Long Range Master Plan and Strategic Plan for the Fire Department

FREMONT, NEBRASKA

October 26, 2021

matrix consulting group

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Executive Summary

The Matrix Consulting Group was retained by the City of Fremont to facilitate the development of a Long-Range Master Plan and a Strategic Plan for the Fire Department. This document includes the project teams' research and analysis of the Fire Department and community that includes risk assessment, staffing, response capabilities, and deployment analysis.

Scope of Work

The scope of this study included the assessment of the Fremont Fire Department (FFD) operations, response capabilities, staffing, and other resources necessary for the delivery of services to the City of Fremont. A review of services and the delivery of those services should be performed periodically to ensure needs are being met. This project focused on the fire and EMS protection system response to calls and included:

- Response capabilities
- Response time analysis
- Resource locations
- Available resources
- Staffing and manpower.

The approaches used in this study were comprehensive as described below.

Approaches Utilized in the Study

To understand and evaluate service level issues facing the City of Fremont, the project team undertook an assessment of the fire department. The principal approaches utilized by the project team in this study included, but were not limited to, the following:

- **Internal Interviews** – members of the project team individually interviewed numerous executives, management, and supervisory staff of Fremont, and fire department leadership.
- **Group Discussions** – members of the project team conducted group discussions with the employees of the fire department.
- **Community Meetings** – two community meetings were conducted to gather feedback from the community about their fire department.

- **Surveys** – anonymous online surveys were employed to gather opinions and thoughts of the general public and the business community of the city.
- **Data Collection** – the project team collected a wide variety of external and internal data documenting the structure, operations and organization, including:
    - Department staffing and scheduling.
    - Documentation reflecting operations management.
    - Numerous output data points reflecting services provided.
    - Various other performance information and indicators.

  This data was summarized in a 'descriptive profile' of the fire department, which was reviewed and modified by FFD staff to ensure we had a factual foundation for the study. This approach ensured that the project team had an appropriate understanding of the Department.

Data was collected over the past several months and presented in interim deliverables. Throughout this process, the project team reviewed facts, findings, and conclusions through these interim deliverables with the fire department.

Summary of Strategic Initiatives

The following table provides a summary of goals established in this report. The report itself should be reviewed to understand the factual basis behind each goal as well as the analysis leading to each goal and the related objectives.

SUMMARY OF GOALS

ADMINISTRATIVE AND ORGANIZATIONAL	
Goal 1	Improve the administrative support for the fire department.
Goal 2	Establish a mentoring program to provide support to new officers and department members.
Goal 3	**Formally adopt the vision statement, mission statement, and core values as developed by the internal stakeholders of the fire department.**
EMERGENCY OPERATIONS	
Goal 4	Develop a plan to create a budget neutral program for the delivery of emergency medical services into the Fremont Rural Fire Protection District.
Goal 5	Develop an operational statement for the emergency services system.
Goal 6	**Work with the Fremont/Dodge County Communications Center to improve its staffing and operations.**
Goal 7	Improve the turnout time performance of the response time continuum.
Goal 8	Improve the available staffing for emergency calls for service
Goal 9	Improve the response time in the eastern sections of the city.
ESSENTIAL FUNCTIONS	
Goal 10	Reestablish the training program to oversee and improve the basic and ongoing training activities.
Goal 11	Establish a formal fire prevention program
PHYSICAL RESOURCES	
Goal 12	Renovate or replace the current fire station.

Organization and Overview

This section provides an overview of the general characteristics of Fremont.

Background and Overview

Located along the Platte River, Fremont is approximately 35 miles northwest of Omaha and approximately 50 miles northeast of Lincoln in the midwestern United States. Fremont has a long history dating back to the early 1800's largely due to the early movement to the west and its location along the Platte River including the Mormon Trail. In 1865 the Union Pacific Railroad reached the town followed by the Sioux City and Pacific Railroad and the Elkhorn Valley Railroad.

Today the City of Fremont encompasses approximately 11 square miles with an estimated population of 26,437, according to the 2019 US Census Bureau estimate. This creates a population density of approximately 2,403 people per square mile. US Highway 275 connects the City with Omaha which has allowed for additional growth in the eastern sections of the city.

Fremont is the county seat of Dodge County and is governed by an eight-member City Council. Two council members are elected from each ward and serve a four-year term. Council members must be residents of the wards from which they are elected. The mayor is elected at-large and also serves a four-year term. The City Administrator reports to the Mayor and City Council and is responsible for the overall management of the municipal departments.

Demographic Profile

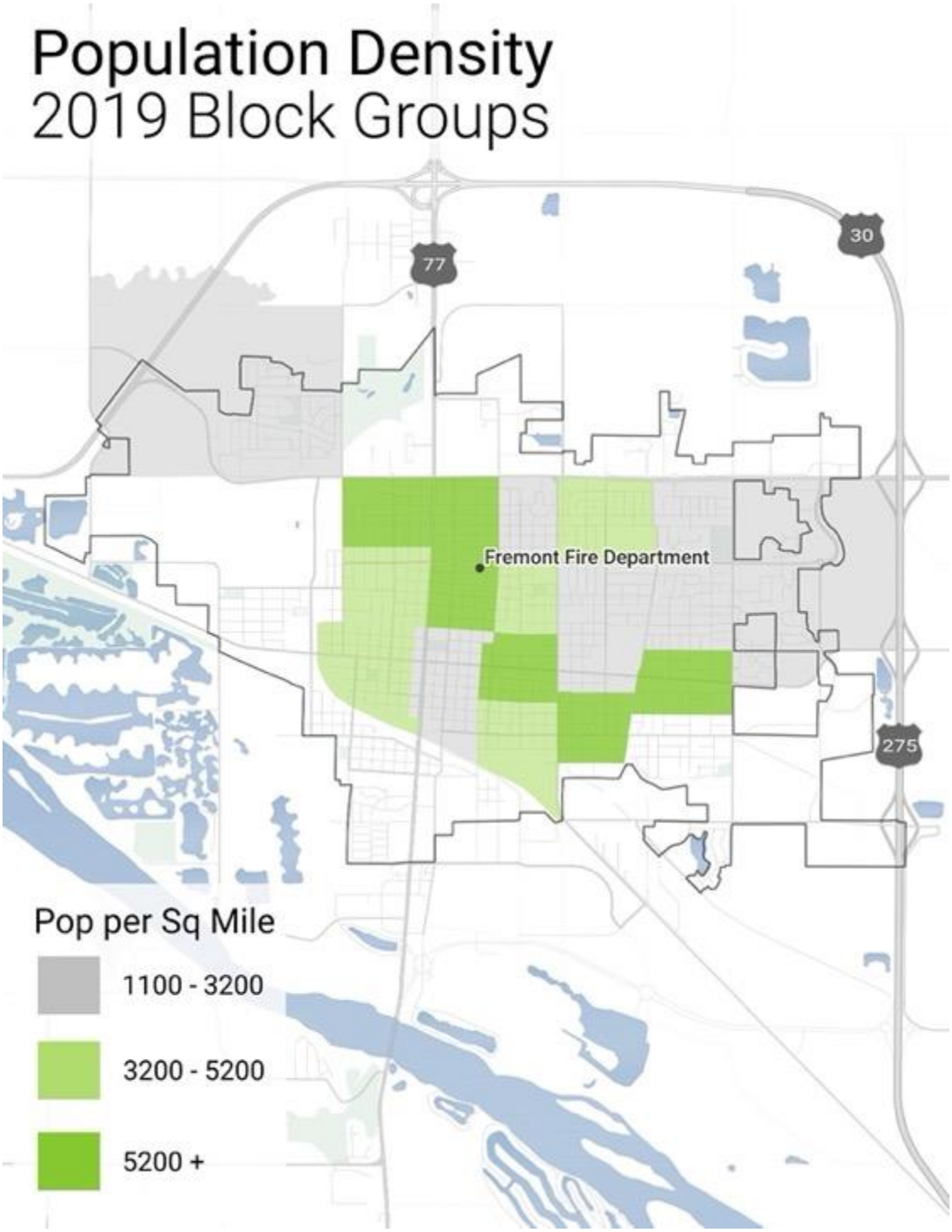
The following table illustrates the demographic profile of Fremont and changes that have occurred since the 2010 Census.

Fremont Demographics

US Census Bureau	2010	2015	2019
Estimated Fremont Population	26,397	26,483	26,437
Median Age	37.1	37	37.4
Children Under Age 5	6.8%	6.9%	6.9%
Children Ages 5 to 19 years	19.9%	20.1%	19.8%
Persons Aged 20 to 59 years	51.7%	50.7%	49.3%
Persons Aged 60 and over	21.6%	22.4%	24.0%
Families in Poverty	11.3%	8.5%	9.0%
Civilian Labor Force Unemployed	8.7%	5.0%	5.6%
Median Household Income	$42,917	$47,629	$49,474
Employment Sectors:			
Education, Health Care, Soc. Svc.	19.6%	22.8%	25.8%
Retail Trade	14.7%	16.8%	14.5%
Professional, Scientific, Mgmt.	7.3%	5.8%	5.6%
Finance, Insurance, Real Estate	5.7%	7.0%	5.3%
Entertainment, Recreation, Food	7.2%	7.0%	8.0%
Construction	7.7%	6.6%	7.4%
Manufacturing	19.8%	15.9%	15.9%
Transportation, Warehousing, Util.	4.6%	3.8%	5.7%
Public Administration	2.9%	3.2%	2.8%
Other Services	5.0%	4.3%	3.6%
Wholesale	2.9%	2.2%	2.1%
Information	0.8%	2.3%	1.1%
Agriculture, Forestry, Fishing	1.9%	2.4%	2.2%

The population of Fremont has increased approximately 0.2% since 2010 adding an estimated 40 residents. The largest change between the age groups is between the 20 to 59 age group and the over 60 age group with a 2.4% increase in the latter and a corresponding decrease in the former. The median age of the city has remained in the 37-year-old range for the past nineteen years.

The following map provides a view of population density by census tract.



Areas in the central core of the city have the higher population densities.

Fire Rescue Services

This chapter provides an overview of the fire protection system including the resources available to the city and a historical review of the workload for the Fire Department.

Organization

In the late 1800's there were seven volunteer fire companies to provide services to Fremont. They were governed by a board of directors made up of representatives from each of the seven volunteer fire companies. In 1911 the city purchased a Wilcox Hose and Chemical Truck and hired a man to run and care for the truck, essentially becoming the first paid employee of the Fremont Fire Department. Then in January 1929 the first Fire Chief was hired and since that time there have been eleven career fire chiefs in Fremont. The volunteer fire companies began to dismantle in 1937 and by the 1990's the volunteer members were absorbed into the Fremont Volunteer Fire Department. Fremont Volunteer Fire Department was eventually dissolved on July 10, 2012. The current fire department operates from the single fire station located at 415 East 16th Street that was built in 1968.

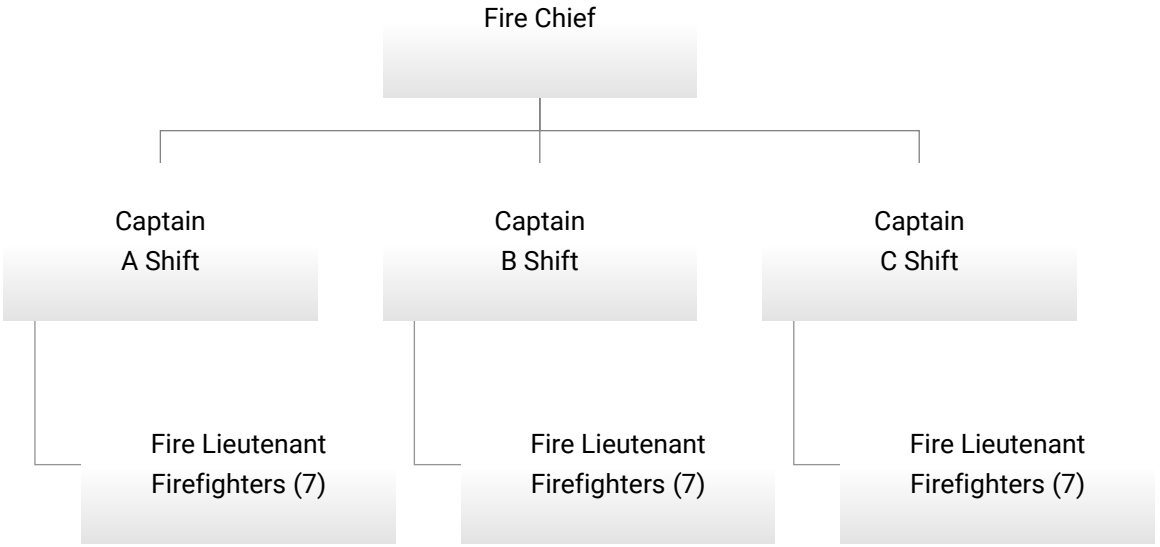
The Mission of the Fremont Fire Department is to protect Life and Property by providing:

- Fire and Safety Education
- Fire Prevention
- Prompt response to Fire, Medical and other related Emergencies

With professionally trained personnel in an efficient and cost-effective manner.

The organizational chart that follows illustrates the current Fire Department organization.

Fremont Fire Department Organizational Chart



Physical Resources

Service to the City of Fremont is provided from the single fire station located in the city. following map illustrates the location of the fire station.

Fremont operates on a three (3) platoon system, working 24 hours on and 48 hours off. The daily scheduled staffing is 9 personnel with a minimum staffing of 7 personnel. This

allows 2 personnel off on planned or unplanned leave before overtime is required to meet minimum staffing requirements.

The tables below outline the apparatus and staffing for the station.

Fremont Fire Department

Station 1				415 East 16th Street
Description of Use	Primary station for the city housing all response resources and fire administration.			
Apparatus Space	Four Bays with one drive through bay			
Assigned Apparatus	Unit ID	Year	Description	Type
	131	2010	Smeal	Type I Engine
	112	2019	Braun	Squad
	111	2013	International/Osage	Squad
	152	2016	Rosenbauer	Aerial/Ladder
	114	2008	Marque	Squad
	132	1995	E-One	Type I Engine
	133	2001	E-One	Type I Engine
	161	2011	Dodge Ram 2500 4x4 Pickup	Quick Response
	164	1994	Freightliner	Heavy Rescue

The Squad is staffed with 3 personnel. For the initial emergency medical call 3 personnel respond on the squad and are followed by 2 personnel on the quick response pickup to assist personnel on the squad. This results in 2 – 4 personnel remaining to staff the engine, ladder or squad if a second emergency call is received.

Minimum Staffing Assignments

Staffing for the individual units is assigned based on the type of call and the staffing available for the shift. The table that follows illustrates the unit staffing necessary for the type of call received and is based on the minimum staffing of 7 personnel for the shift. The following table outlines the staffing procedure.

Fremont Fire Department Staffing Matrix

	Ambulance	Chaser/Engine	Lead Engine	Second Engine/Ladder
Medical Calls				
First Ambulance	3	2		
Second Ambulance	2	2		
Medical Intercept		2 to 3		
Fire Calls				
Structure Fire	1		4	2
Vehicle Fire	1		4	
Fire Alarms			2 to 4	
Open Burn			2	

Historical Workload

The Fire Department responds to emergency and non-emergency calls for service. The following table illustrates the activities of the Department grouped by the type of call or detail for calls responded to by the Fire Department.

Calls for Service by Type

	2018	2019	2020	Total	Pct.
Auto Accidents	154	202	157	513	5.8%
Medical Calls	2,308	2,520	2,621	7,449	84.5%
Total Medical and Auto Accidents	2,462	2,722	2,778	7,962	90.3%
Alarm – Activation	31	47	36	114	1.3%
Alarm - False	2	1	0	3	0.0%
Alarm – Malfunction	30	40	43	113	1.3%
Other Type Fire	10	17	12	39	0.4%
Smoke Scare	25	15	29	69	0.8%
Structure Fire	11	20	19	50	0.6%
Vegetation/Brush/Debris Fires	12	5	17	34	0.4%
Unauthorized Burning	9	12	36	57	0.6%
Vehicle Fire	8	10	9	27	0.3%
All Fire Calls	138	167	201	506	5.7%
Rescue Calls - Extrication	3	5	1	9	0.1%
Rescue Calls - Other	8	3	4	15	0.2%
Rescue Calls - Search	2	0	0	2	0.0%
Rescue Calls - Water	1	6	7	14	0.2%
All Rescue Calls	14	14	12	40	0.5%
Dispatched/Canceled	48	67	62	177	2.0%
Good Intent Calls	0	1	2	3	0.0%
Hazardous Condition	23	11	21	55	0.6%
Hazardous Materials	10	21	27	58	0.7%
Severe Weather Alerts	1	0	0	1	0.0%
Service Calls	2	7	7	16	0.2%
Other Type of Calls	84	107	119	310	3.5%
Total Calls for Service	**2,698**	**3,010**	**3,110**	**8,818**	

Overall, medical calls represent approximately 85% of the call volume with auto accidents accounting for an additional 6% of the call volume. Fire alarms, vegetation fires, and hazardous condition calls account for approximately 5% of the calls for service.

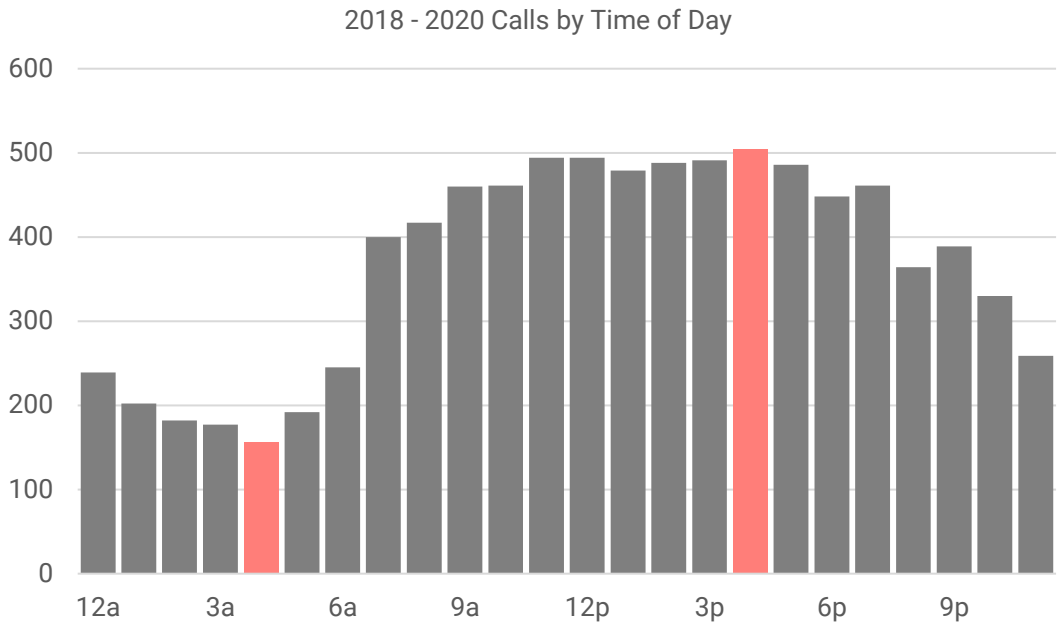
The following table displays the total number of calls for service handled by the Fremont Fire Department by each hour and day of the week for the past three years. Both emergency and non-emergency calls were included to provide an overall view of the call demand on the fire protection system.

Calls for Service by Hour and Weekday

Hour	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total
12 am	39	28	23	35	26	37	51	239
1 am	47	33	26	18	24	27	27	202
2 am	24	21	28	29	22	26	32	182
3 am	32	28	28	30	15	15	29	177
4 am	24	20	18	18	24	28	24	156
5 am	24	38	19	33	25	31	22	192
6 am	24	47	41	37	35	27	34	245
7 am	50	62	60	52	69	49	58	400
8 am	37	63	77	70	61	61	48	417
9 am	44	76	72	76	50	73	69	460
10 am	47	78	58	72	63	83	60	461
11 am	57	80	68	79	87	70	53	494
12 pm	65	64	78	60	72	84	71	494
1 pm	66	62	75	90	52	83	51	479
2 pm	65	67	74	77	71	69	65	488
3 pm	68	64	72	75	71	79	62	491
4 pm	62	80	78	79	70	78	57	504
5 pm	65	76	68	59	84	71	63	486
6 pm	62	64	68	68	57	71	58	448
7 pm	60	58	67	61	74	60	81	461
8 pm	51	62	52	45	50	40	64	364
9 pm	64	49	51	53	54	55	63	389
10 pm	36	35	49	36	60	56	58	330
11 pm	28	36	34	35	46	31	49	259
Total	1,141	1,291	1,284	1,287	1,262	1,304	1,249	8,818

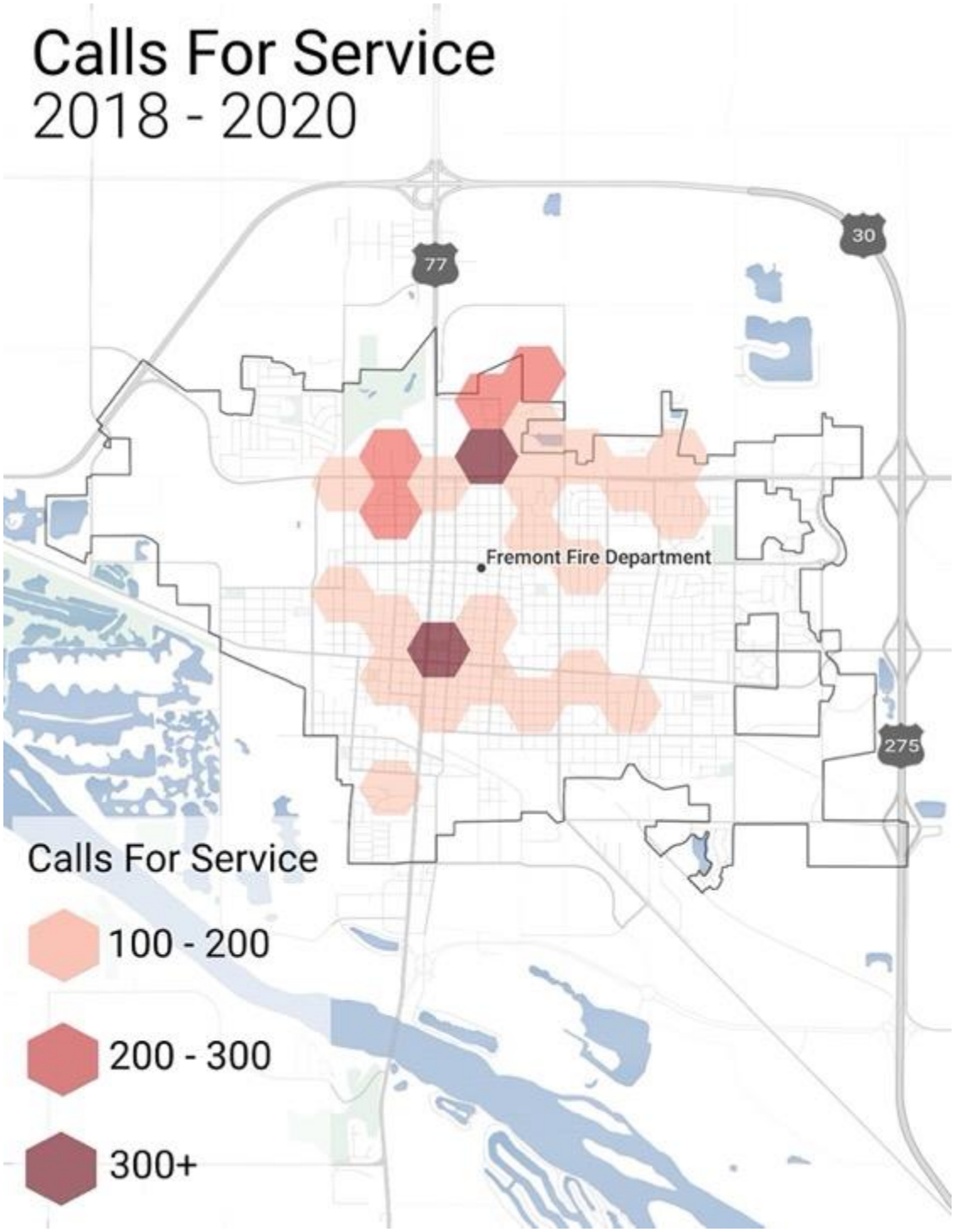
The call volume is heaviest during the middle part of the day from late morning to the early evening with every day of the week relatively even in terms of the number of calls. The calls for service varied by time of day and day of the week. The busiest hour of the day is 4 pm with the slowest hour being 4 am.

The following chart further illustrates the calls for service by hour of the day.



As illustrated above, calls increase sharply at the 7 am hour peaking at 4 pm and remain steady throughout the day. The calls begin to decline at the 7 pm hour and sharply decline at the 9 pm hour with 4 am being the slowest hour of the day.

The following map illustrates the call demand using GIS technology to outline where the majority of the calls are occurring. As illustrated, the highest volume of calls is north of the central sections of the city. There is also a clustering of calls in the central section of the city.



The Fire Department responds to all emergency medical calls and provides transport services in the Fremont Rural Fire District response area. There is no charge to the Fremont Rural Fire District for this service and the revenue from the ambulance bill is collected to support this service. The Department also provides advanced life support intercept services for other volunteer fire departments in Dodge County when critical calls require the level of care that only certified paramedics can provide. There are also areas in the unincorporated areas of the County that contract for fire services with the City. These are typically new residential or commercial areas that have developed, but not been annexed into the City of Fremont.

The following table illustrates both the number of calls responded to in the Fire District and advanced life support intercepts from 2018 – 2020. These calls for service are included in the total responses illustrated previously.

Service Area	2018	2019	2020
FRFPD	230	252	210
Contract Area	13	17	7
Out of City	75	72	48
Total	**318**	**341**	**265**

As illustrated above, approximately 11.8% of the Fire Department calls for service were outside the city in 2018, this declined to 8.5.% in 2020.

Financial Resources

The City of Fremont operates on a fiscal year ending on September 30. Budget preparation is the responsibility of the City Administrator with assistance from the various department heads throughout the city.

Revenues

The city receives revenues from a variety of sources including taxes, licenses, permits, and charges for services. Sales tax and property taxes combined represent approximately 43.6% of the revenues. The following table is a summary of the revenues that are attributable to the Fire Department.

Fremont Fire Department Revenues

Line Item	2018	2019	2020
Federal Funding	$0	$0	$24,238
Local Grants/NP Donations	$0	$0	$2,500
Services	$20,550	$18,534	$19,108
Rescue Squad Income	$593,990	$598,164	$595,617
Fire Call Billing	$29,571	$30,478	$18,278
Contributions/Donations	$15,150	$1,020	$720
Miscellaneous	$12	$0	$0
InterCity Transfer/Pass Thru	$675,534	$946,170	$841,135
Total Revenues	**$1,334,807**	**$1,594,366**	**$1,501,596**

Expenditures

The following table is a summary of the operating expenditures for the Fire Department.

Fremont Fire Department Expenditures

Line Item	2018	2019	2020
Salaries/Wages	$1,793,712	$1,808,565	$1,815,405
Health Insurance	$633,029	$544,068	$544,417
Overtime Wages	$174,188	$235,708	$199,235
Post-Employment Health	$10,675	$8,925	$9,765
FICA/Medicare	$27,641	$28,350	$28,099
Pension	$247,369	$192,371	$237,437
Total Personnel Expenditures	**$2,886,614**	**$2,817,987**	**$2,834,358**
Contractual Services	$231,666	$223,143	$247,840
Commodities	$88,873	$94,013	$116,497
Fixed Assets	$64,254	$321,146	$291,087
Debt Reduction	$125,024	$125,024	$125,024
Total Expenditures	**$3,396,430**	**$3,581,313**	**$3,614,806**

As illustrated, personnel services for the Fire Department are the largest operating expenditure for the Fremont Fire Department, accounting for approximately 78.5% of operating expenditures in 2020.

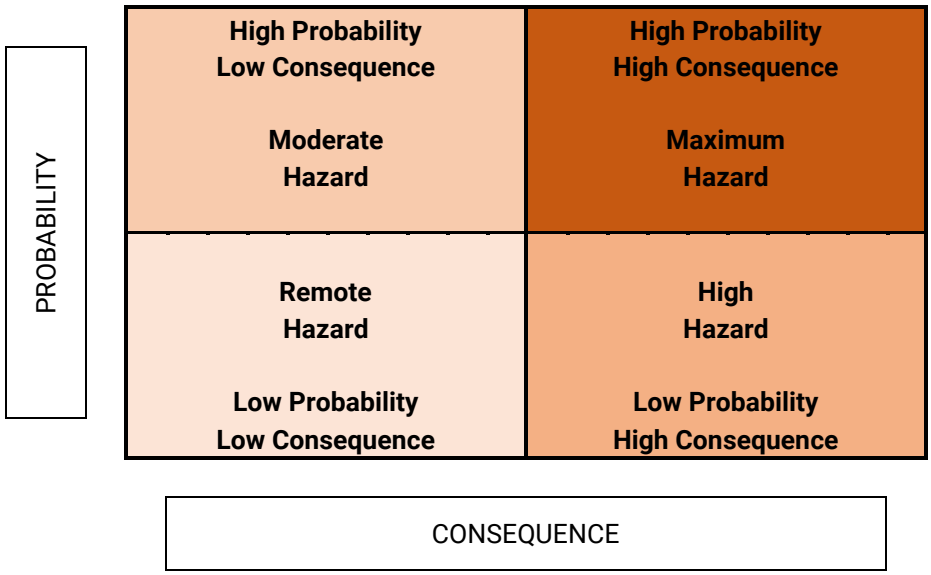
Community Risk Assessment

Risk is defined as the possibility of loss or injury or other unwelcome adverse circumstance or event. As a community we try to reduce the effects of the unwanted events through mitigation efforts prior to an emergency and using services such as police departments, public works and fire departments.

Risk Factors and Categories

Determining the fire and non-fire risks in a community provides the foundation to develop resource deployment strategies to reduce the effects of the unwanted events or circumstances. There are three primary components used in the risk assessment.

