

# City of Silvis Fire Department Operational Audit:

*Assessment of operations and services with  
focused attention on long-range planning*



Conducted By:  
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## Executive Summary

McGrath Consulting Group, Inc. was commissioned by the City of Silvis to conduct an independent, non-biased professional review and analysis of Fire Department operations. This includes an analysis of staffing, personnel management, employee recruitment and retention, response standards, training, facilities, apparatus and equipment, fire prevention and public safety education. This analysis was conducted using a historical review of Silvis Fire Department, partnered with an overlay of national standards and fire service best practices. Numerous interviews with key stakeholders were conducted.

McGrath Consulting Group believes that a historical review is almost always important in gleaning an understanding of how an organization makes decisions based on its foundational story. Where appropriate, a historical review is provided to depict changes, progress, successes, missteps, and miscalculations that all combine to explain the current state of today's department.

This analysis is heavily data-driven using information collected from the Department, QCOMM911, and Scott Emergency Communications Center; extensive drive time mapping; a detailed evaluation of Silvis's Insurance Services Office (ISO) rating; and a member satisfaction survey. All data was compared looking for similarities and inconsistencies.

Overall, the Silvis Fire Department is in very good shape. However, two major issues emerged needing immediate attention:

1. Silvis Fire Department response to high acuity EMS calls
2. Employee recruitment, retention, satisfaction, and human resource policies and practices

Related to the issue of EMS services, it became clear that those calling 9-1-1 for high acuity medical and trauma related emergencies are not receiving a timely, patient care focused response that meets national standards for survivability and the reduction of long-term physically limiting deficits. This is not due to the professionalism of the ambulance service, but rather challenges in response times and the lack of partnerships that create a "system of care." These partnerships need to use medical research as the foundation that drives modern pre-hospital patient care practices. This issue can and should be addressed through the development of a first responder medical program within Silvis Fire Department that partners with Genesis Ambulance. In other words, the Silvis Fire Department needs to begin responding on high acuity EMS calls with personnel trained to address emergencies involving respiratory and cardiac issues, choking, drowning, major trauma, and traffic crashes. The estimated annual increase in paid-on-call payroll needed to implement this program is \$12,000. Annual costing to maintain the service after startup for equipment, supplies, and apparatus maintenance is estimated at \$20,000.

Related to the issues of employee recruitment, retention, satisfaction and human resource concerns, the City and the Department need to focus attention on compliance with employment regulations, best practices of records management, and an enhanced focus on new member recruitment. Once



employees are on board, attention must be paid to keeping these valuable resources interested and engaged in the work of the fire department.

The study provides fifty-three (53) recommendations. These recommendations are ranked using the following priority scale:

1. Urgent/Immediate
2. Pressing
3. Important
4. Future Consideration

Seventeen (17) of the recommendations are listed as Priority 1 – Urgent/Immediate. They primarily focus on EMS first responder concerns and human resources issues. A listing of all recommendations is provided in the last section of the report for ease of reference.

The Silvis Fire Department has a long history of progressive service delivery and is doing a good job serving the residents, businesses, and visitors of the City of Silvis. However, a serious void in service delivery exists related to EMS, which can and should be addressed by the Silvis Fire Department. The recommendations made related to human resources are an essential aspect of maintaining the staff needed to address the EMS concern. In essence, one is dependent upon the other. Focused attention by City and Department leadership can address both concerns in an expeditious fashion, thereby making a significant impact on services with a corresponding small increase in employee payroll and service delivery costing.

## Introduction

McGrath Consulting Group, Inc. was commissioned by the City of Silvis to conduct an independent, non-biased professional review and analysis of Fire Department operations. The agreed upon scope of work (i.e., areas to be reviewed) are as follows:

- Governance & Management
- Operations
- Staffing
- Personnel Management
- Facility
- Apparatus/Vehicles/Equipment
- Training /Certifications
- Life Safety Services (Fire Prevention/Safety Education)
- Fiscal Analysis

As with all studies, as interviews are conducted and data analyzed, critical issues typically emerge which then become a key part of the study. Sometimes these issues become the primary focus of the study. In the case of the City of Silvis, two key issues stand at the forefront:

- Emergency Medical Service (EMS) response into the City of Silvis
  - Genesis Ambulance Service availability and readiness to respond
  - Ambulance mutual aid
  - Silvis Fire Department not providing any type of EMS services
  - Silvis Police Department's reduction in EMS response/ability to respond
  - The City of East Moline Fire Department and the Carbon Cliff – Barstow Fire Protection District providing EMS assistance within the City of Silvis supporting Genesis Ambulance
  - Ambulance dispatch coordination between QCOMM911 9-1-1 and SECC/Med-Com
- Workforce (paid-on-call members) recruitment and retention within Silvis Fire Department
  - Limited paid-on-call workforce (i.e., not staffed to authorized strength)
  - Limited daytime staff coverage
  - Organizational culture related to the community
  - Survey of fire department membership

Both issues are added to the scope of work with analysis and applicable recommendations made within the body of this report.

