

# Fire and EMS Department Staffing Needs Assessment

HUDSON, OHIO

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**matrix**   
consulting group

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## Introduction and Executive Summary

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The City of Hudson retained the Matrix Consulting Group to facilitate a staffing needs assessment for the Fire and EMS Departments. This document includes the project team's research and analysis of the department and community, including staffing, response capabilities, and deployment analysis.

### Scope of Work

The scope of this study included assessing the current emergency services system operations, response capabilities, staffing, and other resources necessary for delivering fire and emergency medical services to the city. A review of services and the delivery of those services should be performed periodically to ensure that needs are being met. Specifically, this project focused on the emergency services system delivery that included:

- Workload analysis.
- Response capabilities.
- Response time analysis.
- Resource locations.
- Available resources to serve the city.
- Staffing and workforce.

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

### Approaches Utilized in the Study

The project team assessed the Fire and EMS departments to understand and evaluate the departments' service levels and organizational issues. The principal approaches utilized by the project team in this study included, but were not limited to, the following:

- Internal Interviews – Project team members interviewed numerous city executives, management, and supervisory staff members.
- Data Collection – the project team collected a wide variety of external and internal data documenting the structure, operations, and organization, including:

- Staffing and scheduling.
  - Documentation reflecting operations management.
  - Numerous output data points reflect services provided.
  - Various other performance information and indicators.
- This data was summarized in a 'descriptive profile' of the Hudson Fire and EMS Departments, which was reviewed and modified by Department staff to ensure we had a factual foundation for the study.
  - Analysis was conducted over the past several months and presented in interim deliverables.
  - The project team reviewed facts, findings, and conclusions through these interim deliverables with the Department throughout this process.

This process resulted in a customized report for the Hudson Fire Department and the community it serves.

## Executive Summary

Located in Summit County, Ohio, Hudson was first settled in 1799 and incorporated in 1837. The 25-square-mile city has about 23,000 residents and the Western Reserve Academy.

The EMS Department provides emergency medical services. It employs career, part-time, and unpaid volunteers to staff two medic units and administrative positions. The Fire Department provides fire suppression services utilizing a volunteer staffing system with career personnel managing administration and community risk reduction activities. The career and volunteer members of the fire department are a well-trained, dedicated, and committed group of individuals who have provided a good level of service and saved tax dollars for the residents. A public survey completed in this study found that about 43% of the respondents had used the services, of which 82% of those respondents were satisfied. However, about 45% of the respondents from the community are strongly interested in improving fire and EMS service levels, including staffing and response time performance of the emergency services.

Several opportunities to improve emergency services will require a multifaceted approach. These opportunities include establishing a staffed fire suppression

component to work in concert with the volunteer staffing, enhancing and expanding the fixed resources, and responding capabilities. These approaches are summarized below.

## Phase One

### **Fire Department**

Improve the response by establishing a daytime-staffed fire suppression unit of four personnel to support the duty officer response program. This will provide the duty officer with additional resources and allow that position to function as a command officer position. A daytime crew of part-time staff working a 7 am to 7 pm schedule would enable this unit to respond to about 73% of the total fire calls for service, reducing the response time between 6 and 7 minutes. Staffing coverage during daytime hours is often more challenging for a volunteer fire department as many volunteers have full-time jobs or other daytime commitments, limiting the ability to respond to emergencies during the typical work week. Implementing a daytime staffing model will relieve some of these issues and improve response performance during the busiest call periods.

With a staffed suppression unit, the response protocols would need to change to have the staffed suppression unit respond with the duty officer. This will provide additional resources should the need arise and improve the response time performance as personnel will be housed at the fire station versus responding from home and then staffing the fire apparatus for response to the call location. Personnel assigned to the suppression unit will also be available to assist the community risk reduction program with activities such as public education or fire safety inspections.

The staffing model for this unit can use various approaches. These models include using part-time staff, a combination of part-time and volunteer staff, career staff, or career staff and part-time staff as long as a crew of four personnel staff the suppression unit. No specific method is better than the other; it mostly depends on the available workforce, the funding for the program, and the desires of the city and fire department.

### **EMS Department**

No staffing or scheduling changes are needed for the EMS department in the first phase of this improvement plan. However, the EMS system will need to continue monitoring the available workforce to ensure the appropriate staffing levels are in place and the authorized positions are filled and scheduled appropriately.

## Phase Two

A separate facility evaluation was conducted by an architectural firm that found the current fire station insufficient to allow for a 24-hour schedule, which is the primary reason for the recommendation to begin improving the fire response system by implementing a daytime schedule. Renovating the current fire station to house a 24-hour crew will require creating sleeping areas and other safety measures and renovations to the current facility. The station renovations can occur simultaneously with establishing a daytime-staffed fire suppression unit. Once the renovations are completed, the staffing can be expanded to include overnight shifts to improve service levels. Using a 12-hour shift schedule will provide flexibility for part-time staff as many individuals filling the positions will be full-time employees with other fire departments. In some instances, these individuals may elect to work two 12-hour shifts back-to-back, meaning they will work a 24-hour shift in Hudson.

## Phase Three

The current facility is geographically located appropriately for delivering emergency services regarding response time. The station offers effective access to the city's southern, eastern, and western sections. The architectural firm's separate report outlines the need for a new facility. Designing and constructing a new facility will take three to five years.

There will be a need for a second station in the city in the future. While the current station location is appropriate for emergency services delivery to the south, east, and west, the north section of the city is not within industry standards using the existing location. From the south section of the city, there are four access points to the area north of the Ohio Turnpike (I-80), limiting the response capabilities north of the interstate. The area of 7300 Darrow Road was used as the location for the second station to improve the response to the city's northern region. The final location will need to be determined once the final plans are in place. Planning for this station can begin at any time or at the same time as Station One, but the project team's recommendation is that Station One should be the priority in addressing the crews' needs for fire and EMS services and to be fully staffed 24 hours per day. For planning purposes, using the development of the YDC Focus area as a trigger point for construction and staffing of the second fire station would allow the city to better plan for any expansion of the emergency services system. With the priority for Station One and the estimated design and construction time, it is anticipated the second station is beyond a five-year horizon.

## Ongoing

The emergency services system is a dynamic delivery model that will continue to transform in the coming years. Transitioning the fire department to a combination staffing model will encounter challenges. These challenges include recruiting and retaining part-time and volunteer staff, creating and managing schedules, and training for part-time and volunteer staff. The same is true for the EMS department in terms of recruiting and retaining part-time staff and training and educating staff members.

The response system must be continually monitored to determine the need for additional ambulances, fire apparatus, and staffing. Metrics such as response time, unit utilization, and concurrent calls must be used to support additional resource needs.

At this point, two separate departments using the same administrative organization works well for the city. In the future, as the staffing model becomes more career-oriented, combining the two organizations will likely be financially advantageous. No set date or time can be established to transition to a career-oriented department. Moving to a career-oriented organization will likely occur when the part-time workforce becomes more challenging, and the paid-on-call volunteer staffing becomes more difficult to recruit and retain.

## Summary of Recommendations

### Community Standards

Develop an organizational statement for the Fire and EMS Departments to inform the public of the expectations of the emergency services and provide guidance for any future expansion of services or service delivery.

### Call Processing

The Hudson Fire and EMS Department shall work with the Hudson Police Department to establish benchmark performance objectives for processing emergency calls for service.

Ensure fire and EMS department personnel communicate correctly with the communications center.

Establish a mechanism to review the communication center's performance and assess methods to improve its performance.

**Turnout Time**

Establish a benchmark turnout time performance objective of 1 minute and 30 seconds for emergency calls for staffed companies.

Continue to monitor the turnout time for the staffed companies.

Establish a standard operating procedure for when a unit is to place itself enroute.

**Distribution of Resources**

Establish a benchmark travel time performance objective of 6 minutes and 30 seconds for emergency calls.

Continue to use the site at 40 South Oviatt Street as the location of Station 1.

Once the development of the YDC Focus area begins, add a second fire station in the area of 7300 Darrow Road.

**Concentration of Resources**

Continue to use the volunteer staffing model to create an effective response force.

Continue to develop relationships with automatic and mutual aid partners as necessary to deliver services in the city.

Create a method to monitor and report the travel time component at least annually.

**Staffing Model**

Monitor the call volume and unit utilization rates for the Medic Units.

Monitor workforce availability for emergency medical services to ensure adequate personnel are available to fill the available positions and be prepared to transition to a full-time staffing model.

Transition the fire department from a paid-on-call volunteer organization to a combination organization to ensure a reliable response to emergency calls.

**Staffing Model-Financial Estimate**

Recommended staffing is estimated to cost approximately 1.2 million in year 1. See Appendix D for full cost model created by City staff.

## Hudson Fire and EMS Department Organization

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This chapter overviews Hudson Fire and Hudson EMS's general characteristics, organization, and operations.

### Background

The City of Hudson is located in northeast Ohio in the northern section of Summit County. It is considered a suburban community in the Akron Metropolitan Area and is close to the City of Cleveland. The city is approximately 25 square miles and has a population of 23,005 residents, with a population density of about 920 people per square mile. The city is also home to the Western Reserve Academy, a private preparatory school with about 300 students on campus.

The city is governed by a seven-member city council, of which four represent the four wards and the other three are at large representatives. The city uses a council-manager form of government, and the council members elect the Council's President.

The City Charter Section 8.02 establishes the Department of Safety, which includes the Police, Fire, and Emergency Medical Services. The city manager, as the Director of Public Safety, appoints the department heads with the concurrence of the city council.

### Demographic Profile

The following table illustrates the city's demographic profile and changes since 2010.

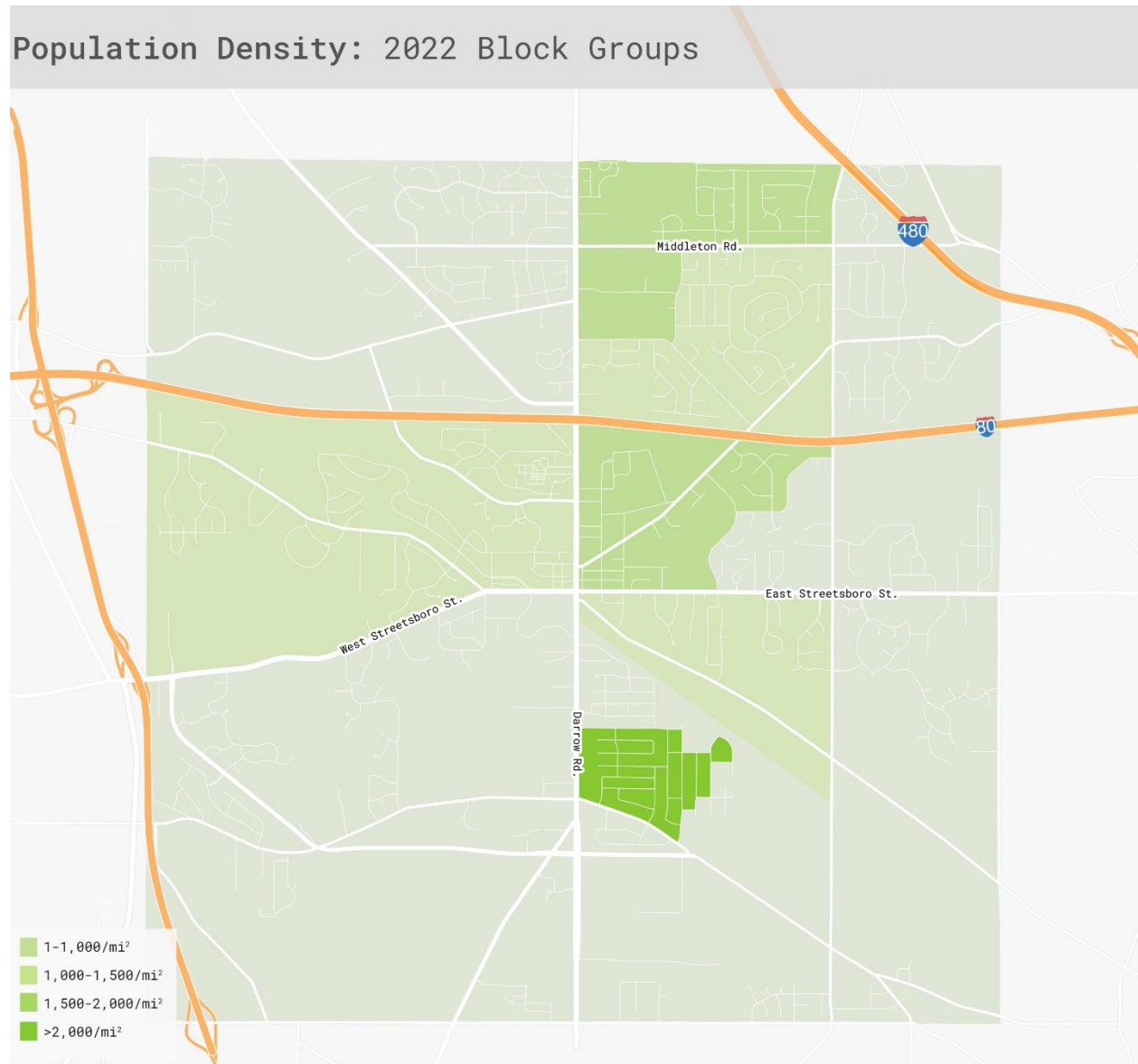
**Table 1: Hudson Demographics**

<b>US Census Bureau</b>	<b>2010</b>	<b>2020</b>	<b>2022</b>
Estimated Hudson Population	22,331	22,249	23,005
Median Age	41.5	43.9	43.1
Children Under Age 5	5.9%	7.2%	6.6%
Children Ages 5 to 19 years	27.1%	21.7%	23.0%
Persons Age 20 to 59 years	49.8%	45.9%	45.7%
Persons Aged 60 and Over	17.4%	25.1%	24.9%
Families in Poverty	2.8%	1.5%	2.2%
Civilian Labor Force Unemployed	3.1%	2.9%	2.3%
Median Household Income	\$115,144	\$133,418	\$160,280
<b>Employment Sectors:</b>			
Education, Health Care, Soc. Svc.	24.9%	27.4%	26.5%
Retail Trade	9.5%	5.7%	6.2%
Professional, Scientific, Mgmt.	10.9%	15.3%	15.9%
Finance, Insurance, Real Estate	10.3%	9.7%	9.6%
Entertainment, Recreation, Food	7.1%	6.7%	6.8%
Construction	2.6%	4.9%	4.6%
Manufacturing	17.7%	13.6%	15.8%
Transportation, Warehousing, Util.	2.7%	2.7%	2.6%
Public Administration	1.5%	3.1%	3.0%
Other Services	3.0%	3.7%	3.1%
Wholesale	6.7%	5.4%	4.2%
Information	2.5%	1.5%	1.5%
Agriculture, Forestry, Fishing	0.7%	0.3%	0.3%

The city's population has increased approximately 3% since 2010, adding an estimated 674 residents. It is important to note that the median age is increasing in the city from 41.5 in 2010 to 43.1 in 2022, with a large increase in the age range of those over 60.

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





The city has a population density of 920 people per square mile. As illustrated, an area just north of Barlow Road has a population density of over 2,000 people per square mile, and areas in the city's central sections have a population density between 1,500 and 2,000 people per square mile.

## Organization

Hudson Fire and Hudson EMS operate as two distinct departments, with the Fire Chief as the department head for both. The following table illustrates the staffing levels for each department.

Table 2: Current and Authorized Staffing

Current		Authorized	Position
FT	PT	POC	
<b>Fire Chief's Office</b>			
1			1 Fire Chief
<b>1</b>	<b>0</b>	<b>0</b>	<b>1 Total Administrative Staff</b>
<b>Fire Department</b>			
	2		2 Assistant Chief
		2	2 Captain
1			1 Executive Assistant
2			2 Lieutenant/Fire Inspector
		1	1 Lieutenant/Chief Engineer
		1	1 Lieutenant
1			1 Fire Marshal
1			1 Firefighter/Fire Inspector
		25	25 Firefighters
<b>5</b>	<b>2</b>	<b>29</b>	<b>36 Total Fire Staff</b>
<b>Emergency Medical Services Department</b>			
	1		1 Medical Director
1			1 EMS Assistant Chief
	4		4 Captain
2			2 Lieutenant
	1		1 Administrative Assistant
0			1 Training Coordinator
	29		29 Paramedics
		2	2 Paramedics – Unpaid Volunteer Staff
		13	13 EMT's – Unpaid Volunteer Staff
		7	7 EMS Instructors
<b>3</b>	<b>35</b>	<b>22</b>	<b>61 Total EMS Staff</b>

The fire department's full-time staffing is mostly for community risk reduction services. The EMS department staffs two ambulances, with a third ambulance available using administrative staff.

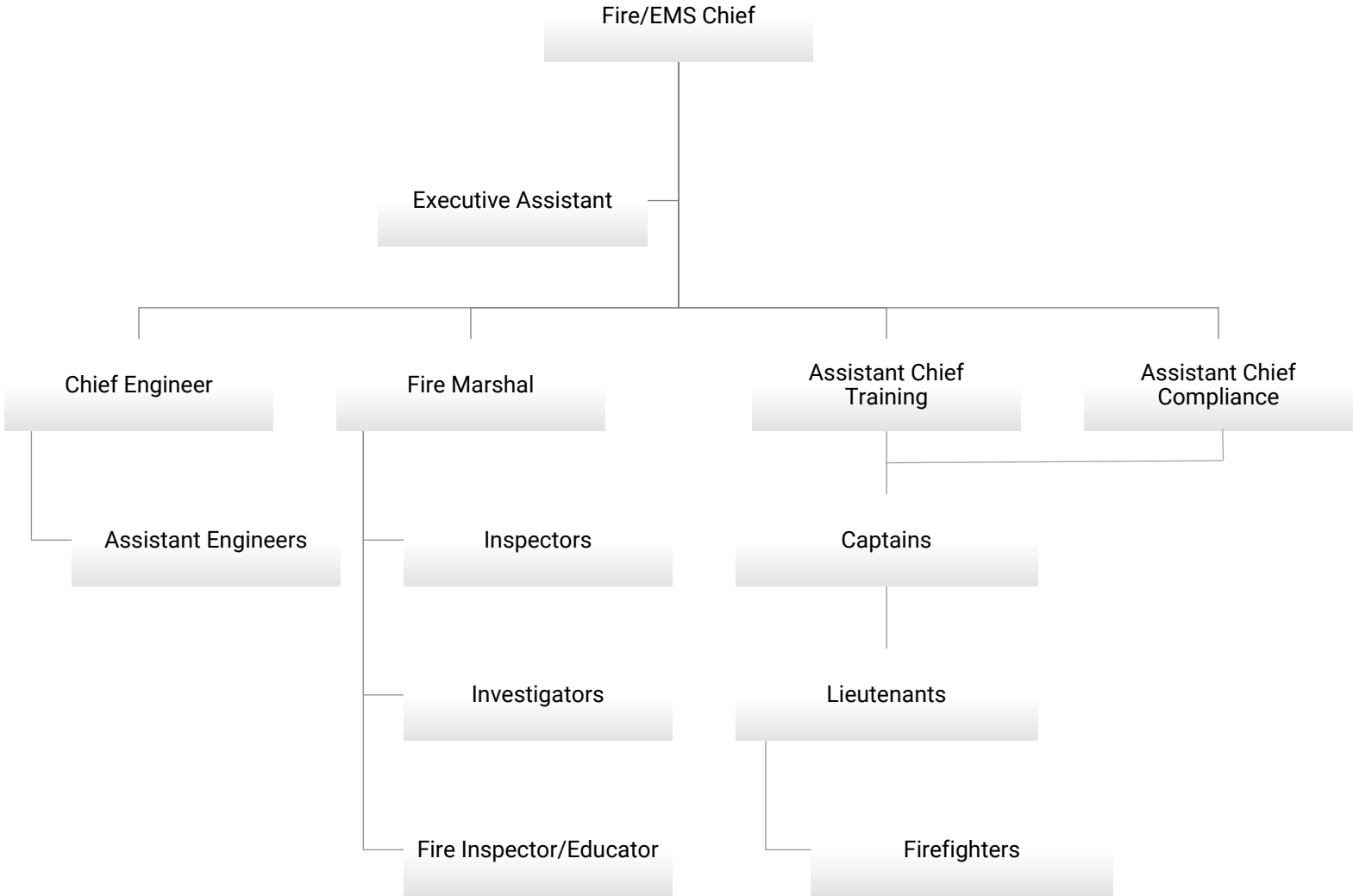
### Mission Statement

The mission of the Hudson Fire Department is to preserve and protect the lives and property of the community by providing the following services:

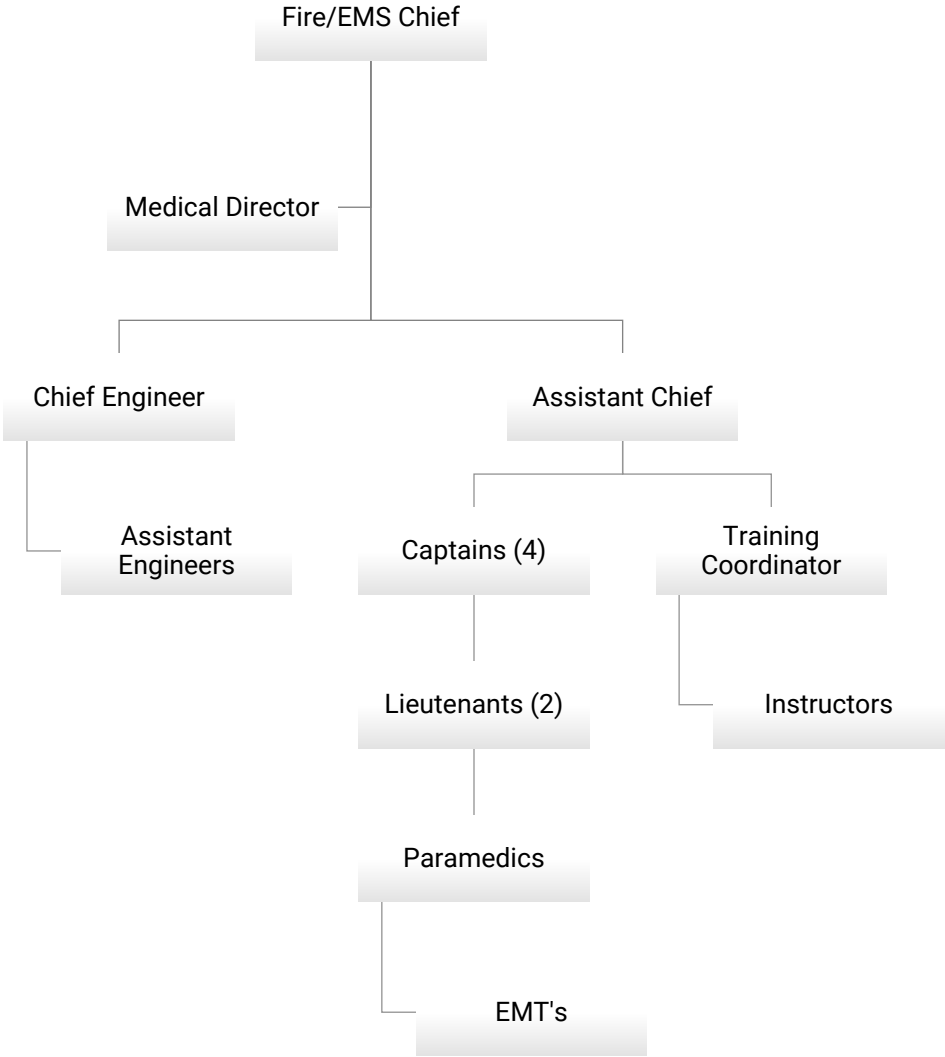
- Code enforcement during construction and throughout the life cycle of the building, including fire and arson investigation
- Fire suppression and the rescue of victims
- Hazardous materials management
- Public education on fire safety
- Rescue from vehicle entrapment, building collapse, and water rescue

The following organizational charts illustrate the current Hudson Fire and Hudson EMS organization.