- Identification – what are the hazards faced by the community.
- Probability – the likelihood that an unwanted event will occur within a given period of time. Events that occur daily is highly probable while those that occur annually are less likely.
- Consequence – the measure of disparate outcome that can be defined by loss of life, loss of property and loss of historic values.
- Occupancy Risk – an assessment of the built upon area and the types of structures in the area, their occupancies, and any special risks that may be present.



The previous graph illustrates the correlation between the probability of occurrence and consequences of that occurrence. The result of this graph then allows for the identification of the hazard class. The four hazard classes are defined as follows:

Maximum Risk

An area classified as maximum risk should be of substantial size and contain properties presenting a high risk of life loss, loss of economic value to the community, or large loss damage to property if destroyed. Such areas would ordinarily be the highest fire flow areas and have a high probability of events. The structures within them may lack built in fire protection features and may contain occupants not capable of self-preservation. Maximum risk areas include the following:

- Major shopping and business centers, large department stores, shopping malls, multi-story hotels, and office properties.
- Concentrations of high risk industrial and commercial properties including hazardous materials facilities. Such as the area south of the rail line and areas near the airport.
- Concentrations of theaters, cinemas, clubs, bars and other areas with potential for large life loss.
- Occupancies with occupants that may require assistance such as non-ambulatory or restrained persons (i.e., nursing homes and hospitals); such as the Methodist Fremont Health.
- Any occupancy over 10,000 square feet without built-in fire protection.
- Emergency medical, rescue, special operations incidents requiring multiple alarms.

Maximum risks frequently impact a fire agency's needs for multiple alarm capability and an adequate assessment of its ability to concentrate resources. Failure to identify these risks often results in the inability to effectively control these incidents. In the sections that follow, many of these risks are identified as places of assembly, hazardous materials storage, and high fire-flow buildings.

In addition to the buildings and structures included in the maximum risk areas, special events pose a large risk in terms of the number of attendees and the large areas involved in some of those events. Threats in these situations include terrorism, mass casualty incidents, and severe weather events are all part of this risk.

High Risk

A high-risk area is defined as one that contains properties or hazards presenting a substantial risk of life loss, a severe financial impact on the community, or unusual

potential damage to property if there is a fire and has a low probability of events. Examples of such areas include the following:

- Strip shopping centers and business centers not exceeding two stories. Such as the business areas along East 23rd Street.
- Concentrated areas of revenue generating properties or high job loss to the community if business is lost.
- Infrastructure facilities such as schools, city, county, state, and federal facilities.
- Properties deemed to be of historical value to the community.
- Any building with life safety and fire load beyond the reach of pre-connected hose lines (200 feet).
- Concentrated areas of single- or two-story multi-family dwellings.
- Any occupancy over 10,000 square feet with built-in fire protection not classified as a maximum risk.
- Emergency medical, rescue, special operations incidents requiring a first alarm.

The Downtown business area is a similar type of risk. The buildings are older and represent the core of the city. As well, there are numerous businesses and local government offices located in this area.

Moderate/Typical Risk

An area is classified as a moderate fire risk when it contains built up areas of average size and the risk of life loss or damage to property if there is a fire in a single occupancy is usually limited to the occupants. In certain areas such as small apartment complexes, the risk of death or injury may be relatively high. Concentrations of property may vary, but generally will be of limited extent. Probability of fire events are high along with frequent, routine non-fire risks resulting in a service demand other than fire. Examples of moderate risk areas include the following:

- Developments of generally detached single family housing.
- Apartments with pre-connected hose line access (200 feet).
- Industrial or commercial buildings under 5,000 square feet without built in fire protection.
- General business offices under 5,000 square feet.
- Emergency medical, rescue, special operations incidents requiring three units or less.

These risks are often the greatest factor in the distribution of fire stations to ensure fair and equitable access to initial attack capability. As with the maximum risk above, there

are a number of moderate risk buildings and structures identified in the following sections.

Remote Isolated Rural Risks

Areas may be classified as remote rural risks if they are isolated from any centers of population and contain few buildings. There is a low probability of events and low consequences. Examples include the following:

- Rural land with minimal occupied structures.
- Recreational areas.

Natural Hazard Assessment

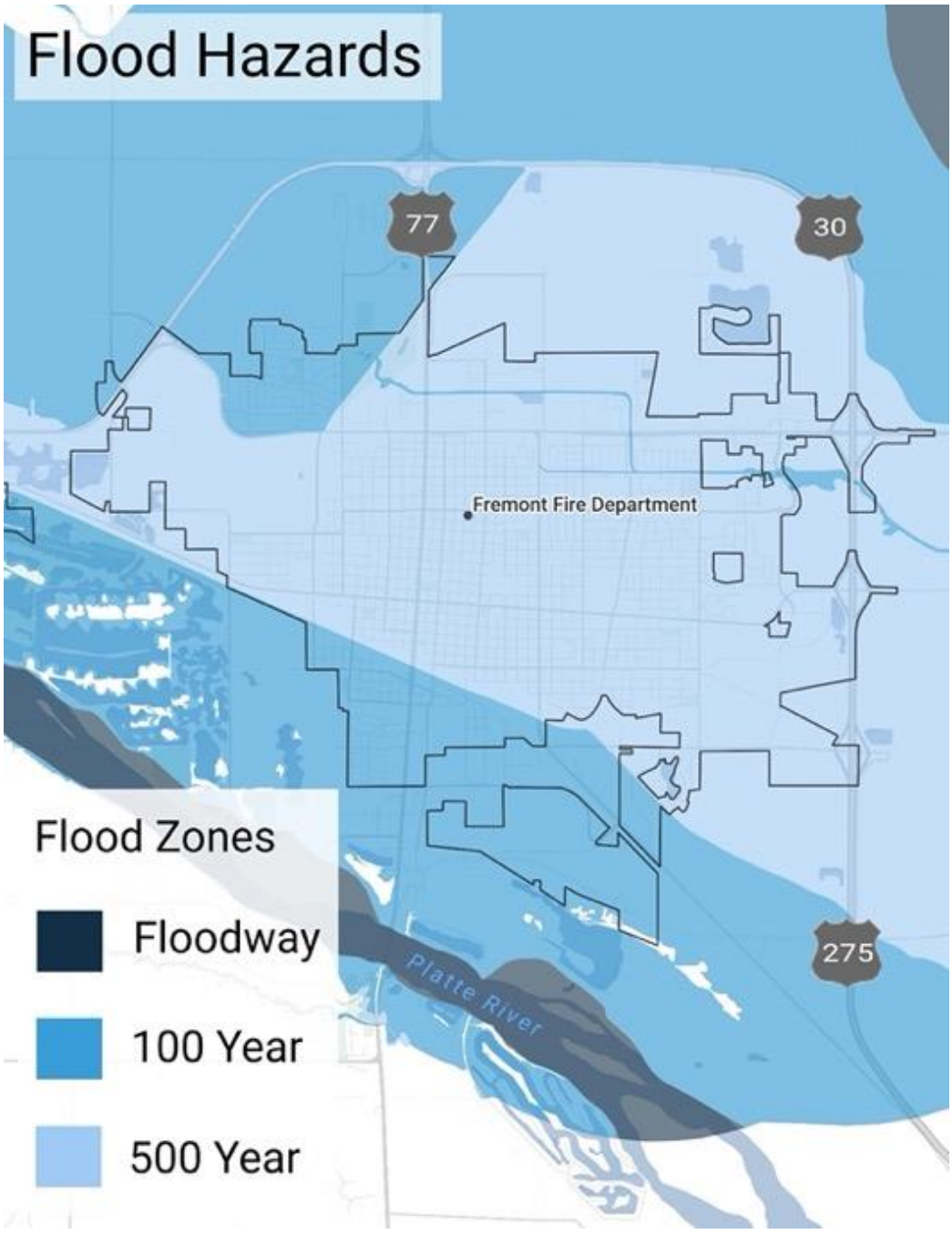
The Fremont Hazard Mitigation Plan was updated in 2020 and is a good source of information related to natural hazards. Hazard Mitigation plans provide information on the type of hazard but also provides information on the vulnerability and probability of an event occurring. The following events are those most likely to occur in the city.

- Transportation hazards include vehicular and railway traffic. These hazards are further evaluated in the next section.
- Flooding is another major hazard for the city and is also further evaluated in a subsequent section.
- Severe Thunderstorms occur in the area typically from the spring through the summer months. These storms may produce hail, flooding rains, high winds, and power outages.
- Tornadoes will occur in the area with the last such event in 2014 but caused little damage.
- Levee Failures occur along the Platte River. Ice jams have also created problems in the past with the last event occurring in March 2019 which resulted in numerous levee failures.
- Severe Winter Storms can produce large amounts of snow and the winds along the flat terrain can cause considerable snow drifts. In 2016 a blizzard occurred leaving approximately 10 inches of snow on the ground.

An indirect impact with these events may be ability of outside resources unable to provide assistance. For example, widespread flooding may limit the resource availability form other jurisdictions to respond and assist in the Fremont response.

Flooding

Flooding is major hazard for the Fremont area. The city is located between the Platte River and the Elkhorn River with Rawhide Creek flowing between the two and through the middle of the city. The flat terrain has created drainage issues and exacerbates the flooding hazard. Also adding to the problem is the potential for levee failures along the Platter River as well as ice jams in the same area. As illustrated in the map that follows the City of Fremont is entirely located in a flood plain.



Transportation Hazards

Hazards associated with transportation include vehicular and rail traffic. In terms of railways, there is a rail yard along the southern side of the city with inbound/outbound lines weaving through various other parts of the city. Union Pacific, Burlington Northern Santa Fe, and Fremont and Elkhorn Valley Railroads all operate in the area. Commodities transported by the railroads include crude oil and other chemicals as well as coal. The following map illustrates the location of the railways and major highways.

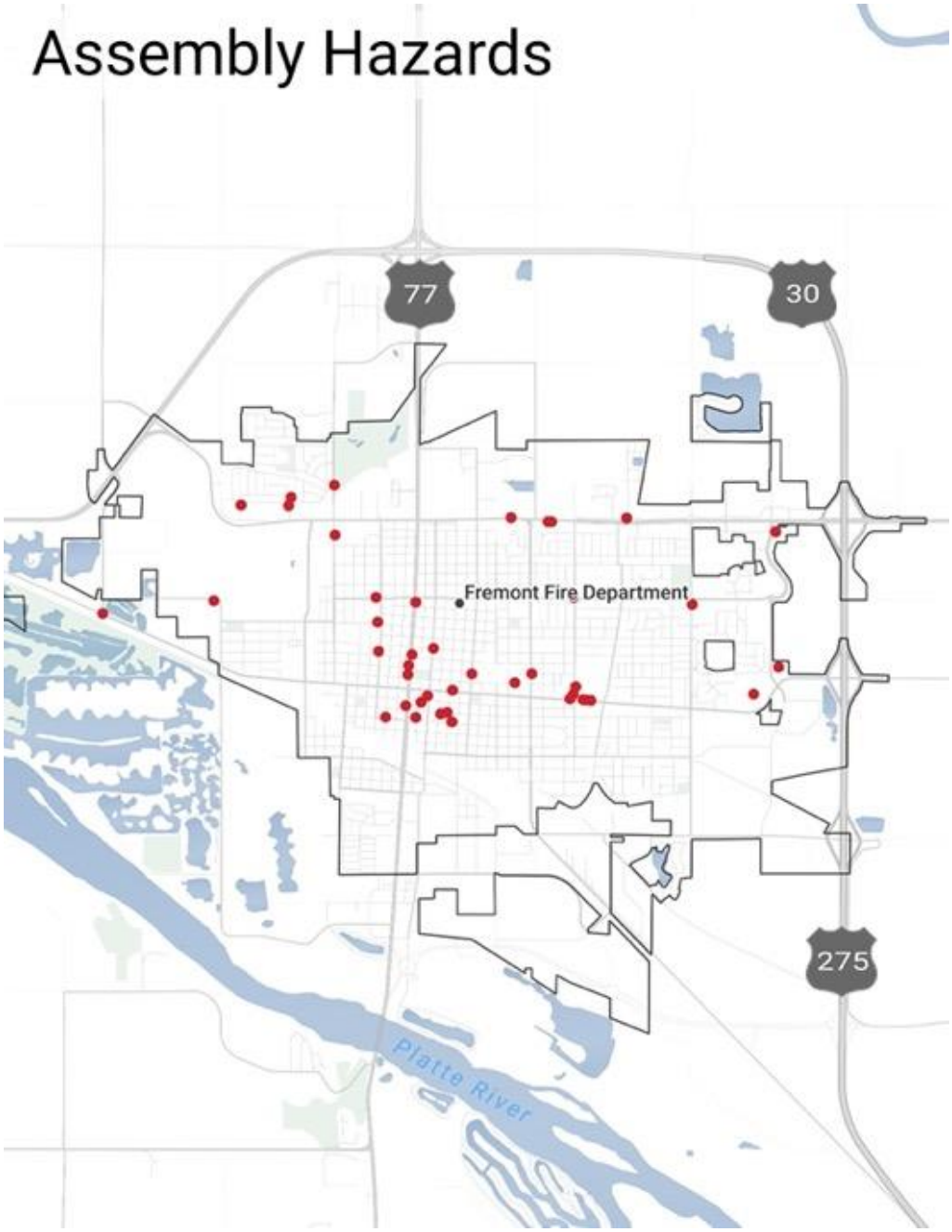
Vehicular traffic is heaviest along US Highways 30, 77, and 275. Business 30, otherwise known as 23rd Street, is an east/west connector along the northern half of the city. In the highest traffic segment, Highway 77 has an annual average 12,880 vehicles per day and Highway 275 has an average annual traffic volume of 16,380 vehicles per day.

Physical Hazards

Physical hazards are facilities in the built upon area that may present a unique challenge for the Fire Department. These facilities are also referred to as target hazards. The Federal Emergency Management Agency (FEMA) defines target hazards as those facilities either in the public or private sector that provide essential products and services to the public, are otherwise necessary to preserve the welfare and quality of life in the community, or fulfill important public safety, emergency response, and/or disaster recovery functions.

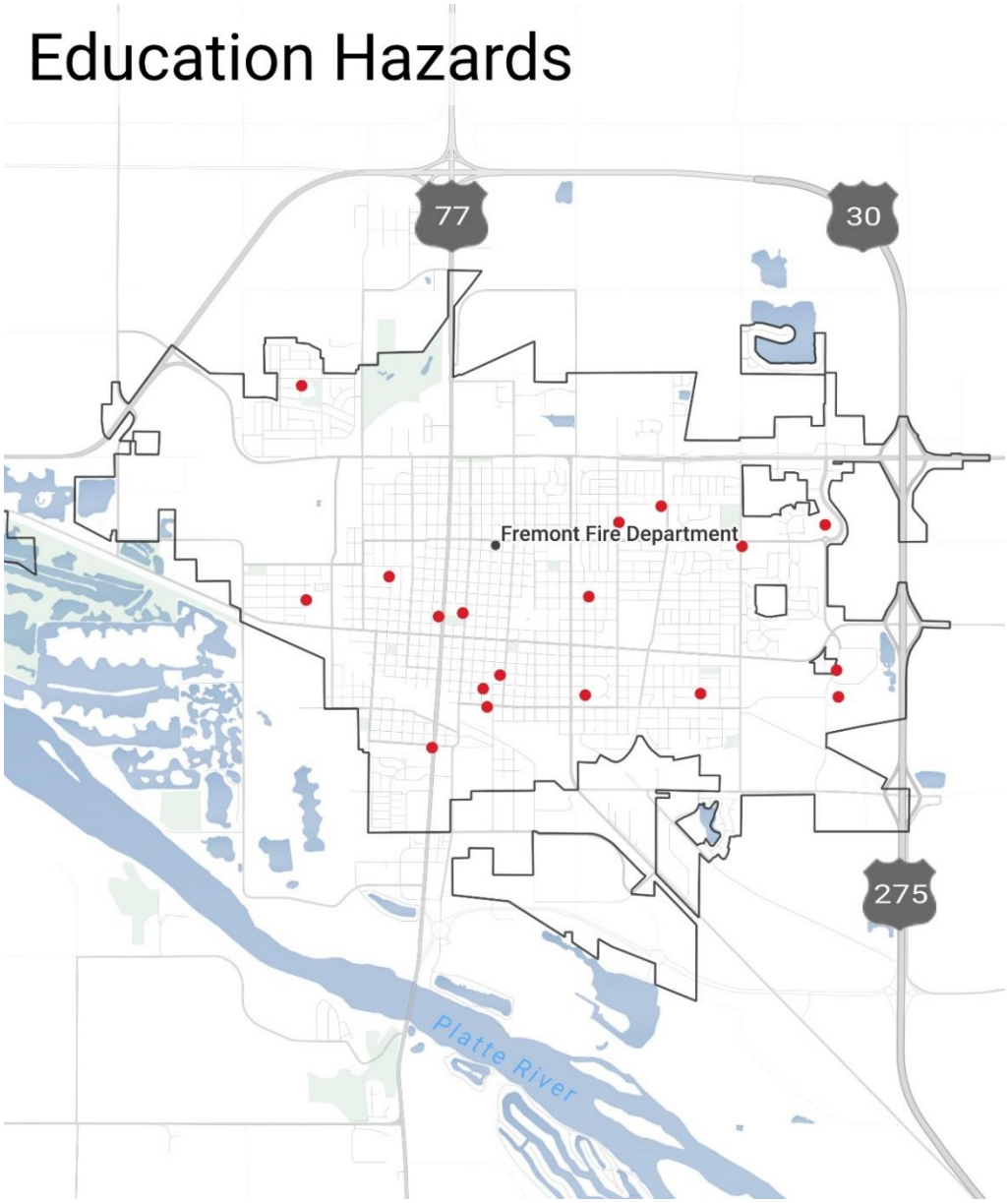
Public Assembly

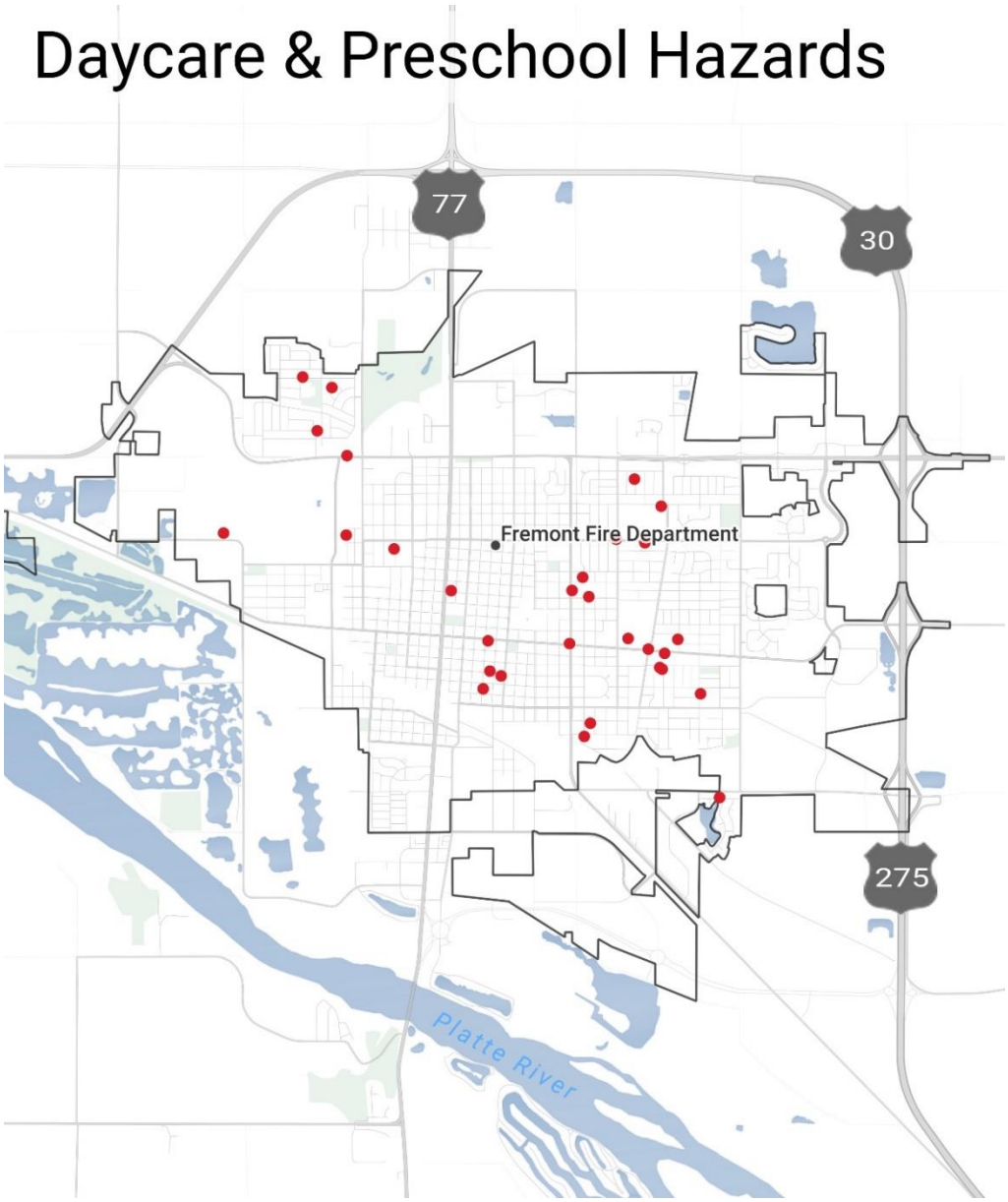
Public assembly facilities provide a risk of mass casualty incidents, as well as fires and potential terrorist incidents. The map that follows provides an illustrative view of the locations of these types of facilities in Stafford County. Note the higher concentration of these types of facilities in the central part of the city and along West Military Avenue and North Broad Street.



Education and Day Care Facilities

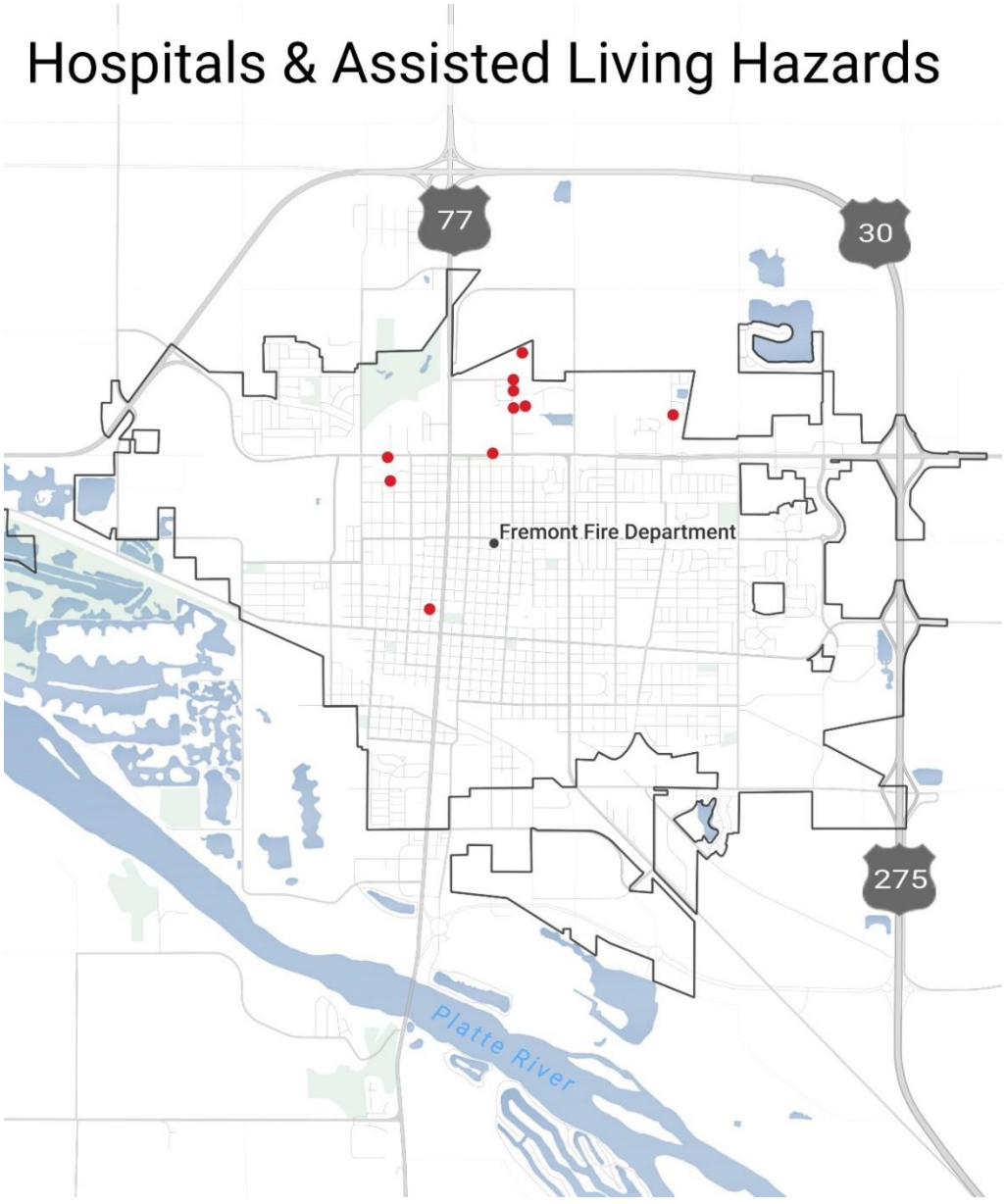
As with Public Assembly facilities, schools also provide a risk of mass casualty incidents and potential terrorist incidents. These facilities typically have large meeting areas for sports and assembly halls. Day care facilities are generally smaller than schools but house children that are much younger in age including infants. These facilities present a life risk due to the younger age of the occupants and the need to assist with evacuation and rescue. The following maps provide an illustrative view of the locations of these types of facilities in Fremont.




Daycare & Preschool Hazards
77
30
275
Fremont Fire Department
Platte River

Institutional Facilities

Institutional facilities include hospitals, nursing homes, assisted living facilities and extended care facilities. While most of these facilities have built-in fire protection systems such as fire sprinklers, the residents of these facilities may not be mobile or will at the very least need other assistance in the event of an emergency. The following map provides an illustrative view of the locations of these types of facilities in Fremont.

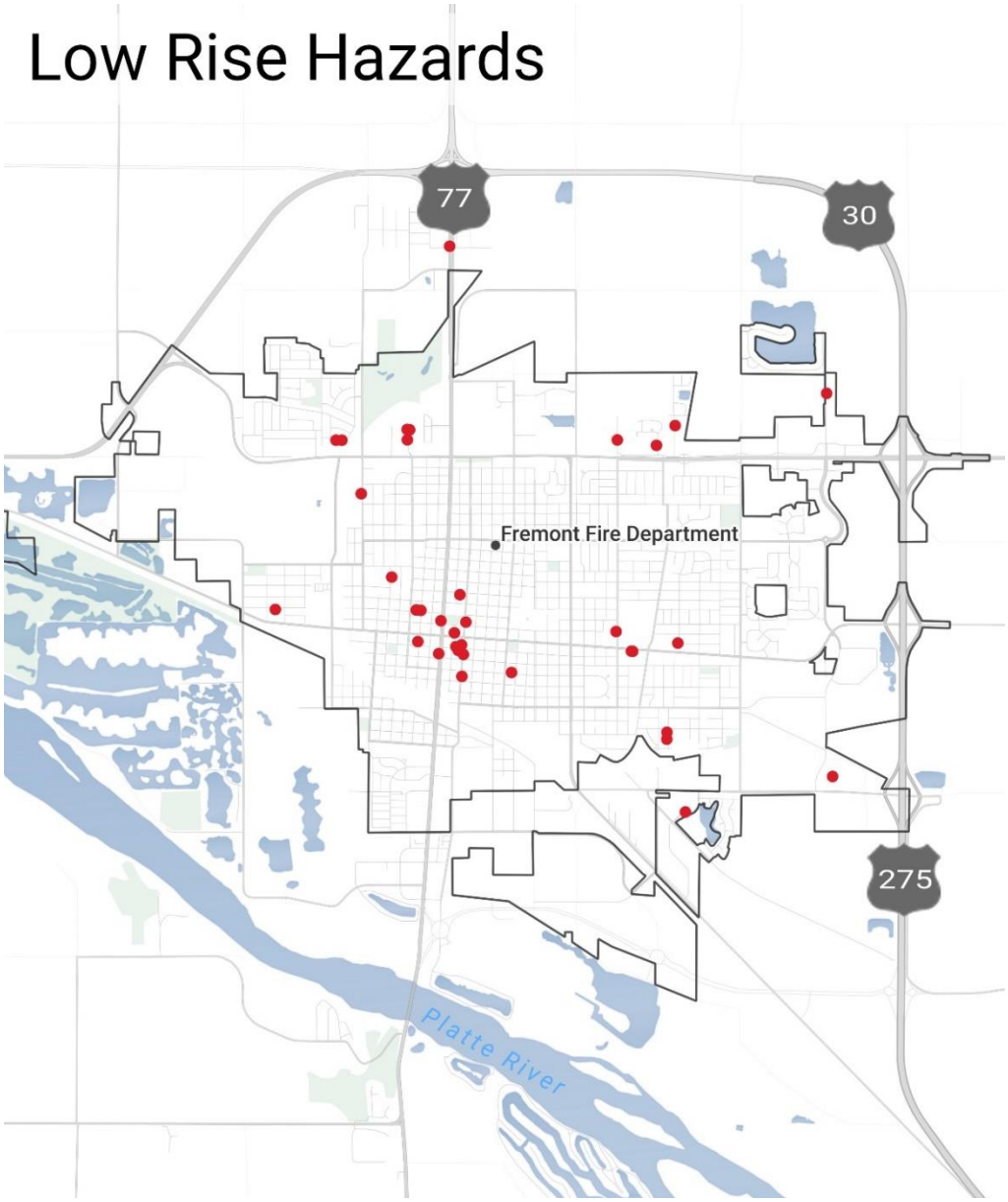


High Rise Facilities

In Fremont a high-rise structure is considered any structure greater than 6 stories in height. Emergency events in the upper floors of the building require additional personnel, equipment, and time to access and mitigate the incident. Depending on the type of occupancy there may be evacuation issues in getting people out of the building. The following map provides an illustrative view of the locations of these types of facilities in Fremont.