A listing of all recommendations is provided as the last section of this report for ease of reference.

## Study Methodology

Prior to the initial site visit, the consulting team submitted a data request to Chief Winters. Attached as **Appendix A** is a listing of the data requested by the consulting team.

The consultants spent four days on site touring the response area, evaluating facilities, apparatus, equipment, and the level of risk/threats and target hazards of the city. Numerous interviews were conducted including use of an electronic survey tool that went to all current Silvis firefighters. Additional independent research was conducted, and numerous emails and phone calls were made to obtain and/or confirm information.

The most valuable aspect of this study was the time spent interviewing, receiving, and considering stakeholder input. Interviews and discussions were conducted with the following:

- Fire Chief John Winters
- Mayor Matt Carter
- Alderman Bob Cervantes, Public Safety Committee Chair
- Amy Malmstrom, City Clerk
- Jerry Leibovitz, Interim City Administrator
- Daytime personnel (3 members in total)
- Rob DeFrance, Fire Chief, East Moline Fire Department
- Ryan Cameron, Fire Chief, Carbon Cliff – Barstow Fire Protection District
- Dave Johnson, Fire Chief, Hampton Fire Rescue
- John Swan, Fire Chief, Colona Community Fire Protection District
- Genesis Ambulance, Leadership Team
- Scott Ryckeghem, Director, QCOMM911 9-1-1
- Paul Andorf, Director, MEDIC EMS of Scott County

## Study Limitations

With any study of this nature limitations always exist. Limitations are often due to time, availability of those needing to be interviewed, inability to obtain data from non-governmental partners, and the extensive overall project focus. Limitations of this study include:

- The data submitted by Silvis Fire Department was limited, lacking in detail, and challenging to work with. Data provides details and allows trend analysis that helps organizations make better decisions. To make informed decisions, the right data needs to be collected and the end user needs to understand how to interpret the data. Data collection and analysis is a science unto itself and requires a unique skill set that is not possessed by all leaders. Many fire departments have hired data analysts to ensure that organizational leaders are equipped with the right information to make sound decisions. The consultants were given access to Silvis's reporting system and have helped where possible with pulling data for use in this report.

- Since Genesis Ambulance is owned and operated by Genesis Health System, a private non-profit institution, the ability to compel Genesis Ambulance (via a Freedom of Information Request) to provide data related to staffing, availability, use of mutual aid, response times, etc. is very limited. Although a hospital taxing district exists as detailed under Illinois statute 70 ILCS 910, collected funds are provided to Genesis Health System for operation of the hospital and its associated property. Therefore, no direct information could be found related to the use of tax dollars for the ambulance service.
- It was announced March 1, 2023, that Genesis Health System has joined MercyOne. Under this agreement, all interests and operations of Iowa-based Genesis will become part of MercyOne. MercyOne is a member of Trinity Health, headquartered in Livonia, Michigan. Trinity Health is one of the largest not-for-profit health care systems in the country with 88 hospitals across 26 states. MercyOne operates ambulance services from several locations within their network, including a medical helicopter program. The consultants were told that MercyOne plans to continue providing a hospital-based ambulance service as currently operated by Genesis. The consultants were unable to confirm their long-range plans other than the verbal statements given by Genesis Ambulance leadership.
- Genesis Ambulance will no longer be offering ambulance service in Aledo/Mercer County. It is unknown how giving up these contracts will affect Genesis's operations in the East Moline/Silvis response area, if at all.

## Snapshot in Time

It is important for the reader to understand that a study of this nature is a snapshot in time, and findings are based on the assessment of the organization during site visits and the historical material/data provided.

## Consulting Team

The recommendations made within this report are based on the best quantitative data discovered and qualitative observations by the Consulting Team, who have spent years in either fire, EMS, emergency services, human resources, emergency management, or an aspect related to those endeavors.