### Hudson Fire Department Organization Chart



### Hudson EMS Organization Chart

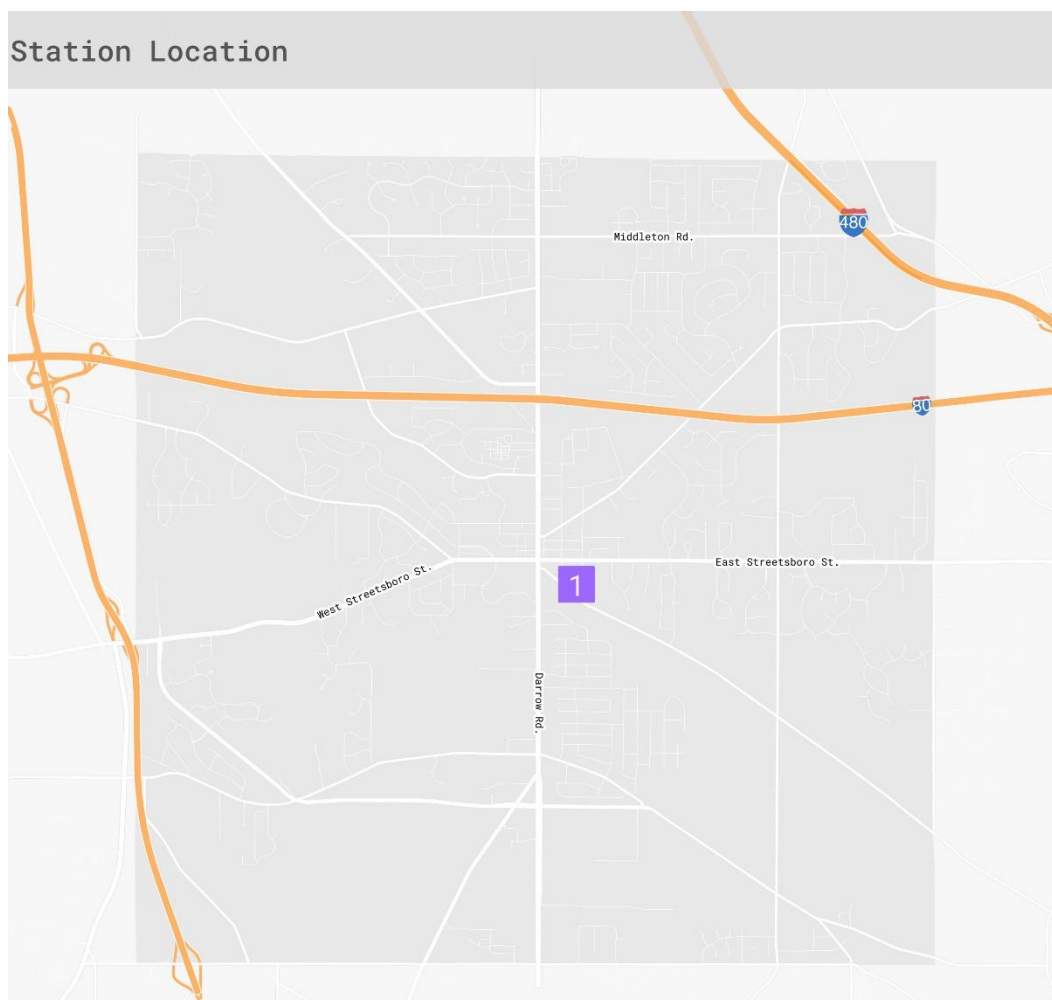


## Emergency Operations

Emergency operations are provided from a single fire station staffed by part-time personnel for emergency medical services and paid on-call personnel for fire suppression services. Two ambulances are staffed with two personnel. A supervisor is available to respond and provide additional assistance as needed.

## Physical Resources

The following map illustrates the location of the physical facility used by Hudson Fire and Hudson EMS.



The following table outlines the station's apparatus and staffing.

**Station 1**

40 S Oviatt Street

<b>Description of Use</b>	Single station housing the administration, fire department, and EMS department apparatus and staff.				
<b>Apparatus Space</b>	Eight bays, five drive-throughs, and three back-in style bays.				
<b>Assigned Apparatus</b>	Unit ID	Year	Description	Type	Minimum Staffing
	EMS 4036	2023	Dodge Durango	Quick Response	1
	Medic 4011	2023	Chevrolet G 4500	Ambulance	2
	Medic 4012	2018	Chevrolet G 3500	Ambulance	2
	Medic 4021	2020	Chevrolet G 4500	Ambulance	Cross Staffed
	Engine 2013	2015	Pierce Impel	Type 1 Engine	POC
	Engine 2014	2015	Pierce Impel	Type 1 Engine	POC
	Rescue 2016	1999	Spartan/Ferrara	Heavy Rescue	POC
	Tender 2018	2010	Pierce/Kenworth	Water Tender	POC
	Brush 2017	1993	Dodge W250	Brush Truck	POC
	Ladder 2019	2010	Sutphen Platform	Ladder	POC
	Medic 4016	1999	Freightliner/Horton	Ambulance/Reserve	

**Historical Workload and Performance**

Hudson Fire and EMS respond to emergency and non-emergency calls for service. The following table illustrates the fire department's calls for service organized by type of incident for 2019 – 2023.

Table 3: Fire Department Calls for Service

	2019	2020	2021	2022	2023	Total	Pct.
Auto Accidents	69	38	41	36	44	228	6.8%
Medical Calls	10	8	17	16	14	65	1.9%
Total Medical and Auto Accidents	79	46	58	52	58	293	8.7%
Fire Alarm - False	1	1	2	2	0	6	0.2%
Fire Alarm - Malfunction	93	77	76	74	79	399	11.9%
Fire Alarm - Activation	146	118	119	93	134	610	18.2%
Mutual Aid	18	15	26	32	44	135	4.0%
Other Type Fire	8	3	4	7	5	27	0.8%
Smoke Scare	34	34	30	30	40	168	5.0%
Structure Fire	6	6	4	6	7	29	0.9%
Overpressure/Rupture/Explosion	0	1	0	0	2	3	0.1%
Vegetation/Brush/Debris Fires	41	37	33	32	26	169	5.0%
Vehicle Fire	6	3	5	5	3	22	0.7%
All Fire Calls	353	295	299	281	340	1,568	46.8%
Rescue Calls - Extrication	2	2	4	0	2	10	0.3%
Rescue Calls - Elevator	1	1	3	1	2	8	0.2%
Rescue Calls - Technical	1	0	0	1	1	3	0.1%
Rescue Calls - Other	0	2	3	2	1	8	0.2%
All Rescue Calls	4	5	10	4	6	29	0.9%
Dispatched/Canceled	18	36	39	57	74	224	6.7%
Severe Weather	0	2	1	0	0	3	0.1%
Good Intent	66	61	54	31	69	281	8.4%
Hazardous Material	0	0	1	1	3	5	0.1%
Hazardous Conditions	139	175	129	112	127	682	20.4%
Service Calls	72	51	51	46	44	264	7.9%
Other Types of Calls	295	325	275	247	317	1,459	43.6%
<b>Total Calls for Service</b>	<b>731</b>	<b>671</b>	<b>642</b>	<b>584</b>	<b>721</b>	<b>3,349</b>	

The fire department's response system includes calls handled by duty officers, with no other units responding, and about 50% of the calls are managed by duty officers. Hudson has provided automatic and mutual aid assistance 135 times over the past five years while providing the same assistance to others 134 times.

The following table illustrates the EMS department's calls for service organized by type of incident for 2019 – 2023.



**Table 4: EMS Department Calls for Service**

	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>Total</b>	<b>Pct.</b>
Auto Accidents	100	73	80	77	82	412	3.8%
Fire Calls	118	126	130	136	124	634	5.9%
Rescue Calls	7	3	0	0	0	10	0.1%
Other Types of Calls	9	7	1	2	0	19	0.2%
Sick Person Type Calls	432	397	521	476	458	2,284	21.3%
Person-Injured Type Calls	373	333	401	317	310	1,734	16.2%
Difficulty Breathing	154	104	166	178	131	733	6.8%
Unconscious	129	136	152	162	199	778	7.3%
Cardiac	151	115	146	178	247	837	7.8%
Mental /Behavioral	101	111	107	138	100	557	5.2%
Dizziness	50	33	45	53	39	220	2.1%
CVA / Stroke	33	36	45	35	24	173	1.6%
Seizure	36	28	38	43	39	184	1.7%
Diabetic Problem	35	26	16	30	29	136	1.3%
Back Pain (non-injury)	24	36	24	24	26	134	1.2%
Allergic Reaction	30	15	28	20	21	41	0.4%
Other Non-Classified Medical Calls	219	229	225	543	548	1,764	16.5%
<b>Total Calls for Service</b>	<b>2,001</b>	<b>1,808</b>	<b>2,125</b>	<b>2,412</b>	<b>2,377</b>	<b>10,723</b>	

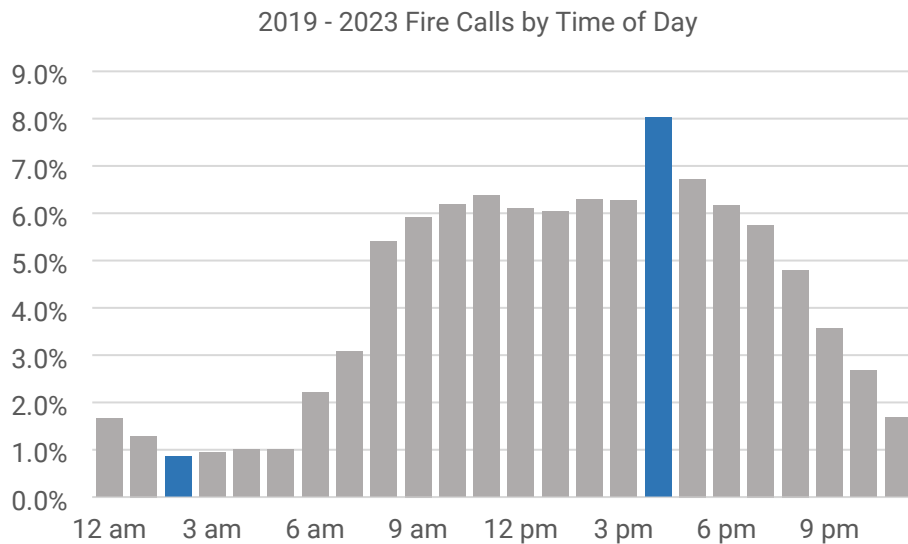
Most of the calls, 21%, are 'sick person' calls that include abdominal pain and other non-specific issues. Calls noted as 'Other Non-Classified Medical Calls' represent those that do not fit in any of the categories in the table and represent about 16% of the calls.

The following table displays the number of calls for service managed by the fire department by each hour and day of the week for the past five years. Both emergency and non-emergency calls for service are included to provide an overall view of the call demand on the emergency services system.

## 2019 – 2023 Fire Calls for Service by Hour and Weekday

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
12 am	0.3%	0.1%	0.2%	0.3%	0.4%	0.2%	0.1%
1 am	0.2%	0.1%	0.1%	0.2%	0.2%	0.3%	0.1%
2 am	0.1%	0.0%	0.1%	0.1%	0.2%	0.1%	0.2%
3 am	0.2%	0.0%	0.1%	0.1%	0.1%	0.1%	0.2%
4 am	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.2%
5 am	0.1%	0.2%	0.1%	0.1%	0.2%	0.1%	0.1%
6 am	0.4%	0.4%	0.3%	0.3%	0.3%	0.2%	0.3%
7 am	0.3%	0.4%	0.5%	0.7%	0.4%	0.5%	0.2%
8 am	0.8%	0.9%	0.8%	0.8%	1.0%	0.8%	0.4%
9 am	0.8%	1.0%	0.8%	0.9%	1.1%	1.0%	0.5%
10 am	0.9%	1.0%	1.0%	0.8%	0.8%	1.0%	0.6%
11 am	1.0%	1.2%	1.1%	0.9%	0.8%	0.8%	0.7%
12 pm	1.0%	0.9%	0.7%	1.0%	1.1%	0.7%	0.6%
1 pm	0.9%	1.0%	0.8%	0.8%	1.0%	0.5%	1.1%
2 pm	1.1%	1.1%	0.7%	0.9%	0.9%	0.9%	0.8%
3 pm	0.8%	1.1%	0.7%	0.9%	0.8%	1.0%	0.9%
4 pm	1.3%	1.2%	1.3%	1.1%	1.1%	1.0%	1.0%
5 pm	1.1%	0.9%	0.8%	1.1%	1.0%	0.9%	1.0%
6 pm	1.2%	1.0%	1.1%	0.6%	0.8%	0.8%	0.7%
7 pm	0.8%	0.7%	0.9%	0.8%	0.8%	1.0%	0.8%
8 pm	0.5%	0.6%	0.8%	0.9%	0.6%	0.9%	0.5%
9 pm	0.4%	0.5%	0.7%	0.3%	0.5%	0.6%	0.5%
10 pm	0.4%	0.5%	0.3%	0.3%	0.4%	0.3%	0.4%
11 pm	0.3%	0.2%	0.2%	0.1%	0.3%	0.2%	0.3%

Fire-related calls are heavier in the first part of the week, with Saturday being the slowest. The busiest hour is 4 p.m., with the slowest being 2 a.m. The following chart further illustrates the calls for service by hour of the day.



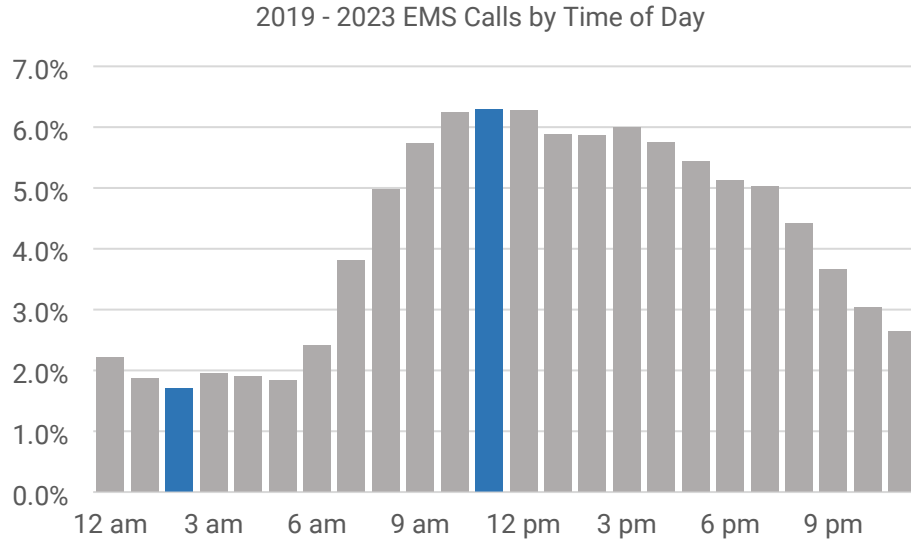
Fire-related calls rise significantly at the 8 am hour and stay consistent throughout the daytime, peaking at the 4 pm hour. The frequency of calls starts to decrease at 6 pm and falls sharply by the 8 pm hour, with the lowest activity occurring at 2 am hour.

The following table displays the total number of calls for service managed by the EMS department by each hour and day of the week for the past five years. Both emergency and non-emergency calls for service are included to provide an overall view of the call demand on the emergency services system.

## 2019 – 2023 EMS Calls for Service by Hour and Weekday

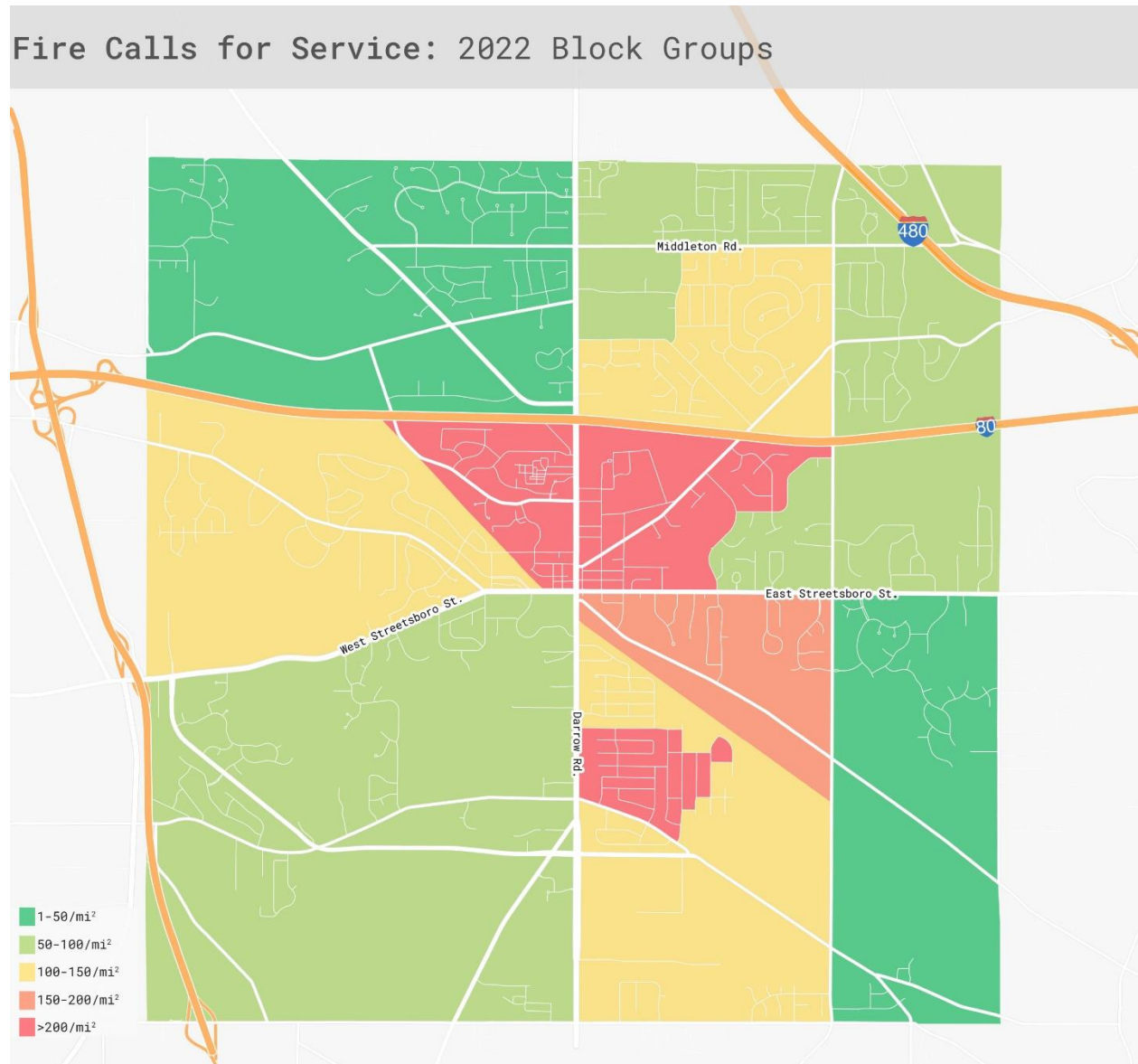
	Sun	Mon	Tue	Wed	Thu	Fri	Sat
12 am	0.3%	0.3%	0.2%	0.4%	0.3%	0.4%	0.3%
1 am	0.3%	0.3%	0.2%	0.3%	0.2%	0.3%	0.3%
2 am	0.3%	0.2%	0.2%	0.3%	0.3%	0.2%	0.3%
3 am	0.3%	0.2%	0.3%	0.3%	0.3%	0.2%	0.3%
4 am	0.4%	0.2%	0.2%	0.3%	0.2%	0.3%	0.3%
5 am	0.2%	0.3%	0.3%	0.3%	0.3%	0.2%	0.3%
6 am	0.3%	0.4%	0.4%	0.4%	0.3%	0.3%	0.4%
7 am	0.5%	0.7%	0.7%	0.6%	0.6%	0.3%	0.5%
8 am	0.8%	0.6%	0.8%	0.6%	0.8%	0.6%	0.6%
9 am	0.9%	0.9%	0.8%	0.9%	0.9%	0.8%	0.6%
10 am	0.9%	0.9%	0.9%	1.0%	0.9%	0.8%	0.8%
11 am	0.8%	1.0%	1.1%	0.8%	0.8%	0.9%	0.8%
12 pm	1.0%	0.9%	0.9%	0.9%	1.1%	0.7%	0.8%
1 pm	0.9%	0.9%	1.0%	0.7%	1.0%	0.7%	0.7%
2 pm	0.9%	0.9%	0.8%	1.0%	0.9%	0.7%	0.8%
3 pm	0.9%	0.9%	1.0%	1.0%	0.9%	0.8%	0.6%
4 pm	1.0%	0.9%	0.8%	0.8%	0.9%	0.6%	0.7%
5 pm	0.7%	0.8%	0.8%	0.8%	1.0%	0.6%	0.7%
6 pm	0.7%	0.9%	0.8%	0.9%	0.7%	0.6%	0.6%
7 pm	0.6%	0.7%	0.6%	0.9%	0.9%	0.6%	0.7%
8 pm	0.5%	0.7%	0.6%	0.6%	0.7%	0.7%	0.6%
9 pm	0.4%	0.5%	0.6%	0.6%	0.6%	0.5%	0.5%
10 pm	0.4%	0.4%	0.5%	0.4%	0.5%	0.5%	0.4%
11 pm	0.3%	0.4%	0.4%	0.4%	0.3%	0.4%	0.4%

Wednesday and Thursday are the busiest days of the week, with Friday being the slowest day. The busiest hour is 11 a.m., with the slowest being 2 a.m. The following chart further illustrates the calls for service by hour of the day.



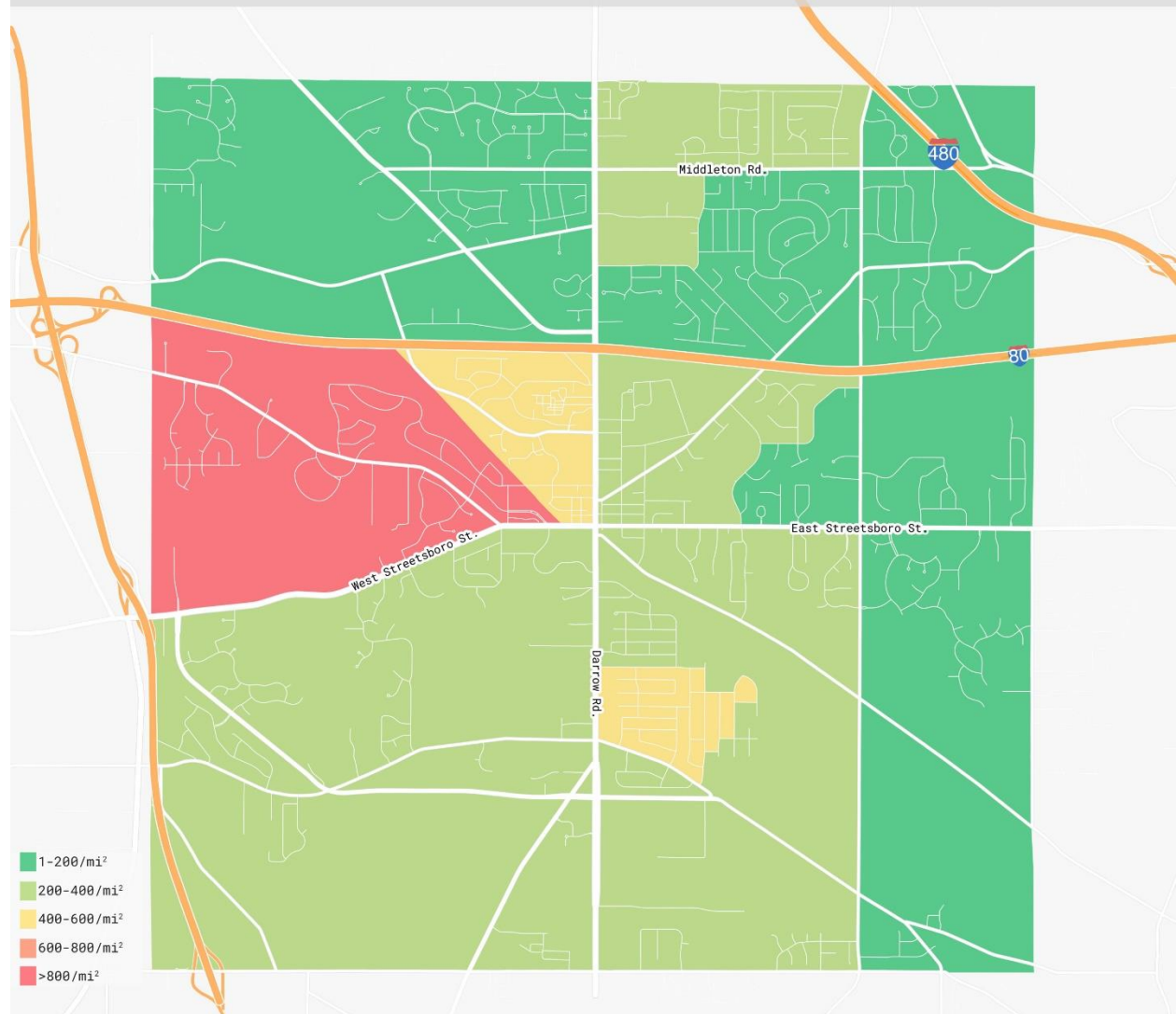
EMS calls rise significantly at the 8 am hour and stay consistent throughout the daytime, peaking at the 11 am hour. The frequency of calls starts to decrease at 8 pm and falls overnight, with the lowest activity occurring at 2 am hour.

The following map illustrates the call demand using GIS technology to outline where the majority of the calls for service occurred.



Fire-related calls for service mirror the population density with a more significant number of calls in the south-central section of the city and the central region. The central region's numerous businesses and educational facilities account for fire alarm activations.

### EMS Calls for Service: 2022 Block Groups



As illustrated, the higher volume of calls occurs in the west-central section of the city, which also includes the Laurel Lake Retirement Community.

## Essential Services

### Training and Education

The Hudson Fire and EMS Department develops an annual training plan to keep job skills and certifications up to date. The plan uses various methods to ensure completion. It includes night-time and daytime training dates and times to ensure all members can participate.

The following table illustrates the average staff hours of training provided for the past three years.

<b>Topic</b>	<b>Average Staff Hours</b>
Building Familiarization	37.3
Company	1,114.9
Drivers Class	316.5
EMT Credit	36.0
Facility Training	80.7
Hazmat	277.8
Individual	135.7
Inspector	150.0
Officer	66.2
SC TROT	132.0
TROT	108.2
<b>Total Average Staff Hours</b>	<b>2,455.2</b>

This is in addition to the Emergency Medical Technician Course conducted at the station, also offered through Kent State University.

### Fire Marshal's Office

The Fire Marshal's Office is responsible for several activities, including Plan Review, Fire Safety Inspections, Fire Investigations, and Public Education. The Fire Marshal leads the office and is assisted by two full-time inspectors and one full-time fire educator/fire inspector.

#### Plan Review

Plan reviews ensure buildings are designed within fire safety regulations, and construction inspections are designed to ensure buildings, including additions, remodels, and new construction, are built according to the plans. The following table illustrates the plan review, acceptance testing, and new construction activity.