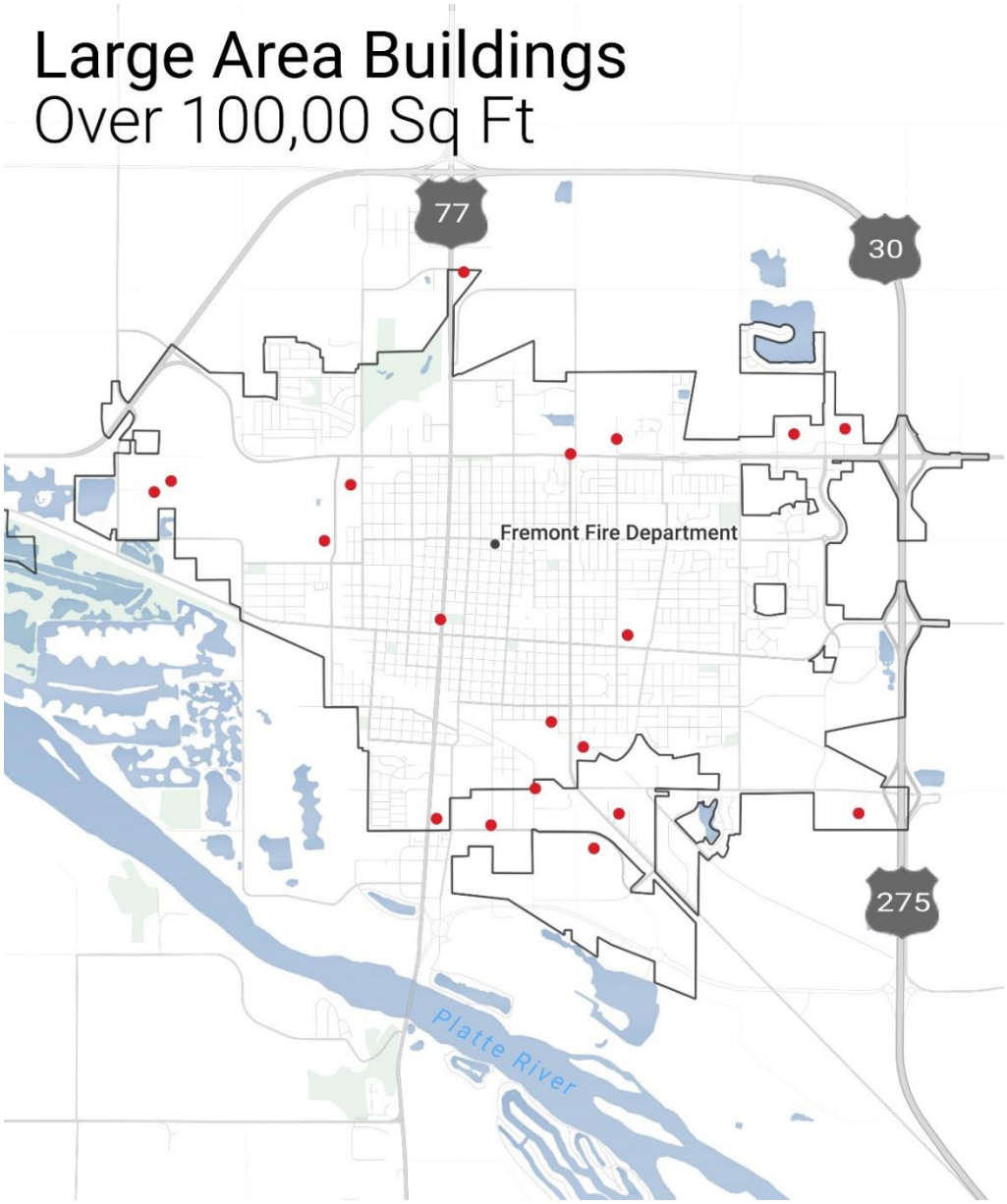
Low-Mid Rise Facilities

Much like the high rise structures these buildings present a different challenge to the fire department. Generally, three to five stories in height, used predominately as residential apartments, and are built in complexes with numerous buildings in the complex. Access is an issue for the fire department as they generally have a longer set back and are just high enough to create issues for ground ladder access. The following map provides an illustrative view of the locations of these types of facilities in Fremont.



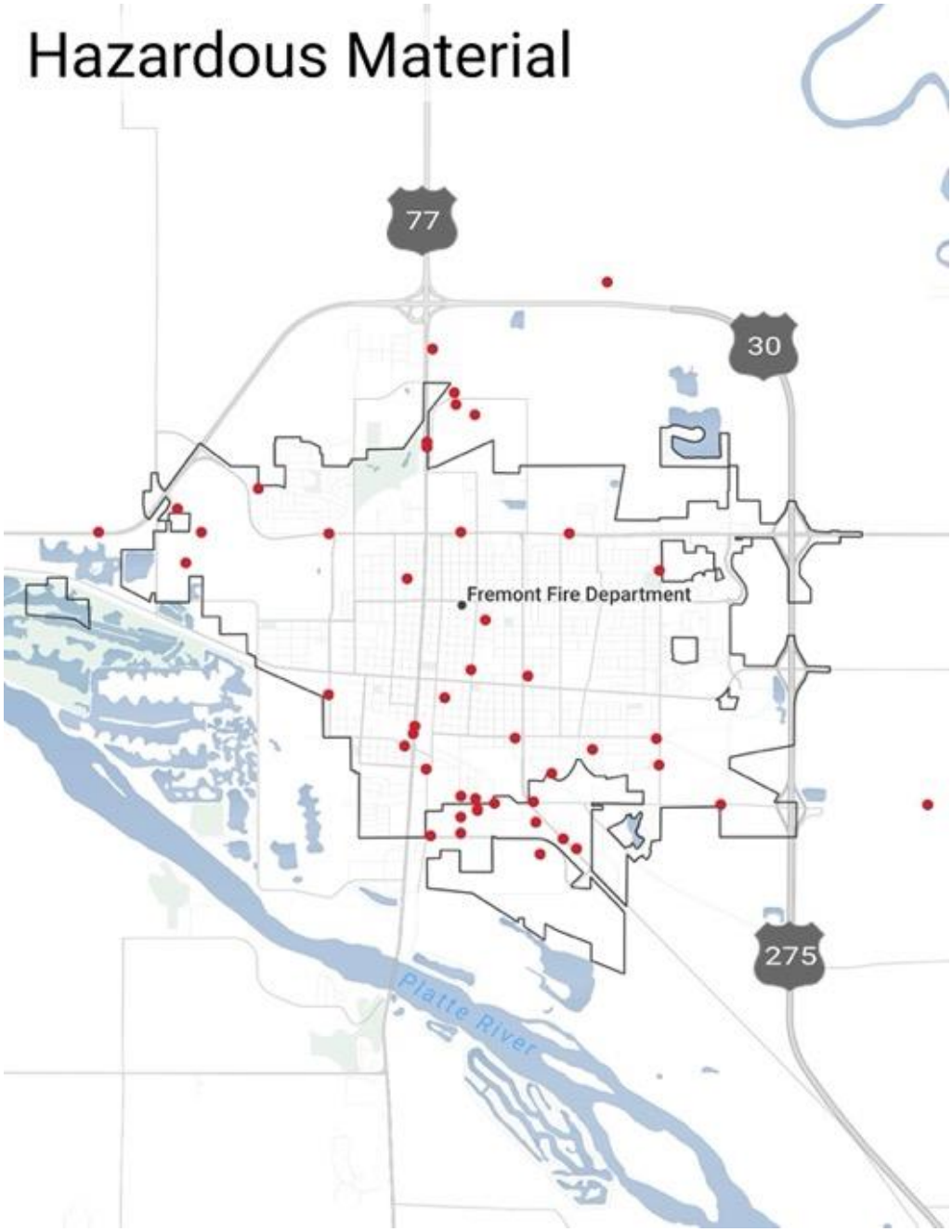
Large Area Buildings

Large structures are those structures that are 100,000 square feet and larger and can present a distinct challenge to the Fire Department. Some of these structures have sprinkler systems, some require high water flows due to their size and contents, and others do not have any fixed fire suppression systems. These occupancies will require additional resources and may require different operational tactics. The following map provides an illustrative view of the locations of these types of facilities in Fremont.



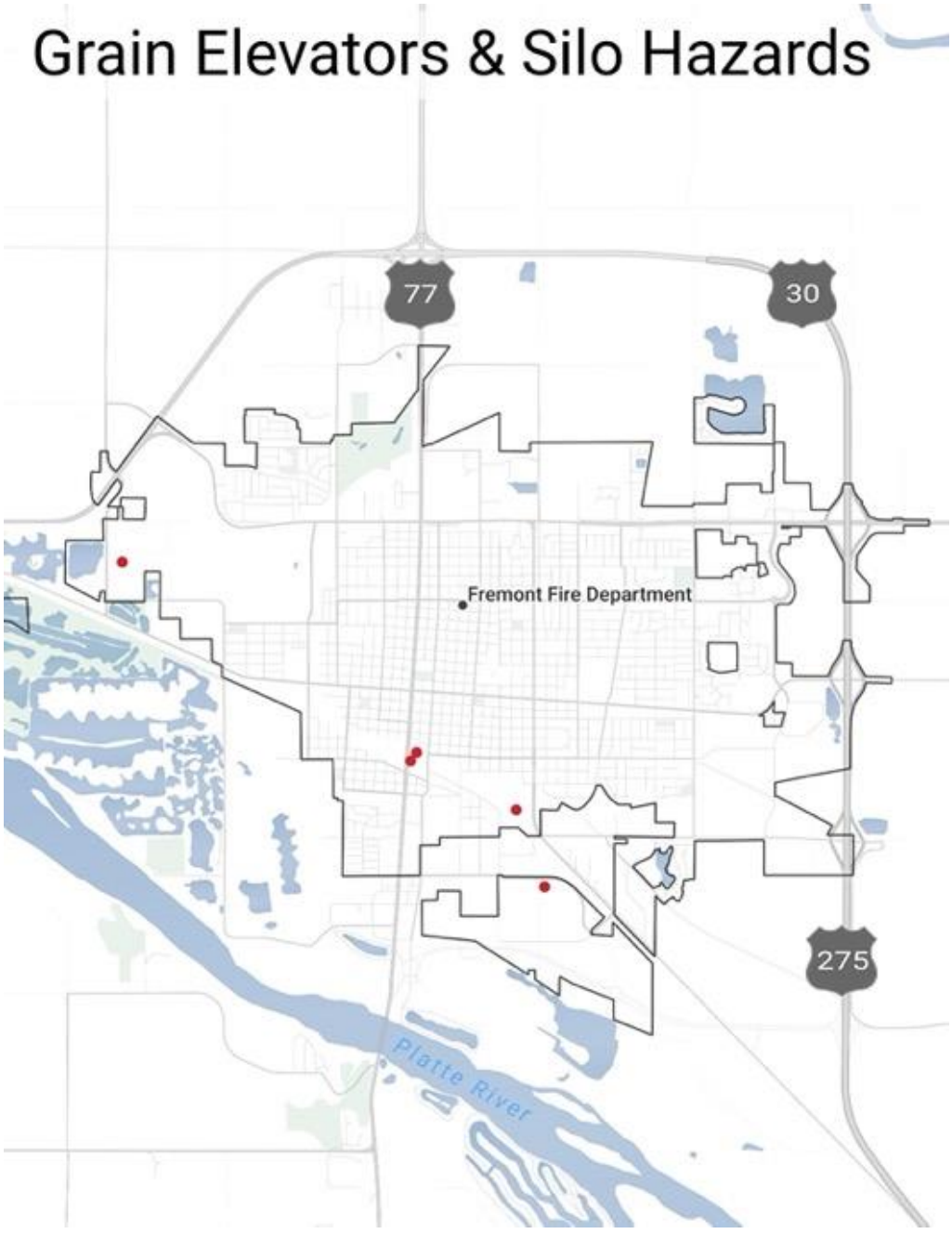
High Hazard Facilities

These types of facilities present a different challenge to the Fire Department. With these facilities, extinguishing a fire may not be the best solution and there is also the spill hazard that is present. These types of incidents may require more personnel for suppression, containment or may require specialized equipment. The map that follows provides an illustrative view of the locations of these types of facilities in Fremont.



Grain Elevators

Grain Elevators present a variety of hazards including rescue, collapse, and explosions. Within the rescue hazard it could be a high angle rescue from the top of the elevator or a person trapped in the contents of the elevator. In either case it will likely require more personnel and a longer response to handle the incident. Given the demographics of the area, these grain elevators and silos are also located on farms throughout the area. The map that follows provides an illustrative view of the locations of these types of facilities in Fremont.



Downtown District

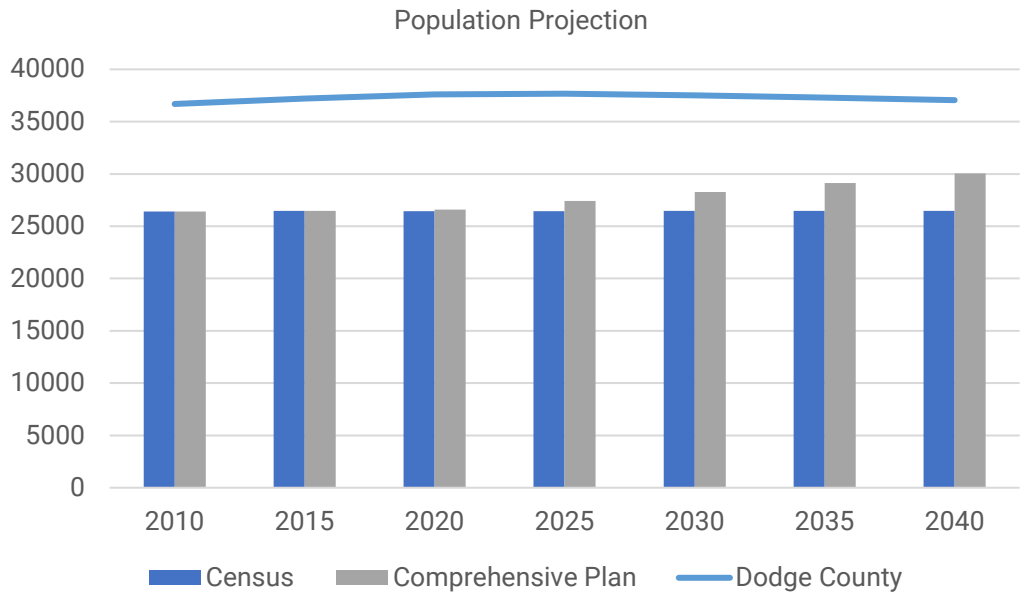
Bordered by East 10th Street to the north, railroad lines to the south, and in between North H Street and North Union Street is an area of the city that contains some of the older structures in the city. These structures present a unique challenge to the Fire Department as the buildings are typically built with common walls, some have apartments or offices above the business, and have limited access. Many of these structures represent a historical value as well as governmental interests such as the courthouse. The map that follows provides an illustrative view of this area of Fremont.

Community Growth and Development

Population Changes

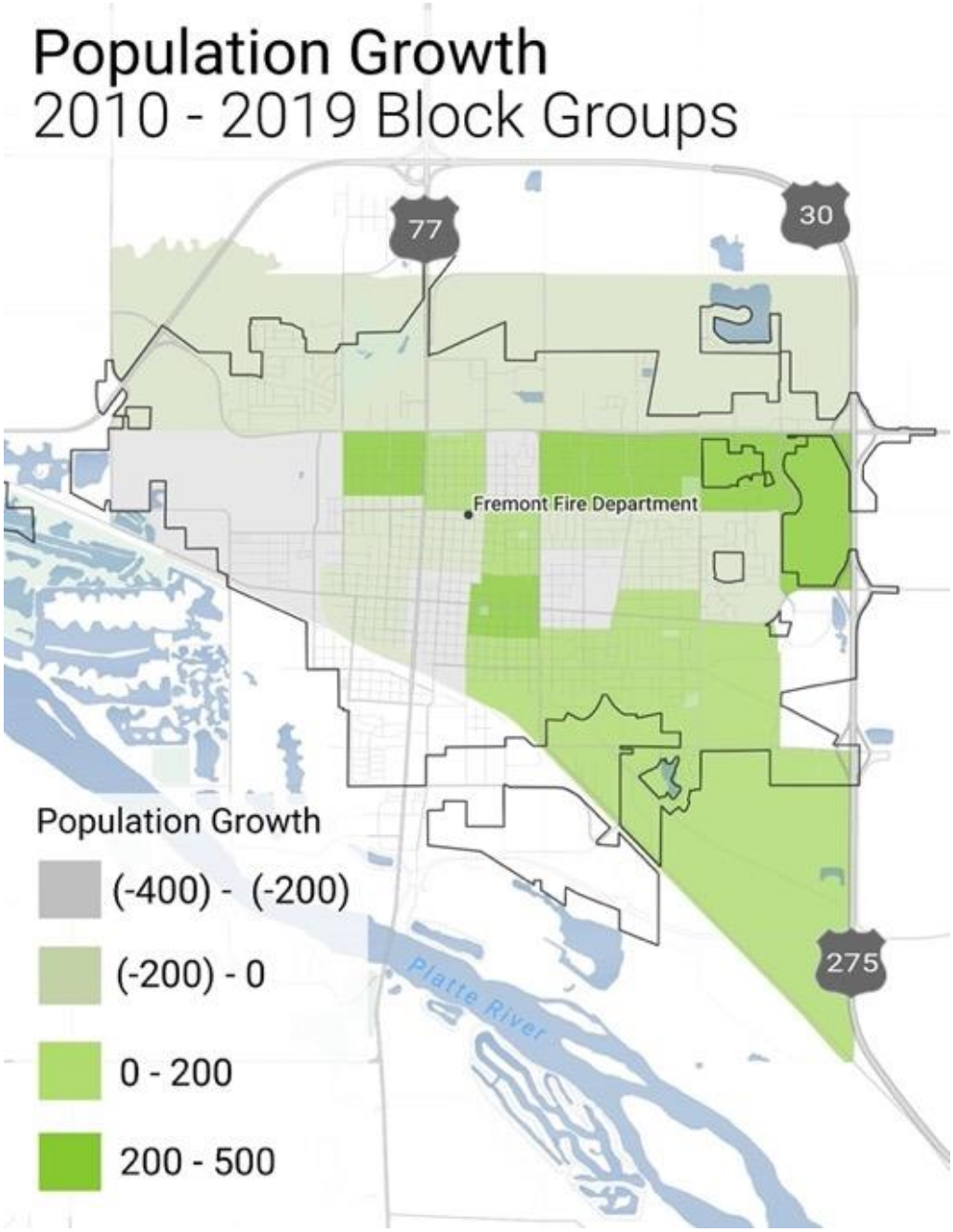
In May 2012 the city published a comprehensive plan entitled Blueprint for Tomorrow that provided an overarching policy guide through the year 2030. Within this plan are several growth projections of interest in the fire service community and the future of fire and emergency medical services in the city.

According to this report, the population growth was projected to be approximately 0.61% annually. Using the US Census Bureau data, the annual growth rate for the past nine year has been .01%. According to a 2015 report from the Center for Public Affairs Research at the University of Nebraska at Omaha, there is a migration of people from the rural areas to the more urbanized areas of the state, this document also provided a projected population for each county. The chart that follows visualizes these trends and provides a projection.



Dodge County is shown for reference against the US Census and Comprehensive Plan data for the City of Fremont. Note the Comprehensive Plan indicates a more significant growth pattern through 2040 than the data from the US Census Bureau. It should also be noted the 2020 US Census data has not been completed or made public at the time of this report and will likely have an influence on these projections.

The data collected was integrated into a GIS (geographic information systems) format in order to spatially analyze historical, current, and future growth trends. For a historical view, the following map utilizes the US Census Bureau data to illustrate the population growth during the past nine years.



The close proximity of Omaha metro area, there are many residents of Fremont that will commute to Omaha for their employment. This has increased the housing market along the east side of the city closer to US 275. As well, the pandemic events of 2020 have allowed many companies to opt for working remote allowing people to live virtually

anywhere and still maintain their employment. This change will likely have an effect on the population migration and the changes in the demographics.

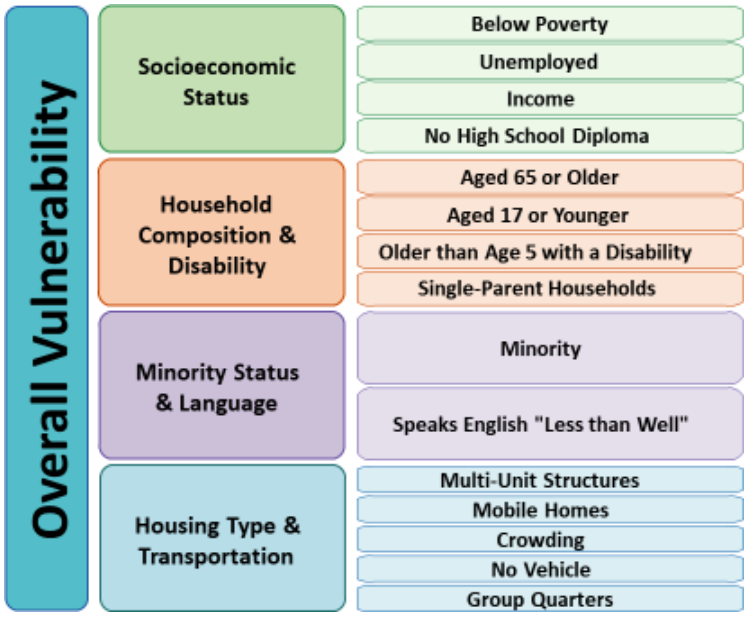
Economic Development

Along the south side of Fremont, the State is constructing the Southeast Beltway that will connect US 275 to US 77 south of Inglewood with an anticipated completion in the Summer of 2023. This project is designed to alleviate traffic issues along US 77 and to the east of Fremont and to open areas for development of residential or commercial properties in the area.

Current employers are also expanding their operations including WholeStone that is adding an additional shift and will likely employ another 800 people. Other industries in the city are also larger employers including Costco that employs approximately 1,200 people. The Greater Fremont Development Council reports there are other industries that are discussing opportunities to locate in Fremont which may be driving the need for additional residential developments in the area.

Additional Risk Factors

The Center for Disease Control (CDC) created the Social Vulnerability Index (SVI) to assist public health and emergency response organizations to identify and map the areas of a community that will most likely need support before, during, and after a hazardous event. The SVI is determined by examining a variety of factors such socioeconomics, housing composition, and residents with disabilities. The following chart from the CDC illustrates the data from the US Census Bureau used in calculating the SVI for the areas.



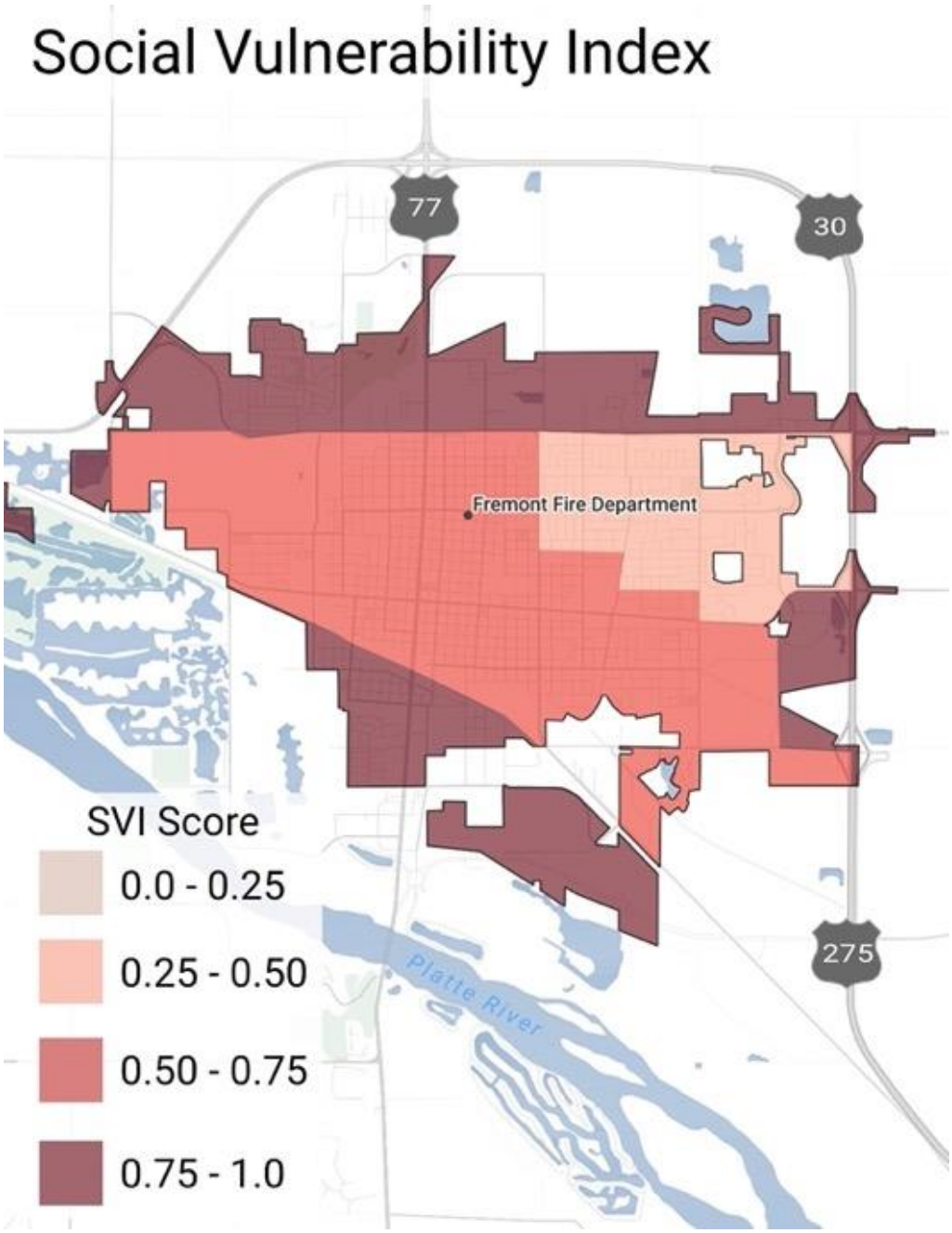
As noted, there are 15 social factors that are grouped into 4 themes to create a vulnerability index. Each of the factors receive a ranking that is combined together into the overall theme. It is possible to have an area that has a lower ranking in terms of housing but has a higher ranking due to the age of the residents and the type of household such as single-parent households. The intent is not to identify poor areas of a community but to identify areas that may require additional assistance following an emergency event.

This tool uses specific socially and spatially relevant information to assist public health officials and local planners to better prepare communities to respond to emergency events such as severe weather, floods, disease outbreaks, or chemical exposure.

The tool can be used to:

- Allocate emergency preparedness funding by community need.
- Estimate the type and amount of needed supplies such as food, water, medicine, and bedding.
- Decide how many emergency personnel are required to assist people.
- Identify areas in need of emergency shelters.
- Create a plan to evacuate people, accounting for those who have special needs, such as those without vehicles, the elderly, or people who do not speak English well.
- Identify communities that will need continued support to recover following an emergency or natural disaster.

The map that follows illustrates the SVI score by census tract for the City of Fremont.

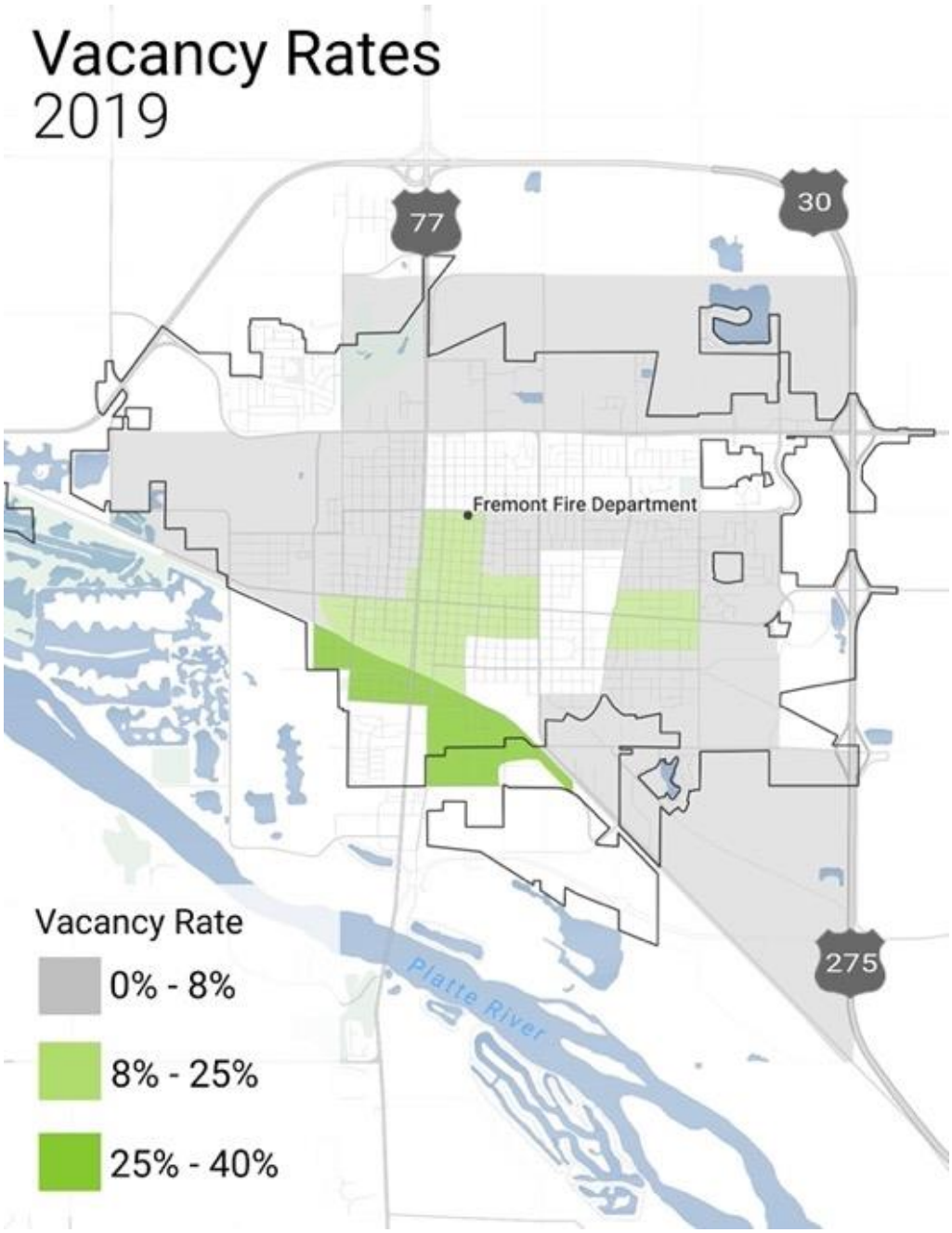


The highest SVI scores are in the south-central area, just south of the rail yard, and along the section to the north of East 23rd Street. In the area north of East 23rd Street is the medical facility that may require additional resources in the event of an emergency. More importantly there are two high rise buildings that will likely require additional resources as well. This is not an indication these areas are deprived it is an indication these areas will likely need additional assistance. As well there are some higher rated areas along the outer edges in the east and west sections of the city.