Participating consultants are as follows:

- Dr. Tim McGrath, CEO McGrath Consulting Group
  - Project Manager
  - 33 years Fire/rescue/EMS (paramedic) experience
- Chief Craig A. Haigh (Ret.), Senior Consultant
  - Lead Consultant for this project
  - 40 years Fire/Rescue/EMS (paramedic) /Emergency Management experience
  - Experience leading volunteer / combination / career fire departments in both Illinois and North Carolina

- Experience serving as Interim Village Manger
- 15 plus years of managing municipalities' organizational and operational strategic planning
- Experience in facilitation and management of an international fire service "think-tank"
- Private sector consulting experience focused on employee leadership, strategic planning, 20-Group facilitation, and organizational management
  
- Ms. Malayna Halvorson Maes, Senior Consultant
  - Human Resources Consultant
  - 20 years in both private and public sector human resources
  - Experience as the Human Resources Director and Senior Advisor for a large county in northern Wisconsin
  - Experience serving as Interim County Administrator
  
- Chief Chris Clark, Consultant
  - 39 years Fire/Rescue/EMS (paramedic) /Emergency Management experience
  - Experience leading both volunteer and career fire departments
  - Experience serving as Acting Village Manger
  - Extensive experience in fire prevention, inspections, plan reviews and construction documents
  - Adjunct faculty member – Illinois Community College System
  
- Fire Marshal Matt Perez (Ret.), Consultant
  - 40 years in public safety, working in both law enforcement and the fire service
  - Served as the Illinois State Fire Marshal from 2015 – 2022 overseeing the divisions of:
    - Arson Investigation
    - Boiler and Pressure Vessel Safety
    - Elevator Safety
    - Petroleum and Chemical Safety
    - Fire Prevention and Licensing
    - Fire Service Personnel Standards and Education
    - Fire Service Outreach and Public Education
    - Special Projects/Grants and Loans
  - Member of the Governor's Cabinet working the State Emergency Operations Center coordinating responses to tornados, floods, rioting, the statewide COVID response and other major events
  - Elected director of the National Association of State Fire Marshals

## Support of City and Fire Department Personnel

The consultants were provided with good cooperation in all aspects of the study. The coordination, support, hospitality, and willingness to meet, along with open and honest communication, were critical to this study. The consultants greatly appreciate the leadership of Fire Chief John Winters in his work to coordinate and schedule interviews. Additionally, the openness and willingness to share information by all interviewed was invaluable in understanding the culture and issues facing emergency services within the City of Silvis.

## How to Read and Use this Report

This report uses a writing style designed for the reader with limited technical knowledge of fire and emergency services. It goes into great detail to explain industry standards and to provide definitions for industry specific jargon. It provides, where possible, a historical background and timeline of issues to help explain current day concerns. The goal is to help the reader truly understand the issues, thereby fostering better decision making.

It is also important for the reader to understand that any organization, regardless of size or operating budget, will have areas where improvements can and should be made. Leading fire and emergency service organizations is challenging. Elected officials, fire chiefs, and members of the department make decisions based on the best information available at the time. When viewing situations from a historical perspective, we often see with great clarity what we could not see at the time. When evaluating decisions in hindsight, it is rare to find situations where every action was perfect, and no mistakes were made. Therefore, it is imperative when reading this report that all issues addressed and recommendations made be taken in the context of growth and learning. It is also imperative to extend grace to those who have done and are currently doing the work.

The City of Silvis, Mayor Matt Carter, and Chief John Winters are commended for their courage in recommending this study and their willingness to openly and with great transparency allow an outside look and critical analysis of Silvis Fire Department. Few fire and emergency service organizations are willing to voluntarily allow such a review. The fact that this study is being conducted based on the recommendation of the Fire Chief and supported by the Mayor speaks to their professionalism and desire for excellence in best serving the residents, businesses, and visitors of the City of Silvis.

## Recommendation Priority Hierarchy

Within each studied area, the consulting team has highlighted recommendations using a priority hierarchy system. This system will rank recommendations from **Priority 1 – Urgent/Immediate Need** through **Priority 4 – Future Consideration**. This allows leadership to prioritize the work needing to be done by easily identifying the most critical areas. Lesser pressing issues can be addressed through planning and be managed over time. The following chart defines the overall numerical rating system:

**Table 1: Recommendation Priority Hierarchy**

<b>Priority</b>	<b>Definition</b>	<b>Example</b>
<b>1</b>	<b>Urgent/Immediate</b>	Potential threat to life; legal and/or regulatory compliance violations; physiological needs; essential preventive action needed.
<b>2</b>	<b>Pressing (&lt; Priority 1)</b>	Significant impact on organization; action needed as soon as possible.
<b>3</b>	<b>Important (&lt; Priority 2)</b>	Organization will benefit by addressing soon; items that should be accomplished.
<b>4</b>	<b>Future Consideration</b>	Items need to be addressed; develop a plan of action; low consequences of delayed action.