**Table 5: Plan Review Activity**

<b>Plan Review Activity</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
Clean Agent System	1	0	0
Fire Alarm System	14	10	11
Fireworks Exhibition Permit	10	9	8
Flame Effects Exhibition Permit	2	1	2
Residential Site Plan	25	11	11
Commercial Site Plan	14	11	5
Sprinkler System	12	11	5
Tent Permit	16	10	10
Underground Fire Main	1	1	1
Use Permit	18	18	15
Wet Chemical System	3	4	4
<b>Plan Review Total</b>	<b>116</b>	<b>86</b>	<b>72</b>
<b>Acceptance Test Activity</b>			
Fire Alarm System	19	10	10
Sprinkler System	12	11	7
Underground Fire Main	9	13	1
Wet Chemical System	6	2	4
<b>Fire Protection System Acceptance Inspection Total</b>	<b>46</b>	<b>36</b>	<b>22</b>
<b>Inspection Activity</b>			
<b>Commercial Occupancy Inspection Total</b>	<b>23</b>	<b>30</b>	<b>41</b>

### **Fire Safety Inspections**

The occupancies have been assessed for their risk and placed in a risk classification. Using the risk classification, the frequency of inspections was established based on the NFPA 1730 Standard on Organizations and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations. The following table illustrates the risk classification.

**Table 6: Frequency of Inspections**

<b>Classification</b>	<b>Description</b>	<b>Frequency</b>
Low Risk	Small offices, small mercantile, banks, salons	Triennially
Moderate Risk	Small public assembly, occupancies with fire protection systems that are not critical infrastructure/high-risk	Biennially
High Risk	Schools, pre-schools/day cares, nursing/care facilities, commercial kitchens, apartments/condominiums, manufacturing, hazardous materials, large public assembly, downtown North Main Street historic district	Annually
Critical Infrastructure	City of Hudson buildings, local telecommunications, public utilities	Annually

The following table illustrates the inspection activities for the past three years.

**Table 7: Inspection Activity 2021 - 2023**

<b>Inspection Type</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
Annual Inspections	113	265	317
Biennial Inspections	19	145	110
Triennial Inspections	62	167	94
Occupancy Inspection	23	30	41
<b>Total Inspections</b>	<b>217</b>	<b>607</b>	<b>562</b>

## **Public Education**

The fire department provides fire safety education programs throughout the city. These include child safety seat inspections and education, youth firesetting intervention, safe senior programs, safety town for pre-K students, and a hearing-impaired program. Several of the programs are in partnership with community organizations and businesses as shown in the following table.

**Table 8: Public Education Partnerships**

<b>Partner</b>	<b>Services and Programs</b>
Hudson Ace Hardware	Providing fire extinguishers at no cost.
Summit Developmental Disabilities	Providing a link between at-risk populations and safety forces
Hudson Women's Club	EMS outreach, St Mary Parish Nurse.
American Red Cross	Smoke Detector program

### Fire Investigations

The Fire Marshal's Office handles fire investigations in the city. For the past three years, 10 structure fire investigations have been conducted. The following table highlights the structure fire investigations from 2021 through 2023.

**Table 9: Fire Investigations**

<b>Date</b>	<b>Location</b>
February 2, 2021	1492 Plantation Drive
February 11, 2021	5897 Darrow Road
May 6, 2021	5110 Sodalite Drive
May 10, 2021	2449 Cambridge Drive
April 22, 2022	16 Bard Drive
June 8, 2022	1595 Georgetown Road
December 20, 2022	6307 Paderborne Drive
December 27, 2022	5730 Hudson Drive
March 7, 2023	2262 Weir Drive
June 10, 2023	40 South Hayden Parkway

All investigations are completed and closed.

## Financial Resources

The city operates on a fiscal year from January 1 through December 31. The City Manager and Finance Director prepare the budget documents with the Department Heads' assistance and the City Council's final approval. The final document consists of a five-year financial plan for the city. Information contained in the following sections is from the City of Hudson Five-Year Plan 2024 - 2028<sup>1</sup>

### Revenues

Fire and EMS services are primarily funded through a voter-approved local income tax. In 2004, the City income tax was raised from 1% to 2%, with the additional 1% designated to specific city functions. The Fire and EMS Departments receive 24% of that 1% to support their operations. EMS also receives funding through ambulance fees. The following tables summarize the Hudson Fire Department and Hudson EMS revenues for FY 2024 - 2026.

Table 10: Fire Fund Revenues

Line Item	2024 Budget	2025 Budget	2026 Budget	2027 Budget	2028 Budget
Income Taxes	\$2,471,429	\$2,533,215	\$2,596,545	\$2,661,459	\$2,727,995
Miscellaneous	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000
<b>Total Revenues</b>	<b>\$2,501,429</b>	<b>\$2,563,215</b>	<b>\$2,626,545</b>	<b>\$2,691,459</b>	<b>\$2,757,995</b>

Table 11: EMS Fund Revenues

Line Item	2024 Budget	2025 Budget	2026 Budget	2027 Budget	2028 Budget
Income Taxes	\$1,765,306	\$1,809,439	\$1,854,675	\$1,901,042	\$1,948,568
Ambulance Billing	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000
Charges for Training	\$35,000	\$35,000	\$35,000	\$35,000	\$35,000
Miscellaneous	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000
<b>Total Revenues</b>	<b>\$2,306,306</b>	<b>\$2,350,439</b>	<b>\$2,395,675</b>	<b>\$2,442,042</b>	<b>\$2,489,568</b>

Through the budget year 2028, the fire fund will receive 14% of the 24%, and the EMS fund will receive 10% of the 24%.

<sup>1</sup> 2024--2028-Five-Year-Plan--Final

## Expenditures

The following tables illustrate the operating budget for 2024 – 2028.

Table 12: Fire Fund Expenditures

Line Item	2024 Budget	2025 Budget	2026 Budget	2027 Budget	2028 Budget
Personnel	\$1,376,488	\$1,417,783	\$1,460,316	\$1,504,126	\$1,549,249
Professional Development	\$36,200	\$36,562	\$36,928	\$37,297	\$34,670
Contractual Services	\$289,178	\$292,070	\$294,990	\$297,940	\$300,920
Materials and Supplies	\$95,900	\$96,859	\$97,828	\$98,806	\$99,794
<b>Operating Expenditures</b>	<b>\$1,797,766</b>	<b>\$1,843,274</b>	<b>\$1,890,062</b>	<b>\$1,938,169</b>	<b>\$1,984,633</b>
Capital Purchases	\$180,000	\$215,000	\$121,000	\$55,000	\$56,000
Replacement Reserve	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
Carryover Encumbrances	\$0	\$0	\$0	\$0	\$0
<b>Total Expenditures</b>	<b>\$2,177,766</b>	<b>\$2,258,274</b>	<b>\$2,211,062</b>	<b>\$2,193,169</b>	<b>\$2,240,633</b>

Table 13: EMS Fund Expenditures

Line Item	2024 Budget	2025 Budget	2026 Budget	2027 Budget	2028 Budget
Personnel	\$1,715,352	\$1,766,813	\$1,819,817	\$1,874,411	\$1,930,644
Professional Development	\$94,950	\$95,900	\$96,858	\$97,827	\$98,805
Contractual Services	\$286,872	\$289,741	\$292,638	\$295,565	\$298,520
Materials and Supplies	\$123,500	\$124,735	\$125,892	\$127,242	\$128,515
Refunds	\$5,000	\$5,050	\$5,101	\$5,152	\$5,203
Debt Service	\$0	\$0	\$0	\$0	\$0
<b>Operating Expenditures</b>	<b>\$2,225,674</b>	<b>\$2,282,239</b>	<b>\$2,340,306</b>	<b>\$2,400,197</b>	<b>\$2,461,687</b>
Capital Purchases	\$44,550	\$20,000	\$251,000	\$85,000	\$261,000
Carryover Encumbrances	\$0	\$0	\$0	\$0	\$0
<b>Total Expenditures</b>	<b>\$2,270,224</b>	<b>\$2,302,239</b>	<b>\$2,591,306</b>	<b>\$2,485,197</b>	<b>\$2,722,687</b>

Personnel costs account for about 78% of the operational expenditures in both fire and EMS through the 2028 budget.

## Fire and EMS Special Fund

Based on the funding mechanism for fire and EMS, the revenues generated are contained in a special fund for that purpose. This allows funds not spent to roll over to the following year. The following tables illustrate the fire and EMS fund balances, revenues, and expenditures.

Table 14: Fire Fund

	<b>2024 Budget</b>	<b>2025 Budget</b>	<b>2026 Budget</b>	<b>2027 Budget</b>	<b>2028 Budget</b>
Beginning Balance	\$4,769,574	\$5,093,237	\$5,398,178	\$5,813,663	\$6,311,952
Revenues	\$2,501,429	\$2,563,215	\$2,626,545	\$2,691,459	\$2,757,995
Expenditures	\$2,177,766	\$2,258,274	\$2,211,062	\$2,193,169	\$2,240,633
<b>Ending Balance</b>	<b>\$5,093,237</b>	<b>\$5,398,178</b>	<b>\$5,813,663</b>	<b>\$6,311,952</b>	<b>\$6,829,314</b>

Table 15: EMS Fund

	<b>2024 Budget</b>	<b>2025 Budget</b>	<b>2026 Budget</b>	<b>2027 Budget</b>	<b>2028 Budget</b>
Beginning Balance	\$2,000,005	\$2,036,087	\$2,084,287	\$1,888,657	\$1,845,412
Revenues	\$2,306,306	\$2,350,439	\$2,395,675	\$2,442,042	\$2,489,568
Expenditures	\$2,270,224	\$2,302,239	\$2,591,306	\$2,485,197	\$2,722,687
<b>Ending Balance</b>	<b>\$2,036,087</b>	<b>\$2,084,287</b>	<b>\$1,888,657</b>	<b>\$1,845,412</b>	<b>\$1,612,293</b>

## Community Growth

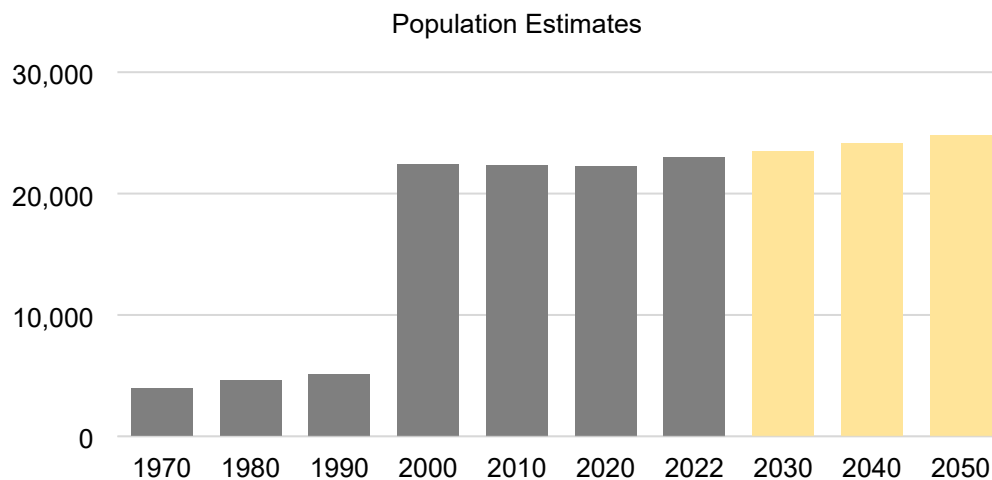
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This chapter provides an overview of the anticipated growth within the city and the projected demand for services.

### Population Changes

From 1990 to 2000, the population of Hudson increased by over 300% from about 5,100 residents to about 22,400 residents. According to the 1995 Comprehensive Plan, “Uncontrolled growth threatens to disrupt and even destroy the small-town atmosphere that is important to Hudson. More importantly, the quality of City services will continue to decline if the rate of residential growth is continued.”<sup>2</sup> The city instituted a growth management strategy to manage residential expansion better.

The US Census Bureau data shows the annual growth rate for the past twelve years has been .03%. The chart that follows provides a projection based on the historical growth.



Based on historical growth, the city’s population is projected to be approximately 23,515 in 2030 and 24,168 in 2040. The Department of Development Research Office for the State of Ohio projects the state population to decline by about 6% by 2050. “The state of Ohio is in the initial stage of gradual, sustained population loss because of an aging population, declining fertility, and stagnant migration patterns.”<sup>3</sup>

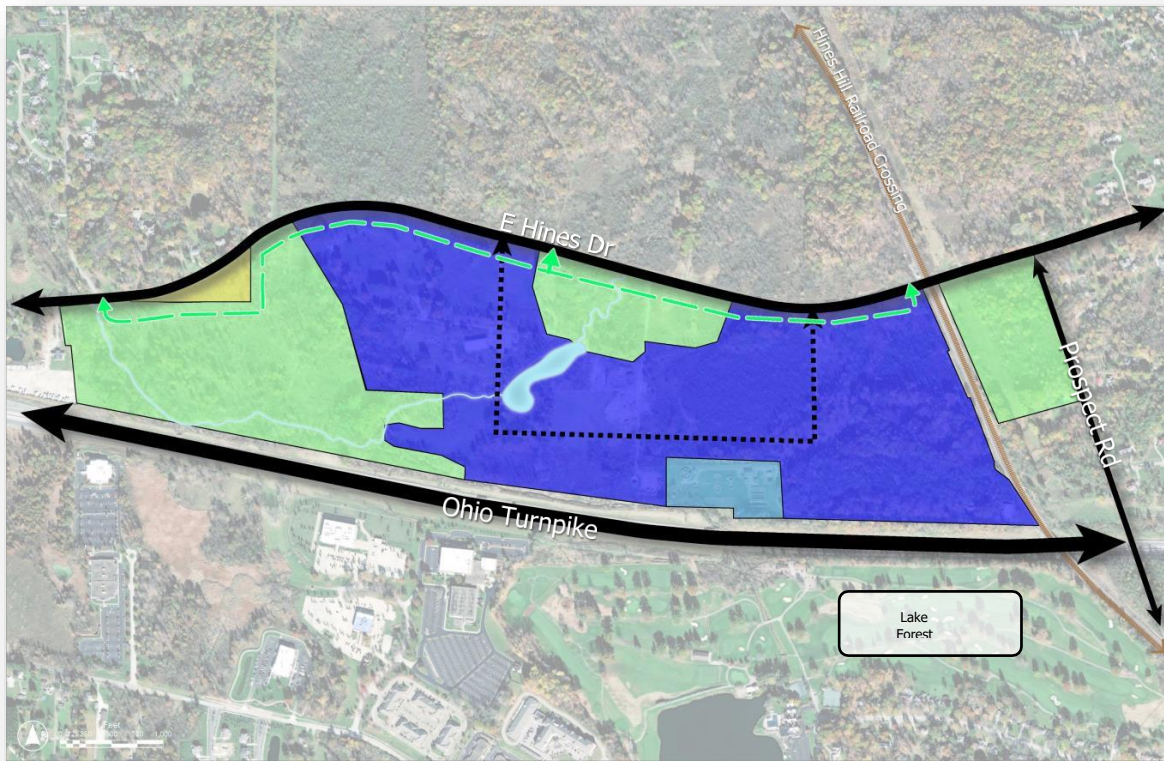
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<sup>2</sup> [Comprehensive-Plan-2004](#)

<sup>3</sup> [State of Ohio Population Projections Report 2023](#)







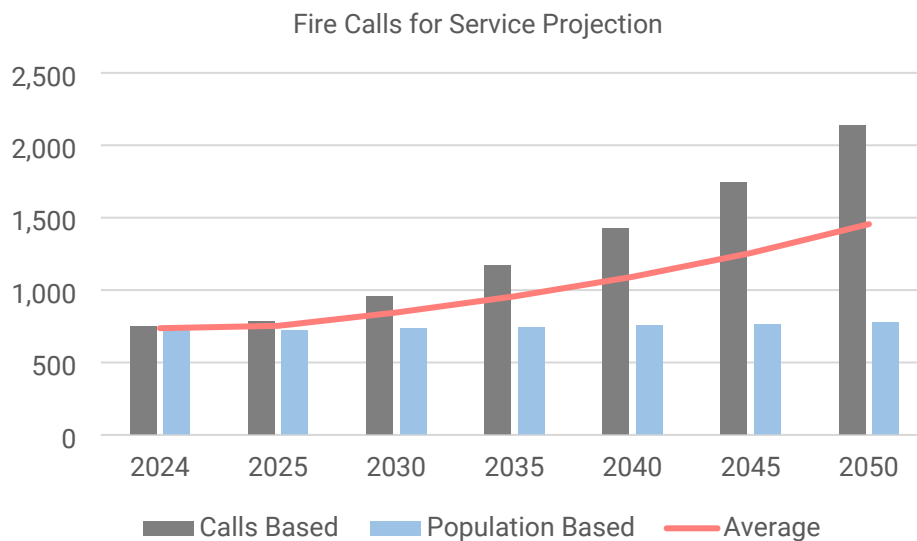
The blue-shaded area is designated as a business office and light industrial area, and the green-shaded area is a conservation area.

### Emergency Services Demand Projection

The growth management strategy has successfully limited residential growth, and the strain placed on city services. The impact of the focus areas on emergency service demand should be minimal. Based on the report, the residential areas will be designed to match the residential character along Owen Brown Street. The other places in the Downtown and YDC Focus areas are more retail and office spaces that will affect the Community Risk Reduction services more than the emergency services.

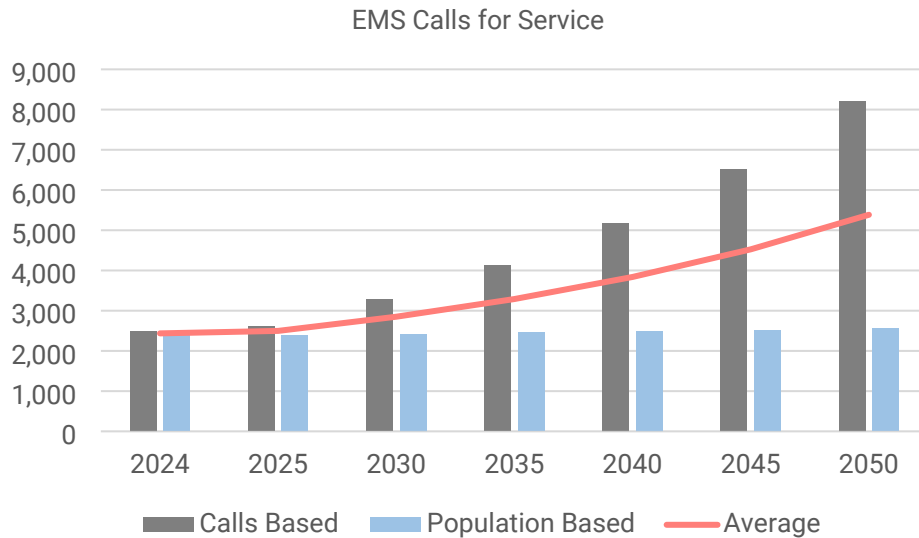
There was a significant drop in calls for service from 2019 to 2020, mainly due to the pandemic. Since then, the calls for service have been increasing. For the Hudson Fire Department, the calls for service have risen about 4.1% per year for the past three years. Another mechanism to measure and predict calls for service is using a per capita measurement. In 2022, the population is estimated at 23,005 residents. In 2023, there were 721 calls for service, meaning there were 0.031 calls for service per person. The

following chart illustrates the projected calls for service through 2050 on both a population and historical call increase basis.



As illustrated, the number of calls using a calls-based approach indicates that the call volume is projected to be 1,168 by 2035. Using the population-based approach, the call volume is projected to be 745 by 2035. The average between the two methods is 957 fire calls for service in 2035.

For the Hudson EMS Department, the calls for service have increased by about 4.7% per year for the past three years. In 2023, there were 2,377 calls for service, meaning there were 0.103 calls for service per person. Using the same methodology, the following chart illustrates the city's emergency medical calls for service.



As illustrated, the number of calls using a calls-based approach indicates that the call volume is projected to be 4,124 by 2035. Using the population-based approach, the call volume is projected to be 2,456 by 2035. The average between the two methods is 3.290 fire calls for service in 2035.

Given the wide range between the population-based and historical workload-based projections, the average forecast should be used to provide the best projection of calls for service. Emergency medical calls will continue to rise as our population ages. According to the US Census, the average age in the city has increased from 41.5 to 43.1 over the past twelve years. Additionally, the number of people in the 60-plus age demographic has increased from approximately 17% to approximately 25% in the same period.

## Emergency Services System Dynamics

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

Nationally, the National Fire Protection Association (NFPA), American Heart Association (AHA), United States Fire Administration (USFA), Underwriters Laboratories (UL), Factory Mutual (FM), National Institutes of Standards and Technology (NIST), and Insurance Services Office (ISO) have put considerable effort into data collection, analysis, and the eventual development of performance objectives for the delivery of fire, rescue, and emergency medical services (EMS). This effort is critical for local governments to decide on the deployment and location of emergency resources. The objectives promoted for emergency services providers have their basis derived from research that has been conducted on these two critical issues:

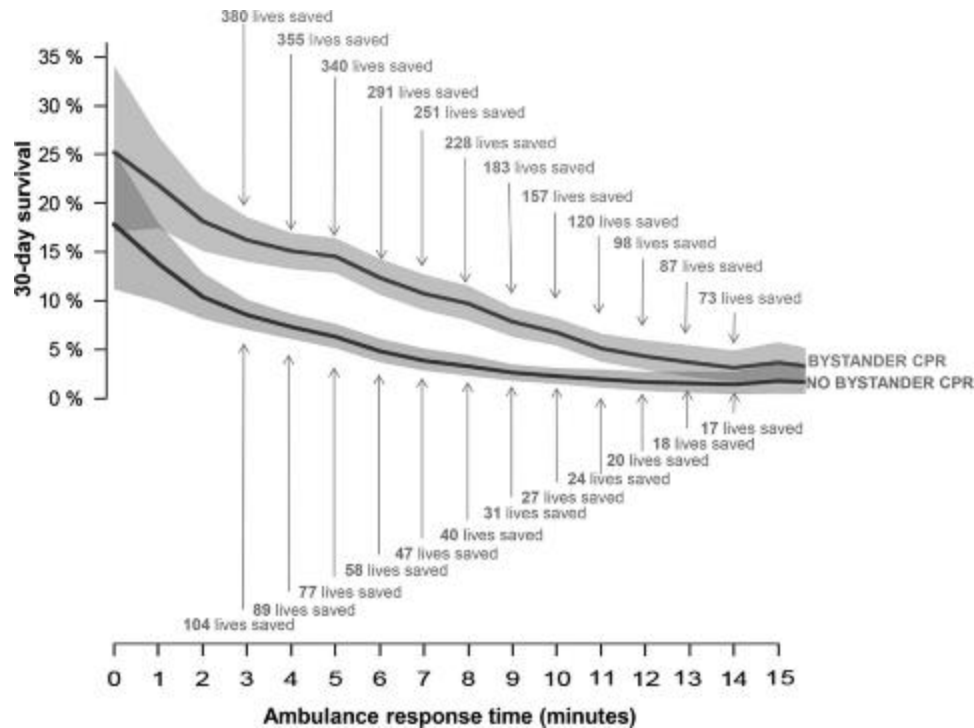
- What is the impact of the passage of time on survivability for victims of cardiac arrest?
- What is the key point in a fire's "life" for gaining control of the blaze while minimizing the impact on the structure of origin and those around it?

The following sections describe the decision points for these factors.

### Emergency Medical Services

The delivery of emergency medical services is a function of the emergency services system that must be considered. Emergency medical calls are rising in the City, and the types of calls are wide-ranging. However, as a part of a community's healthcare system, one of the primary factors in the design of the emergency medical response is the ability to deliver basic CPR and defibrillation to victims of cardiac arrest. A recent study involving 7,623 out-of-hospital cardiac arrest patients examined survival rates based on bystander

CPR and ambulance response times<sup>4</sup>. The study reinforces community-based CPR training and the response time for emergency services. The following chart illustrates the abrupt reduction in survival rates for each delayed minute.



The importance of rapid response times in emergency medical services (EMS), particularly in cases of sudden cardiac arrest, includes the following key points:

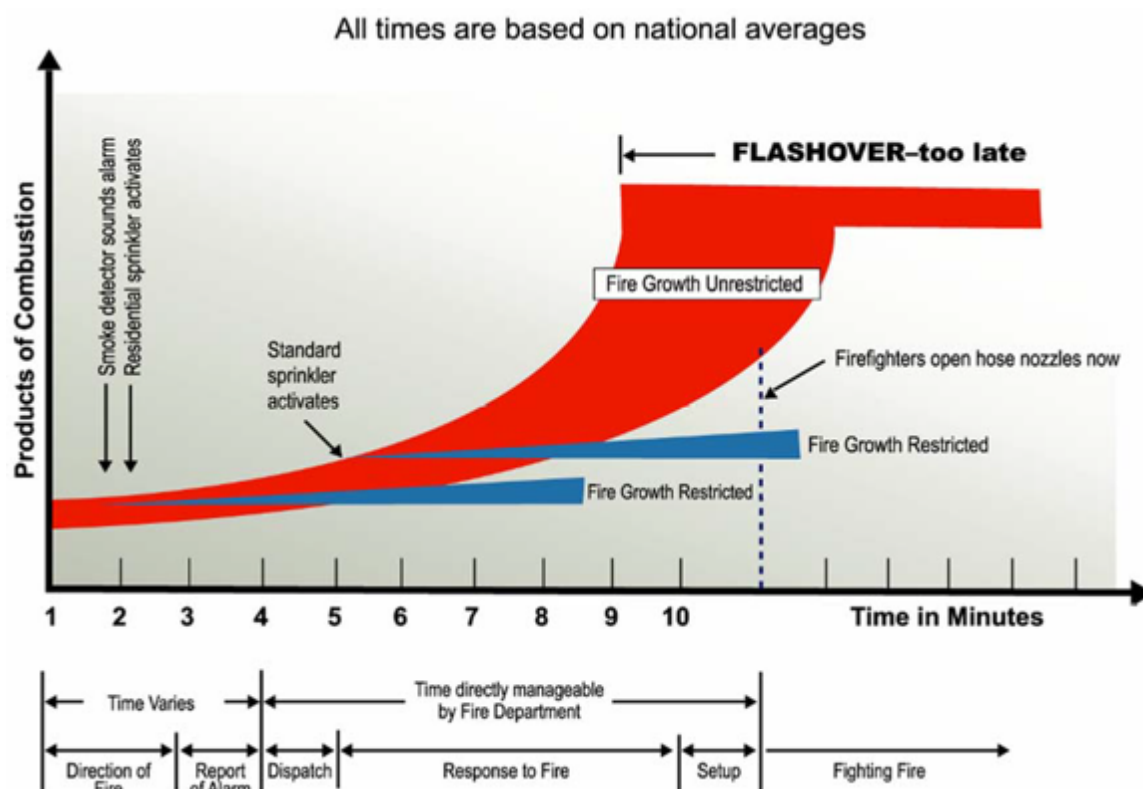
- Survival rates for cardiac arrest decrease by approximately 10% for each minute that passes before CPR and/or defibrillation is initiated.
- The recommended response times are within 4 minutes for basic life support (BLS) and 8 minutes for advanced life support (ALS).
- EMS aims to provide BLS within 6 minutes and ALS within 10 minutes of an incident, including detection, dispatch, and travel time. This forms the basis for a two-tier system in which fire resources act as first responders, with additional ALS assistance provided by ambulance units.