Vacancy Rates

In 2019 there were 11,745 housing units in Fremont according to the U.S. Census Bureau estimates. Of these housing units, 77.9% were single-family residences, with 19.1% being multi-family and 3.0% being mobile homes. Approximately 74% of these units were constructed prior to 1980 and another 16.3% constructed between 1980 and 1999. The risk of fires is greater in older buildings with outdated building codes which may have building construction, type of materials, or wiring that increases the risk and spread of fire.

Based on the estimates from the U.S. Census Bureau, Fremont had an overall vacancy rate of 6.4% in 2019 as compared to 9.3% for the State of Nebraska. The National Fire Protection Association (NFPA) reports from 2011 – 2015 fire departments responded to an average of 30,200 structure fires per year in vacant properties. According to the report, fires in vacant buildings are more likely to have been intentionally set and to spread beyond the building than fires in other structures. The following map illustrates the vacant buildings, by census tract, based on estimates from the U.S. Census Bureau for 2019.


Vacancy Rates
2019
77
30
Fremont Fire Department
275
Platte River
Vacancy Rate
0% - 8%
8% - 25%
25% - 40%

Stakeholder Insights

Strategic planning should not be conducted in a vacuum, so the Matrix Consulting Group conducted several outreach initiatives to gather information from the community and the employees. Open meetings with the public and the fire department employees were held in the city. In addition, an internet based anonymous survey was conducted for the resident and business owners in the city. The results of these three interactions are presented here to provide insight for the planning process.

Employee Participation

In April 2021 the project team met with each of the shifts to allow for the exchange of thoughts and ideas relative to the future of the fire department. The approach for each of these meetings was to identify the strengths, improvements (weaknesses), opportunities, and threats (SWOT) for the fire department.

The strengths identified by the employees are as follows:

- There is a set schedule to work on various projects based on the day of the week.
- Dedicated personnel in the fire department to ensure call backs are handled, ingenuity, a willingness to improve, and professionalism.
- The equipment is good and well maintained.
- Turnout gear is replaced on a rotating basis and an extractor is available for proper care of the gear.
- Training is available when requested.

Areas for improvement were identified by the three shifts:

- Internal training needs to improve instead of sending personnel to Omaha.
- Minimum staffing is not adequate for the call volume, too many call backs, and call concurrence is increasing.
- Facilities need to be updated; the ladder truck had to be customized to fit in the station.
- Hiring EMT's to replace paramedics and the training of new paramedics are not keeping up with the replacement.
- There needs to be an inspection and investigation component in the fire department.

Opportunities for the fire department include:

- New residential and commercial development is planned to continue.
- Further revitalization of the downtown area.
- There is a need for a new medical director that would also take a more active role.

Threats to the fire department and its operations are as follows:

- Retirements over the next several years include the potential of 3 to 6 personnel to leave the organization.
- Loss of personnel to Omaha and Lincoln due to no residency requirement and better pay.
- Larger private aircraft are beginning to use the airport facilities.
- Increased traffic on some of the major streets in Fremont.

The shifts were provided an opportunity to share other thoughts and ideas related to the fire department and its future. Those thoughts and ideas Included:

- Using an internet/online based training solution.
- With the department being an all-hazard department, some of the personnel are getting burned out with all the training needed to maintain all the certifications.
- Fire prevention and pre-planning are falling through the cracks.
- SAFER grant opportunities would help the city to hire more personnel and offset the cost in the first few years.

As noted, themes from the employee sessions identified staffing and facilities as issues. Concerns were expressed about the recruitment and retention of personnel moving forward especially with Omaha and Lincoln in close proximity to the city. There is a realization of certain aspects that need further attention that include training and fire prevention.

Community Meetings

Community input meetings were held on July 14 and 15 at the Fremont City Auditorium. Approximately 55 individuals attended the meeting on the 14th and approximately 48 individuals attended on the July 15. Several individuals attended both sessions. The Fire Chief initiated the meeting and provided a short overview of the study and objectives. The project team provided a brief overview of the project, their project approach, brief information on recent calls for service trends and their location and facilitated the public discussion.

Feedback included both questions and comments. Key questions that were asked included:

- Will the study take into account future development trends (e.g., increases in multi-family housing, new industry, growth in residential housing on the City's edge, transportation impacts, etc.)?
- Does the consultant compare Fremont to other similar size jurisdictions?
- How does resident population impact staffing needs?
- What are staffing needs/analysis based on?
- Are national standards used in the study?
- Will this study be incorporated with the City's comprehensive plan efforts currently underway?
- How will the City fund new positions?
- Will the analysis look at overtime, frequency of call back and use of mutual aid?
- Do we need a new fire station and if so, where?
- How can we (citizens) support the Fire Department and make these changes happen immediately?

The following themes emerged from the feedback received.

- Citizens voiced strong concerns over the current level of staffing. Both as a whole and the number of staff deployed per shift.
- Concerned with previous positions being vacated, not filled, and administrative duties pushed to other staff who may be overworked.
- Perceptions that there has been high staff turnover.
- Believes there is very low morale in the FD and that staff will be or have been burned out due to increased call volume.
- Concerns with the lack of urgency by elected officials to addresses the public's concerns.
- Concerned with how recent and new growth will impact the FD and their workload.
- How will the city pay for additional resources?

The individuals in attendance strongly supported the FD and had very strong opinions related to staffing and the need/desire for increased staffing resources, facilities, and equipment. Of the input received, no individual indicated that they believed current resources were adequate to meet the Fire and EMS needs of the city. In all, the community comments and the online survey provided similar results.

Internet Based Community Survey

The Matrix Consulting Group's project team distributed an internet based anonymous survey to residents and business owners in the city during the first two weeks of August 2021. The survey was designed to measure their view of services provided, the value of those services, and the quality of the services provided by the Department.

In the following sections a complete analysis is presented for each of the questions. The overall theme of responses to the survey are presented below related to the services provided by the Fire Department.

Respondents identified the fire response as their number one service in terms of importance provided by the fire department.

- Respondents expressed a rapid response was their highest service expectation.
- Overall, the respondents were satisfied with the quality of service they received.
- Respondents expressed a concern related to staffing and facilities of the Fire Department in a growing community.

The summary begins with a description of respondent characteristics.

Community Identifiers

The survey was distributed using the City of Fremont website and through social media accounts for the city and the fire department. A total of 672 responses were received and all responses are confidential. Based on Census Bureau data this represents a 5.7% participation rate of the 11,745 households in the city.

While electronic survey responses were anonymous, the project team asked respondents to identify their status in the city as a resident or non-resident. The following table summarizes responses to each of those questions.

Resident Status

Response	Count	Pct.
City Resident	601	89.7%
Non-Resident	69	10.3%
Total	**670**	**100.0%**

In addition, respondents were asked for additional demographic information as illustrated in the following tables.

Home Ownership

Response	Count	Pct.
Homeowner	486	72.6%
Non-Homeowner	183	27.4%
Total	**669**	**100.0%**

According to the US Census Bureau, 56.3% of the homes in Fremont are owner-occupied. In this demographic, there were a high number of responses from homeowners in the city.

Business Owner

Response	Count	%
Business Owner	9	12.5%
Non-Business Owner	63	87.5%
Total	**72**	**100.0%**

Employee in Fremont

Response	Count	%
Employee	47	65.3%
Non-Employee	25	34.7%
Total	**72**	**100.0%**

Of the 72 respondents that answered these two questions, 12.5% owned a business in Fremont and 65.3% were employed in Fremont. It should be noted 600 respondents skipped these two questions.

Services Provided

Respondents were asked to rank each of the services provided by the Department on a scale of 1 through 8 with 1 being the most important and 8 being the least important. Of the 672 respondents, 493 (72%) provided a ranking of these services.

In the following table each of the statements are ranked according to a weighted average.

Service to the Community - Weighted Average

Statement	Weighted Average
Fire calls including structure fires, vehicle fires, trash, and other types of fires.	7.4
Medical calls including all types of medical issues and motor vehicle accidents.	7.0
Technical Rescue including water, ice, trench, confined space, and rope rescues.	5.8
Hazardous Materials Response	4.6
Fire Investigations	3.5
Business Inspections and fire pre-planning inspections.	3.3
Public Fire/EMS Education including fire station tours, visits to schools, changing batteries in smoke detectors for elderly and disabled persons.	3.2
Public Displays and Events such as the annual open house.	1.6

In the weighted average, the respondents' choices are given a number or weight. Their #1 choice was given the number of 8 and their second choice was given the number 7 and so on through the rest of their choices. Combining all the responses in this manner provides a clear view of the respondents' opinions.

- **Fire call response is the top service:** Fire call responses are shown at 7.4 weighted average.
- **Emergency medical call response is the second most important service:** Emergency medical call response is close behind the fire call response at 7.0 weighted average.

Additional Services

Respondents were given the opportunity to identify other services that should be provided by the Fire Department. Of the 672 respondents, 58 (9%) provided comments, of those comments 33 responses (56.9%) were no, n/a, or none. The points that follow provide a synopsis of the comments.

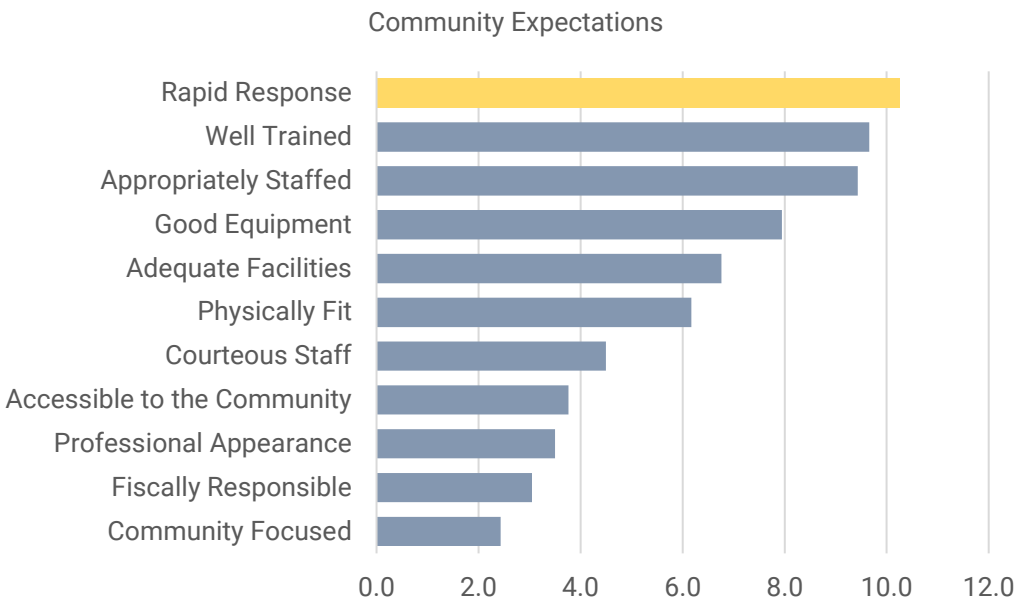
- Approximately 18% identified additional personnel, adequate salaries, and another fire station.
- Smoke detector checks and installation.
- Using community paramedicine
- Improved water rescue and divers

Service Expectations and Satisfaction

Respondents were asked to identify their top three service expectations as it relates to the Fire Department. They were provided eleven expectations.

Service Expectations

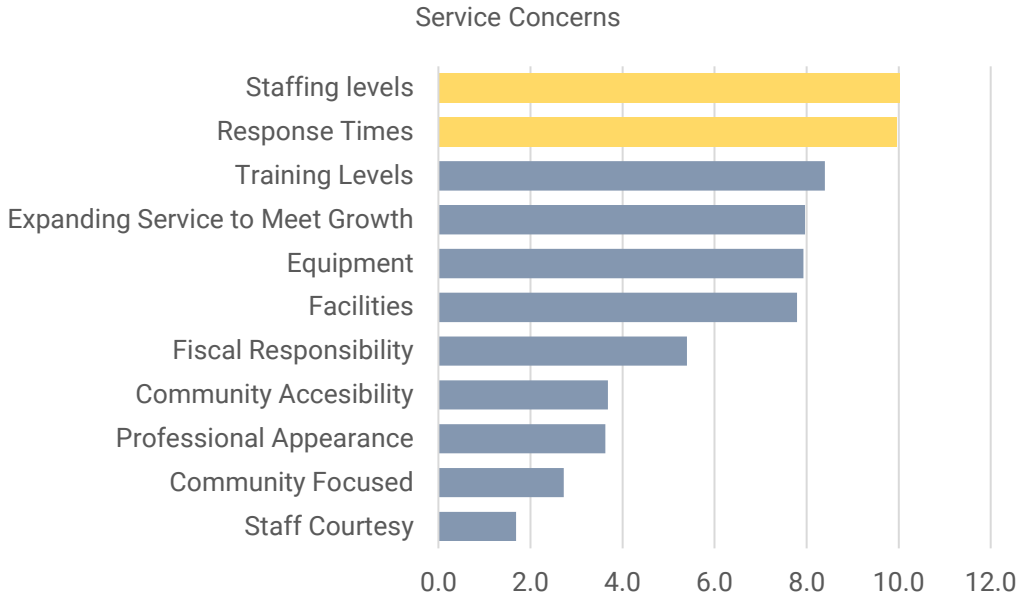
Respondents were asked to select their top three expectations for the fire department. There were 473 (70%) respondents that answered the question with 199 respondents skipping the question. Using the same weighted average process as in the previous section, the following chart provides an overall view of their opinions



Using the same weighted average process as in the previous section, a rapid response to a call for service is highest expectation of the respondents. This response is closely followed by well trained personnel and being appropriately staffed.

Service Concerns

The following table outlines the responses about the concerns or worries regarding the Fire Department. There were 449 (67%) respondents that answered the question with 223 respondents skipping the question. The statement, “Please select the top three concerns or worries you may have about the Fire Department” was open to all respondents whether or not a service was used.



The weighted average provides an overall view of the opinions of the respondents. Staffing levels and response times represent the highest concerns of the respondents. Training levels and expanding to meet the growth of the city are also high on the list of concerns. This scoring also supports the comments made at the public meetings where the citizens expressed strong concerns about the current level of staffing, positions being vacated, and the perception there is a high turnover.

Value of Services

The community was asked about the value of services from the Fremont Fire Department. There were 441 (65%) respondents that answered the question with 231 respondents skipping the question. Four statements were used and the respondents were provided five responses from excellent to no opinion. The following table illustrates the results.

Value of Services

Statement	Excellent	Good	Fair	Poor	No Opinion
Rate how effectively money is being used for fire services.	10.3%	23.7%	22.4%	25.3%	18.3%
The value of the fire services for the funding provided.	27.2%	29.7%	23.5%	10.3%	9.4%
The overall direction of the Fremont Fire Department is taking to provide services.	20.6%	33.1%	23.8%	13.8%	8.6%
The openness of the Fire Department to community input.	37.5%	31.8%	12.0%	9.1%	9.5%

Over 68% of the respondents feel the openness of the fire department related to community input is positive. Approximately 47% of the respondents feel the funding is not very effective. However, overall, the respondents agree the value of the fire department for the service provided and the overall direction is positive with 56% and 53% respectively in agreement.

Customer Interactions

The survey questioned the respondent if they had used the emergency services provided by the Fire Department in the past twenty-four months. If they had utilized any emergency services, they were provided an opportunity to rate those services.

Respondent Interactions

Respondents were asked if they utilized any emergency services provided by the Fire Department.

FIRE DEPARTMENT INTERACTIONS

Response	Count	Pct.
Yes	131	29.8%
No	309	70.2%
Total	**440**	**100%**

Total responses to the survey were 672 respondents of those 440 (65%) responded to this question. Of the 440 respondents to this question, 131 (30%) have had some form of interaction with the emergency services provided by the Fire Department.

Respondents were asked to identify which services were used.

Services Utilized

Service	Count	Pct.
Fire	7	5.3%
Emergency Medical Services	94	71.8%
Public Service (smoke detector check, fire station tour, fire safety education by the fire department, etc.).	28	21.4%
Business fire pre-planning inspections	2	1.5%
Total	**131**	**100.0%**

Over 71% of the respondents indicated they have utilized the emergency medical services, the highest of the four services rated which is expected with 90% of the annual call volume being emergency medical calls. The second most used service is public service those activities involving smoke detector checks, fire station tours, and fire safety

education. However, this same category in a previous section was ranked among the lowest in terms of importance.

Interactions with Personnel

Respondents were asked to rate their experience with the Fire Department personnel.

Personnel Interaction

	Excellent	Good	Fair	Poor
Knowledge of the personnel.	75.6%	21.1%	3.3%	0.0%
Responsiveness of the personnel.	71.8%	25.0%	2.4%	0.8%
Courtesy of the personnel	80.6%	14.5%	4.0%	0.8%
Your overall impression of the personnel.	82.3%	13.7%	4.0%	0.0%

In each of the statements, the personnel received high ratings from their knowledge, courtesy, and overall impression. In fact, the personnel interactions were rated between 95% and 96% when the excellent and good ratings are combined.

Overall Quality

Respondents were asked to provide their overall impressions of the Fire Department.

Overall Quality of the Response

	Excellent	Good	Fair	Poor
Response time to your call for assistance.	51.6%	33.6%	12.3%	2.5%
How effectively would you rate the overall quality of the services provided by the Fire Department personnel	62.2%	33.1%	3.9%	0.8%

Respondents were generally satisfied with the quality and response to their call for service.

- **Overall, the respondents were satisfied with the service:** 62% of the respondents found the overall services excellent and 95% of the respondents found the services excellent or good. This concurs with the previous section on personnel interactions
- **Respondents were satisfied with their response time:** A majority (51%) rated the response time as excellent with 85% rating the response as excellent or good. The somewhat lower marks for response time a general theme throughout the survey with response time being a major concern of the respondents along with the comments related to response time.

Open Comments

Part of this section allowed for comment from the respondents as it related to the quality of service. There were thirty-three comments from the respondents.

- **Overall, the respondents supported the personnel:** 48% of the comments relate positively on the professionalism and expertise of the personnel that responded to their call for service.
- **Response time and staffing continued to be a concern:** 18% of the comments related to the response time issues and their calls being delayed with 27% of the comments speaking to the lack of staffing.

Open Ended Response

The final section of the survey provided an open-ended statement to allow the respondents an opportunity to further explain their responses to the previous questions and statements. It also provided an avenue for the respondents to express their thoughts about the Fire Department that may not have been addressed in any of the previous sections.

Additional Comments

The statement for this section is as follows: Please elaborate on any questions or ratings you gave the department that may need further explanation or provide any additional comments you may have. There were 672 responses to the survey with 135 (20%) of the respondents providing additional comments to this statement.

There are two themes that came to the forefront in these responses. First, respondents are supportive of the Fire Department, its personnel, and the services that are being provided. The second theme is there is a lack of adequate staffing and a need for additional facilities.

- **Respondents feel the staffing of the fire department is lacking:** Approximately 47% of the respondents indicated a lack of staffing or expressed the need for additional staffing of the fire department.
- **Respondents opined the facilities need to be updated and additional facilities added:** Many comments indicated the current facilities and additional facilities are needed. 23% of the respondents commented on this issue, some citing the growth of the city as a reason for the additional facilities.

Noteworthy Comments

There were other comments made in the response to this question that proved insight to the overall theme of these responses.

- We really need another station on west side of railroad tracks with the improvements of the airport and more larger planes coming and going I feel it's needed. Also due to the trains prolonging time for accident victims on highway and Washington Heights area and points north with more houses being built.
- After the spate of structure fires and FFD staffing shortages (doing the best they can, I get it) - I am seriously looking at moving my business out of the community. Fremont, with its robust tax base, cannot expect to continue to rely on area volunteer fire departments to subsidize staff shortages (due to community growth) indefinitely.
- Fremont Fire provides a good service to the community of Fremont! I do think Fremont fire would benefit from a renovated facility and additional staffing per shift, if the funding is available.
- Hard to rate these things because I do not know firsthand all that goes into funding/staffing/ training, etc. I believe our community fire services are the best they can be with the resources they currently have. I also believe more staffing, facilities, training etc. is needed and personally I will support it even if it costs me financially in raised taxes.

The comments included here provide some context to the overall theme of this section. Respondents are aware of the staffing and facilities issues as well as the response time concerns. They are also aware of the cost to attain the desired level of service and the balance necessary for the service.

Strategic Initiatives

This section of the report provides the goals and objectives for the fire department. The following tables illustrate the goals as a result of the analysis contained in this report. Suggested objectives are included with each goal and can be adjusted, added to, or eliminated as needed. The timelines shown are defined as follows:

- Short-term: less than eighteen months.
- Mid-Term: longer than eighteen months but less than five years.
- Long-term: longer than five years.

Timelines are shown to provide guidance related to the anticipated completion of the goal.

Administrative and Organizational

Goal 1	**Improve the administrative support for the fire department.**
Timeline:	**Mid-Term**
Objective 1	**Reinstate the Administrative Assistant position on a part-time basis to provide support to the operations of the fire department.**
Assigned To:	Fire Chief/City Council
Funding Required:	$18,200 annual salary based on $17.50 per hour
Critical Tasks:	• •
Objective 2	**Monitor the expansion of the fire department and the operations to ensure appropriate functions are properly staffed to reduce risk and provide supervision.**
Assigned To:	Fire Chief
Funding Required:	None
Critical Tasks:	• Monitor workload to ensure the programs and processes are being completed in a timely manner. •
Objective 3	**Develop a formal succession plan for the fire department to facilitate the education, training and exposure to functions of the department to the younger personnel.**
Assigned To:	Fire Chief
Funding Required:	None
Critical Tasks:	• Establish a work group to determine the needs, education, training. • Develop a written plan for succession • Adopt the plan once completed

Goal 2	**Establish a mentoring program to provide support to new officers and department members.**
Timeline:	**Mid-Term**
Objective 1	**Establish requirements for personnel to become a mentor**
Assigned To:	Fire Chief/Shift Officers
Funding Required:	None
Critical Tasks:	• Education Requirements • Time in rank requirements
Objective 2	**Provide training to those selected to be mentors**
Assigned To:	Fire Chief/Shift Officers
Funding Required:	Unknown
Critical Tasks:	• Determine the training and education requirements • Provide the training and education prior to starting the program
Objective 3	**Program Evaluation**
Assigned To:	Fire Chief/Shift Officers
Funding Required:	Unknown
Critical Tasks:	• Evaluate the results of the program • Determine changes needed

Goal 3	**Formally adopt the vision statement, mission statement, and core values as developed by the internal stakeholders of the fire department.**
Timeline:	**Short-Term**
Objective 1	**Formally adopt the vision and mission statements**
Assigned To:	Fire Chief/City Council
Funding Required:	None
Critical Tasks:	• •

Emergency Operations

Goal 4	**Develop a plan to create a budget neutral program for the delivery of emergency medical services into the Fremont Rural Fire Protection District.**
Timeline:	**Short-Term**
Objective 1	**Determine the stakeholders to be included in the process.**
Assigned To:	Mayor/City Administrator/Fire Chief
Funding Required:	None
Critical Tasks:	• Identify key personnel. •
Objective 2	**Identify the various methods of funding emergency medical services in the district.**
Assigned To:	Mayor/City Administrator/Fire Chief
Funding Required:	None
Critical Tasks:	• Methods of increased funding through tax increases or membership programs. •
Objective 3	**Create a plan to address the funding issues**
Assigned To:	Mayor/City Administrator/Fire Chief
Funding Required:	None
Critical Tasks:	• Financial development plan • Service delivery plan
Objective 4	**Monitor and evaluate the plan on a regular basis and make adjustments as necessary.**
Assigned To:	Mayor/City Administrator/Fire Chief
Funding Required:	None
Critical Tasks:	• None •

Goal 5	**Develop an operational statement for the emergency services system.**
Timeline:	**Short-Term**
Objective 1	**Create a working group of select members of the organization and the general public.**
Assigned To:	Fire Chief
Funding Required:	None
Critical Tasks:	• Provide guidance to the group to provide focus on the issues •
Objective 2	**Identify the components for the organizational statement.**
Assigned To:	Working Group
Funding Required:	None
Critical Tasks:	• Include the various response time components. • Identify the response capabilities • Include the staffing levels
Objective 3	**Once developed, formally adopt the organizational statement related to the expectations of the emergency services system.**
Assigned To:	Fire Chief/City Council
Funding Required:	None
Critical Tasks:	• None •
Objective 3	**Continue to monitor the components of the statement for clarity and meeting the expectations of the community.**
Assigned To:	Working Group
Funding Required:	None
Critical Tasks:	• None •

Goal 6	**Work with the Fremont/Dodge County Communications Center to improve its staffing and operations.**
Timeline:	**Short-Term**
Objective 1	**The Fremont/Dodge County Communications Center should adopt performance objectives for calls answered in accordance with NFPA 1221 Standard for the Installation, Maintenance and Use of Emergency Services Communications Systems.**
Assigned To:	Communications Director/Fire Chief
Funding Required:	None
Critical Tasks:	• Create performance benchmarks using the NFPA or other nationally recognized standards. • Train and educate the dispatching staff about the performance benchmarks and their roles to achieve the performance.
Objective 2	**The Fremont/Dodge County Communications Center should adopt performance objectives for call processing in accordance with NFPA 1221 Standard for the Installation, Maintenance and Use of Emergency Services Communications Systems.**
Assigned To:	Communications Director/Fire Chief
Funding Required:	None
Critical Tasks:	• Create performance benchmarks using the NFPA or other nationally recognized standards. • Train and educate the dispatching staff about the performance benchmarks and their roles to achieve the performance.
Objective 3	**Create a mechanism to report the actual performance against the performance objectives and provide those reports to the users of the system and other local officials.**
Assigned To:	Communications Director/Fire Chief
Funding Required:	None
Critical Tasks:	• Monitor and report the performance on at least a quarterly basis •
Objective 4	**Further examine the various staffing models to determine the appropriate number of dispatch personnel required to meet the performance objectives and the workload.**
Assigned To:	Communications Director/Fire Chief
Funding Required:	None
Critical Tasks:	• Use a staffing model to determine the number of staff needed based on performance objectives and call volumes. •

Objective 5	**Develop an employee retention plan to address the staffing issues in the Fremont/Dodge County Communications Center.**
Assigned To:	Communications Director/Fire Chief
Funding Required:	None
Critical Tasks:	• •

Objective 6	**Continue to provide support to the regionalization of the 9-1-1 Communications Centers in conjunction with local and state leadership.**
Assigned To:	Communications Director/Fire Chief
Funding Required:	None
Critical Tasks:	• •

Goal 7	**Improve the turnout time performance of the response time continuum.**
Timeline:	**Short-Term**
Objective 1	**Formally establish benchmark and baseline performance objectives for turnout time for emergency medical calls.**
Assigned To:	Fire Chief/Shift Officers
Funding Required:	None
Critical Tasks:	• Establish turnout time based on nationally recognized best practice. •
Objective 2	**Formally establish benchmark and baseline performance objectives for turnout time for fire and special operations calls.**
Assigned To:	Fire Chief/Shift Officers
Funding Required:	None
Critical Tasks:	• Establish turnout time based on nationally recognized best practice. •
Objective 3	**Work with the Fremont/Dodge County Emergency Communications Center to ensure procedures and processes are adequate for capturing the time stamps.**
Assigned To:	Fire Chief/Shift Officers
Funding Required:	None
Critical Tasks:	• Train and educate communications staff on the importance of capturing accurate times. •
Objective 4	**Monitor and evaluate turnout time related to the performance objectives previously established.**
Assigned To:	Fire Chief/Shift Officers
Funding Required:	None
Critical Tasks:	• Post turnout time performance monthly by station and by shift at each station to allow crews to see their performance. • Create a reporting mechanism for excessive turnout times to allow for evaluation on the cause in turnout time delays. • Install timers in the stations at the apparatus doors to indicate the elapsed time from dispatch.

Goal 8	**Improve the available staffing for emergency calls for service**
Timeline:	**Mid-Term**
Objective 1	**Adjust the staffing strategy to reduce the call-backs and provide for crew integrity**
Assigned To:	Fire Chief/City Administrator/City Council
Funding Required:	
Critical Tasks:	• Review changes to the staffing strategy as a short-term remedy to the call back issue •
Objective 2	**Increase the operational staffing from a minimum of seven (7) personnel per shift to nine (9) personnel per shift.**
Assigned To:	
Funding Required:	$580,380 for the first year
Critical Tasks:	• •
Objective 3	**Reevaluate staffing needs based on call volume and the community standards established in the organizational statement.**
Assigned To:	
Funding Required:	Unknown
Critical Tasks:	• Review total call volume, day of the week, time of day, and response time. • Capabilities to meet the established community standards.

