneous circulation for 10 minutes without medical intervention.

Consider the following incident outcome factors in cardiac arrest survival rates:

American Heart Association Brain Death Timeline

Time to Defibrillation	Survival Percentage Rate
2 Minutes	70%
4 Minutes	35%
6 Minutes	20%

Table 85

With the response time considerations illustrated in (Table 84), the LFD began assessing a wide array of EMS emergency incident types with the necessary critical tasks to successfully stabilize a patient. In addition to identifying tasks, it was necessary to determine personnel required to successfully complete the tasks in a timely manner for patient stabilization. This determined the criteria for an effective response force. Effective response force is defined as the minimum number of responders and equipment that must reach a specific emergency incident location within a maximum prescribed travel (drive) time. The key factors for successful patient stabilization and best possible EMS outcomes are the quick arrival of sufficient numbers of personnel and equipment as close to the initiation of the onset of the incident as possible. Due to the increasing research data on early defibrillation, additional Zoll AED 3 defibrillators have been assigned to several support staff vehicles. These defibrillators are an addition to the equipment assigned to front-line apparatus.

Critical Tasks and the Establishment of an Effective Response Force
Time is the enemy of emergency response forces. The effectiveness of incident stabilization, mitigation, and outcomes are directly related to the arrival time and initiation of responder interventions. To discuss emergency response standards, it is important to separate and understand the different time elements of total emergency response time and terminology used. Listed below are the key terms and definitions used in the evaluation of critical tasks and effective response force.

Time Points and the Cascade of Events
The emergency response performance continuum is composed of the following time points (T points) and time intervals.

T-1 Event Initiation Point – the point at which factors occur that may ultimately result in the activation of the emergency response system. An example is the patient who ignores chest pain discomfort for days until it reaches a critical point at which he/she makes the decision to seek assistance (point of awareness). It is rarely possible to quantify the point at which "event initiation" occurs, but public education helps to minimize this time frame.

T-2 Emergency Event Awareness – the point at which a human being or technological sentinel (i.e., smoke detector, heat detector, etc.) becomes aware that conditions exist requiring an activation of the emergency response system. This is considered the point of awareness.

T-3 Alarm – the point at which awareness triggers an effort to notify the emergency response system. An example of this time point is the transmittal of a local or central alarm to a public safety answering point. Again, it is difficult to determine the time interval during which this process occurs with any degree of reliability.

T-4 Notification – the point at which an alarm is received by the public safety answering point (PSAP). This transmission may take the form of electronic or mechanical notification received and answered by the PSAP. The PSAP forwards the notification to a dispatch center for call processing.

- **Call Processing Interval** – the interval between the first ring of the 9-1-1 telephone at the dispatch center and the time the computer-aided dispatch (CAD) operator activates station and/or company alerting devices.

T-5 Dispatch Time – the time when the appropriate units for response are alerted.

- **Reflex or Turnout Interval** – the interval between the activation of station and/or company alerting devices and the time when the responding crew(s) activate the responding button on the mobile computer terminal or notifies dispatch by voice that the company is responding. During this interval, crews are ceasing other activities, and are donning appropriate protective clothing and/or equipment, boarding and starting the response apparatus, and safely seat belting in the apparatus for emergency response.

T-6 En Route Time – the point at which the responding apparatus begins to roll forward and the dispatch center is signaled that the apparatus is responding to the alarm.

- **Travel Interval** – begins at the termination of the reflex interval and ends the moment the dispatcher is notified that the apparatus has arrived on scene.

T-7 On-Scene Time – the point at which the responding unit arrives on-scene.

Critical Task Definitions

Aerial Operations – The use of aerial devices for the purpose of fire control, access, or rescue.

ALS Transport Unit – A Johnson County Med-Act ambulance.

Atmospheric Monitoring – Utilizing department monitoring equipment for the purpose of assessing atmospheric conditions for the presence of hazardous materials. Examples include detecting carbon monoxide levels or establishing upper and lower explosive limits of flammable gases.

Base Officer – For high rise fires, this refers to the position in charge of staging fire apparatus.

Battalion Chief – A Lenexa, Med-Act, or neighboring fire department shift supervisor.

Chief Page – The notification of department chief officers of an emergency incident with city limits.

Command – A standardized approach to the command, control, and coordination of emergency response providing a common hierarchy within which responders from single or multiple agencies can be effective.

Communications – The establishment of communication in supplement to the county communications system. Examples includes utilizing the Digital Voice Repeater System (DVRS) for incidents that occur in the Meritex underground business complex or for occupancies where primary radio communication is lost.

Establish Safe Zone – The processes of creating a safe working area for emergency incident mitigation. Examples include utilizing a second heavy apparatus to block traffic for incidents occurring on the highway.

Evacuation – The removal of occupants from the hazard area or exclusion zone.

Fire Attack – The advancement of fire attack hose lines for the purpose of offensive and/or defensive fire control.

Forcible Entry – The process of gaining access to the incident by means of normal ingress and egress areas or through the creation of temporary ingress and egress areas. Examples include forcible entry through doors and windows or by breaching exterior or interior walls to gain access.

Hazard Containment – The process of initiating defensive measures to contain the release of a hazardous material.

Hazard Control – The process of identifying, isolating, and controlling an active release of a hazardous material.

Heavy Apparatus – An engine, quint, truck, or ladder with at least 300 gallons of water, a 1250 gpm pump, and equipment.

Investigation – The process of conducting a thorough analysis of the incident scene to determine the nature, location, and magnitude of the emergency.

Liaison Officer – The position in charge of maintaining communication with other agencies.

Lift Assists – Assisting an individual who otherwise cannot walk on their own and who has no medical complaints.

Lobby Control – For high rise fires, this refers to the position in charge of tracking access of personnel into the building.

Medical Assists – Lenexa Fire Department (LFD) personnel providing medical assistance for non-emergency medical related incidents. Examples include assisting Johnson County Med-Act in loading patients for transport when LFD personnel did not conduct an assessment.

Medical Standby – Johnson County Med-Act personnel on scene of an emergency for the purpose of providing emergency medical services to fire department personnel.

Medical Supervisor – A Johnson County Med-Act Battalion Chief, Captain, or Lieutenant.

Rapid Intervention Crew – Fire department personnel assigned to provide rescue for emergency personnel operating in the hazard zone.

Rescue – A fire department response unit carrying specialized equipment related to technical rescue and hazardous materials response.

Safety Officer – The person responsible for ensuring safety is adhered to and that any unsafe situations or hazards are identified and avoided.

Salvage/Overhaul – The process of checking for fire extension and providing protection for property from primary and secondary fire damage.

Search and Rescue – The process of conducting a primary and/or secondary search for victims within the hazard zone.

Sprinkler Support – The establishment of a constant water supply connection to the fire department connection for the purpose of supporting the occupancies sprinkler systems for fire control.

Squad – A Lenexa Fire Department response vehicle with no pump or portable water and carrying only minimal equipment.

Staging Officer – For high rise fires, this refers to the position in charge of staging both equipment and personnel below the fire floor. For all other incidents, this refers to the position in charge of coordinating the staging of apparatus.

Support – Fire department personnel acting as support for other agencies during non-fire department related incidents.

Technical Rescue – The process of conducting a specialized rescue. Examples include high angle rescue, trench rescue, confined space rescue, etc.

Transport – The process of transporting the patient to an appropriate hospital.

Treatment – The process of conducting a medical assessment of a patient and providing appropriate medical interventions.

Triage Officer – For mass casualty incidents, this refers to the position in charge of coordinating the triage of multiple patients for treatment and transport.

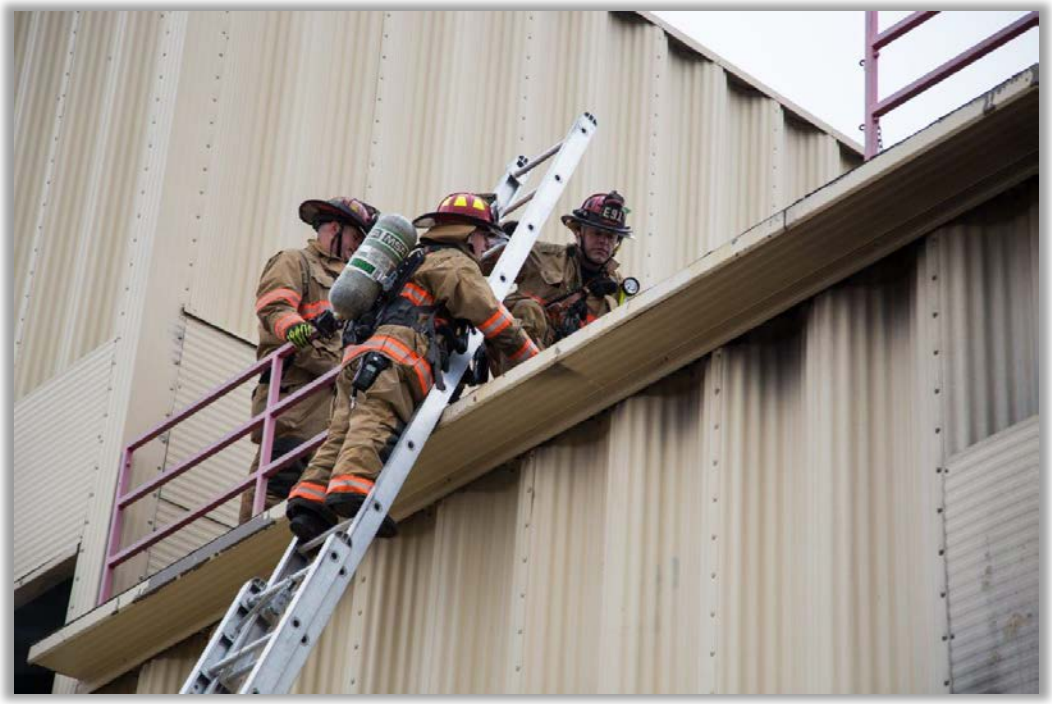
Utility Control – The process of discontinuing utility services to an occupancy during an emergency event. Examples include domestic water supply shut-off, gas service interruption, and electrical power disconnect.

Ventilation – The process of providing positive and/or negative pressure ventilation to an occupancy. Examples include horizontal ventilation, vertical ventilation, and natural ventilation.

Water Supply – The establishment of either a constant supply or portable supply of water for fire ground activities.

Critical Task Application

Risk classifications are identified as fire, emergency medical service (EMS), technical rescue, hazardous materials, and other. Incident types are categorized under these classifications. The LFD has assigned risk levels for each defined incident from historical response data and outcomes. Risk levels are determined by probability, consequence, and impact which result in a low, moderate, high, or maximum risk score.



Critical Task Drill

Risk Level Score Definitions (Heron's Formula)

FIRE RISK LEVELS

The following section describes the risk level assessment of the 20 fire incident types for low, moderate, high, or maximum risks. Each type was scored on probability, consequence, and impact. Table 85 lists all 20 fire incident types and risk scores. Each incident type is further analyzed by the critical tasks required to mitigate the risk successfully and safely.

Fire	Probability	Consequence	Impact	Risk Score	Risk Assessment
Appliance Fire	4	2	4	13.8564	Moderate
Building Fire	4	4	8	33.9411	High
Flue Fire	2	2	4	8.4852	Low
Grass Fire	4	2	2	8.4852	Low
High Rise Fire	2	4	8	25.9229	High
House Fire	4	2	8	25.9229	High
House Fire with Patient	2	2	8	19.5959	High
Investigation Smoke Odor Inside	4	2	2	8.4852	Low
Investigation Smoke Odor Outside	4	2	2	8.4852	Low
Modified Response - Building	4	4	4	19.5959	High
Modified Response - House	4	2	4	13.8564	Moderate
Outside Fire Large	2	2	6	12.3288	Moderate
Outside Fire Small	4	2	2	8.4852	Low
Tank Fire Small	2	2	2	4.8989	Low
Tank Fire Large	2	2	6	12.3288	Moderate
Transport Vehicle Fire	4	2	2	8.4852	Low
Vehicle Fire	4	2	2	8.4852	Low
Wildland	2	4	4	13.8564	Moderate
Wildland Structure	2	2	8	16.248	Moderate
Meritex Underground Complex	2	6	8	36.7695	Maximum

Table 86

Probability, Consequence, and Impact Scale
Low = 0.0000000 to 8.48529999
Moderate = 8.48530000 to 19.79890000
High = 19.7989999 to 33.94110000
Maximum = 33.94119999 and Above

Table 87

Low Risk Fire

Low risk fire class examples include flue fires, grass fires, smoke odor investigations, outside fires - small, tank fires – small, transport vehicle fires, and vehicle fires. Response for smoke investigations and grass, vehicle, small outside, and small tank fires includes 1 heavy apparatus with a minimum of 3 personnel. Response for transport vehicle fires includes 2 heavy apparatus with a minimum of 6 personnel. Response for flue fires includes 2 heavy apparatus and 1 squad (if available) with a minimum of 6 personnel due to squad availability.

Low risk FIRE (Example)	
Probability of occurrence	2
Consequence to community	2
Impact on Fire Department	2
	4.8989

Table 88

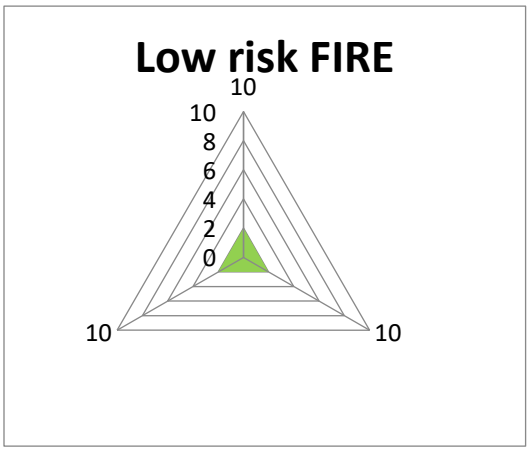


Figure 12

Task (Grass, Vehicle, Smoke Inv, Small Outside Fire, Small Tank Fire, Vehicle Fire)	Personnel
Command/Safety	1
Water Supply	1
Fire Attack Line	1
Minimum Total	**3**
Task (Transport Vehicle Fire)	**Personnel**
Command	1
Safety Officer	1
Water Supply	1
Fire Attack Line	2
Establish Safe Zone	1
Minimum Total	**6**
Task (Flue, Small Outside Fire)	**Personnel**
Command	1
Safety Officer	1
Water Supply	1
Fire Attack Line	3
Minimum Total	**6**

Table 89

Moderate Risk Fire

Moderate fire class examples include appliance fires, modified response house, large outside fires, large tank fires, wildland fires, and wildland structure fires. Wildland fires include 1 heavy apparatus and a brush truck with a minimum of 3 personnel. Appliance fires, modified response house, large outside fires, and large tank fires include 2 heavy apparatus and a squad (if available) with a minimum of 6 personnel due to squad availability. Wildland structure fires include 2 battalion chiefs, 5 heavy apparatus, 1 squad, 1 brush truck, and 1 ALS transport unit with a minimum of 19 personnel due to squad availability.

Mod risk FIRE (Example)	
Probability of occurrence	2
Consequence to community	4
Impact on Fire Department	4
	13.8564

Table 90

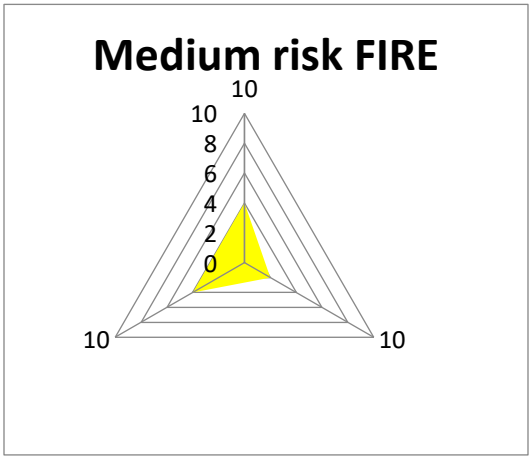


Figure 13

Task (Wildland)	**Personnel**
Command/Safety	1
Water Supply/Fire Control	2
Minimum Total	**3**
Task (Appliance, Mod House, Lg Outside/Tank Fire)	**Personnel**
Command	1
Safety	1
Water Supply	1
Fire Attack Line	3
Minimum Total	**6**

Table 91

Task (Wildland Structure Fire)	Personnel
Command	1
Safety	1
Water Supply/Utility Control	2
Fire Attack Line #1	2
Fire Attack Line #2	2
Search and Rescue	2
Salvage/Overhaul	2
Ventilation	2
Rapid Intervention Crew	3
Brush/Grass Fire Control	2
Minimum Total	**19**

Table 92

High Risk Fire

High risk fire class examples include building fires, high-rise fires, house fires and modified response building fires. Modified response building fires include 2 heavy apparatus and 1 squad (if available) for a minimum of 6 personnel due to squad availability. House fires include 2 battalion chiefs, 5 heavy apparatus, 1 squad (if available), and 1 ALS transport unit with a minimum of 19 personnel due to squad availability. House fires with a patient are supplemented with an additional ALS transport unit for a minimum total of 21 personnel. Building fires include 2 battalion chiefs, 6 heavy apparatus, 1 squad (if available), and 1 ALS transport unit with a minimum of 22 personnel due to squad availability. High-rise fires include the standard response for a building fire to include the High-rise Plan with a minimum of 34 additional personnel.

High risk FIRE (Example)	
Probability of occurrence	4
Consequence to community	2
Impact on Fire Department	8
	25.92296

Table 93

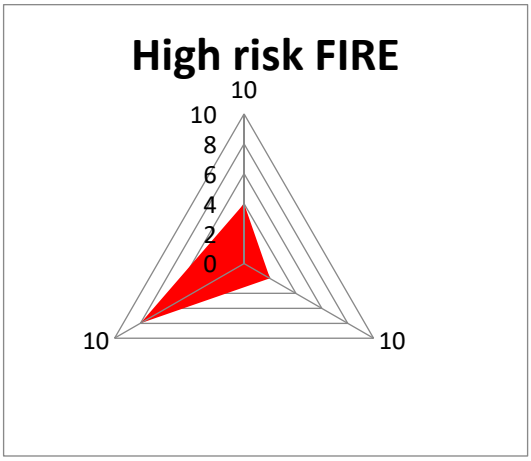


Figure 14

Task (Modified Building Fire)	Personnel
Command/Safety	1
Utility Control	1
Hazard Control/Investigation	3
Water Supply	1
Minimum Total	**6**
Task (House Fire)	**Personnel**
Command	1
Safety/Utility Control	1
Aerial Operations	2
Water Supply	2
Forcible Entry	2
Fire Attack Line #1	2
Search and Rescue	2
Ventilation	2
Rapid Intervention Crew	3
Medical Standby	2
Minimum Total	**19**

Table 94

Task (Building Fire)	Personnel
Command	1
Safety	1
Utility Control	1
Aerial Operations	2
Water Supply	2
Forcible Entry	2
Fire Attack Line #1	2
Fire Attack Line #2	2
Search and Rescue	2
Ventilation	2
Rapid Intervention Crew	3
Medical Standby	2
Minimum Total	**22**
Task (High Rise Plan)	**Personnel**
Command	1
Safety	1
Staging Officer	1
Base Officer	1
Lobby Control	1
Stairwell Support	3
Water Supply	3
Forcible Entry	3
Utility Control	1
Fire Attack Line	3
Search & Rescue	3
Ventilation	3
Rapid Intervention Crew	3
Aerial Operations	2
Communication	1
Medical Standby	4
Minimum Total	**34**

Table 95

Maximum Risk Fire: (Underground Development)

Although not a specific call type, fires located inside the underground development complex are considered a maximum risk due to their location. Response includes 2 battalion chiefs, 6 heavy apparatus, 1 squad (if available), and 1 ALS transport with a minimum of 22 personnel due to squad availability. Responding units must be from Lenexa, Olathe, Overland Park, or Shawnee Fire Departments due to specific automatic/mutual training requirements.

Max risk FIRE (Example)	
Probability of occurrence	2
Consequence to community	6
Impact on Fire Department	8
	36.76955

Table 96

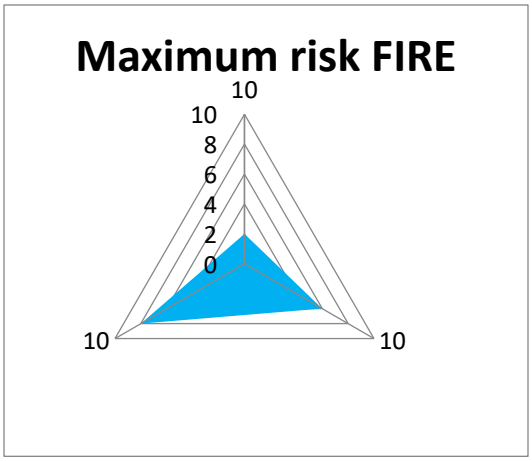


Figure 15

Task	Personnel
Command	1
Safety	1
Water Supply/Utility Control	2
Forcible Entry	2
Sprinkler Support	1
Fire Attack Line #1	2
Fire Attack Line #2	2
Search & Rescue	2
Ventilation	2
Rapid Intervention Crew	3
Communications	1
Medical Standby	2
Minimum Total	**22**

Table 97

The following response martrix tables summarize the different call types and the units determined necessary to meet the effective response force for fire related risk.

Call Type	Deployed Resources
Grass Fire Outside Fire Small Tank Fire Small Vehicle Fire	Lenexa Heavy Apparatus
Wildland	Lenexa Heavy Apparatus Lenexa Brush Apparatus
All Fires on the Highway or in a Parking Garage Transport Vehicle Fire	Lenexa Heavy Apparatus X2
Appliance Fire Flue Fire Modified Response Building Modified Response House Outside Fire Large	Lenexa Heavy Apparatus X2 Squad (if available)
Tank Fire Large	Lenexa Battalion Chief (if available) Lenexa Heavy Apparatus X2 Squad (if available)
House Fire Note: House fires with a known patient receive an additional ALS transport unit.	Lenexa Battalion Chief Closest Fire Battalion Chief Lenexa Heavy Apparatus X3 Closest Heavy Apparatus X2 Squad (if available) ALS Transport Unit
Wildland Structure	Lenexa Battalion Chief Closest Battalion Chief Lenexa Heavy Apparatus X3 Closest Heavy Apparatus X2 Squad (if available) Lenexa Brush Apparatus (if available)
Building Fire	Lenexa Battalion Chief Closest Fire Battalion Chief Lenexa Heavy Apparatus X4 Closest Heavy Apparatus X2 Squad (if available) ALS Transport Unit
High Rise Fire Plus: Engines X3, Trucks X4, Air Supply Unit, ALS Battalion Chief, ALS Transport Unit X2, HM1173, COMM1, Chief Officers X2	Lenexa Battalion Chief Closest Battalion Chief Lenexa Heavy Apparatus X4 Closest Heavy Apparatus X2 Squad if Available ALS Transport Unit

Table 98

EMERGENCY MEDICAL RISK LEVELS

The following section describes the risk level assessment of the 19 EMS low, moderate, high, or maximum risks. Each type was evaluated for probability, consequence, and impact. Table 101 lists all 19 EMS assigned risk scores. Each incident type was further analyzed by the critical tasks required to mitigate the risk successfully and safely.

EMS	Probability	Consequence	Impact	Risk Score	Risk Assessment
ALS Transfer	8	2	2	16.248	Moderate
CO Medical C1, C2, C3	4	2	4	13.8564	Moderate
CO Medical C1C	4	2	4	13.8564	Moderate
Injury Accident C1, C2, C3	8	2	2	16.248	Moderate
Injury Accident C1C	6	2	4	19.7989	High
Injury Accident Rollover	4	2	6	19.7989	High
MCI Level 1, 2, 3	2	4	8	25.9229	High
Medical - Trauma C1, C2, C3	8	2	2	16.248	Moderate
Medical - Trauma C1C	8	2	2	16.248	Moderate
Medical Assist	6	2	2	12.3288	Moderate
Non - Breather C2	6	2	2	12.3288	Moderate
Non - Breather C1C	6	2	6	28.1424	High
Overdose - Poisoning NonBreath	6	2	6	28.1424	High
Seizure Agonal C1C	6	2	6	28.1424	High
Stabbing-GSW-Pen Trauma C1C	4	2	6	19.7989	High
Stabbing-GSW-Pen Trauma C1, C2	4	2	4	16.248	Moderate
Standby EMS	4	2	2	8.4852	Low
Trauma Plan	6	2	2	12.3288	Moderate
Unconscious Agonal C1C	6	2	6	28.1424	High

Table 99

Probability, Consequence, and Impact Scale
Low = 0.0000000 to 8.48529999
Moderate = 8.48530000 to 19.79890000
High = 19.7989999 to 33.94110000
Maximum = 33.94119999 and Above

Table 100

Low Risk EMS

Low risk EMS class example include Standby EMS calls. Response may include 1 squad or 1 heavy apparatus depending on location and availability, and 1 ALS transport unit with a minimum of 2 personnel for an EMS Standby with no transport and 4 personnel for an EMS Standby with transport.

Low risk EMS (Example)	
Probability of occurrence	2
Consequence to community	2
Impact on Fire Department	2
	4.898979

Table 101

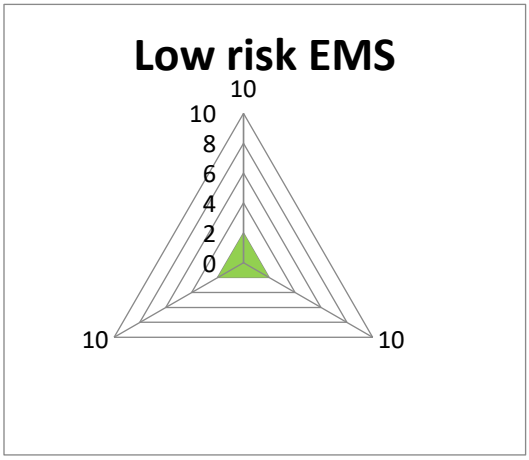


Figure 16

Task (Standby Without Transport)	Personnel
Medical Assist	2
Minimum Total	**2**
Task (Standby With Transport)	**Personnel**
Medical Assist	2
ALS Transport	2
Minimum Total	**4**

Table 102

Moderate Risk EMS

Moderate risk EMS class examples include ALS transfers, medical assists, medical incidents such as chest pain, syncope, allergic reaction, trauma incidents such as falls, lacerations, carbon monoxide medical calls, and injury accidents. ALS transfers include 1 ALS transport unit with a minimum of 2 personnel. Medical assists include 1 squad or 1 heavy apparatus with a minimum of 2 personnel. Medical or Trauma related incidents, injury accidents (Code 1,2,3) or non-breather (Code 2) incidents include 1 heavy apparatus or 1 squad and 1 ALS transport unit with a minimum of 4 personnel. CO medical incidents & stabbing/GSW (Code 1,2) include 1 heavy apparatus or 1 squad, 1 ALS battalion chief and 1 ALS transport unit with a minimum of 5 personnel. Medical or Trauma C1C incidents include 1 closest apparatus, 1 Lenexa heavy apparatus or 1 squad, and 1 ALS transport unit with a minimum of 6 personnel. CO Medical C1C and trauma plan activations include 1 closest apparatus, 1 Lenexa heavy apparatus or 1 squad, 1 ALS battalion chief, 1 Lenexa battalion chief (if available), and 1 ALS transport unit with a minimum of 7 personnel.

Mod risk EMS (Example)	
Probability of occurrence	4
Consequence to community	2
Impact on Fire Department	4
	13.85641

Table 103

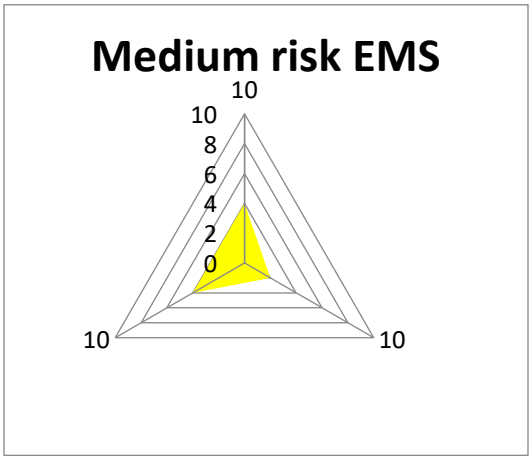


Figure 17

Task (ALS Transfer & Medical Assist)	**Personnel**
Transport	2
Minimum Total	**2**
Task (Medical/Trauma (All), Injury Accident Code 1, 2, and 3, Non-Breather Code 2)	**Personnel**
Treatment	2
Transport	2
Minimum Total	**4**
Task (CO Medical (All), Stabbing GSW Code 1 and 2)	**Personnel**
Atmospheric Monitoring	1
Treatment	2
Transport	2
Minimum Total	**5**

Table 104

Task (Medical/Trauma C1C)	Personnel
Medical Command	1
Treatment	3
Transport	2
Minimum Total	**6**
Task (CO Medical C1C & Trauma Plan)	**Personnel**
Medical Command	1
Safety/Atmospheric Monitoring	1
Treatment	3
Transport	2
Minimum Total	**7**

Table 105

High Risk EMS

High risk EMS class examples include injury accidents (C1C), stabbing/GSW (C1), non-breather (C1C), rollover injury accidents (C1C), and mass casualty incidents. Stabbing/GSW (C1) responses include 1 heavy apparatus or 1 squad, 1 ALS battalion chief, and 1 ALS transport unit with a minimum of 5 personnel. Injury accident (C1C) responses include 1 closest apparatus, 1 Lenexa heavy apparatus or 1 squad, 1 ALS battalion chief, and 1 ALS transport unit with a minimum of 7 personnel. Non-breather responses include closest apparatus, 1 heavy apparatus, 1 squad (if available) or heavy apparatus, 1 ALS transport unit, 1 ALS battalion chief, and 1 Lenexa battalion chief (if available) with a minimum of 10 personnel. Rollover injury accident responses include 1 extrication apparatus, 1 heavy apparatus, 1 squad (if available), 1 ALS battalion chief, 1 Lenexa battalion chief (if available) and 1 ALS transport unit with a minimum of 9 personnel. Mass casualty incident responses include 5 heavy apparatus, 1 squad (if available), 2 ALS battalion chiefs, 1 fire battalion chief, and 5 ALS transports units with a minimum of 28 personnel.

High risk EMS (Example)	
Probability of occurrence	6
Consequence to community	2
Impact on Fire Department	4
	19.79899

Table 106

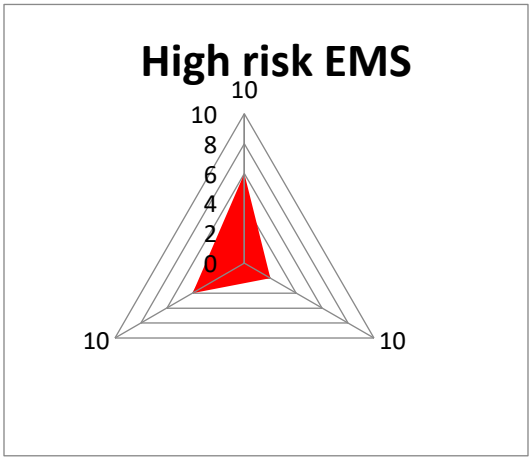


Figure 18

Task (Stabbing/GSW C1)	Personnel
Medical Command/Safety	1
Treatment	2
Transport	2
Minimum Total	**5**
Task (Injury Accident C1C)	**Personnel**
Command	1
Safety	1
Establish Safe Zone	1
Treatment	2
Transport	2
Minimum Total	**7**

Table 107

Task (Injury Accident Rollover Code 1)	Personnel
Command/Safety	1
Treatment	3
Transport	2
Establish Safe Zone/Vehicle Stabilization	3
Minimum Total	**9**
Task (Non-breather C1C)	**Personnel**
Medical Command	1
Treatment	6
Transport	3
Minimum Total	**10**
Task (Mass Casualty Incident)	**Personnel**
Command	1
Safety	1
Medical Supervisor	1
Triage Officer	1
Treatment	12
Transport	10
Establish Safe Zone	2
Minimum Total	**28**

Table 108

Maximum Risk EMS

No maximum risks for EMS response were identified. Below is an example of the maximum risk table and figure for EMS.

Max risk EMS (Example)	
Probability of occurrence	2
Consequence to community	6
Impact on Fire Department	8
	36.7695

Table 109

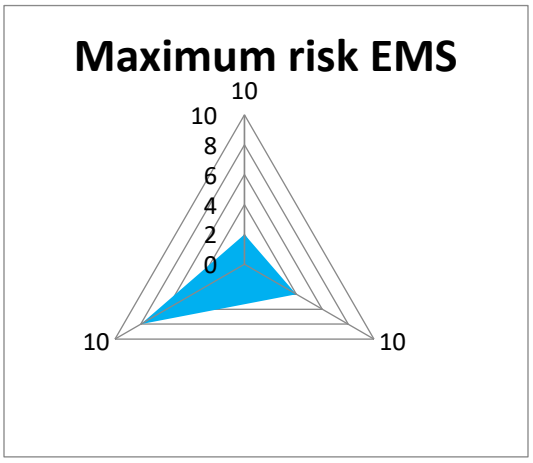


Figure 19

The following response martrix tables summarize the different call types and the units determined necessary to meet the effective response force for EMS related risk.

Call Type	Deployed Resources
ALS Transfer	ALS Transport Unit
Medical Assist	Lenexa Heavy Apparatus or Squad
Injury Accident C1	Lenexa Heavy Apparatus or Squad
Injury Accident C2	ALS Transport Unit
Injury Accident C3	
Medical - Trauma C1	
Medical - Trauma C2	
Medical - Trauma C3	
Non - Breather C2	
Standby - EMS	
CO Hazmat C1 CO Hazmat C2 CO Hazmat C3	Lenexa Heavy Apparatus Lenexa Squad if Available ALS Transport Unit
Stabbing GSW C1	Lenexa Heavy Apparatus or Squad
Stabbing GSW C2	ALS Transport Unit
	ALS Battalion Chief
Medical - Trauma C1C	Closest Apparatus (if needed) Lenexa Heavy Apparatus or Squad ALS Transport Unit
CO Hazmat C1C	Closest Heavy Apparatus (if needed)
	Lenexa Heavy Apparatus
	Lenexa Squad (if Available)
	ALS Transport Unit
Injury Accident C1C Inury Accident Rollover	Closest Apparatus (if needed) Lenexa Heavy Apparatus or Squad ALS Transport Unit ALS Battalion Chief Lenexa Battalion Chief
Non - Breather C1C	Closest Apparatus (if needed)
	Lenexa Heavy Apparatus or Squad
	Lenexa Heavy Apparatus
	ALS Transport Unit
	ALS Battalion Chief
	Lenexa Battalion Chief
MCI Level 1 MCI Level 2 & 3 = MCI Level I plus: Heavy Apparartus X3, ALS Transport Unit X5 Closest Fire Battalion Chief	Lenexa Heavy Apparatus X4 Closest Heavy Apparatus X2 Lenexa Squad (if available) ALS Transport Unit X5 ALS Battalion Chief X2 Lenexa Battalion Chief

Table 110

TECHNICAL RESCUE RISK LEVELS

The following section describes the risk level assessment for the 11 technical rescue incident types for low, moderate, high, or maximum risks. Each type was scored based on probability, consequence, and impact. Table 115 lists all 11 technical rescue incident types and risk score. Each incident type was further analyzed by the critical tasks required to mitigate the risk successfully and safely.

Tech Rescue	Probability	Consequence	Impact	Risk Score	Risk Assessment
Collapse	2	2	6	12.3288	Moderate
Collapse Modified	2	4	4	13.8564	Moderate
Confined Space	2	2	6	12.3288	Moderate
Entrapment C1, C2, C3	2	2	2	4.8989	Low
Entrapment C1C	2	2	6	12.3288	Moderate
High Angle Rescue	2	2	6	12.3288	Moderate
Ice Rescue	2	2	6	12.3288	Moderate
Injury Accident - Collapse	2	4	6	19.7989	High
Injury Accident - Extrication	6	2	6	28.1424	High
Trench Rescue	2	2	6	12.3288	Moderate
Water Rescue	2	2	6	12.3288	Moderate

Table 111

Probability, Consequence, and Impact Scale
Low = 0.0000000 to 8.48529999
Moderate = 8.48530000 to 19.79890000
High = 19.7989999 to 33.94110000
Maximum = 33.94119999 and Above

Table 112

Low Risk Technical Rescue

Low risk Technical Rescue class examples include entrapment C1, C2, and C3 incidents, Response includes 1 heavy apparatus or 1squad and 1 ALS transport unit with a minimum of 4 personnel.