<sup>4</sup><https://www.ahajournals.org/doi/full/10.1161/circulationaha.116.024400#:~:text=The%20contrast%20in%2030%2Dday,higher%20associated%20with%20bystander%20CPR.>

- Recent research shows the significant impact of rapidly deploying automatic defibrillators (AEDs) to cardiac arrests, especially when combined with early CPR.
- However, these studies focus on a small fraction of EMS responses, as non-cardiac events make up most calls. The research does not address the need for rapid intervention in these cases.

## Fire Suppression Services

The following chart shows a typical “flashover” curve for interior structure fires based on NFPA, ISO, and NIST data. The point in time represented by the occurrence of “flashover” is critical because it defines when a room’s contents become involved in the fire. It is also the point at which a fire typically shifts from “room and contents” to a “structure” fire – involving a wider building area and posing a potential risk to the structures surrounding the fire’s original location.



Note that this illustration depicts a fire from the inception, not when a fire is detected or reported. It demonstrates the importance of early detection, fast reporting, and rapid dispatch of responding units. It 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. Key points include:

- Flashover is a critical stage in a fire where it becomes fully developed, and every combustible object is subject to the full impact of the fire.
- After flashover, effective search and rescue end, and only larger diameter fire hoses can control the blaze. The fire also transitions from a “contents” fire to a “structure” fire, increasing the risk of structural collapse.
- Not every fire reaches flashover, and it can be prevented or delayed by a quickly responding fire crew using techniques such as using a master stream device, ventilating the room, or not ventilating under certain circumstances.
- Access to interior fires can be limited by safety requirements related to staffing levels. For example, OSHA standards require at least two firefighters on the exterior of a building before entry can be made to a fire-contaminated structure unless there is an immediate threat to life.
- The Insurance Services Office (ISO) and the National Fire Protection Association (NFPA) provide information and guidelines for determining appropriate response objectives for communities. However, these guidelines must be adapted to each community's unique characteristics.

The following section examines the issue of response time.

## National Response Time Criteria

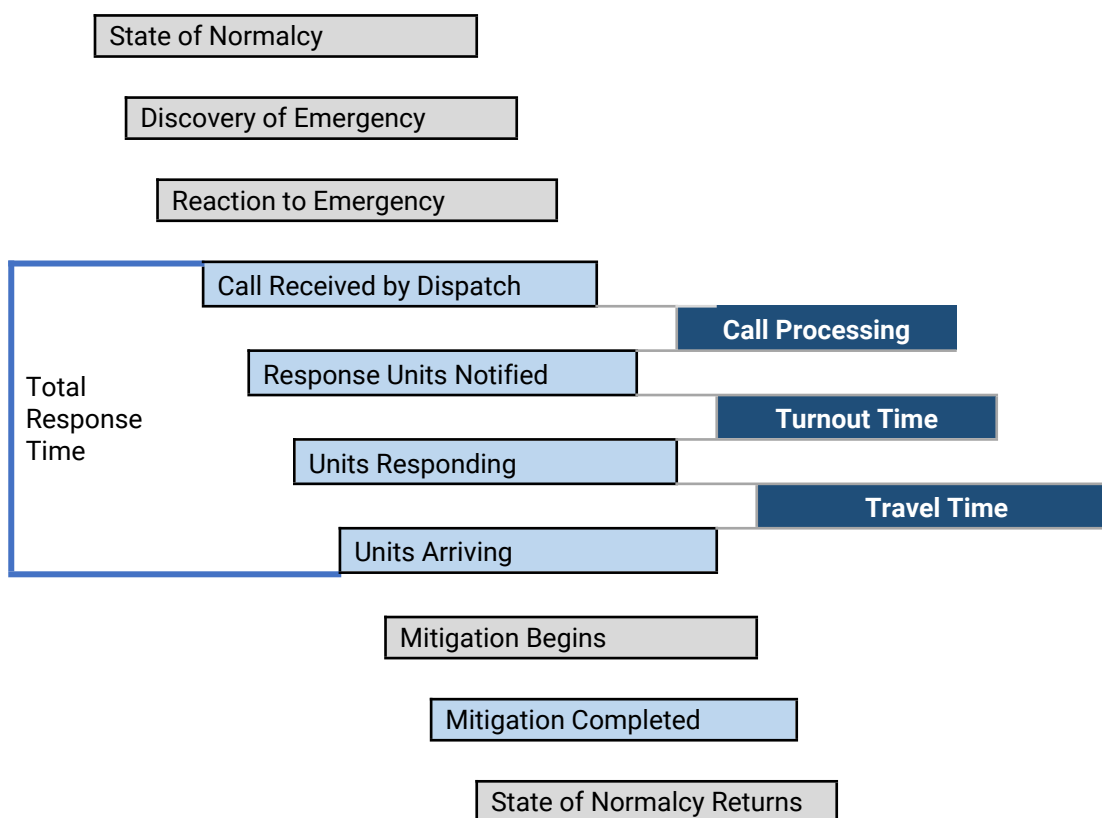
The expression of response time has changed. In years past, the measurement was expressed as an average of time. Using averages essentially represents how the emergency services system or department performs 50% of the time and is not a true reflection of how a fire department performs most of the time. With the research conducted in developing performance standards and practices, fractal time has become the best practice for measuring and presenting response time components. Fractal response time measures how often (as a percentage of calls) a department can perform within each response time component. The NFPA uses the 90<sup>th</sup> percentile as the standard to meet benchmark and baseline criteria. The definitions for baseline and benchmark performance follow.



- **Baseline performance** is what the agency is currently able to perform and is based on the performance of call processing, turnout time, and travel time over the previous four years.
- **Benchmark performance** is the agency's target performance level and should show what the agency is striving to perform based on community risk and expectations.

Response time to an emergency or call for service 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 occur once an emergency starts or is recognized. The highlighted points represent hard, quantitative data versus soft data, which is subjective and unknown.

### Response Time Continuum



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



represents 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 begins when the call taker answers the call and ends with dispatching appropriate emergency services.
- Turnout Time begins when the emergency service receives the dispatch notification and ends when personnel are 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 ending once at the location of the emergency (wheels stopped).

The National Fire Protection Association (NFPA) and the Insurance Services Office (ISO) offered reference points for communities to follow relative to fire service responses; however, only 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 offers any specificity. It is essential to note the performance objectives (in terms of response times) provided in the NFPA 1720 document are derived from the basic research previously described. The following table is from NFPA 1720, illustrating the response time and staffing for the response to structural fires.

Table 16: NFPA 1720 Response Time and Staffing

Demand Zone	Demographics	Minimum Staff	Response Time	Meets Objective
Urban	Greater than 1,000 per sq. mile	15	9 minutes	90%
Suburban Area	500 - 1,000 per sq. mile	10	10	80%
Rural Area	Less than 500 per sq. mile	6	14	80%
Remote Area	Travel Distance greater than / equal to 8 miles	4	Dependent on Travel Distance	90%

It is also important to note that these time objectives apply to emergency calls for service—nothing in the NFPA documents (nor any other objective) suggests that communities cannot establish a differential response to calls for service determined to be non-emergency.

It is critical to note that Appendix A, contained in 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 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 Hudson, is responsible for determining the level of service to be provided by the city. Considerations for the level of service include but are not limited to how the fire department responds, travel time, staffing, emergency calls versus non-emergency calls, roadways, financial resources, and calls involving different occupancies and demographics. The levels of service provided to the city should be written and documented so the residents know and understand the expectations of their emergency services system.

## Effective Response Force

Several tasks must co-occur to combat diverse types of fires adequately. The absence of adequate personnel to perform these tasks requires each task to be prioritized and completed chronologically. These fire ground tasks include command, scene safety, search and rescue, water supply, fire suppression, pump operations, ventilation, backup, and rapid intervention.

An initial full alarm assignment should be able to provide personnel, an effective response force (ERF), to accomplish the following tasks:

- Establish incident command outside the hazard area, allowing 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 pump operator can maintain the supply line to ensure an uninterrupted water supply. At least one person is assigned to this task who can then assume a support role.
- Establish an effective water flow rate of 300 gallons per minute, to be supplied to at least two hand lines, each operating at a minimum flow of 100 gallons per minute. Each hand line must have two individuals assigned, with one hand line as the suppression line and the other as a backup line.
- One support person will be provided to manage the hydrant hookup, utility control, and forcible entry and assist in deploying fire hose lines.
- Establish a search and rescue team. Each team will consist of a minimum of two personnel.
- Establish a ventilation team. Each team will consist of a minimum of two personnel.
- If an aerial ladder is used in the operations, one individual can function as an aerial operator.
- Establish an initial rapid intervention team (RIT). Each RIT team shall have at least two properly trained and equipped personnel.
- A total effective response force with a minimum of 16 (17 if an aerial ladder is in operation)

Critical tasks will vary depending on the size and nature of the incident. The previous list from NFPA 1710 provided the basis for the following tables to illustrate the minimum required personnel to mitigate the initial emergency response requirements by occupancy risk:

**Table 17: Critical Tasks for the Effective and Efficient Control of Structural Fires**

<b>Critical Task</b>	<b>Special Risk High-Rise (&gt; 75 ft access)</b>	<b>High Risk Apartment Building (3 story)</b>	<b>Moderate Risk Single-Family Residential (2,000 sq/ft)</b>	<b>Low Risk</b>
Attack Line	4	6	4	2
Search and Rescue	4	4	2	0
Ventilation	4	4	2	0
Backup Line	0	2	2	2
Rapid Intervention	4	4	2	0
Pump Operator	1	2	1	1
Water Supply/Support	1	1	1	1
Command	1	1	1	1
Safety Officer	1	1	1	1
Command Aid	1	1	0	0
Attack Line - Above Fire	2	0	0	0
Operations Chief	1	0	0	0
Logistics	2	0	0	0
Elevator Operations	1	0	0	0
Staging Officer	1	0	0	0
Rehabilitation	2	2	0	0
Medical Operations	4	0	0	0
Division Supervisors	4	0	0	0
High-rise Evacuation	4	0	0	0
Stairwell Support	0	0	0	0
<b>Total Personnel</b>	<b>42</b>	<b>28</b>	<b>16</b>	<b>8</b>

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

The concept of an ERF carries through to other response types by the fire department. The tables below outline the critical tasks for an ERF for those response types.

**Table 18: Critical Tasks for Hazardous Materials**

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

**Table 19: Critical Tasks for Initial Wildland Urban Interface Fires**

<b>Critical Task</b>	<b>No Hydrants</b>	<b>With Hydrants</b>
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
<b>Total Personnel</b>	<b>12</b>	<b>6</b>

**Table 20: Critical Tasks for Technical Rescue Operations**

<b>Critical Task</b>	<b>Swift Water</b>	<b>High/Low Angle</b>	<b>Confined Space</b>
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
<b>Total Personnel</b>	<b>14</b>	<b>14</b>	<b>14</b>

The previous tables demonstrate the personnel requirements for handling simple incidents involving hazardous materials, wildland-urban interface fires, and technical

search and rescue operations while acknowledging the complexity of these incidents will demand different staffing requirements. Each of the technical rescue incidents will require similar numbers of personnel or more depending on the complexity of the incident. Further, many positions require personnel to be certified in that discipline.

As with fire, hazardous materials, and technical search and rescue incidents, an ERF is needed to effectively and efficiently deliver EMS. A task analysis for emergency medical calls analyzes three types of calls or patient conditions. These three types of calls usually require the most effort from 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 assisting these critical patients and the number of responders it may require for a successful outcome. It is important to note that the same personnel accomplish some tasks, so the total is not a simple addition to the positions stated.

**Table 21: Critical Tasks for Effective Patient Care**

<b>Critical Task</b>	<b>Cardiac Arrest</b>	<b>Stroke</b>	<b>Multi-System Trauma</b>
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
<b>Total per Patient</b>	<b>6 - 8</b>	<b>5 - 7</b>	<b>6 - 8</b>

## Evaluation of the Emergency Services System

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This chapter compares and evaluates the Hudson Fire and EMS Department's current deployment and performance to the benchmark performance objectives outlined and described in the previous chapter.

### Response Time

Computer Aided Dispatch (CAD) data for 2019, 2020, 2021, 2022, and 2023 was evaluated. The data has 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 or EMS Department unit being dispatched to the call.
- Calls missing data are not used in the computations for call processing, turnout time, travel time, or call duration.
- Any calls with unusually long times or times sorted incorrectly (arrived before dispatch time) were removed.
- There are two interstate highways in Hudson with no interchanges or access from the City; calls to the interstate highways were removed.
- Only emergency responses are included; non-emergency calls removed include assist city department, code white – all department, hazardous condition calls, service calls, investigations, mutual aid, and special details.

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. With the pandemic in 2020, many departments and agencies had different experiences, from decreased call volumes to different types of calls and deviations in call times. Many of these same departments and agencies are now reporting their call volumes have increased significantly over pre-pandemic times. While these differences will interfere

with any trends, it is equally important to note how a global event can affect an emergency services system.

In some instances, fire calls for service are downgraded from an emergency response to a non-emergency response by the duty officer. The Fire Department requested a subsequent evaluation using the service calls they identified as an emergency response. It is important to note that this evaluation results in fewer calls being evaluated and does not align with the call coded as an emergency call in the CAD system. For this reason, the project team illustrates the fire department's performance from the data provided in the CAD and the calls identified by the fire department.<sup>5</sup> In the following sections, data using both methods are displayed.

## Call Processing

### Performance Standards

The Hudson Police Department provides police, fire, and emergency medical dispatch services to the City of Hudson. The NFPA 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems establishes the call processing benchmarks outlined in the chart below.

Table 22: NFPA 1221 Performance Objective

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	These types of calls are exempt from the call processing time illustrated above.	
* Technical Rescue		
* Text Message		
* Calls Received during a Disaster		
* Unable to Determine Location		

<sup>5</sup> Further evaluation of this methodology will be conducted with City Staff.



ISO uses the 60-second call processing time benchmark performance objective outlined in NFPA 1221 for their requirements. NFPA 1720 does not address call processing in any statements or reference NFPA 1221.

### System Performance

The tables below summarize the communications center's performance.

**Table 23: Call Processing Performance – EMS**

<b>All Emergency Calls – 90th Percentile Times</b>		<b>2019 - 2023</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>NFPA</b>
Call Processing	Pick-up to Dispatch	2:19	2:32	2:45	2:14	2:17	1:49	1:00

Over five years, the communications center has processed emergency calls in 2 minutes and 19 seconds for 90% of the emergency calls handled for the EMS department.

**Table 24: Call Processing Performance – Fire**

<b>All Emergency Calls – 90th Percentile Times</b>		<b>2019 - 2023</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>NFPA</b>
		<b>CAD Data</b>						
Call Processing	Pick-up to Dispatch	2:09	2:08	2:17	2:09	2:24	1:46	1:00
Number of Calls		925	287	220	133	154	131	
		<b>Fire Department Data</b>						
Call Processing	Pick-up to Dispatch	2:06	1:43	2:42	2:05	2:07	1:27	1:00
Number of Calls		273	66	64	62	64	48	

The previous table illustrates two methodologies. The CAD data contains calls categorized as emergency calls when they were initially received using the previously noted filtering mechanisms. The fire department data contains calls categorized as emergency responses by the fire department.

### Improvement Opportunities

As noted, the Hudson Police Department dispatches the EMS, Fire, and Police Departments. Call processing time has consistently been between 1 minute and 30 seconds and 2 minutes for the past five years, exceeding the benchmark performance objective of NFPA 1221 (recently combined with NFPA 1225).

Other factors related to the overall performance of a dispatch center need to be considered in the call-taking process. These include staffing and technology limitations.

The NFPA commissioned a study in November 2022 to examine call processing times and noted: “. . . staffing limitations, insufficient funding, and technological issues/limitations as the common concerns for PSAPs.” The study found “. . . an analysis of the existing data of this study reveals that PSAPs are generally unable to process calls within the time prescribed by NFPA 1225. In this study, PSAPs could only achieve the minimum time standards set by NFPA 1225, 40-50 percent of the time.”<sup>6</sup>

A passage in NFPA 1710 acknowledges the authority having jurisdiction (AHJ), the City of Hudson, as the party responsible for determining the level of service to be provided. The same methodology regarding call processing can be applied to the Hudson Communications Center.

### **RECOMMENDATIONS**

- The Hudson Fire and EMS Department should work with the Hudson Police Department to establish benchmark performance objectives for processing emergency calls for service.
- Ensure fire and EMS department personnel communicate correctly with the communications center.
- Establish a mechanism to review the communication center's performance and assess methods to improve performance.

## **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). The following tables compare the four models for benchmark performance objectives.

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<sup>6</sup><https://www.nfpa.org/News-and-Research/Publications-and-media/Blogs-Landing-Page/NFPA-Today/Blog-Posts/2023/01/23/How-Long-Does-It-Take-for-your-911-Call-to-Be-Answered#:~:text=The%202022>

**Table 25: Turnout Time – Benchmark Performance Objectives**

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

\*Only applies to staffed stations or units

### System Performance

Turnout time in the following table is for staffed units only.

**Table 26: Staffed Units Turnout Time Performance**

All Emergency Calls – 90th Percentile Times			2019 – 2023	2019	2020	2021	2022	2023	NFPA
Turnout Time	1st Unit	Medical Units	2:26	2:42	2:41	2:23	2:15	2:16	1:00

The baseline time shown is the 90<sup>th</sup> fractal time for all emergency calls. The medical units are the only station-staffed units in the emergency services system.

The following table illustrates the turnout times for the Duty Chief and the suppression units.

**Table 27: Unstaffed Units Turnout Time Performance**

All Emergency Calls – 90th Percentile Times			2019 – 2023	2019	2020	2021	2022	2023	NFPA
Turnout Time	1st Unit	Duty Chief	2:59	3:02	3:01	3:11	2:52	2:39	1:00
		Suppression Units	8:30	8:49	8:03	9:08	8:49	7:59	1:30

In Hudson, Car 1 is considered the Duty Chief responding from home in a fire department vehicle. The suppression units located in the fire station are unstaffed. With the Duty Chief responding from home, the turnout time is similar to that of a staffed unit. The intent of illustrating unstaffed units is to demonstrate how the overall response time could improve by staffing fire apparatus in the station. The volunteer response system in Hudson utilizes personnel responding from home to the fire station to get the apparatus before responding to the call for service. The apparatus does not respond to emergencies until minimum staffing requirements are met. This extends the turnout time, which is expected of this staffing model. It is shown here to contrast the expected performance timelines of the two staffing models.

## Improvement Opportunities

Several factors will influence the turnout time for the apparatus, including the station layout. Such considerations include stairs, a policy for signaling enroute, opening the bay doors, gathering response information, and the personal protective gear that must be donned. Numerous national discussions have also been about measuring turnout time related to the benchmark times. These discussions have centered around the ability of the personnel to safely disengage from non-emergency tasks and move to an emergency response. NFPA 1720 has a turnout time performance benchmark for staffed stations only. For Hudson, the only staffed units are those for the emergency medical service response units. The following table illustrates the turnout time for the EMS units (staffed units) and fire units (unstaffed units).

Table 28: Turnout Time Comparison

<b>All Emergency Calls – 90th Percentile Times</b>		<b>2019 - 2023</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
<b>CAD Data</b>							
Turnout Time	Medic 1	2:45	3:04	2:57	2:41	2:34	2:36
	Car 1	2:43	3:02	2:51	2:38	2:27	2:31
	Engine 13	8:36	8:49	8:31	9:51	8:43	8:00
	Engine 14	8:18	8:46	8:50	8:42	8:53	9:44
<b>Fire Department Data</b>							
Turnout Time	Medic 1	2:45	3:04	2:57	2:41	2:34	2:36
	Car 1	3:09	3:35	3:31	3:06	2:44	2:50
	Engine 13	8:58	9:36	8:58	9:14	8:21	8:29
	Engine 14	10:51	10:49	12:14	11:59	11:49	11:33

Both methodologies are illustrated in the previous table. The CAD data contains those calls categorized as emergency calls when the call was received using the previously noted filtering mechanisms. The fire department data contains those calls categorized as emergency responses by the fire department.

For unstaffed apparatus, the turnout time is based on the volunteer personnel's availability and location relative to the fire station. Volunteer personnel are usually not at the station and respond to the station once a call is received. These personnel may be at home or elsewhere in the city, impacting the apparatus's turnout time.

Within the NFPA 1710, a passage acknowledges the authority having jurisdiction (AHJ), the City of Hudson, as the responsible party to determine the level of service to be

provided. That same methodology can be applied to the Hudson Fire and EMS regarding turnout time. While the discussion of turnout time continues, the turnout time is a baseline using the same principles as the baseline travel time or 70% of the benchmark time. For example, the benchmark time of 60 seconds for medical calls would have a baseline time of 78 seconds. The benchmark time is 90 seconds for fire-related calls and would have a baseline time of 117 seconds or 1 minute and 57 seconds.

Hudson does not have a benchmark performance objective for turnout time for staffed units. This objective should be established to inform staff about Hudson's expectations for their performance.

### ***RECOMMENDATIONS:***

- Establish a benchmark turnout time performance objective of 1 minute and 30 seconds for emergency calls for staffed companies.
- Continue to monitor the turnout time for the staffed companies.
- Establish a standard operating procedure for when a unit is to place itself enroute.

## **Distribution of Resources**

Distribution is the measure of getting initial resources to an emergency to begin mitigation efforts. This is measured in various 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 at the emergency location (wheels stopped). It is the most appropriate measurement available for the distribution of resources and has a proven record of success. The following table analyzes the travel time dynamics of the emergency services system.

**Table 29: First Arriving Benchmark Performance Objectives**

<b>Demand Zone</b>	<b>Demographics</b>	<b>NFPA 1710</b>	<b>NFPA 1720</b>	<b>ISO</b>
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
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
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
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

Several notable items are contained in the previous table. First, NFPA 1720 does not address the first arriving unit as it only addresses the arrival of the complete response, which does not lend itself to any resource distribution performance. NFPA 1710 does not address the various demographics or population densities. ISO only addresses the built-upon area, defined as those with available fire hydrants.

**System Performance**

The following tables illustrate travel time for EMS Calls and Fire Calls. The EMS Call data only uses EMS Units, while the Fire Call data only uses fire units.

**Table 30: Travel Time Performance - EMS**

<b>All Emergency Calls – 90th Percentile Times</b>		<b>2019 – 2023</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
Travel Time	1st Unit – Distribution	7:03	6:47	7:02	7:10	7:06	7:07

**Table 31: Travel Time Performance - Fire**

<b>All Emergency Calls – 90th Percentile Times</b>		<b>2019 - 2023</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
<b>CAD Data</b>							
Travel Time	1st Unit – Distribution	7:53	9:02	7:26	7:14	7:17	7:04
	Number of Calls	1,766	462	357	304	346	297
<b>Fire Department Data</b>							
Travel Time	1st Unit – Distribution	5:19	4:44	4:58	5:23	5:22	5:58
	Number of Calls	273	66	64	62	64	48

Both methodologies are illustrated in the previous table. The CAD data contains those calls categorized as emergency calls when the call was received using the previously noted filtering mechanisms. The fire department data contains those calls categorized as emergency responses by the fire department.

The travel time calculation is the difference between the recorded enroute time and arrival time.

### Improvement Opportunities

As noted, distribution is the measure of getting initial resources to an emergency to begin mitigation efforts. With the advent of GIS technology and improved computer-aided dispatch (CAD) systems, actual travel time is another more accurate measure for the distribution of resources. However, travel time is a time and distance measurement with few controllable parts, as fire stations are used as stationery points.

To customize the response to calls for service, Hudson will need to establish benchmark performance objectives based on the city's demographics. Unfortunately, NFPA 1710 does not address any demographic data in its travel time requirements, and NFPA 1720 does not address the initial response to calls for service. The Center for Public Safety Excellence model provides guidance for performance objectives, including acceptable travel time for various demographics.<sup>7</sup> The following table is used to analyze the travel time dynamics of the emergency services system.

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<sup>7</sup> Fire and Emergency Service Self-Assessment Manual, 8<sup>th</sup> Edition

**Table 32: Service Area/Population Density Travel Time Objectives**

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

For this analysis, the acceptable travel time performance objectives in the previous table will be used as these objectives address first-arriving resources and varying demographics.