## Strategic Planning

This report includes a wide range of recommendations. Many of these recommendations are costly, requiring a large financial commitment on the part of the residents and businesses of Silvis. It is unrealistic to think that all recommendations can be accomplished immediately. Many of the stated recommendations will take years to accomplish, and many will need to be modified as changes occur over time. This is okay and should be expected. The best path forward is to use this study as a guiding document to develop a targeted, 3-year strategic plan that provides goals and objectives that allow focused accomplishment of the recommendations made. As goals are completed, take the time to celebrate the success. Strategic planning will be the key to using this broad ranging study, understanding that goal establishment and accomplishment must be based on short-term, mid-range, and long-term processes.

## Governance & Management – Overview of Fire Department

The City of Silvis was incorporated in 1906 spurred by construction of the Rock Island Line workshop. The workshop was built in 1903. The population of the community at the time of incorporation was around 1,000 residents. The current estimated population served by the department is just over 8,000.

The City of Silvis is a non-home rule municipality led by Mayor Matt Carter and eight (8) aldermen serving four (4) wards. The city has an elected, full-time City Clerk who serves as Collector. A City Administrator oversees daily operations and focuses on economic development.

The first fire station in Silvis was built to protect the rail yards, workshop, and ancillary structures. It was never used by the Silvis Fire Department. It is believed that the fire station was completed at about the same time or very shortly after the main Rock Island Line workshop building was finished. The City of Silvis Fire Department was not organized until five years later in 1908.

The Silvis Volunteer Fire Department was formed with twenty (20) signatories to its original Constitution and By-Laws. A fire chief, assistant fire chief and a lieutenant were named to provide direction and command of the department. The first motorized fire apparatus was purchased in 1916.

**Figure 3: Silvis firefighters and apparatus staged outside of the fire station.**



Fire equipment was housed in various locations over the years until the department moved into its first permanent home located at 1040 1<sup>st</sup> Avenue where for close to 100 years this building would not only be home to the fire department, but also the Silvis City Hall, Silvis Police Department, and the Silvis Public Library. The department is now headquartered at 2010 10<sup>th</sup> Street.

**Figure 1: Historic Silvis Fire Helmets**



**Figure 2: Railyards Fire Station**





**Figure 4: Firefighters and apparatus staged outside original fire station.**



In the 115-year history of the Silvis Fire Department, the organization has been led by only eight (8) known fire chiefs. An interesting point related to fire chiefs is that three of these chiefs were succeeded in their position by their sons.

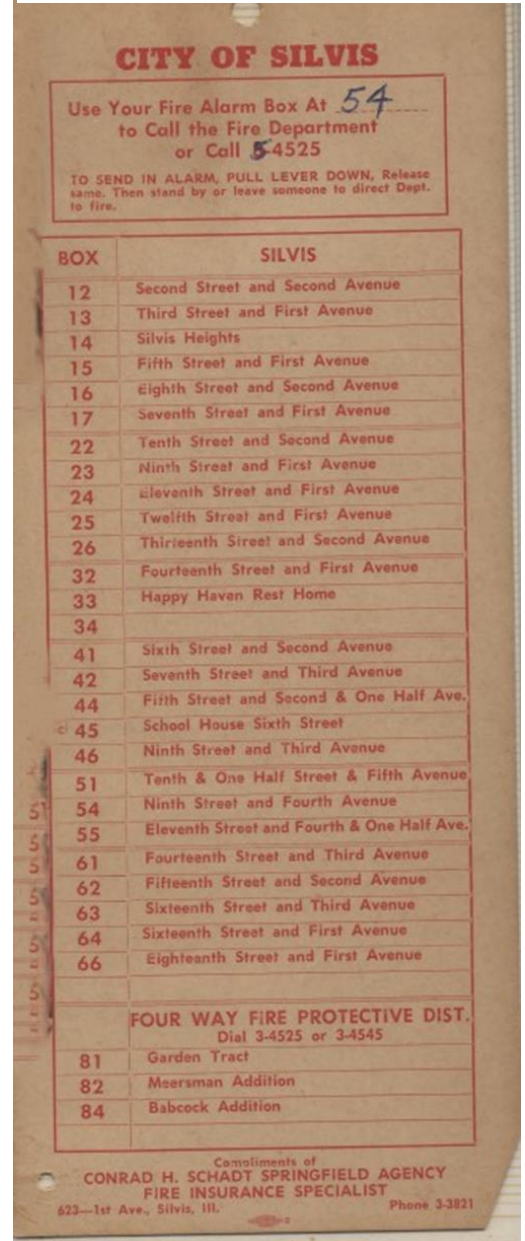
1908 - ?	William H. Downing
? - 1939 - ?	Joe Stevens
? - 1950 - ?	Charles Stevens
? - 1959	Conrad H. Schadt
1959 - 1978	Norman D. Schadt
1978 - 1995	Robert Leibovitz
1995 - 2018	David Leibovitz
2018 - Present	John E. Winters