Low risk TECH (Example)	
Probability of occurrence	2
Consequence to community	2
Impact on Fire Department	2
	4.898979

Table 113

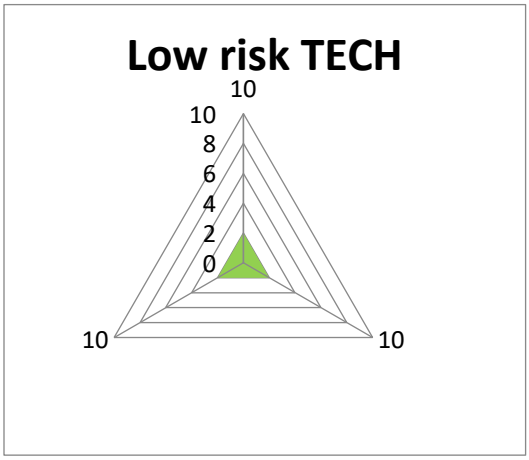


Figure 20

Task (Entrapment Code, 1, 2, and Code 3)	Personnel
Treatment	2
Transport	2
Minimum Total	**4**

Table 114

Moderate Risk Technical Rescue

Moderate risk technical rescue class examples include collapse, collapse modified, confined space, entrapment C1C, high angle rescue, ice rescue, trench rescue, and water rescue. Collapse modified responses include a minimum of 2 heavy apparatus, and a squad (if available) with a minimum of 6 personnel. Ice and water rescue responses include a minimum of 1 heavy apparatus, 1 additional squad or heavy apparatus, 1 ALS battalion chief, 1 Lenexa battalion chief (if available), 1 ALS transport unit, and Dive40 or Water Rescue Taskforce (If needed or available) with a minimum of 8 personnel. Entrapment C1C, responses include a minimum of 1 extrication apparatus, 1 heavy apparatus, 1 ALS battalion chief, 1 Lenexa battalion chief (if available), and 1 ALS transport unit with a minimum of 9 personnel. Confined space, and high angle rescue responses include an minimum of 1 extrication apparatus, 1 heavy apparatus, 1 squad (if available), 1 ALS battalion chief, 1 fire battalion chief, and 1 ALS transport unit with a minimum of 10 personnel. Collapse and trench rescue responses include a minimum of 1 extrication apparatus, 2 heavy apparatus, 1 squad (if available), 1 Lenexa battalion chief (if available), 1 ALS transport unit, and appropriate rescue task force with a minimum of 11 personnel.

Mod risk TECH (Example)	
Probability of occurrence	2
Consequence to community	2
Impact on Fire Department	6
	12.32883

Table 115

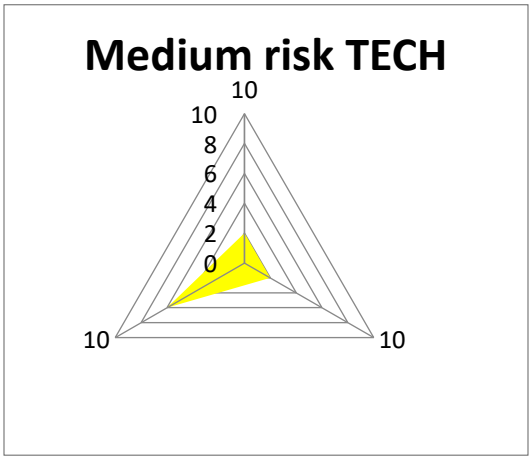


Figure 21

Task (Collapse Modified)	**Personnel**
Command/Safety	1
Technical Rescue	2
Treatment	1
Transport	2
Minimum Total	**6**

Table 116

Task (Ice Rescue & Water Rescue)	Personnel
Command	1
Safety/Medical Supervisor	1
Technical Rescue	2
Treatment	2
Transport	2
Minimum Total	**8**
Task (Entrapment C1C)	**Personnel**
Command	1
Safety/Medical Supervisor	1
Technical Rescue	3
Treatment	2
Transport	2
Minimum Total	**9**
Task (Confined Space, High Angle Rescue)	**Personnel**
Command	1
Safety	1
Medical Supervisor	1
Technical Rescue	3
Treatment	2
Transport	2
Minimum Total	**10**
Task (Collapse &Trench Rescue)	**Personnel**
Command	1
Safety	1
Medical Supervisor	1
Establish Safe Zone	1
Technical Rescue	3
Treatment	2
Transport	2
Minimum Total	**11**

Table 117

High Risk Technical Rescue

High risk technical rescue class examples include injury accident collapse and injury accidents with extrication. Injury accident collapse incident responses include a minimum of 1 closest apparatus, 2 heavy apparatus, 1 squad (if available), 1 ALS battalion chief, 1 Lenexa battalion chief (if available), and 1 ALS transport unit with a minimum of 11 personnel. Injury accident with extrication incident responses include a minimum of 1 extrication apparatus, 1 heavy apparatus, 1 squad (if available), 1 ALS battalion chief, 1 Lenexa battalion chief (if available), and 1 ALS transport unit with a minimum of 9 personnel.

High risk TECH	
Probability of occurrence	6
Consequence to community	2
Impact on Fire Department	4
	19.79899

Table 118

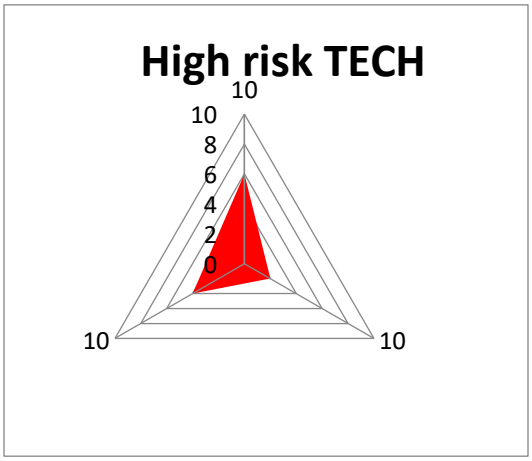


Figure 22

Task (Injury Accident with Extrication)	Personnel
Command	1
Safety	1
Medical Supervisor	1
Technical Rescue	2
Treatment	2
Transport	2
Minimum Total	**9**
Task (Injury Accident Collapse)	Personnel
Command	1
Safety	1
Medical Supervisor	1
Technical Rescue	4
Treatment	2
Transport	2
Minimum Total	**11**

Table 119

Maximum Risk Technical Rescue

There were no maximum risk hazards identified for technical rescue. Below is an example of the maximum risk table and figure for technical rescue.

Max risk TECH (Example)	
Probability of occurrence	2
Consequence to community	6
Impact on Fire Department	8
	36.7695

Table 120

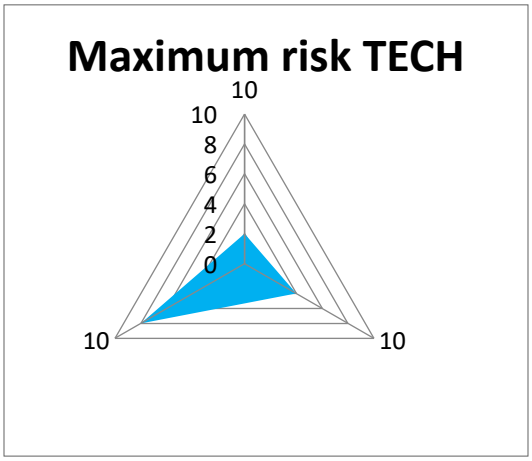


Figure 23

The following response martrix tables summarize the different call types and the units determined necessary to meet the effective response force for technical rescue related risk.

Call Type	Deployed Resources
Entrapment C1 Entrapment C2 Entrapment C3	Lenexa Heavy Apparatus or Squad ALS Transport Unit
Collapse Modified	Lenexa Heavy Apparatus X2 Lenexa Squad (if available)
Confined Space Rescue Entrapment C1C High Angle Rescue Injury Accident - Extrication	Lenexa Heavy Apparatus Lenexa Squad if Available Extrication Unit ALS Transport Unit ALS Battalion Chief Lenexa Battalion Chief
Ice Rescue Water Rescue: Ice Rescue Response plus Boat	Lenexa Heavy Apparatus Lenexa Heavy or Squad ALS Transport Unit ALS Battalion Chief Lenexa Battalion Chief Dive40 if Needed
Injury Accident - Collapse	Closest Heavy Apparatus Lenexa Heavy Apparatus X2 Lenexa Squad if Available ALS Transport Unit ALS Battalion Chief Lenexa Battalion Chief
Collapse	Closest Heavy Apparatus Lenexa Heavy Apparatus X2 Lenexa Squad if Available ALS Transport Unit ALS Battalion Chief Lenexa Battalion Chief Olathe Collapse Task Force
Trench Rescue	Lenexa Heavy Apparatus X2 Lenexa Squad if Available Extrication Unit ALS Transport Unit ALS Battalion Chief Lenexa Battalion Chief CFD2 and Olathe Task Force

Table 121

HAZARDOUS MATERIALS RISK LEVELS

The following section describes the risk level assessment of the 16 Hazmat incident types for low, moderate, high, or maximum risks. Each type was scored on probability, consequence, and impact. Table 126 lists the 16 Hazmat_incident types and risk scores. Each incident type was further analyzed by the critical tasks required to mitigate the risk successfully and safely.

Hazardous Materials	Probability	Consequence	Impact	Risk Score	Risk Assessment
Carbon Monoxide Investigation	6	2	2	12.3288	Moderate
EOD Activation	2	2	2	4.8989	Low
EOD Investigation	2	2	2	4.8989	Low
EOD Recovery	2	2	2	4.8989	Low
EOD Standby	2	2	2	4.8989	Low
EOD Tactical	2	2	2	4.8989	Low
Explosion	2	4	2	8.4852	Low
Explosion Modified	2	4	4	13.8564	Moderate
Haz - Mat	2	4	6	19.7989	High
Haz - Mat Investigation	2	2	4	8.4852	Low
Haz - Mat Modified	2	4	6	12.3288	Moderate
Investigate Gas Odor Inside	4	2	4	13.8564	Moderate
Oil Tank Battery	2	2	2	4.8989	Low
Spill	4	2	2	8.4852	Low
Standby - Gas Leak	2	2	2	4.8989	Low
Train Derailment	2	6	8	36.7695	Maximum

Table 122

Probability, Consequence, and Impact Scale
Low = 0.0000000 to 8.48529999
Moderate = 8.48530000 to 19.79890000
High = 19.7989999 to 33.94110000
Maximum = 33.94119999 and Above

Table 123

Low Risk Hazardous Materials

Low risk hazardous materials class examples include EOD incidents, explosion, hazmat investigations, oil tank battery incidents, spills, and gas leak standby. Responses include a minimum of 1 heavy apparatus with 3 personnel. EOD incidents are handled by an outside agency and may be supplemented by Lenexa resources upon request. Hazmat investigations add 1 squad (if available) to the response. Any low-risk hazardous materials incident occurring on the highway includes a response of 1 additional heavy apparatus with a minimum of 3 personnel for scene safety .

Low risk HAZMAT (Example)	
Probability of occurrence	2
Consequence to community	2
Impact on Fire Department	2
	4.898979

Table 124

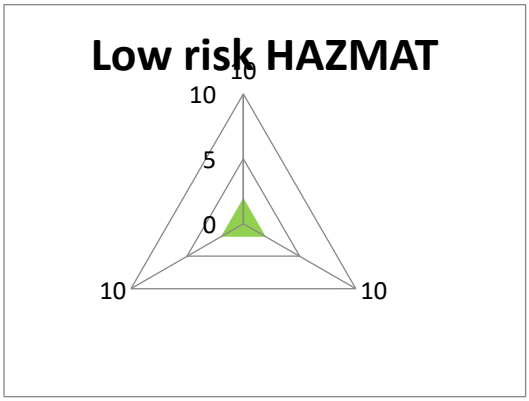


Figure 24

Task (EOD)	Personnel
Chief Page	Page
Minimum Total	**Page**
Task (Explosion, Oil Tank Battery, Hazmat Investigation, Spill, Gas Leak Standby)	**Personnel**
Command/Safety	1
Hazard Control	1
Atmospheric Monitoring	1
Minimum Total	**3**

Table 125

Moderate Risk Hazardous Materials

Moderate risk hazardous materials class examples include carbon monoxide investigations, explosion modified responses, hazmat modified responses, and gas odor (inside) investigations. A carbon monoxide investigation and gas odor (inside) investigation response includes a minimum of 1 heavy apparatus with a minimum of 3 personnel. Explosion modified responses include a minimum of 2 heavy apparatus and 1 squad (if available) with a minimum of 6 personnel. Hazmat modified responses include a minimum of 2 heavy apparatus, 1 squad (if available), and 1 Lenexa battalion chief (if available) with a minimum of 6 personnel.

Mod risk HAZMAT (Example)	
Probability of occurrence	2
Consequence to community	4
Impact on Fire Department	2
	8.485281

Table 126

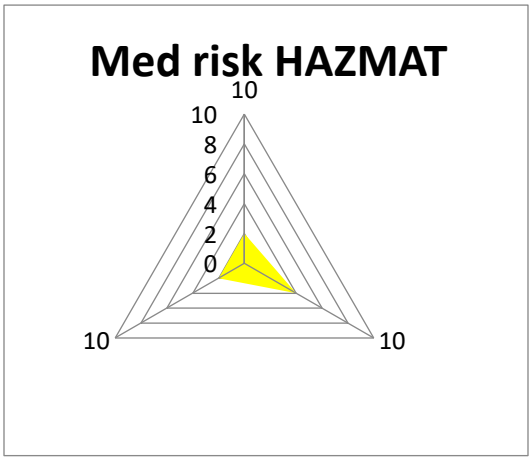


Figure 25

Task (Carbon Monoxide Investigation & Gas Odor (inside) Investigation)	**Personnel**
Command/Safety	1
Atmospheric Monitoring	1
Evacuation	1
Minimum Total	**3**
Task (Explosion Modified & Hazmat Modified)	**Personnel**
Command/Safety	1
Atmospheric Monitoring	1
Hazard Control/Containment	2
Evacuation	2
Minimum Total	**6**

Table 127

High Risk Hazardous Materials

High risk hazardous materials class examples include a hazardous materials incident such as transportation accident with release, high-pressure transmission line rupture, industrial chemical spill, or leak that is not contained. The Johnson County Emergency Communications Center (JCECC) will dispatch a local hazardous materials response team upon request. The LFD response includes a minimum of 2 heavy apparatus, 1 squad (if available), 1 ALS battalion chief, 1 Lenexa battalion chief (if available), 1 ALS transport unit, HM1173, and a hazmat task force (if needed) with a minimum of 11 personnel.

High risk HAZMAT (Example)	
Probability of occurrence	2
Consequence to community	4
Impact on Fire Department	6
	19.7989

Table 128

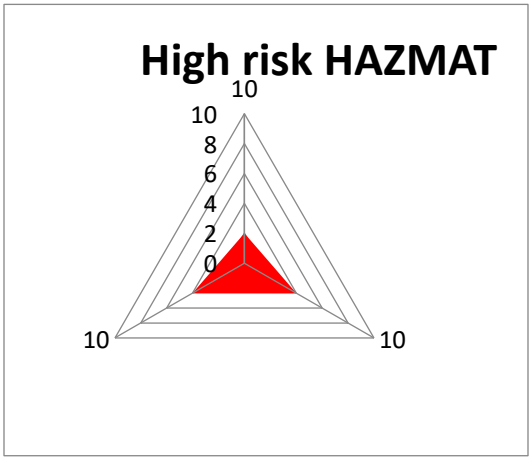


Figure 26

Task (Hazmat)	Personnel
Command	1
Safety	1
Atmospheric Monitoring	1
Hazard Control/Containment	3
Evacuation/Treatment	3
Transport	2
Minimum Total	**11**

Table 129

Maximum Risk Hazardous Materials

Maximum risk hazardous materials class examples include a train derailment with release. A train derailment response includes 4 heavy apparatus, 1 squad (if available), 1 ALS battalion chief, 1 Lenexa battalion chief (if available) and 1 an ALS transport unit with a minimum of 15 personnel.

Max risk HAZMAT (Example)	
Probability of occurrence	2
Consequence to community	6
Impact on Fire Department	8
	36.76955

Table 130

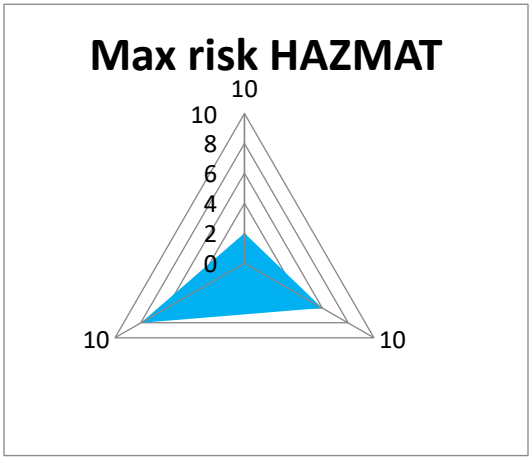


Figure 27

Task (Train Derailment)	Personnel
Command	1
Safety	1
Atmospheric Monitoring	1
Hazard Control/Containment	6
Evacuation	3
Establish Safe Zone	2
Transport	1
Minimum Total	**15**

Table 131

The following response martrix tables summarize the different call types and the units determined necessary to meet the effective response force for hazardous material related risk.

Call Type	Deployed Resources
EOD Activation EOD Investigation EOD Recovery EOD Standby EOD Tactical	Lenexa Chief Page Olathe EOD Task Force
Carbon Monoxide Investigation Explosion Oil Tank Battery Spill Standy - Gas Leak	Lenexa Heavy Apparatus
Haz - Mat Investigation	Lenexa Heavy Apparatus Lenexa Squad (if available)
Investigate Gas Odor Inside	Lenexa Heavy Apparatus X2
Haz - Mat Modified	Lenexa Heavy Apparatus X2 Lenexa Squad (if available) Lenexa Battalion Chief (if available)
Haz - Mat	Lenexa Heavy Apparatus X2 Lenexa Squad (if available) ALS Transport Unit ALS Battalion Chief Lenexa Battalion Chief (if available) HM1173 OPFD Hazmat Task Force
Train Derailment	Closest Heavy Apparatus X2 Lenexa Heavy Apparatus X2 Lenexa Squad (if available) ALS Transport Unit ALS Battalion Chief Lenexa Battalion Chief (if available)

Table 132

OTHER RISK LEVELS

The following section describes the risk level assessment of the 20 other incident types for low, moderate, high, or maximum risks. Each type was scored on probability, consequence, and impact. Table 142 lists the 20 other incident types and risk score. Each incident type was further analyzed by the critical tasks required to mitigate the risk successfully and safely.

Other	Probability	Consequence	Impact	Risk Score	Risk Assessment
Aircraft Emergency	2	4	8	25.9229	High
Aircraft Standby	2	2	2	4.8989	Low
Assist	8	2	2	16.248	Moderate
Auto Alarm - Building	8	2	2	16.248	Moderate
Auto Alarm - Residence	8	2	2	16.248	Moderate
Auto Alarm - Water Flow	6	2	2	12.3288	Moderate
Critical Infrastructure	2	6	8	36.7695	Maximum
Elevator Assist	4	2	2	8.4852	Low
Hostile Event Level 1, 2, 3	2	4	8	25.9229	High
Investigate	6	2	2	12.3288	Moderate
Lift Assist	6	2	2	12.3288	Moderate
Lightning Strike Investigation	2	2	2	4.8989	Low
Mayday	2	4	8	25.9229	High
Mutual Aid Agency	2	2	2	4.8989	Low
Mutual Aid Response	2	2	2	4.8989	Low
Standby	2	2	2	4.8989	Low
Stanby - Police	2	2	2	4.8989	Low
Standby - Fill In	4	2	2	8.4852	Low
Tornado Strike	2	8	8	48	Maximum
Water Assist	2	2	2	4.8989	Low

Table 133

Probability, Consequence, and Impact Scale
Low = 0.0000000 to 8.48529999
Moderate = 8.48530000 to 19.79890000
High = 19.7989999 to 33.94110000
Maximum = 33.94119999 and Above

Table 134

Low Risk Other

Low risk other class examples include aircraft standby, elevator assist, lightning strike investigation, mutual aid assistance, standby, standby with police, station fill-in, and water assists. All low risk other responses include a minimum of 1 heavy apparatus with a minimum of 3 personnel. Note: Mutual aid agency receives a chief's page only.

Low risk OTHER (Example)	
Probability of occurrence	2
Consequence to community	2
Impact on Fire Department	2
	4.898979

Table 135

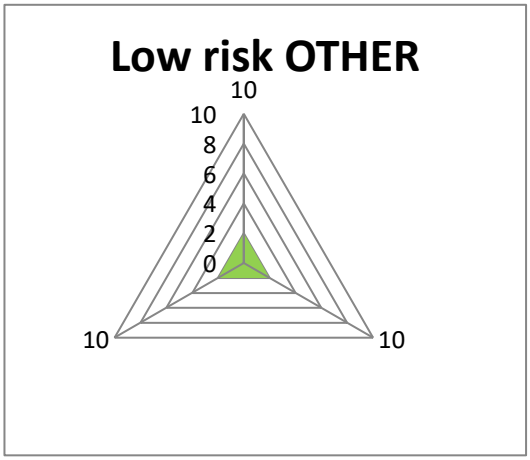


Figure 28

Task (Mutual Aid Agency)	Personnel
Command/Safety	Page
Minimum Total	**Page**
Task (All Low Risk Other)	**Personnel**
Command/Safety	1
Investigation	2
Minimum Total	**3**

Table 136

Moderate Risk Other

Moderate risk other class examples include assists, investigations, lift assists, and automatic or water flow alarms in a building/residence. All moderate risk other responses includes a minimum of 1 heavy apparatus with a minimum of 3 personnel. An automatic alarm occurring at an identified target hazard such as a school, nursing home, or hotel will have a minimum of 2 heavy apparatus and a squad (if available) with 6 personnel.

Moderate risk OTHER	
Probability of occurrence	6
Consequence to community	2
Impact on Fire Department	2
	12.32883

Table 137

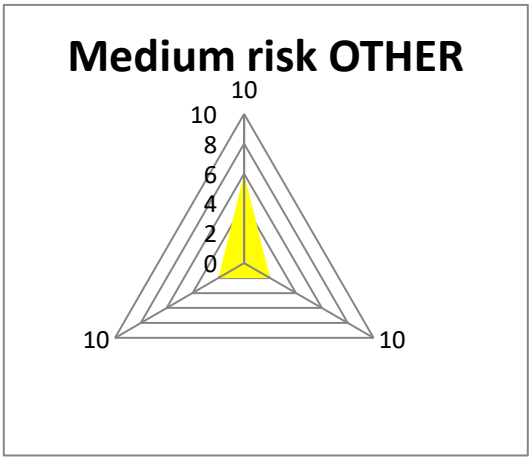


Figure 29

Task (Assists & Investigations)	**Personnel**
Command/Safety	1
Investigation	2
Minimum Total	**3**
Task (Lift Assist)	**Personnel**
Assisting Personnel	3
Minimum Total	**3**
Task (Automatic Alarm) Non-Target Hazard	**Personnel**
Command/Safety	1
Investigation	2
Minimum Total	**3**
Task (Automatic Alarm) Target Hazard	**Personnel**
Command	1
Safety	1
Investigation	4
Minimum Total	**6**

Table 138

High Risk Other

High risk other class examples include an aircraft emergencies, hostile events, and mayday requests. Response for an aircraft emergency includes a minimum of 4 heavy apparatus, 1 squad (if available), a 1 ALS battalion chief, 1 Lenexa battalion chief (if available), and 1 ALS transport unit with a minimum of 15 personnel. A response for a mayday request includes a minimum of 5 heavy apparatus, 1 air supply unit, 1 ALS transport unit, 1 ALS battalion chief, 1 closest battalion chief, 1 communications unit, and 1 hazmat medical unit (HM1173) with a minimum of 23 personnel. A mayday response supplements a current incident alarm assignment. Hostile event responses include a minimum of 5 heavy apparatus, 1 squad (if available), 2 ALS battalion chiefs, 1 Lenexa battalion chief, and 5 ALS transport units with a minimum of 28 personnel.

High risk OTHER (Example)	
Probability of occurrence	2
Consequence to community	4
Impact on Fire Department	8
	25.9229

Table 139

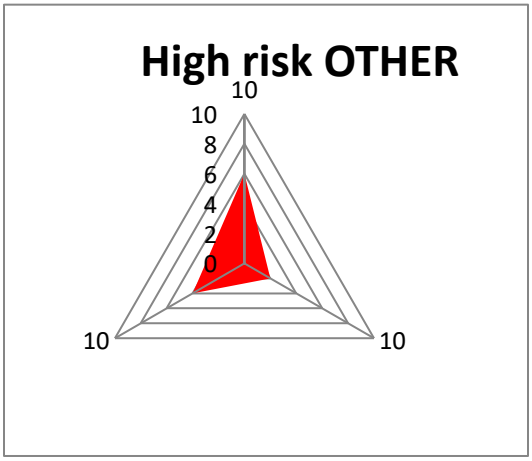


Figure 30

Task (Aircraft Emergency)	Personnel
Command	1
Safety	1
Establish Perimeter	2
Fire Control	3
Search and Rescue	3
Medical Supervisor	1
Triage	2
Medical Transport	2
Minimum Total	**15**

Table 140

Task (Mayday)	Personnel
Additional Fire Personnel	15
Mayday Supervisor	1
Air Supply	1
Medical Transport	2
Medical Supervisor	1
Communications	1
Hazmat Medical Response	2
Minimum Total	**23**
Task (Hostile Event)	**Personnel**
Command	1
Safety	1
Medical Supervisor	1
Triage Officer	1
Treatment	12
Transport	10
Establish Safe Zone	2
Minimum Total	**28**

Table 141

Maximum Risk Other

Maximum risk other class example includes critical infrastructure incidents and a tornado strike. Response for both responses include a minimum of 4 heavy apparatus, 1 a squad (if available), 1 ALS battalion chief, 1 Lenexa battalion chief (if available), and 1 ALS transport unit with a minimum of 15 personnel.

Maximum risk OTHER	
Probability of occurrence	2
Consequence to community	8
Impact on Fire Department	8
	48

Table 142

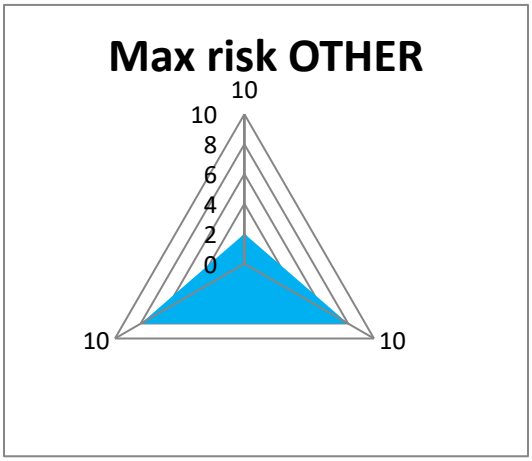


Figure 31

Task (Critical Infrastructure, Tornado Strike)	Personnel
Command	1
Safety Officer	1
Establish Perimeter	2
Search and Rescue	6
Medical Supervisor	1
Triage	2
Medical Transport	2
Minimum Total	**15**

Table 143

The following response martrix tables summarize the different call types and the units determined necessary to meet the effective response force for “other” related risk.

Call Type	Deployed Resources
Mutual Aid Agency	Chief Officer Page
Aircraft Standby Assist Auto - Alarm Building Auto - Alarm House Auto - Alarm Water Flow Elevator Assist Investigate Lift Assist Lightning Strike Investigation Mutual Aid Response Standby Station Fill-in	Lenexa Heavy Apparatus
Standby - Police	Lenexa Battalion Chief (if available) Lenexa Heavy Apparatus
Water Assist	Lenexa Heavy Apparatus Lenexa Squad (if available)
Aircraft Emergency	Lenexa Battalion Chief (if available) Lenexa Heavy Apparatus X2 Closest Heavy Apparatus X2 Lenexa Squad (if available) ALS Transport Unit ALS Battalion Chief
Mayday	In addition to first alarm: Closest Battalion Chief Closest Heavy Apparatus X5 Air Unit ALS Transport Unit ALS Battalion Chief Communication Unit Rehab Unit (HM1173)
Hostile Event Level 1 Hostile Event Level 2 & 3 = MCI Level I plus: Heavy Apparartus X3, ALS Transport Unit X5 Closest Fire Battalion Chief x1	Lenexa Heavy Apparatus X3 Closest Heavy Apparatus X2 Lenexa Squad (if available) ALS Transport Unit X5 ALS Battalion Chief X2 Fire Battalion Chief
Critical Infrastructure Tornado Strike	Lenexa Battalion Chief (if available) Lenexa Heavy Apparatus X2 Closest Heavy Apparatus X2 Lenexa Squad (if available) ALS Transport Unit ALS Battalion Chief

Table 144

VIII. Current Deployment and Performance

In this section, the years 2017-2021 will be referenced to report the Lenexa Fire Department's (LFD) response performance with respect to distribution, concentration, reliability, resiliency, and comparability with similar departments. Benchmark (goals) and baseline (actual performance) data was reviewed to conclude the LFD's response capability effectiveness. This was completed by assessing the department's baseline data against benchmark goals to realize the presence of service gaps. Baseline performance was collected and evaluated at the 90th percentile. The data was categorized by classification (fire, ems, hazmat, tech rescue and other), incident type (appliance fire, investigation, lift assist, etc.) and risk (low, moderate, high, and maximum).

The LFD had to define the method for evaluating distribution, concentration, reliability, resiliency, and comparability. Distribution is the geographical placement of first-due resources. To have an effective distribution, resources must be located so that first-due units will meet adopted scene arrival service level objectives (benchmark) at a defined percentage of the time (90th Percentile). For example, the LFD's distribution baseline objective for fire suppression (high risk) in urban planning areas is 5 minutes, 36 seconds travel time at the 90th percentile. (Benchmark and baseline objectives will be discussed in-depth in the next section.)

As distribution is an evaluation of first-due units, concentration is an appraisal of all resources required to achieve incident stabilization. In the previous section, critical tasking was discussed for the incident type and risk level. This critical tasking assessment was then used to establish an effective response force. Concentration is measured by the ability to which the effective response force arrives on scene within the adopted service level objectives for a certain percentage of time. As an example, for fire suppression (high risk) in urban planning areas, the LFD's concentration baseline objective is 10 minutes, 30 seconds travel time at the 90th percentile.

Reliability is a system performance measure that assesses the availability of first due resources in assigned response districts. The LFD measures reliability by appraising how often the appropriate resource is available for response to an incident in the unit's defined district. The most common cause for a lack of reliability in Lenexa is multiple incidents simultaneously occurring in a station's district.

Resiliency is the capacity of the entire response system to meet emergency service demands of the community during peak call load times when most or all resources are assigned to significant or multiple incidents.

Comparability is simply assessing the resemblance of the LFD to similar fire departments to determine if the service level objectives are consistent with industry performance and standards.

Distribution Factors

The Lenexa Fire Department staffs six fire stations with a minimum of 22 personnel each day. Personnel are divided into six fire companies (heavy apparatus), one emergency medical service company (squad) and one shift commander. Specific station and unit assignments are below:

Station #1: Shift Commander (1), Fire Company (1) and Squad Company (1)

Station #2: Fire Company (1)

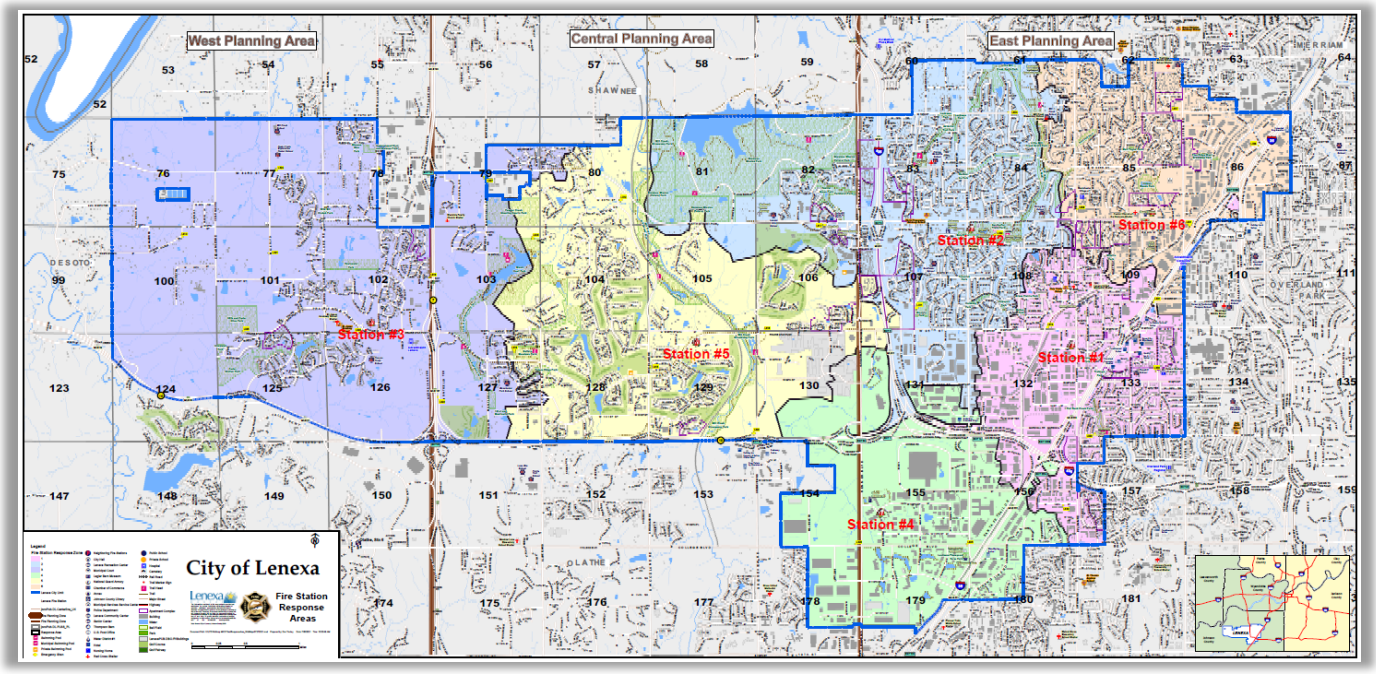
Station #3: Fire Company (1) and Johnson County Med-Act Company (1)

Station #4: Fire Company (1)

Station #5: Fire Company (1)

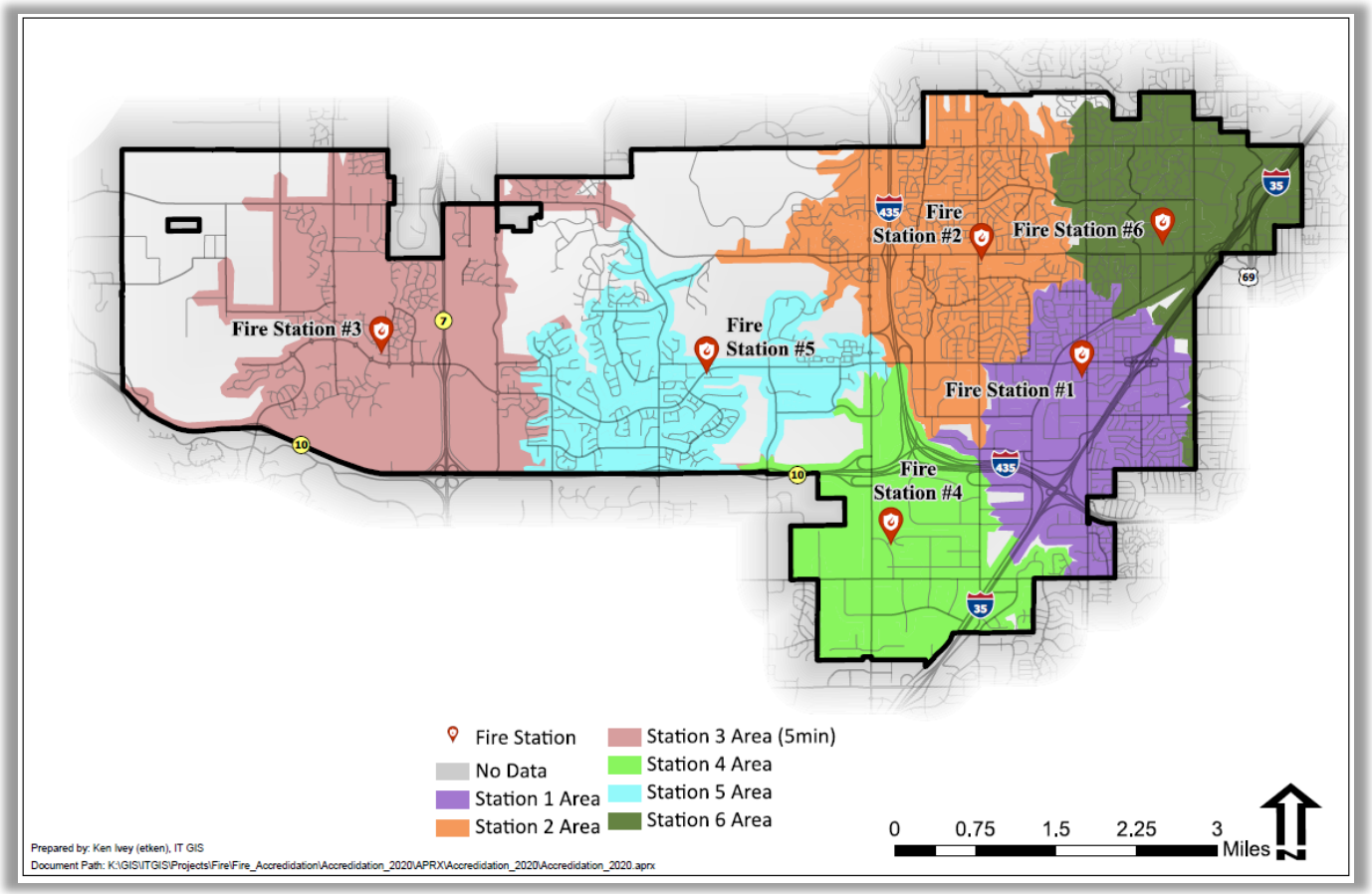
Station #6: Fire Company (1)

Response or station districts are dynamic based on road construction, speed limits, or any other computer aided dispatch time influencing factor. Stations are strategically located to provide quick response to emergency incidents within the six districts. Computer aided dispatched is adjusted continuously for current road factors to assign the closest unit. Station response districts under normal road conditions are depicted in the *District Borders* map below.