The roadway network in Hudson presents a unique challenge to delivering emergency services. The following table highlights the city's primary roadways.

**Table 33: Primary Roadways in Hudson**

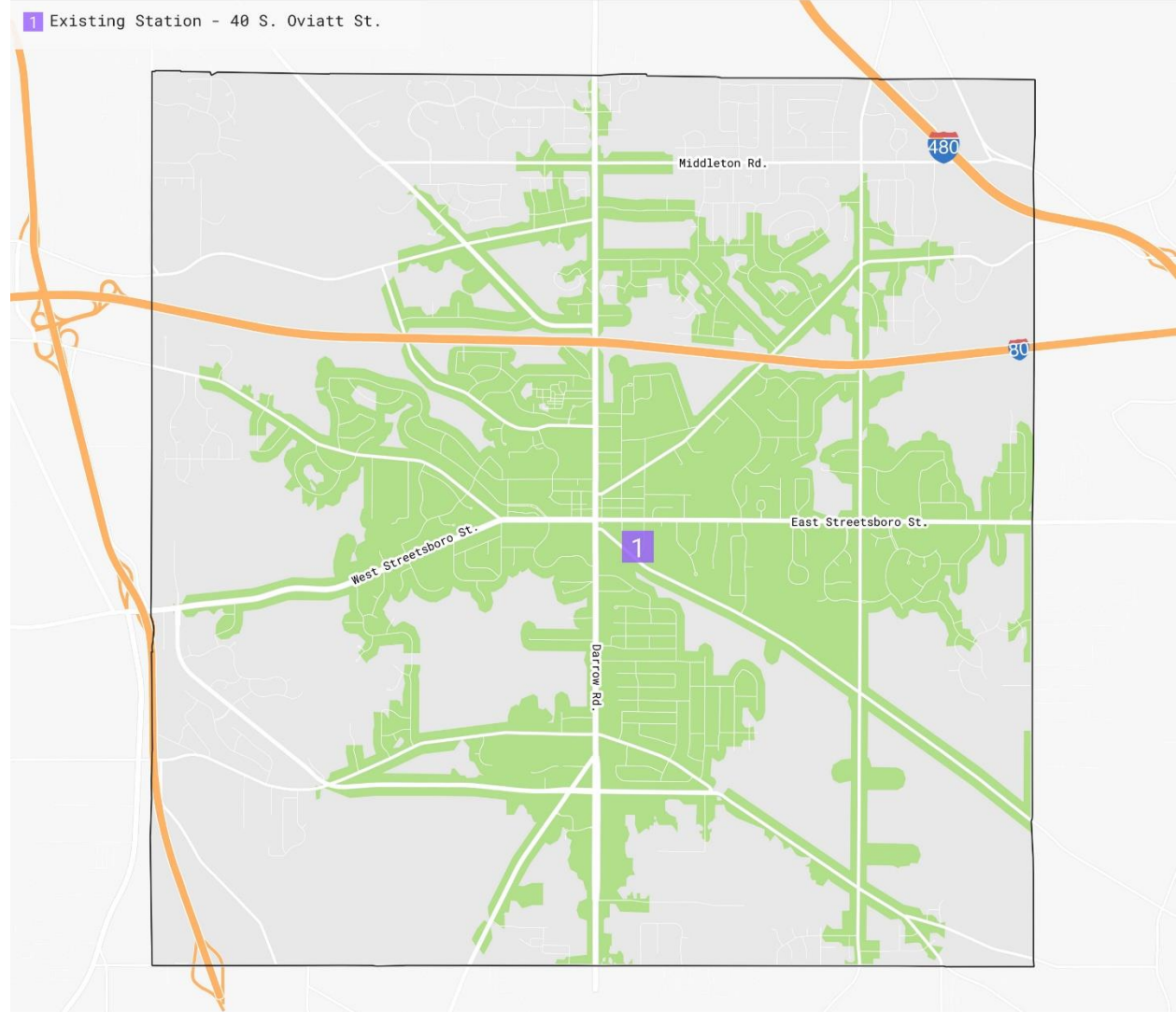
<b>East-to-West Travel Routes</b>			
Streetsboro Street (303)	Middle section of the city.	East city limits to west city limits	Predominately a two-lane road with minimal curves
Terex Road	Southern section of the city	West city limits @ W Streetsboro Road to east city limits via Barlow Road	A two-lane road with a few curves.
Middleton Road	The northern section of the city.	East city limits to Valley View Road	Two-lane road with minimal curves.
<b>North to South Travel Routes</b>			
Darrow Road	Middle section of the city.	South city limits to north city limits.	Predominately two-lane road with no curves.
Stow Road	East section of the city.	South city limits to north city limits.	Two-lane road with no curves.

The Ohio Turnpike, also designated as I-80, serves as an east-west thoroughfare traversing the northern part of the city. The turnpike has no public interchanges within the city limits and provides only four access points between its southern and northern



sections. In addition to the roadway network, several large open areas include Maple Grove Park and open waterways and lakes. The following map illustrates the travel time for the existing station using the baseline travel time of 6 minutes and 30 seconds, as outlined in Table 32.

### Drive Time Coverage: 6 Minutes 30 Seconds

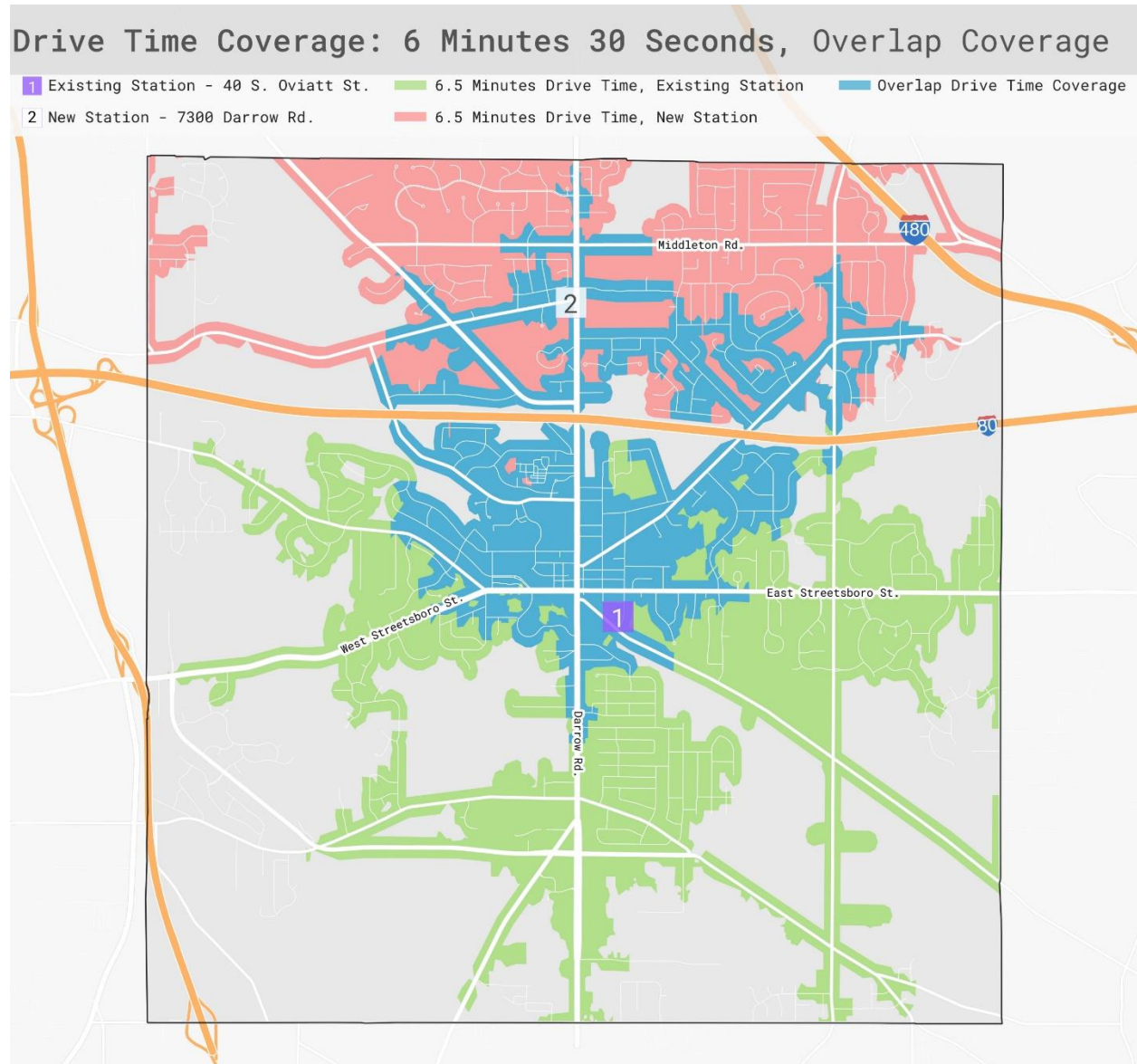


	Existing	
Coverage (Sq Mi)	9.56	37.3%
Estimated Population	10,068	43.8%

As illustrated, travel time to the city's northern section is somewhat limited due to the lack of access across I-80. Improving access to the northern area will require a second station.

### Distribution Option 1

The following map illustrates the travel time with a second station in the city's northern section.



	Existing		Option 1	
Coverage (Sq Mi)	9.56	37.3%	13.29	50.5%
Estimated Population	10,068	43.8%	13,562	59.0%

The newly established station, designated as Station 2, is situated at 7300 Darrow Road and has an associated travel time of 6 minutes and 30 seconds. Several key points can be derived from this illustration.

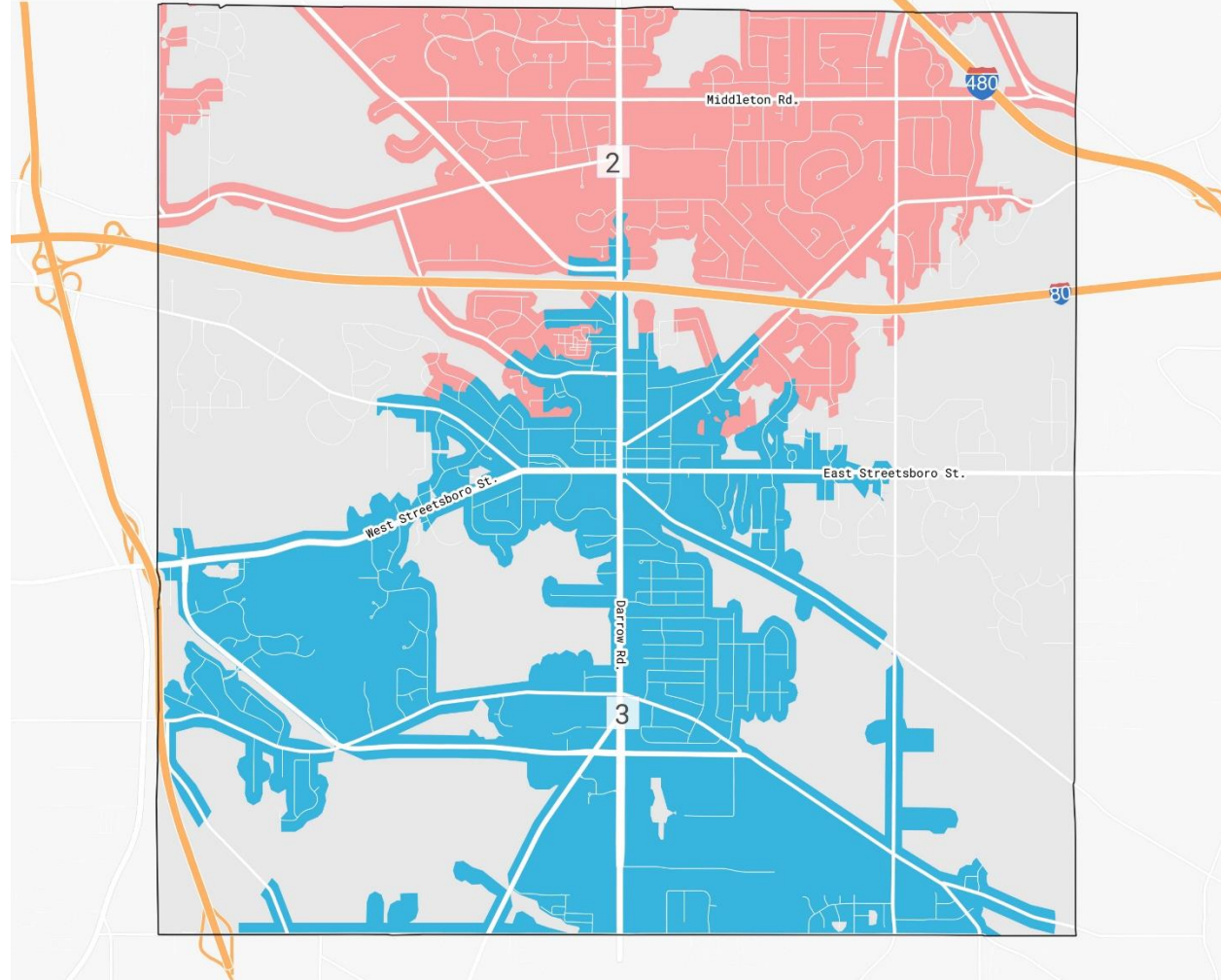
- The blue shaded area represents the overlap of the travel time from each station. This area has a higher population density and will likely need more resources.
- As noted, Station 2 provides additional coverage to the northern section, especially north of the Ohio Turnpike.
- Station 1 remains in the same location.
- Station 2 increases the area covered by approximately 13% and the population by about 15%.

### Distribution Option 2

Another two-station option is to move Station 1 further south, with Station 2 added north. The following map illustrates this scenario.

### Drive Time Coverage: 6 Minutes 30 Seconds

- 2 New Station - 7300 Darrow Rd.
- 3 New Station - 5715 Darrow Rd.



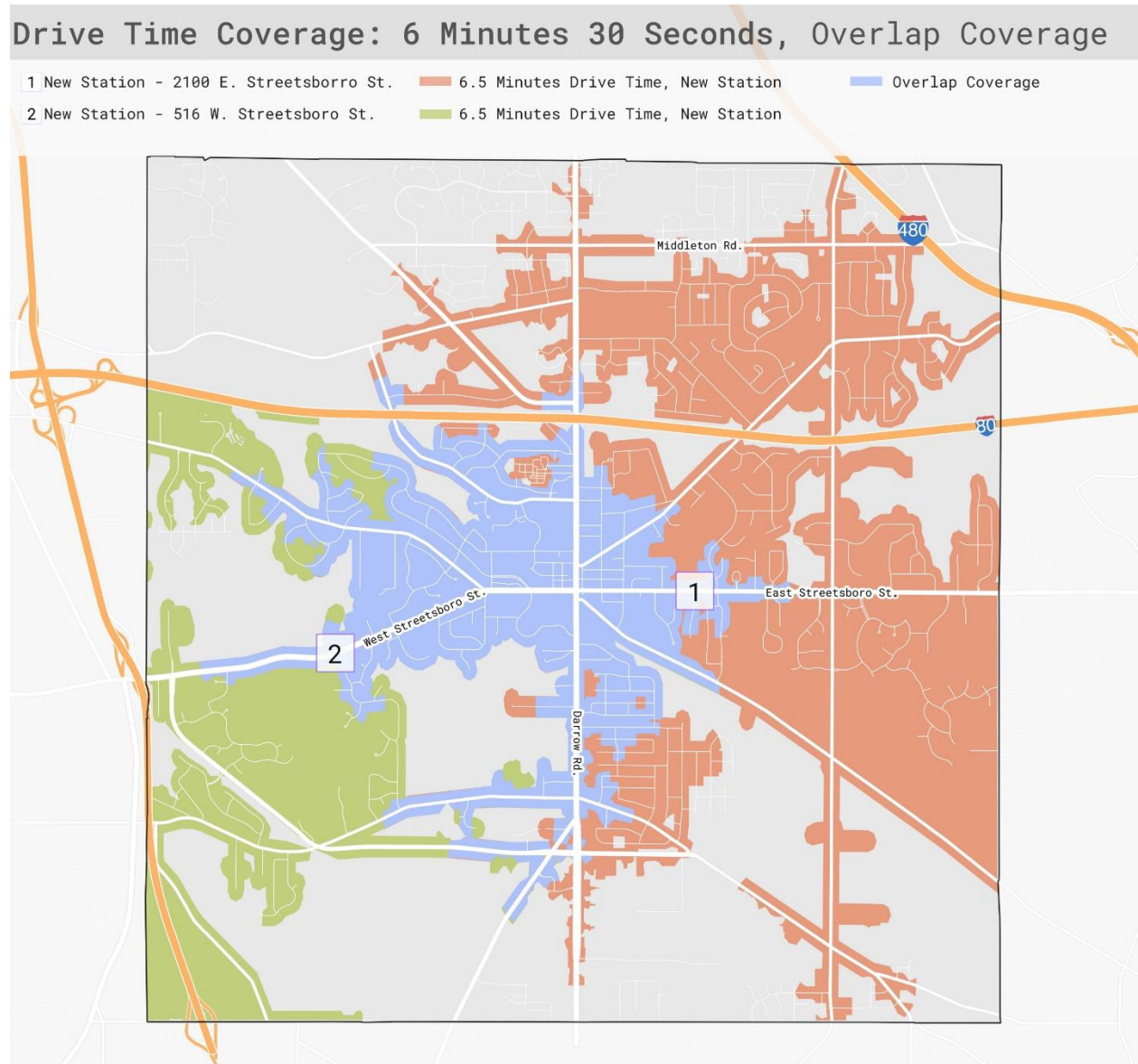
	Existing		Option 2	
Coverage (Sq Mi)	9.56	37.3%	13.45	52.5%
Estimated Population	10,068	43.8%	13,045	56.8%

On this map, Station 3 represents the relocated station from 40 S. Oviatt Street to 5715 Darrow Road, and Station 2 is located at 7300 Darrow Road. The roadway network creates obstacles in moving resources to the east and west. With the stations located in this configuration, the travel time polygons create an hourglass effect.



### Distribution Option 3

Another two-station option is to move Station 1 to the west and add Station 2 to the east. The following map illustrates this scenario.

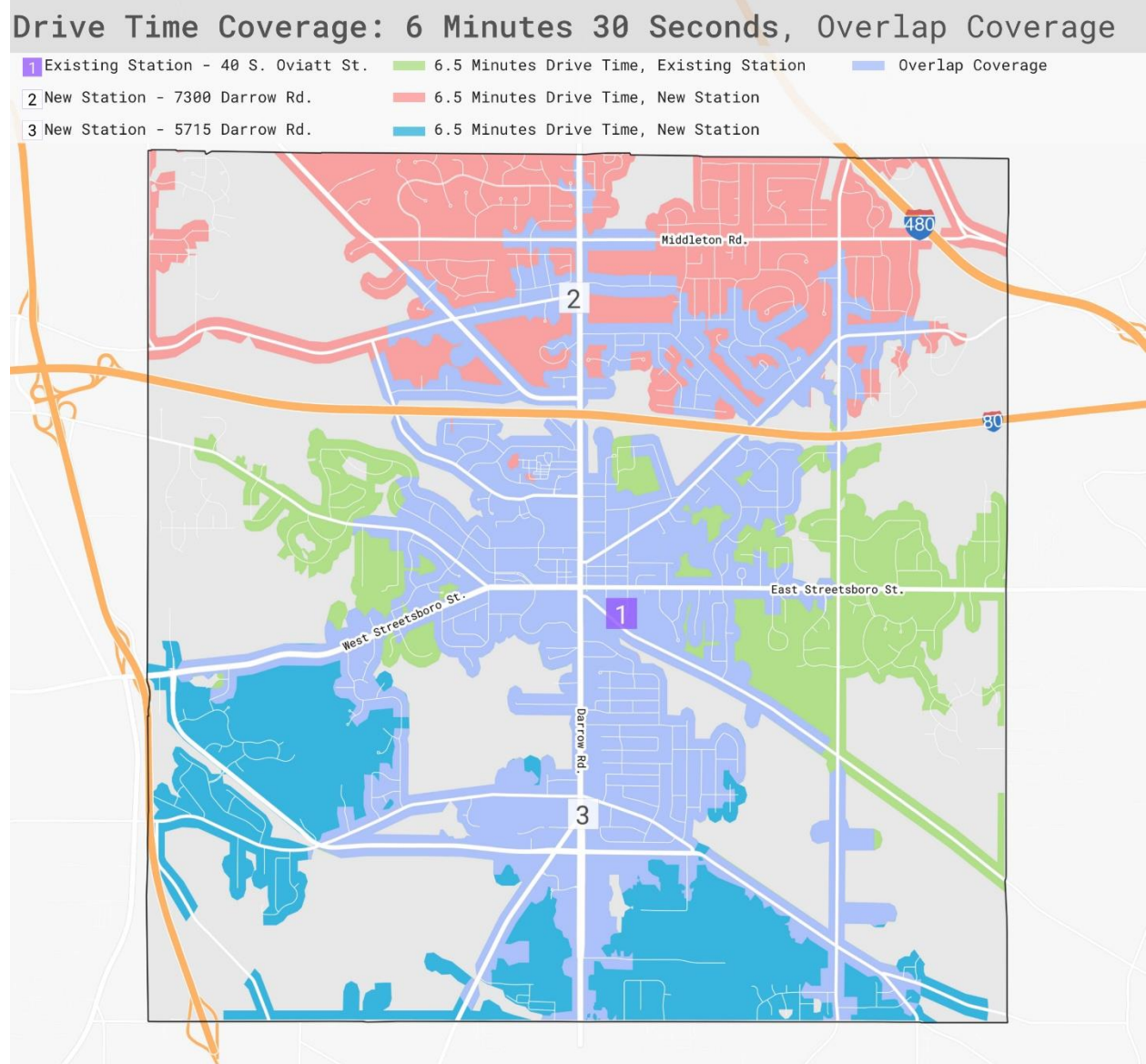


	Existing		Option 3	
Coverage (Sq Mi)	9.56	37.3%	13.29	51.9%
Estimated Population	10,068	43.8%	13,156	57.3%

This option improves the east/west issue but leaves the northern section, north of I-80, with a large gap, including the YDC Focus area. Moving to this option reduces the coverage in the city's southern section.

### Distribution Option 4

A fourth option involves using three stations: the existing station, a north station, and a south station. The following map illustrates this scenario.



	Existing		Option 4	
Coverage (Sq Mi)	9.56	37.3%	15.82	61.7%
Estimated Population	10,068	43.8%	15,384	57.0%

This option improves coverage in the city's southern section and takes advantage of Terex Road to reach the far west section of the city.

In all the scenarios, the existing station is in a good location to provide service to the city's central core up to the I-80 corridor. The area north of the I-80 corridor presents an issue for access through the four access points noted previously. A second station in the area of 7300 Darrow would improve the response to calls for service in this area. The trigger point for building the north station would be the development in the YDC Focus area. Once the work begins for this development, the north station should be added to the emergency services system.

### **RECOMMENDATIONS**

- Establish a benchmark travel time performance objective for 6 minutes and 30 seconds for emergency calls.
- Continue to use the site at 40 South Oviatt Street as the location of Station 1.
- Once the development of the YDC Focus area begins, add a second fire station in the area of 7300 Darrow Road.

### **Concentration of Resources**

The concentration of resources is generally described as the ability of the fire department to get the appropriate number of personnel and resources to the scene of an emergency within a prescribed time to mitigate the incident effectively. The effective response force is based on the critical tasks outlined in the previous chapter and depends on the type of incident.

### **Performance Standards**

The concentration component has two segments: travel time and the personnel for the first alarm assignment. The following table summarizes the differing viewpoints on the travel time for the arrival of an effective response force.

**Table 34: First Alarm Assignment - Benchmark Performance Objectives**

<b>Demand Zone</b>	<b>Demographics</b>	<b>NFPA 1720</b>	<b>ISO</b>
Urban	Greater than 1,000 per sq. mile	7 minutes and 30 seconds or less 90% of the time	No time or mileage requirement
Suburban	500 - 1,000 per sq. mile	8 minutes and 30 seconds or less 80% of the time	No time or mileage requirement
Rural Area	Less than 500 per sq. mile	12 minutes and 30 seconds or less 80% of the time	No time or mileage requirement
Remote Area	Travel Distance greater than / equal to 8 miles	Dependent on travel distance	No time or mileage requirement

The travel time shown for NFPA 1720 is derived by subtracting the turnout time for staffed stations or units. The following table summarizes NFPA and ISO standards for the number of personnel arriving for a first alarm assignment for a single-family dwelling.

**Table 35: First Alarm Assignment - Recommended Personnel**

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

ISO does not specify the number of personnel expected or anticipated to arrive and instead provides points for the personnel, meaning the more on-duty personnel there are, the more points are added to the overall evaluation. In terms of on-duty personnel, ISO uses a ratio of three on-call staff to one in-station staff member. NFPA 1720 based its effective response force on an Ontario Fire Marshal's Office report published in 1993.

### System Performance

The data used were from 2019, 2020, 2021, 2022, and 2023. 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. For purposes of staffing, Hudson apparatus are



staffed with four personnel each. Chief officers were staffed with one personnel and emergency medical services units are not considered a part of the response.

## NFPA 1720

NFPA 1720 does not provide a travel time component for the arrival of an effective response force. Likewise, the number of personnel to create an effective response is established at 10 personnel, and the measurement is at 80%. The following table summarizes the response time of the first unit and the remaining first alarm assignment for the fire department. Response time is defined as the time from the time of dispatch until the resources arrive.