Currently, the department provides services to the City of Silvis and the Bowlesburg Fire Protection Districts.

This district is known as “paper district” which exists only for taxing purposes, and contracts with Silvis to provide all fire department services. The department’s protection area also covers the TPC Deere Run golf course and parts of Illinois Route 5. The golf course is the site of the annual PGA Tour’s John Deere Classic. Genesis Hospital–Silvis is also located within the protection area. **See Figure 8.**

The department currently operates from two fire stations with a full-time career fire chief and an authorized paid-on-call/paid-on-premise strength of 30 members. The department has a long history of progressive service delivery.

**Figure 5: Silvis Fire Alarm Box Numbers**



In 1978 the fire department began staffing the station from 7 a.m. until 5 p.m., Monday through Friday. This program was initiated to ensure that firefighters were available to respond when many of the volunteer firefighters were working. This was critically important in a day when the railroad yards were busy, and the department was also tasked with protecting John Deere's foundry facility. The program was expanded in 2005 to include weekend coverage. Coverage occurs by firefighters signing up to work the available shifts. This program is known in the fire service industry as "paid-on-premise staffing."

Continuing its progressive mindset, the Silvis Fire Department became the first volunteer department in the Illinois Quad Cities to employ a full-time career fire chief. It was also the first to purchase and operate a dedicated vehicle for incident command.

In 1979, in response to construction of the community's first high-rise building, the department began contemplating the purchase of a tower ladder. The unit was ultimately approved and was delivered in 1981. This apparatus was the first tower ladder operated by any department within the Quad Cities' area.

The department was also one of the first in the nation to purchase a rear engine, front wheel drive fire apparatus. This configuration was designed to better protect the firefighters riding in the cab while giving enhanced traction and steering in icy conditions.