District Borders Map

The map below (*Travel Time Benchmarks from Stations Map*) depicts that actual distribution capabilities for each station using a four-minute travel time for stations #1, #2, #4, #5 and #6 and a five-minute travel time for station #3. Drive time distances correlate to the station as the starting point. Considerations to the development of the response districts include call volume and station reliability which will be discussed later. Note that there are two distinct locations in which the travel time benchmarks cannot be met. These locations are in the north central area and northwest corner, represented as white within the City border. Further information about these areas will be provided later in this document.

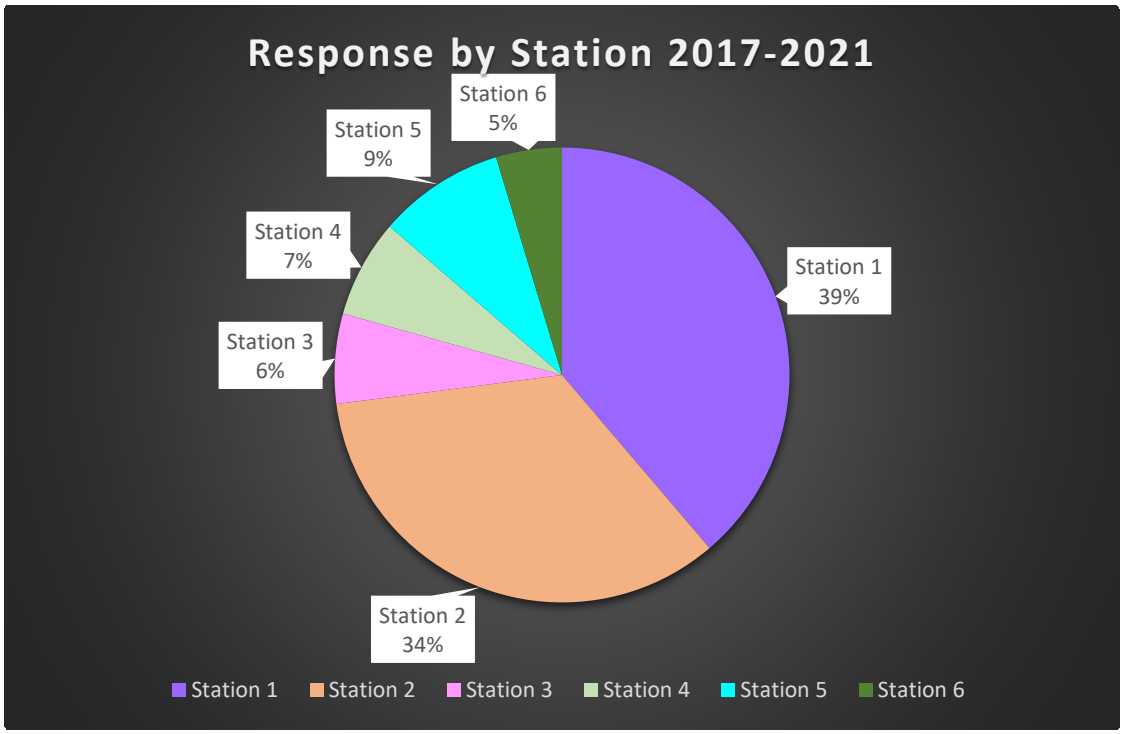


Travel Time Benchmarks from Stations Map

Table 165 displays 2017-2021 station response totals. The addition of station #6 resulted in a significant decrease in call volume for both station #1 and for station #2 while covering the northeast corner of the city. This area has historically been difficult for the department to meet its first-due benchmark objective statements and fomally relied on the Shawnee Fire Department to meet this need through an automatic/mutual aid agreement.

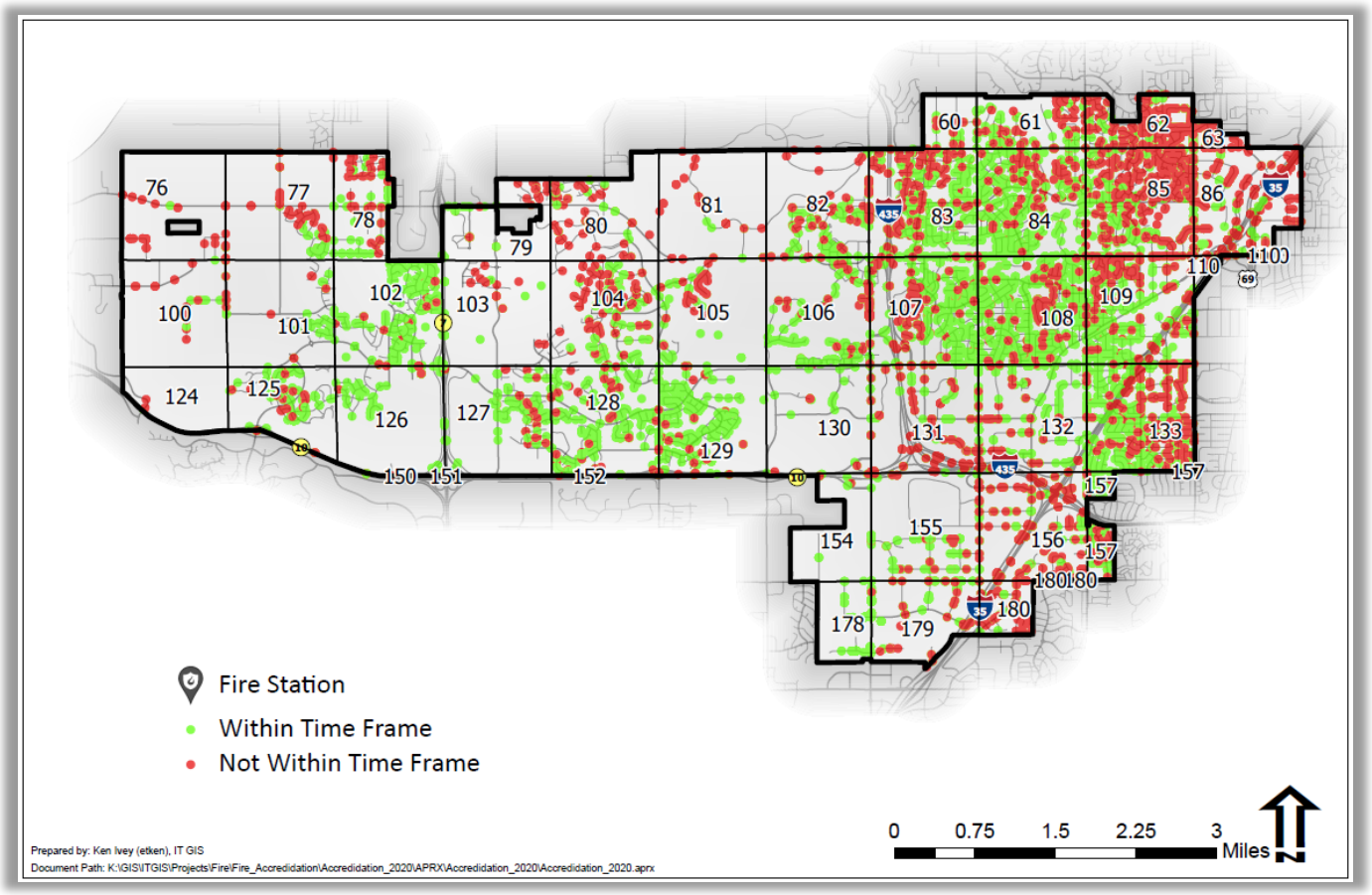
Response by Station	2017	2018	2019	2020	2021	2017-2021
Station 1	2280	2535	2532	2371	2238	11956
Station 2	2265	2299	2376	1977	1631	10548
Station 3	346	418	386	352	470	1972
Station 4	471	445	471	355	406	2148
Station 5	551	565	553	512	597	2778
Station 6				225	1218	1443
Grand Total	**5913**	**6262**	**6318**	**5792**	**6560**	**30845**

Table 145



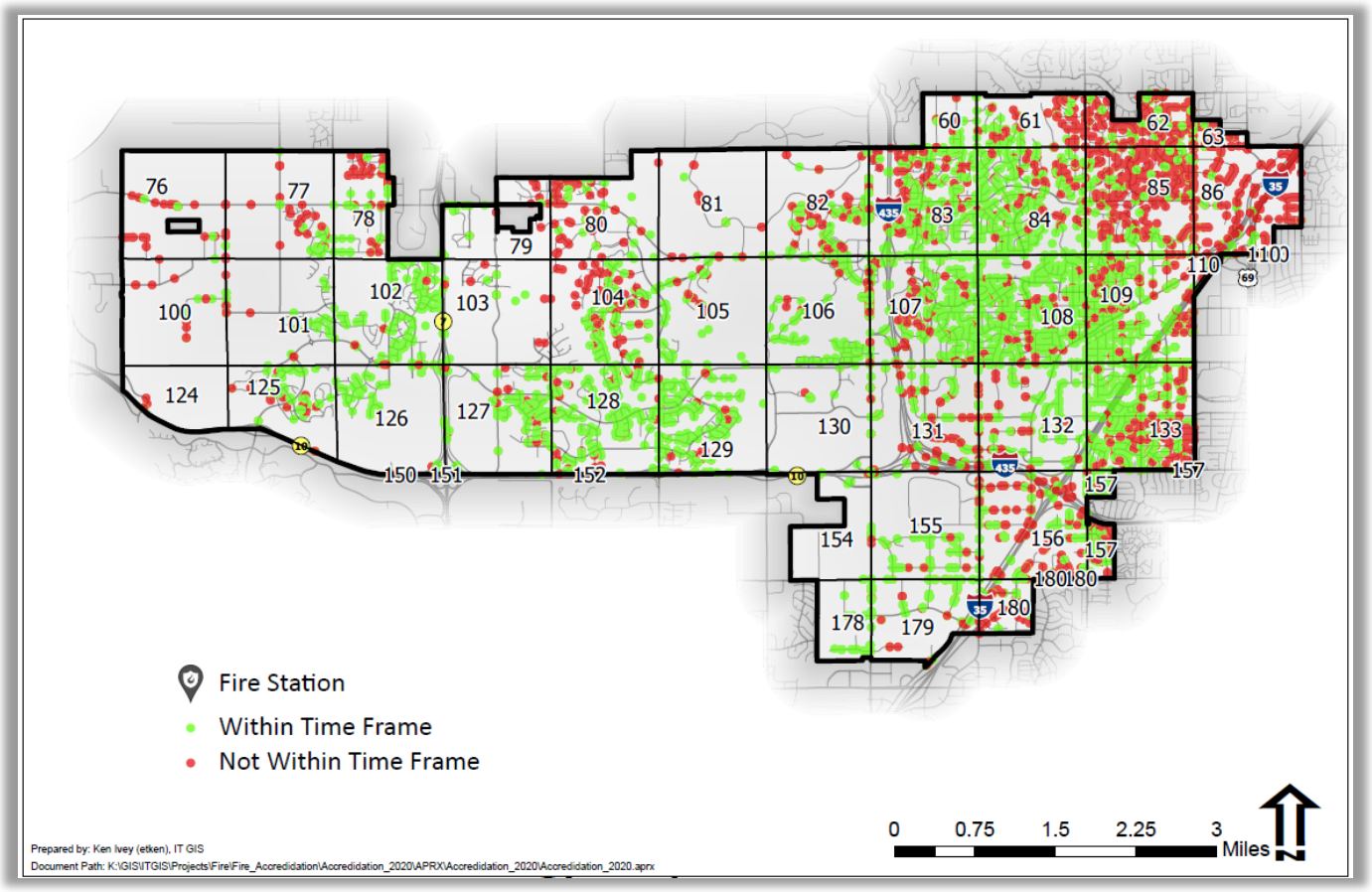
Graph 15

The following maps show all emergency incident responses in the City 2017-2021. The map below (*First Unit Travel Time Map*) displays all first unit on scene emergency responses. The green dots illustrate those first unit responses that met or exceed the benchmark time goal of 4:00 minutes for Urban Planning Zones and 5:00 for Rural Planning Zones. The red dots illustrate those first unit responses that did not meet the adopted benchmark time goals.



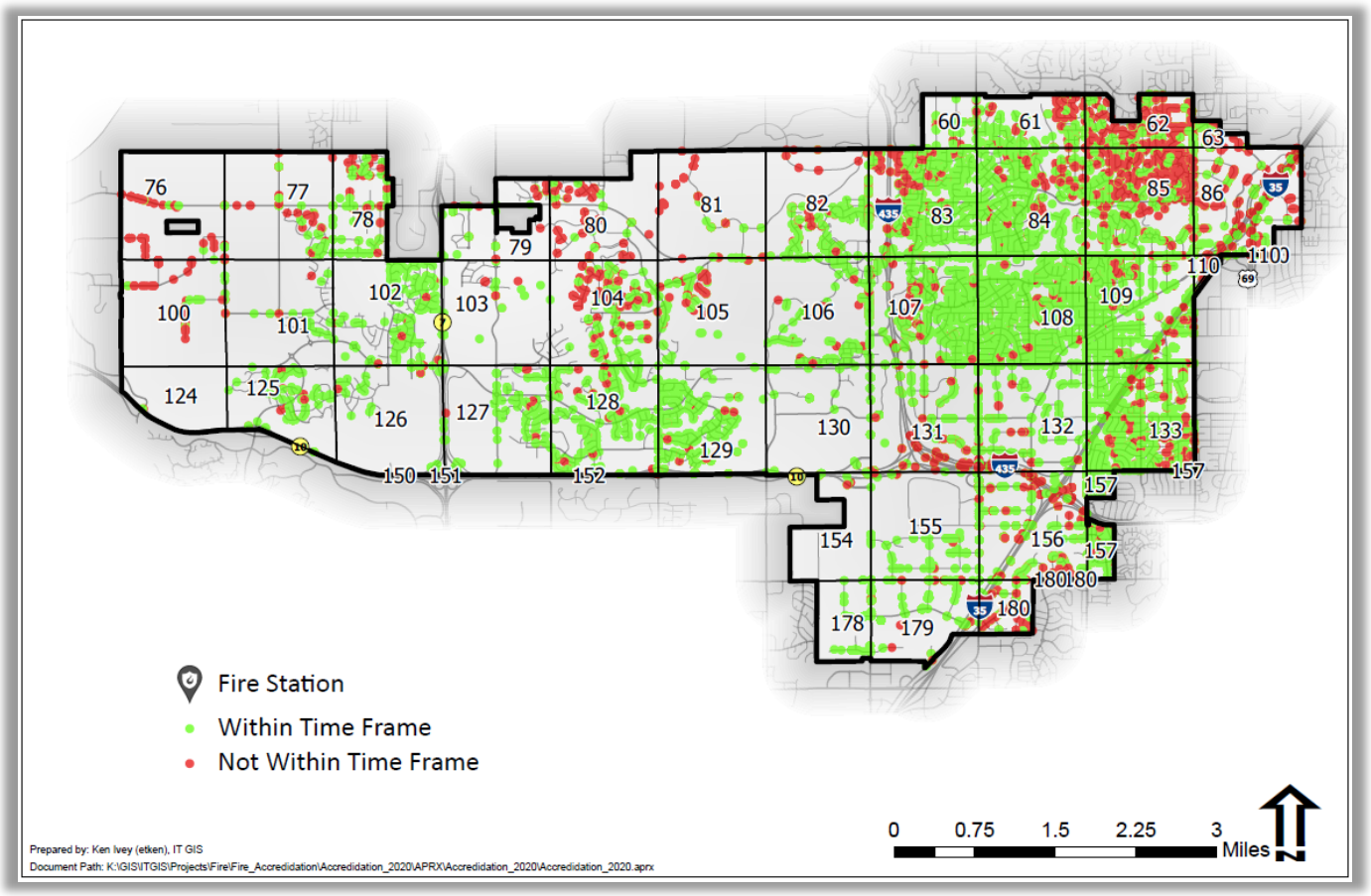
First Unit Travel Time Map

The map below (*First Unit TRT (Fire, Hazmat, Tech, Other) Map*) displays all first unit total response time (TRT) emergency responses for fire, hazmat, technical rescue, and other. The green dots illustrate those responses that met or exceed the benchmark time goal of 6:24 minutes for the Urban Planning Zones and 7:24 for Rural Planning Zones. The red dots illustrate those first unit total responses that did not meet the adopted benchmark time goals.



First Unit TRT (Fire, Hazmat, Tech, Other) Map

The map below (*First Unit TRT (EMS) Map*) displays all first unit total response time (TRT) emergency responses for EMS. The green dots illustrate those responses that met or exceedthe benchmark time goal of 6:04 minutes for Urban Planning Zones and 7:04 minutes for Rural Planning Zones. The red dots illustrate those first unit total responses that did not meet the adopted benchmark time goals.



First Unit TRT (EMS) Map

The following tables represent automatic/mutual aid given and received from 2017-2021. The data represents the number of incidents that required automatic/mutual aid to be given or received by the LFD. There are two tables for automatic/mutual aid received. The first includes medical related incidents that require an ALS transport unit provided by Johnson County Med-Act. This accounts for the majority of automatic/mutual aid received. The second table includes only non-medical related incidents.

Aid Given	
Date	**Incidents**
2017	304
2018	356
2019	422
2020	358
2021	485
Total	**1925**

Table 146

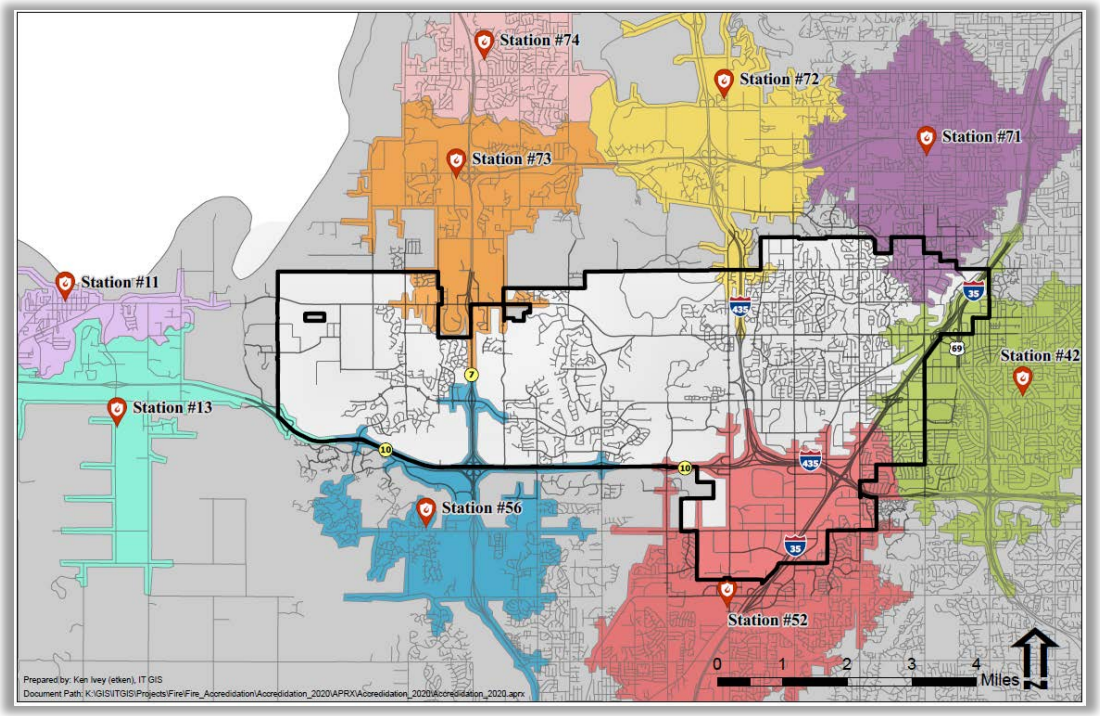
Aid Received (EMS)	
Date	**Incidents**
2017	4267
2018	4585
2019	4660
2020	4347
2021	4743
Total	**22602**

Table 147

Aid Received (NonEMS)	
Date	**Incidents**
2017	132
2018	114
2019	188
2020	157
2021	149
Total	**740**

Table 148

An analysis of the data (2017-2021) shows that the majority of automatic/mutual aid given and received has increased as call volume for the county has increased. For the purpose of response time data analysis, the LFD only records the call handling and turnout times for agencies receiving automatic/mutual aid. All other response time components are documented by the agency receiving automatic/mutual aid assistance. The map below shows areas within the city boundaries where automatic/mutual aid resources can meet a four (4) minute travel time objective.

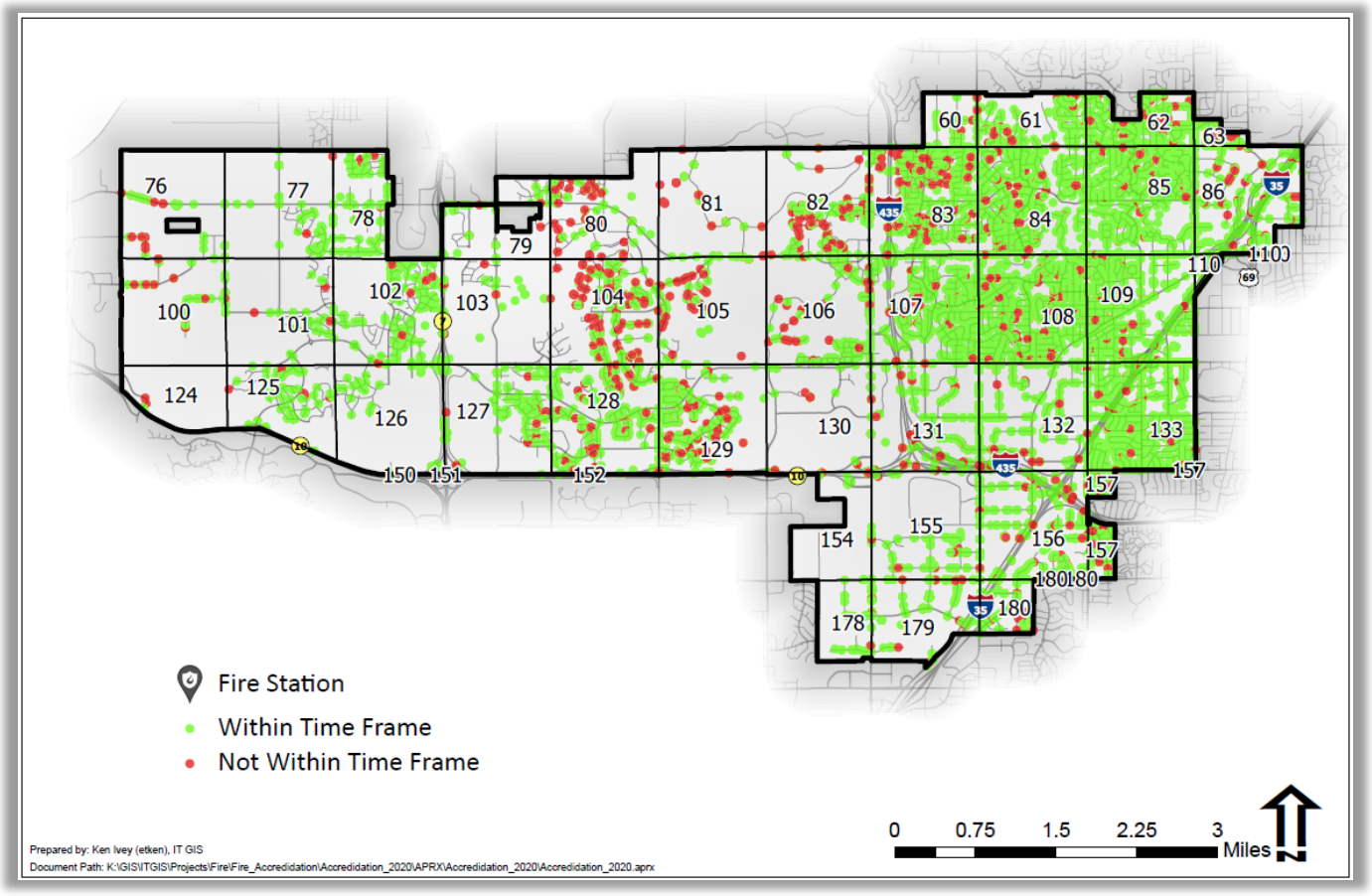


Automatic/Mutual Aid (Received) Travel Time Map

Concentration Factors

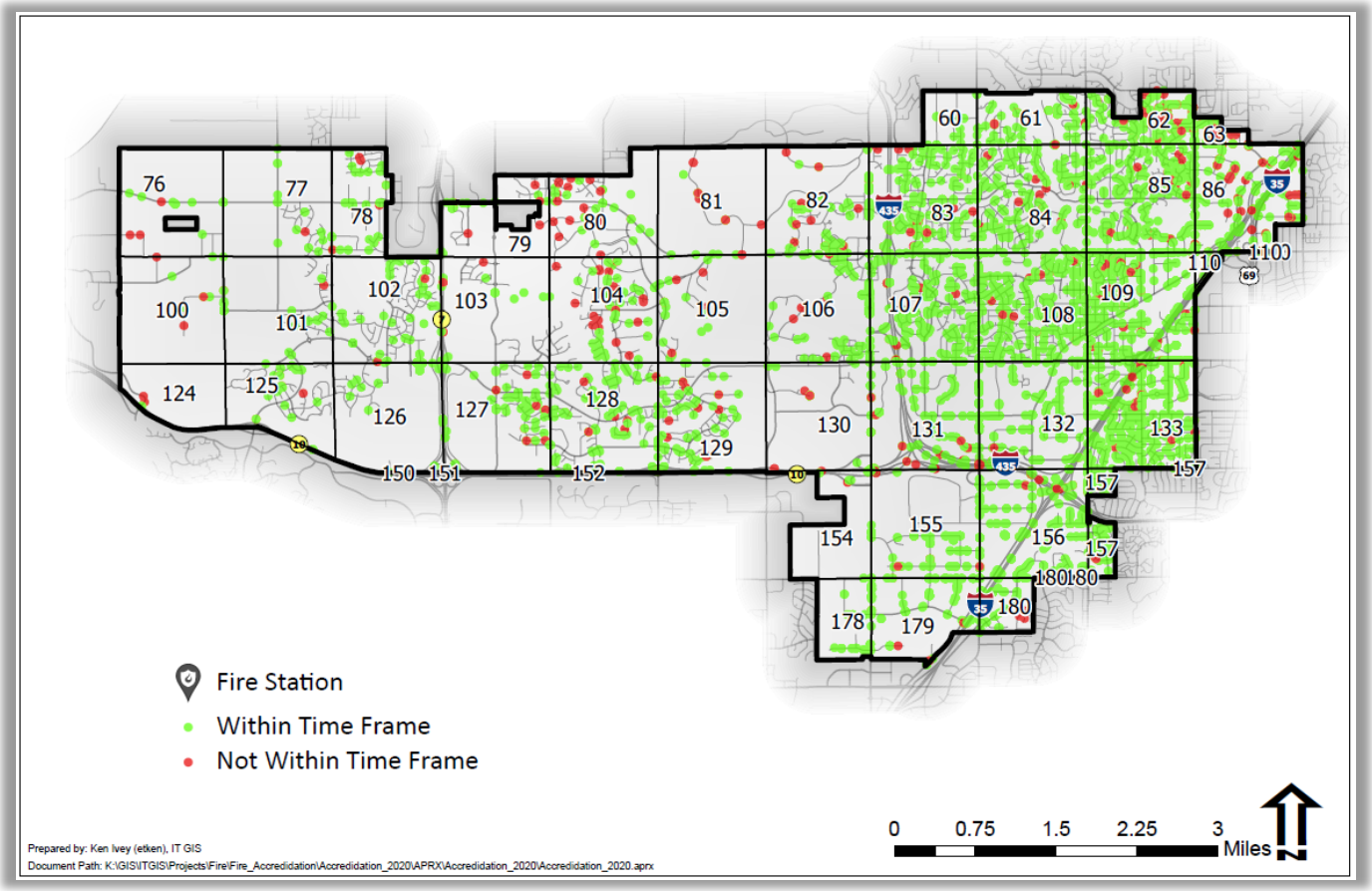
Concentration is the study of the arrangement of multiple resources being spaced so that the effective response force can be assembled at the scene within adopted benchmark time goals.

The following maps show all emergency incident responses in the City 2017-2021. The map below (*Travel ERF Map*) displays all effective response force (ERF) responses. The green dots illustrate those ERF responses that met or exceed the benchmark time goal of 8:00 minutes for Urban Planning Zones and 10:00 for Rural Planning Zones. The red dots illustrate those ERF responses that did not meet the adopted benchmark time goals.



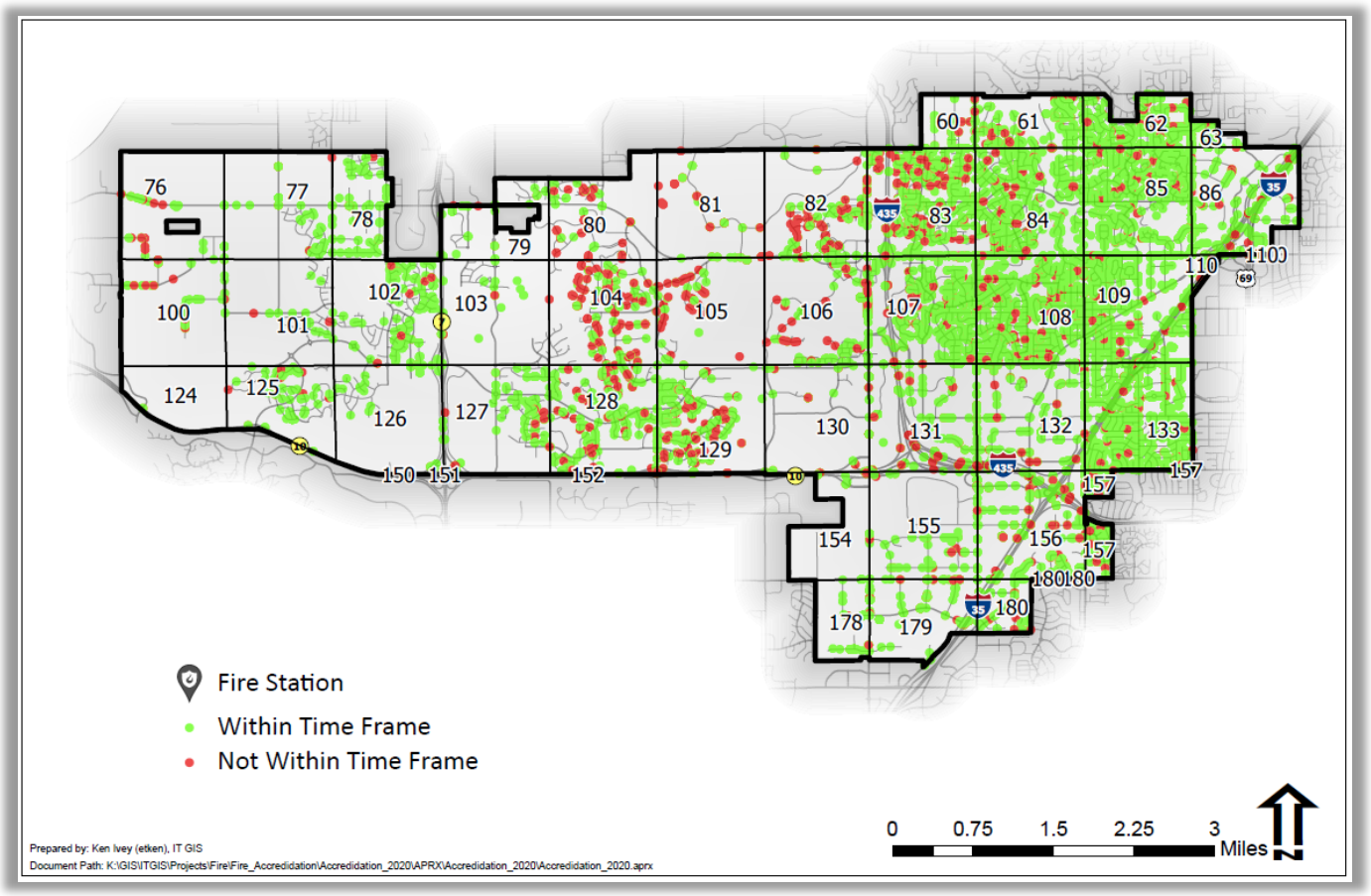
Travel ERF Map

The map below (*Travel ERF-TRT (Fire, Hazmat, Tech, Other)*) displays all ERF total response time (TRT) emergency responses for fire, hazmat, technical rescue, and other. The green dots illustrate those responses that met or exceed the benchmark time goal of 10:24 minutes for Urban Planning Zones and 12:24 for Rural Planning Zones. The red dots illustrate those ERF total responses that did not meet the adopted benchmark time goals.