**Table 36: NFPA 1720 Concentration Response Time Performance**

Structure Fires – 80th Percentile Times		2019 - 2023	Number of Calls	NFPA 1720
Response Time	1 <sup>st</sup> Unit – Distribution	7:27	50	NR
	Concentration (ERF 10)	14:57	24	10:00

Statistically, these travel times use a small data set and should be viewed with a certain amount of skepticism.

For 80% of the structure fire calls, the first unit arrived 7 minutes and 33 seconds after the call was dispatched. The effective response force of 10 personnel arrived 14 minutes and 57 seconds after the call was dispatched, 4 minutes and 57 seconds over the benchmark performance objective.

### Improvement Opportunities

The analysis of the response to structure fires included all structure fires, as designated in the CAD data. As well, the number of structure fires is significantly less than the total call volume, and therefore, the results should be viewed with a certain amount of skepticism. The CAD data contained no response data from mutual aid partners such as Valley Fire District, Streetsboro, Twinsburg, or Stow. The response model for Hudson includes two engine companies, a truck company, and a rescue that responds with 4 personnel each for a total of 16 personnel. As noted, the volunteer staffing model does not guarantee that all apparatuses will be capable of responding, and the number of personnel may vary. The fire department should continue to use the automatic and mutual aid system in Summit County.

### **RECOMMENDATIONS:**

- Continue to use the volunteer staffing model to create an effective response force.

- Continue to develop relationships with automatic and mutual aid partners as necessary to deliver services in the Fire District.

- Create a method to monitor and report the travel time component at least annually.

## System Reliability

Other contributing factors, including unit utilization and concurrent calls for service, can influence the distribution and concentration of resources.

### Unit Utilization

Unit utilization is another factor in determining whether there is an appropriate emergency services response. Unit 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 it is available. The committed time can impact meeting the standard within the 80th and 90th percentile performance standards framework. If utilization rates are too high, the units are often unavailable for immediate response.

In 2016, Henrico County, Virginia, conducted a study of unit utilization. Through their research, they developed a scale to identify the community impact on travel time and availability of their emergency medical units.<sup>8</sup>

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<sup>8</sup> <https://www.fireengineering.com/apparatus-equipment/how-busy-is-busy/#gref>

**Table 37: Henrico County Unit Utilization Impact**

<b>Factor</b>	<b>Indicator</b>	<b>Description</b>
16% to 24%	Ideal Commitment Range	Personnel can maintain training requirements and physical fitness and can consistently achieve response time benchmarks. Units are available to the community more than 75 percent of the day. Units below 0.16 should be evaluated for more efficient use as additional operating capacity is available.
25%	System Stress	Community availability and unit sustainability are not questioned. First-due units are responding to their assigned community 75 percent of the time, and response benchmarks are rarely missed. At this level, agency leaders must understand that commitment factor increases are imminent. The community this unit serves will begin to see increasingly longer response times as neighboring stations send apparatus during one out of four calls.
26% to 29%	Evaluation Range	In this range, the community served will experience delayed incident responses. Just under 30 percent of the day, first-due ambulances are unavailable; thus, neighboring responders will likely exceed goals. Agency leadership should immediately begin identifying funding sources to provide relief. At this range, commitment factors are only expected to increase.
30% or more	Line in the Sand	Not Sustainable: Commitment Threshold – shows our community has less than a 70 percent chance of timely emergency service and immediate relief is vital. Personnel assigned to units at or exceeding 0.3 may show signs of fatigue and burnout and may be at increased risk of errors. Required training and physical fitness sessions are not consistently completed.

The following table illustrates the unit utilization for the medic units for the past five years.

**Table 38: Unit Utilization for Medic Units**

Unit	2019			2020			2021		
	Duration	Pct. of Time	Avg.	Duration	Pct. of Time	Avg.	Duration	Pct. of Time	Avg.
<b>Medic 1</b>	1601:04:38	18.3%	0:59:07	1444:50:51	16.5%	0:58:11	1728:04:38	19.7%	1:00:57
<b>Chase 1</b>	673:10:04	7.7%	0:22:46	587:59:15	6.7%	0:21:55	696:24:19	7.9%	0:21:42
<b>Medic 2</b>	453:18:12	5.2%	0:21:16	393:38:19	4.5%	0:21:04	489:59:05	5.6%	0:22:11
<b>Medic 3</b>	28:36:20	0.3%	0:35:02	21:07:48	0.2%	0:23:29	55:58:30	0.6%	0:10:44
	2022			2023					
	Duration	Pct. of Time	Avg.	Duration	Pct. of Time	Avg.			
<b>Medic 1</b>	1757:32:34	20.1%	0:55:07	1882:50:37	21.5%	1:01:28			
<b>Chase 1</b>	791:32:16	9.0%	0:21:55	856:44:26	9.8%	0:23:53			
<b>Medic 2</b>	566:39:22	6.5%	0:18:47	637:07:07	7.3%	0:20:23			
<b>Medic 3</b>	41:36:44	0.5%	0:23:20	49:44:54	0.6%	0:05:59			

Medic 1 is the most active in terms of committed time. During 2023, Medic 1 was committed approximately 22% of the time, and Medic 2 was committed about 7% of the time. The medic units are at or under the ideal commitment range based on the Henrico County scale. Chase 1 was committed about 10% of the time in 2023. There was a large increase between 2020 and 2021 largely attributed to the pandemic, as many EMS services in the nation experienced a drop in calls in 2020, only to increase in 2021.

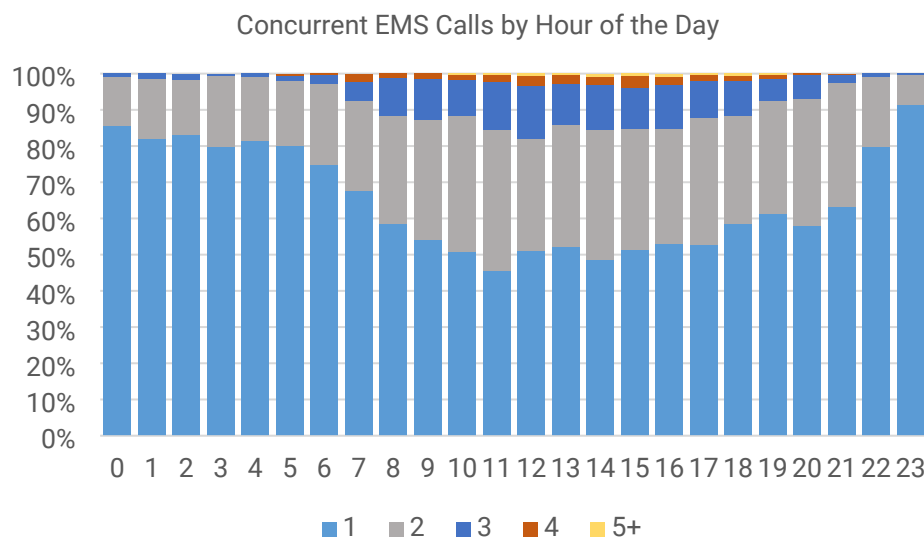
### Concurrent Calls

It is common for an emergency services system to have multiple requests for service occurring simultaneously. The larger the system, the more frequently this will happen. With the appropriate resources, this can be handled efficiently. The following tables summarize the number of concurrent calls for the emergency services system for the past five years.

**Table 39: EMS Concurrent Calls for Service**

Calls	2019	2020	2021	2022	2023	Total	%
1	1,239	1,141	1,283	1,424	1,318	6,405	59.7%
2	584	514	604	733	784	3,219	30.0%
3	155	127	201	200	227	910	8.5%
4	20	20	30	44	42	156	1.5%
5	3	6	6	7	6	28	0.3%
6+				4		4	0.0%
<b>Total</b>	<b>2,001</b>	<b>1,808</b>	<b>2,124</b>	<b>2,412</b>	<b>2,377</b>	<b>10,722</b>	<b>100%</b>

Over the past five years, about 30% of the time, two EMS calls occurred simultaneously, and about 9% of the time, there were three simultaneous EMS calls. The following chart provide a view of concurrent calls by hour of the day.



Concurrent EMS calls occur more frequently during the daytime hours from about 8 a.m. to 6 p.m.

**Table 40: Fire Concurrent Calls for Service**

<b>Calls</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>Total</b>	<b>%</b>
1	753	695	702	772	756	3,678	89.6%
2	74	54	73	77	76	354	8.6%
3	10	6	8	5	9	38	0.9%
4	4	2	1	5	1	13	0.3%
5	3	4		2	2	11	0.3%
6+	2			7	1	10	0.2%
<b>Total</b>	<b>846</b>	<b>761</b>	<b>784</b>	<b>868</b>	<b>845</b>	<b>4,104</b>	<b>100%</b>

Over the past five years, about 9% of the time, two fire calls occurred simultaneously, and less than 1% of the time, there were three simultaneous fire calls.

### Improvement Opportunities

Based on the Henrico County Study, the unit utilization for Medic 1 is in the ideal range, and Medic 2 is well below the ideal range. About 90% of the time, no more than 2 EMS calls occur simultaneously, which can be handled by the two existing medic units.

### **RECOMMENDATION**

- Monitor the call volume and unit utilization rates for the Medic Units.

### Total Response Time

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 used for distributing and concentrating resources.

The following table illustrates two points of view. The first set of times, labeled fire rescue response time, illustrates those components that Hudson Fire and EMS control. The second set of times, labeled total response time, includes the call processing time, which is not controllable by Hudson Fire and EMS but does provide a view of what the resident experiences.

**Table 41: Total Response Time Performance - EMS**

<b>All Emergency Calls – 90th Percentile Times 2019 – 2023</b>		<b>All Units</b>	<b>Benchmark Performance</b>
Response Time	1st Unit – Distribution	9:03	6:00
Total Response Time	1st Unit – Distribution	11:31	7:00

**Table 42: Total Response Time Performance - Fire**

<b>All Emergency Calls – 90th Percentile Times 2019 – 2023</b>		<b>Time</b>	<b>Benchmark Performance</b>
<b>CAD Data</b>			
Response Time	1st Unit – Distribution	9:48	6:00
Total Response Time	1st Unit – Distribution	16:10	7:00
Number of Calls		1,766	
Response Time	Suppression Unit – Distribution	12:34	6:00
Total Response Time	Suppression Unit – Distribution	16:47	7:00
Number of Calls		837	
<b>Fire Department Data</b>			
Response Time	1st Unit – Distribution	9:01	6:00
Total Response Time	1st Unit – Distribution	10:57	7:00
Number of Calls		304	
Response Time	Suppression Unit – Distribution	13:36	6:00
Total Response Time	Suppression Unit – Distribution	15:40	7:00
Number of Calls		300	

Both methodologies are illustrated in the previous table. The CAD data contains those calls categorized as emergency calls when the call was received using the previously noted filtering mechanisms. The fire department data contains those calls categorized as emergency responses by the fire department.

The response time is measured from when Hudson is dispatched to the call to the initial arrival of resources. This view illustrates the impact turnout time has on the response time continuum.

The total response time is measured from when the communications center receives the call to the initial arrival of resources. This view highlights the residents' perspective and illustrates the impact of call processing and turnout time on the overall response time continuum.

Two differing views are provided in the previous table. The first includes all units that respond to the call and measure the arrival of the first unit, which includes Car 1, a staffed unit. The second view measures the suppression units that respond, such as an Engine or Truck Company. These companies are staffed with paid-on-call personnel who respond to the station to get the apparatus prior to responding to the emergency scene. There are times the suppression units are cancelled prior to arrival which is why the call count is lower for this analysis.

## Community Standards

As noted previously, four nationally recognized models are used 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 of 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.

- A career fire department is defined 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.

- A combination fire department is defined as one having emergency service personnel comprising less than 85 percent majority of either volunteer or career membership.
- A volunteer fire department is defined as one having volunteer emergency service personnel comprising 85 percent or greater of its department membership.



- Defines four demographic components based on population density: urban, suburban, rural, and remote.

ISO continues to use its standard 1.5-mile and 2.5-mile criteria for engine company and ladder company placement. However, they now accept a systematic performance evaluation demonstrating 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 Hudson, is responsible for determining the level of service to be provided by the fire district. Considerations for the level of service include but are not limited to how the fire district 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 district should be written and documented so the fire district residents know and understand the expectations of the emergency services system.

As the authority having jurisdiction, the City of Hudson should provide a clear and concise organizational statement establishing the levels of service the emergency services system will provide. For example, the Hudson Fire Department is organized to provide fire suppression, fire prevention education, risk reduction, and other activities deemed to be in the best interest of the residents of the city. The Hudson EMS Department is organized to provide emergency medical services, emergency medical education, and other activities deemed to be in the best interest of the residents of the city. It should be stressed that a one-size-fits-all approach does not address the issues within the various areas. A city-adopted organizational statement can address issues such as travel time. In crafting the organizational statement, any of the sections from the NFPA standards or

the ISO documentation can be utilized to determine the levels of service and performance objectives of the fire department or EMS department. For example, responses to emergency calls for service, the City of Hudson will arrive within 6 minutes and 30 seconds with 90% reliability.

Additionally, some fire service organizations will include their vision and mission statements in their organizational statements. Others will include a listing of service capabilities such as rope rescue, structural collapse, and confined space rescue, along with their level of service, including awareness, operational, or technical.

Generally, this is a one- or two-page summary highlighting the services and performance of the Fire and EMS Departments to inform and educate the public about their emergency services and the expectations for delivering those services. The organizational statement should also provide direction and guidance for any future expansion of the fire and EMS Departments. Having a clear and concise organizational statement, which provides guidance and direction, will allow the city to plan for the needs of the emergency services

### **RECOMMENDATION**

Develop an organizational statement for the Fire and EMS Departments to inform the public of the expectations of the emergency services and provide guidance for any future expansion of services.

## **Staffing Model**

The EMS Department employs a staffing model that combines career, part-time, and unpaid volunteer employees to serve the city. This approach ensures that two transport units and one supervisor are available for emergency response 24 hours per day, seven (7) days a week. This model is expected to remain effective if a sufficient workforce supports it. However, if workforce availability diminishes, consider transitioning to full-time positions.

The fire department relies on a paid-on-call staffing model with career personnel during the daytime hours to address administrative and community-risk reduction activities. The response to calls for service is condensed into three categories: Duty Officer Only, All Department, and All Department and EMS. About 40% of the calls for service were categorized as Duty Officer Only calls. This system has served the city reasonably well. However, the number of volunteer firefighters has been declining. The National Fire Protection Association (NFPA) reported that in 2020, there were 676,900 volunteer firefighters in the U.S. This is compared to 897,750 in 1984, the first year the NFPA began

tracking this number. From 2018 to 2021, there was a 6.5% decrease in volunteer firefighters in Ohio. Several factors contribute to this trend, including increased time demands, more rigorous training requirements, and the rise of two-income families, which leaves less time for volunteering.

Hudson Fire Department currently has 29 paid-on-call personnel that live in or nearby Hudson. In terms of number of personnel, there is no national standard or requirement for a department to maintain a specific number of personnel. In Ohio, the Ohio Revised Code Section 505.38 sets the qualifications and training standards but does not specify the number of firefighters required for the department. NFPA 1710 and 1720 only address the personnel needed to create an effective response force. For ISO, the on-duty staffing calculation (their version of an effective response force) provides credit for one on-duty firefighter for every three volunteers or paid on-call personnel. For Hudson, this would mean the 29 personnel would equal 9.7 on-duty personnel.

The project team recommends transitioning the fire department from a paid on-call volunteer-based organization to a combination model. This recommendation arises from the declining availability of volunteer members and the necessity to meet residents' expectations for timely service response. A combination model incorporates paid and paid-on-call volunteer firefighters, enhancing coverage and resource availability. Advantages of a combination model include:

- **Improved Response Time:** With personnel already at the station, they can quickly respond to calls without needing to travel from home or another location, significantly reducing response time.
- **Cost Efficiency:** By utilizing a mix of paid and volunteer staff, combination departments can provide comprehensive coverage without the full financial burden of a fully paid staff. This can result in significant cost savings for the city.
- **Enhanced Coverage:** Combining paid and volunteer firefighters allows for greater staffing flexibility. Paid staff can cover regular shifts and day-to-day operations, while volunteers can supplement during peak times, large incidents, or when additional staffing is needed.
- **Community Engagement:** Volunteers often have deep ties to the community, fostering strong relationships and trust between the fire department and residents. This engagement can enhance Community Risk Reduction efforts.

- **Increased Response Capacity:** Having paid and volunteer firefighters ensure that more personnel are available to respond to emergencies, especially during large-scale incidents or disasters where additional resources are critical.
- **Diverse Skill Sets:** Volunteer firefighters can bring diverse experiences and backgrounds, enriching the department with various perspectives and skills. This diversity can lead to innovative problem-solving and a more resilient team.
- **Training and Development:** Combination departments often offer extensive training opportunities for both paid and volunteer members, ensuring that all firefighters are well-prepared and proficient in their duties. This continuous development can lead to higher overall competence and effectiveness.
- **Community Awareness:** Volunteer members, being community residents, are often more attuned to local issues and can provide valuable insights and knowledge that enhance the department's operations and strategic planning.

Challenges of a combination model include:

- **Balancing Needs:** Managing paid and volunteer firefighters' diverse needs and expectations can be difficult. Paid firefighters often have different schedules, training requirements, and expectations than volunteers.
- **Recruitment and Retention:** Recruiting and retaining part-time and volunteer staff is challenging.
- **Training and Education:** Consistent training opportunities for both paid and volunteer firefighters are crucial. Different performance criteria and training requirements can lead to conflicts and inconsistencies.
- **Leadership:** Effective leadership is essential to maintain harmony and productivity within a combination department. Leaders must recognize the contributions of both paid and volunteer firefighters and foster a collaborative environment.

This structure provides flexibility to address emergencies effectively while managing costs. Maintaining a balance is essential to ensure adequate, well-trained personnel are available to respond, whether paid staff or volunteers who assist as needed.

## ***RECOMMENDATIONS***

Monitor workforce availability for emergency medical services to ensure adequate personnel are available to fill the available positions and be prepared to transition to a full-time staffing model.

Transition the fire department from a paid-on-call volunteer organization to a combination organization to ensure a reliable response to emergency calls.

## Staffing Configurations

The staffing for the fire units could utilize any number of configurations. Many departments use volunteer staff to create the staffed unit by scheduling volunteer staff to remain at the station during a scheduled shift. In these instances, a stipend is offered to pay the volunteer staff. Other departments use a combination of paid and volunteer staff to create the staffed unit. The staffed unit should be staffed with a minimum of four personnel.

## Stipend Positions

Stipends are regulated by the Fair Labor Standards Act (FLSA), and some rules need to be followed. A volunteer is defined as an individual who receives no compensation or is paid expenses, reasonable benefits, or a nominal fee to perform the services for which the individual volunteered.

The following points are from an opinion letter written by the Wage and Hour Division of the United States Department of Labor dated December 18, 2008, as it relates to the use of stipends:

- A public agency volunteer cannot receive any compensation, but may be paid “expenses, reasonable benefits, or a nominal fee, or any combination thereof.”
- The regulations allow volunteer firefighters to be paid a nominal fee even if paid on a “per call” or similar basis, as long as such payment is consistent with certain factors denoting the relative “sacrifice” of the volunteer. (listing among the factors to be considered: the distance traveled, time and effort expended by the volunteer; whether the volunteer has agreed to be available around the clock; and whether the volunteer provides services throughout the year, even if those services are provided periodically).
- A nominal fee cannot substitute compensation or be tied to productivity.
- The Department finds that the fee paid is (apart from expenses) nominal as long as it does not exceed 20 percent of the amount that otherwise would be required

to hire a permanent employee for the same services. For example, if a volunteer firefighter staffs the equivalent of three shifts during a month, the nominal fee should not exceed 20 percent of what it would cost to employ a firefighter to staff these three shifts.

The International Fire Chief's Association (IAFC) posed several hypothetical scenarios to the Department of Labor (DOL). The DOL found the following payments may qualify as nominal fees.

<b>Amount of Payment</b>	<b>Requirements</b>	<b>Additional Payments</b>	<b>Average Worked (Minimum)</b>
<b>\$1,200 per year</b>	Regardless of the number of shifts or amount of time spent responding to calls	n/a	24 shifts and/or 60 hours responding to calls per year
<b>\$100 per month</b>	Regardless of the number of shifts or amount of time spent responding to calls	n/a	4 shifts and/or 8 hours responding to calls per month
<b>\$100 per month</b>	Minimum of 2 shifts and/or 5 hours responding to calls	\$25 for each additional shift over 4 and/or each additional 2.5 hours responding to calls over 12 hours	n/a
<b>\$25 per 4-hour block of time</b>	Regardless of the amount of time spent at the station house or responding to calls	n/a	n/a
<b>\$20 per shift</b>	Regardless of the length of shift or amount of time spent responding to calls	n/a	6-hour shift and/or 2 hours responding to calls per shift
<b>\$25</b>	Minimum of 8 hours per shift and/or 2.5 hours responding to calls	\$15 per shift that exceeds 8 hours and/or 5 or more hours responding to calls	n/a
<b>\$15,000 annual fee</b>	n/a	n/a	3,000 hours waiting and responding to calls per year*
<b>\$20 per shift</b>	Regardless of the length of shift or amount of time spent responding to calls	Fee increases by \$1 per shift for each year with a minimum of 12 shifts**	n/a

\* Fair Labor Standards found that the payment of \$15,000 annually may qualify as nominal under the 20% rule but also observed that 3,000 hours of service or 57 hours a week is excessive for an individual to be considered a volunteer.

The International Association of Fire Chiefs (IAFC) posed these hypothetical scenarios to obtain guidance in applying the Department of Labor (DOL) rules and regulations pertaining to stipends for volunteer firefighters. This table should not be considered a final determination from the DOL in applying their rules and regulations. While it provides guidance in applying these rules and regulations, it remains the responsibility of the fire departments and fire districts to ensure they are complying.

The following table illustrates one stipend pay method.

<b>Rank</b>	<b>24-hour Shift</b>	<b>Day Shift</b>	<b>Sleeper Shift</b>
Firefighter I/EMT	\$150.00	\$100.00	\$50.00

As illustrated, a twenty-four-hour shift would be paid \$150, which can be split into two twelve-hour shifts. The sleeper shift is paid at a lower rate as the crew will be able to sleep on an overnight shift.

### Part-time Positions

In Ohio, part-time paid firefighters are covered under the Fair Labor Standards Act (FLSA), but there are some specific rules and exemptions that apply:

- **Overtime Pay:** Under the FLSA, part-time firefighters are entitled to overtime pay. However, FLSA provides an exemption for fire protection employees under Section 7(k), which allows for overtime to be calculated on a "work period" basis rather than weekly. This means that overtime can be calculated over a period of 7 to 28 consecutive days.
- **Nonexempt Work:** Part-time firefighters who perform nonexempt work (work that is not directly related to fire protection activities) may still be entitled to overtime pay if they work more than 40 hours in a workweek.
- **Benefits:** FLSA does not require employers to provide part-time firefighters paid sick leave, vacation time, or other benefits. These benefits are often determined by local or state laws or by the specific policies of the fire department.
- **Small Departments:** Departments with fewer than five employees engaged in fire protection activities are exempt from certain FLSA requirements, including overtime pay.
- **Ohio Administrative Code:** According to the Ohio Administrative Code, part-time employees are defined as individuals employed for a minimum of 20 hours but

less than 30 hours per week under an annual contract. Part-time employees are eligible for selected benefits on a prorated basis.

Volunteer firefighters can be employed for part-time roles. To comply with state and federal regulations, it is essential to document hours worked, compensation, and any benefits accurately.

### Part-time Staffing Configuration

There are several ways to configure the staffing component for an engine company in Hudson. One mechanism is to staff a fire apparatus with a dedicated crew, while another is to use part-time staffing and some full-time staff during the week. The final mechanism is for the city's management team to decide the best way to deliver services to the residents.

### Part-time Cost

The following table illustrates the cost for a single part-time position.

**Table 43: Part-time Firefighter Cost**

<b>Line Item</b>	<b>Amount</b>
Hourly Rate - Firefighter	\$27.80
Shift Hours	24
One Person	\$667.20
OPERS/WC/Medicare (18%)	\$120.10
<b>Total Cost</b>	<b>\$787.30</b>

**Table 44: Part-Time Fire Officer Cost**

<b>Line Item</b>	<b>Amount</b>
Hourly Rate – Fire Officer	\$30.63
Shift Hours	24
One Person	\$735.12
OPERS/WC/Medicare (18%)	\$132.32
<b>Total Cost</b>	<b>\$867.44</b>

**Table 45: Total Cost – Part-time Staffing**

<b>Line Item</b>	<b>Amount</b>
Daily Officer Cost	\$867.44
Daily Firefighter Cost	\$2,361.89
<b>Total Annual Cost</b>	<b>\$1,178,705.30</b>



The staffing cost shown in the previous tables is based on having four personnel in the station twenty-four hours a day, seven days a week. This cost projection assumes no other staffing changes to the existing fire protection system. The full-time staff will maintain their current roles, and the present on-duty chief officer (Car 1) will continue to perform their duties.

Staff scheduling can be handled in a variety of ways. However, the most common and efficient manner is to use 12-hour shifts. Most of the personnel filling these shifts are likely to be full-time firefighters from other departments, so this scheduling fits their full-time schedule better. Benefits would not be required for the part-time staff, so there is no additional cost to the city. There is an additional cost related to turnout gear for the employees. The cost for turnout gear will vary depending on the vendor, but generally, the cost is between \$2,200 and \$4,400, as illustrated in the following:

<b>Item</b>	<b>Estimated Cost</b>
Helmet	Around \$500-\$1,000
Turnout Coat and Pants	\$1,200-\$2,500 combined
Boots	\$300-\$600
Gloves	\$100-\$200
Hood	\$50-\$100

### **Part-time Dedicated Staffing Model**

The City's Finance Department provided a financial impact assessment using the current financial reports incorporating the five-year planning process and combining Fire and EMS Funding in a single assessment. This assessment also includes debt service for a proposed new safety center to illustrate the total cost of the different staffing models.