Goal 9	**Improve the response time in the eastern sections of the city.**
Timeline:	**Long-Term**
Objective 1	**Acquire property for a second station at or near the intersection of Military Avenue and North Luther Road.**
Assigned To:	Fire Chief/City Administrator/City Council
Funding Required:	Unknown
Critical Tasks:	• Locate the appropriate property and negotiate the price. • Consider using the services of an architect to aid in acquiring the right size of property
Objective 2	**Obtain the services of architect to design a new fire station (if not already obtained)**
Assigned To:	Fire Chief/City Administrator/City Council
Funding Required:	Unknown
Critical Tasks:	• Consider the advanced safety features of new fire station design •
Objective 3	**Acquire the services of a general contractor to build the fire station.**
Assigned To:	Fire Chief/City Administrator/City Council
Funding Required:	Unknown
Critical Tasks:	• •
Objective 4	**Increase the operational staffing of the fire department to accommodate an additional position with the opening of a new fire station in the eastern section of the city.**
Assigned To:	Fire Chief/City Administrator/City Council
Funding Required:	$290,190 for the first year
Critical Tasks:	• Incrementally increase the minimum staffing of the operations shifts. •

Essential Functions

Goal 10	**Reestablish the training program to oversee and improve the basic and ongoing training activities.**
Timeline:	**Mid -Term**
Objective 1	**Explore the potential for a shared fire and police training officer** .
Assigned To:	Fire Chief/Police Chief
Funding Required:	None
Critical Tasks:	• Determine the qualifications for the position. •
Objective 2	**Establish performance objectives for the training programs.**
Assigned To:	Fire Chief
Funding Required:	None
Critical Tasks:	• Identify the needs of the department. • Use the performance objectives to measure successes in the training programs
Objective 3	**Improve the training props and simulators**
Assigned To:	Training Officer
Funding Required:	None
Critical Tasks:	• With the establishment of the performance objectives and training programs, review the needs for training simulators and props. •
Objective 3	**Establish a formal training program schedule**
Assigned To:	Training Officer
Funding Required:	None
Critical Tasks:	• Create an annual calendar to ensure all training programs are appropriately •

Goal 11	**Establish a formal fire prevention program.**
Timeline:	**Long-Term**
Objective 1	**Assess to best method to manage the fire prevention programs by either dedicated fire prevention personnel, on shift personnel or a combined Training Officer/Fire Prevention Officer.**
Assigned To:	Fire Chief
Funding Required:	None
Critical Tasks:	• Assess the use of engine company inspections • Specialized buildings such as high rise for inspections by dedicated personnel
Objective 2	**Establish performance objectives for plan reviews and fire safety inspections.**
Assigned To:	Fire Chief
Funding Required:	None
Critical Tasks:	• Determine the inspection frequency for various occupancies. • Work with the building department to determine an appropriate time frame for plan reviews and permit approvals.
Objective 3	**Improve the fire safety education programs.**
Assigned To:	Fire Prevention Officer
Funding Required:	None
Critical Tasks:	• Establish a proactive program for delivering fire safety education. •

Physical Resources

Goal 12	**Renovate or replace the current fire station.**
Timeline:	**Long-Term**
Objective 1	**Assess the renovations necessary to be compliant with the most recent codes and practices.**
Assigned To:	Fire Chief
Funding Required:	None
Critical Tasks:	• Identify the components for renovation • Determine the cost for the renovations
Objective 2	**Assess the feasibility to replace the existing building**
Assigned To:	Fire Chief
Funding Required:	None
Critical Tasks:	• Cost to replace vs. renovate •

Administrative Services

Supporting the emergency response and mitigation efforts is a function of the administrative model. In the city, human resource and financial support are provided by separate departments. Other administrative support functions and processes are part of the fire department and are evaluated in the following sections.

Organizational Structure

The design of an organizational structure to best meet the needs of an agency is not only predicated on the traditional command and control within the Fire Department, but also to help define job duties and responsibilities, ensure efficient and effective workflow, establish a reporting hierarchy, and ultimately determine appropriate lines of authority and accountability. To accomplish this, the design of an organizational structure and placement of employees within the organization should be established on key principles that provide the organizational cohesion necessary to accomplish the primary mission of the Department. These principles include:

- **Accountability and responsibility are clearly identified:** The organizational structure must be consistent with the concept that clear lines of authority and decision making are essential for any organization to achieve excellence. Areas of responsibility are clearly delineated, and points of accountability are readily identifiable.
- **Span of control or communication is optimal:** Effective organizations are structured so that lines of communication are identifiable and where there are multiple reporting relationships, responsibility for communication and control are clearly identified and understood.
- **Coordination of Work Efforts:** The organizational structure should facilitate communication and working relationships among staff and work units. Many functions need close or indirect alignment to maximize efficiency and effectiveness. The structure should also provide easy identification of job function to people outside the Department, including other Departments in the City and other fire service agencies.
- **Degree of Organizational Risk:** This relates to how much risk a function incurs if an activity is not performed or is performed poorly. Risk might involve tactical, financial or political concerns. Generally, higher risk functions have closer management oversight.
- **Supervisor and Management Span of Control:** This relates to whether supervisors are fully devoted to overseeing a select few primary activities or a broader set of duties and responsibilities. Appropriate spans of control are related to both the

number of staff directly supervised as well as the complexity of activities overseen.

Nationally recognized best practice for span of control in highly technical and professional positions is to limit direct reports typically to five or six positions, with nine direct reports considered the maximum to mitigate organizational risk. As the Fremont Fire Department expands to include two stations there may be a need to expand the command and control structure within the department. This may include the addition of a company officer to address the supervisory needs at each of the stations.

Administration

Within the fire department there is a lack of administrative support for the fire administration. The lack of administrative support has limited the fire administration in accomplishing their goals as much of the time is spent handling duties such as report reviews, emergency medical billing issues, and training reports.

There are a number of administrative functions that could be improved upon with additional assistance. Budget preparation and analysis, policy and procedure preparation and analysis, purchasing and management of capital improvement programs, and preparation of management reports from the response, training, and inspection data. This is in addition to assisting with preparation of letters, recording training records, and the scheduling of off-duty time and station preparation of station schedules. The overload of administrative duties does not afford the chief officer the opportunity to perform the duties that should be completed such as planning, improving the response capabilities, and oversight of the department.

Previously there was an administrative assistant for the fire department. This position was moved to the building inspections department in 2012 to be a shared resource between the building and fire departments. The position was eventually moved to the Police Department as a shared resource between the Police and Fire Departments and is currently being used in the same manner. Reinstating this position will aid the department in ensuring the appropriate data and reports are completed in a timely manner. One of the changes in the department will be monitoring performance objectives. Performance objectives act as a guide to ensure the department functioning as it should and to highlight areas that are not performing well.

Organization Continuity

Succession planning is a necessary function in every organization no matter the size. It is a process whereby the organization develops employees to fill key roles within the

organization. This ensures there is an employee prepared to fill that key role if and when it opens. However, the tendency in most organizations is to plan informally or verbally for succession. Promotion of the most tenured people in the organization to positions that control the organization may not be the best use of this resource.

During the interviews and review of data, the project team learned there are 5 to 6 of the 24 personnel or 25% of the department that could retire in the next two to five years of which three are in leadership positions. To facilitate the continuity of the organization and provide a level of succession planning, the project team recommends a formal succession plan be developed to include education, training, and exposure to the various functions of the department. This plan could also provide a basis and background for any upcoming promotions.

Goal 1	**Improve the administrative support for the fire department.**

Mentoring Program

In support of a continuity plan, mentoring for new recruits and newly appointed officers would benefit the organization and the city. These programs provide an opportunity for the more tenured officer to pass on their expertise and encourages the development of leadership competencies. Promotions are always difficult but none more so than promoting from a firefighter to an officer. As an officer and a front-line supervisor, the individual is now the one giving orders and not following them making this transition more difficult. A mentoring program for these promotions is essential to ensure the new officer gets started in the right way. For the new recruit, it provides an opportunity to learn and understand the workings of the Fremont Fire Department.

Goal 2	**Establish a mentoring program to provide support to new officers and department members.**

Organizational Guidance

Organizations and companies have vision and mission statements to provide guidance and direction to everyone involved in the organization. There is no requirement for an organization to have both although many do have both.

The vision statement should provide guidance and be forward-thinking describing an overall direction of the organization. It should support the organization to achieve its goals for the next 5-to-10-year time frame.

The mission statement describes what you do, who you do it for, and the benefit it provides. These are typically short and easily recitable by the members of the organization. The mission statement should guide the leaders in the field to make decisions when presented with a difficult situation, especially those outside the normal operations.

It is not uncommon for an organization to put together vision and mission statements without much thought or in a vacuum. These statements are directly related to the performance of an organization and should be well thought out to provide the direction desired to the organization. Aligning the vision and mission statements with the strategic plan will likely result in better performance and more productive organization.

Internal stakeholders collectively reviewed and commented on a new vision statement, mission statement, and core values of the organization. Through the discussions the following statements best fit the organization:

Vision Statement: Provide exceptional life safety services to make our community one of the safest places to live, work, and grow.

Mission Statement: Protect life and property with courteous delivery of services through continuous improvement and adherence to our core values.

Core Values: Fremont Fire Department CARES:

Community
Accountability
Resilience
Empathy
Safety

Goal 3	**Formally adopt the vision statement, mission statement, and core values as developed by the internal stakeholders of the fire department.**

Emergency Service System Dynamics

In making decisions about the emergency services system, it is important to understand the science behind the location of resources, the deployment strategies of those resources, and other factors necessary to form an effective emergency services system. For many years, the Insurance Services Office (ISO) had set the standard for deployment through their Public Protection Classification system. This system was designed to provide insurers a basis for setting insurance rates and to limit their exposure to large losses and catastrophic events. While these efforts provided a good starting point, there is much more for the leadership to know while making decisions about the emergency services in Fremont.

Nationally, a great deal of effort and research has been put into developing performance objectives for the delivery of fire and emergency medical services. This effort is critical for local government decision making about deployment and location of emergency resources. Objectives for Fire/Rescue and EMS providers have been derived from research conducted in two critical areas:

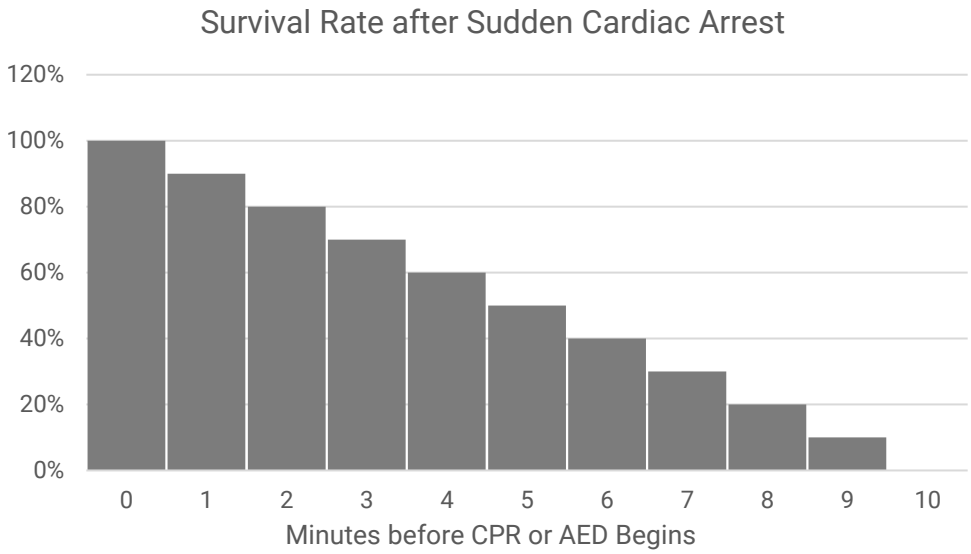
- What is the impact of the passage of time on survivability for victims of cardiac arrest?
- What is the key point in a fire's "life" for gaining control of the blaze while minimizing the impact on the structure of origin and on those structures around it?

Emergency Medical Services

Emergency medical services are a significant part of the emergency services system. Not only are these types of calls rising but are also wide-ranging in terms of the type and complexity of the calls that services are receiving. As a part of the overall healthcare system, the design of emergency medical response services systems must incorporate appropriate care in a time-sensitive manner.

From a scientific position, the American Heart Association states that brain and permanent death starts to occur 4 to 6 minutes following cardiac arrest. Trauma events are also at the forefront of time-sensitive response. In 2015, a national awareness program was launched called "Stop the Bleed".

For perspective, the following graph illustrates the survivability of cardiac patients related to the time onset:



The graph illustrates the chances of survival of sudden cardiac arrest diminish approximately 10% for each minute that passes before the initiation of CPR and/or defibrillation. These dynamics are the result of extensive studies of the survivability of patients suffering from cardiac arrest.

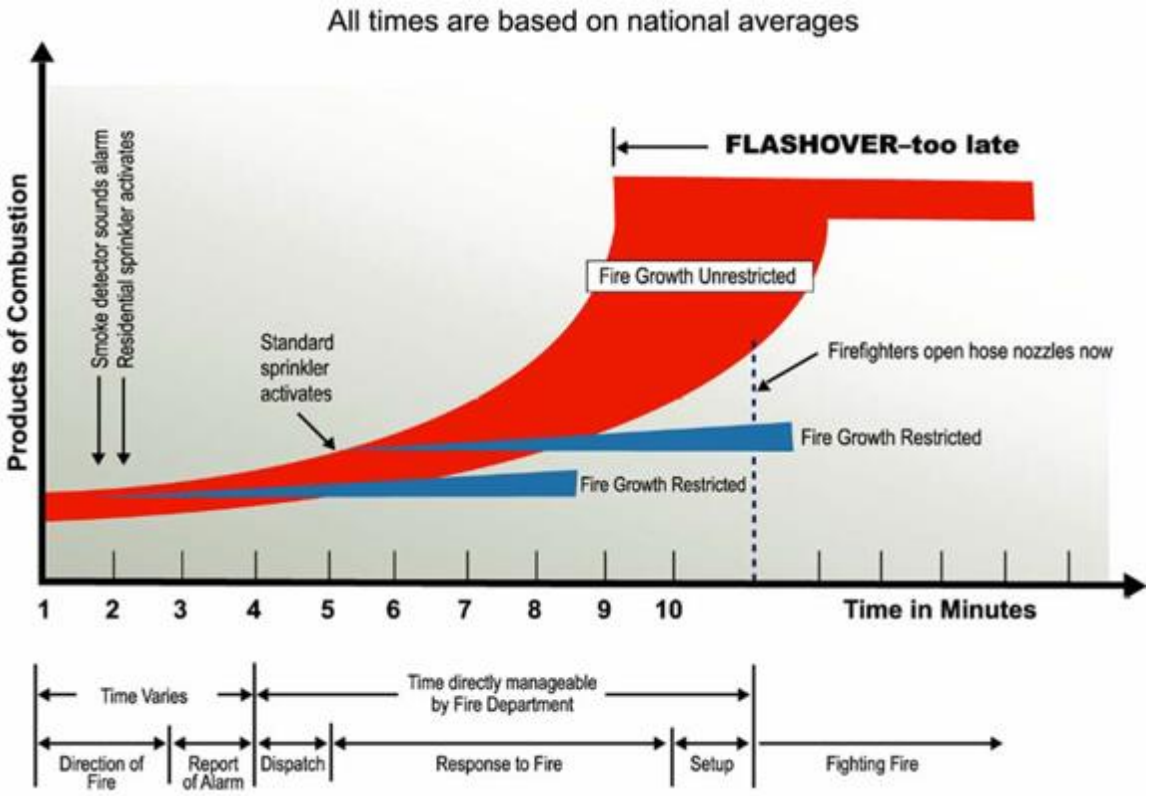
While the demand for services in EMS is wide-ranging, the survival rates for full arrests are often utilized as benchmarks for response time standards as they are more readily evaluated because of the ease in defining patient outcomes (a patient either survives or does not). This research results in the recommended objective of provision of basic life support within 4-minutes of notification, and the provision of advanced life support within 8 minutes of notification.

Considering the response time continuum, the response time goal for emergency services is to provide BLS within 6 minutes of the onset of the incident (including detection, dispatch and travel time) and ALS within 10 minutes. This is often used as the foundation for a two-tier system where fire resources function as first responders with additional (ALS) assistance provided by responding ambulance units and personnel.

Fire Suppression Services

Much like emergency medical services, the goal of fire suppression systems is to save lives and minimize property damage. Every structure fire goes through the same process of development. The growth of that fire is dependent on many factors including fuel loads, the types of materials, and the area involved. There is one point, “flashover”, that is identifiable and serves as a benchmark for the response of resources.

The chart that follows, illustrates the traditional "flashover" curve for interior structure fires. The point in time represented by the occurrence of "flashover" is critical because it defines when all the contents of a room become involved in the fire. Once this occurs, the space becomes untenable for firefighters and un-survivable for any occupants. With the rapid expansion of the fire, there is additional risk to other areas of the structure and potentially to any structures or wildland areas surrounding the original location of the fire.



Note that this illustration depicts a fire from the moment of inception – not from the moment that a fire is detected or reported. This demonstrates the importance of early detection and fast reporting as well as rapid dispatch of responding units. This also shows the critical need for a rapid (and sufficiently staffed) initial response – by quickly initiating the attack on a fire, "flashover" can be averted.

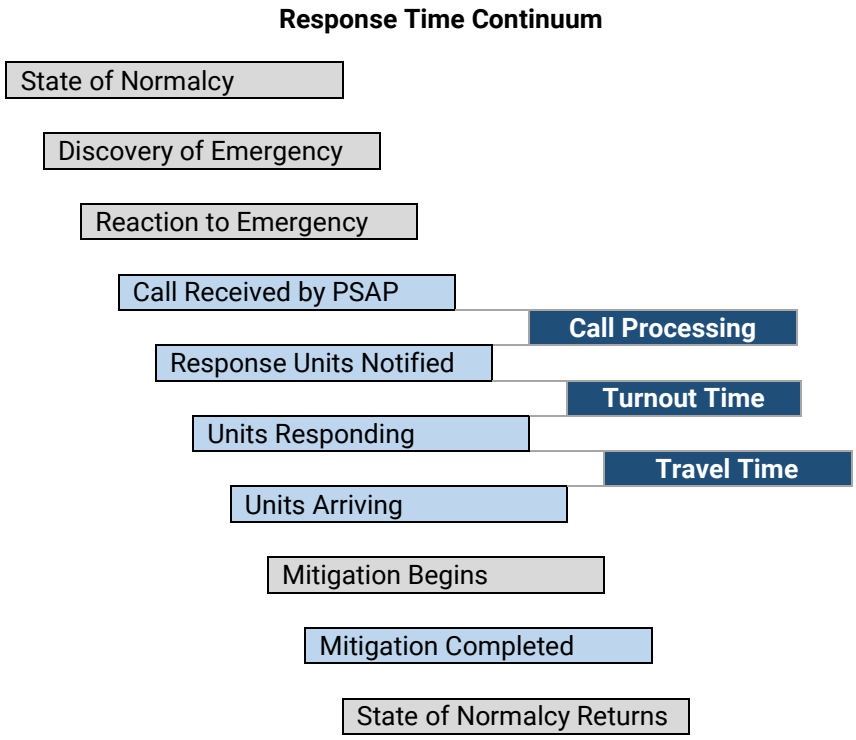
It should be noted that not every fire will reach flashover – and that not every fire will "wait" for the 8-minute mark to reach flashover. In fact, research conducted in 2010 by the Underwriter Laboratories determined the increased use of synthetic materials in the home has created faster flashover times to less than 4 minutes in some of their tests. Modern home furnishings made of foam, plastics, or other petroleum-based products have increased the available fuel load for a fire. Additionally, construction techniques and

components have increased the efficiency of our homes but has added a new dimension to fire growth.

National Response Time Criteria

The expression of response time has changed. In years past, the measurement was expressed as an average of time. This essentially represents how the system or department is performing 50% of the time and is not a true reflection of how a department is performing. With the research that has been performed in developing performance standards and practices, the use of fractal time has become the best practice in the measurement and presentation of response time components. Fractal response time measures how often (as a percent of calls) a department can perform within each response time component. The National Fire Protection Association (NFPA) and the Center for Public Safety Excellence (CPSE) use the 90th percentile as the standard to meet for benchmark and baseline criteria. Benchmark measurements are described as the industry best practice. Baseline measurements are described as the actual performance of the organization.

Response time to an emergency or call for assistance has been broken down into measurable and non-measurable segments. The response time continuum begins when the state of normalcy changes to a recognizable emergency. The following chart outlines the cascade of events that occurs once an emergency starts or is recognized. Those highlighted points represent hard data or that which is quantitative versus soft data or that which is subjective and unknown.



The highlighted points in the chart above represent three segments that can be used for evaluation; call processing, turnout time, and travel time. Each of these components represent a different point in the response time continuum and through their measurement and evaluation areas for improvement can be identified. Below are the definitions for the three components:

- Call Processing is the defined as beginning when the call taker answers the call and ends with the dispatching of appropriate emergency services units.
- Turnout Time is defined as beginning when the emergency services unit receives the call and is on the apparatus responding (wheels rolling) to the call.
- Travel Time is defined as beginning when the apparatus and personnel begin the response (wheels rolling) and ends once on location of the emergency (wheels stopped).

There are four nationally recognized models used to measure performance of the fire protection system and each have their own set of performance measurements based on different aspects of the community served.

- 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 last published in 2020.

- NFPA 1720 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments last published in 2020.
- Center for Public Safety Excellence (CPSE) Fire and Emergency Service Self-Assessment Manual last published in 2015 and Community Risk Assessment and Standard of Cover last published in 2016.
- Insurance Services Office (ISO) updated their Fire Suppression Rating Schedule in 2012 to allow the systematic performance evaluation of responses for their distribution and concentration ratings.

To further define response time components there are benchmark performance objectives and current performance.

- Benchmark performance objectives are those values or standards that represent superior performance or best practice. These are also defined as goals to which an organization strives to meet.
- Baseline performance are those values or standards that represent actual performance based on past data and history. In terms of response time, the baseline performance is generally based on three to five years of data.

Effective Response Force

There are several tasks, which must occur simultaneously to adequately combat different types of fires. The absence of adequate personnel to perform these tasks requires each task to be prioritized and completed in chronological order. These fire ground tasks include command, scene safety, search and rescue, water supply, fire attack, pump operations, ventilation, back up, and rapid intervention.

An initial full alarm assignment should be able to provide personnel to accomplish the following tasks:

- Establish incident command outside of the hazard area. This will allow coordination and direction of the incoming emergency response personnel and apparatus. A minimum of one person should be dedicated to this task.
- Establish an uninterrupted water supply of at least 400 gallons per minute for 30 minutes. Once established the supply line can be maintained by the pump operator to ensure uninterrupted water supply. A minimum of one person is assigned to this task that can then assume support role.
- Establish an effective water flow rate of 300 gallons per minute. This will be supplied to a minimum of two hand lines each operating at a minimum flow of 100 gallons per minute. Each hand line must have two individuals assigned with one serving as the attack line and the other as a back-up line.

- Provision of one support person to handle the hydrant hookup, utility control, forcible entry, and assist in deploying fire hose lines.
- Establish a search and rescue team. Each team will consist of a minimum of two.
- Establish a ventilation team. Each team will consist of a minimum of two personnel.
- Establish an initial rapid intervention team (RIT). Each RIT team shall consist of a minimum of two properly trained and equipped personnel.

Critical tasking will vary depending on the size and nature of the incident. The Center for Public Safety Excellence (CPSE) provides a suggestive list of tasks that need to be completed at a fire situation based on the risk. A similar list is provided within the NFPA 1710 document. The CPSE analysis, from the 8th edition, is summarized in the table below showing the minimum required personnel to mitigate the initial emergency response requirements by occupancy risk:

Critical Tasks for the Effective and Efficient Control of Structural Fires

Critical Task	Maximum Risk	High Risk	Moderate Risk	Low Risk
Attack Line	4	4	4	2
Search and Rescue	4	2	2	0
Ventilation	4	2	2	0
Backup Line	2	2	2	2
Rapid Intervention	2	2	2	0
Pump Operator	1	1	1	1
Water Supply	1*	1*	1*	1*
Support (Utilities)	1*	1*	1*	1*
Command	1	1	1	1
Safety Officer	1	1	1	1
Salvage/Overhaul	2	0	0**	0
Command Aid	1	1	0	0
Operations Chief	1	1	0	0
Logistics	1	0	0	0
Planning	1	0	0	0
Staging Officer	1	1	0	0
Rehabilitation	1	1	0	0
Division Supervisors	2	1	0	0
High-rise Evacuation	10	0	0	0
Stairwell Support	10	0	0	0
Total Personnel	**50 – 51**	**21 – 22**	**16 – 17**	**8 – 9**

*Tasks can be performed by the same individual. **Task can be performed by the attack crew

Adding to the critical tasks and staffing issues is the OSHA requirement of two in – two out in 1910.134(g)(4). These regulations state that if entry into an Immediately Dangerous to Life and Health (IDLH) atmosphere is necessary, two firefighters must enter together and remain in contact with each other. In addition, there must be two firefighters located outside the IDLH atmosphere for potential rescue if needed. This is a mandatory requirement.

Daily minimum staffing of the Stafford County Fire and Rescue Department is 40 career personnel, of which 16 are assigned to emergency medical units, leaving 21 assigned to fire suppression units and 3 assigned to command positions. Volunteer firefighters provide additional staffing when available. Based on the critical task guidelines above, a high-risk occupancy, including small businesses or a single-story multi-family dwelling, would require almost all of the on-duty fire suppression personnel. For a maximum risk, such as the new commercial buildings being constructed in various areas of the County, would completely deplete the on-duty personnel and require a call-back of off-duty personnel and the use of mutual aid from other fire departments in the area, or both.

The concept of an effective response force carries through for other response types by the Fire and Rescue Department. The tables below outline the critical tasks for an effective response force for those response types.

Critical Tasks for Hazardous Materials

Critical Task	High Risk	Low Risk
Command/Safety	2	1
Liaison	1	1
Decontamination	4	4
Research Support	2	1
Team Leader, Entry Team, Backup Team	6	6
Total Personnel	**15**	**13**

Critical Tasks for Initial Wildland Urban Interface Fires

Critical Task	No Hydrants	With Hydrants
Command/Safety	1	1
Pump Operations	1	1
Attack Line	2	2
Structure Protection	3	2
Water Supply	1	0
Tender Operator	2	0
Exposure Lines	2	0
Total Personnel	**12**	**6**

Critical Tasks for Technical Rescue Operations

Critical Task	Swift Water	High/Low Angle	Confined Space
Command/Safety	1	1	2
Rescue Team	3	2	2
Backup Team	2	2	2
Patient Care	2	2	2
Rope Tender	2	0	0
Upstream Spotter	2	0	0
Downstream Safety	2	0	0
Rigger	0	1	1
Attendant	0	1	1
Ground Support	0	4	4
Edge Person	0	1	0
Shoring	0	0	0
Total Personnel	**14**	**14**	**14**

The previous tables illustrate the needs for a sampling of hazardous materials, wildland urban interface, and technical rescue incidents and there are numerous other response types. Each of the technical rescue incidents will require similar numbers of personnel or more depending on the complexity of the incident. Further, many of the positions require personnel to be certified in those positions or that particular discipline.

As with the emergency services system, an effective response force is needed for the effective and efficient delivery of emergency medical services. A task analysis for emergency medical calls analyzes three different types of calls or patient conditions. These three types of calls usually require the most effort on the part of the response team. Other calls or patient types can generally be handled with two or three personnel. Many times, especially in trauma calls, there are multiple patients. The following table outlines the tasks for handling these critical patients and the number of responders it may require for a successful outcome. It is important to note that some tasks are accomplished by the same personnel, so the total is not simple addition of the positions noted.

Critical Tasks for Effective Patient Care

Critical Task	Cardiac Arrest	Stroke	Multi-System Trauma
Patient Assessment	2 per patient	2 per patient	2 per patient
Airway Management/Intubation	2 per patient	2 per patient	2 per patient
Cardiac Defibrillation	1	N/A	N/A
CPR	1	N/A	N/A
EKG Monitoring	1	1	1
IV/Pharmacology	1	1	1
Splint/Bandage/Immobilization	N/A	N/A	1
Patient Lifting/Packaging	2 – 4	2 – 4	2 – 4
Medical Information Collection	1	1	1
Total per Patient	**6 - 8**	**5 - 7**	**6 - 8**

Critical Tasks for Motor Vehicle Accidents

Critical Task	No Entrapment	With Entrapment
Scene Management / Documentation	1	
Patent Care / Extrication	2	
Command / Safety		1
Scene Management		1
EMS Crew (from previous table)		6
Extrication		3
Pump Operator / Suppression Line		2
Vehicle Stabilization	2	2
Total Personnel	**5**	**16**

Evaluation of the Fremont Emergency Services System

This chapter compares and evaluates the current deployment and performance of the fire department as it relates to the benchmark performance objectives outlined and described in the previous chapter.

Response Time

Computer Aided Dispatch (CAD) data for 2018, 2019, and 2020 was examined and evaluated. The data is not without issues such as coding problems, transcription errors, and equipment failures. The project team used the following mechanism to address these issues.

Only qualified data is used to calculate response time and any related components. To be considered the data must meet the following criteria:

- The incident must have been unique.
- The incident must have involved at least one Fire and Rescue Department unit being dispatched to the call.
- Calls that are missing data are not used in the computations for call processing, turnout time, travel time, or call duration.
- Any call with usually long times or times sorted incorrectly (arrived before dispatch time) were removed.
- Non-emergency responses are removed; only emergency responses are included.

After filtering the data using the methodology outlined above, the remaining incidents represent the response time for calls for service handled by the fire department.

Call Processing

Performance Standards

The Fremont/Dodge County Communications Center is the public safety answering point (PSAP) for all 911 calls in Dodge County and handles the dispatching of law enforcement, fire department, emergency medical services, and rescue calls. NFPA 1221 Standard for the Installation, Maintenance and Use of Emergency Services Communications Systems establishes the call processing benchmarks as outlined in the chart below.

NFPA 1221 Time Requirements

Component	Target	Performance
Calls Answered	Within 15 seconds	90%
	Within 20 seconds	95%
Call Processing	Within 60 seconds	90%
Call Processing for: * Language Translation * TTY/TDD Device Services * Hazardous Materials * Technical Rescue * Text Message * Calls Received during a Disaster * Unable to Determine Location	These types of calls are exempt from the call processing time illustrated above.	

Both CPSE and ISO use the 60 second call processing time benchmark performance objective as outlined in NFPA 1221 for their requirements. NFPA 1720 does not address call processing in any statements and does not reference NFPA 1221.