Travel ERF-TRT (Fire, Hazmat, Tech, Other)

The map below (*Travel ERF- TRT (EMS) Map*) displays all ERF total response time (TRT) emergency responses for EMS. The green dots illustrate those responses that met or exceed the benchmark time goal of 10:04 minutes for Urban Planning Zones and 12:04 for Rural Planning Zones. The red dots illustrate those ERF total responses that did not meet the adopted benchmark time goals.



Travel ERF-TRT (EMS)

Reliability Factors

System reliability is assessed on factors of time, distance, availability and capability of resources. Station reliability is determined by analyzing the ability of a station to respond to a call for service within the assigned district. The table below represents the percentage of time each of the six stations were able to respond to a call in their assigned district. In most instances, stations were able to meet their reliability goal of 90% Please note that Station 6 was not placed into service until 2020.

Reliability	2017	2018	2019	2020	2021	2017-2021
Station 1	97.94%	99.09%	99.01%	96.92%	92.98%	97.19%
Station 2	98.32%	98.91%	99.16%	97.02%	89.88%	96.66%
Station 3	96.53%	96.89%	98.70%	99.15%	95.84%	97.42%
Station 4	93.21%	94.83%	94.90%	96.34%	91.87%	94.23%
Station 5	94.19%	97.70%	98.37%	98.63%	95.14%	96.81%
Station 6	NA	NA	NA	95.11%	94.99%	95.05%

Table 149

An analysis of the data illustrates a high reliability factor for Station #1 (97.19%), Station #2 (96.66%), Station #3 (97.42%). Station #4 (94.23%), Station #5 (96.81%), and Station #6 (95.05%). All stations were able to meet their station reliability goal of 90% for all years between 2017-2021. Recent improvements to automatic/mutual aid agreements, apparatus movement plans for training and events, and better date entry/analysis, has led to improved station reliability numbers.

Resiliency Factors

The department continually analyzes response performance. Consistent and reliable service delivery is part of this analysis. The evaluation process includes training, deployment procedures, callback, and automatic/mutual aid practices.

Resiliency has been tested during scenario based cave rescue training at the Meritex underground facility and in the participation of ESF 4/9 County wide exercises. The department has participated in Emergency Operations Center (EOC) activations in preparation for significant storm events.

The Johnson County Inter-local agreement also assists with resiliency. For incidents that require a full alarm assignment of three to five heavy apparatus, the two closest LFD heavy apparatus are dispatched, the other two heavy apparatus are the next two closest units. For much of the City, this model reduces the number of LFD resources committed to large incidents thereby improving Lenexa's ability to respond to future events.

Mutual aid resources are also part of the department's ability to provide consistent and reliable service. Resources from any of the Johnson County agencies will provide coverage in Lenexa as needed. The identification of mutual aid resource deployment needs are determined by the Johnson County Emergency Dispatch Center or can be requested by any agency. Recently, Johnson County agencies collaborated and developed a "Live MUM" (Live Move Up Model) to identify individual jurisdictional gaps in coverage during working fires and systematically recommend optimal unit relocations that reflect reasonable shared coverage during large emergencies while allowing for a measure of local control.

The department also has a callback policy that outlines the authority to request off duty personnel to report for duty. Callback personnel report to their assigned station and staff reserve apparatus to provide coverage.

Comparability Factors

A comparison was made with accredited agencies of similar population, number of personnel, stations and service area and who are members of the Heart of America Accreditation Consortium. The comparison agencies were Leawood Fire Department, KS, Shawnee Fire Department, KS, Olathe Fire Department, KS, and Lawrence Fire Department, KS. Table 150 illustrates the comparison between the different agencies. Note that the alarm processing, turn-out, and first on scene times were obtained from each department's Community Risk Assessment Standards of Cover. If a time summary was not listed, the agencies building/house fire response time benchmarks were applied to CFAI's "urban" area definition. All times are represented at the 90th percentile for each organization

Department	Population	Stations	Staffing	Alarm Processing	Turn-out	First On Scene
Leawood	34,689	3	55	1:13	1:17	5:31
Olathe	136,699	7	104	N/A	1:40	6:45
Lawrence	93,917	6	149	2:36	1:38	5:41
Shawnee	64,680	4	60	1:02	1:58	5:27
Lenexa	56,177	6	97	1:55	1:15	5:33

Table 150

National Fire Protection Association (NFPA) 1710: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Departments 2016 Edition (NFPA 1710) is the standard that identifies specific criteria for emergency response, arrival, and staffing. Below is the NFPA 1710 response time standard.

- One minute and 4 seconds (64 seconds) for alarm processing time.
- One minute and twenty seconds (80 seconds) for turnout time for fire and special operations response and one minute (60 seconds) turnout time for EMS response
- Four minutes (240 seconds) or less travel time for the arrival of the fire arriving engine company at a fire suppression incident.
- Eight minutes (480 seconds) or less travel time for the deployment of an initial full alarm assignment at a **low/moderate** hazard fire suppression incident and ten minutes and 10 sesconds (610 seconds) at a **high hazard** fire suppression incident.
- Four minutes (240 seconds) or less travel time for the arrival of a unit with first responder with automatic external defibrillator (AED) or higher level capability at an emergency medical incident
- Eight minutes (480 seconds) or less travel time for the arrival of an advanced life support (ALS) unit at an emergency medical incident. where this service is provided by the fire department provided a first responder with AED or basic life support (BLS) unit arrived in 240 seconds or less travel time.

In 2016, the Lenexa Fire Department adopted a modified NFPA 1710 standard. Modifications were made to the NFPA 1710 standard based on rural/urban population densities, call volume, automatic/mutual aid agreements, and current station locations. Adopted benchmark standards are listed below.

NFPA 1710 Standard - Fire	NFPA 1710	Lenexa Benchmark (Urban)	Lenexa Benchmark (Rural)
Alarm Processing	1:04	1:04	1:04
Turn-Out Time	1:20	1:20	1:20
Travel Time - First On Scene	4:00	4:00	4:00
Travel ERF Time	8:00	8:00	10:00
First On Scene Total Response Time	6:20	6:24	7:24
ERF Total Response Time	10:10	10:24	12:24
Effective Resposne Force (Single Family)	17	19	19
Effective Resposne Force (Commercial)	27	22	22
Apparatus Staffing	4	3	3

Table 151

NFPA 1710 Standard - EMS	NFPA 1710	Lenexa Benchmark (Urban)	Lenexa Benchmark (Rural)
Alarm Processing	1:04	1:04	1:04
Turn-Out Time	1:00	1:00	1:00
Travel Time - First On Scene	4:00	4:00	5:00
Travel ERF Time	8:00	8:00	10:00
First On Scene Total Response Time	6:00	6:04	7:04
ERF Total Response Time	10:10	10:04	12:04
Effective Resposne Force (All)	ALS 2 - BLS 2	ALS 2 - BLS 2	ALS 2 - BLS 2
Apparatus Staffing	2	2	2

Table 152

NFPA 1710 Standard - HazMAt	NFPA 1710	Lenexa Benchmark (Urban)	Lenexa Benchmark (Rural)
Alarm Processing	1:04	1:04	1:04
Turn-Out Time	1:20	1:20	1:20
Travel Time - First On Scene	4:00	4:00	4:00
Travel ERF Time	8:00	8:00	10:00
First On Scene Total Response Time	6:20	6:24	7:24
ERF Total Response Time	10:10	10:24	12:24
Effective Resposne Force (HazMat)	17	Taskforce (20)	Taskforce (20)
Apparatus Staffing	4	3	3

Table 153

NFPA 1710 Standard - Tech Rescue	NFPA 1710	Lenexa Benchmark (Urban)	Lenexa Benchmark (Rural)
Alarm Processing	1:04	1:04	1:04
Turn-Out Time	1:20	1:20	1:20
Travel Time - First On Scene	4:00	4:00	4:00
Travel ERF Time	8:00	8:00	10:00
First On Scene Total Response Time	6:20	6:24	7:24
ERF Total Response Time	10:10	10:24	12:24
Effective Resposne Force (Tech Rescue)	17	Taskforce (26)	Taskforce (26)
Apparatus Staffing	4	3	3

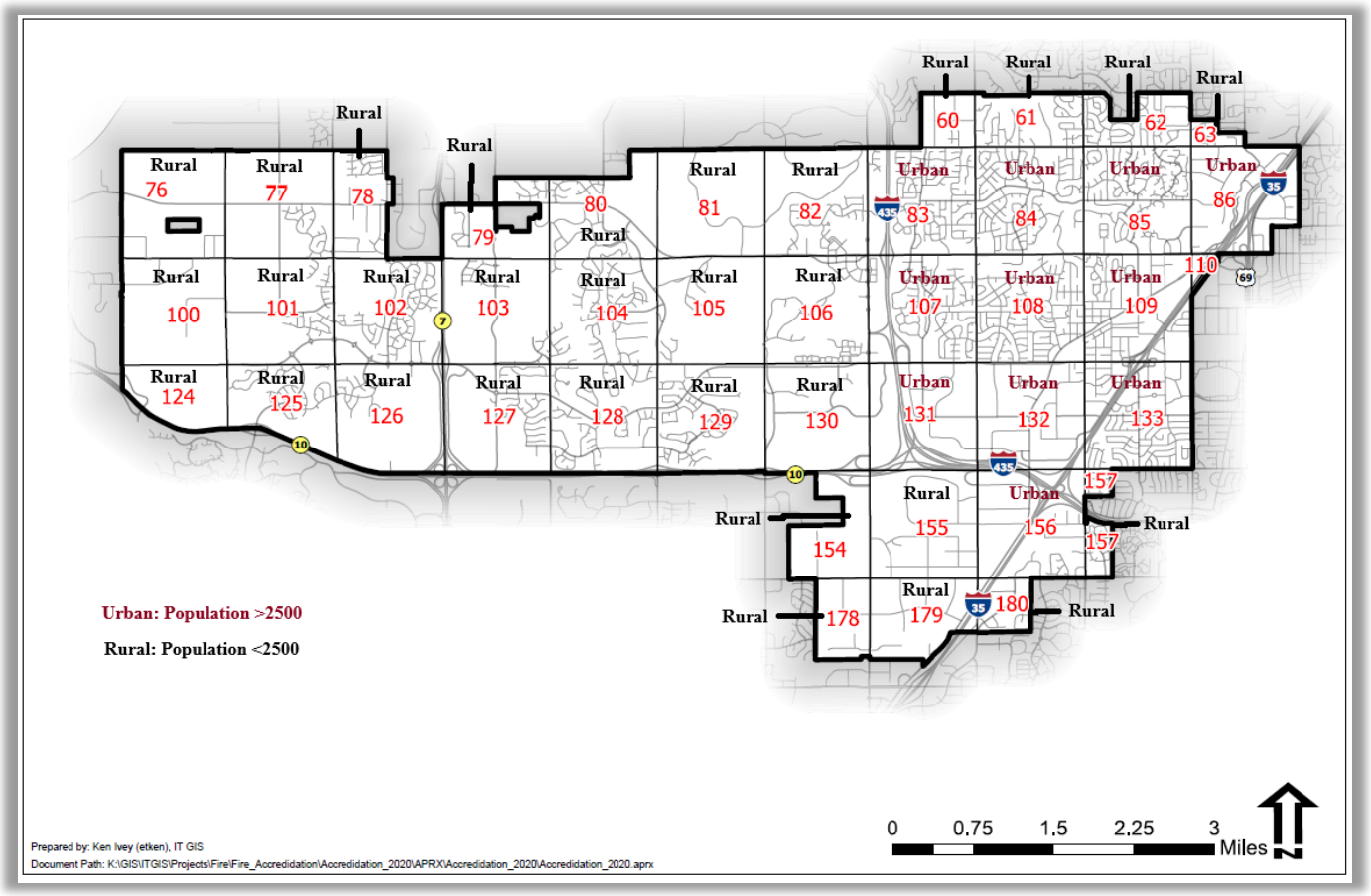
Table 154

NFPA 1710 Standard - Other	NFPA 1710	Lenexa Benchmark (Urban)	Lenexa Benchmark (Rural)
Alarm Processing	1:04	1:04	1:04
Turn-Out Time	1:20	1:20	1:20
Travel Time - First On Scene	4:00	4:00	4:00
Travel ERF Time	8:00	8:00	10:00
First On Scene Total Response Time	6:20	6:24	7:24
ERF Total Response Time	10:10	10:24	12:24
Effective Resposne Force	NA	NA	NA
Apparatus Staffing	4	3	3

Table 155

Performance Objectives – Benchmarks

Benchmark Methodology - Benchmark standards were developed from the National Fire Protection Association (NFPA) 1710 standard. The Lenexa Fire Department had previously used cumulative incident response data at the 90th percentile within three defined planning areas (East, West, Central). The department adopted the recommendations by CPSE and anaylzed response time data for each planning zone (grid) for collecting urban and rural data. Each planning zone population was assessed to see if it met the definition of a rural or urban population. All urban populations with the city are located within the eastern area. All central and western areas meet the rural definition.



Planning Zones

Fire Suppression Services Program

Low Risk Fire Benchmarks			FIRE	EMS	HAZMAT	TECH RESCUE	OTHER
Alarm Handling	Pick-up to Dispatch	Rural	1:04	1:04	1:04	1:04	1:04
		Urban	1:04	1:04	1:04	1:04	1:04
Turnout Time	Turnout Time 1st Unit	Rural	1:20	1:00	1:20	1:20	1:20
		Urban	1:20	1:00	1:20	1:20	1:20
Travel Time	Travel Time 1st Unit Distribution	Rural	5:00	5:00	5:00	5:00	5:00
		Urban	4:00	4:00	4:00	4:00	4:00
	Travel Time ERF Concentration	Rural	10:00	10:00	10:00	10:00	10:00
		Urban	8:00	8:00	8:00	8:00	8:00
Total Response Time	Total Response Time 1st Unit Distribution	Rural	7:24	7:04	7:24	7:24	7:24
		Urban	6:24	6:04	6:24	6:24	6:24
	Total Response Time ERF Concentration	Rural	12:24	12:04	12:24	12:24	12:24
		Urban	10:24	10:04	10:24	10:24	10:24

Table 156

Low Risk Fire

First Due

For 90 percent of all flue fires, grass fires, smoke odor investigations, outside small fires, small tank fires, and transport/vehicle (low risk) fires, the total response time for the arrival of the first-due heavy apparatus unit, staffed with 3 firefighters, shall be: 7 minutes 24 seconds in rural areas and 6 minutes 24 seconds in urban areas. The first-due unit shall be capable of providing a minimum of 250 gallons of water, 1,250 gallons per minute (gpm) pumping capacity, initiating command/safety, providing a water supply, and advancing the first attack line flowing a minimum of 150 gallons per minute.

Effective Response Force

For 90 percent of all grass fires, smoke odor investigations, outside small fires, small tank fires, and vehicle (low risk) fires, the total response time for the effective response force (ERF) staffed with 3 firefighters and officers shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of establishing command/safety, providing for a water supply, and advancing fire attack lines.

For 90 percent of all transport vehicle fires (low risk) fires, the total response time for the effective response force (ERF) staffed with 6 firefighters and officers shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of establishing command/safety, providing for a water supply, and advancing fire attack lines.

For 90 percent of all flue fires (low risk) fires, the total response time for the effective response force (ERF) staffed with 8 firefighters and officers shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of establishing command/safety, providing for a water supply, and advancing fire attack lines.

Moderate Risk Fire

First Due

For 90 percent of all appliance fires, modified response house fires, outside large fires, large tank fires, wildland fires, and wildland structure (moderate risk) fires, the total response time for the arrival of the first-due heavy apparatus unit, staffed with 3 firefighters, shall be: 7 minutes 24 seconds in rural areas and 6 minutes 24 seconds in urban areas . The first-due unit shall be capable of providing 250 gallons of water, 1,250 gallons per minute (gpm) pumping capacity, initiating command/safety, providing two-in/two-out for firefighter safety, and advancing the first attack line flowing a minimum of 150 gallons per minute.

Effective Response Force

For 90 percent of all wildland (moderate risk) fires, the total response time for the effective response force (ERF) staffed with 3 firefighters and officers shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of establishing command/safety, providing a constant water supply, advancing fire attack lines, initiating ventilation, completing overhaul and salvage operations, investigating, initiating evacuation, while providing two-in-two out capability for firefighter safety.

For 90 percent of all appliance fires, modified response house fires, and outside large (moderate risk) fires, the total response time for the effective response force (ERF) staffed with 8 firefighters and officers shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of establishing command/safety, providing a constant water supply, advancing fire attack lines, initiating ventilation, completing overhaul and salvage operations, investigating, initiating evacuation, while providing two-in-two out capability for firefighter safety.

For 90 percent of all large tank (moderate risk) fires, the total response time for the effective response force (ERF) staffed with 8 firefighters and officers, and 1 Lenexa battalion chief shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of establishing command/safety, providing a constant water supply, advancing fire attack lines, initiating ventilation, completing overhaul and salvage operations, investigating, initiating evacuation, while providing two-in-two out capability for firefighter safety.

For 90 percent of all wildland structure (moderate risk) fires, the total response time for the effective response force (ERF) staffed with 17 firefighters and officers, and 1 Lenexa battalion chief, 1 closest battalion chief, and 2 ALS transport personnel shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of establishing command/safety, providing a constant water supply, advancing fire attack lines, initiating ventilation, completing overhaul and salvage operations, investigating, initiating evacuation, while providing two-in-two out capability for firefighter safety.

High Risk Fire

First Due

For 90 percent of all high-rise fires, modified response building fires, building fires, single and multi-family dwelling (high risk) structure fires, the total response time for the arrival of the first-due heavy apparatus unit, staffed with 3 firefighters, shall be: 7 minutes 24 seconds in rural areas and 6 minutes 24 seconds in urban areas. The first-due unit shall be capable of providing 250 gallons of water, 1,250 gallons per minute (gpm) pumping capacity, initiating command/safety, providing two-in/two-out for firefighter safety, and advancing the first attack line flowing a minimum of 150 gallons per minute.

Effective Response Force

For 90 percent of all modified response building (high risk) structure fires, the total response time for the effective response force (ERF) staffed with 8 firefighters and officers shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of establishing command/safety, providing a constant water supply, advancing fire attack lines, conducting victim search and rescue, initiating ventilation, completing utility control, completing overhaul and salvage operations, while providing two-in-two out capability for firefighter safety.

For 90 percent of all house (high risk) structure fires, the total response time for the effective response force (ERF) staffed with 17 firefighters and officers, 1 Lenexa battalion chief, 1 closest battalion chief, and 2 medical standby personnel shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of establishing command/safety, providing a constant water supply, advancing fire attack lines, conducting victim search and rescue, initiating ventilation, completing utility control, completing overhaul and salvage operations, while providing two-in-two out capability for firefighter safety. Note: House fire with a confirmed patient receive an additional 2 ALS transport personnel.

For 90 percent of all building (high risk) structure fires, the total response time for the effective response force (ERF) staffed with 20 firefighters and officers, 1 Lenexa battalion chief, 1 closest battalion chief, and 2 medical standby personnel shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of establishing command/safety, providing a constant water supply, advancing fire attack lines, conducting victim search and rescue, initiating ventilation, completing utility control, completing overhaul and salvage operations, while providing two-in-two out capability for firefighter safety. Note: Highrise plan activation includes an additional 32 personnel.

Maximum Risk Fire

First Due

For 90 percent of all Meritex Underground Complex (maximum risk) structure fires, the total response time for the arrival of the first-due heavy apparatus unit, staffed with 3 firefighters, shall be: 7 minutes 24 seconds in rural areas and 6 minutes 24 seconds in urban areas. The first-due unit shall be capable of providing 250 gallons of water, 1,250 gallons per minute (gpm) pumping capacity, initiating command/safety, providing two-in/two-out for firefighter safety, and advancing the first attack line flowing a minimum of 150 gallons per minute.

Effective Response Force

For 90 percent of all Meritex Underground Complex (maximum risk) structure fires, the total response time for the effective response force (ERF) staffed with 20 firefighters and officers, 1 Lenexa battalion chief, 1 closest battalion chief, and 2 medical standby personnel shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of establishing command/safety, providing a constant water supply, advancing fire attack lines, conducting victim search and rescue, initiating ventilation, completing utility control, completing overhaul and salvage operations, while providing two-in-two out capability for firefighter safety.

Emergency Medical Services Program

Low Risk EMS Benchmarks			FIRE	EMS	HAZMAT	TECH RESCUE	OTHER
Alarm Handling	Pick-up to Dispatch	Rural	1:04	1:04	1:04	1:04	1:04
		Urban	1:04	1:04	1:04	1:04	1:04
Turnout Time	Turnout Time 1st Unit	Rural	1:20	1:00	1:20	1:20	1:20
		Urban	1:20	1:00	1:20	1:20	1:20
Travel Time	Travel Time 1st Unit Distribution	Rural	5:00	5:00	5:00	5:00	5:00
		Urban	4:00	4:00	4:00	4:00	4:00
	Travel Time ERF Concentration	Rural	10:00	10:00	10:00	10:00	10:00
		Urban	8:00	8:00	8:00	8:00	8:00
Total Response Time	Total Response Time 1st Unit Distribution	Rural	7:24	7:04	7:24	7:24	7:24
		Urban	6:24	6:04	6:24	6:24	6:24
	Total Response Time ERF Concentration	Rural	12:24	12:04	12:24	12:24	12:24
		Urban	10:24	10:04	10:24	10:24	10:24

Table 157

Low Risk EMS

First Due

For 90 percent of all standby EMS (low risk) EMS incidents, the total response time for the arrival of the first-due unit, heavy apparatus staffed with 3 firefighters or squad unit staffed with 2 firefighters, shall be: 7 minutes 04 seconds in rural areas and 6 minutes 04 seconds in urban areas. The first due unit shall be capable of providing public assistance, providing lift assistance, conducting initial patient assessment, and determining the need for a medical transport response.

- Low risk EMS service demands are a non-emergency response risk. For this purpose, only non-emergent response data is reported.

Moderate Risk EMS

First Due

For 90 percent of emergency medical service EMS (moderate risk) responses, including ALS transfers, the total response time for the arrival of the first-due unit, ALS ambulance staffed with 2 paramedics, shall be: 7 minutes 04 seconds in rural areas and 6 minutes 04 seconds in urban areas. The first due unit shall be capable of assessing inter-facility transfer needs. Please note that ALS transfers are handled by Johnson County Med-Act.

For 90 percent of emergency medical service EMS (moderate risk) responses, including medical assists, medical/trauma incidents, CO medical incidents, and trauma plan, the total response time for the arrival of the first-due unit, 1 heavy apparatus staffed with 3 firefighters or squad unit staffed with 2 firefighters, shall be: 7 minutes 04 seconds in rural areas and 6 minutes 04 seconds in urban areas. The first due unit shall be capable of assessing scene safety, equipment needs, and treatment plan.

Effective Response Force (ERF)

The Lenexa Fire Department relies on Johnson County Med-Act, as a third-party transport provider, to complete the EMS effective response force (ERF) component. Through written agreement, the travel time standard of Johnson County Med-Act ALS transport unit is 8 minutes for 80 percent of all incidents.

For 90 percent of emergency medical service EMS (moderate risk) medical assist incident responses, the total response time for the arrival of the effective response force (ERF), 1 heavy apparatus staffed with 3 firefighters or squad unit staffed with 2 firefighters shall be: 12 minutes 04 seconds in rural areas and 10 minutes 04 seconds in urban areas. The effective response force shall be capable of providing advanced life support services and transportation to a medical facility.

For 90 percent of emergency medical service EMS (moderate risk) medical/trauma, non-breather C2, and injury accident (C1, C2, C3) incident responses, the total response time for the arrival of the effective response force (ERF), 1 heavy apparatus staffed with 3 firefighters or squad unit staffed with 2 firefighters and, 2 ALS transport personnel shall be: 12 minutes 04 seconds in rural areas and 10 minutes 04 seconds in urban areas. The effective response force shall be capable of providing advanced life support services and transportation to a medical facility.

For 90 percent of emergency medical service EMS (moderate risk) stabbing/GSW (C1 & C2) medical responses, the total response time for the arrival of the effective response force (ERF), 1 heavy apparatus staffed with 3 firefighters, squad unit staffed with 2 firefighters, 1 ALS battalion chief, and 2 ALS transport personnel shall be: 12 minutes 04 seconds in rural areas and 10 minutes 04 seconds in urban areas. The effective response force shall be capable of providing advanced life support services, monitoring atmospheric conditions, and transportation to a medical facility.

For 90 percent of emergency medical service EMS (moderate risk) carbon monoxide hazmat (C1, C2, C3) medical responses, the total response time for the arrival of the effective response force (ERF), 1 heavy apparatus staffed with 3 firefighters, squad unit staffed with 2 firefighters, and 2 ALS transport personnel shall be: 12 minutes 04 seconds in rural areas and 10 minutes 04 seconds in urban areas. The effective response force shall be capable of providing advanced life support services, monitoring atmospheric conditions, and transportation to a medical facility.

For 90 percent of emergency medical service EMS (moderate risk) medical/trauma C1C responses, the total response time for the arrival of the effective response force (ERF), 1 closest apparatus staffed with 3 firefighters, 1 Lenexa heavy apparatus staffed with 3 firefighter or squad unit staffed with 2 firefighters, and 2 ALS transport personnel shall be: 12 minutes 04 seconds in rural areas and 10 minutes 04 seconds in urban areas. The effective response force shall be capable of providing advanced life support services, monitoring atmospheric conditions, and transportation to a medical facility.

For 90 percent of emergency medical service EMS (moderate risk) trauma plan responses, the total response time for the arrival of the effective response force (ERF), 1 closest apparatus staffed with 3 firefighters, 1 Lenexa heavy apparatus staffed with 3 firefighter or squad unit staffed with 2 firefighters, 1 ALS battalion chief, 1 Lenexa battalion chief, and 2 ALS transport personnel shall be: 12 minutes 04 seconds in rural areas and 10 minutes 04 seconds in urban areas. The effective response force shall be capable of providing advanced life support services and transportation to a medical facility.

For 90 percent of emergency medical service EMS (moderate risk) CO medical C1C responses, the total response time for the arrival of the effective response force (ERF), 1 closest apparatus staffed with 3 firefighters, 1 Lenexa heavy apparatus staffed with 3 firefighter, 1 squad unit staffed with 2 firefighters, 1 ALS battalion chief, 1 Lenexa battalion chief, and 2 ALS transport personnel shall be: 12 minutes 04 seconds in rural areas and 10 minutes 04 seconds in urban areas. The effective response force shall be capable of providing advanced life support services, monitoring atmospheric conditions, and transportation to a medical facility.

High Risk EMS

First Due

For 90 percent of cardiac arrest “non-breather”, injury accident C1C, and MCI (high risk) EMS incidents, the total response time for the arrival of the first-due unit, heavy apparatus staffed with 3 firefighters or squad unit staffed with 2 firefighters, shall be: 7 minutes 04 seconds in rural areas and 6 minutes 04 seconds in urban areas. The effective response force shall be capable of providing advanced life support services and transportation to a medical facility.

For 90 percent of cardiac arrest “non-breather” (high risk) EMS incidents, the total response time for the arrival of the effective response force (ERF), heavy apparatus staffed with 3 firefighters, squad (if available) unit staffed with 2 firefighters or second closest heavy appratus, ALS battalion chief, Lenexa battalion chief, and 2 ALS transport personnel shall be: 12 minutes 04 seconds in rural areas and 10 minutes 04 seconds in urban areas. The effective response force shall be capable of providing advanced life support services, maintaining contact with medical control, and transportation to a medical facility.

For 90 percent of injury accidents C1C (high risk) EMS incidents, the total response time for the arrival of the effective response force (ERF), 2 heavy apparatus staffed with 6 firefighters, squad unit staffed with 2 firefighters, ALS battalion chief, Lenexa battalion chief, and 2 ALS transport personnel shall be: 12 minutes 04 seconds in rural areas and 10 minutes 04 seconds in urban areas. The effective response forceshall be capable of conducting a size-up, establishing command, establishing a safety officer, providing advanced life support services, establishing a safe zone, and transportation to a medical facility.

For 90 percent of mass casualty (high risk) EMS incidents, the total response time for the arrival of the effective response force (ERF), 5 heavy apparatus staffed with 15 firefighters, squad unit staffed with 2 firefighters, 2 ALS battalion chiefs, Lenexa battalion chief, and 10 ALS transport personnel shall be: 12 minutes 04 seconds in rural areas and 10 minutes 04 seconds in urban areas. The effective response force shall be capable of conducting a size-up, establishing command, establishing a safety officer, providing advanced life support services, establishing a safe zone, establishing a triage officer, and transportation to a medical facility.

Maximum Risk EMS

There were no maximum risk EMS incidents identified.

Hazardous Materials Services Program

Low Risk Hazmat Benchmarks			FIRE	EMS	HAZMAT	TECH RESCUE	OTHER
Alarm Handling	Pick-up to Dispatch	Rural	1:04	1:04	1:04	1:04	1:04
		Urban	1:04	1:04	1:04	1:04	1:04
Turnout Time	Turnout Time 1st Unit	Rural	1:20	1:00	1:20	1:20	1:20
		Urban	1:20	1:00	1:20	1:20	1:20
Travel Time	Travel Time 1st Unit Distribution	Rural	5:00	5:00	5:00	5:00	5:00
		Urban	4:00	4:00	4:00	4:00	4:00
	Travel Time ERF Concentration	Rural	10:00	10:00	10:00	10:00	10:00
		Urban	8:00	8:00	8:00	8:00	8:00
Total Response Time	Total Response Time 1st Unit Distribution	Rural	7:24	7:04	7:24	7:24	7:24
		Urban	6:24	6:04	6:24	6:24	6:24
	Total Response Time ERF Concentration	Rural	12:24	12:04	12:24	12:24	12:24
		Urban	10:24	10:04	10:24	10:24	10:24

Table 158

Low Risk Hazardous Materials

First Due

For 90 percent of all explosions, hazmat investigations, standby – gas leaks, spills, and oil tank battery (low risk) hazardous materials responses, the total response time for the arrival of the first-due heavy apparatus unit, staffed with 3 firefighters and officer, shall be: 7 minutes 24 seconds in rural areas and 6 minutes 24 seconds in urban areas. The first-due unit shall be capable of establishing command, assessing the situation to determine the presence of hazardous materials, estimating potential harm, monitoring atmospheric conditions, and beginning to manage risk through establishing a restricted area.

Please note that EOD incidents are handled by the Olathe Fire Department.

Effective Response Force

For 90 percent of all explosions, standby – gas leaks, spills, and oil tank battery (low risk) hazardous materials responses, the total response time for the arrival of the effective response force (ERF), staffed with 3 firefighters and officers shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of providing the knowledge, skills, and abilities to manage hazardous materials incidents in a safe and defensive manner.

For 90 percent of hazardous material investigations (low risk) hazardous materials responses, the total response time for the arrival of the effective response force (ERF), staffed with 5 firefighters and officers shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of providing the knowledge, skills, and abilities to manage hazardous materials incidents in a safe and defensive manner

Moderate Risk Hazardous Materials

First Due

For 90 percent of all carbon monoxide investigations, explosion modified incidents, hazmat modified incidents, and gas odor investigations (moderate risk) hazardous materials responses, the total response time for the arrival of the first-due heavy apparatus unit, staffed with 3 firefighters, shall be 7 minutes 24 seconds in rural areas and 6 minutes 24 seconds in urban areas. The first-due unit shall be capable of establishing command, assessing the situation to determine the presence of hazardous materials, estimating potential harm, monitoring atmospheric conditions, and establishing a restricted area.

Effective Response Force

For 90 percent of all carbon monoxide investigations (moderate risk) hazardous materials responses, the total response time for the arrival of the effective response force (ERF), staffed with 3 firefighters and officers shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of providing the knowledge, skills, and abilities to manage hazardous materials incidents in a safe and defensive manner.

For 90 percent of all gas odor investigations (moderate risk) hazardous materials responses, the total response time for the arrival of the effective response force (ERF), staffed with 6 firefighters and officers shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of providing the knowledge, skills, and abilities to manage hazardous materials incidents in a safe and defensive manner.

For 90 percent of all hazmat modified (moderate risk) hazardous materials responses, the total response time for the arrival of the effective response force (ERF), staffed with 6 firefighters and officers, and 1 Lenexa battalion chief shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of providing the knowledge, skills, and abilities to manage hazardous materials incidents in a safe and defensive manner.

For 90 percent of all explosion modified (moderate risk) hazardous materials responses, the total response time for the arrival of the effective response force (ERF), staffed with 8 firefighters and officers shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of providing the knowledge, skills, and abilities to manage hazardous materials incidents in a safe and defensive manner.

High Risk Hazardous Materials

First Due

For 90 percent of all hazmat incidents (high risk) responses, the total response time for the arrival of the first-due heavy apparatus unit, staffed with 3 firefighters and officers, shall be: 7 minutes 24 seconds in rural areas and 6 minutes 24 seconds in urban areas. The first-due unit shall be capable of establishing command, assessing the situation to determine the presence of hazardous materials, estimating potential harm, monitoring atmospheric conditions, and establishing a restricted area.

Effective Response Force

For 90 percent of all hazmat incidents (high risk) responses, the total response time for the arrival of the effective response force (ERF), staffed with 8 firefighters and officers, 1 Lenexa battalion chief, 1 ALS battalion chief, and 2 ALS transport personnel shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of providing the knowledge, skills, and abilities to manage hazardous materials incidents in a safe and defensive manner.

Maximum Risk Hazardous Materials

First Due

For 90 percent of all train derailment (maximum risk) responses, the total response time for the arrival of the first-due heavy apparatus unit, staffed with 3 firefighters, shall be: 7 minutes 24 seconds in rural areas and 6 minutes 24 seconds in urban areas. The first-due unit shall be capable of establishing command, assessing the situation to determine the presence of hazardous materials, estimating potential harm, monitoring atmospheric conditions, and establishing a restricted area.

For 90 percent of all train derailment (maximum risk) responses, the total response time for the arrival of the effective response force (ERF), staffed with 14 firefighters and officers, 1 Lenexa battalion chief, 1 ALS battalion chief, 2 ALS transport personnel, and the OPFD Hazmat Taskforce shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of establishing communications and providing the knowledge, skills, and abilities to manage hazardous materials incidents in a safe and defensive manner.

Technical Rescue Services Program

Low Risk Tech Rescue Benchmarks			FIRE	EMS	HAZMAT	TECH RESCUE	OTHER
Alarm Handling	Pick-up to Dispatch	Rural	1:04	1:04	1:04	1:04	1:04
		Urban	1:04	1:04	1:04	1:04	1:04
Turnout Time	Turnout Time 1st Unit	Rural	1:20	1:00	1:20	1:20	1:20
		Urban	1:20	1:00	1:20	1:20	1:20
Travel Time	Travel Time 1st Unit Distribution	Rural	5:00	5:00	5:00	5:00	5:00
		Urban	4:00	4:00	4:00	4:00	4:00
	Travel Time ERF Concentration	Rural	10:00	10:00	10:00	10:00	10:00
		Urban	8:00	8:00	8:00	8:00	8:00
Total Response Time	Total Response Time 1st Unit Distribution	Rural	7:24	7:04	7:24	7:24	7:24
		Urban	6:24	6:04	6:24	6:24	6:24
	Total Response Time ERF Concentration	Rural	12:24	12:04	12:24	12:24	12:24
		Urban	10:24	10:04	10:24	10:24	10:24

Table 159

Low Risk Technical Rescue

First Due

For 90 percent of all entrapment C1, C2, and C3 incident (low risk) responses, the total response time for the arrival of the first-due heavy apparatus unit, staffed with 2 firefighters, shall be: 7 minutes 24 seconds in rural areas and 6 minutes 24 seconds in urban areas. The first-due unit shall be capable of initiating command, assessing the situation, determining additional resource needs, and providing advanced life support to any victim without endangering response personnel.

Effective Response Force

For 90 percent of all entrapment C1, C2, and C3 incident (low risk) responses, the total response time for the arrival of the effective response force (ERF), staffed with 2 firefighters and officers and 2 ALS transport personnel shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of initiating command, assessing the situation, determining additional resource needs, conducting technical rescue, and providing advanced life support to any victim without endangering response personnel.