The following table illustrates the financial impact of adding a staffed engine company to the fire department operation with no other staffing changes. This staffing model creates a dedicated engine company staffed with four part-time employees 24 hours a day, seven days a week. This would allow the engine company to handle many calls as a single unit, leaving Car 1 to function as a command officer for the shift.

Table 46: Five-Year Budget Projection with Dedicated Engine Company Staffing

<b>FIRE/EMS</b>	<b>2025 Budget</b>	<b>2026 Budget</b>	<b>2027 Budget</b>	<b>2028 Budget</b>	<b>2029 Budget</b>
Beginning Balance, January 1	\$7,581,713	\$5,344,538	\$3,028,396	\$728,942	(\$1,849,290)
Total Revenue	\$4,964,242	\$5,069,823	\$5,178,043	\$5,288,969	\$5,402,669
<b>Total Available</b>	<b>\$12,545,955</b>	<b>\$10,414,360</b>	<b>\$8,206,439</b>	<b>\$6,017,911</b>	<b>\$3,553,379</b>
Disbursements:					
Fire – Personnel <sup>1</sup>	\$1,341,080	\$1,394,723	\$1,450,512	\$1,508,533	\$1,568,874
Fire – Operating <sup>1</sup>	\$452,372	\$456,896	\$461,465	\$466,079	\$470,740
Fire – Capital Purchases <sup>1</sup>	\$274,000	\$55,000	\$126,000	\$130,000	\$56,000
EMS – Personnel <sup>1</sup>	\$1,897,079	\$1,972,962	\$2,051,881	\$2,133,956	\$2,219,314
EMS – Operating <sup>1</sup>	\$534,652	\$539,999	\$545,399	\$550,852	\$556,361
EMS – Capital Purchases <sup>1</sup>	\$38,700	\$255,200	\$81,500	\$265,500	\$91,500
Dedicated Fire – Personnel Increase <sup>2</sup>	\$1,178,705	\$1,225,853	\$1,274,887	\$1,325,883	\$1,378,918
Dedicated Fire – Personnel Reduction <sup>3</sup>	(\$86,984)	(\$90,463)	(\$94,082)	(\$97,845)	(\$101,759)
Dedicated Fire – EMS Personnel Increase <sup>4</sup>	\$99,551	\$103,533	\$107,674	\$111,981	\$116,460
Replacement Reserve <sup>1</sup>	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
New Debt Service <sup>5</sup>	\$1,272,262	\$1,272,262	\$1,272,262	\$1,272,262	\$1,272,262
<b>Total Disbursements</b>	<b>\$7,201,417</b>	<b>\$7,385,964</b>	<b>\$7,477,498</b>	<b>\$7,867,201</b>	<b>\$7,828,671</b>
Run Rate (Revenue Less Expenditures)	(\$2,237,175)	(\$2,316,142)	(\$2,299,454)	(\$2,578,232)	(\$2,426,002)
<b>Ending Balance, December 31</b>	<b>\$5,344,538</b>	<b>\$3,028,396</b>	<b>\$728,942</b>	<b>(\$1,849,290)</b>	<b>(\$4,275,292)</b>
Ratio Ending Balance to Disbursements	74%	41%	10%	-24%	-55%
Ratio Ending Balance to Revenues	108%	60%	14%	-35%	-79%

<sup>1</sup>Amount was taken from the Council-approved 2025-2029 Five-Year Plan.

<sup>2</sup>Dedicated Fire Model includes 4 part-time fire employees to create a dedicated engine company.

<sup>3</sup>Estimated reduction of POC hours

<sup>4</sup>Moving to the Dedicated Model includes a \$2 per hour increase for part-time paramedics to keep them competitive with fire employees.

<sup>5</sup>Includes a new Safety Center at \$22,000,000 over 30 years.

With this model, the Fund Balance in 2028 is a negative \$1.8M, meaning additional revenues will be necessary to sustain this model.

### **Hybrid Staffing Model**

The hybrid staffing model utilizes part-time and full-time staff to create staffing for an engine company.

- Weekday Staffing (12-hour shift) – Two part-time staff, a full-time staff, and the on-duty Chief (Car 1).
- Weeknight Staffing (12-hour shift) – Three part-time staff and the on-duty Chief (Car 1).
- Weekend Staffing (24-hour shifts) – Three part-time staff and the on-duty Chief (Car 1).

The weekend shifts can be scheduled for 12-hour or 24-hour shifts, depending on the workforce's availability. The on-duty Chief could remain outside the station, but it is crucial to understand that this position is part of the engine company crew and must respond with the engine company.

The following table illustrates the financial impact of adding the staffed engine company with a hybrid staffing model.

Table 47: Five-Year Budget Projection with Hybrid Engine Company Staffing

Fire/EMS	2025 Budget	2026 Budget	2027 Budget	2028 Budget	2029 Budget
<b>Beginning Balance, January 1</b>	\$7,581,713	\$5,565,559	\$3,479,279	\$1,418,882	(\$910,731)
Total Revenue	\$4,964,242	\$5,069,823	\$5,178,043	\$5,288,969	\$5,402,669
<b>Total Available</b>	<b>\$12,545,955</b>	<b>\$10,635,382</b>	<b>\$8,657,323</b>	<b>\$6,707,851</b>	<b>\$4,491,937</b>
Disbursements:					
Fire – Personnel <sup>1</sup>	\$1,341,080	\$1,394,723	\$1,450,512	\$1,508,533	\$1,568,874
Fire – Operating <sup>1</sup>	\$452,372	\$456,896	\$461,465	\$466,079	\$470,740
Fire – Capital Purchases <sup>1</sup>	\$274,000	\$55,000	\$126,000	\$130,000	\$56,000
EMS – Personnel <sup>1</sup>	\$1,897,079	\$1,972,962	\$2,051,881	\$2,133,956	\$2,219,314
EMS – Operating <sup>1</sup>	\$534,652	\$539,999	\$545,399	\$550,852	\$556,361
EMS – Capital Purchases <sup>1</sup>	\$38,700	\$255,200	\$81,500	\$265,500	\$91,500
Hybrid Fire – Personnel Increase <sup>2</sup>	\$957,684	\$995,991	\$1,035,831	\$1,077,264	\$1,120,355
Hybrid Fire – Personnel Reduction <sup>3</sup>	(\$86,984)	(\$90,463)	(\$94,082)	(\$97,845)	(\$101,759)
Hybrid Fire – EMS Personnel Increase <sup>4</sup>	\$99,551	\$103,533	\$107,674	\$111,981	\$116,460
Replacement Reserve <sup>1</sup>	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
New Debt Service <sup>5</sup>	\$1,272,262	\$1,272,262	\$1,272,262	\$1,272,262	\$1,272,262
<b>Total Disbursements</b>	<b>\$6,980,396</b>	<b>\$7,156,102</b>	<b>\$7,238,441</b>	<b>\$7,618,582</b>	<b>\$7,570,107</b>
Run Rate (Revenue Less Expenditures)	(\$2,016,154)	(\$2,086,280)	(\$2,060,398)	(\$2,329,613)	(\$2,167,439)
<b>Ending Balance, December 31</b>	<b>\$5,565,559</b>	<b>\$3,479,279</b>	<b>\$1,418,882</b>	<b>(\$910,731)</b>	<b>(\$3,078,170)</b>
Ratio Ending Balance to Disbursements	80%	49%	20%	-12%	-41%
Ratio Ending Balance to Revenues	112%	69%	27%	-17%	-57%

<sup>1</sup>Amount was taken from the Council-approved 2025-2029 Five-Year Plan.

<sup>2</sup>The Hybrid Fire Model includes a hybrid of part-time, full-time, and the on-duty Chief to create a staffed engine company

<sup>3</sup>Estimated reduction of POC hours

<sup>4</sup>Moving to the Hybrid Model includes a \$2 per hour increase for part-time paramedics to keep them competitive with fire employees.

<sup>5</sup>Includes a new Safety Center at \$22,000,000 over 30 years.

With this model, the Fund Balance in 2028 is a negative \$900,000, meaning additional revenues will be necessary to sustain this model.

### Career Positions

Another model is using career personnel to provide fire department staffing. These types of positions are typically used on a 24-hour schedule, such as 24 hours on and 48 hours off. Some departments utilize career positions for daytime hours, while volunteer/paid-on-call personnel are used overnight. Some departments use a constant staffing model, where they hire a set number of career firefighters to cover the required daily shifts. Any absences due to leave, sick leave, or training are covered by overtime. This model ensures that there are always enough personnel on duty, but it can be costly due to overtime expenses. The following table illustrates the salary cost for a career suppression unit.

**Table 48: Career Personnel Salary Cost**

<b>Line Item</b>	<b>Amount</b>
Annual Salary	\$72,373.00
OPERS/WC/Medicare	\$13,027.14
Health Care Ins.	\$25,500.00
Cost per Position	\$110,900.14
Number of Personnel	5
One Shift	\$554,500.70
<b>Total Cost - 3 Shifts</b>	<b>\$1,663,502.10</b>

The salary used in the previous table is the beginning salary for a firefighter/paramedic in Streetsboro, OH. In Stow, OH, the beginning salary is \$68,000. Five personnel are shown for each shift to account for paid time off, such as vacation or sick leave. The first-year cost to use career personnel to staff a suppression unit 24 hours a day is \$1,663,502.

The following table illustrates the financial impact of adding the staffed engine company with a career staffing model. This model leaves the on-duty Chief (Car 1) intact to function as a command officer for the shift.

Table 49: Five-Year Budget Projection with Career Engine Company Staffing

Fire/EMS	2025 Budget	2026 Budget	2027 Budget	2028 Budget	2029 Budget
<b>Beginning Balance, January 1</b>	\$7,581,713	\$4,859,741	\$2,039,410	(\$784,400)	(\$3,907,963)
Total Revenue	\$4,964,242	\$5,069,823	\$5,178,043	\$5,288,969	\$5,402,669
<b>Total Available</b>	<b>\$12,545,955</b>	<b>\$9,929,563</b>	<b>\$7,217,453</b>	<b>\$4,504,569</b>	<b>\$1,494,706</b>
Disbursements:					
Fire – Personnel <sup>1</sup>	\$1,341,080	\$1,394,723	\$1,450,512	\$1,508,533	\$1,568,874
Fire – Operating <sup>1</sup>	\$452,372	\$456,896	\$461,465	\$466,079	\$470,740
Fire – Capital Purchases <sup>1</sup>	\$274,000	\$55,000	\$126,000	\$130,000	\$56,000
EMS – Personnel <sup>1</sup>	\$1,897,079	\$1,972,962	\$2,051,881	\$2,133,956	\$2,219,314
EMS – Operating <sup>1</sup>	\$534,652	\$539,999	\$545,399	\$550,852	\$556,361
EMS – Capital Purchases <sup>1</sup>	\$38,700	\$255,200	\$81,500	\$265,500	\$91,500
Career Fire – Personnel Increase <sup>2</sup>	\$1,663,502	\$1,730,042	\$1,799,244	\$1,871,214	\$1,946,062
Career Fire – Personnel Reduction <sup>3</sup>	(\$86,984)	(\$90,463)	(\$94,082)	(\$97,845)	(\$101,759)
Career Fire – EMS Personnel Increase <sup>4</sup>	\$99,551	\$103,533	\$107,674	\$111,981	\$116,460
Replacement Reserve <sup>1</sup>	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
New Debt Service <sup>5</sup>	\$1,272,262	\$1,272,262	\$1,272,262	\$1,272,262	\$1,272,262
<b>Total Disbursements</b>	<b>\$7,686,214</b>	<b>\$7,890,153</b>	<b>\$8,001,854</b>	<b>\$8,412,532</b>	<b>\$8,395,815</b>
Run Rate (Revenue Less Expenditures)	(\$2,721,972)	(\$2,820,331)	(\$2,823,811)	(\$3,123,562)	(\$2,993,146)
<b>Ending Balance, December 31</b>	<b>\$4,859,741</b>	<b>\$2,039,410</b>	<b>(\$784,400)</b>	<b>(\$3,907,963)</b>	<b>(\$6,901,109)</b>
Ratio Ending Balance to Disbursements	63%	26%	-10%	-46%	-82%
Ratio Ending Balance to Revenues	98%	40%	-15%	-74%	-128%

<sup>1</sup>Amount was taken from the Council-approved 2025-2029 Five-Year Plan.

<sup>2</sup>Career Fire Model includes 5 career fire employees to create a dedicated engine company.

<sup>3</sup>Estimated reduction of POC hours

<sup>4</sup>Moving to the Career Model includes a \$2 per hour increase for part-time paramedics to keep them competitive with fire employees.

<sup>5</sup>Includes a new Safety Center at \$22,000,000 over 30 years.

With this model, the Fund Balance in 2027 is negative \$784,000, meaning additional revenues will be necessary to sustain it. Moving to the career staffing model, further consideration should be given to combining the fire and EMS departments and creating a staffing model to support both operations using career personnel. This will require additional funding to support such an endeavor.

## Appendix A: Internal Stakeholder Contributions

The City of Hudson retained Matrix Consulting Group (MCG) to complete a Staffing Needs Assessment of the Hudson Fire Department and Hudson EMS Department. Following a meeting with the City staff, a survey was developed to provide all the members of both departments an opportunity to provide input into the process.

MCG project staff arrived at these specific questions and themes after consulting with the department and city administration during the project's early stages.

The initial round of invitations was distributed on November 13, 2024, and the survey was closed to responses on November 19, 2024. Of the 37 invitations sent to fire department members, the project team received 34 responses (either partial or complete), resulting in a response rate of 92%. Of the 45 invitations sent to EMS department members, the project team received 38 responses (either partial or complete), resulting in a response rate of 84%. These response rates are exceptional in the experience of project staff.

### Respondent Demographics and Background Information

#### Fire Department

About 72% of the respondents indicated they are firefighters in the organization, with the remaining 28% being officers in the organization. The total number of respondents (n=32) is also indicated in the table below. Two respondents did not provide a response to this question.

Rank	Number of Respondents	Percentage
Officer	9	28.1%
Firefighter	23	71.9%
<b>Total</b>	<b>32</b>	<b>100.0%</b>

Most respondents (56%) have been members of the Hudson Fire Department for 16 years or more, while another 18% (n=6) have been members for between 5 and 10 years. Another 15% (n=5) have been members for between 11 and 15 years and the remaining three respondents (9%) have been members for less than 5 years.



<b>Time</b>	<b>Number of Respondents</b>	<b>Percentage</b>
Less than 5 years	3	8.8%
Between 5 and 10 years	6	17.6%
Between 11 and 15 years	5	14.7%
16 years or more	19	55.9%
Prefer not to answer	1	2.9%
<b>Total</b>	<b>34</b>	<b>100.0%</b>

## EMS Department

About 63% of the respondents indicated they are paramedics in the organization, with 18% being officers, and another 18% being EMTs. The total number of respondents (n=38) is also indicated in the table below. Two respondents did not provide a response to this question.

<b>Rank</b>	<b>Number of Respondents</b>	<b>Percentage</b>
Officer	7	18.4%
Paramedic	24	63.2%
EMT	7	18.4%
<b>Total</b>	<b>38</b>	<b>100.0%</b>

Most respondents (45%) have been members of the Hudson EMS Department for less than 5 years, while another 26% (n=10) have been members for between 5 and 10 years. Another 13% (n=5) have been members for between 11 and 15 years and the remaining four respondents (11%) have been members for 16 years or more. Two respondents preferred not to answer.

<b>Time</b>	<b>Number of Respondents</b>	<b>Percentage</b>
Less than 5 years	17	44.7%
Between 5 and 10 years	10	26.3%
Between 11 and 15 years	5	13.2%
16 years or more	4	10.5%
Prefer not to answer	2	5.3%
<b>Total</b>	<b>38</b>	<b>100.0%</b>

## Service to the Community

The following questions below aim to gauge member attitudes relating to service levels to the community, community perceptions, and perceptions of support from the city government.

### Fire Department Responses

Statement	SD	D	A	SA	No Opinion
I believe our Fire Department provides a high level of service for the community.	0%	0%	21%	79%	0%
The majority of Hudson residents have a positive impression of the way the Fire Department responds to calls for service.	0%	9%	50%	38%	3%
Our Fire Department has positive relationships with our residents.	0%	0%	26%	71%	3%
I believe the way the Fire Department responds to calls for service is efficient and effective for Hudson.	3%	15%	45%	36%	0%
Members of the fire department feel the City recognizes the importance of the Fire Department.	6%	29%	47%	15%	3%
The citizens expect a high level of service to be provided by the Fire Department.	0%	3%	9%	85%	3%
Fire Department leadership does a good job of recognizing and anticipating the challenges we face.	0%	18%	36%	39%	6%
We have the resources we need to complete our jobs effectively.	0%	6%	39%	52%	3%
The Fire Department appropriately utilizes mutual aid from neighboring service providers.	0%	0%	26%	74%	0%
The Fire Department appropriately provides mutual aid to neighboring service providers.	0%	3%	26%	71%	0%

As shown, respondents expressed high levels of agreement, resulting in high levels of satisfaction with most topics addressed in this matrix of questions. This indicates that respondents feel the fire department provides a high level of service to the community and that they have a positive relationship with the members of the Hudson community, considering that the citizens of Hudson expect a high level of service from the department.

### EMS Department Responses

Statement	SD	D	A	SA	No Opinion
Our EMS Department provides a high level of service for the community.	0%	11%	50%	37%	3%
Residents view the EMS Department as an important community service.	3%	5%	32%	58%	3%
Our EMS Department has positive relationships with our residents.	0%	5%	39%	50%	5%
Our service has a positive impact on the community.	0%	3%	50%	47%	0%
The City recognizes the importance of the EMS Department.	16%	34%	39%	5%	5%
The community expects a high level of service from the EMS Department.	0%	3%	18%	74%	5%
The EMS Department leadership does a good job of recognizing and anticipating the challenges we face.	34%	24%	32%	8%	3%
We have the resources we need to complete our jobs effectively.	11%	24%	53%	13%	0%
EMS appropriately receives mutual aid from neighboring service providers.	8%	8%	37%	47%	0%
EMS appropriately provides mutual aid to neighboring service providers.	26%	29%	24%	16%	5%

As shown, respondents expressed high levels of agreement, resulting in high levels of satisfaction with most topics addressed in this matrix of questions. This indicates that respondents feel the EMS department provides a high level of service to the community and that they have a positive relationship with the members of the Hudson community, considering that the citizens of Hudson expect a high level of service from the department.

#### Services Levels Opportunities for Improvement

The following sections expand on these questions from the previous matrix.

“The City recognizes the importance of the EMS Department.”

About half of the respondents (50%) disagreed or strongly disagreed with the statement above, stating that the City recognizes the importance of the EMS Department.

“The EMS Department leadership does a good job of recognizing and anticipating the challenges we face.”

Just over half of respondents (58%) disagreed or strongly disagreed with the previous statement about the EMS Department's leadership.

“EMS appropriately provides mutual aid to neighboring service providers.”

About half of respondents (55%) disagreed or strongly disagreed with the previous statement about providing mutual aid to neighboring service providers.

### Common Threads

Each department received a tailored survey containing similar statements and questions specific to their department. The table below outlines some of these common themes and varying responses.

Statement	SD/D	A/SA	No Opinion
Members of the fire department feel the City recognizes the importance of the Fire Department.	35%	62%	3%
The City recognizes the importance of the EMS Department.	50%	45%	5%
Fire Department leadership does a good job of recognizing and anticipating the challenges we face.	18%	76%	6%
The EMS Department leadership does a good job of recognizing and anticipating the challenges we face.	58%	39%	3%
The Fire Department appropriately provides mutual aid to neighboring service providers.	3%	97%	0%
EMS appropriately provides mutual aid to neighboring service providers.	55%	39%	5%

Note the differences in the responses. The responses of the fire department mostly agree with the statements, and the responses of the EMS department mostly disagree.

### Organization and Staffing

The following questions are aimed at gauging member attitudes toward the organization, spans of control, staffing at emergency scenes, and more.

## Fire Department

Statement	SD	D	A	SA	No Opinion
I feel the Fire Department organizational structure is efficient and effective.	0%	15%	50%	35%	0%
The supervision at emergency scenes is sufficient.	0%	3%	35%	62%	0%
Our department is adequately staffed to meet demands for fire services.	3%	32%	35%	29%	0%
Our department is adequately staffed to meet the demands for fire prevention/risk reduction services.	0%	9%	32%	59%	0%
Our department is adequately staffed to meet the public education needs of the community.	0%	6%	26%	68%	0%
Our personnel work well with each other on calls for service to which they respond to.	0%	3%	38%	56%	3%
The department does a good job at retaining its members.	3%	18%	35%	38%	6%

As shown in the previous matrix, responding members express high levels of agreement and satisfaction with a majority of topic areas, including:

- The current organizational structure of the department,
- Supervision at emergency scenes,
- Adequate staffing to meet the demands of fire prevention activities,
- Teamwork within operational teams during calls for service.

### Organization and Staffing Opportunities for Improvement

The sections that follow expand on these questions from the previous matrix. The expansion is constructed across relevant member demographics and background information collected at the onset of the member survey. Only relevant findings are portrayed.

Two questions were asked related to the staffing of the fire department as illustrated in the following table.

	<b>SD/D</b>	<b>A/SA</b>	<b>No Opinion</b>
Our department is adequately staffed to meet demands for fire services.	35%	65%	0%
	<b>Yes</b>	<b>No</b>	
Do you see any need to change the current staffing model?	61%	39%	

About 35% of respondents disagreed or strongly disagreed with the statement regarding the adequacy of staffing at the fire department to meet service demands. This finding is consistent across all relevant demographic categories. However, when asked if the staffing model needs to change, 61% of the respondents agree changes need to be made.

“The department does a good job at retaining its members.”

About 21% of respondents disagreed or strongly disagreed with the previous statement relating to the retention of department members. This finding varies across positions in the fire department, as shown in the following table:

	<b>SD</b>	<b>D</b>	<b>A</b>	<b>SA</b>	<b>No Opinion</b>
Officer	0%	0%	22%	78%	0%
Firefighter	4%	26%	39%	22%	9%

The officer group expressed high levels of agreement, while about 30% of the firefighter group expressed disagreement with the statement.

## EMS Department

Statement	SD	D	A	SA	No Opinion
The EMS Department organizational structure is efficient.	42%	32%	18%	8%	0%
The supervision at emergency scenes is sufficient.	18%	24%	50%	5%	3%
Our department is adequately staffed to meet demands for emergency medical services	26%	58%	16%	0%	0%
Our department is adequately staffed to meet the public education needs of the community.	32%	50%	18%	0%	0%
Our personnel work well with each other on calls for service to which they respond to.	0%	26%	58%	13%	3%
The department does a good job at retaining its members.	39%	42%	16%	0%	3%

As shown in the previous matrix, responding members had high levels of disagreement with a majority of the topic areas.

### Organization and Staffing Opportunities for Improvement

Expansion of these questions from the previous matrix is provided in the following sections. Expansion is constructed across relevant member demographics and background information collected at the onset of the member survey. Only relevant findings are portrayed.

“The EMS Department organizational structure is efficient.”

About 74% of the respondents disagreed or strongly disagreed with the previous statement regarding the efficiency of the organizational structure. About 84% of the paramedic and EMT group disagreed with the statement, while about 29% of the officer group disagreed.

“Our department is adequately staffed to meet demands for emergency medical services”

About 84% of respondents disagreed or strongly disagreed with the previous statement regarding the adequacy of staffing at the EMS department to meet service demands. This finding is consistent across all relevant demographic categories.

“Our department is adequately staffed to meet the public education needs of the community.”

About 82% of respondents disagreed or strongly disagreed with the previous statement regarding the adequacy of staffing at the EMS department to meet public education needs of the community. This finding is consistent across all relevant demographic categories.

“The department does a good job at retaining its members.”

About 82% of respondents disagreed or strongly disagreed with the previous statement regarding the retention of members. This finding varies slightly across positions in the fire department, as shown in the following table:

	SD	D	A	SA	No Opinion
Officer	14%	43%	29%	0%	14%
Paramedic	54%	33%	13%	0%	0%
EMT	14%	71%	14%	0%	0%

The paramedic and EMT groups expressed high levels of disagreement with the statement, while about 57% of the officer group disagreed.

### Common Threads

Each department received a tailored survey containing similar statements and questions specific to their department. The table below outlines some of these common themes and varying responses.

Statement	SD	D	A	SA	No Opinion
Our department is adequately staffed to meet demands for fire services.	3%	32%	35%	29%	0%
Our department is adequately staffed to meet demands for emergency medical services	26%	58%	16%	0%	0%
I feel the Fire Department organizational structure is efficient and effective.	0%	15%	50%	35%	0%
The EMS Department organizational structure is efficient.	42%	32%	18%	8%	0%
The (fire) department does a good job at retaining its members.	3%	18%	35%	38%	6%
The (EMS) department does a good job at retaining its members.	39%	42%	16%	0%	3%



Both departments expressed concerns about staffing for service delivery, with about 35% of the fire responses and 84% of the EMS responses disagreeing with the statement. In terms of the organizational structure, the fire responses (85%) agree with the statement, while about 74% of the EMS responses disagree with it. Retention of members is an important aspect of any department. About 21% of the fire responses and 82% of the EMS responses indicate the retention of members is an area of concern.

Respondents were asked if they thought they would still be with the fire or EMS department in 10 years.

	EMS	Fire
Yes	43%	47%
No	57%	53%

Interestingly over 50% of the respondents for both departments indicate they will not be with the organization in 10 years.