System Performance

The table below summarizes the performance of the Fremont/Dodge County Emergency Communications Center.

Fremont/Dodge County Communications

All Emergency Calls - Percentile Times	90th	2018 - 2020	2018	2019	2020	Benchmark
Call Processing	Pick-up to Dispatch	3:07	3:13	3:08	3:00	1:00

Over the course of three years the communications center has processed the emergency calls in 3 minutes and 7 seconds for 90% of the emergency calls handled for the fire department.

Turnout Time

Performance Standards

Turnout time is a measurable time segment that begins when the emergency service unit receives the call and is on the apparatus responding (wheels rolling) to the call. The following tables provides a comparison between the four models for benchmark performance objectives.

Turnout Time – Benchmark Performance Objectives

Call Type	NFPA 1710	NFPA 1720	ISO	CPSE
Emergency Medical Calls	60 seconds or less 90% of the time	60 seconds or less 90% of the time	No Requirement	60 seconds or less 90% of the time
Fire or Special Operations Calls	80 seconds or less 90% of the time	90 seconds or less 90% of the time	No Requirement	80 seconds or less 90% of the time

System Performance

The table below illustrates the performance for the Fremont Fire Department.

Fremont Fire Department – Turnout Time

All Emergency Calls - 90th Percentile Times			2018 - 2020	2018	2019	2020	Benchmark
Turnout Time	1st Unit	Medical Calls	2:21	2:00	2:16	2:34	1:00
		Fire Calls	2:49	2:23	2:39	3:02	1:20

All times shown is the 90th percentile time for each of the three years. The benchmark performance objective time shown to the far right represents the recommended turnout time performance objective for staffed stations. For the three-year period, the emergency medical calls are over the recommended objective time by 1 minute and 21 seconds and the fire related calls are over the recommended time by 1 minute and 29 seconds. The following table illustrates the turnout time for each unit.

Fremont Fire Department - Company Turnout Time

All Emergency Calls - 90th Percentile Times			2018 - 2020	2018	2019	2020	Benchmark
Turnout Time	Ambulance 111	Medical Calls	2:25	2:11	2:25	2:48	1:00
		Fire Calls	2:44	2:37	2:44	2:53	1:20
	Ambulance 112	Medical Calls	2:23	2:17	2:13	2:30	1:00
		Fire Calls	2:53	2:08	2:42	3:02	1:20
	Ambulance 114	Medical Calls	2:54	2:11	2:27	3:14	1:00
		Fire Calls	1:43	1:54	0:23	1:25	1:20
	Engine 131	Medical Calls	2:21	2:11	2:16	2:35	1:00
		Fire Calls	2:50	2:20	2:38	3:03	1:20
	Engine 132	Medical Calls	1:53	N/A	1:40	2:38	1:00
		Fire Calls	3:13	0:13	2:17	3:25	1:20
	Engine 133	Medical Calls	2:09	2:00	1:56	2:43	1:00
		Fire Calls	3:00	2:54	2:58	3:10	1:20
	Ladder 152	Medical Calls	2:00	0:00	N/A	2:00	1:00
		Fire Calls	3:05	3:00	3:25	3:04	1:20
	EMS 161	Medical Calls	2:22	2:00	2:17	2:33	1:00
		Fire Calls	2:40	2:09	2:31	3:00	1:20
	Rescue 164	Medical Calls	2:00	2:00	N/A	N/A	1:00
		Fire Calls	0:55	1:31	0:10	0:36	1:20

In some instances, there was not enough data to determine the 90th percentile turnout time.

Distribution of Resources

Distribution is the measure of getting initial resources to an emergency to begin mitigation efforts. This is measured in a variety of ways including percentage of square miles, percentage of road miles and travel time. The Insurance Services Office (ISO) has used road miles for many years advocating one and a half miles for an engine company and two and a half miles for a ladder company. With the advent of GIS technology and improved computer aided dispatch (CAD) systems, the use of actual travel time is another more accurate measure for the distribution of resources.

Performance Standards

Travel time is a measurable time segment that begins when the apparatus and personnel begin the response (wheels rolling) and ends once on location of the emergency (wheels stopped). It is the most appropriate measurement available for the distribution of resources that has a proven record of success. The table that follows is used for the travel time dynamics of the emergency services system.

First Arriving Unit - Benchmark Performance Objectives

Demand Zone	Demographics	NFPA 1710	NFPA 1720	ISO	CPSE
Urban	Greater than 1,000 per sq. mile	4 minutes or less 90% of the time.	No Requirement	1.5 road miles in the built-upon area	4 minutes or less 90% of the time
Suburban	500 - 1,000 per sq. mile	4 minutes or less 90% of the time.	No Requirement	1.5 road miles in the built-upon area	5 minutes or less 90% of the time
Rural Area	Less than 500 per sq. mile	4 minutes or less 90% of the time.	No Requirement	1.5 road miles in the built-upon area	10 minutes or less 90% of the time
Remote Area	Travel Distance greater than / equal to 8 miles	4 minutes or less 90% of the time.	No Requirement	1.5 road miles in the built-upon area	No Requirement

There are several notable items contained in the previous table. First, NFPA 1720 does not address the first arriving unit as it only addresses the arrival of the full response which does not lend itself for any resource distribution performance. NFPA 1710 does not address the various demographics or population densities. CPSE addresses the travel time for the various demographics with differing travel times and ISO only addresses the built upon area defined as those areas with fire hydrants available.

System Performance

Fremont fits the urban demographic with an estimated population density of 2,403 people per square mile based on the 2019 US Census Bureau data. The table that follows illustrates the travel time for the urban demographic as compared to the recommended benchmark performance objectives.

Fremont Fire Department - Travel Time

All Emergency Calls - 90th Percentile Times		2018 - 2020	2018	2019	2020	Benchmark
Travel Time	1st Unit Distribution	4:25	4:31	4:48	4:40	4:00

For 2018 – 2020, the travel time is 4 minutes and 25 seconds for 90% of the calls analyzed, which is 25 seconds over the benchmark performance objective. For a visual perspective the following map illustrates the 4-minute travel time from the fire station in Fremont.

Concentration of Resources

Concentration of resources is generally described as the ability of the fire protection system to get the appropriate number of personnel and resources to the scene of an emergency within a prescribed time to effectively mitigate the incident. There are two parts to this component – the first is providing an effective response force and the second is the amount of time to get those resources in place.

Performance Standards

As noted, there are two segments to concentration of resources, the first segment uses travel time, and the second segment involves the number of personnel. Again, these two segments represent the most appropriate measurement available for the concentration of resources and these measurements has a proven record of success nationally.

The concentration segment has two travel time components that must be considered. The first is the travel time for the second arriving apparatus and the second is the balance, travel time and personnel, of the first alarm assignment. The following table summarizes the differing viewpoints for the travel time of the second arriving unit.

Second Arriving Unit - Benchmark Performance Objectives

Demand Zone	Demographics	NFPA 1710	NFPA 1720	ISO	CPSE
Urban	Greater than 1,000 per sq. mile	6 minutes or less 90% of the time	No Requirement	No time or mileage requirement	8 minutes or less 90% of the time
Suburban	500 - 1,000 per sq. mile	6 minutes or less 90% of the time	No Requirement	No time or mileage requirement	8 minutes or less 90% of the time
Rural Area	Less than 500 per sq. mile	6 minutes or less 90% of the time	No Requirement	No time or mileage requirement	14 minutes or less 90% of the time
Remote Area	Travel Distance greater than / equal to 8 miles	6 minutes or less 90% of the time	No Requirement	No time or mileage requirement	No Requirement

As can be noted in the previous table, CPSE and NFPA 1710 have requirements for the second arriving apparatus, the other models are silent. The next table illustrates the travel time for the first alarm assignment.

First Alarm Assignment - Benchmark Performance Objectives

Demand Zone	Demographics	NFPA 1710	NFPA 1720	ISO	CPSE
Urban	Greater than 1,000 per sq. mile	8 minutes or less 90% of the time	9 minutes or less 90% of the time	No time or mileage requirement	8 minutes or less 90% of the time
Suburban	500 - 1,000 per sq. mile	8 minutes or less 90% of the time	10 minutes or less 80% of the time	No time or mileage requirement	10 minutes or less 90% of the time
Rural Area	Less than 500 per sq. mile	8 minutes or less 90% of the time	14 minutes or less 80% of the time	No time or mileage requirement	14 minutes or less 90% of the time
Remote Area	Travel Distance greater than / equal to 8 miles	8 minutes or less 90% of the time	Dependent on the travel distance	No time or mileage requirement	No Requirement

In the previous table, NFPA 1720 addresses the first alarm assignment by demographic and the stated time is measured from the time of dispatch to arrival at the scene. Additionally, NFPA 1720 has a performance objective for suburban and rural of 80% and not 90% of the time. Which differs from ISO, CPSE, and NFPA 1710.

As mentioned above, the second part of the concentration of resources arrival time concerns the number of personnel arriving with the first alarm assignment. The next table summarizes NFPA, ISO, and CPSE standards for the number of personnel arriving for a first alarm assignment for a single-family dwelling.

First Alarm Assignment - Recommended Personnel

Demand Zone	Demographics	NFPA 1710	NFPA 1720	ISO	CPSE
Urban	Greater than 1,000 per sq. mile	16 personnel	15 personnel	No specific requirement	16 personnel
Suburban	500 - 1,000 per sq. mile	16 personnel	10 personnel	No specific requirement	16 personnel
Rural	Less than 500 per sq. mile	16 personnel	6 personnel	No specific requirement	16 personnel
Remote	Travel Distance greater than / equal to 8 miles	16 personnel	4 personnel	No specific requirement	16 personnel

As illustrated, ISO does not specify the number of personnel that is expected or anticipated to arrive, and instead provides points for the personnel - meaning the more on-duty personnel the more points are added to the overall evaluation. In comparison, NFPA 1720 addresses the number of personnel based on the demographics with less personnel in rural areas than urban or suburban. NFPA 1710 and CPSE base their personnel requirements on creating an effective response force using critical tasking.

Performance

Computer Aided Dispatch (CAD) data was used for the evaluation of resource concentration. To be considered for inclusion the following conditions were required to be met:

- Building fires with a dollar loss of $1,000 or more.
- All the units dispatched must have a recorded arrival time. An assumption was made that if the unit did not arrive on scene that it was cancelled while enroute.

The data used were from 2018, 2019, and 2020. To be considered as meeting the resource concentration criteria both the travel time and the minimum number of personnel had to arrive on the scene.

There were 43 structure fire calls for the three-year period that met the dollar loss criteria. Of those 43 calls, only one call had 16 personnel and that was assuming the recalled personnel were able to staff the apparatus with 3 personnel each. As such there is not enough supporting data to analyze the performance of the fire department related to the concentration of resources. However, the table that follows illustrates the travel time for structure fires for the first arriving unit and the second arriving suppression apparatus.

Fremont Fire Department Concentration Performance

Structure Fires - 90th Percentile Times		2018 - 2020	2018	2019	2020	Benchmark
Travel Time	1st Unit Distribution	4:06	4:18	3:25	3:45	4:00
	2nd Unit Concentration	5:08	4:28	6:17	4:28	6:00
	ERF Concentration	N/A	N/A	N/A	N/A	8:00

Over the three-year period the first and second arriving unit were approximately one minute apart which is indicative of a single station system.

System Reliability

The concept of distribution and concentration of resources can be influenced by other contributing factors including unit hour utilization and concurrent calls for service.

Unit Hour Utilization

Unit hour utilization is another factor in determining whether there is an appropriate fire suppression response. Unit hour utilization is calculated by taking the total hours the unit is committed to an incident divided by the total hours in a year. Expressed as a

percentage, it identifies the amount of time the unit is committed but more importantly the amount of time the unit is available. Within the framework of the 80th and 90th percentile performance standards the amount of available time can have an impact in meeting that standard. If utilization rates are too high the units are often unavailable for immediate response.

The following table illustrates the unit hour utilization for the past three years for the career staffed units.

Unit Hour Utilization

Unit	2018			2019			2020		
	Duration	Pct. of Time	Avg.	Duration	Pct. of Time	Avg.	Duration	Pct. of Time	Avg.
EMS 161	991:05:10	11.3%	27:59	1018:03:14	11.6%	28:19	1222:04:47	14.0%	30:17
Ambulance 112	198:32:46	2.3%	29:16	899:43:05	10.3%	28:55	1045:43:26	11.9%	30:22
Ambulance 111	988:57:02	11.3%	27:59	442:41:30	5.1%	29:39	423:39:49	4.8%	32:43
Engine 131	156:07:37	1.8%	28:44	265:42:26	3.0%	29:35	227:28:07	2.6%	36:01
Engine 133	73:57:02	0.8%	22:59	116:14:47	1.3%	28:28	161:08:00	1.8%	37:46
Ladder 152	17:16:40	0.2%	31:25	9:27:37	0.1%	31:32	47:22:55	0.5%	1:11:04
Rescue 164	12:44:24	0.1%	49:12	19:15:21	0.2%	1:36:17	46:49:53	0.5%	2:55:37
Ambulance 114	16:25:34	0.2%	27:23	23:34:12	0.3%	26:11	37:34:41	0.4%	37:35
Engine 132	0:18:37	0.0%	18:37	22:53:04	0.3%	47:21	14:07:34	0.2%	24:56

The busiest units are the two medical units, EMS 161 and Ambulance 112, with EMS 161 committed approximately 14% of the time. Ambulance 112 is committed approximately 12% of the time with the duration of the calls averaging 30 minutes. As a general rule, the unit hour utilization is not an issue until it begins to reach 20% to 25% and if it begins to interfere with the travel time of the unit.

Concurrent Calls

It is common for a fire protection system to have multiple requests for service occurring simultaneously. The larger the system the more frequently this will occur. With the appropriate resources this can be handled efficiently. The following table summarizes the number of concurrent calls for the emergency services system for the past three years.

Concurrent Calls for Service

Calls	2018	2019	2020	Total	%
1	1,857	1,939	1,981	5,777	65.51%
2	710	830	900	2,440	27.67%
3	118	187	186	491	5.57%
4	11	40	38	89	1.01%
5	0	9	5	14	0.16%
6+	2	5	0	7	0.08%
Total	**2,698**	**3,010**	**3,110**	**8,818**	**100%**

Of the 3,110 calls for service in 2020, there were 900 instances that two calls were occurring simultaneously. Likewise, there were 186 instances that three calls were occurring simultaneously. Over the past three years approximately 28% of the calls occurred with at least two simultaneous calls. Another factor that is not captured are the back-to-back calls. For example, Engine 131 could respond to a call in the eastern section of the city and clear that call only to receive a second call in the western section of the city. This would not show up as a concurrent call, but it would extend the travel time for the second call. It should also be noted that a single call for service may require a significant number of resources that could impact the delivery of services.

Total Response

Previous sections in this chapter reviewed and evaluated the different response time components individually. Call processing and turnout time are two components that are controllable either by the dispatch center or the fire department. Travel time is less controllable as this utilizes a stationary location, a fire station, as the starting point and the existing roadway network to arrive at the call for service. For this reason, this component is a primary source that is used for the distribution and concentration of resources.

Fremont Fire Department

All Emergency Calls - 90th Percentile Times		2018 - 2020	2018	2019	2020	Benchmark
Call Processing	Pick-up to Dispatch	3:07	3:13	3:08	3:00	1:00
Turnout Time	1st Unit	2:26	2:05	2:21	2:40	1:00
Travel Time	1st Unit Distribution	4:25	4:31	4:48	4:40	4:00
Total Response	Pick-up to Arrival	8:37	8:49	9:03	9:06	6:20

The total response time illustrated in the previous table is measured from the time the call is initiated to the initial arrival of resources. For the past three years the total response time for the first arriving resource is 8 minutes and 37 seconds for 90% of the calls for service. Also note the turnout time is not separated between fire and emergency medical calls, this table represents the view from the resident. However, the total response time does illustrate the impact that call processing and turnout time has on the overall response time continuum.

Fremont Rural Fire Protection District

Fremont Fire Department provides emergency medical services to the Fremont Rural Fire Protection District (FRFPD). As well, the fire department contracts with several surrounding fire departments top provide advanced life support intercepts. The call volume for the past three years is shown in the tables that follow. The first table illustrates the calls for the FRFPD while the second table shows the calls outside the city and the FRFPD.

Calls for Service by Type - Fremont Rural Fire Protection District

	2018	2019	2020	Total	Pct.
Auto Accidents	32	44	36	112	16.2%
Medical Calls	183	191	159	533	77.2%
Total Medical and Auto Accidents	215	235	195	645	93.5%
Alarm – Malfunction	1	0	0	1	0.1%
Other Type Fire	0	0	1	1	0.1%
Smoke Scare	1			1	0.1%
Vegetation/Brush/Debris Fires	0	0	1	1	0.1%
Vehicle Fire	0	0	2	2	0.3%
All Fire Calls	2	0	4	6	0.9%
Rescue Calls - Extrication	0	1	0	1	0.1%
Rescue Calls - Other	5	1	0	6	0.9%
Rescue Calls - Search	1		0	1	0.1%
Rescue Calls - Water	0	1	5	6	0.9%
All Rescue Calls	6	3	5	14	2.0%
Dispatched/Canceled	3	9	3	15	2.2%
Good Intent Calls	3	0	2	5	0.7%
Hazardous Condition	1	2	1	4	0.6%
Service Calls	0	1	0	1	0.1%
Other Type of Calls	7	12	6	25	3.6%
Total Calls for Service	**230**	**250**	**210**	**690**	

As expected, the majority of the calls for service into the fire district are emergency medical calls. However, for the past three years the emergency medical calls for service into the fire district represent approximately 7% of the total emergency medical call volume for the fire department.

Calls for Service by Type - Outside the City and Fire Protection District

	2018	2019	2020	Total	Pct.
Auto Accidents	2	11	7	20	10.3%
Medical Calls	57	50	35	142	72.8%
Total Medical and Auto Accidents	59	61	42	162	83.1%
Rescue Calls - Extrication	1	0	0	1	0.5%
Rescue Calls - Other	0	2	0	2	1.0%
Rescue Calls - Search	1	0	0	1	0.5%
Rescue Calls - Water	1	0	0	1	0.5%
All Rescue Calls	3	2	0	5	2.6%
Dispatched/Canceled	11	9	6	26	13.3%
Good Intent Calls	1	0	0	1	0.5%
Hazardous Condition	1	0	0	1	0.5%
Other Type of Calls	13	9	6	28	14.4%
Total Calls for Service	75	72	48	195	

Similar to the calls for service into the fire district, calls out of the city and the fire district are largely emergency medical calls. These calls represent approximately 2% of the total emergency call volume over the past three years.

Committed time for emergency medical calls outside the city is another aspect of emergency medical responses. The following table illustrates the unit hour utilization for three medical units related to the services provided to the different jurisdictions.

Unit Hour Utilization

Unit	2018 Duration	2018 Pct. of Time	2018 Avg.	2019 Duration	2019 Pct. of Time	2019 Avg.	2020 Duration	2020 Pct. of Time	2020 Avg.
EMS 161									
City of Fremont	864:36:53	9.9%	27:12	891:53:00	10.2%	27:33	1101:41:56	12.6%	29:39
Fremont Rural FPD	94:56:34	1.1%	34:19	90:00:38	1.0%	34:11	92:07:34	1.1%	36:36
Other Calls Out of District	31:31:43	0.4%	36:23	36:09:36	0.4%	38:04	28:15:17	0.3%	41:21
Total for EMS 161	991:05:10	11.3%	27:59	1018:03:14	11.6%	28:19	1222:04:47	14.0%	30:17
Ambulance 112									
City of Fremont	173:13:42	2.0%	28:38	772:18:47	8.8%	27:54	948:26:34	10.8%	29:49
Fremont Rural FPD	15:29:56	0.2%	31:00	101:42:01	1.2%	36:32	85:28:33	1.0%	36:38
Other Calls Out of District	9:49:08	0.1%	42:05	25:42:17	0.3%	39:33	11:48:19	0.1%	41:40
Total for Ambulance 112	198:32:46	2.3%	29:16	899:43:05	10.3%	28:55	1045:43:26	11.9%	30:22
Ambulance 111									
City of Fremont	857:04:02	9.8%	27:14	383:49:02	4.4%	28:43	378:16:48	4.3%	32:17
Fremont Rural FPD	111:35:11	1.3%	33:29	47:27:27	0.5%	36:30	41:28:52	0.5%	37:09
Other Calls Out of District	20:17:49	0.2%	36:54	11:25:01	0.1%	42:49	3:54:09	0.0%	33:27
Total for Ambulance 111	988:57:02	11.3%	27:59	442:41:30	5.1%	29:39	423:39:49	4.8%	32:43

Calls into the Fremont Rural Fire Protection District account for approximately 2.5% of the committed time for all three emergency medical units combined in 2020. In fact, for the past three years the committed time has remained relatively the same. Based on the call volume and the committed time, emergency medical calls are not a significant impact on the emergency services system in the city.

Financial Impact

Another issue is the potential financial impact for the emergency responses to the Fremont Rural Fire Protection District. The following table shows the breakdown for the cost per call for the fire department.

Fremont Fire Department Cost per Call

	2018	2019	2020
Total Expenditures	$3,396,430	$3,581,313	$3,614,806
Total Calls for Service	2,698	3,010	3,110
Cost per Call for Service	$1,258.87	$1,189.81	$1,162.32

The average cost per call for service for the three-year period is approximately $1,203.66 as the yearly cost fluctuate based on the actual expenses from year to the next. Note the cost is per call and not cost per unit. The next table illustrates the cost recovery revenue for the emergency medical calls.

Fremont Fire Department Cost Recovery

	2018	2019	2020
Rescue Squad Income	$593,990	$598,164	$595,617
Medical Calls for Service	2,462	2,722	2,778
Average Collection per Call	$241.26	$219.75	$214.40

Income from the cost recovery program does not necessarily line up with the calendar year. It may take several months before insurance payments are received. Therefore, the average cost per call may be slightly diverse depending on the collection time.

Collection rates are reported to be 43.6% gross and 87.3% net. For the gross collection rate, this represents the amount billed vs the amount collected prior to any adjustments that are typically made by insurance companies. For net collections, this represents the amount collected after the insurance company adjustments. These rates are in line with the national experience for collections involving emergency medical services.

The following table illustrates the finding gap for the provision of emergency services to the Fremont Rural Fire Protection District (FRFPD).

FRFPD Emergency Medical Calls Financial Summary

	2018	2019	2020
Cost to Provide Service			
Average cost per call	$1,258.87	$1,189.81	$1,162.32
FRFPD EMS Calls	215	235	195
Total Cost for FRFPD	**$270,657**	**$279,604**	**$226,652**
Revenue for Services			
Average Collection Per Call	$241.26	$219.75	$214.40
Average Net Collection Rate	87.3%	87.3%	87.3%
Number of collectible Calls	188	205	170
Total Revenue for FRFPD	**$45,284**	**$45,083**	**$36,499**
Funding Gap	**$225,373**	**$234,521**	**$190,153**

In 2020 the fire department responded to 195 emergency medical and auto accident calls for service in the Fremont Rural Fire Protection District (FRFPD). Based on the cost per call of $1,162.32, the calls into the FRFPD cost $226,652. Using the average net collection rate of 87%, 170 of the 195 calls for emergency medical services would be collected at an average collection per call of $214.40. The produces approximately $36,499 in revenue for 2020 resulting in a net cost to the city is approximately $190,153 in 2020.

Goal 4	**Work with Fremont Rural Fire Protection District to recover part or all of the cost of providing emergency medical service responses and transportation.**

Operational Improvement Opportunities

During this study, several opportunities for improvement were identified. Some of those are related to the growth of the community, while others are gaps in service levels. This chapter provides recommendations intended to provide improvements to the emergency services system within Stafford County.

Community Standards

As noted previously there are four nationally recognized models to use to design and improve a fire protection system in our communities. Each model is based on different aspects of a community from population density, the type of fire department, and the road miles in the area.

The applicability for the NFPA models is based on the definitions of the fire department servicing the community.

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 was last published in 2020.

> *Defines a career fire department as one that utilizes full-time or full-time equivalent (FTE) station-based personnel immediately available to comprise at least 50 percent of an initial full alarm assignment.*

NFPA 1720 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments was last published in 2020.

- Defines a combination fire department as one having emergency service personnel comprising less than 85 percent majority of either volunteer or career membership.
- Defines a volunteer fire department as one having volunteer emergency service personnel comprising 85 percent or greater of its department membership.
- Defines four demographic components based on population density as urban, suburban, rural, and remote.

ISO continues to use their standard 1.5-mile and 2.5-mile criteria for engine company and ladder company placement. Although they now accept a systematic performance evaluation that demonstrates the department can meet the time constraints outlined in NFPA 1710.

Appendix A contained in the NFPA 1710 document provides additional information and background as it pertains to service delivery objectives for the jurisdiction as follows:

> "There can be incidents or areas where the response criteria are affected by circumstances such as response personnel who are not on duty, unstaffed fire station facilities, natural barriers, traffic congestion, insufficient water supply, and density of population or property. The reduced level of service should be documented in the written organizational statement by the percentage of incidents and geographical areas for which the total response time criteria are achieved.
>
> Additional service delivery performance objectives should be established by the AHJ for occupancies other than those identified within the standard for benchmark single-family dwellings. Factors to be considered include specific response areas (i.e., suburban, rural, and wilderness) and occupancy hazards."

This passage acknowledges the authority having jurisdiction (AHJ), in this case the City of Fremont, is responsible for determining the level of service to be provided by its fire department. Considerations for the level of service include, but not limited to, the manner in which the fire department responds, travel time, staffing, emergency calls versus non-emergency calls, roadways, financial resources, and those calls involving different occupancies. The levels of service provided to the city should be written and documented so the residents of the city know and understand the expectations of the emergency services system.

Previously the Center for Public Safety Excellence had defined benchmark and baseline response times for each of the three components. These baseline performance objectives were derived from the benchmark response times to a lesser 70% of the benchmark. They have since determined they are not a standard making organization and decided to leave the establishment of response time standards to others. However, their body of work is significant and has been used by numerous communities across the country to assist with determining what baseline services should be for a community.

The definitions for the criteria of each service area are defined in the following table. CPSE also gives a community a range of acceptable performance standards from "Baseline", minimally accepted performance or to "Benchmark", fully compliant with best practices. CPSE had previously set the following performance standards for urban, suburban and rural areas:

Service Area / Population Density Response Travel Time Standards

	1st Unit	2nd Unit	1st Alarm Balance	Performance
Urban: Population density of over 1,000 per square mile				
Benchmark	4 minutes	8 minutes	8 minutes	90%
Baseline	5 minutes/12 seconds	10 minutes 24 seconds	10 minutes/24 seconds	90%
Suburban: Population density between 500 and 1,000 per square mile				
Benchmark	5 minutes	8 minutes	10 minutes	90%
Baseline	6 minutes/30 seconds	10 minutes/24 seconds	13 minutes	90%
Rural: Population density of less than 500 per square mile				
Benchmark	10 minutes	14 minutes	14 minutes	90%
Baseline	13 minutes	18 minutes/12 seconds	18 minutes/12 seconds	90%

These CPSE guidelines offer the most appropriate and comprehensive performance objectives in terms of travel time components for the distribution and concentration of resources. For purposes of this analysis and evaluation, the CPSE travel time guidelines will be used.

As the authority having jurisdiction, the City of Fremont, should provide an organizational statement establishing the levels of service the emergency services system will provide. The CPSE provides a template for developing such a statement. It should be stressed that a one-size fits all approach does not address the issues within the various areas or the types of response and calls for service. A city adopted organizational statement can address those issues such as the travel time, response type to a call for service such as an auto accident, medical call, or structure fire. In crafting the organizational statement any of the sections from the NFPA standards, CPSE guidelines, or the ISO documentation can be utilized as a basis for determining the levels of service and performance objectives of the Fire and Rescue Department.

The organizational statement should also provide direction and guidance for any future expansion of the fire department and the city. Growth in Fremont is expected to continue as previously documented. Having the organizational statement, which provides for guidance and direction, will allow Fremont to plan for the needs of the emergency services system. As well this organizational statement will provide a pathway for the fire department to transition to an organization that is responsive to changes in the city.

Goal 5	Develop an operational statement for performance expectations to include response time and staffing.

Call Processing

The Fremont/Dodge County Communications Center is the public safety answering point (PSAP) for all 911 calls in Dodge County and handles the dispatching of the Dodge County Sheriff's Office, Fremont Police Department and three village police departments. In addition, the Fremont Fire Department and nine volunteer fire departments are dispatched by the center. The center handles approximately 93,000 calls per year with approximately 17,000 (18%) being 9-1-1 calls. Approximately 85% of the calls are wireless calls and they have the capability to handle text messages to the 9-1-1 system.

Authorized staffing for the Communication Center is set at twelve (12) personnel, however the center currently has eight (8) personnel. According to the communications center, dispatchers typically work the same schedule as law enforcement as shown in the following table:

Communications Center Work Schedule

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Week 1							
Week 2							

The staffing of the Communications Center should be workload based and using performance benchmarks. There are staffing models that can be utilized to determine the number of dispatch personnel needed to achieve a particular benchmark based on the number of incoming calls, radio airtime, and time on the phone for call taking. The National Fire Protection Association (NFPA) and Insurance Services Office (ISO) reference performance benchmarks and not the number of dispatch personnel.

To address the staffing levels, performance benchmarks need to be established for the Communications Center. NFPA 1221 Standard for the Installation, Maintenance and Use of Emergency Services Communications Systems establishes the call processing benchmarks as outlined in the chart below.

NFPA 1221 Time Requirements

Component	Target	Performance
Calls Answered	Within 15 seconds	90%
	Within 20 seconds	95%
Call Processing	Within 60 seconds	90%
Call Processing for: * Language Translation * TTY/TDD Device Services * Hazardous Materials * Technical Rescue * Text Message * Calls Received during a Disaster * Unable to Determine Location	These types of calls are exempt from the call processing time illustrated above.	

Both CPSE and ISO use the 60 second call processing time benchmark performance objective as outlined in NFPA 1221 for their requirements. NFPA 1720 does not address call processing in any statements and does not reference NFPA 1221.