Moderate Risk Technical Rescue

First Due

For 90 percent of all collapse modified (moderate risk) technical rescue responses, the total response time for the arrival of the first-due heavy apparatus unit, staffed with 3 firefighters, shall be: 7 minutes 24 seconds in rural areas and 6 minutes 24 seconds in urban areas. The first-due unit shall be capable of initiating command, assessing the situation, determining additional resource needs, and providing advanced life support to any victim without endangering response personnel.

Effective Response Force

For 90 percent of all collapsed modified (moderate risk) technical rescue responses, the total response time for the arrival of the effective response force (ERF), staffed with 6 firefighters and officers shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of initiating command, assessing the situation, determining additional resource needs, conducting technical rescue, and providing advanced life support to any victim without endangering response personnel.

For 90 percent of all ice rescue and water rescue (moderate risk) technical rescue responses, the total response time for the arrival of the effective response force (ERF), staffed with 5 firefighters and officers, 1 Lenexa battalion chief, 1 ALS battalion chief, and 2 ALS transport personnel shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of initiating command, assessing the situation, determining additional resource needs, conducting technical rescue, and providing advanced life support to any victim without endangering response personnel.

For 90 percent of all confined space, entrapment C1C, and high angle rescue (moderate risk) technical rescue responses, the total response time for the arrival of the effective response force (ERF), staffed with 8 firefighters and officers, 1 Lenexa battalion chief, 1 ALS battalion chief, and 2 ALS transport personnel shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of initiating command, assessing the situation, determining additional resource needs, conducting technical rescue, and providing advanced life support to any victim without endangering response personnel.

For 90 percent of all collapse rescue and trench rescue (moderate risk) technical rescue responses, the total response time for the arrival of the effective response force (ERF), staffed with 10 firefighters and officers, 1 Lenexa battalion chief, 1 ALS battalion chief, and 2 ALS transport personnel shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of initiating command, assessing the situation, determining additional resource needs, conducting technical rescue, and providing advanced life support to any victim without endangering response personnel.

High Risk Technical Rescue

First Due

For 90 percent of all injury accident – collapse and injury accident - extrication (high risk) response, the total response time for the arrival of the first-due heavy apparatus unit, staffed with 3 firefighters, shall be: 7 minutes 24 seconds in rural areas and 6 minutes 24 seconds in urban areas. The first-due unit shall be capable of initiating command, assessing the situation, determining additional resource needs, and providing advanced life support to any victim without endangering response personnel.

Effective Response Force

For 90 percent of all injury accident - extrication (high risk) technical rescue response, the total response time for the arrival of the effective response force (ERF), staffed with 8 firefighters and officers, 1 Lenexa battalion chief, 1 ALS battalion chief, and 2 ALS transport personnel shall be: 12 minutes 24 seconds in the rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of initiating command, assessing the situation, determining additional resource needs, conducting technical rescue, and providing advanced life support to any victim without endangering response personnel.

For 90 percent of all injury accident - collapse (high risk) technical rescue response, the total response time for the arrival of the effective response force (ERF), staffed with 10 firefighters and officers, 1 Lenexa battalion chief, 1 ALS battalion chief, and 2 ALS transport personnel shall be: 12 minutes 24 seconds in the rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of initiating command, assessing the situation, determining additional resource needs, conducting technical rescue, and providing advanced life support to any victim without endangering response personnel.

Maximum Risk Technical Rescue

There were no maximum risk TECH Rescue incidents identified in this risk category.

Other Services Program

Low Risk Other Benchmarks			FIRE	EMS	HAZMAT	TECH RESCUE	OTHER
Alarm Handling	Pick-up to Dispatch	Rural	1:04	1:04	1:04	1:04	1:04
		Urban	1:04	1:04	1:04	1:04	1:04
Turnout Time	Turnout Time 1st Unit	Rural	1:20	1:00	1:20	1:20	1:20
		Urban	1:20	1:00	1:20	1:20	1:20
Travel Time	Travel Time 1st Unit Distribution	Rural	5:00	5:00	5:00	5:00	5:00
		Urban	4:00	4:00	4:00	4:00	4:00
	Travel Time ERF Concentration	Rural	10:00	10:00	10:00	10:00	10:00
		Urban	8:00	8:00	8:00	8:00	8:00
Total Response Time	Total Response Time 1st Unit Distribution	Rural	7:24	7:04	7:24	7:24	7:24
		Urban	6:24	6:04	6:24	6:24	6:24
	Total Response Time ERF Concentration	Rural	12:24	12:04	12:24	12:24	12:24
		Urban	10:24	10:04	10:24	10:24	10:24

Table 160

Low Risk Other

First Due

For 90 percent of all aircraft standby, elevator assist, lightning strike investigation, mutual aid assistance, standbys, and water assist (low risk) other responses, the total response time for the arrival of the first-due heavy apparatus unit or squad, staffed with 3 firefighters and officers, shall be: 7 minutes 24 seconds in rural areas and 6 minutes 24 seconds in urban areas. The first-due unit shall be capable of establishing command and determining if additional resources are needed.

Effective Response Force

For 90 percent of all aircraft standby, elevator assist, lightning strike investigations, mutual aid assistance, and standbys (low risk) other responses, the total response time for the arrival of the effective response force (ERF), staffed with 3 firefighters and officers shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of investigating or be prepared to render assistance.

For 90 percent of all standy with police (low risk) other responses, the total response time for the arrival of the effective response force (ERF), staffed with 3 firefighters and officers, and 1 Lenexa battalion chief shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of investigating or be prepared to render assistance.

For 90 percent of water assist (low risk) other responses, the total response time for the arrival of the effective response force (ERF), staffed with 5 firefighters and officers shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of investigating or be prepared to render assistance.

Moderate Risk Other

First Due

For 90 percent of all assists, automatic alarms, investigations, and lift assists (moderate risk) other responses, the total response time for the arrival of the first-due heavy apparatus unit, staffed with 3 firefighters, shall be: 7 minutes 24 seconds in rural areas and 6 minutes 24 seconds in urban areas. The first-due unit shall be capable of establishing command, reporting a size-up, and determine if additional resources are needed.

Effective Response Force

For 90 percent of all assists, automatic alarms, investigations, and lift assists (moderate risk) other responses, the total response time for the arrival of the effective response force (ERF), staffed with 3 firefighters and officers shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of providing appropriate assistance as needed. Note: Target hazard occupancies receive an additional 5 personnel for automatic alarms.

High Risk Other

First Due

For 90 percent of all aircraft emergency, hostile event, and mayday (high risk) responses, the total response time for the arrival of the first-due heavy apparatus unit, staffed with 3 firefighters, shall be: 7 minutes 24 seconds in rural areas and 6 minutes 24 seconds in urban areas. The first-due unit shall be capable of establishing command, reporting a scene size-up, and requesting additional resources.

Effective Response Force

For 90 percent of all aircraft emergency (high risk) responses, the total response time for the arrival of the effective response force (ERF), staffed with 14 firefighters and officers, 1 Lenexa battalion chief, 1 ALS battalion chief, and 2 ALS transport personnel shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of establishing a perimeter, conducting fire suppression activities, providing emergency medical assessments, and establishing a command post.

For 90 percent of all mayday (high risk) responses, the total response time for the arrival of the effective response force (ERF), staffed with 15 firefighters and officers, 1 closest battalion chief, 1 ALS battalion chief, 2 ALS transport personnel, 1 air supply unit, 1 communication unit, and 1 rehab unit shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of conducting fire suppression activities, providing emergency medical assessments, and conducting resuce activities. Note: a mayday response supplements the structure fire response already on scene.

For 90 percent of all hostile event (high risk) responses, the total response time for the arrival of the effective response force (ERF), staffed with 17 firefighters and officers, 1 Lenexa battalion chief, 1 ALS battalion chief, and 10 ALS transport personnel shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of establishing a perimeter, conducting fire suppression activities, providing emergency medical assessments, and establishing a command post.

Maximum Risk Other

First Due

For 90 percent of all critical infrastructure and tornado strike (maximum risk) responses, the total response time for the arrival of the first-due heavy apparatus unit, staffed with 3 firefighters, shall be: 7 minutes 24 seconds in rural areas and 6 minutes 24 seconds in urban areas. The first-due unit shall be capable of establishing command, reporting a scene size-up, and requesting additional resources.

Effective Response Force

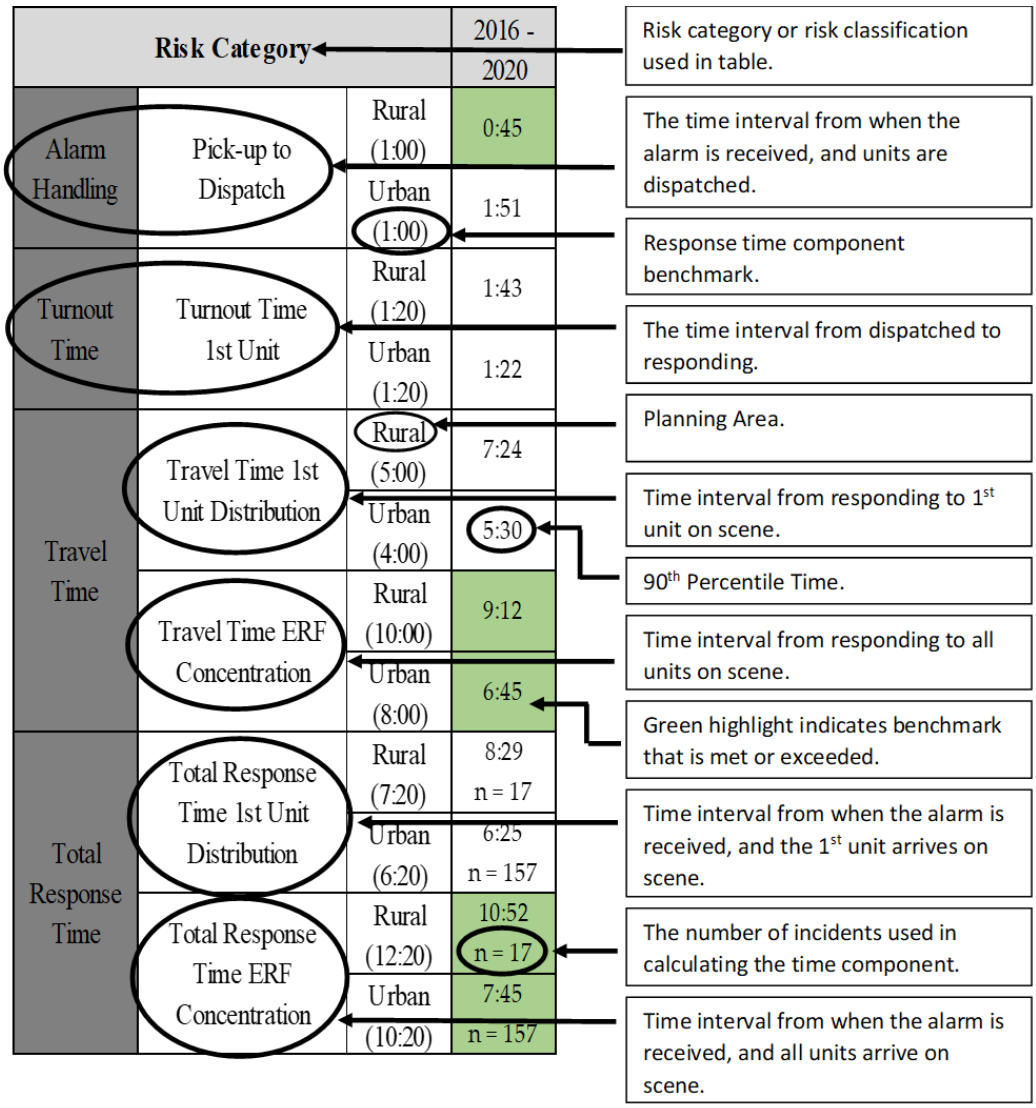
For 90 percent of all critical infrastructure and tornado strike (maximum risk) responses, the total response time for the arrival of the effective response force (ERF), staffed with 14 firefighters and officers and 1 Lenexa battalion chief, 1 ALS battalion chief, and 2 ALS transport personnel shall be: 12 minutes 24 seconds in rural areas and 10 minutes 24 seconds in urban areas. The ERF shall be capable of establishing a perimeter, conducting fire suppression activities, providing emergency medical assessments, conducting search and rescue, and establishing a command post.

Performance Objectives – Baselines

Baseline Methodology - Baseline standards were calculated using the 2017-2021 cumulative incident response data at the 90th percentile. The data was grouped by classification, incident type and risk. To illustrate the overall response time capabilities of the Lenexa Fire Department (LFD), response times are listed by city, planning area, and planning zone (grid).

To calculate response time data, the LFD has adopted the method provided by the Center for Fire Accreditation International (CFAI) referred to as "Definition Two." The definition states: ***The highest value in the lowest X percent of the data. In the case of data set of 100, the 90th percentile would be the highest value in the lowest 90 percent of the data, so it would be the 90th value when sorted in rank order. In the data set of 10, it would be the ninth value.***

Explanation of information found within the baseline performance tables.



Baseline Performance for Structure Fires (All)

All – Structure Fires			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	Pick-up to Dispatch	Rural (1:04)	2:11	2:01	4:37	2:11	2:52	1:18
		Urban (1:04)	2:07	1:42	2:32	2:31	1:13	1:28
Turnout Time	Turnout Time 1st Unit	Rural (1:20)	1:10	0:55	1:23	1:06	1:25	1:20
		Urban (1:20)	1:07	1:18	0:54	0:50	1:10	1:07
Travel Time	Travel Time 1st Unit Distribution	Rural (5:00)	5:37	4:40	5:37	4:39	2:34	6:31
		Urban (4:00)	4:16	4:08	4:50	3:11	4:16	4:38
	Travel Time ERF Concentration	Rural (10:00)	10:34	10:34	5:37	10:42	2:34	9:00
		Urban (8:00)	10:15	4:08	10:15	10:35	14:44	9:07
Total Response Time	Total Response Time 1st Unit Distribution	Rural (7:24)	7:00 n = 12	5:49 n = 4	7:00 n = 1	5:57 n = 5	3:44 n = 1	7:40 n = 1
		Urban (6:24)	5:02 n = 25	5:36 n = 1	4:54 n = 6	3:37 n = 2	5:02 n = 8	5:30 n = 8
	Total Response Time ERF Concentration	Rural (12:24)	11:20 n = 12	11:51 n = 4	7:00 n = 1	11:20 n = 5	3:44 n = 1	10:21 n = 1
		Urban (10:24)	11:10 n = 25	5:36 n = 1	11:58 n = 6	11:10 n = 2	15:55 n = 8	10:30 n = 8

Table 161

Baseline Performance for All Fires (Urban/Rural)

All - Fire			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	Pick-up to Dispatch	Rural (1:04)	2:11	2:26	2:45	2:41	1:23	1:20
		Urban (1:04)	2:05	2:15	2:15	2:21	1:21	1:19
Turnout Time	Turnout Time 1st Unit	Rural (1:20)	1:19	1:14	1:16	1:22	1:16	1:20
		Urban (1:20)	1:21	1:25	1:24	1:11	1:22	1:21
Travel Time	Travel Time 1st Unit Distribution	Rural (5:00)	5:46	4:53	6:30	5:26	6:16	6:24
		Urban (4:00)	4:58	4:46	5:18	5:14	5:21	4:57
	Travel Time ERF Concentration	Rural (10:00)	8:15	8:09	6:30	10:01	8:15	7:14
		Urban (8:00)	6:45	5:56	9:01	6:03	6:45	5:59
Total Response Time	Total Response Time 1st Unit Distribution	Rural (7:24)	6:52 n = 104	5:53 n = 20	7:34 n = 20	6:04 n = 19	7:29 n = 27	7:03 n = 18
		Urban (6:24)	6:01 n = 207	5:41 n = 42	6:25 n = 36	5:49 n = 31	6:06 n = 51	5:40 n = 47
	Total Response Time ERF Concentration	Rural (12:24)	9:32 n = 104	9:34 n = 20	7:34 n = 20	11:16 n = 19	9:25 n = 27	8:13 n = 18
		Urban (10:24)	7:56 n = 207	6:40 n = 42	9:44 n = 36	7:36 n = 31	7:56 n = 51	7:33 n = 47

Table 162

Baseline Performance for Low-Risk Fires

Low Risk Fire			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	Pick-up to Dispatch	Rural (1:04)	2:23 n = 196	2:16 n = 22	2:45 n = 41	3:10 n = 42	1:23 n = 45	1:51 n = 46
		Urban (1:04)	2:16 n = 289	1:56 n = 31	2:24 n = 62	2:25 n = 51	1:33 n = 68	1:38 n = 77
Turnout Time	Turnout Time 1st Unit	Rural (1:20)	1:23 n = 195	1:18 n = 22	1:21 n = 41	1:34 n = 41	1:22 n = 45	1:28 n = 46
		Urban (1:20)	1:24 n = 285	1:15 n = 30	1:24 n = 61	1:24 n = 51	1:30 n = 67	1:30 n = 76
Travel Time	Travel Time 1st Unit Distribution	Rural (5:00)	6:00 n = 112	5:38 n = 10	6:16 n = 23	6:00 n = 25	6:16 n = 30	5:42 n = 24
		Urban (4:00)	5:26 n = 186	5:15 n = 24	5:34 n = 36	5:26 n = 31	5:53 n = 45	5:07 n = 50
	Travel Time ERF Concentration	Rural (10:00)	6:32 n = 112	5:51 n = 10	6:16 n = 23	6:58 n = 25	6:48 n = 30	6:13 n = 24
		Urban (8:00)	6:05 n = 186	6:03 n = 24	6:45 n = 36	6:10 n = 31	6:37 n = 45	5:32 n = 50
Total Response Time	Total Response Time 1st Unit Distribution	Rural (7:24)	7:02 n = 112	6:05 n = 10	7:10 n = 23	7:01 n = 25	7:29 n = 30	6:47 n = 24
		Urban (6:24)	6:25 n = 186	6:10 n = 24	6:59 n = 36	6:20 n = 31	7:10 n = 45	6:08 n = 50
	Total Response Time ERF Concentration	Rural (12:24)	7:36 n = 112	6:57 n = 10	7:22 n = 23	7:21 n = 25	7:40 n = 30	7:43 n = 24
		Urban (10:24)	7:30 n = 186	7:24 n = 24	7:41 n = 36	7:42 n = 31	7:30 n = 45	6:56 n = 50

Table 163

Baseline Performance for Moderate-Risk Fires

Moderate Risk Fire			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	Pick-up to Dispatch	Rural (1:04)	1:51 n = 30	1:50 n = 1	1:59 n = 5	1:51 n = 2	1:51 n = 12	1:15 n = 10
		Urban (1:04)	1:48 n = 41	1:51 n = 2	3:15 n = 6	1:43 n = 10	1:20 n = 9	0:56 n = 14
Turnout Time	Turnout Time 1st Unit	Rural (1:20)	1:16 n = 30	1:34 n = 1	1:05 n = 5	0:21 n = 2	1:06 n = 12	1:16 n = 10
		Urban (1:20)	1:14 n = 41	1:05 n = 2	1:07 n = 6	0:57 n = 10	1:43 n = 9	1:17 n = 14
Travel Time	Travel Time 1st Unit Distribution	Rural (5:00)	7:10 n = 16	NA	NA	7:10 n = 1	5:36 n = 10	7:48 n = 5
		Urban (4:00)	3:52 n = 20	3:23 n = 1	3:44 n = 1	3:23 n = 4	4:15 n = 5	4:15 n = 9
	Travel Time ERF Concentration	Rural (10:00)	9:19 n = 16	NA	NA	9:14 n = 1	8:15 n = 10	13:03 n = 5
		Urban (8:00)	6:32 n = 20	3:40 n = 1	4:31 n = 1	8:01 n = 4	6:32 n = 5	7:19 n = 9
Total Response Time	Total Response Time 1st Unit Distribution	Rural (7:24)	8:09 n = 16	NA	NA	8:09 n = 1	6:35 n = 10	8:15 n = 5
		Urban (6:24)	4:48 n = 20	4:44 n = 1	4:17 n = 1	4:11 n = 4	5:06 n = 5	4:48 n = 9
	Total Response Time ERF Concentration	Rural (12:24)	9:40 n = 16	NA	NA	9:32 n = 1	9:25 n = 10	13:15 n = 5
		Urban (10:24)	7:56 n = 20	5:25 n = 1	5:24 n = 1	9:08 n = 4	7:56 n = 5	8:29 n = 9

Table 164

Baseline Performance for High-Risk Fires

High Risk Fire			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	Pick-up to Dispatch	Rural (1:04)	3:42 n = 197	3:20 n = 24	4:21 n = 49	3:32 n = 57	8:22 n = 38	2:43 n = 29
		Urban (1:04)	2:11 n = 196	2:25 n = 25	2:51 n = 47	2:11 n = 37	1:49 n = 37	1:26 n = 50
Turnout Time	Turnout Time 1st Unit	Rural (1:20)	1:20 n = 197	1:08 n = 24	1:18 n = 49	1:16 n = 57	1:27 n = 38	1:20 n = 29
		Urban (1:20)	1:10 n = 196	1:15 n = 25	1:01 n = 47	1:03 n = 37	1:25 n = 37	1:07 n = 50
Travel Time	Travel Time 1st Unit Distribution	Rural (5:00)	6:48 n = 84	6:21 n = 11	6:57 n = 13	5:40 n = 24	6:14 n = 21	6:32 n = 15
		Urban (4:00)	4:45 n = 66	4:24 n = 6	4:50 n = 13	4:45 n = 8	4:30 n = 21	4:46 n = 18
	Travel Time ERF Concentration	Rural (10:00)	8:49 n = 84	9:01 n = 11	11:05 n = 13	9:19 n = 24	6:54 n = 21	7:14 n = 15
		Urban (8:00)	9:07 n = 66	8:58 n = 6	9:32 n = 13	10:42 n = 8	6:56 n = 21	7:02 n = 18
Total Response Time	Total Response Time 1st Unit Distribution	Rural (7:24)	7:51 n = 84	7:30 n = 11	8:11 n = 13	6:47 n = 24	7:34 n = 21	7:46 n = 15
		Urban (6:24)	5:36 n = 66	5:36 n = 6	4:54 n = 13	5:17 n = 8	5:20 n = 21	5:40 n = 18
	Total Response Time ERF Concentration	Rural (12:24)	10:00 n = 84	10:34 n = 11	11:59 n = 13	9:57 n = 24	8:11 n = 21	8:37 n = 15
		Urban (10:24)	10:30 n = 66	10:37 n = 6	10:17 n = 13	11:36 n = 8	7:59 n = 21	8:31 n = 18

Table 165

Baseline Performance for EMS (All)

All - EMS			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	Pick-up to Dispatch	Rural (1:04)	2:09	2:24	2:49	1:28	1:08	1:18
		Urban (1:04)	2:03	2:19	2:42	1:26	1:08	1:13
Turnout Time	Turnout Time 1st Unit	Rural (1:00)	1:11	1:13	1:11	1:11	1:12	1:10
		Urban (1:00)	1:04	1:11	1:04	0:59	1:02	1:01
Travel Time	Travel Time 1st Unit Distribution	Rural (5:00)	5:47	5:35	5:40	5:52	5:50	5:55
		Urban (4:00)	4:38	4:20	4:28	4:48	4:46	4:48
	Travel Time ERF Concentration	Rural (10:00)	8:34	8:46	8:31	8:49	8:26	8:14
		Urban (8:00)	7:33	7:34	7:25	7:57	7:33	7:16
Total Response Time	Total Response Time 1st Unit Distribution	Rural (7:04)	6:41 n = 2784	6:36 n = 612	6:39 n = 524	6:38 n = 576	6:51 n = 541	6:44 n = 531
		Urban (6:04)	5:29 n = 7704	5:13 n = 1558	5:18 n = 1429	5:33 n = 1481	5:34 n = 1630	5:35 n = 1606
	Total Response Time ERF Concentration	Rural (12:04)	9:34 n = 2779	9:49 n = 611	9:39 n = 523	9:43 n = 575	9:23 n = 540	9:13 n = 530
		Urban (10:04)	8:25 n = 7696	8:33 n = 1556	8:20 n = 1429	8:46 n = 1480	8:18 n = 1628	8:10 n = 1603

Table 166

Baseline Performance for EMS Low Risk

Low Risk EMS			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	Pick-up to Dispatch	Rural (1:04)	1:50 n = 9	1:50 n = 5	NA	0:52 n = 1	1:14 n = 2	0:45 n = 1
		Urban (1:04)	2:36 n = 13	1:39 n = 1	NA	1:49 n = 2	1:06 n = 4	4:39 n = 6
Turnout Time	Turnout Time 1st Unit	Rural (1:00)	2:30 n = 9	1:19 n = 5	NA	0:09 n = 1	2:30 n = 2	0:24 n = 1
		Urban (1:00)	0:38 n = 12	0:03 n = 1	NA	0:29 n = 2	0:09 n = 4	0:46 n = 5
Travel Time	Travel Time 1st Unit Distribution	Rural (5:00)	NA	NA	NA	NA	NA	NA
		Urban (4:00)	NA	NA	NA	NA	NA	NA
	Travel Time ERF Concentration	Rural (10:00)	NA	NA	NA	NA	NA	NA
		Urban (8:00)	NA	NA	NA	NA	NA	NA
Total Response Time	Total Response Time 1st Unit Distribution	Rural (7:04)	NA	NA	NA	NA	NA	NA
		Urban (6:04)	NA	NA	NA	NA	NA	NA
	Total Response Time ERF Concentration	Rural (12:04)	NA	NA	NA	NA	NA	NA
		Urban (10:04)	NA	NA	NA	NA	NA	NA

Table 167

Baseline Performance for EMS Moderate Risk

Moderate Risk EMS			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	Pick-up to Dispatch	Rural (1:04)	2:10 n = 5515	2:27 n = 722	2:51 n = 1165	1:36 n = 1291	1:14 n = 1217	1:25 n = 1120
		Urban (1:04)	1:59 n = 13991	2:14 n = 1673	2:42 n = 2942	1:25 n = 3137	1:08 n = 3244	1:13 n = 2995
Turnout Time	Turnout Time 1st Unit	Rural (1:00)	1:14 n = 5497	1:17 n = 717	1:14 n = 1162	1:12 n = 1286	1:14 n = 1214	1:13 n = 1118
		Urban (1:00)	1:03 n = 13964	1:12 n = 1670	1:05 n = 2933	0:59 n = 3131	1:03 n = 3241	1:01 n = 2989
Travel Time	Travel Time 1st Unit Distribution	Rural (5:00)	5:54 n = 2639	6:00 n = 356	5:44 n = 548	5:56 n = 614	5:54 n = 569	5:52 n = 552
		Urban (4:00)	4:41 n = 6932	4:22 n = 799	4:28 n = 1428	4:48 n = 1490	4:46 n = 1628	4:49 n = 1587
	Travel Time ERF Concentration	Rural (10:00)	8:20 n = 2634	8:01 n = 355	8:22 n = 547	8:41 n = 613	8:21 n = 568	8:08 n = 551
		Urban (8:00)	7:29 n = 6925	7:38 n = 798	7:18 n = 1428	7:56 n = 1489	7:32 n = 1626	7:12 n = 1584
Total Response Time	Total Response Time 1st Unit Distribution	Rural (7:04)	6:51 n = 2639	6:57 n = 356	6:45 n = 548	6:55 n = 614	6:55 n = 569	6:44 n = 552
		Urban (6:04)	5:31 n = 6932	5:20 n = 799	5:19 n = 1428	5:34 n = 1490	5:36 n = 1628	5:35 n = 1587
	Total Response Time ERF Concentration	Rural (12:04)	9:17 n = 2634	8:58 n = 355	9:23 n = 547	9:39 n = 613	9:23 n = 568	9:02 n = 551
		Urban (10:04)	8:19 n = 6925	8:41 n = 798	8:10 n = 1428	8:44 n = 1489	8:16 n = 1626	7:59 n = 1584

Table 168

Baseline Performance for EMS High Risk

High Risk EMS			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	Pick-up to Dispatch	Rural (1:04)	1:56 n = 192	2:07 n = 31	2:05 n = 41	1:07 n = 32	1:39 n = 49	1:44 n = 39
		Urban (1:04)	1:48 n = 330	1:59 n = 46	2:18 n = 73	1:36 n = 55	1:25 n = 72	1:20 n = 84
Turnout Time	Turnout Time 1st Unit	Rural (1:00)	1:08 n = 192	0:59 n = 31	1:00 n = 41	1:06 n = 32	1:15 n = 49	1:19 n = 39
		Urban (1:00)	1:03 n = 330	1:03 n = 46	1:07 n = 73	0:58 n = 55	0:56 n = 72	0:59 n = 84
Travel Time	Travel Time 1st Unit Distribution	Rural (5:00)	6:30 n = 86	4:36 n = 10	7:33 n = 23	6:23 n = 15	6:21 n = 21	6:30 n = 17
		Urban (4:00)	4:45 n = 139	3:46 n = 18	4:34 n = 29	4:28 n = 24	4:57 n = 28	4:32 n = 40
	Travel Time ERF Concentration	Rural (10:00)	11:13 n = 85	9:57 n = 10	15:02 n = 23	12:30 n = 15	9:52 n = 21	10:03 n = 16
		Urban (8:00)	10:27 n = 139	10:51 n = 18	16:11 n = 29	8:09 n = 24	9:50 n = 28	10:01 n = 40
Total Response Time	Total Response Time 1st Unit Distribution	Rural (7:04)	7:31 n = 86	5:54 n = 10	8:41 n = 23	6:54 n = 15	7:31 n = 21	7:25 n = 17
		Urban (6:04)	5:28 n = 139	5:25 n = 18	5:34 n = 29	4:58 n = 24	6:01 n = 28	5:28 n = 40
	Total Response Time ERF Concentration	Rural (12:04)	12:07 n = 85	10:28 n = 10	16:29 n = 23	14:42 n = 15	10:46 n = 21	10:45 n = 16
		Urban (10:04)	11:10 n = 139	11:22 n = 18	17:58 n = 29	9:31 n = 24	10:40 n = 28	11:10 n = 40

Table 169

Baseline Performance for All Hazardous Materials (Urban/Rural)

All - HazMat			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	Pick-up to Dispatch	Rural (1:04)	2:07	1:55	2:26	2:18	1:15	1:34
		Urban (1:04)	2:02	1:57	2:13	2:30	1:13	1:37
Turnout Time	Turnout Time 1st Unit	Rural (1:20)	1:23	1:25	1:16	1:23	1:25	1:22
		Urban (1:20)	1:21	1:30	1:23	1:17	1:20	1:19
Travel Time	Travel Time 1st Unit Distribution	Rural (5:00)	7:11	8:06	5:47	7:02	6:13	7:21
		Urban (4:00)	5:36	4:58	5:34	5:46	5:57	5:28
	Travel Time ERF Concentration	Rural (10:00)	7:21	8:06	7:09	7:02	7:02	7:26
		Urban (8:00)	6:21	5:56	6:21	6:59	6:36	5:48
Total Response Time	Total Response Time 1st Unit Distribution	Rural (7:24)	8:15 n = 91	9:10 n = 20	6:57 n = 15	8:01 n = 20	7:24 n = 15	8:14 n = 21
		Urban (6:24)	6:41 n = 206	6:16 n = 31	6:35 n = 48	6:49 n = 33	7:05 n = 42	6:38 n = 52
	Total Response Time ERF Concentration	Rural (12:24)	8:23 n = 91	9:10 n = 20	8:17 n = 15	8:04 n = 20	8:07 n = 15	8:23 n = 21
		Urban (10:24)	7:26 n = 205	7:29 n = 30	7:15 n = 48	8:14 n = 33	7:27 n = 42	6:55 n = 52

Table 170

Baseline Performance for Hazardous Materials Low Risk

Low Risk HazMat			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	Pick-up to Dispatch	Rural (1:04)	1:54 n = 97	1:54 n = 15	2:26 n = 13	2:07 n = 20	1:15 n = 18	1:42 n = 31
		Urban (1:04)	1:58 n = 132	1:11 n = 3	2:04 n = 27	2:52 n = 32	1:31 n = 38	1:14 n = 32
Turnout Time	Turnout Time 1st Unit	Rural (1:20)	1:22 n = 95	1:17 n = 15	1:27 n = 12	1:19 n = 20	1:22 n = 17	1:20 n = 31
		Urban (1:20)	1:22 n = 128	1:33 n = 3	1:34 n = 26	1:15 n = 31	1:17 n = 36	1:16 n = 32
Travel Time	Travel Time 1st Unit Distribution	Rural (5:00)	8:14 n = 29	9:23 n = 7	7:09 n = 6	7:02 n = 4	4:31 n = 1	7:30 n = 11
		Urban (4:00)	6:21 n = 60	4:53 n = 1	5:56 n = 14	6:41 n = 15	7:02 n = 16	6:48 n = 14
	Travel Time ERF Concentration	Rural (10:00)	8:14 n = 29	9:23 n = 7	7:09 n = 6	7:02 n = 4	4:31 n = 1	7:30 n = 11
		Urban (8:00)	6:21 n = 60	4:53 n = 1	5:56 n = 14	6:59 n = 15	7:02 n = 16	6:48 n = 14
Total Response Time	Total Response Time 1st Unit Distribution	Rural (7:24)	9:27 n = 29	10:36 n = 7	8:17 n = 6	7:17 n = 4	5:45 n = 1	8:14 n = 11
		Urban (6:24)	7:04 n = 60	5:34 n = 1	6:55 n = 14	7:47 n = 15	7:20 n = 16	7:37 n = 14
	Total Response Time ERF Concentration	Rural (12:24)	9:27 n = 29	10:36 n = 7	8:17 n = 6	7:17 n = 4	5:45 n = 1	8:14 n = 11
		Urban (10:24)	7:04 n = 60	5:34 n = 1	6:55 n = 14	8:14 n = 15	7:20 n = 16	7:37 n = 14

Table 171

Baseline Performance for Hazardous Materials Moderate Risk

Moderate Risk HazMat			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	Pick-up to Dispatch	Rural (1:04)	2:02 n = 166	2:18 n = 19	2:06 n = 31	2:27 n = 33	1:22 n = 50	1:18 n = 33
		Urban (1:04)	1:53 n = 271	1:50 n = 22	2:19 n = 58	1:57 n = 47	1:12 n = 72	1:13 n = 72
Turnout Time	Turnout Time 1st Unit	Rural (1:20)	1:21 n = 165	1:10 n = 19	1:21 n = 30	1:23 n = 33	1:18 n = 50	1:27 n = 33
		Urban (1:20)	1:22 n = 269	1:31 n = 22	1:18 n = 58	1:20 n = 47	1:22 n = 71	1:19 n = 71
Travel Time	Travel Time 1st Unit Distribution	Rural (5:00)	6:52 n = 46	5:13 n = 5	6:29 n = 8	7:15 n = 6	6:52 n = 15	6:55 n = 12
		Urban (4:00)	5:25 n = 103	4:58 n = 10	4:55 n = 31	4:49 n = 18	5:46 n = 20	4:44 n = 24
	Travel Time ERF Concentration	Rural (10:00)	7:26 n = 46	6:12 n = 5	7:18 n = 8	9:20 n = 6	8:31 n = 15	7:21 n = 12
		Urban (8:00)	6:06 n = 102	5:26 n = 9	6:23 n = 31	6:04 n = 18	5:58 n = 20	5:28 n = 24
Total Response Time	Total Response Time 1st Unit Distribution	Rural (7:24)	7:52 n = 46	6:22 n = 5	7:46 n = 8	8:34 n = 6	7:52 n = 15	7:03 n = 12
		Urban (6:24)	6:33 n = 103	6:16 n = 10	6:16 n = 31	5:39 n = 18	6:54 n = 20	6:15 n = 24
	Total Response Time ERF Concentration	Rural (12:24)	8:44 n = 46	7:29 n = 5	8:23 n = 8	9:20 n = 6	10:09 n = 15	8:23 n = 12
		Urban (10:24)	7:08 n = 102	6:53 n = 9	7:26 n = 31	6:45 n = 18	7:23 n = 20	6:38 n = 24