<b>Fire Department</b>		<b>EMS Department</b>	
In your opinion, is using separate organizations (Fire and EMS) an effective way to deliver services?		In your opinion, would a combined organization (Fire and EMS) be a more effective way to deliver services?	
Yes	94%	Yes	56%
No	6%	No	44%
<ul style="list-style-type: none"> <li>• <b>Staffing and Response Efficiency:</b> Keeping fire and EMS services separate allows for more staff on scene and ensures that fire and EMS resources do not deplete each other, leading to higher response efficiency.</li> <li>• <b>Specialization and Training:</b> Separate organizations allow staff to specialize in their respective fields, ensuring that firefighters focus on firefighting and EMS personnel focus on medical emergencies, although cross-training is suggested by some.</li> <li>• <b>Operational Challenges:</b> Combining services could lead to reduced overall staffing and complicate dispatch and personnel management, especially since the majority of calls are EMS-related.</li> <li>• <b>Quality of Care:</b> Maintaining separate services is seen as the gold standard by some, ensuring high-quality care and preventing the burnout of firefighters who may not want to handle frequent EMS calls.</li> </ul>		<ul style="list-style-type: none"> <li>• <b>Support for Combined Departments:</b> Advocates believe that cross-trained personnel in a combined Fire and EMS department would be more efficient, cost-effective, and provide a higher level of service to the community.</li> <li>• <b>Focus on EMS:</b> Many agree that EMS calls make up 80-90% of total calls, suggesting a need to prioritize EMS training and resources within the fire department.</li> <li>• <b>Resource Challenges:</b> Some argue that a merger would result in a lower quality of service due to the depletion of resources from one service to support the other.</li> <li>• <b>Need for Modernization:</b> There is a belief that the Fire Department needs to modernize and become more efficient, but merging with EMS might dilute the focus on EMS.</li> <li>• <b>Staffing Concerns:</b> Questions about appropriate staffing levels for a combined department are raised, with some suggesting that more money should be allocated to EMS and basic fire services.</li> <li>• <b>Improved Response Times:</b> Proponents of the merger believe that combined services would improve response times and reduce the need for mutual aid, providing better service to the community.</li> <li>• <b>Leadership Issues:</b> Concerns are expressed about the current leadership's ability to manage a combined department effectively, given the existing challenges.</li> <li>• <b>Separate Departments' Strengths:</b> Some believe that having separate departments allows each to maintain a high level of expertise and service quality specific to their roles.</li> </ul>	

Fire Department	EMS Department
In your opinion, would it be more efficient the merge the Fire and EMS departments from an administrative perspective?	In your opinion, would it be more efficient the merge the Fire and EMS departments from an administrative perspective?
Yes 13%	Yes 64%
No 87%	No 36%
<ul style="list-style-type: none"> <li>• <b>Opposition to Merger:</b> Many respondents believe that merging the departments would lead to a loss of staff, increased costs, and a decline in service quality.</li> <li>• <b>Separate Services Preferred:</b> Some argue that separate departments provide better service and allow for more specialized recruitment and administration.</li> <li>• <b>Partial Mergers Already Exist:</b> There are mentions that some administrative functions are already merged, and further merging could be considered.</li> <li>• <b>Concerns About Response Times:</b> Concerns were raised that merging could negatively impact response times for both EMS and fire services due to staffing issues.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Proponents for merging:</b> Some believe merging the departments would improve efficiency and public safety by having dual-role firefighter/paramedics, reducing response times, and lowering reliance on mutual aid assistance.</li> <li>• <b>Concerns about merging:</b> Others worry that merging could lead to favoritism, poor management, and a loss of quality in EMS services, especially given current management issues and the historical treatment of EMS as secondary to fire services.</li> <li>• <b>Financial and administrative benefits:</b> Combining the departments could be financially sensible and administratively efficient, aligning goals and reducing redundancy in roles.</li> <li>• <b>Challenges of merging:</b> There are concerns about the difficulty of merging due to the lack of cross-trained personnel and the potential resistance from staff who prefer their current roles.</li> <li>• <b>Potential models for merging:</b> Some suggest a model where staff can choose to remain in their current roles or pursue additional certifications, with the department covering the cost of further education.</li> <li>• <b>Need for change:</b> There is a sentiment that change is needed to move forward and improve the current state of Hudson's EMS and Fire Departments.</li> <li>• <b>Existing partial integration:</b> Currently, the Chief oversees both departments, but there is a significant divide in interaction and management between the EMS and Fire sides.</li> </ul>



### Fire Department

Please provide your top three staffing and/or facility needs?

- **Facility Improvements:** The current station is in poor condition, necessitating a new facility that can accommodate both fire and EMS departments with proper housing, training areas, and expanded bay space.<sup>1</sup>
- **Staffing Needs:** There is a need for additional full-time, part-time, and paid-on-call firefighters to handle the workload, including night and weekend shifts.<sup>23</sup>
- **Training and Recruitment:** Enhanced training facilities and recruitment efforts are required to build skills and confidence among officers, and to prepare for generational turnover.<sup>45</sup>
- **Strategic Station Placement:** Multiple strategically located stations are suggested to improve response times and coverage for a 25 square mile city.<sup>67</sup>

### EMS Department

Please provide your top three staffing and/or facility needs?

- **Staffing Needs:** The EMS department requires more full-time paramedics, additional lieutenants, and a training coordinator. There is also a need for a supervisor on each shift to ensure adequate coverage and leadership, especially during weekends and evenings.<sup>12</sup>
- **Facility Improvements:** The current EMS facility is outdated and lacks essential amenities. Improvements needed include a new station with larger areas for vehicles, single occupancy dorm rooms, modern living spaces, and a health and safe environment free from hazards like asbestos and mold.<sup>13</sup>
- **Training and Career Development:** There is a significant need for a dedicated training coordinator to improve the training program for new hires and ongoing training for current staff. The lack of effective training contributes to high turnover rates.<sup>45</sup>
- **Leadership and Management:** Better leadership is required to address staff concerns effectively. There is a need for engaged management that is receptive to employee feedback and capable of maintaining high standards.<sup>67</sup>
- **Gender-Specific Facilities:** With an increasing number of female staff members, the facility needs separate bunk rooms and locker rooms to ensure privacy.<sup>89</sup>
- **Health and Safety:** Employees frequently get sick due to inadequate ventilation and mold issues in the current facility. A new or remodeled facility with proper ventilation is essential for the health and safety of the staff.<sup>610</sup>
- **Shift Rotation and Call Management:** There should be a system for rotating calls between units to ensure that no single crew is overburdened while another

remains idle. This would improve efficiency and staff morale.1112

- **Staffing Levels:** To meet the community's needs, the EMS department should aim for a minimum of three squads plus one Officer in Charge (OIC) per shift. This would ensure adequate coverage and response capability.1314
- **Career Path and Retention:** There is no clear career path at the EMS department, contributing to high turnover rates. Establishing a career path and offering competitive compensation would help retain staff.1510

## Training and Education

The following questions aim to gauge member attitudes toward the training and education programming, training facilities, and props.

### Fire Department

Statement	SD	D	A	SA	No Opinion
We receive the practical training we need to keep our skills high.	0%	3%	38%	59%	0%
Our department places a high value on ensuring proper training for field personnel.	0%	12%	29%	59%	0%
Training facilities are adequate for practical training evaluations and activities.	9%	35%	41%	15%	0%

As shown, respondents expressed high levels of agreement, resulting in high levels of satisfaction with the training opportunities. About 44% of the respondents indicate there is a need for training facilities.

A second question was asked about any equipment that is needed in the fire department. Respondents were provided with space to comment on the question; 22 respondents answered this question. The following points summarize the responses related to training.

- **Facility and Training Needs:** The responses highlight the need for a better facility that promotes growth and increased training. This includes upgrades to the facility, such as a burn building and a training tower, to allow for more effective training.

- **Comprehensive Training Site:** There is need for a comprehensive training site where various emergency scenarios can be practiced. This includes live burns, extrication, search and rescue, and pump operation.

### EMS Department

Statement	SD	D	A	SA	No Opinion
We receive the practical training we need to keep our skills high.	51%	30%	14%	3%	3%
Our department places a high value on ensuring proper training for field personnel.	49%	30%	14%	3%	5%

As shown, respondents expressed high levels of disagreement, resulting in high levels of dissatisfaction with both topics addressed in this matrix of questions.

A second question asked, “Are there any training props or other equipment that would be helpful to provide learning opportunities.” Respondents were provided with space to comment on the question; 24 respondents answered this question. The following points summarize the responses.

- **Lack of Training Coordinator:** Hudson EMS lacks a dedicated training coordinator, impacting the effectiveness and consistency of training sessions.
- **Underutilized Training Props:** Despite having various training props and equipment, these resources are rarely used due to the absence of a training officer and structured training programs.
- **Need for Enhanced Training Programs:** To improve the skills and confidence of EMS personnel, more advanced and hands-on training sessions are needed, including bringing in outside experts and collaborating with local colleges.
- **Administrative and Logistical Issues:** Administrative issues, such as delays in submitting paperwork and lack of clear communication regarding training reimbursements, further hinder the training process.

## Facilities and Equipment

The following questions gauge members' attitudes toward the fire station and equipment. Many of the questions were the same for both departments. The following tables illustrate the responses to compare the needs and responses from each department.

Fire Department		EMS Department	
Is there any particular piece of equipment that is needed in the Fire Department that would help you do your job?		Is there any particular piece of equipment that is needed in the EMS Department?	
Yes	24%	Yes	48%
No	76%	No	52%
<ul style="list-style-type: none"> <li>• <b>Facility and Training Needs:</b> Respondents highlighted the need for a better facility that promotes growth and an increased level of training. This includes upgrades to the facility to allow for more effective training, such as a burn building and a training tower.</li> <li>• <b>Equipment Updates:</b> There is a need for updated equipment, specifically mentioning the heavy-duty rescue truck, which is one of the older pieces of equipment and has more issues than others<sup>3</sup>. Additionally, the document calls for functional MDTs (Mobile Data Terminals) in all apparatus.</li> <li>• <b>Comprehensive Training Site:</b> There is a need for a comprehensive training site where various emergency scenarios can be practiced. This includes live burns, extrication, search and rescue, and pump operation.</li> </ul>		<ul style="list-style-type: none"> <li>• <b>Wireless Connectivity and Navigation:</b> There is a need for wireless air cards for iPads in ambulances to maintain internet connectivity during calls and to replace surface tablets with iPads for better navigation and dispatch capabilities through Active</li> <li>• <b>Cardiac Monitors and Other Medical Equipment:</b> New cardiac monitors are required to replace the inconsistent refurbished ones, and there are issues with current LifePaks and vacuum mattresses that need addressing.</li> <li>• <b>Utility Truck and Safety Equipment:</b> A utility truck is needed to transport equipment to scenes with special requirements and for snow plowing, along with exhaust extraction systems in vehicle bays and hearing protection in ambulances.</li> <li>• <b>Ambulance Reliability:</b> There is a call for more reliable ambulances and new squads to replace those that frequently break down or need repairs.</li> </ul>	



<b>Fire Department</b>		<b>EMS Department</b>	
I would like to see the Fire Department get a new station placed right where it is.		I would like to see the EMS Department get a new station placed right where it is.	
Yes	63%	True	73%
No	38%	False	27%
We do not need a new station.		We do not need a new station.	
True	33%	True	16%
False	76%	False	84%
I think we need multiple stations to improve response coverage.		I think we need multiple stations to improve response coverage.	
True	37%	True	68%
False	63%	False	32%

The EMS Department was asked, "I would like to see the EMS department get a new station placed in a better location so that our responses to the community are faster." 48% of the EMS respondents agreed with the statement, and 52% disagreed with the statement.

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**Fire Department**

Are there any improvements in the station or housing that you would like to see?

- **Sleeping Quarters:** There is a need for individual sleeping quarters for personnel, as current bunk rooms are not acceptable, and the station is not fit for overnight housing.
- **Facilities and Space:** Updates are needed for the kitchen, showers, gym area, and office space, along with more space for trucks and better training facilities.
- **New Station:** There is a strong call for a new station that meets modern needs, including additional bay space, training towers, and better housing, as the current station has outlived its life expectancy.

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**EMS Department**

Are there improvements in the stations or housing that you would like to see?

- **Individual Bunk Rooms:** Many respondents emphasize the need for individual bunk rooms for privacy and better sleep quality, avoiding issues such as snoring and different sleep schedules.
- **Improved Kitchen Facilities:** There is a significant demand for a larger kitchen to accommodate the needs of members on shift, highlighting the inadequacy of the current space.
- **Bathroom and Shower Upgrades:** Respondents call for larger, more functional showers and bathrooms, with some mentioning issues like mold and insufficient ventilation.
- **Enhanced Living Spaces:** Suggestions include modernizing living spaces with better HVAC systems, more comfortable beds, and improved storage and office areas.
- **Mold and Air Quality Concerns:** There are serious concerns about mold and air quality, with calls for thorough cleaning and remediation to ensure a healthy environment.
- **Additional Facilities:** Some respondents suggest adding recreational facilities like a ping pong table or pool table and updating outdoor spaces.
- **New Station Proposal:** Several respondents propose building a new station to address the various issues comprehensively, reflecting the outdated and inadequate state of the current facilities.

## Open Responses

The concluding sections of the survey asked respondents to answer in open-ended form, indicating what they thought were the top three strengths of the department, the opportunities for improvement in the department, and recommendations for the department. Keyword phrase analysis was used by MCG project staff to analyze these open-ended responses. The most frequent topics of responses are displayed in the following sections.

### Fire Department

What do you think are the current strengths of the Fire Department?

- **Dedicated and Knowledgeable Personnel:** Dedicated members with various experiences and a strong desire to serve the community. Many personnel are highly educated, with some holding advanced degrees, and they bring valuable perspectives from outside the fire department.
- **Strong Leadership and Teamwork:** The department benefits from good leadership and a core group of individuals who work well together. This teamwork is crucial for responding effectively to significant events and emergencies.
- **Excellent Training and Equipment:** The department prides itself on excellent training programs and top-notch equipment. All firefighters are certified, and the department maintains high standards of safety and effectiveness in its operations.

What do you think are the current opportunities for staffing improvement within the Fire Department?

- **Staffing and Recruitment:** There is a strong emphasis on recruiting younger and diverse candidates to address the aging workforce, suggesting hiring full-time, part-time, and paid-on-call firefighters to ensure adequate coverage and faster response times.
- **Training and Development:** Additional training opportunities are recommended for all members, including in-house or funded certification programs for firefighter candidates and mentorship programs to prepare future leaders.
- **Flexible and Hybrid Models:** Implementing flexible scheduling and hybrid staffing models is suggested to improve night and weekend coverage, with some advocating for a 24/7 department.

- **Community and Risk Reduction:** Enhancing community outreach and risk reduction strategies, including engaging with local schools and stakeholders, is highlighted as crucial for long-term success and growth.

If you could make one recommendation for the Fire Department, what would that be?

- **Facilities:** Respondents suggested keeping the current building but remodeling it, building a new station to promote pride, and adding a station on the north side of town.
- **Staffing and Recruitment:** There were recommendations to recruit and train additional personnel, hire younger staff, and staff overnight personnel to improve response times.
- **Community Relations:** Some responses emphasized the importance of controlling the narrative on social media, educating the public, and recognizing the sacrifices of fire department members.
- **Operational Improvements:** Suggestions included creating a hybrid staffing model, improving training facilities, and making provisions for around-the-clock firefighter coverage.

## EMS Department

What do you think are the current strengths of the EMS Department?

- **Experienced and Diverse Staff:** The department boasts a diverse group of individuals with hundreds of years of combined experience, including RNs, Flight Paramedics, and Nurse Practitioners, contributing to a high level of service.
- **Dedication and Compassion:** Personnel are noted for their dedication, empathy, and compassion, often sacrificing personal time to serve the community effectively.

What do you think are the current opportunities for staffing improvement within the EMS Department?

- **Staffing:** Respondents suggested there is a significant need for more full-time staff, including paramedics, lieutenants, and training coordinators. Many respondents emphasize the importance of increasing full-time staffing to ensure stability and adequate coverage. Improving pay, ensuring fair scheduling, and compensating EMTs for their work are also suggested. Suggestions include a

more stringent hiring process, shorter probationary periods, and involvement of veteran paramedics in interviews.

- **Training and Recruitment:** The training and recruitment process for new employees needs a significant overhaul. There is a call for better training programs focusing on job skills and specific departmental procedures. Additionally, recruitment challenges are noted, with suggestions to lower minimum work hours or hire more full-time staff.
- **Leadership and Management Structure:** Respondents suggest there is a need for a legitimate management structure, including more officers and a dedicated training coordinator. Several responses highlight the importance of having designated leaders on each shift and establishing minimum staffing requirements to ensure adequate coverage.

If you could make one recommendation for the improvement of the EMS Department, what would that be?

- **Leadership Concerns:** Many responses suggest a complete overhaul of the current leadership. Numerous respondents feel that the current management has lost their confidence and is not effectively addressing the department's needs.
- **Staffing Challenges:** Hudson EMS's staff faces constant turnover and burnout. This necessitates the hiring of more full-time and part-time paramedics and increasing staffing on weekends and holidays.
- **Need for Improved Training:** Recommendations include establishing a robust training program, hiring a training coordinator, and ensuring new employees are properly vetted and trained within a set timeline.

## Appendix B: External Stakeholder Contributions

The City conducted a survey for the residents to comment on the staffing and needs of the Fire and EMS departments. There were 557 responses to the survey. Not all respondents provided a response to all the questions. The following sections illustrate the results of this survey.

### Use of Services

Have you ever had to call 911 for Fire or EMS?

Response	Number	Pct.
Yes	239	42.9%
No	318	57.1%
<b>Total</b>	<b>557</b>	

If so, were you satisfied with the service?

Response	Number	Pct.
Yes	203	82.5%
No	43	17.5%
<b>Total</b>	<b>246</b>	

**Tells us why or why not.** There were 186 responses provided to this question. The following provides the top five themes from the responses.

- **Response Time:** Many respondents mentioned that the response time was too long. For example, one person noted that it took close to 10 minutes for EMS to arrive. Another mentioned that it took around 10 minutes for EMS to arrive even though it was 5:00 in the morning with no traffic. Others noted the response time was quick.
- **Professionalism and Training:** Some respondents felt that the staff was not well-trained or professional. For instance, one person mentioned that the assistance seemed very uneducated, and another noted that the staff did not seem trained well. However, many respondents appreciated the professionalism and kindness of the staff. One person mentioned that the staff was incredible, while another noted that the medics were knowledgeable and helpful.

- **Communication and Behavior:** There were issues with communication and behavior. One respondent mentioned that they were made to feel like it was their fault during a house fire.
- **Decision-Making and Coordination:** Some respondents felt that the decision-making and coordination were poor. For example, one person mentioned that the EMS volunteers did not seem to understand the local geography and took a very long time to decide to transport their husband to the ER.
- **Treatment and Equipment:** There were complaints about the lack of proper treatment and equipment. One respondent mentioned that they did not know how to treat their child correctly and did not have a proper oxygen mask that would fit.

Have friends/family used our Fire/EMS services?

<b>Response</b>	<b>Number</b>	<b>Pct</b>
Yes	346	62.2%
No	210	37.8%
<b>Total</b>	<b>556</b>	

If so, tell us about their experience.

There were 233 responses provided to this question. The following provides the top five themes from the responses.

- **Slow Response Times:** Many respondents expressed frustration with the slow response times of emergency services, particularly in critical situations like house fires and medical emergencies. There are numerous accounts of house fires where the response time was deemed inadequate.
- **Medical Emergencies:** Several respondents shared experiences of delayed EMS response during medical emergencies, which sometimes resulted in worsened conditions or even fatalities.
- **Volunteer Fire Department:** The reliance on a volunteer fire department was a common concern, with many feeling that a full-time, professional fire department would provide better and faster service.
- **Personal Loss and Trauma:** The emotional and psychological impact of these emergencies, including the loss of homes, pets, and loved ones, was a recurring

theme, highlighting the need for more efficient and compassionate emergency services.

- **Community Outreach and Support:** The emergency services were also appreciated for their community outreach efforts. One respondent mentioned that Hudson emergency services are amazing for community outreach needs.

## Satisfaction of Services

What are your feelings about Hudson's Fire service

<b>Response</b>	<b>Number</b>	<b>Pct.</b>
1 – Not Satisfied	114	20.5%
2 – Somewhat Satisfied	135	24.3%
3 – Satisfied	87	15.6%
4 – Very Satisfied	110	19.8%
5 – Don't Know	110	19.8%
<b>Total</b>	<b>556</b>	

What are your feelings about Hudson's EMS service

<b>Response</b>	<b>Number</b>	<b>Pct.</b>
1 – Not Satisfied	50	9.0%
2 – Somewhat Satisfied	99	17.8%
3 – Satisfied	120	21.6%
4 – Very Satisfied	155	27.9%
5 – Don't Know	132	23.7%
<b>Total</b>	<b>556</b>	

## Open Responses

This question is an open comment section for respondents to provide additional comments or suggestions. There were 387 respondents that provide additional comments or suggestions.

Residents of Hudson express urgent concerns about the city's reliance on a volunteer fire and EMS department, advocating for a transition to a full-time, fully staffed model to ensure quicker response times and improved safety.



- **Advocacy for Full-Time Staff:** Many residents emphasize the need for a full-time, fully staffed fire and EMS department to improve response times and ensure safety, especially given the city's size and affluence.
- **Concerns Over Response Times:** Numerous comments highlight dissatisfaction with current response times, citing incidents with long response times potentially worsening outcomes.
- **Comparison with Other Cities:** Residents compare Hudson unfavorably with neighboring cities with full-time fire departments, noting that Hudson's current model is outdated and inadequate.
- **Impact on Property and Lives:** Multiple references are made to recent house fires resulting in total losses, with residents arguing that a full-time department could mitigate such incidents.
- **Economic Arguments:** Some residents question whether the city's tax revenues should be sufficient to fund a full-time department and question current spending priorities.
- **Support for Volunteers:** While residents appreciate the dedication of current volunteers, they believe that a volunteer model is no longer sufficient for Hudson's needs.
- **Calls for Modernization:** Many comments call for modernizing the fire department to reflect Hudson's growth and increased population density.
- **Specific Suggestions:** Hire full-time staff, building additional fire stations, and improving infrastructure such as fire hydrants.

## Appendix C: Community Comparison Survey

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A comparison of neighboring communities was conducted to better understand the region's emergency services system. Five departments were contacted to gain an understanding of their emergency services system. All departments supported the study and had positive interactions with Hudson Fire and EMS departments. All provide and receive mutual aid to and from Hudson Fire on an individual request basis. These are mostly requests for firefighting resources; aid for EMS services is much less common. One department provides automatic aid to northern Hudson as they are the closest resource. Each department agreed on the challenges of maintaining recall-based and/or part-time emergency services staffing, with each having plans to increase full-time staffing levels based on future financial resources. The following information was provided by the department or taken from publicly available sources.

### Community A

- Daily Staffing: flexes between 6 and 9 personnel.
- Annual Budget: about \$3.3M.
- Facilities: one station.
- Response Time: Use NFPA 1710 as a response metric. Compliance 'usually meets the 4–6-minute time standard'.
- Calls for Service: about 3,000 annually

### Community B

- Daily Minimum Staffing: 10 personnel supplemented by 40 hr personnel.
- Annual budget: approx. \$9.5M
- Facilities: three stations.
- Response Time: Use NFPA 1710 as a response metric; compliance was not provided.
- Calls for Service: about 5,000 annually

### Community C

- Daily Minimum Staffing: 8 personnel

- Annual Budget: about \$5.3M. T
- Facilities: two stations.
- Response Time: Use NFPA 1710 as a metric; compliance: dispatch to arrival for EMS is 5:30 and for fire is 6:10.
- Calls for Service: about 4,200 annually

#### Community D

- Daily Minimum Staffing: 2 personnel.
- Annual Budget: about \$760,000
- Facilities: two stations, one is staffed.
- Response Time: The average response time is 8:12 for the staffed unit.
- Calls for Service: about 700 annually

#### Community E

- Daily Staffing: 10 personnel -10,
- Annual Budget: not provided.
- Facilities: three stations.
- Response Time: response metric or compliance not provided.
- Calls for Service: about 4,400 annually.

Automatic and mutual aid is a community collaboration that improves response times, shares resources and increases response efficiency. Many communities have resource limitations; using automatic and mutual aid allows each community to pool resources and provides cost savings. Automatic and mutual aid is a common practice nationwide.

## Appendix D: Estimate of Recommendations Financial Impact

The financial estimate below was completed by City staff.

<b>Financial Effect of Hybrid Staffing &amp; New Safety Center</b>					
	2025 Budget	2026 Budget	2027 Budget	2028 Budget	2029 Budget
Hybrid Personnel Increase (a)	\$1,191,272	\$1,227,010	\$1,263,820	\$1,301,735	\$1,340,787
Debt Service on New Safety Center (b)	\$0	\$0	\$0	\$1,450,000	\$1,450,000
<b>Total Additional Cost</b>	<b>\$1,191,272</b>	<b>\$1,227,010</b>	<b>\$1,263,820</b>	<b>\$2,751,735</b>	<b>\$2,790,787</b>
<b>General Fund Support Required</b>				<b>\$1,250,000</b>	<b>\$2,800,000</b>
<p>(a) Personnel increase includes the cost of staffing a dedicated engine company with 4 part-time employees (\$1,178,705), a reduction in paid on call (\$86,984), and an EMS personnel increase to equalize with fire part time (\$99,551). Assumes a 3% increase per year in 2026 - 2029.</p>					
<p>(b) 30 year debt service payment on a \$25,000,000 Safety Center. Assumes Payments will start in 2028.</p>					
<p><b>Note:</b> The City will work to get grant money to demolish the current Safety Center and any renovations needed while the new Safety Center is under construction will come out of the current operating budget.</p>					

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