Establishing performance objectives for call answering and call processing not only provides direction to the employees but also establishes expectations for the public and the agencies served. These performance objectives also provide the basis for staffing and operations within the center. With the establishment of performance objectives, there will need to be mechanism created to monitor the actual performance against the established objectives. This will also provide an avenue for the improvement of performance and operations of the center

The call processing component is not in the direct control of the fire department however, the department should continue to work with the Fremont/Dodge County Emergency Communications Center to improve their call processing performance. The call processing time is measured from the time the call is answered by the dispatcher until the field units are dispatched. Times illustrated in the following table is the call processing performance for a three-year period and were obtained via the computer aided dispatch system.

Fremont/Dodge County Communications

All Emergency Calls – Call Processing	2018 - 2020	Benchmark
90th Percentile	3:07	1:00
80th Percentile	2:34	
70th Percentile	2:13	

National best practice as outlined in NFPA 1221 Standard for the Installation, Maintenance and Use of Emergency Services Communications Systems uses a 90th percentile performance objective. The previous table illustrates call processing performance at various performance objective achievements. For example, the call processing time at the 90th percentile achievement was 3 minutes and 7 seconds. During the same time period, call processing time at the 80th percentile achievement was 2 minutes and 34 seconds. Using this data, reducing the call processing from 3 minutes and 7 seconds to 2 minutes and 34 seconds represents a 10% improvement in performance.

Many communications centers use systematic programs to assist in identifying the reason for the call and to match the resources to be sent to the call for service. Emergency Medical Dispatch is such a system that uses locally approved guidelines to not only dispatch the correct resources but also provide pre-arrival instructions to the caller. Additional systems are in place for other types of calls such as fire response and law enforcement. However, these systems should not increase the call processing time but rather speed up the process. The intent is to send the initial resource as quickly as possible while gathering additional information. The response can be upgraded or downgraded depending on the additional information and while the resources are responding pre arrival instructions can be provided. The systems are not designed to delay the response of emergency forces.

Goal 6	**Work with the Fremont/Dodge County Communications Center to improve its staffing and operations.**

Turnout Time

There are several factors that will influence the turnout time for apparatus including the station layout. Such considerations include stairs, detour to restroom, policy for signaling enroute, opening the bay doors, policy for gathering response information, and the personal protective gear that must be donned. In any case, formally establishing turnout time performance objectives provides direction to the employees and establishes the expectations of their performance. As well, the public understands and knows what to expect from their fire services.

The following table illustrates the turnout time for the past three years, derived by combining the last three-years of turnout time data using the same filtering mechanisms

as previously noted. It is shown as a fractal time ranging from 90% to 70% for emergency medical calls and fire-related calls.

Fremont Fire Department Turnout Time

	90%	80%	70%	Benchmark
Turnout Time – EMS	2:21	2:00	1:45	1:00
Turnout Time – Fire	2:49	2:22	2:03	1:20

For the past three-years combined the turnout time for medical calls was 2 minutes and 21 seconds for 90% of the time and for 80% of the time the turnout time was 2 minutes.

This table illustrates the achievable incremental improvement to the turnout time segment of the response time continuum. For example, improving the 90% fractal time from 2 minutes and 21 seconds to 2 minutes represents a 10% improvement. As well, reducing the 90% fractal time to 1 minute and 45 seconds would represent a 20% improvement. Incremental improvements are measurable and provide a baseline to measure those improvements.

Recording the time a unit begins its response is a function of the dispatch center and the dispatcher handling the call. The process used in Fremont/Dodge County Communications Center is for the unit to notify the dispatcher of the response and the dispatcher then records or time stamps the enroute time. It is possible for the dispatcher to be handling several issues simultaneously resulting in a delay in the recording of the enroute time. It is also possible for the unit to be delayed in notifying the dispatcher of the response due to other radio traffic or other issues that may be occurring simultaneously. The times and variances illustrated above is the first step to identify any issues or problems with how response times and unit performance is currently captured and reported. The next step is to establish guidelines for accurately capturing the turnout time performance and identify those times when the turnout time is beyond established thresholds. This will allow for the evaluation of the problem, identify if it is a data issue, an operational issue, or other technical problem and the process further refined to improve the reliability of the data.

Improvement to the turnout time component can take several forms. Some departments have installed timers in the station at the apparatus bay doors that indicate the amount of time that has elapsed since the dispatch was received. This allows the crews to instantly see their turnout time performance and according to some departments has helped to improve their turnout time. Many departments have also encouraged and required the on-duty crews to place their gear at or on the apparatus instead of leaving it in the locker or other location within the station.

Other remedies include the posting of turnout time by station and by shift. This allows the company officer to see the results and work to improve the turnout time of his or her units. Some departments have instituted a process to hold the company officer accountable for excessively long turnout times by creating a written report as to why the turnout time was excessive. This could be established using the current baseline turnout time as a trigger point to generate a time variance report.

Another option is to establish a standard operating procedure as to when a unit is to place themselves enroute. For example, one shift will place themselves enroute from the living quarters while another shift will place themselves enroute once they are on the truck. Still yet, another shift may wait until they have cleared the bay doors, all of which will vary the reported turnout time and possibly skew the data related to actual performance. Establishing a procedure will improve the accuracy of the data.

Goal 7	Improve the turnout time performance of the response time continuum.

Resource Deployment

In this section the deployment of resources and the staffing components are further evaluated.

Current Staffing and Deployment

The current staffing model for the fire department is nine personnel assigned to the shift with a minimum of seven personnel. The model does not provide enough staffing to assemble an effective response force of sixteen personnel at a structure fire, a technical rescue call, or a motor vehicle accident with entrapment. There are, however, other factors to consider:

- The call volume for the past three years has predominately been medical calls at 85% of the call volume.
- During the past three years about 35% of the time there are multiple calls occurring.
- The unit hour utilization rate for the medical intercept (EMS 161) was approximately 28% and for the ambulance transport (Ambulance 112) was approximately 24% in 2020. aggregate of the unit hour utilization of the medical units was about 16.1% in 2018. This means the units were available to respond 72% and 76% of the time respectively.

- Auto accidents account for approximately 5.8% of the call volume and structure fires, alarm activations, and other types of fires account for about 5.7% of the call volume for that could benefit from additional personnel.

The table that follows illustrates the staffing model used by the fire department with a minimum staffing of 7 personnel.

Fremont Fire Department Staffing Matrix

	Ambulance	Chaser/Engine	Lead Engine	Second Engine/Ladder
Medical Calls				
First Ambulance	3	2		
Second Ambulance	2	2		
Medical Intercept		2 to 3		
Fire Calls				
Structure Fire	1		4	2
Vehicle Fire	1		4	
Fire Alarms			2 to 4	
Open Burn			2	

Based on the staffing model the following scenarios will cause a staffing shortage and likely a call back:

- First ambulance call, ambulance with 3 personnel and a chaser with 2 personnel, leaves 2 personnel for the next call.
- A second ambulance call results in 2 personnel in the second ambulance and possibly 2 personnel from the chaser to respond. This leaves all personnel committed to incidents and no personnel for any other calls. A recall will need to be initiated.
- A structure fire results in 4 personnel to the first engine, 2 personnel to the second engine, and 1 person for the ambulance. With this commitment, the department is unable to respond effectively to an emergency medical call. A recall will need to be initiated.
- A vehicle fire is staffed with 4 personnel on an engine and 1 assigned to the ambulance. This leaves 2 personnel to handle the next call for service. A recall will likely need to be initiated.
- A medical intercept is staffed with 2 to 3 personnel leaving 4 to 5 personnel to handle any other calls in the city. A recall will likely need to be initiated.

As noted, the fire department does not have enough on-duty personnel to create an effective response force for a structure fire, technical rescue incident, or a motor vehicle accident with entrapment. With no mutual aid readily available, the fire department relies on a call back system to staff an effective response force in the event of a structure fire.

This system of call back is also used to support staffing shortages during other events such as multiple emergency medical calls and other fire calls. The following table illustrates the call backs for 2020.

Fremont Call Back - 2020

Call Back Type	Number of Call Backs	Average number of Personnel	Average Call Back Time in Minutes	Average Call Back Time in Hours
Multiple EMS Calls	121	2.8	27.1	0.5
Double EMS Calls	64	2.7	28.3	0.5
Multiple Calls for Service	23	4.3	64.1	1.1
Structure Fire	14	4.4	146.4	2.4
Motor Vehicle Accidents	5	2.4	36.4	0.6
Fire Calls	3	3.0	60.0	1.0
Rescue Calls	2	2.0	118.0	2.0
Total	**232**	**3.0**	**39.7**	**0.7**

As shown, there were 232 call backs in 2020 with an average duration of 39 minutes. Most of the call backs were due to multiple EMS calls or three or more simultaneous calls (52%). Double EMS calls represented approximately 28% of the call backs with multiple calls for service represented approximately 10% of the calls. These calls are those instances with EMS and fire calls occurring simultaneously.

Another item to note is the number of personnel responding to the call back request. The following table illustrates the number of personnel responding to the request.

Fremont Call Back Personnel

Number of Personnel	Number of Call Backs	Percent Responding
0	6	2.6%
1	37	15.9%
2	55	23.7%
3	59	25.4%
4	39	16.8%
5	18	7.8%
6	8	3.4%
7	5	2.2%
8	3	1.3%
11	1	0.4%
12	1	0.4%
Total	**232**	**100.0%**

Of the 232 call backs in 2020, 6 of those call backs did not have any personnel able to respond and 37 call backs only had one person to respond to the request. Within these

42 requests, 3 were structure fires and 25 were multiple EMS and multiple calls for service. In fact, 42% of the call backs produced 2 or less personnel answering the request.

Staffing Model

The staffing of fire stations and apparatus have been the subject of national discussions for quite some time. The National Fire Protection Association, the Center for Public Safety Excellence and the National Institute of Standards and Technology have all weighed in on this.

In April 2010 the National Institute of Standards and Technology (NIST)[1] completed studies on the effectiveness and efficiencies of various crew sizes. Their work included numerous laboratory tests and actual field tests. For the field tests the study used a response of three engine companies, a truck company and a command officer with an aide. They measured and timed twenty-two fire ground tasks using different crew sizes. The crews arrived at the scene in a staggered fashion much like what is common in communities across the Country. The results of their sixty full-scale tests show that four-person crews were on average seven minutes faster than to two-person crews at accomplishing the fire ground tasks. Further, the four-person crews completed their tasks 5.1 minutes faster than three-person crews. The field tests and tasks were performed using a typical one to two family dwelling. The study concluded that adding a fifth person to the crews did not significantly impact the time on this type of occupancy. None of the tests performed used a one-person crew.

Another component of the above noted study was performed by Skidmore College[2] on the physiological effects of crew size. The average peak heart rates for firefighters on the 1st Engine were above 80% of age-predicted maximums when only 2 firefighters were deployed. In fact, the driver had an average peak heart rate nearly 90% of age-predicted maximums when there were only 2 firefighters on the engine[2].

As well, the OSHA requirement of two in – two out in 1910.134 (g)(4) adds to the necessity of appropriate staffing of fire apparatus. This regulation states that if entry into an Immediately Dangerous to Life and Health (IDLH) atmosphere is necessary, two firefighters must enter together and remain in contact with each other. In addition, there must be two firefighters located outside the IDLH atmosphere for potential rescue if needed. This is a mandatory requirement. The current staffing of the Los Lunas Fire

[1] Robertson, Bill. Report on Residential Fireground Field Experiments. National Institute of Standards and Technology. April 2010.
[2] Smith, Denise, Ph. D and Benedict, Ron. Effect of Deployment of Resources on Cardiovascular Strain of Firefighters. April 2010.

Department is such that it may require the arrival of additional companies or other off-duty personnel to meet this standard.

The call volume in Fremont is heavily weighted to emergency medical calls and those units are being utilized more heavily. The structure fires in the city are less than 1% of the call volume. However, the fire department must still adhere to the two in – two out OSHA regulations. Multiple calls are occurring about 35% of the time increasing the likelihood of a single engine company and two personnel responding to a structure fire. A minimum of seven personnel on a shift does not provide adequate staffing for the department based on the call volume, types of calls, and other identified factors.

Deployment Strategy Changes

As noted previously the first emergency medical call receives 3 to 5 personnel with 3 on the transport ambulance and 2 in the chaser unit. Committing 5 personnel to the first emergency medical call only leaves 2 personnel to handle the next call. The following table illustrates a staffing strategy to provide two ambulances and a suppression unit.

Staffing Strategy

Unit	Staffing
Ambulance 111	2
Ambulance 112	2
Engine 133	3

This strategy provides several advantages to the current system.

- Staffing for each of the units is set for the shift. Although the Engine Company could be switched to the ladder as needed based on the call for service.
- There is a reduction of 3 personnel responding to an emergency medical call. Two personnel can handle most of the calls for service, if additional assistance is needed, the Engine Company can respond. This leaves 5 personnel available for the next call.
- This apparatus assignment supports and helps to maintain crew integrity. Each crew member knows their assigned apparatus and there is less moving from one to the other.

Using this strategy there are two ambulances and a suppression unit available for responses. This leaves additional personnel available for the second or third call for service. For example, consider the following:

Strategy Comparison

	Current Personnel Commitment	New Personnel Commitment
First Call – Medical Call	5	2
Second Call – Vehicle Fire	2	5

With the existing strategy there are only two personnel left to handle the vehicle fire, with the revise strategy, there are 5 personnel. In this example, the engine company and ambulance respond to the vehicle fire allowing the ambulance to be immediately available for the second medical call.

In terms of the medical intercepts, for the past three years there have been an average of 47 intercept calls for service per year. With the low volume of these calls, either an ambulance crew can handle the call or one from the engine can be sent to handle the call.

This strategy is a short-term remedy to reduce the call back situations and to provide resources to handle multiple calls. The longer-term remedy is outlined in the next section.

Deployment Model Changes

Changing the deployment model and adding two personnel to the minimum staffing of the fire department will reduce the number of call backs and provide the staffing to handle most of the call volume on a regular basis. The current system assigns personnel based on the call and available personnel at the time and causes some calls to be overstaffed and others without enough staffing. For example, the first emergency medical services call receives and assignment of five personnel, three on the ambulance and two on a chaser unit. The second ambulance call receives potentially four personnel with two on the ambulance and two on a chaser unit if the unit is available.

For some emergency medical calls, it is reasonable to send additional personnel based on the critical task analysis. Cardiac and stroke events will require additional personnel to provide appropriate medical care. Other types of calls can be and are typically handled by two personnel.

Adding three personnel to the minimum staffing of the shift will stabilize the staffing of each unit. The following table illustrates the staffing with three additional personnel.

Proposed Staffing Model

Unit	Staffing
Ambulance 111	2
Ambulance 112	2
Engine 133	4
Engine 131/EMS 161	2

There are several factors to consider with the staffing matrix as illustrated in the previous table.

- This provides two staffed ambulances with the availability of Engine 131/EMS 161 to provide assistance as needed.
- With simultaneous calls, Engine 133 can now operate and be in compliance with the two in – two out OSHA requirement should that need arise improving firefighter safety.
- It allows for the medical intercept to occur without interrupting normal operations as Engine 133 can respond with any of the medical units as needed.
- The crew from Engine 131/EMS 161 can become the third ambulance as needed and based on the call volume.
- This provides for at least one dedicated Engine Company in the city.

More importantly, this staffing matrix reduces the number of times the call back system needs to be activated. For example, with two ambulances committed to calls there is still 4 to 6 personnel available for calls for service and a third ambulance available if needed.

Increased Staffing

The first step is to determine the number of personnel is required to cover a single position. The following table illustrates that 1.26 firefighters are needed to cover one position.

24/48 Schedule

Single Position	
122	Shifts for one Firefighter
8	Holidays
9	Sick Days
8	Vacation days
97	Shifts Available to work
1.26	People to cover 122 shifts
3.77	People to cover 24 / 7 / 365

The schedule for the Fire Department is 24 hours on and 48 hours off which amounts to 122 shifts per year. According to the Union contract, allows for an accrual of sick leave at a rate of 216 hours per year. For purposes of calculation, 216 hours translates to 9 shifts per year of sick leave. There are 7 recognized holidays and one floating holiday for a total of 8 holidays per year. For vacation time, the maximum accrued leave has a range of time from 108 hours to 240 hours depending on the years of service. The average time for these accruals translates to 8 shifts. Using these assumptions, it will take 1.26 people to cover a single shift or 3.77 people to cover a shift seven days a week 365 days a year.

Using the above numbers for staffing it will take 12.58 people to cover a shift with a minimum of ten personnel as the following table illustrates.

24/48 Schedule

Single Shift	
10	Minimum Manning per Shift
12.58	Number Assigned per Shift

Department	
3	Number of Shifts to Cover
10	Minimum Manning per Shift
38	People to cover - 24 / 7 / 365
30	Department Shift Staffing

Current staffing is 27 personnel assigned to the three shifts. Increasing the minimum staffing from 7 personnel per shift to 10 personnel per shift will require the addition of 12 personnel for the department.

As a first step adding two (2) personnel to each shift will provide an increase to the minimum staffing from seven (7) per shift to nine (9) per shift. Increasing the minimum staffing from seven (7) to nine (9) personnel. The cost to add these six (6) personnel is illustrated below.

Cost to Increase Minimum Staffing for Operations

	Salary	Benefits	Turnout Gear / Uniforms	Total Cost	Number of Personnel	Total First Year Cost
Year One	$52,500	$34,230	$10,000	$96,730	6	$580,380

With a two-year budget cycle this will allow for further evaluation of the call demand and needs of the city. Emergency medical calls represent the majority of the call volume and based on the past three-years of data, 68% of calls occur between 7 am and 7pm with 51% occurring between 7 am and 7 pm Monday through Friday. Should this upward trend continue, additional staffing during the daytime hours may be warranted. Additionally, the staffing and response capabilities should be measured against the community standards established in the organizational statement.

Other funding sources include the use of Staffing for Adequate Fire and Emergency Response (SAFER) grants. These are competitive grants available through the Federal Emergency Management Agency (FEMA) and are designed to assist communities in providing staffing for the fire department. The grants have a performance period for the use of the funds and to continue to receive funding additional applications will be required.

The following table illustrates a staffing model increasing the minimum staffing from seven (7) to nine (9) in the first year and then to a minimum of ten (10) personnel in year 3 which would be the first year of the next budget cycle.

Staffing Model with Additional Personnel

Unit	Current	Year 1	Year 3
Ambulance 111	2	2	2
Ambulance 112	2	2	2
Engine 133	3	3	4
Engine 131/EMS 161		2	2
Minimum Staffing	**7**	**9**	**10**

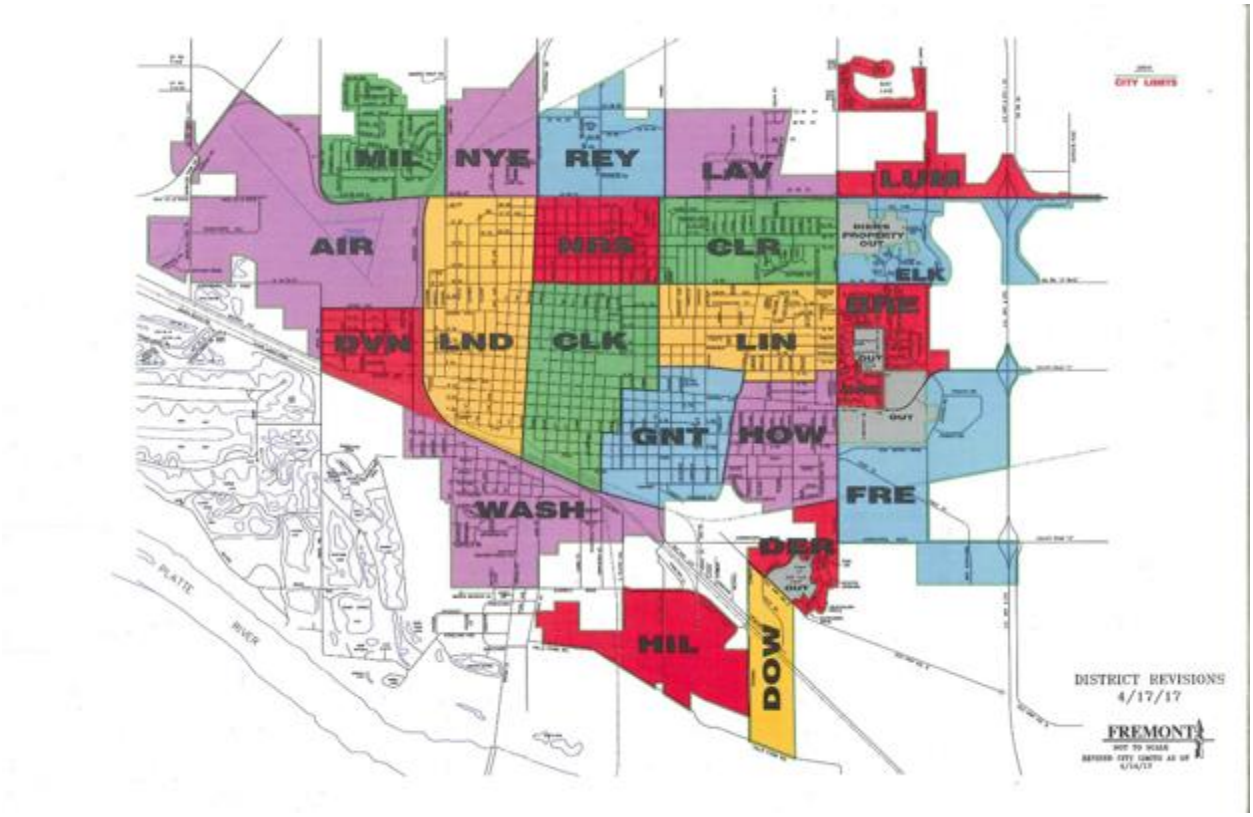
While this increase in personnel does not provide the effective response force as has been discussed, it does provide a safer work environment for the on-duty crews and provides the additional staffing to handle the call volume. The volume of structure fires is not overwhelming the department, so the safety factor has a higher priority at this point.

Goal 8	Improve the available staffing for emergency calls for service

Future Development

A review of the changes in population over the past ten years indicates the east side of the city has continued to grow. This pattern of growth is expected to continue as the migration from Omaha continues and the virtual/work remote trend continues. As the population density increases the calls for service for the fire department, as well as the need for other city services, will continue to increase. For the fire department, the distribution of resources plays a role in the effective delivery of services.

The following map illustrates the demand zones that were previously established by the fire department.



Using the demand zones identified in the previous map, the city was divided into sectors for purposes of the distribution analysis. The following table identifies the demand zones and the related association with sectors.

Fremont Sectors

Sector	Demand Zone	Sector	Demand Zone
East Sector	LUM	South Sector	WASH
	BRE		HIL
	ELK		DER
	FRE		DOW
North Sector	REY	Central Sector	LND
	LAV		CLK
	NYE		CLR
West Sector	MIL		GNT
	DVN		HOW
	AIR		NRS
			LIN

Sectors were established to address issues identified in the public comments and in interviews with the fire department staff.

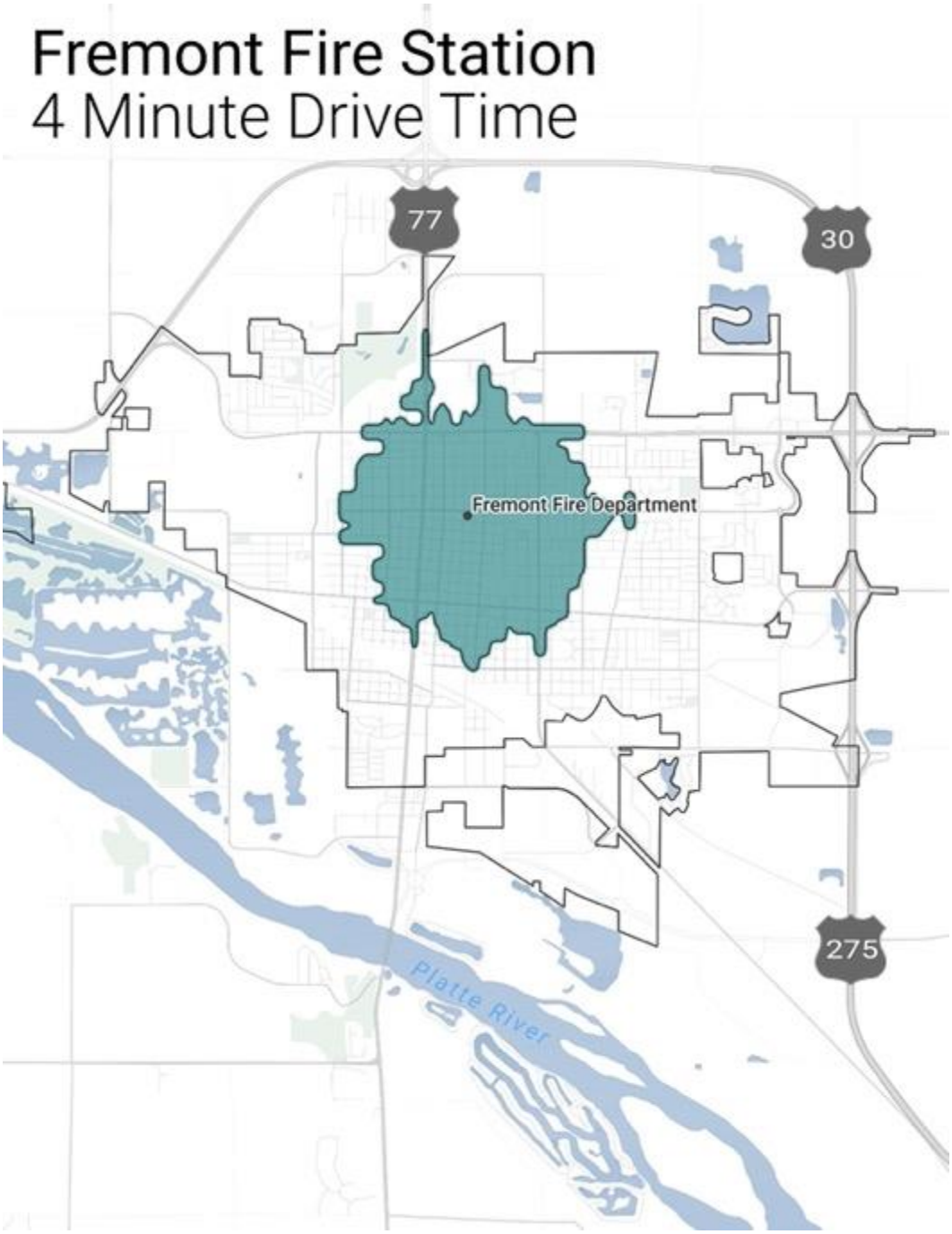
- The east sector are the demand zones east of Luther Road. This area has been identified as an area of growth due to the highway and the bypass currently being constructed.
- The north sector are those demand zones north of East 23rd Avenue that is largely retail in nature.
- Demand zones west of the rail line that runs on a north/south pathway are in the west sector. Issues in this area is access and delays due to the numerous rail crossings from the central area of Fremont.
- South sector demand zones are those zones south of the rail yard and have limited access from the central area of Fremont. There are two overpass structures eliminating at grade rail crossings.
- The central sector contains those demand zones between Luther Road to the east, East 23rd Avenue to the north and the rail lines to the west and south.

A review of calls for service and travel time in the city by sector is shown in the following table.

2018 – 2020 Travel Time by Demand Zone

	Number of Calls	Pct of Total Calls	Travel Time
East Sector	316	4.0%	5:16
North Sector	2,039	25.8%	3:43
West Sector	486	6.2%	5:25
South Sector	584	7.4%	5:29
Central Sector	4,467	56.6%	3:56
Total Calls	**7,892**	**100.0%**	**4:25**

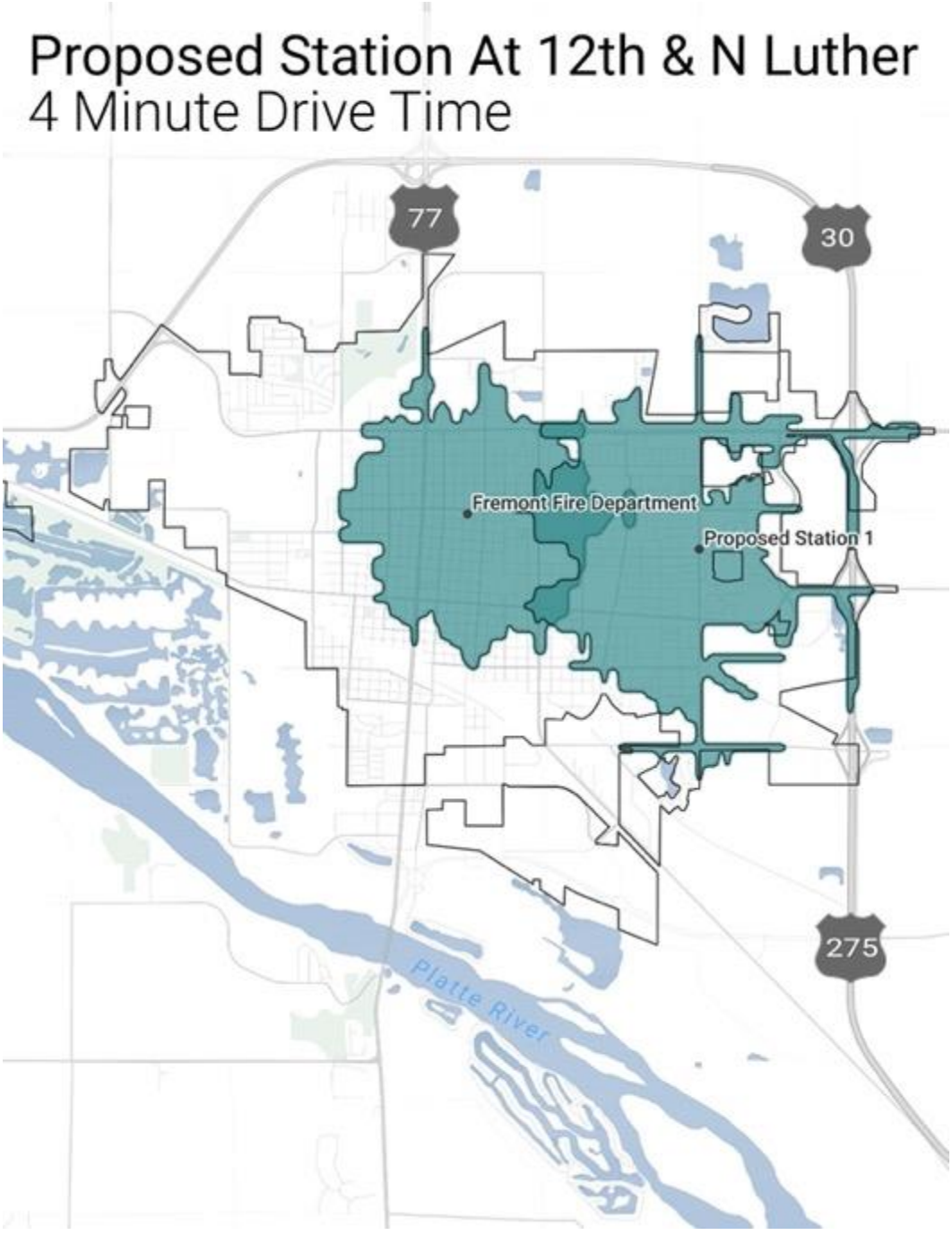
Over 82% of the calls are in the Central and North Sectors with each sector having a travel time under 4 minutes for 90% of the calls. The following map illustrates a 4-minute travel time using the fire station as the starting point.