Table 172

Baseline Performance for Hazardous Materials High Risk

High Risk HazMat			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	Pick-up to Dispatch	Rural (1:04)	2:53 n = 2	NA	NA	2:53 n = 2	NA	NA
		Urban (1:04)	2:36 n = 4	1:06 n = 1	NA	2:14 n = 1	0:45 n = 1	2:36 n = 1
Turnout Time	Turnout Time 1st Unit	Rural (1:20)	0:34 n = 2	NA	NA	0:34 n = 2	NA	NA
		Urban (1:20)	1:08 n = 4	0:14 n = 1	NA	0:16 n = 1	1:08 n = 1	0:25 n = 1
Travel Time	Travel Time 1st Unit Distribution	Rural (5:00)	NA	NA	NA	NA	NA	NA
		Urban (4:00)	6:44 n = 1	NA	NA	NA	6:44 n = 1	NA
	Travel Time ERF Concentration	Rural (10:00)	NA	NA	NA	NA	NA	NA
		Urban (8:00)	7:55 n = 1	NA	NA	NA	7:55 n = 1	NA
Total Response Time	Total Response Time 1st Unit Distribution	Rural (7:24)	NA	NA	NA	NA	NA	NA
		Urban (6:24)	7:52 n = 1	NA	NA	NA	7:52 n = 1	NA
	Total Response Time ERF Concentration	Rural (12:24)	NA	NA	NA	NA	NA	NA
		Urban (10:24)	9:05 n = 1	NA	NA	NA	9:05 n = 1	NA

Table 173

Baseline Performance for All Technical Rescue (Urban/Rural)

Planning Area - Tech			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	Pick-up to Dispatch	Rural (1:04)	2:05	2:27	2:05	2:36	3:28	1:22
		Urban (1:04)	1:51	2:04	1:31	1:51	1:23	1:33
Turnout Time	Turnout Time 1st Unit	Rural (1:20)	1:09	1:19	0:57	1:09	1:30	1:12
		Urban (1:20)	1:09	1:09	1:24	0:58	1:06	1:06
Travel Time	Travel Time 1st Unit Distribution	Rural (5:00)	5:42	5:42	5:01	4:18	5:06	3:53
		Urban (4:00)	6:20	6:20	4:02	3:08	5:13	3:25
	Travel Time ERF Concentration	Rural (10:00)	5:42	5:42	5:01	4:18	6:42	3:53
		Urban (8:00)	9:03	6:40	8:40	8:44	9:03	13:26
Total Response Time	Total Response Time 1st Unit Distribution	Rural (7:24)	6:09 n = 12	6:09 n = 2	5:58 n = 6	5:27 n = 2	6:08 n = 1	5:05 n = 1
		Urban (6:24)	7:17 n = 14	7:17 n = 5	5:05 n = 4	4:56 n = 1	6:08 n = 2	3:56 n = 2
	Total Response Time ERF Concentration	Rural (12:24)	6:09 n = 12	6:09 n = 2	5:58 n = 6	5:27 n = 2	6:49 n = 1	5:05 n = 1
		Urban (10:24)	10:58 n = 14	7:51 n = 5	10:44 n = 4	10:24 n = 1	10:58 n = 2	14:35 n = 2

Table 174

Baseline Performance for Technical Rescue Low Risk

Low Risk Tech			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	Pick-up to Dispatch	Rural (1:04)	2:37 n = 6	NA	2:37 n = 3	0:57 n = 1	0:34 n = 1	1:08 n = 1
		Urban (1:04)	2:23 n = 11	2:08 n = 1	2:23 n = 3	2:32 n = 3	0:48 n = 2	1:57 n = 2
Turnout Time	Turnout Time 1st Unit	Rural (1:20)	1:09 n = 6	NA	1:09 n = 3	0:21 n = 1	0:07 n = 1	0:23 n = 1
		Urban (1:20)	1:00 n = 11	0:52 n = 1	0:55 n = 3	0:37 n = 3	1:19 n = 2	0:49 n = 2
Travel Time	Travel Time 1st Unit Distribution	Rural (5:00)	NA	NA	NA	NA	NA	NA
		Urban (4:00)	4:59 n = 3	NA	NA	4:59 n = 2	NA	3:02 n = 1
	Travel Time ERF Concentration	Rural (10:00)	NA	NA	NA	NA	NA	NA
		Urban (8:00)	6:21 n = 3	NA	NA	6:21 n = 2	NA	3:02 n = 1
Total Response Time	Total Response Time 1st Unit Distribution	Rural (7:24)	NA	NA	NA	NA	NA	NA
		Urban (6:24)	5:42 n = 3	NA	NA	5:42 n = 2	NA	3:42 n = 1
	Total Response Time ERF Concentration	Rural (12:24)	NA	NA	NA	NA	NA	NA
		Urban (10:24)	7:37 n = 3	NA	NA	7:37 n = 2	NA	3:42 n = 1

Table 175

Baseline Performance for Technical Rescue Moderate Risk

Moderate Risk Tech			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	**Pick-up to Dispatch**	**Rural (1:04)**	3:28 n = 7	NA	1:45 n = 3	NA	3:28 n = 1	1:48 n = 3
Turnout Time	**Turnout Time 1st Unit**	**Rural (1:20)**	1:09 n = 7	NA	0:53 n = 3	NA	0:45 n = 1	1:09 n = 3
Travel Time	**Travel Time 1st Unit Distribution**	**Rural (5:00)**	6:44 n = 3	NA	6:15 n = 1	NA	NA	6:44 n = 2
	Travel Time ERF Concentration	**Rural (10:00)**	21:44 n = 3	NA	15:04 n = 1	NA	NA	21:44 n = 2
Total Response Time	**Total Response Time 1st Unit Distribution**	**Rural (7:24)**	7:42 n = 3	NA	7:42 n = 1	NA	NA	7:25 n = 2
	Total Response Time ERF Concentration	**Rural (12:24)**	24:58 n = 3	NA	16:45 n = 1	NA	NA	24:58 n = 2

Table 176

Baseline Performance for Technical Rescue High Risk

High Risk Tech			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	Pick-up to Dispatch	Rural (1:04)	2:26 n = 47	1:16 n = 2	1:53 n = 10	3:03 n = 18	1:12 n = 10	2:07 n = 7
		Urban (1:04)	2:37 n = 62	2:55 n = 8	3:13 n = 11	2:37 n = 25	1:29 n = 9	1:11 n = 9
Turnout Time	Turnout Time 1st Unit	Rural (1:20)	1:14 n = 47	0:30 n = 2	1:13 n = 10	1:14 n = 18	0:53 n = 10	1:18 n = 7
		Urban (1:20)	1:12 n = 62	0:47 n = 8	0:55 n = 11	0:45 n = 25	1:06 n = 9	1:41 n = 9
Travel Time	Travel Time 1st Unit Distribution	Rural (5:00)	5:16 n = 19	NA	4:51 n = 3	5:16 n = 8	5:26 n = 5	4:40 n = 3
		Urban (4:00)	4:55 n = 14	1:32 n = 1	3:34 n = 6	4:03 n = 3	5:13 n = 1	4:55 n = 3
	Travel Time ERF Concentration	Rural (10:00)	10:01 n = 19	NA	6:12 n = 3	14:29 n = 8	7:45 n = 5	7:03 n = 3
		Urban (8:00)	10:41 n = 14	7:02 n = 1	8:40 n = 6	12:49 n = 3	7:20 n = 1	7:27 n = 3
Total Response Time	Total Response Time 1st Unit Distribution	Rural (7:24)	6:28 n = 19	NA	6:10 n = 3	6:28 n = 8	7:14 n = 5	5:33 n = 3
		Urban (6:24)	5:20 n = 14	3:16 n = 1	4:19 n = 6	4:37 n = 3	6:08 n = 1	5:20 n = 3
	Total Response Time ERF Concentration	Rural (12:24)	11:16 n = 19	NA	7:10 n = 3	15:42 n = 8	8:37 n = 5	8:41 n = 3
		Urban (10:24)	11:42 n = 14	7:13 n = 1	10:44 n = 6	13:47 n = 3	8:36 n = 1	9:55 n = 3

Table 177

Baseline Performance for All Other (Rural/Urban)

Planning Area - Other			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	Pick-up to Dispatch	Rural (1:04)	2:06	2:11	2:23	2:14	1:25	1:22
		Urban (1:04)	1:54	1:58	2:16	2:02	1:11	1:16
Turnout Time	Turnout Time 1st Unit	Rural (1:20)	1:26	1:25	1:28	1:24	1:23	1:29
		Urban (1:20)	1:24	1:27	1:22	1:20	1:24	1:23
Travel Time	Travel Time 1st Unit Distribution	Rural (5:00)	6:03	6:21	6:21	6:01	5:49	5:49
		Urban (4:00)	5:41	5:31	6:10	5:49	5:41	5:23
	Travel Time ERF Concentration	Rural (10:00)	6:40	6:48	6:36	6:41	6:55	6:00
		Urban (8:00)	6:10	6:08	6:27	6:10	6:04	5:52
Total Response Time	Total Response Time 1st Unit Distribution	Rural (7:24)	7:07 n = 587	7:20 n = 129	7:17 n = 116	7:09 n = 112	6:42 n = 106	6:42 n = 124
		Urban (6:24)	6:47 n = 1185	6:34 n = 255	7:16 n = 235	6:40 n = 238	6:54 n = 220	6:25 n = 237
	Total Response Time ERF Concentration	Rural (12:24)	7:44 n = 587	7:56 n = 129	7:42 n = 116	7:58 n = 112	8:05 n = 106	7:07 n = 124
		Urban (10:24)	7:20 n = 1185	7:24 n = 255	7:43 n = 235	7:11 n = 238	7:19 n = 220	6:54 n = 237

Table 178

Baseline Performance for Other Low Risk

Low Risk Other			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	Pick-up to Dispatch	Rural (1:04)	2:05 n = 49	1:47 n = 8	2:11 n = 7	2:19 n = 14	1:07 n = 11	2:31 n = 9
		Urban (1:04)	2:05 n = 108	2:05 n = 9	2:06 n = 19	2:47 n = 32	1:35 n = 23	2:01 n = 25
Turnout Time	Turnout Time 1st Unit	Rural (1:20)	1:17 n = 47	1:11 n = 8	0:57 n = 6	1:09 n = 14	1:08 n = 10	2:13 n = 9
		Urban (1:20)	1:26 n = 106	1:33 n = 9	1:48 n = 18	1:27 n = 32	1:20 n = 22	1:21 n = 25
Travel Time	Travel Time 1st Unit Distribution	Rural (5:00)	7:54 n = 15	5:42 n = 1	5:01 n = 2	8:24 n = 4	7:54 n = 3	7:00 n = 5
		Urban (4:00)	7:21 n = 23	6:20 n = 2	4:02 n = 2	4:56 n = 5	7:45 n = 4	5:54 n = 10
	Travel Time ERF Concentration	Rural (10:00)	7:54 n = 15	5:42 n = 1	5:01 n = 2	8:24 n = 4	7:54 n = 3	7:00 n = 5
		Urban (8:00)	7:21 n = 23	6:20 n = 2	4:02 n = 2	4:56 n = 5	7:45 n = 4	5:54 n = 10
Total Response Time	Total Response Time 1st Unit Distribution	Rural (7:24)	8:53 n = 15	6:09 n = 1	5:58 n = 2	8:53 n = 4	8:53 n = 3	7:37 n = 5
		Urban (6:24)	8:03 n = 23	7:17 n = 2	5:05 n = 2	6:22 n = 5	8:39 n = 4	6:52 n = 10
	Total Response Time ERF Concentration	Rural (12:24)	8:53 n = 15	6:09 n = 1	5:58 n = 2	8:53 n = 4	8:53 n = 3	7:37 n = 5
		Urban (10:24)	8:03 n = 23	7:17 n = 2	5:05 n = 2	6:22 n = 5	8:39 n = 4	6:52 n = 10

Table 179

Baseline Performance for Other Moderate Risk

Moderate Risk Other			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	Pick-up to Dispatch	Rural (1:04)	1:59 n = 1681	1:55 n = 218	2:16 n = 368	2:12 n = 404	1:02 n = 335	1:08 n = 356
		Urban (1:04)	1:52 n = 2972	1:49 n = 445	2:09 n = 569	2:11 n = 643	1:08 n = 649	1:17 n = 666
Turnout Time	Turnout Time 1st Unit	Rural (1:20)	1:25 n = 1639	1:25 n = 214	1:23 n = 357	1:25 n = 395	1:23 n = 328	1:28 n = 345
		Urban (1:20)	1:25 n = 2892	1:30 n = 427	1:25 n = 553	1:22 n = 622	1:27 n = 636	1:24 n = 654
Travel Time	Travel Time 1st Unit Distribution	Rural (5:00)	6:02 n = 426	6:43 n = 58	6:14 n = 97	6:01 n = 89	5:32 n = 83	6:00 n = 99
		Urban (4:00)	5:45 n = 849	5:40 n = 117	6:22 n = 191	5:50 n = 180	5:37 n = 178	5:23 n = 183
	Travel Time ERF Concentration	Rural (10:00)	6:07 n = 426	7:05 n = 58	6:14 n = 97	6:01 n = 89	5:51 n = 83	6:00 n = 99
		Urban (8:00)	5:58 n = 849	5:46 n = 117	6:24 n = 191	5:58 n = 180	5:50 n = 178	5:30 n = 183
Total Response Time	Total Response Time 1st Unit Distribution	Rural (7:24)	7:00 n = 426	7:36 n = 58	7:10 n = 97	7:21 n = 89	6:38 n = 83	6:40 n = 99
		Urban (6:24)	6:54 n = 849	6:38 n = 117	7:31 n = 191	6:49 n = 180	6:47 n = 178	6:33 n = 183
	Total Response Time ERF Concentration	Rural (12:24)	7:10 n = 426	8:13 n = 58	7:10 n = 97	7:34 n = 89	6:50 n = 83	6:40 n = 99
		Urban (10:24)	7:05 n = 849	7:06 n = 117	7:31 n = 191	6:58 n = 180	7:10 n = 178	6:48 n = 183

Table 180

Baseline Performance for Other High Risk (Planning Area)

High Risk Other			2021 - 2017	2021	2020	2019	2018	2017
Alarm Handling	Pick-up to Dispatch	Rural (1:04)	2:14 n = 35	2:14 n = 35	NA	NA	NA	NA
		Urban (1:04)	1:50 n = 39	1:45 n = 37	NA	NA	NA	1:44 n = 2
Turnout Time	Turnout Time 1st Unit	Rural (1:20)	1:49 n = 35	1:49 n = 35	NA	NA	NA	NA
		Urban (1:20)	1:21 n = 37	1:21 n = 35	NA	NA	NA	0:06 n = 2
Travel Time	Travel Time 1st Unit Distribution	Rural (5:00)	5:15 n = 12	5:15 n = 12	NA	NA	NA	NA
		Urban (4:00)	5:19 n = 15	5:19 n = 14	NA	NA	NA	4:10 n = 1
	Travel Time ERF Concentration	Rural (10:00)	7:39 n = 12	7:39 n = 12	NA	NA	NA	NA
		Urban (8:00)	5:49 n = 15	5:49 n = 14	NA	NA	NA	4:10 n = 1
Total Response Time	Total Response Time 1st Unit Distribution	Rural (7:24)	6:30 n = 12	6:30 n = 12	NA	NA	NA	NA
		Urban (6:24)	6:14 n = 15	6:14 n = 14	NA	NA	NA	4:13 n = 1
	Total Response Time ERF Concentration	Rural (12:24)	8:41 n = 12	8:41 n = 12	NA	NA	NA	NA
		Urban (10:24)	6:44 n = 15	6:44 n = 14	NA	NA	NA	4:13 n = 1

Table 181

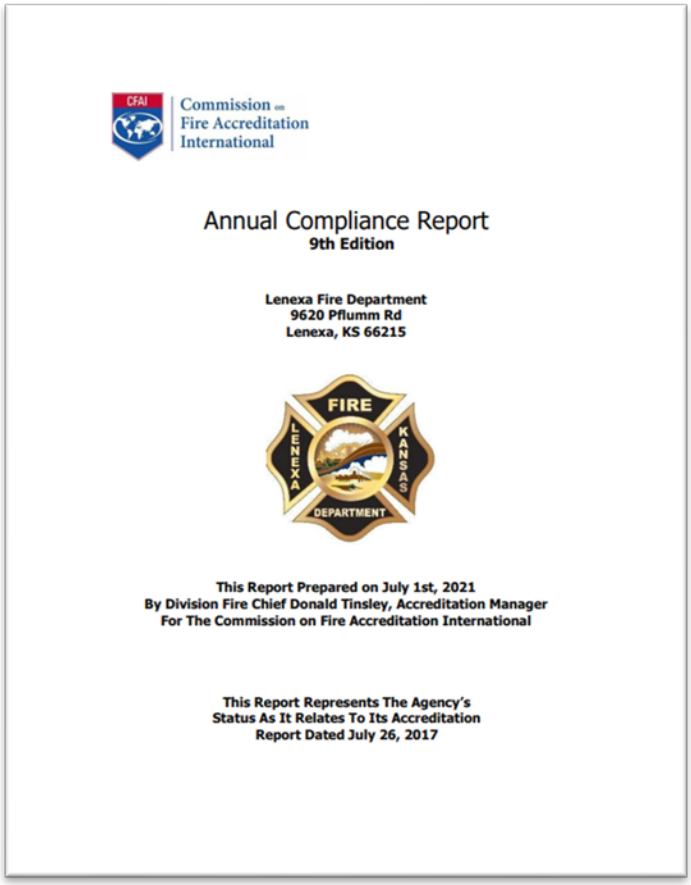
IX. Evaluation of Current Deployment and Performance

Compliance Methodology

To ensure the agency meets current service level response objectives, continuous monitoring of service baselines is measured against a modified NFPA 1710 industry standard the Lenexa Fire Department (LFD) has adopted. It is the responsibility of the Accreditation Manager, Assistant Accreditation Manager, and Executive Staff to monitor incident response data. Daily and weekly reports are generated for the Executive Staff that include a summary of reaction times from the previous 24 hours, reaction times that exceed baseline objectives, and travel times that exceed baseline objectives. Gross benchmark deviations are investigated to determine the cause and discussed with staff. Daily reports include training analysis, significant incidents, station reliability, reaction time, and incident narrative reports. The Accreditation Manager also produces a detailed statistical annual report regarding service level objectives outcomes.

In addition to the review of service level response objectives, the Accrediation Manager and Assistant Accreditation Manager will review response demands and risks at the city and planning grid levels. The LFD will continue to monitor community needs and modify service level response objectives.

The executive staff interacts regularly with the city manager and city council to discuss capabilities, capacity, and level of service. The fire chief provides a formal report and submits the annual compliance report to the governing body during an annual Governing Body Retreat.



Commission on Fire Accreditation International

Annual Compliance Report
9th Edition

Lenexa Fire Department
9620 Pflumm Rd
Lenexa, KS 66215

This Report Prepared on July 1st, 2021
By Division Fire Chief Donald Tinsley, Accreditation Manager
For The Commission on Fire Accreditation International

This Report Represents The Agency's
Status As It Relates To Its Accreditation
Report Dated July 26, 2017

Overall Evaluation and Conclusion Recommendations

The purpose of this section is to summarize this document's findings, provide conclusions, and make recommendations. This is meant to be an active document that will be referred to, updated and re-evaluated in the coming years. This document further provides the department with proof of service level capabilities and serves as both a guide and resource for the LFD on its path toward continuous improvement.

Evaluation Methodology

The creation of this Standards of Cover document was approached from a multi-disciplinary perspective. Individuals with specialized knowledge in specific categories of this document authored or contributed significantly to the development process. Some of these individuals were members of: Administration Division, Prevention Division, Operations Division, Professsional Development Division, and the City of Lenexa Information and Technology departments. Multiple outside sources and individuals had significant input as well, including members of the Johnson County Emergency Communications Center (JCECC), Johnson County Emergency Management, Johnson County Med-Act, the Kansas Department of Health and the Environment, Johnson County Medical Director's Office, and Johnson County Water District Number 1.

Similar to the large number of contributors listed above, multiple resources were utilized to obtain the data found throughout this document. The preponderance of data came from the following sources: LFD FIREHOUSE Software® database, JCECC computer-aided dispatch data, VISION™ software database, Johnson County Appraisers Office, and the 2021 Community Data Profile.

Data fields in FIREHOUSE Software® that reflect rollout, first unit on scene, and effective response force (ERF) times were structured to provide immediate feedback to the report author on times that fail to meet established benchmarks. Daily, weekly, and monthly operational response objective reports are automatically generated and electronically delivered to staff to analyze response performance.

Evaluation Determinations

The City of Lenexa is a well-planned and development-friendly community that is well defined geographically due to jurisdictional boundaries. Beginning as a 'small town' in the east with a large rural tract to the west, the city continues to develop from east to west. This controlled growth has provided the opportunity to divide the city into one square mile planning zones (grids), each assessed based on "urban" and "rural" definitions provided by CFAI. These grids not only follow current and trending population growth, but the city's commercial development as well. The concept of separating service level response objectives for the uniqueness of each planning zone, specific to population was found to be a useful, valid and a fiscally responsible approach for the LFD.

Prior to 2008 the LFD approached the measurement and evaluation of service level objectives from a travel time standard. This method served the department well for years and assisted in many service improvements. However, at the suggestion of the CFAI in 2008, the department began investigating a change to a total time standard approach. The discussion involved department administration, city government officials and citizens. It became evident that the total time standard was a more valid measurement tool and provided the citizens and governmental officials with a more thorough picture of the department's capabilities.

In 2014, discussion centered once more on response time benchmarks and the adoption of an industry standard. Several surrounding accredited agencies have adopted the National Fire Protection Associations (NFPA) 1710 – Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments. At the suggestion of the Commission on Fire Accreditation International and by example of the surrounding agencies located in Johnson County, the LFD adopted NFPA 1710 in 2015 with a time modification for the City's western planning grids.

Starting in 2016, the department re-assessed its method for tracking population density within city boundaries. Previously, the department divided the city into three planning areas (east, central, and west) based on population growth and development. Based on the suggestion of the Commission on Fire Accreditation International (CFAI), the LFD assessed all 43 square mile grids to determine which population definition (urban/rural) each grid met. Once determined, each grid was grouped into one of the three previously identified planning areas. Data is analyzed from each planning zone (grid) individually or grouped within their respective planning area (east, central, or west).

In 2022, the department adopted the updated 2020 recommendation standards from NFPA 1710. Previous time based objectives adopted rural response time standards for the west planning area and urban response time standards for the east and central planning areas. Although the updated response standards from NFPA 1710 do not distinguish response time standards by population, they do categorize response level objectives by an occupancy hazard classification. Two classification groups of (low/moderate hazard) and (high hazard) were developed by NFPA with two different response time objectives. Lenexa has modified this standard and has assigned the (low/moderate hazard) response time objectives to "urban" planning zones and the (high hazard) response time objectives to "rural" planning zones.

Reliability – Planning Zones

As previously noted, the City of Lenexa uses "urban" or "rural" population definitions to determine service level objectives. The planning zone (grids) that average 2,500 citizens per square mile are areas where urban service level objectives have been adopted. The planning area grids that average less than 2,500 citizens per square mile are where rural service level objectives have been adopted.

All service level objectives are evaluated using the total time standard and determined at the 90th percentile for both distribution and concentration. Performance results based on these objectives are monitored throughout the year with a thorough examination and analysis conducted annually. Reliability statistics are monitored closely as well, with investigations for solutions to any gross deviations or trends.

Performance Determinations

In order to establish baseline service level objectives, the LFD reviewed and analyzed distribution and concentration performance from the years 2017, 2018, 2019, 2020, and 2021 and then compared this data to industry standards against recommended benchmarks. After a thorough review, the LFD adopted baseline and benchmark service level response objectives as outlined in this document, formalizing them through a LFD Standard Practice Guideline. Current LFD service level baseline distribution objectives are challenging, but mostly achieved. Baseline concentration objectives are a significant strength of the department. The benchmark objectives are aggressively set and mostly met with a high level of success, resulting in a narrow gap between baseline and benchmark outcomes.

Recent Service Improvements

In response to recommendations from the Commission on Fire Accreditation International (CFAI), the Lenexa Fire Department adopted the 2018 International Building and Fire Code. As the community continues to grow at an exponential rate, it was identified that up-to-date fire and building codes were necessary in order to help drive safer construction and building safety standards.

Service level obectives for the northeast corner of the city have been difficult to achieve given the department's previous deployment model of five fire stations. An automatic/mutual aid agreement with the Shawnee Fire Department offered a temporary solution to meeting the department's response time objectives for this area of the city. Through continued engagement with city government and the city manager, the department was able to open fire station #6 with existing staffing in 2020. Station 6 is now located in the public safety complex (12350 W. 87th Street Parkway) that previously functioned as Lenexa City Hall. The department's fire prevention office was relocated to the public safety complex in 2021 as well. The table below shows the improvement for the departments distribution time for planning zones 63, 85, and 86.

Planning Zone	2017-2021	2021	2020	2019	2018	2017
Grid 63	5:09	3:52	3:06	5:39	5:09	5:33
Grid 85	5:22	4:58	5:12	5:30	5:24	5:22
Grid 86	5:51	5:01	5:37	6:10	5:54	5:33

Table 182

In 2018, the city approved the position of emergency manager and hired Battalion Chief Randy Pommenville. The duties of this position were originally fulfilled as part of the job function for the Division Chief of Professional Development. Both the city and the department recognized the need to staff this position full-time and created the emergency management title as a position within the fire department. The emergency manager works with city leaders and the public in identifying and planning for potential emergency disasters. In addition, the emergency manager develops action plans and helps coordinate resources for major city events.

The City of Lenexa Fire Department has partnered with the Shawnee Mission School District in providing training equipment for their public safety education curriculum. The Blue Eagle Law and Public Safety program offers students classes related to fire and EMS services. These classes assist students in preparing for careers in public safety. The LFD recognized the importance of early and quality education for high school students who are considering a career in the fire service. Through this partnership, the LFD has provided PPE, training equipment, a fire apparatus, and has established an annual scholarship to assist students with tuition and academic expenses.

In addition, the department developed an internship program in 2019 to help further immerse students who are considering a career in the fire service in the day-to-day functions of a fire department. The internship program is offered to high school or college students during the summer. Each student engages with all divisions within the organization so that they can gain a better understanding of how a fire department operates.

The Division Chief of Professional Development, along with the City of Lenexa Information and Technology Department, developed digital dashboards that are now located throughout each of the six fire stations. The digital dashboards display daily rostering for the department, all active emergency incidents within the county, weather forecasts, fire and property lost and saved year-to-date data, mapping and travel information for active emergency incidents, and functions as a supplemental alerting device for dispatched emergency incidents within the city.

Station Digital Dashboard

In collaboration with the Johnson County Medical Director's Office and all first responder agencies within the county, the Lenexa Fire Department designed and developed a high fidelity EMS training room. The intent of the training room is to offer a "fully immersive" environment to conduct EMS training and education. All county agencies, including the Medical Director's office, meet quarterly to develop EMS training for all responders within Johnson County. The high fidelity EMS training room is designed to look and feel like a real home. Additional training equipment, realistic training manikins, and a state-of-the-art audio-visual system allows instructors to observe and direct EMS training while remaining outside of the simulation room. This allows the county agencies to assess the realism of the training all while immersing the crews in an environment that closely mimics real world incident scenes.

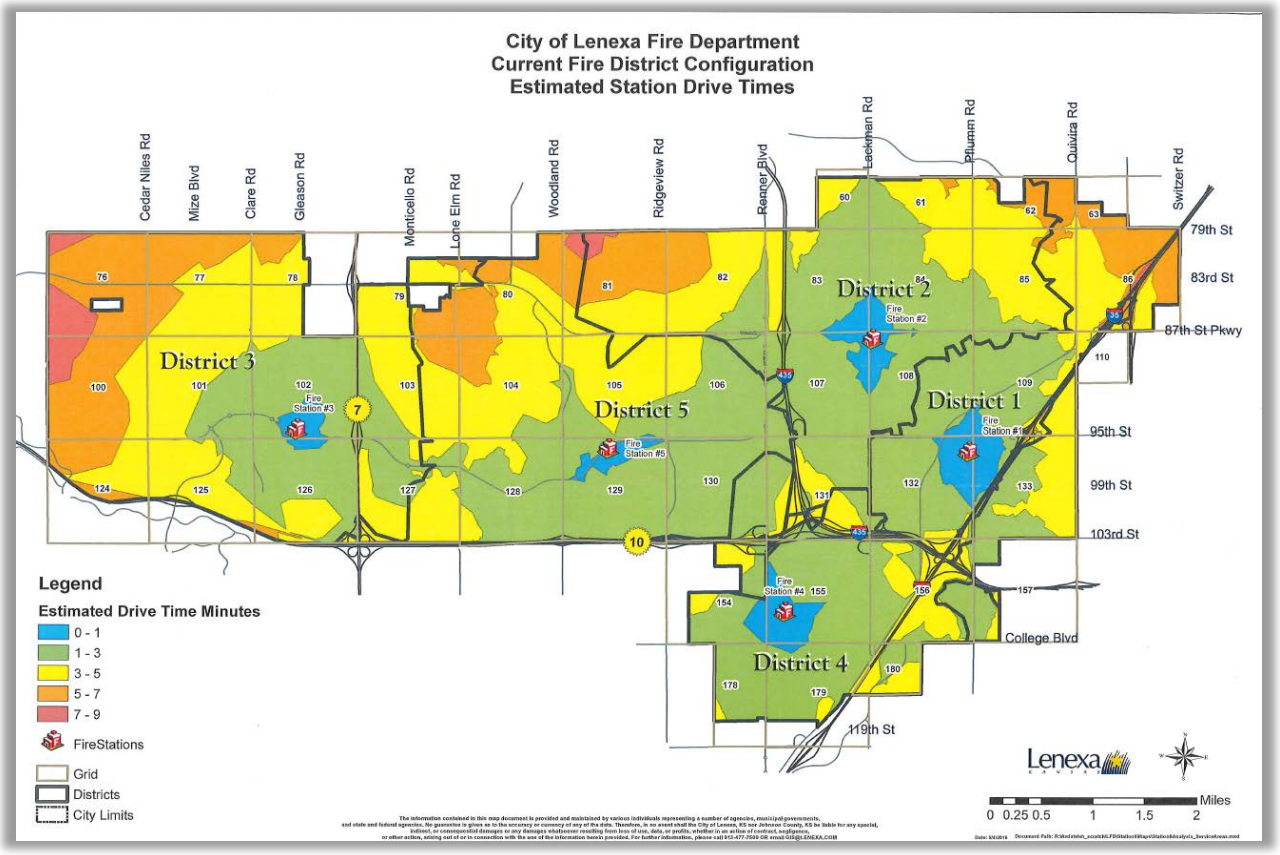
X. Plan for Maintaining and Improving Response Capabilities

Recommendations:

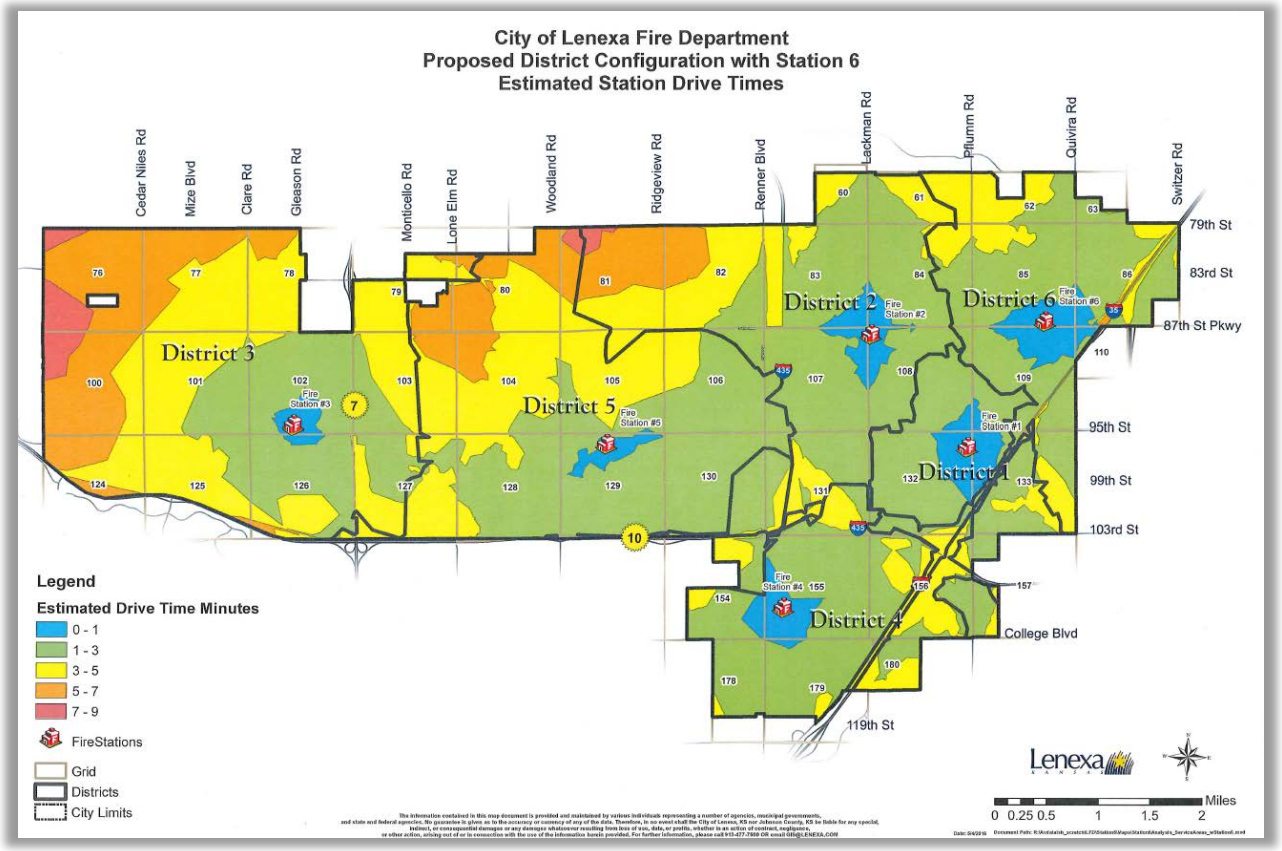
The following are recommendations as a direct result of research and development of this document.

Station #6

The Lenexa Fire Department (LFD) has been challenged to meet service level distribution travel time objectives in a few areas of the city, primarily the northeast quadrant that includes planning area grids 61, 62, 85, and 86. As part of the department's continuous improvement model and response time monitoring reports, efforts to address the response time gap in the City's northeast corner have been discussed with the city manager and governing body. As a result of continuous monitoring and collaboration, fire station #6 was developed and located at the previous Lenexa City Hall complex at 12350 W. 87th Street Parkway. Full-time staffing for station #6 started in March of 2021 and has helped address the service gap experienced in the city's northeast corner. The following maps show the impact that station #6 has had on distribution travel time objectives for planning area grids 61, 62, 85, and 86. The department will continue to monitor the overall impact that this new station will have on this part of the city.



Previous Fire Station Locations



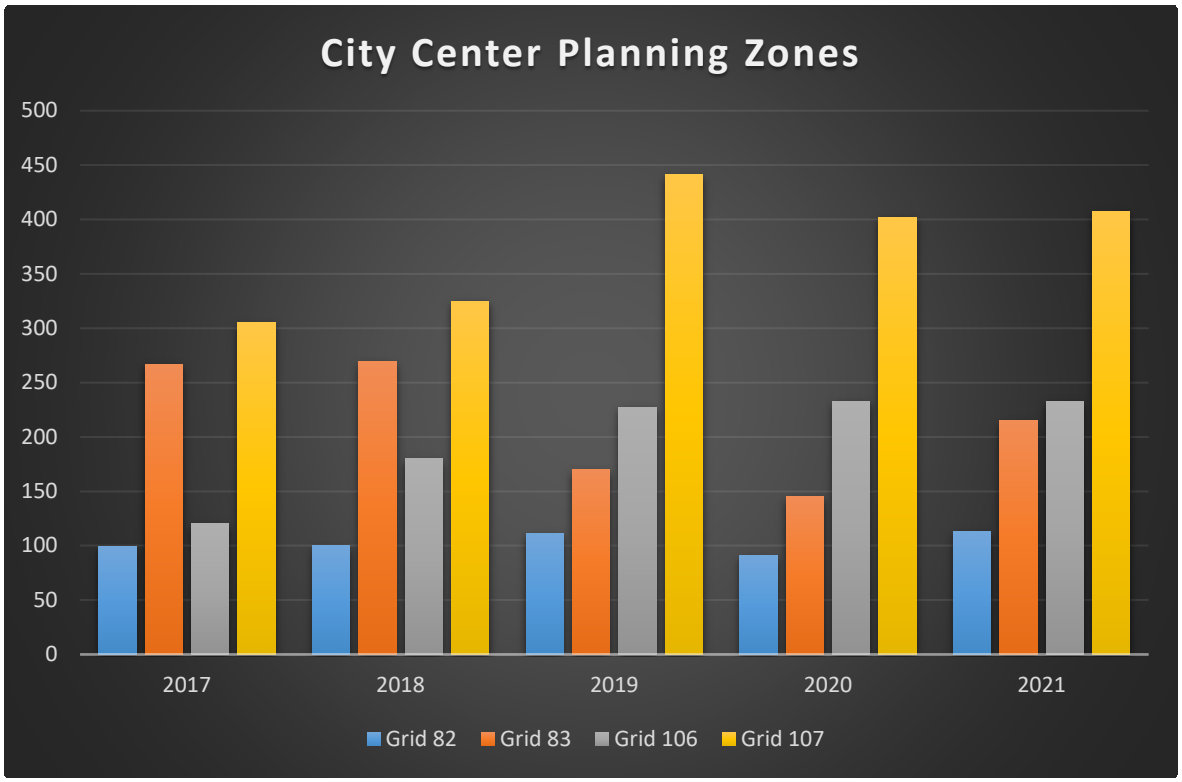
New Station #6 Location

Data Collection

Data collection is automated, streamlined, and collected through the Computer Aided Dispatch (CAD) system and downloaded to FIREHOUSE® Software. Incident reports are generated through automatic CAD data imports. Incident reports are internally quality controlled to ensure accuracy. Opportunities for improvement of data efficiencies will continue to be pursued.

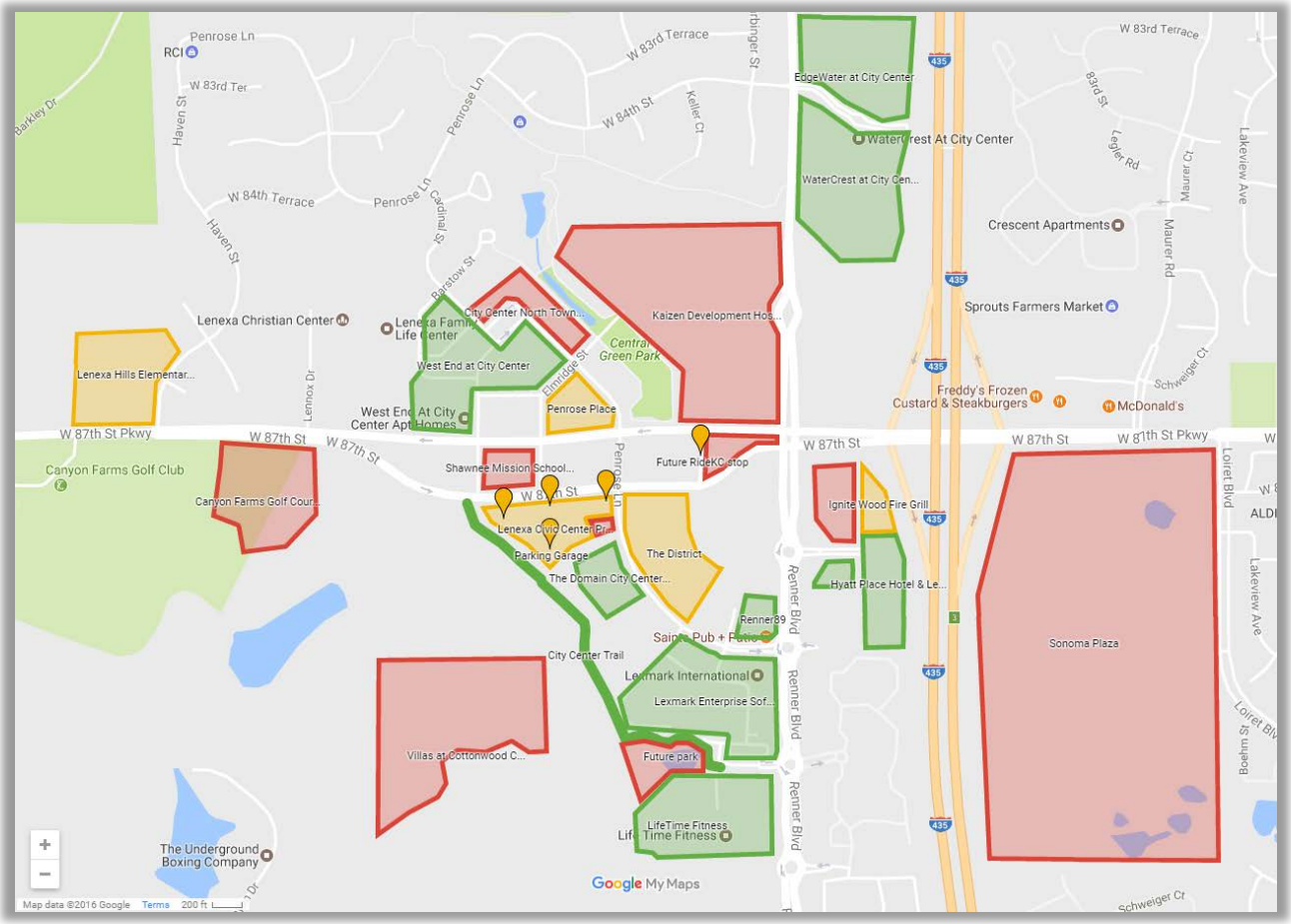
City Center

The continued development of City Center located at the intersection of 87th Street Parkway and Renner Boulevard will have significant impact on the service demands for the City. Specifically, impact would be greatest for planning area grids 82, 83, 106, and 107 for fire stations #2, and #5. The addition of fire station #6 has helped reduce the service impact on fire station #2, especially for the increased call volume for this area. The graph below shows an oveall increase in call volume for the City Center Planning Zones from 2017-2021. The exception to this growth was seen in 2020 due to commercial occupancy closers related to the COVID-19 pandemic.



City Center Planning Zone (Grids)

The City Center development will bring additional apartment units, retail stores, hotels, and city buildings. These additions will increase the population and associated hazards for this area of the city. Below is a description of current and proposed development for the City Center project.

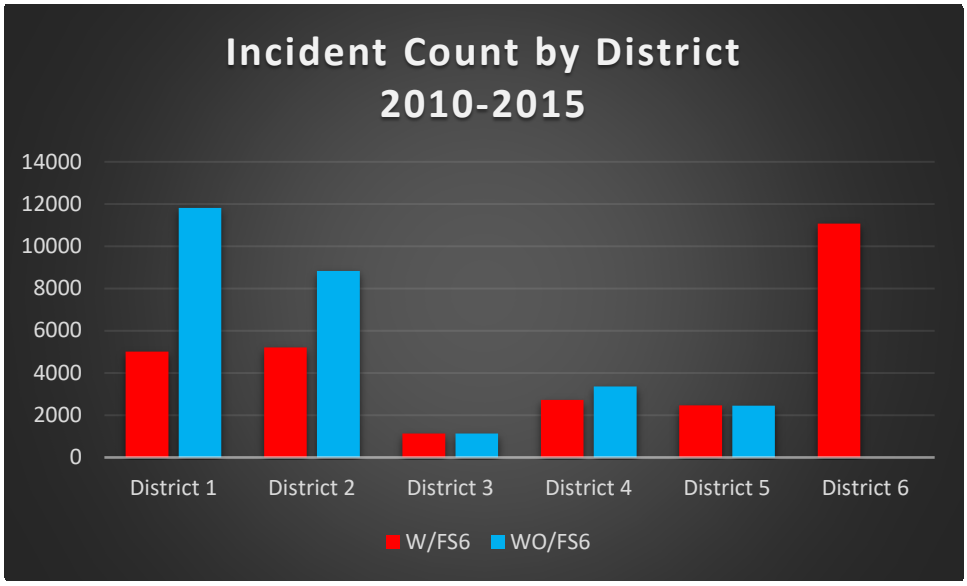


City Center Development

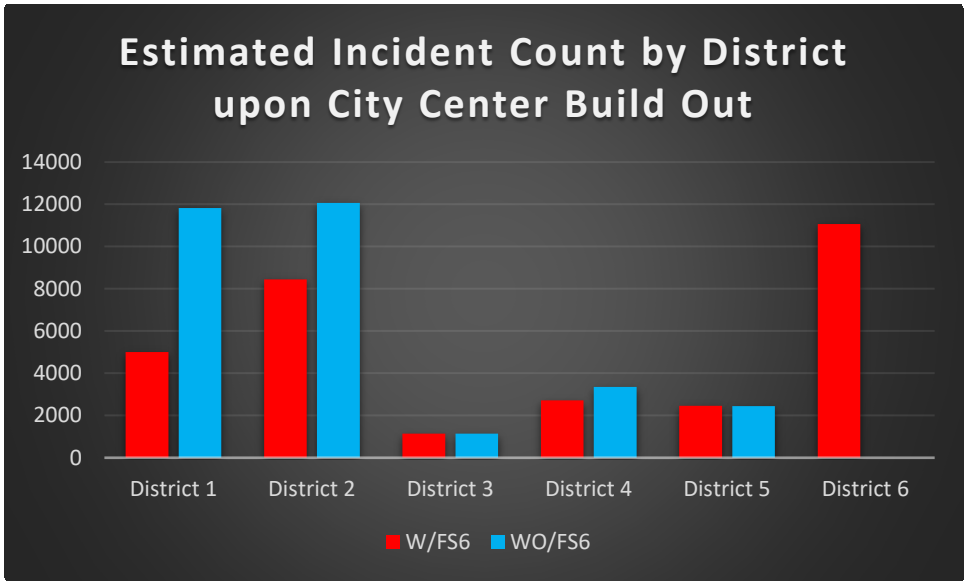
Current, and Proposed Development:

- Sonoma Plaza
- Jack Stack BBQ
- Hyatt Place Hotel
- Life Time Fitness
- Kiewit, LLC
- Villas at Cottonwood Canyon
- The Domain at City Center
- Renner 89
- Lenexa Civic Center
- Lenexa Recreation Center
- Shawnee Mission School Distict Aquatic Center
- West End at City Center Apartments
- City Center North Town
- Lenexa City Hall
- Canyon Farms Golf Course
- Lenexa Hills Elementary School
- WaterCrest at City Center Apartments
- EdgeWater at City Center Apartments
- Public Market

An analysis conducted in 2015 was presented to the city council on the potential impact of the City Center development. In the presentation, the inclusion of fire station #6 was used to demonstrate the service demand impact reduction it would have on Fire Station #1 and fire station #2. The first graph (*Projected Service Demands with Fire Station #6 Chart)* represents service demands for each station for years 2010-2015. Red columns are the total calls per station without fire station #6. Blue columns are the total calls per station with fire station #6. The second graph (*Projected Service Demands with City Center & Fire Station #6 Chart*) below represents the service demands with the increased forecasted population at City Center.

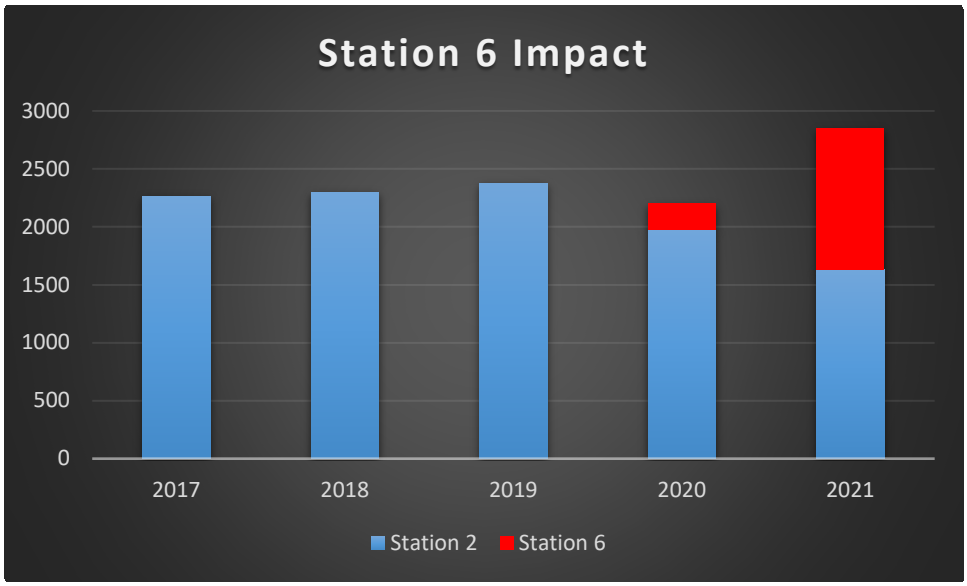


Projected Service Demands with Fire Station #6 Chart



Projected Service Demands with City Center & Fire Station #6 Chart

The addition of fire station #6 has had an immediate impact on the service demands placed on fire station #2. Since 2019, fire station #2 has seen a 17% decrease in call volume in 2020 and a 34% decrease in 2021. Station #2 also transitioned from two companies (1 heavy apparatus & 1 squad) to a single heavy apparatus fire company. This allowed the department to staff station #6 without increasing personnel. It is noted that station reliability for station #2 decreased from 99% in 2019 to 90% in 2021. Although station #2 is still within the acceptable range for station reliability, the department will continue to monitor this downward trend.



Station #6 Impact

Population Density Analysis

As recommended by the Commission for Accreditation International (CFAI), the Standards of Cover is a "living" document, which has prompted the Lenexa Fire Department (LFD) to initiate a new approach to analyzing population density for risk and service demands to distinguish between urban and rural planning areas grids. The department will continue monitoring population density for each planning zone (grid) and develop response time objectives based on census data. The organization will also follow census growth trends for all grids.

Conclusions

The LFD is a quality fire service organization with a highly skilled workforce and progressive administration that possesses excellent resources from citizen and city government support. Aggressive benchmark and baseline service level objectives have been established and are used to evaluate and improve service. Risk assessment is a continuous process. Significant risk changes will be evaluated to adjust service delivery. The results of this document reflect past success as well as lay a foundation for a successful future. With constant attention towards improvement, the department will continue to employ a "best practices" philosophy in all program and service deliveries.

XI. Correlation of CRA-SOC Document to CFAI Accreditation Model

Performance Indicator 2A.1

Service area boundaries for the agency are identified, documented, and legally adopted by the authority having jurisdiction.

Section V: Includes GIS Maps of Lenexa, square miles, and surrounding cities/townships.

Performance Indicator 2A.2

Boundaries for other service responsibility areas, such as automatic aid, mutual aid, and contract areas, are identified, documented, and appropriately approved by the authority having jurisdiction.

Section IV: Includes GIS Map of Johnson County and the county automatic/mutual aid agreement statement.

Core Competency 2A.3

The agency has a documented and adopted methodology for organizing the response area(s) into geographical planning zones.

Section VII: Includes a GIS Map of Lenexa divided into planning areas and an additional map of planning zones, and districts.

Core Competency 2A.4

The agency assesses the community by planning zones and considers the population density within planning zones and population areas, as applicable, for the purpose of developing total response time standards.

Section VII: Includes demographic information for each planning zone and planning area. This population density report determines the “Urban” designation for the east and central planning areas and “Rural” for the west planning area.

Performance Indicator 2A.5

Data that includes property, life, injury, environmental, and other associated losses, as well as the human and physical assets preserved and/or saved, are recorded for a minimum of three (initial accreditation agencies) to five (currently accredited agencies) immediately previous years.

Section VII: Includes fire loss data for years 2017-2021 environmental loss data from Kansas Department of Health and Environment (KDHE), and county CPR success data from Johnson County Med-Act for years 2017-2021.

Performance Indicator 2A.6

The agency utilizes its adopted planning zone methodology to identify response area characteristics such as population, transportation systems, area land use, topography, geography, geology, physiography, climate, hazards and risks, and service provision capability demands.

Section V: Includes GIS Maps and accompanying data for all characteristics listed in this indicator.

Performance Indicator 2A.7

Significant socio-economic and demographic characteristics for the response area are identified, such as key employment types and centers, assessed values, blighted areas, and population earning characteristics.

Section V: Includes demographic information and land values for the city and for each planning area and grid.

Performance Indicator 2A.8

The agency identifies and documents all safety and remediation programs, such as fire prevention, public education, injury prevention, public health, and other similar programs, currently active within the response area.

Section VI: Includes a description of agency programs and services.

Performance Indicator 2A.9

The agency identifies critical infrastructure within the planning area.

Section V: Includes GIS maps of critical infrastructure for the city (transportation, service utilities, communications, emergency production, and recreational).

Core Competency 2B.1

The agency has a documented and adopted methodology for identifying, assessing, categorizing, and classifying risks throughout the community or area of responsibility.

Section VII: Includes data derived from Heron's formula (tri axial) and Occupancy Vulnerability Assessment Profile (OVAP) scores.

Performance Indicator 2B.2

The historical emergency and non-emergency service demands frequency for a minimum of three immediately previous years and the future probability of emergency and non-emergency service demands, by service type, have been identified and documented by the planning zone.

Section VII: Includes both emergent and non-emergent incident analysis for all three planning areas and planning zones 2017-2021.

Performance Indicator 2B.3

Event consequence loss and save data that includes property, life, injury, environmental, and other losses and saves are assessed for three (initial accreditation agencies) to five (currently accredited agencies) immediately previous years.

Section VII: Includes fire loss data 2017-2021, environmental loss data from Kansas Department of Health and Environment (KDHE), and county CPR success data from Med-Act for years 2016-2020.

Core Competency 2B.4

The agency's risk identification, analysis, categorization, and classification methodology has been utilized to determine and document the different categories and classes of risk within each planning zone.

Section VII: Includes mapping of each grid for EMS, FIRE, HAZMAT, TECH RESCUE, and OTHER incident types.

Performance Indicator 2B.5

Fire protection and detection systems are incorporated into the risk analysis.

Section VII: Includes Occupancy Vulnerability Assessment Profile (OVAP) scoring definitions, GIS hot spot map, and OVAP score correlation to target hazards.

Performance Indicator 2B.6

The agency assesses critical infrastructure within the planning zones for capabilities and capacities to meet the demands posed by the risks.

Section V: Includes GIS maps of critical infrastructure for the city (transportation, service utilities, communications, emergency production, and recreational).

Section VII: Includes map pages of each planning zone to include road systems and other critical infrastructure statements.

Performance Indicator 2B.7

The agency engages other disciplines or groups within its community to compare and contrast risk assessments in order to identify gaps or future threats and risks.

Section VIII: Comparison to other accredited agencies as well as the work completed throught the Heart of America Accreditation Consortium.

Core Competency 2C.1

Given the levels of risks, area of responsibility, demographics, and socio-economic factors, the agency has determined, documented, and adopted a methodology for the consistent provision of service levels in all program areas through response coverage strategies.

Section VIII: Includes current deployment response time data and station locations.

Core Competency 2C.2

The agency has a documented and adopted methodology for monitoring its quality of emergency response performance for each service type within each planning zone and total response area.

Section IX: Includes the NFPA 1710 threshold levels established that identify responses above of the 1710 standard. This is captured in the FIREHOUSE® Software and through daily/weekly/monthly reports that are electronically generated for the executive staff.

Performance Indicator 2C.3

Fire protection systems and detection systems are identified and considered in the development of appropriate response strategies.

Section VII: Includes OVAP scoring definitions, GIS hot spot map, and OVAP score correlation to target hazards

Core Competency 2C.4

A critical task analysis of each risk category and risk class has been conducted to determine the first-due and effective response force capabilities, and a process is in place to validate and document the results.

Section VII: Includes all critical task analysis data for 2017-2021.

Core Competency 2C.5

The agency has identified the total response time components for delivery of services in each service program area and found those services consistent and reliable within the entire response area.

Section VIII: Includes all analytic data for the three response areas. Baseline and benchmark data is determined by reports with an effective response force and are assessed at the 90 percentile for 2017-2021.

Performance Indicator 2C.6

The agency has identified the total response time components for delivery of services in each service program area and assessed those services in each planning zone.

Section VIII: Includes all analytic data for the three response areas. Baseline and benchmark data is determined by reports with an effective response force and are assessed at the 90 percentile for years 2017-2021 and includes baseline and benchmark data.

Core Competency 2C.7

The agency has identified efforts to maintain and improve its performance in the delivery of its emergency services for the past three (initial accreditation agencies) to five (currently accredited agencies) immediately previous years.

Section X: Includes the NFPA 1710 threshold levels established that identify responses above of the 1710 range. This is captured by the report author and through daily/weekly/monthly Firehouse reports that are electronically generated for the executive staff.

Core Competency 2C.8

The agency's resiliency had been assessed through its deployment policies, procedures, and practices.

Section VIII: Includes station reliability data resiliency statement and resiliency factors such as automatic/mutual aid, training, and callback procedures.

Performance Indicator 2C.9

The agency's resiliency has been assessed through its deployment policies, procedures, and practices.

Section VIII: Includes resiliency drills and training.

Section XI: Response matrix including automatic/mutual aid response.

Core Competency 2D.1

The agency has documented and adopted methodology for assessing performance adequacies, consistencies, reliabilities, resiliencies, and opportunities for improvement for the total response area.

Section IX: Includes assessment methodology.

Appendix: Executive Staff Report Matrix.

Performance Indicator 2D.2

The agency continuously monitors, assesses, and internally reports, at least quarterly, on the ability of the existing delivery system to meet expected outcomes and identifies the remedial actions most in need of attention.

Section IX: Includes assessment methodology.

Appendix: Executive Staff Report Matrix

Core Competency 2D.3

The performance monitoring methodology identifies, at least annually, future external influences, altering conditions, growth and development trends, and new or changing risks, for purposes of analyzing the balance of service capabilities with new conditions or demands.

Section IX: Includes assessment methodology.

Section X: Includes planning information for Fire Station #6 and projected impact of the City Center development.

Performance Indicator 2D.4

The performance monitoring methodology supports the annual assessment of the efficiency and effectiveness of each service program at least annually in relation to industry research.

Section IX: Includes assessment methodology.

Performance Indicator 2D.5

Impacts of incident mitigation program efforts, (such as community risk reduction, public education, and community service programs), are considered and assessed in the monitoring process.

Section IX: Includes recent service improvements section.

Core Competency 2D.6

Performance gaps for the total response area, such as inadequacies, inconsistencies, and negative trends, are determined at least annually.

Section X: Includes recommendations to meet service gaps for the northeast corner of the City.

Core Competency 2D.7

The agency has systematically developed a continuous improvement plan that details actions to be taken within an identified timeframe to address existing gaps and variations.

Section X: Includes proposed station #6 data and impact on response times at the northeast corner of the city and the potential impact on service demands with the development of City Center.

Performance Indicator 2D.8

On at least an annual basis, the agency formally notifies the authority having jurisdiction (AHJ) of any gaps in the operational capabilities and capacity of its current delivery system to mitigate the identified risks within its service area, as identified in its standards of cover.

Section IX: Includes the annual presentation to the city manager and city council.

Core Competency 2D.9

On at least an annual basis, the agency formally notifies the AHJ of any gaps in current capabilities, capacity, and the level of service provided within its delivery system to mitigate the identified risks within its service area, as identified in its community risk assessment/standards of cover.

Section XI: Annual presentation to the city manager, city council, and governing body.

Performance Indicator 2D.10

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

Section VI: Community expectations by engaging external stakeholders though strategic planning.

Section IX: Annual presentation to the city manager, city council and governing body.

XII. Appendix

Map Update Metrics:

Scope: The Lenexa Fire Department requires a "Map Book" as a part of its accreditation process that is updated each time the accreditation status is renewed. An automated process has been created to complete this task that pulls live data and prints the map book as individual pages.

Assumptions:

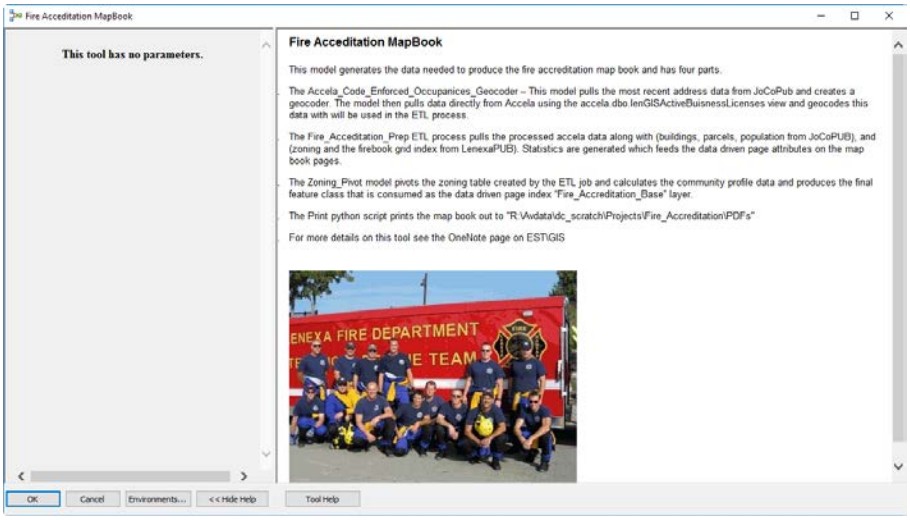
-Data Interop is installed on the machine running this process
-Database connection is created to Accela with access to the view 'accela.dbo.lenGISActiveBusinessLicenses'
-Database connection to LenexaPub & JocoPub

Run Time: Approx 10 minutes

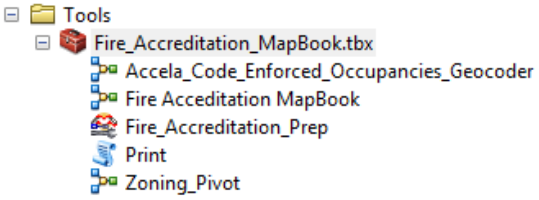
File Paths:

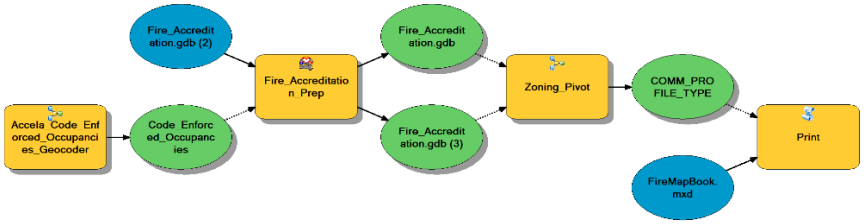
MXD Path: "R:\Avdata\dc_scratch\Projects\Fire_Accreditation\FireMapBook.mxd"
Output PDFs: "R:\Avdata\dc_scratch\Projects\Fire_Accreditation\PDFs"
Toolbox: "R:\Avdata\dc_scratch\Projects\Fire_Accreditation\Tools\Fire_Accreditation_MapBook.tbx"

Tool Interface:



The model consists of 4 parts that are combined into 1 tool. (Fire Accreditation MapBook)





-Accela_Code_Enforced_Occupancies_Geocoder ESRI Model

-Pulls data from DatabaseConnections\ACCELA.sde\accela.dbo.lenGISActiveBusinessLicenses
-Cleans address data due to nature of free form data entry
-Creates a geocoder from the Database Connections\LenexaPUB@OS.sde\LenexaPUB.DBO.Addresses
-Geocodes Accela data (Code Enforced Occupancies) and outputs to R:\Avdata\dc_scratch\Projects\Fire_Accreditation\Fire_Accreditation.gdb which will be consumed in the next step of the process

-**Fire_Accreditation_Prep ETL Workbench**

-Consumes geocoded Accela address data
-Consumes buildings, parcels, and population model from JoCoPub
-Consumes Zoning and Firebook_Grid_Index from LenexaPub
-This ETL workbench consumes the above data and calculates statistics needed for the community profile portion of each map page which includes: (# of residential/commercial structures, average structure value, planning zone estimated value of structures at risk, # of code enforced occupancies, and estimated population, % breakdown of zoning classification for each planning zone)
-Outputs a table "Pivot_Input" and feature "MEDNO_Polygons" to R:\Avdata\dc_scratch\Projects\Fire_Accreditation\Fire_Accreditation.gdb

-Zoning_Pivot ESRI Model

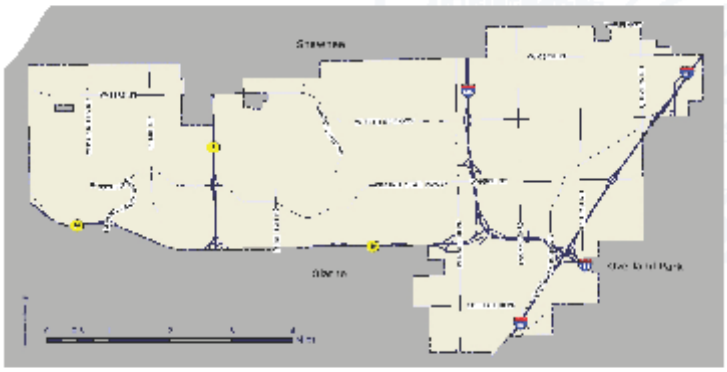
-Consumes "Pivot_Input" table and classifies each MEDNO polygon with the community type attribute ie rural, residential, commercial, ect
-Outputs the feature "Fire_Accreditation_Base which is used in the mxd as the data driven page index

-**Print Python Script**

-This script pulls the mxd, refreshes the data driven pages and prints to the pdf folder and tags each map with the MEDNO # and date.

COMMUNITY DATA PROFILE

Update: 12/2014



QUICK FACTS

Area: 34.3 sq. miles
Market region: Kansas City
Distance from Kansas City: 12 miles southwest
Year Incorporated: 1907
Website: www.lenexa.com
City Hall: 12350 W. 87th St. Pkwy, Lenexa, KS 66215
Phone: 913.477.7500

POPULATION & GROWTH

Male: 48.6%
Female: 51.4%
Median age: 37
Average Household Size: 2.48

City Population Growth		
		% change from previous
2014	50,344	4.5%
2010	48,190	20%
2000	40,238	18%
1990	34,110	83%
1980	18,639	256%
1970	5,242	

FORM OF GOVERNMENT

Mayor and City Council
Meets 1st and 3rd Tuesday of each month at 7 p.m. in the Council Chambers of City Hall.

TAX STRUCTURE

Local
Property Taxes (rate per $1,000 assessed value): $31.765
Ratio of Assessment:
- Residential: 11.5%
- Commercial/Industrial: 25%
- Personal (equipment): 30%

Sales Tax: 1.375%

County
Property Taxes (rate per $1,000 value): $23.247
Ratio of Assessment:
- Residential: 11.5%
- Commercial/Industrial: 25%
- Personal (equipment): 30%

Sales Tax: 1.225%

State*
Property Taxes (rate per $1,000 value): $1.50
Ratio of Assessment:
- Residential: 11.5%
- Commercial/Industrial: 25%
- Income, Married Filing Jointly: $0–$30,000: 2.7%; $30,001+: 4.6%
- Income, Single/Married Filing Separately: $0–$15,000: 2.7%; $15,001+: 4.6%
- Sales tax: 6.15%

* New rates go into effect January 2015

Automatic Daily Reporting List

2020 TP Summary (INVESTIGATORS)		Tinsley	Hoch	Diekemper		Myrtle	Mains		Rauh	Moore
2020TP Summary (INSPECTORS)		Tinsley	Hoch	Diekemper		Myrtle	Mains		Rauh	Moore
BC Significant Incidents - QA Rpt - 30 Days	Vaughn	Tinsley	Hoch	Diekemper	Welch	Myrtle	Mains	Miller	Rauh	Moore
FB001 Reaction Time - Prev 24hrs - A Shift	Vaughn	Tinsley	Hoch	Diekemper	Welch	Myrtle	Mains	Miller	Rauh	Moore
FB002 Reaction Time - Prev 24hrs - B Shift	Vaughn	Tinsley	Hoch	Diekemper	Welch	Myrtle	Mains	Miller	Rauh	Moore
FB003 Reaction Time - Prev 24hrs - C Shift	Vaughn	Tinsley	Hoch	Diekemper	Welch	Myrtle	Mains	Miller	Rauh	Moore
FB009 Training Analysis - Prev 24hrs - A Shift	Vaughn	Tinsley	Hoch	Diekemper	Welch	Myrtle	Mains	Miller	Rauh	Moore
FB009a Training Analysis - Prev 24hrs - A Shift by Station	Vaughn	Tinsley	Hoch	Diekemper	Welch	Myrtle	Mains	Miller	Rauh	Moore
FB010 Training Analysis - Prev 24hrs - B Shift	Vaughn	Tinsley	Hoch	Diekemper	Welch	Myrtle	Mains	Miller	Rauh	Moore
FB010b Training Analysis - Prev 24hrs - B Shift by Station	Vaughn	Tinsley	Hoch	Diekemper	Welch	Myrtle	Mains	Miller	Rauh	Moore
FB011 Training Analysis - Prev 24hrs - C Shift	Vaughn	Tinsley	Hoch	Diekemper	Welch	Myrtle	Mains	Miller	Rauh	Moore
FB011c Training Analysis - Prev 24hrs - C Shift by Station	Vaughn	Tinsley	Hoch	Diekemper	Welch	Myrtle	Mains	Miller	Rauh	Moore
FB012 Training Plan Summary - ABC Shift										
FB020 OT Summary by Shift for Assignments	Vaughn	Tinsley	Hoch	Diekemper	Welch	Myrtle	Mains	Miller	Rauh	Moore
FB020a OT Summary - Code 08 - OT Inspections	Vaughn	Tinsley	Hoch	Diekemper	Welch	Myrtle	Mains		Rauh	Moore
FB021 Significant Incidents Summary Report	Vaughn	Tinsley	Hoch	Diekemper	Welch	Myrtle	Mains	Miller	Rauh	Moore
FB031 Unit Reaction Time Report for MED-ACT	Vaughn	Tinsley	Hoch	Diekemper	Welch	Myrtle	Mains	Miller	Rauh	Moore
FB037 Building Fire Incident Report with Loss	Vaughn	Tinsley	Hoch	Diekemper	Welch	Myrtle	Mains	Miller	Rauh	Moore
FB042 Trade Time Summary by Shift	Vaughn	Tinsley	Hoch	Diekemper	Welch	Myrtle	Mains	Miller	Rauh	Moore
FB043 EMS Rpt Narr with Triage		Tinsley	Hoch					Miller		
FB055 Inc List Automatic Alarms Prev 24hrs		Tinsley	Hoch	Diekemper						
Last Maintenance Mechanical Report		Tinsley	Hoch	Diekemper	Welch	Myrtle	Mains		Rauh	Moore
COVID19 Consumable Use Report		Tinsley						Miller		
Call Processing Times - YTD List Report	Vaughn	Tinsley	Hoch							
Call Processing Times - TYD Report	Vaughn	Tinsley	Hoch							
FB034 Inc List Narrative - Prev 24hr	Vaughn	Tinsley	Hoch	Diekemper	Welch	Myrtle	Mains	Miller	Rauh	Moore

Table 3.1 Calculated Priority Risk Index (CPRI)

Characteristic Ranking	Definition
Probability*	
4 - Highly Likely	Event is probable within the calendar year Event has up to 1 in 1 year chance of occurring (1/1=100%) History of events is greater than 33% likely per year Event is "Highly Likely" to occur
3 - Likely	Event is probable within the next three years Event has up to 1 in 3 years chance of occurring (1/3=33%) History of events is greater than 20% but less than or equal to 33% likely per year Event is "Likely" to occur
2 - Possible	Event is probable within the next five years Event has up to 1 in 5 years chance of occurring (1/5=20%) History of events is greater than 10% but less than or equal to 20% likely per year Event could "Possibly" occur
1 - Unlikely	Event is possible within the next 10 years Event has up to 1 in 10 years chance of occurring (1/10=10%) History of events is less than or equal to 10% likely per year Event is "Unlikely" but is possible of occurring
Magnitude / Severity**	
4 - Catastrophic	Multiple deaths Complete shutdown of facilities for 30 or more days More than 50% of property is severely damaged
3 - Critical	Injuries and/or illnesses result in permanent disability Complete shutdown of critical facilities for at least two weeks 25–50% of property is severely damaged
2 - Limited	Injuries and/or illnesses do not result in permanent disability Complete shutdown of critical facilities for more than one week 10–25% of property is severely damaged
1 - Negligible	Injuries and/or illnesses are treatable with first aid Minor quality of life lost Shutdown of critical facilities and services for 24 hours or less Less than 10% of property is severely damaged
Warning Time	
4	Less Than 6 Hours
3	6-12 Hours
2	12-24 Hours
1	24+ Hours
Duration	
4	More Than 1 Week
3	Less Than 1 Week
2	Less Than 1 Day
1	Less Than 6 Hours

* Based on history, using the definitions given, the likelihood of future events is quantified.
** According to the severity associated with past events or the probable worst case scenario possible in the state.