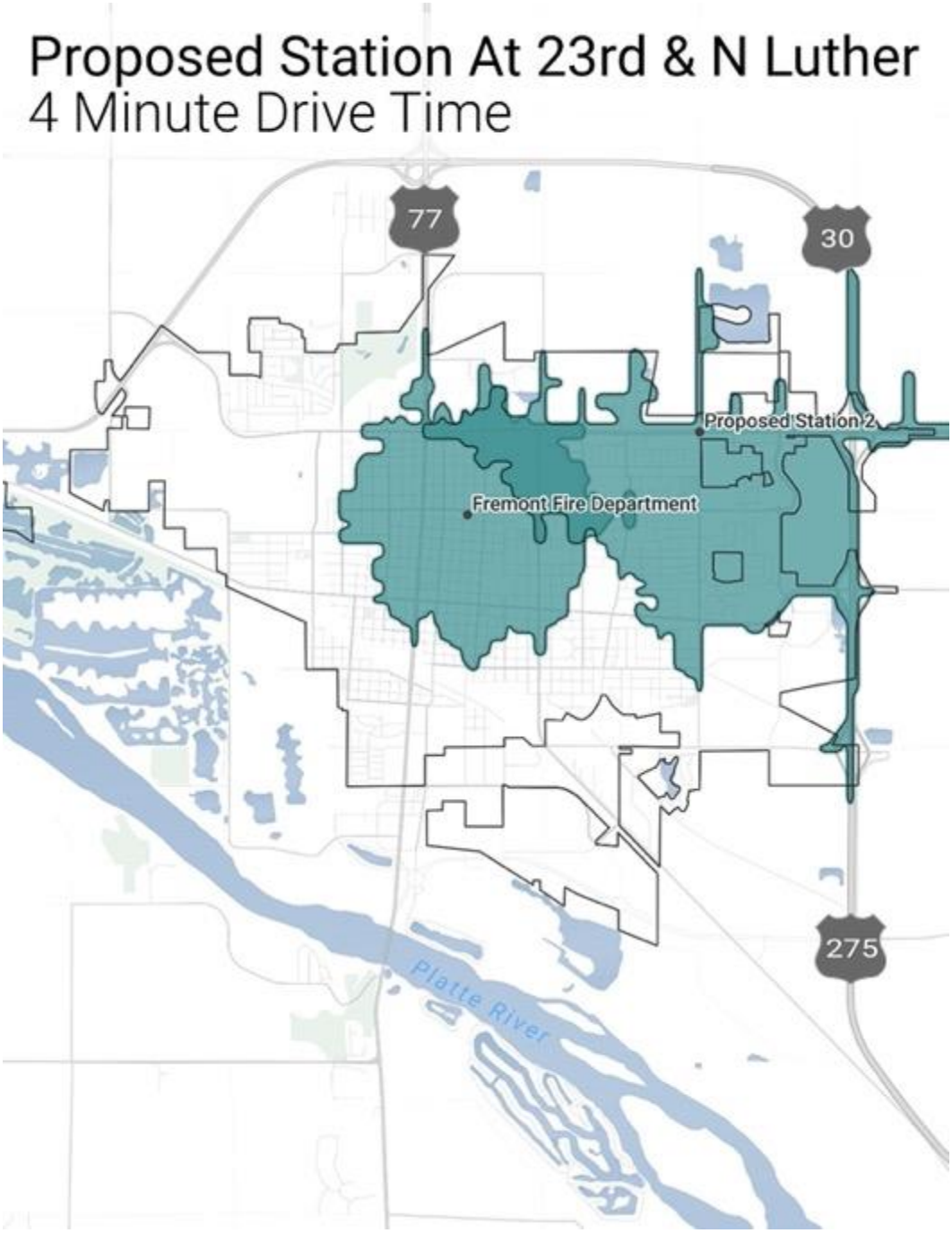
Overall, the city has a travel time of 4 minutes and 25 seconds. However, as illustrated there are areas that are outside the 4-minute travel time polygon. The volume of calls in these areas are low and therefore do not affect the overall travel time. However, as the areas continue to grow, and the call volume increases the overall travel time will increase.

In order to maintain the same level of service, a new fire station will be needed to ensure appropriate response capabilities exist for the city. There are three potential sites for a new station, and each are shown on the following maps.

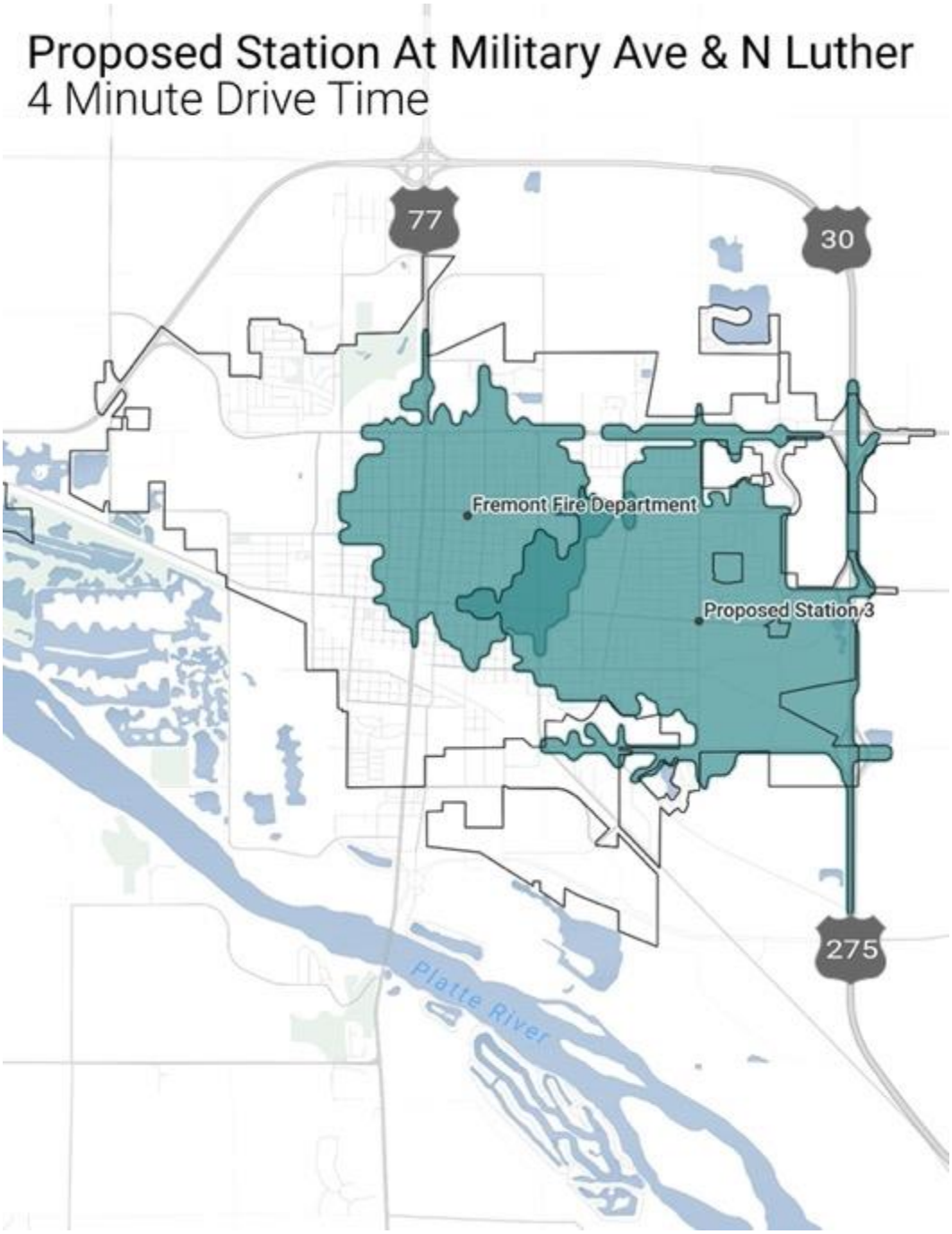
The first location is on North Luther Road at 12th Street. This location places the station in the middle of a residential neighborhood and provides access north and south along North Luther Road.



The second location is on East 23rd Street at North Luther Road. This location provides further access to the north side of the city using East 23rd Street. It also provides quick access to US Highway 30 and 275.



The final location is on Military Avenue at North Luther Road. This location provides access to a large part of the east side of Fremont, easy access to US Highway 275, and is capable of getting to the north sections of the city.



These maps utilize the roadway network to provide a spatial view of travel time. There are areas that are undeveloped and outside the city limits that once developed will have an impact on the travel time polygon. Option one (12th Street at North Luther Road) and option three (Military Avenue at North Luther Road) provide the best options for new facilities. Using the site at East 23rd Street and North Luther Road (option two) is too far north to provide service to the south sections of the city.

Residential development is expected to continue in the south and east sections of the city. Currently this area is not heavily populated but is growing faster than other areas in the city based US Census Bureau data. Many of these areas are currently outside the city limits but could be annexed in the future. Option three provides the best service to the area. This site provides service to the current areas and will allow for any expansion to the south and east. This site also allows for easy access to US Highway 275 for incidents occurring along this highway and provides quicker access to the north sections of the city if needed.

As a long-term strategy to the growing area, the city should consider the addition of a fire station in the area of Military Avenue and North Luther Road. This will require several years to complete with the acquisition of property, planning and design, and finally the construction of a new facility. Considering the growth that is already occurring and the expected growth in the area, the acquisition of property should begin sooner rather than later.

The addition of a new fire station would also change the staffing model. Previous improvements to the staffing model would change slightly with the addition of a second station. The following table illustrates the staffing model with the new station.

Proposed Staffing Model with a new Fire Station

Unit	Proposed Staffing Level	Station 1	Station 2
Ambulance 111	2	2	
Ambulance 112	2		2
Engine 133	4	3	
Engine 131/EMS 161	2		
Engine 132			3
EMS 161		1*	

*EMS 161is staffed anytime the shift is staffed above the minimum of 10 personnel

Previously additional personnel were added to the fire department to accommodate the existing workload, provide firefighter safety, maintain the level of service, and reduce the number of call-backs. This is illustrated in the previous table as the proposed staffing. With the addition of a new station a new firefighter position would be needed to complete the staffing levels. Note that Engine 133 would change from a 4-person crew to a 3-person crew, Engine 132 would become a 3-person crew, and EMS 161 would be staffed with one person as staffing is available, those times when staffing is above minimum levels. The two ambulance crews would be maintained. This provides 6 personnel dedicated to fire suppression, maintains the 4 personnel dedicated to emergency medical calls, and allows for one of the ambulances to provide medical intercepts as needed.

Deployment Model Summary

In Fremont, approximately 85% of the calls for service are medical calls and if there are more than two calls, a call-back of off-duty personnel is typically initiated. This places an extra burden on the off-duty personnel and strains the emergency services system. Changes to the deployment model are designed to relieve some of the burden of the many call-backs of off-duty personnel and to provide a certain amount of redundancy into the emergency services system.

Many communities cannot financially support a fire department to be completely self-sufficient in terms of the response to calls for service. In most instances the community will be able to provide a base level of service and rely on each other for additional assistance, mutual aid. In fact, many areas have automatic aid in which neighboring departments will automatically respond to certain types of calls to provide additional resources. For Fremont, the reliance on mutual aid will and should continue to occur and develop.

Goal 9	Improve the response time in the eastern sections of the city.

Alternative Deployment Model

Another alternative is to provide emergency services is through a contract with a private company. Some of these providers will only provide emergency medical services while others can provide both. The project team recently completed a project that included the potential use of a private contractor to provide services. The table that follows provides a range of costs associated with these services.

Private Service Providers

	Low	Mid-Point	High
Emergency Medical Services Only	$850,000	$935,000	$1,020,000
Fire Suppression Services Only	$2,650,000	$2,915,000	$3,180,000
Fire Suppression and EMS	$3,500,000	$3,850,000	$4,200,000

There are several assumptions in the costs illustrated in the previous table.

- These costs include the staffing, apparatus, and equipment to operate one transport ambulance and one fire suppression unit for the department for a community of 3,800 residents and approximately 1 square mile.
- Within these costs, the occupancy expenses are not included and there is an expectation the city would also provide the fire station and related equipment.

- As with any type of contract, service levels are negotiable, and the services received and cost for those services will depend largely on the scope within the request for proposals and the eventual contract.
- It is also important to note that a private emergency medical services provider will retain all income related to EMS transport fees, but also incur the costs of supplies and equipment for providing the service.

Based on the cost illustrated in the previous table, the following table illustrates the cost to provide a similar level of service to the city.

Private Service Comparison

	Low	Mid-Point	High
Emergency Medical Services Only	$1,700,000	$1,870,000	$2,040,000
Fire Suppression Services Only	$2,650,000	$2,915,000	$3,180,000
Total Cost for Private Provider	$4,350,000	$4,785,000	$5,220,000
Fremont Fire Department 2020 Expenditures	$3,614,806	$3,614,806	$3,614,806
Cost Difference	**$735,194**	**$1,170,194**	**$1,605,194**

Costs shown for the emergency medical services only is for two ambulances and for the fire suppression services only the cost shown provides a single unit. Using the low cost estimates the private service would cost approximately $4,350,000 to provide the service. Compared to the 2020 budget for the Fremont Fire Department, the private service would increase the cost by $735,194. There are other considerations with using a private service that should be identified.

- A third ambulance is not likely to be available should that need arise as there would not be a call-back system available.
- Without a call-back system in place, there would likely be more reliance on mutual aid from Fremont Rural Fire Protection District into the city.
- If the private service did provide a call-back system, any costs to provide this service would likely be passed on to the city thereby increasing the cost.

It should also be noted the 2020 expenditures shown for the Fremont Fire Department in the previous table also includes fixed assts and debt reduction which is $416,111 of the total expenses shown.

The use of a private service would be cost prohibitive for the City of Fremont.

Essential Function Initiatives

The primary purpose of the Fremont Fire Department is to respond to and mitigate fire and medical emergencies in the city and in the Fremont Fire Protection District. To support these responses, there are a variety of other functions and responsibilities assigned to the fire department such as fire prevention and training. Historically the fire service has been tasked only with fire suppression however, in the past few decades there have been changes that now entails a fire protection system to provide service to the community.

Training and Education

A training division is considered a major function in a fire department as it is critical for personnel to maintain perishable skills and become proficient to handle low frequency – high consequence events. In Fremont training is managed by the Fire Chief with instructors on the different shifts conducting the training. Other programs include instructors from outside the organization, local workshops, and other fire departments sponsoring a program. The following table illustrates the past training hours.

Training Hours Provided

	2018	2019	2020
Fire Training	380.25	749.50	189.00
Emergency Medical Training	117.50	169.40	143.75

Training hours provided to the personnel were lower in 2020 than in previous years. Many departments around the country reported a lower number of training hours largely due to the pandemic and limiting the number of personnel in large group settings.

Staff Hours - Training

	2018	2019	2020
Fire Training	1,371.75	2,960.75	960.00
Emergency Medical Training	759.75	924.90	756.25

Similar issues with the number of staff hours in 2020 due to the pandemic and the restrictions placed on group activities.

The training division is managed by the Fire Chief with assistance from the shift Captains among their many other duties. This allows the training division to be unstructured meaning there is no annual schedule, no performance benchmarks to measure progress,

little management of certifications, and a general lack of focus on the topics that need to be addressed.

There needs to be a training officer to ensure the training programs stay focused and scheduled to ensure all programs are delivered in a timely manner, and ensure personnel are in fact maintaining their certifications. The training officer position has been vacant since 2009 and needs to be reinstated. Not only does the training maintain current skills but also addresses new techniques and procedures, especially in the medical fields. Performance objectives should be established for the training division to measure the progress of the training division and the abilities of the personnel. Many communities rely on the fire department to handle a myriad of emergencies and it is no different in Fremont. A training division that is active, scheduling appropriate training programs, and measuring success will ensure the department is ready to handle those emergency events when needed.

Delivery of training programs is another area that has progressed over the years. The advent of online courses has become the new way to deliver the didactic part of a training program. This allows for the individual to attend the class at their leisure and timing. It also allows for the time spent in a group setting to be more hands-on and practical type training. Many departments in the country have established programs of providing the classroom portion in an online style program and use the remaining time for practical skills testing. As well, some departments have taken it upon themselves to create their own training programs to be delivered in an online setup.

Goal 10	**Reestablish the training program to oversee and improve the basic and ongoing training activities.**

Fire Prevention

Fire prevention and loss control is the first defense against unwanted fires. The goal of any fire prevention program is to prevent the fire from occurring, prevent the loss of life, reduce the severity of a fire if one does occur, and if a fire does occur to enable the fire suppression forces to perform their tasks more effectively. These goals are accomplished through building inspections, public education activities, and the planning before a building is built.

Plans for new developments and commercial buildings need to be reviewed by the Fire Department not only to ensure code compliance but also to ensure access and water supplies are adequate. As well, there are fire protection systems and other specialized

systems that require closer scrutiny and inspections. The current process is for the State Fire Marshal's Office to conduct the life safety inspection of new commercial construction. The building department provided plan review and inspection data as shown in the following table.

Building Department New Construction Activity

Activity	2018	2019	2020
Plan Reviews	326	524	505
New Construction Inspections	630	1,380	2,100
Follow Up Inspections	315	432	1,020

Over the past three years there has been an average of 450 plan reviews per year with an average of 1,370 new construction inspections per year.

The fire department does not have dedicated fire prevention personnel and there is no set inspection schedule for commercial structures. Without any dedicated personnel assigned to fire prevention, the fire department relies on the State Fire Marshal's Office to perform the necessary fire safety inspections in the city.

In terms of fire safety education, the fire department does have programs that are presented to the public. Most of these programs are by request or part of the larger event such as touch a truck and health fairs. Other programs include station tours, open house job fairs, and fire safety presentations to civic groups. The following table provides an overview of the number of hours and participants from 2017 – 2019.

Fire Safety Programs

Year	Number of Hours	Number of Participants
2017	74.5	3,524
2018	70	3,170
2019	73	2,000

Due to the pandemic, all events were cancelled beginning in March, therefore 2017 data is illustrated. Over the three-year period the department averaged 72.5 hours of events and averaged 2,898 participants.

The city would benefit from having a dedicated fire prevention officer. Commercial properties continue to grow and there are additional multi-family buildings that present a higher life hazard. While the State Fire Marshal's Office reviews the plans, there is no view locally from the fire department to ensure apparatus access is properly provided or knowledge of any fire suppression systems. Fire prevention codes are not only designed to prevent fires from occurring but also to ensure the building systems are maintained as required by the building code. Without appropriate enforcement, the safety systems in

the buildings are left unchecked and could create a hazard for the occupants and the fire personnel.

Goal 11	**Establish a formal fire prevention program.**

Physical Resources

This chapter presents the projects team's analysis of the physical resources of the fire department including fire facilities and apparatus.

Apparatus and Equipment

One of the more difficult tasks facing a community is the replacement of fire apparatus due in large part to available funding, the timing of when to replace and the cost associated with replacing the apparatus. As the apparatus ages, it becomes more difficult to maintain, less parts are available for replacement and the pumps begin to fail their annual testing. Like the distribution and concentration of resources, a one size fits all approach does not work well with apparatus. Some vehicles and apparatus do not last as long as others. This could be due to higher call volumes, extreme wear and tear and varied preventive maintenance measures.

An effective apparatus replacement program will have benchmarks established to drive the replacement schedule. These benchmarks should establish a replacement guideline to categorize the various units and their target replacement date, definitions for the determination of the condition of the vehicle and other criteria to be used in the evaluation of the vehicle. In Fremont, the replacement of apparatus is based on the age of the unit as illustrated in the following table.

Replacement Schedule

Type of Apparatus	Replacement Frequency
Engines and Rescue	Every 25 years
Aerial or Ladder Apparatus	Every 30 years
Ambulances	Every 15 to 20 years
Other Vehicles	As Needed

The following replacement guideline uses a point system to determine when a unit should be replaced. It utilizes a variety of factors such as mileage, reliability, and maintenance costs to score the apparatus. The table that follows identifies those factors and the recommended point system to use.

Replacement Guidelines

Factor	Points
Age	One point for each year of chronological age.
Mileage / Engine Hours	One point for each 10,000 miles or 1,000 engine hours.
Type of Service	Points are based on severity of service 5 points - Engine Company 3 Points - Aerial Ladders / Specialty Units 1 Point - Administrative Vehicles
Reliability	Points are based on the frequency a vehicle is in the garage for repair 5 points - Two or more times per month (average) 3 Points - Two times every three months (average) 1 point - Once every three months (average)
M & R Costs	Maintenance and repair costs on the total life of the vehicle, excluding accident damage. 5 points – M & R costs equal to or greater than original purchase price 4 points – M & R costs 75% to equal to the original purchase price. 3 points – M & R costs 50% to 75% of the original purchase price 2 points – M & R cost 20% to 50% of the original purchase price. 1 point – M & R costs 20% or less than original purchase price.
Condition	Consideration given to body condition, rust, interior condition, accident history, anticipated repairs, etc. 5 points - Poor Condition 4 points - Fair Condition 3 points - Good Condition 2 points - Very Good Condition 1 point - Excellent Condition

This system uses the major components typically considered in evaluating vehicles and then puts a numeric value to the vehicle. It can be adjusted to fit the local perspective. For example, if the maintenance costs are a more important factor, then adjusting the percentage to the original cost will provide a higher weight to that category.

The following table outlines the total score and the expected outcome of that score.

Replacement Guideline Scoring

Point Range	Condition
Fewer than 18 points	Condition I - Excellent
18 to 22 points	Condition II - Good
23 to 27 points	Condition III - Qualifies for Replacement
28 points and above	Condition IV - Needs Immediate Consideration

Another component to this type of system is the collaboration between the Fire Department and those involved in the maintenance of the fleet. All involved should discuss the results of the survey to determine the needs of the apparatus in terms of mechanical issues. It is possible there is a unit or units that will need major repairs that would influence the decision to replace the apparatus. The following table uses the current data available for Ambulance 111 and Ambulance 114 to illustrate an example of this system.

Replacement Guidelines

Factor	Points	A111	A114
Age	One point for each year of chronological age.	8	13
Mileage / Engine Hours	One point for each 10,000 miles or 1,000 engine hours.	5	3
Type of Service	Points are based on severity of service 5 points - Engine Company 3 Points - Aerial Ladders / Specialty Units 1 Point - Administrative Vehicles	3	3
Reliability	Points are based on the frequency a vehicle is in the garage for repair 5 points - Two or more times per month (average) 3 Points - Two times every three months (average) 1 point - Once every three months (average)	1	1
M & R Costs	Maintenance and repair costs on the total life of the vehicle, excluding accident damage. 5 points – M & R costs equal to or greater than original purchase price 4 points – M & R costs 75% to equal to the original purchase price. 3 points – M & R costs 50% to 75% of the original purchase price 2 points – M & R cost 20% to 50% of the original purchase price. 1 point – M & R costs 20% or less than original purchase price.	1	1
Condition	Consideration given to body condition, rust, interior condition, accident history, anticipated repairs, etc. 5 points - Poor Condition 4 points - Fair Condition 3 points - Good Condition 2 points - Very Good Condition 1 point - Excellent Condition	1	4

There were some assumptions made in this example. The original cost used was $300,000 for each unit. In addition, the overall condition was considered as excellent condition for Ambulance 111 and fair condition for Ambulance 114 using age as the guide. In this example, Ambulance 111 acquired 19 points and Ambulance 114 acquired 25 points. This indicates that Ambulance 114 should be replaced prior to Ambulance 111. It should be noted the maintenance costs and mileage for Ambulance 111 is higher than Ambulance 114. It did not impact the overall scoring, but it does provide an objective view of the replacement process.

The most important function of fire apparatus is the safe movement of personnel and equipment to and from an emergency scene and the investment in fire apparatus is a significant endeavor for any community. Changes in the standards by which they are built

and the performance standards by which they are tested continue to evolve and has resulted in rapidly increasing costs for fire apparatus. A typical engine will cost in the range of $500,000 to $600,000 depending on the manufacturer, configuration of the truck and other needs of the fire department. In addition, the aerial ladders will cost in the range of $900,000 to $1.3 million again depending on the same variables. Many communities will borrow the funds to purchase the apparatus while others will have set aside funds based on the depreciation of the current apparatus and planned replacement schedule.

Fire Station Facilities

The fire station was toured in July 2021 and a “walk through” assessment of the facility’s exterior, interior, and technical systems was completed. The evaluation is not based on a detailed analysis, but rather as a broad index of each facility’s relative physical condition and viability. Conditions were rated on a scale of Excellent, Good, Fair, or Poor, as defined below.

- Excellent – conditions are newly renovated or constructed, basic standards are met or exceeded.
- Good - conditions meet basic standards and potential exists for expansion or redevelopment at low expense.
- Fair - conditions may be reasonable for improvement or redevelopment at substantial expense.
- Poor - conditions do not meet basic standards and have little potential for improvement without significant effort and resources.

The following table summarizes the key conditions of the facility.

Fire Station
415 East 16th Street Fremont, NE

Description of Use	This facility and site serve the entirety of the Fire Department operations. Including administrative and training functions. All fire and emergency medical personnel are deployed from this location.	
Year Constructed	1968	
Building Size	BGSF: 15,750 (+/-)	#Floors: 1
Site Conditions	Parking Spaces:	5 Public, 20 Staff
	ADA parking spaces:	1
	Parking Lot:	Good
	Signage:	Poor
	Access/ADA Issues:	Lack of dedicated ADA spot.
	Expansion Capability:	Excellent (adjacent parcel)
	Security:	Good
Building Exterior	Exterior Wall:	Good (Brick)
	Roof:	Good (Bays), Good (Staff / Admin areas)
	Apparatus Accessibility	Good
Building Interior	Structure:	Fair
	Access/ADA Issues:	Poor
	Code Compliance Issues:	ADA accessibility
	Layout:	Good
	Renovation Suitability:	Good
	Staff Quarters Capacity:	12 Single Rooms, 10 currently available.
	Storage Capacity:	Fair (mostly small closets throughout facility)
Technical Systems	Plumbing:	Poor
	Mechanical (HVAC):	Fair
	Electrical:	Fair
	Lighting:	Excellent (Bay), Poor (Staff / Admin areas)
	Apparatus Exhaust System:	Nonexistent
	Hose Tower:	Fair
	SCBA Closet:	Poor (small closet)

The fire station was originally constructed in 1968 and was expanded in 2000. The original building has had limited renovations since the original construction. The original finishes (except carpet) were noted in the office areas, conference room, and training spaces. This includes original veneer paneling and office furniture. The original tile remains in the restrooms. Most plumbing fixtures have been updated in the last decade. The original staff areas are in need of renovation and updating.

The building was expanded in 2000 and provided additional supply storage and the creation of 12 individual staff sleeping quarters with dedicated staff closets. The

expansion is in original condition and a refresh of the interior should be completed in the near future.

The operational area of the facility includes the apparatus bays and equipment storage areas. Recent upgrades to the operations area included replacement of all light fixtures with LED type fixtures. The design philosophy is consistent with the era in which it was constructed. There are several prevailing practices that are not met with the existing operational components of the fire station. These challenges include:

- Lack of integrated apparatus exhaust system.
- Exterior venting for the turn out gear storage areas.
- Staff decontamination showers and eye wash station.
- Separate chemical storage area.
- Limited storage for equipment and supplies.
- Washer / extractor rooms are small for modern size equipment.
- Fire Station traffic signal system is not integrated into the fire apparatus. Separate push button at each apparatus door.
- Only one apparatus bay is considered drive through, and it is double stacked. Noting that sufficient apron is provided for apparatus turn around in front of bay and doors are adequately wide enough for the equipment.
- An independent storage garage is onsite, but it does not include conditioned space which limits functionality during the winter.
- Equipment trailers may be parked outside with no perimeter security. Also, they are stored in uncovered parking.
- Hose tower is small and has limited accessibility for staff and does not meet current design and size standards.

Overall, the fire station has been well maintained and outside of current roof issues that were repaired in August 2021, there was no visible issues with the current facility. Although not critical, the only signage is at the front of the building. Public and staff parking areas are not clearly defined and there is not a clear indication where the public entrance is located. There is ample opportunity to renovate the facility and update the interior fixtures and aesthetics. The entire facility should be fully renovated in the next three years.

The City has purchased two adjacent properties to the east of the existing site. These properties do not connect to each other and provides limited ability to expand the site without the acquisition of the remining parcels on the block. In the event that the two remaining privately owned parcels are acquired by the City, then there will be sufficient

room to expand the facility to meet the future need of the Fire Department at this site. The current site has limited expansion capacity as it would impact onsite parking and vehicular circulation. However, the two adjacent parcels owned by the city could be converted to parking areas if the existing building was expanded. The current site and adjacent City owned parcels provide the Fire Department flexibility with future needs at this location.

Goal 12	**Renovate or replace the current fire station.**