Most Recent Annual Compliance Report

Center for Public Safety Excellence

4501 Singer Court, Suite 180
Chantilly, VA 20151
(703) 691-4620 T
(703) 961-0113 F
www.cpse.org

STATEMENT OF FINDINGS

TO: Commission on Fire Accreditation International

FROM: Dave Dauer

DATE: November 6, 2020

SUBJECT: Review of the annual compliance report for Lenexa Fire Department, Kansas.

INTRODUCTION

As the designated representative for the Center for Public Safety Excellence, Inc., I reviewed the Annual Compliance Report (ACR) for the Lenexa Fire Department. The purpose was to review this ACR to ensure the agency has maintained compliance with all core competencies and document any changes that have occurred in the previous year. Finally, to evaluate the agencies performance data and strategic recommendations for improvements in accordance with the 9th Fire and Emergency Service Self-Assessment Manual (FESSAM).

FINDINGS

Agency Information

Don Tinsley, Division Chief is the Accreditation Manager for the agency. The reviewer conducted a phone interview with the Accreditation Manager. The information presented is well prepared and complete.

Commission on Fire Accreditation International | Commission on Professional Credentialing | Technical Advisor Program

CFAI
Statement of Findings
Page 2

Agency/Jurisdiction Description

A career fire department of 92 full time personnel in 5 fire stations, covering a population of approximately 55,500. The department utilizes a daily minimum line operation staffing of 20.

This is Annual Compliance Report number 3 for the department.

The agency has a Class 1 ISO Rating

Agency/Jurisdiction Changes

The agency cited that Fire Chief Lonny Owens retired on 12/20/2019 and that Deputy Fire Chief Travis Vaughn was appointed the new Chief.

Changes in resources included a new 2019 Pierce Impel Engine that replaced the 2007 Pierce Velocity Apparatus that is now in reserve status; two new Chevrolet Tahoe's; one Ram 1500 pick-up truck; Reveal FirePRO personal thermal imaging cameras were purchased for all operations personnel; and an iSimulate REALITi360 was purchased in December 2019 for use as a Zoll X-Series simulator during EMS training.

Johnson County Fire Chiefs approved, through committee, the county-wide use of a Move-Up-Model (MUM) to assist with resource allocation during significant events or for high call volume areas of the county. This was implemented in June 2020. Additionally, the agency response plan was updated to associate the new Emergency Fire Dispatching incident types with its response plan matrix.

There was no significant change to the budget.

Compliance with Core Competencies

The agency indicates it is compliant with all 9th edition core competencies.

The agency did include exhibits for the listed core competencies as required under the 9th edition ACR template.

Compliance with Non-Core Competencies

The agency documented all five specific recommendations and changes from the site visit report. For each recommendation the agency explained each, provided a plan for improvement, and include exhibits.

Performance Monitoring

The agency indicates is currently meeting the performance indicators 2D.8, 2D.9, and 2D.10. The agency identified and explained each. Exhibits were provided to support their efforts.

Performance Tracking

The agency has submitted performance data at the 90th Percentile Times for 2017 through 2019, which also included benchmark and baseline performance statements from the most recent self-assessment cycle (2012-2016). Also, the aggregate times from 2017-2019 was calculated. The data is consistent with the data presented from their last peer assessment. No issues were noted during the review.

Strategic Recommendations.

Of the 8 strategic recommendations, all have been accepted and met with implementation.

Other Information

No other information was provided in this part of the ACR.

Exhibit List

All applicable exhibits were provided and verified. At total of 44 exhibits were provided along with the agency ACR.

Verification

Fire Chief Travis Vaughn signed the annual compliance report.

CFAI
Statement of Findings
Page 4

CONCLUSION

The Lenexa Fire Department has demonstrated that it is in compliance with all stated standards and core competencies.

RECOMMENDATIONS

I recommend that the Commission on Fire Accreditation International accept the Lenexa Fire Department Annual Compliance Report and that the Agency retain their Accredited Agency Status.

Lenexa Fire Department Response Matrix

Incident Type	Priority	Response	Response Plan
Aircraft Emergency	1	Lenexa Bat Chief > if unavailable do not replace	Lenexa Air - Tornado
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Engine Staffed	
		Engine Staffed	
		Lenexa Squad > if unavailable do not replace	
		MICT by CAP	
		ALS BC	
		ALS Ambulance > if over 9 respond with ALS FR if time savings is 5 or more.	
		Trauma Plan	
		Lenexa Chiefs Pager	
Aircraft Standby	8	Lenexa Engine > if over 12 min ask what to send	Lenexa Low Priority
ALS Transfer	6	ALS Ambulance	
Appliance Fire	5	Lenexa Squad> if unavailable do not replace	Lenexa Modified
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
Assist	8	Lenexa Engine > if over 12 min ask what to send	Lenexa Low Priority
Auto Alarm - Building	9	Lenexa Engine > if over 12 min ask what to send	Lenexa Low Priority
Auto Alarm - Residence	9	Lenexa Engine > if over 12 min ask what to send	Lenexa Low Priority
Automatic Alarm - Water flow	9	Lenexa Engine > if over 12 min ask what to send	Lenexa Low Priority
Building Fire	2	Lenexa Bat Chief > if unavailable Bat Chief	Lenexa Building Fire
		Bat Chief	
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Engine Staffed	
		Engine Staffed	
		Lenexa Squad > if unavailable do not replace	
		MICT by CAP	
		ALS Ambulance	
		Lenexa Chiefs Pager	
Carbon Monoxide Investigation	8	Lenexa Engine > if over 12 min ask what to send	Lenexa Low Priority

Incident Type	Priority	Response	Response Plan
CO Hazmat C1	2	**Lenexa Squad by CAP**	Lenexa CO Medical C1
		Lenexa Engine > if over 8 respond with Engine Staffed	
		MICT by CAP	
		ALS Ambulance	
CO Hazmat C1C	1	**First Responder (CAP)**	Lenexa CO Medical C1C
		Lenexa Squad by CAP	
		Lenexa Engine > if over 8 respond with Engine Staffed	
		MICT by CAP	
		ALS Ambulance > if over 9 respond with ALS FR if time savings is 5 or more.	
CO Hazmat C2	4	**Lenexa Squad by CAP**	Lenexa CO Medical C2
		Lenexa Engine > if over 10 respond with Engine Staffed	
		MICT by CAP	
		ALS Ambulance	
CO Hazmat C3	6	**Lenexa Squad by CAP**	Lenexa CO Medical C3
		Lenexa Engine > if over 12 respond with Engine Staffed	
		MICT by CAP	
		ALS Ambulance	
Collapse	2	Lenexa Bat Chief > if over 30 do not replace	Lenexa Collapse
		EMS First Responder by CAP	
		Lenexa Squad > if unavalable do not replace	
		Lenexa Engine > if over 12 respond with Engine Staffed	
		Lenexa Engine > if over 12 respond with Engine Staffed	
		Olathe Collapse TF	
		ALS BC	
		MICT by CAP	
		ALS Ambulance	
		Trauma	
		Pager Lenexa Chiefs	
Collapse Modified	5	Lenexa Squad> if unavailable do not replace	Lenexa Modified
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	

Incident Type	Priority	Response	Response Plan
Confined Space Rescue	2	Lenexa Bat Chief > if unavailable Bat Chief	Lenexa Technical Rescue
		Extrication Unit	
		Lenexa Engine > if over 12 min respond with Engine Staffed	
		Lenexa Squad > if unavailable do not replace	
		MICT by CAP	
		ALS BC	
		ALS Ambulance	
		Trauma Plan	
Critical Infrastructure	2	Lenexa Bat Chief > if unavailable do not replace	Lenexa Air Tornado
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Engine Staffed	
		Engine Staffed	
		Lenexa Squad > if unavailable do not replace	
		MICT by CAP	
		ALS BC	
		ALS Ambulance > if over 9 respond with ALS FR if time savings is 5 or more.	
		Trauma Plan	
		Lenexa Chiefs Pager	
Elevator Assist	7	Lenexa Engine > if over 12 min respond with Engine Staffed	Lenexa Still
Entrapment C1	2	Lenexa BLS First Responder > if over 8 respond with First responder	Lenexa Medical C1
		MICT by CAP	
		ALS Ambulance	
Entrapment C1C	1	Lenexa Bat Chief > if unavailable do not replace	Lenexa Extrication
		Lenexa Squad > if over 8.5 do not replace	
		Extrication Unit	
		Engine Lenexa > if over 8 min respond with Engine Staffed	
		MICT by CAP	
		ALS BC	
		ALS Ambulance > if over 9 respond with ALS FR if time savings is 5 or more.	
		Trauma Plan	

Incident Type	Priority	Response	Response Plan
Entrapment C2	4	Lenexa BLS First Responder > if over 10 respond with First responder	Lenexa Medical C2
		MICT by CAP	
		ALS Ambulance	
Entrapment C3	6	Lenexa BLS First Responder > if over 12 respond with First responder	Lenexa Medical C3
		MICT by CAP	
		ALS Ambulance	
EOD Activation	8	Lenexa Chiefs Pager	Lenexa EOD
EOD Investigation	8	Lenexa Chiefs Pager	Lenexa EOD
EOD Recovery	8	Lenexa Chiefs Pager	Lenexa EOD
EOD Standby	8	Lenexa Chiefs Pager	Lenexa EOD
EOD Tactical	8	Lenexa Chiefs Pager	Lenexa EOD
Explosion	7	Lenexa Engine > if over 12 min respond with Engine Staffed	Lenexa Still
Explosion Modified	5	Lenexa Squad> if unavailable do not replace	Lenexa Modified
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
Flue Fire	5	Lenexa Squad> if unavailable do not replace	Lenexa Modified
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
Grass Fire	7	Lenexa Engine > if over 12 min respond with Engine Staffed	Lenexa Still
Haz - Mat	3	Lenexa Bat Chief > if unavailable do not replace	Lenexa Haz-Mat
		Lenexa Engine > if over 12 min respond with Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Squad > if unavailable do not replace	
		OP Haz-Mat TF	
		ALS BC	
		MICT by CAP	
		ALS Ambulance	
		HM1173	
Haz - Mat Investigation	7	Lenexa Engine > if over 12 min respond with Engine Staffed	Lenexa Still
		Lenexa Squad > if unavailable do not replace	

Incident Type	Priority	Response	Response Plan
Ham Mat Modified	5	Lenexa Bat Chief > if unavailable do not replace	Lenexa HM Modified
		Lenexa Engine > if over 12 min respond with Engine Staffed	
		Lenexa Engine > if over 12 min respond with Engine Staffed	
		Lenexa Squad > if unavailable do not replace	
High Angle Rescue	2	Lenexa Bat Chief > if unavailable Bat Chief	Lenexa Technical Rescue
		Extrication Unit	
		Lenexa Engine > if over 12 min respond with Engine Staffed	
		Lenexa Squad > if unavailable do not replace	
		MICT by CAP	
		ALS BC	
		ALS Ambulance	
		Trauma Plan	
Incident Type	**Priority**	**Response**	**Response Plan**
High Rise Plan	3	Lenexa Bat Chief > if unavailable Bat Chief	Lenexa High Rise Plan
		Bat Chief	
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Engine Staffed	
		Engine Staffed	
		Lenexa Squad > if unavailable do not replace	
		MICT by CAP	
		ALS Ambulance	
		Lenexa Chiefs Pager	
		High Rise Plan:	
		3 Engines Staffed	
		4 Truck Companies Staffed	
		High Pressure Air Supply	
		2 Chief Officers	
		ALS BC	
		2 ALS Ambulances	
		HM1173	
		Comm 1	

		Salvation Army Canteen	
		Notify EOC	
		Pager TCT	
		Manually Set Chiefs Information Page in CAD	
Incident Type	**Priority**	**Response**	**Response Plan**
Hostile Event Level 1	2	Lenexa Bat Chief > if unavailable Bat Chief	Lenexa MCI Level 1
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Engine Staffed	
		Engine Staffed	
		Lenexa Squad > if unavailable do not replace	
		MICT by CAP	
		5 ALS Ambulances	
		2 ALS BC's	
		Pediatric TC	
		2 Trauma Centers	
		2 Hospitals	
		EM System - poll CMH, 2 TC's and 2 Hospitals	
		Med-Act pager Group M	
		Pager Lenexa Chiefs	
Hostile Event Level 2	2	Level 1 MCI Plus:	Lenexa MCI Level 2
		Fire BC	
		3 Engines Staffed	
		5 ALS Ambulances	
		Pager Lenexa Chiefs	
		Pager Med-Act Groups M & S	
		Med-Act Selective	
		MCI Alert EMSYSTEM All	
Hostile Event Level 3	2	Level 1 and 2 MCI Plus:	Lenexa MCI Level 3
		Fire BC	
		3 Engines Staffed	
		5 ALS Ambulances	
		Med-Act MCI Unit	
		Comm 1	
		Pager Lenexa Chiefs	
		Pager Med-Act Groups M & S	
		Pager IDT	

		Med-Act All Callback	
		MCI Alert EMSYSTEM All	
Incident Type	**Priority**	**Response**	**Response Plan**
House Fire	3	Lenexa Bat Chief > if unavailable Bat Chief	Lenexa House Fire
		Bat Chief	
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Engine Staffed	
		Engine Staffed	
		Lenexa Squad > if unavailable do not replace	
		MICT by CAP	
		ALS Ambulance	
		Lenexa Chiefs Pager	
Ice Rescue	2	Lenexa Bat Chief > if unavailable do not replace	Lenexa Ice Rescue
		Lenexa BLS First Responder > if over 12 First Responder	
		Lenexa Engine > if over 12 min respond with Engine Staffed	
		ALS BC	
		MICT by CAP	
		ALS Ambulance > if over 9 respond with ALS FR if time savings is 5 or more.	
		Call OPPD for Dive40 if needed	
Injury Accident - Collapse	1	Lenexa Bat Chief > if unavailable do not replace	Lenexa Collapse Modified
		EMS First Responder by CAP	
		Lenexa Squad > if over 30 do not replace	
		Lenexa Engine > if over 12 min respond with Engine Staffed	
		Lenexa Engine > if over 12 min respond with Engine Staffed	
		ALS BC	
		MICT by CAP	
		ALS Ambulance	
		Trauma	
		Pager Lenexa Chiefs	

Incident Type	**Priority**	**Response**	**Response Plan**
Injury Accident - Extrication	1	Lenexa Bat Chief > if unavailable do not replace	Lenexa Extrication
		Lenexa Squad > if over 8.5 do not replace	
		Extrication Unit	
		Engine Lenexa > if over 8 min respond with Engine Staffed	
		MICT by CAP	
		ALS BC	
		ALS Ambulance > if over 9 respond with ALS FR if time savings is 5 or more.	
		Trauma Plan	
Injury Accident C1	1	Lenexa BLS First Responder > if over 8 respond with First responder	Lenexa Injury Accident C1
		MICT by CAP	
		ALS Ambulance	
Injury Accident C1 Closest	1	Lenexa Bat Chief > if unavailable do not replace	Lenexa Injury Accident C1C
		First Responder by CAP	
		Lenexa BLS First Responder > if unavailable do not replace	
		MICT by CAP	
		ALS BC	
		ALS Ambulance > if over 9 respond with ALS FR if time savings is 5 or more.	
		Trauma Plan	
Injury Accident C2	4	Lenexa BLS First Responder > if over 10 respond with First responder	Lenexa Injury Accident C2
		MICT by CAP	
		ALS Ambulance	
Injury Accident C3	6	Lenexa BLS First Responder > if over 12 respond with First responder	Lenexa Injury Accident C3
		MICT by CAP	
		ALS Ambulance	
Incident Type	**Priority**	**Response**	**Response Plan**

Investigate	8	Lenexa Engine > if over 12 min ask what to send	Lenexa Low Priority
Investigate Gas Odor Inside	8	Lenexa Engine > if over 12 min respond with Engine Staffed	Lenexa Gas Odor Inside
		Lenexa Engine> if over 12 do not replace	
Lift Assist	6	Lenexa BLS First Responder > if over 12 respond with First responder	Lenexa Medical Assist
Lightning Strike Investigation	7	Lenexa Engine > if over 12 min respond with Engine Staffed	Lenexa Still
Incident Type	**Priority**	**Response**	**Response Plan**
Mayday	3	Lenexa Bat Chief > if unavailable Bat Chief	Lenexa Mayday
		Bat Chief	
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Engine Staffed	
		Engine Staffed	
		Lenexa Squad > if unavailable do not replace	
		MICT by CAP	
		ALS Ambulance	
		Lenexa Chiefs Pager	
		Mayday Response:	
		Bat Chief	
		5 Engines Staffed	
		High Pressure Air Supply	
		ALS Ambulance	
		ALS BC	
		Comm 1	
		HM1173	
		Pager TCT	
		Trauma Plan	
MCI Level 1	2	Lenexa Bat Chief > if unavailable Bat Chief	Lenexa MCI Level 1
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Engine Staffed	
		Engine Staffed	
		Lenexa Squad > if unavailable do not replace	
		MICT by CAP	

		5 ALS Ambulances	
		2 ALS BC's	
		Pediatric TC	
		2 Trauma Centers	
		2 Hospitals	
		EM System - poll CMH, 2 TC's and 2 Hospitals	
		Med-Act pager Group M	
		Pager Lenexa Chiefs	
Incident Type	**Priority**	**Response**	**Response Plan**
MCI Level 2	2	Level 1 MCI Plus:	Lenexa MCI Level 2
		Fire BC	
		3 Engines Staffed	
		5 ALS Ambulances	
		Pager Lenexa Chiefs	
		Pager Med-Act Groups M & S	
		Med-Act Selective	
		MCI Alert EMSYSTEM All	
MCI Level 3	2	Level 1 and 2 MCI Plus:	Lenexa MCI Level 3
		Fire BC	
		3 Engines Staffed	
		5 ALS Ambulances	
		Med-Act MCI Unit	
		Comm 1	
		Pager Lenexa Chiefs	
		Pager Med-Act Groups M & S	
		Pager IDT	
		Med-Act All Callback	
		MCI Alert EMSYSTEM All	
Medical - Trauma C1	2	Lenexa BLS First Responder > if over 8 respond with First responder	Lenexa Medical C1
		MICT by CAP	
		ALS Ambulance	
Medical - Trauma C2	4	Lenexa BLS First Responder > if over 10 respond with First responder	Lenexa Medical C2
		MICT by CAP	
		ALS Ambulance	
Medical - Trauma C3	6	Lenexa BLS First Responder > if over 12 respond with First responder	Lenexa Medical C3
		MICT by CAP	

		ALS Ambulance	
Medical Assist	6	Lenexa BLS First Responder > if over 12 respond with First responder	Lenexa Medical Assist
Incident Type	**Priority**	**Response**	**Response Plan**
Medical C1 Closest	1	**First Responder by CAP**	Lenexa Medical C1C
		Lenexa BLS First Responder > if unavailable do not replace	
		MICT by CAP	
		ALS Ambulance > if over 9 respond with ALS FR if time savings is 5 or more.	
Modified Response Building	5	Lenexa Squad> if unavailable do not replace	Lenexa Modified
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
Modified Response House	5	Lenexa Squad> if unavailable do not replace	Lenexa Modified
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
Mutual Aid Agency	9	Lenexa Chiefs Pager	Lenexa Fill In
Mutual Aid Response	5	Lenexa Engine > if over 12 min respond with Engine Staffed	Lenexa Still
Non Breather	1	Lenexa Bat Chief > if unavailable do not replace	Lenexa Non-Breather
		First Responder by CAP	
		Lenexa BLS First Responder > if unavailable do not replace	
		Lenexa BLS First Responder > if unavailable do not replace	
		MICT by CAP	
		ALS BC	
		ALS Ambulance > if over 9 respond with ALS FR if time savings is 5 or more.	
Non Breather C2	4	Lenexa BLS First Responder > if over 10 respond with First responder	Lenexa Medical C2
		MICT by CAP	
		ALS Ambulance	

Oil Tank Battery	5	Lenexa Engine > if over 12 min respond with Engine Staffed	Lenexa Still
Outside Fire Small	7	Lenexa Engine > if over 12 min respond with Engine Staffed	Lenexa Still
Outside Fire Large	5	Lenexa Squad> if unavailable do not replace	Lenexa Modified
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
Incident Type	**Priority**	**Response**	**Response Plan**
Spill	6	Lenexa Engine > if over 12 min ask what to send	Lenexa Low Priority
Stabbing GSW C1	2	Lenexa BLS First Responder > if over 8 respond with First responder	Lenexa Stabbing GSW C1
		ALS BC	
		MICT by CAP	
		ALS Ambulance	
Stabbing GSW C2	4	Lenexa BLS First Responder > if over 10 respond with First responder	Lenexa Stabbing GSW C2
		ALS BC	
		MICT by CAP	
		ALS Ambulance	
Stand By	9	Lenexa Engine > if over 12 min ask what to send	Lenexa Low Priority
Stand By - EMS	6	Lenexa BLS First Responder > if over 12 respond with First responder	Lenexa Medical C3
		MICT by CAP	
		ALS Ambulance	
Stand By - Gas Leak	8	Lenexa Engine > if over 12 min respond with Engine Staffed	Lenexa Standby Gas Leak
		KCC Pager	
Stand By - Police	8	Lenexa Bat Chief > if unavailable do not replace	Lenexa Standby PD
		Lenexa Engine > if over 12 min ask what to send	
Station Fill In	9	Lenexa Chiefs Pager	Lenexa Fill In
Tank Fire Large	5	Lenexa Bat Chief > if unavailable do not replace	Lenexa HM Modified
		Lenexa Engine > if over 12 min respond with Engine Staffed	
		Lenexa Engine > if over 12 min respond with Engine Staffed	
		Lenexa Squad > if unavailable do not replace	
Tank Fire Small	5	Lenexa Engine > if over 12 min respond with Engine Staffed	Lenexa Still

Incident Type	**Priority**	**Response**	**Response Plan**
Tornado Strike	2	Lenexa Bat Chief > if unavailable do not replace	Lenexa Air Tornado
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Engine Staffed	
		Engine Staffed	
		Lenexa Squad > if unavailable do not replace	
		MICT by CAP	
		ALS BC	
		ALS Ambulance > if over 9 respond with ALS FR if time savings is 5 or more.	
		Trauma Plan	
		Lenexa Chiefs Pager	
Train Derailment	3	Lenexa Bat Chief > if unavailable do not replace	Lenexa Derailment
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Engine Staffed	
		Engine Staffed	
		Lenexa Squad > if unavailable do not replace	
		ALS BC	
		MICT by CAP	
		ALS Ambulance	
		Lenexa Chiefs Pager	
Transport Vehicle Fire	5	Lenexa Engine > if over 12 min respond with Engine Staffed	Lenexa Still - 2 Heavies
		Lenexa Engine > if over 12 min respond with Engine Staffed	
Trauma Plan	1	Lenexa Bat Chief > if unavailable do not replace	Lenexa Trauma Plan
		First Responder by CAP	
		Lenexa BLS First Responder > if unavailable do not replace	

		MICT by CAP	
		ALS BC	
		ALS Ambulance	
		ALS Ambulance > if over 9 respond with ALS FR if time savings is 5 or more.	
Incident Type	**Priority**	**Response**	**Response Plan**
Trench Rescue	2	Lenexa Bat Chief > if unavailable do not replace	Lenexa Trench
		Extrication Unit	
		Lenexa Engine > if over 12 min respond with Engine Staffed	
		Lenexa Engine > if over 12 min Engine Staffed	
		Lenexa Squad > if unavailable do not replace	
		MICT by CAP	
		CFD and Olathe Trench Rescue Task Force	
		ALS Ambulance	
		Trauma Plan	
Vehicle Fire	4	Lenexa Engine > if over 12 min respond with Engine Staffed	Lenexa Still
Water Assist	3	Lenexa Squad > if unavailable do not replace	Lenexa Water Assist
		Lenexa Engine > if over 12 respond with Engine Staffed	
Water Rescue	2	Lenexa Bat Chief > if unavailable do not replace	Lenexa Water Rescue
		Lenexa BLS First Responder > if over 12 First Responder	
		Lenexa Engine > if over 12 min respond with Engine Staffed	
		Lenexa Boat > if unavailable Water Rescue TF	
		ALS BC	
		MICT by CAP	
		ALS Ambulance > if over 9 respond with ALS FR if time savings is 5 or more.	
		Call OPPD for Dive40 if needed	
Wildland	4	Lenexa Engine > if over 12 min respond with Engine Staffed	Lenexa Wildland
		Lenexa Brush > if unavailable do not replace	

Incident Type	**Priority**	**Response**	**Response Plan**
Wildland Structure	3	Lenexa Bat Chief > if unavailable Bat Chief	Lenexa Wildland Structure
		Bat Chief	
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Lenexa Engine > if over 12 Engine Staffed	
		Engine Staffed	
		Engine Staffed	
		Lenexa Squad > if unavailable do not replace	
		Lenexa Brush > if unavailable do not replace	
		MICT by CAP	
		ALS Ambulance	
		Lenexa Chiefs Pager	

NOTES

Second alarm building = Fire BC, 3 Engines Staffed, ALS BC, HM1173, Comm 1, Pager TCT, Pager Lenexa Chiefs, Set Chiefs Information Page in CAD.

Second alarm house = Fire BC,3 Supplemental Units, ALS BC, HM1173, Pager Lenexa Chiefs, Set Chiefs Information Page in CAD.
Third alarm building = Fire BC, 3 Staffed Engines, ALS Ambulance, Pager Lenexa Chiefs, Set Chiefs Information Page in CAD
Third alarm house = Fire BC, 3 Staffed Engines, ALS Ambulance, Comm 1, Pager TCT, Pager Lenexa Chiefs, Set Chiefs Information Page In CAD
Fourth and Fifth alarm = Fire BC, 3 Staffed Engines, Pager Lenexa Chiefs, Set Chiefs Information Page in CAD.

Lenexa BLS First Responder = Engine, Quint, Squad or Truck.
Lenexa Squad by CAP = Engine, Quint, Squad or Truck.
Lenexa Squads do not have a pump or tank. Do not send alone on fire responses
Tender response from NWCFD and Olathe on regular alarms where structure over 1000 ft from hydrant
Special school response on automatic alarms consist of 2 heavies and a squad. (modified response)
CFD2 & Olathe Trench Task Force = CFD2 BC, Ola BC, R21, 2 CFD2 Engines, CFD2 Quint, E51, R51, Tr52
ALS BC & ALS Ambulance

Olathe Collpase TF = Ola BC, Insp50, E51, R50, R51, HM56, TR52, ALS BC & ALS Ambulance
OP HM TF = OP BC, RE44, CR44, OP Engine, ALS BC, ALS Ambulance, HM1173 & Comm 1
Two unit response to Meritex Caves at 17501 W 98th St on fire events
Meritiex Building Fire - Units must be from Lenexa, Olathe, Overland Park or Shawnee on the first alarm assignment.
Metritex Collapse inside cave - Collapse response plus 2 additional Heavies.
Modified response on parking garage fires
8910 Renner Blvd - Perceptive Software Parking Garage
8800 Penrose Ln - Domain Parking Garage
16431 W 88th Pl - City Center East Lenexa
17150 W 88th St - Lenexa Civic Center Parking Garage
17190 W 87th St Pkwy - Spring Hill Suites
Special response on automatic alarms to high occupancy locations consist of 2 heavies and a squad if it can arrive within 8.5 minutes (modfifed response).
Benton House - 22000 Prairie Star Pkwy
Covenant Place - 8505 Pflumm Rd
Delmar Gardens of Lenexa - 9701 Monroivia St
Garden Villas of Lenexa - 9705 Monrovia St

Homestead of Lenexa - 8740 Caenan Lake Rd			
Lakeview Village Centerpointe - 13840 W 91st Ter			
Lakeview Village Eastside Ter - 9000 Park St			
Lakeview Village Heritage Place - 9100 Park St			
Lakeview Village Southridge - 14001 W 92nd St			
Lakeview Village Northpointe - 14100 W 90th St			
Rosewood Place - 8500 Pflumm Rd			
Silvercrest - 13600 & 13650 W 110th St			
Shawnee Mission Health Prairie Star - 23401 Prairie Star Pkwy			
Sunrise Senior Assisted Living - 15055 W 87th St Pkwy			
The District Building 1 8757 Penrose Ln			
The District Building 2 8847 Penrose Ln			
The Domain - 8800 Penrose Ln			
Village Cooperative - 14000 W 87th St Pkwy			
Villas at Waterside - 11501 W 81st St			
Surgical Hospital (MISH) - 10951 Lakeview			
Vintage Park - 8710 Caenan Lake Rd			
Date Revised 081419		Approved - _____	Lenexa FD
		Date	
		Approved -	Johnson County Med-Act
		Date _____	

Risk Assessment Classification Charts

Fire	Probability	Consequence	Impact	Risk Score	Risk Assessment
Appliance Fire	4	2	4	13.8564	Moderate
Building Fire	4	4	8	33.9411	High
Flue Fire	2	2	4	8.4852	Low
Grass Fire	4	2	2	8.4852	Low
High Rise Fire	2	4	8	25.9229	High
House Fire	4	2	8	25.9229	High
Modified Response - Building	4	4	4	19.5959	High
Modified Response - House	4	2	4	13.8564	Moderate
Outside Fire Large	2	2	6	12.3288	Moderate
Outside Fire Small	4	2	2	8.4852	Low
Tank Fire Small	2	2	2	4.8989	Low
Tank Fire Large	2	2	6	12.3288	Moderate
Transport Vehicle Fire	4	2	2	8.4852	Low
Vehicle Fire	4	2	2	8.4852	Low
Wildland	2	4	4	13.8564	Moderate
Wildland Structure	2	2	8	16.248	Moderate

EMS	Probability	Consequence	Impact	Risk Score	Risk Assessment
ALS Transfer	8	2	2	16.248	Moderate
CO Hazmat C1, C2, C3	4	2	4	13.8564	Moderate
CO Hazmat C1C	4	2	4	13.8564	Moderate
Injury Accident C1, C2, C3	8	2	2	16.248	Moderate
Injury Accident C1C	6	2	4	19.7989	High
Injury Accident Rollover	4	2	6	19.7989	High
MCI Level 1, 2, 3	2	4	8	25.9229	High
Medical - Trauma C1, C2, C3	8	2	2	16.248	Moderate
Medical - Trauma C1C	8	2	2	16.248	Moderate
Medical Assist	6	2	2	12.3288	Moderate
Non - Breather C2	6	2	2	12.3288	Moderate
Non - Breather C1C	6	2	6	28.1424	High
Stabbing - GSW C1, C2	4	2	4	16.248	Moderate
Standby EMS	4	2	2	8.4852	Low
Trauma Plan	6	2	2	12.3288	Moderate

Tech Rescue	Probability	Consequence	Impact	Risk Score	Risk Assessment
Collapse	2	2	6	12.3288	Moderate
Collapse Modified	2	4	4	13.8564	Moderate
Confined Space	2	2	6	12.3288	Moderate
Entrapment C1, C2, C3	2	2	2	4.8989	Low
Entrapment C1C	2	2	6	12.3288	Moderate
High Angle Rescue	2	2	6	12.3288	Moderate
Ice Rescue	2	2	6	12.3288	Moderate
Injury Accident - Collapse	2	4	6	19.7989	High
Injury Accident - Extrication	6	2	6	28.1424	High
Trench Rescue	2	2	6	12.3288	Moderate
Water Rescue	2	2	6	12.3288	Moderate

Hazardous Materials	Probability	Consequence	Impact	Risk Score	Risk Assessment
Carbon Monoxide Investigation	6	2	2	12.3288	Moderate
EOD Activation	2	2	2	4.8989	Low
EOD Investigation	2	2	2	4.8989	Low
EOD Recovery	2	2	2	4.8989	Low
EOD Standby	2	2	2	4.8989	Low
EOD Tactical	2	2	2	4.8989	Low
Explosion	2	4	2	8.4852	Low
Explosion Modified	2	4	4	13.8564	Moderate
Haz - Mat	2	4	6	19.7989	High
Haz - Mat Investigation	2	2	4	8.4852	Low
Haz - Mat Modified	2	4	6	12.3288	Moderate
Investigate Gas Odor Inside	4	2	4	13.8564	Moderate
Oil Tank Battery	2	2	2	4.8989	Low
Spill	4	2	2	8.4852	Low
Standby - Gas Leak	2	2	2	4.8989	Low
Train Derailment	2	6	8	36.7695	Maximum

Other	Probability	Consequence	Impact	Risk Score	Risk Assessment
Aircraft Emergency	2	4	8	25.9229	High
Aircraft Standby	2	2	2	4.8989	Low
Assist	8	2	2	16.248	Moderate
Auto Alarm - Building	8	2	2	16.248	Moderate
Auto Alarm - Residence	8	2	2	16.248	Moderate
Auto Alarm - Water Flow	6	2	2	12.3288	Moderate
Critical Infrastructure	2	6	8	36.7695	Maximum
Elevator Assist	4	2	2	8.4852	Low
Hostile Event Level 1, 2, 3	2	4	8	25.9229	High
Investigate	6	2	2	12.3288	Moderate
Lift Assist	6	2	2	12.3288	Moderate
Lightning Strike Investigation	2	2	2	4.8989	Low
Mayday	2	4	8	25.9229	High
Mutual Aid agency	2	2	2	4.8989	Low
Mutual Aid Response	2	2	2	4.8989	Low
Standby	2	2	2	4.8989	Low
Stanby - Police	2	2	2	4.8989	Low
Standby - Fill In	4	2	2	8.4852	Low
Tornado Strike	2	8	8	48	Maximum
Water Assist	2	2	2	4.8989	Low

Probability
2 = Quarterly/Yearly
4 = Monthly
6 = Weekly
8 = Daily
Consequence
2 = Individual/Business
4 = Multiple People/Businesses
6 = Multiple People/Businesses/Financial Impact to City
8 = City/Community/Region
Impact
2 = Four or Less
4 = Five to Eight
6 = Nine to Fourteen
8 = Fifteen Plus
Probability, Consequence, and Impact Scale
Low = 0.0000000 to 8.48529999
Moderate = 8.48530000 to 19.79890000
High = 19.7989999 to 33.94110000
Maximum = 33.94119999 and Above

Probability, Consequence, and Impact Scale
Low = 0.0000000 to 8.48529999
Moderate = 8.48530000 to 19.79890000
High = 19.7989999 to 33.94110000
Maximum = 33.94119999 and Above