**Figure 7: Pierce Javelin Fire Engine**



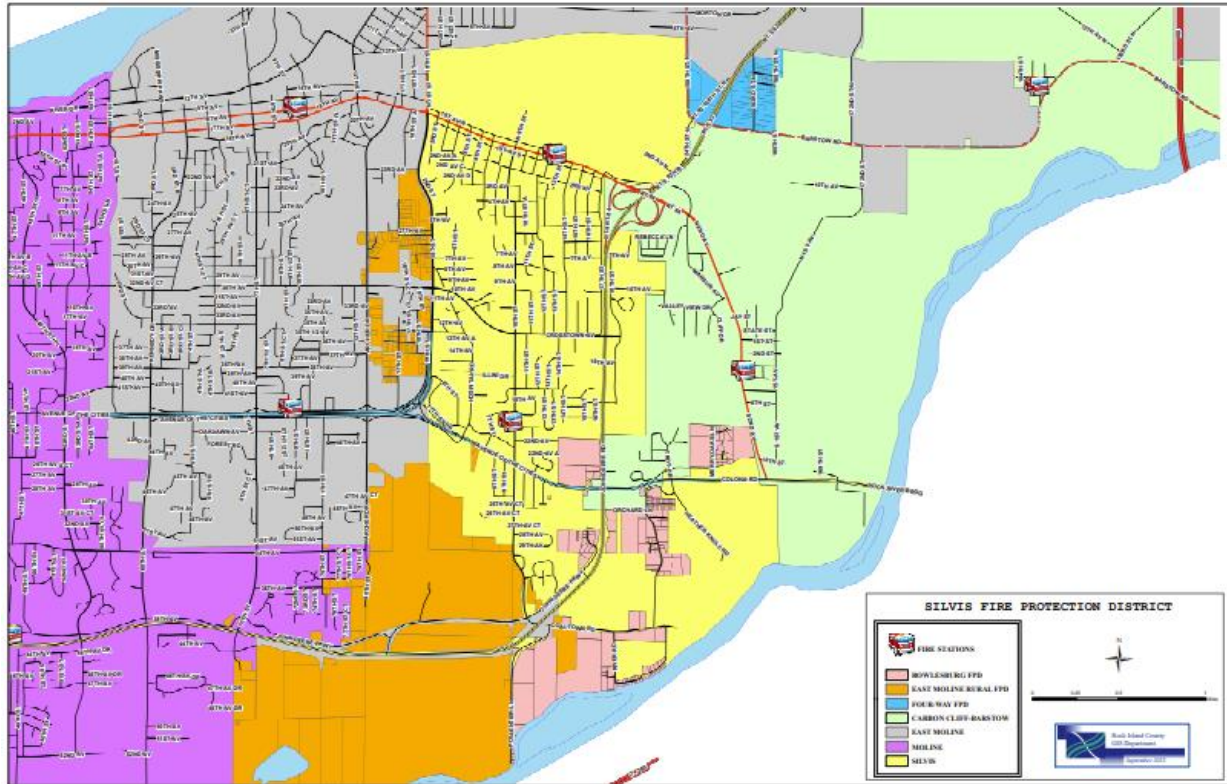
**Figure 6: Silvis's first Tower Ladder**





**Appendix B** provides a Historical Timeline of the Silvis Fire Department. Special thanks are extended to Chief John Winters and Amy Fry, Library Director, Silvis Public Library for their work in researching and compiling this timeline.

**Figure 8: Fire Protection Map with Station Locations**



Even with all the progressive thinking by department leadership, the department has never strayed from its singular mission of providing fire protection. As other Quad Cities' departments have moved to expand services into the areas of EMS and rescue, the Silvis Fire Department has remained relatively steadfast in its position to not move in this direction.

Illini Ambulance (now Genesis Ambulance), a hospital-based service, began operation on September 1, 1974. With the service geographically located within the City of Silvis and responding from the hospital, there was no perceived need for the fire department to respond to EMS calls. For many years, the Silvis Police Department responded to assist the ambulance and sometimes even drove the ambulance to the hospital in cases of critically ill or injured patients. Silvis police officers however were never trained at an professional EMS certification level with training consisting of basic first aid and CPR. The officers were also equipped with an automatic defibrillator (AED). This model worked relatively well until the COVID pandemic, when the police department began limiting the exposure risk to its officers. Because of their response to more calls and their desire to minimize exposure risk, the police department simply lacks the availability to always respond to EMS calls.

A slight adjustment in the fire department's position related to rescue calls occurred when the department made the move to purchase hydraulic vehicle rescue extrication equipment. Prior to the equipment's purchase, the department relied on the City of East Moline and the Colona Community Fire Protection District to provide these services. In some cases, but not all, the Silvis Fire Department was not dispatched to support these neighboring fire agencies in the management of the vehicle rescue situation. In fact, the request for extrication services was often made by the ambulance, thereby completely bypassing Silvis Fire Department.

A major component of this study will focus attention on the issue of EMS and whether the Silvis Fire Department should provide some level of patient care support. Genesis Ambulance has been clear with the consultants that they believe a response from the Silvis Fire Department would be beneficial on "some" EMS calls. This is compounded by the fact that all Quad Cities ambulance services have seen a marked increase in call volume which often requires a mutual aid response from a neighboring community. These mutual aid responses lengthen the time from 9-1-1 call to arrival of medical care which can have a detrimental impact on the patient's overall health condition.

This issue of EMS response along with a recommendation will be addressed in great detail later in this report.

## Overview of Operations

Silvis Fire Department operates out of two locations: Station 1 at 1207 1st Avenue, and Station 2 (Headquarters) at 2010 10th Street. The Fire Chief is full-time and based at Headquarters during business hours, but often attends meetings outside of the station.

### Fire Stations

#### Station 1

- Engine 4664 (primary)
- Engine 4662 (secondary)
- Paid-on-Call staffing 24/7

#### Station 2 (Headquarters)

- Tower 4657
- Engine 4661
- Daytime staffing consists of 2 personnel
  - Monday-Friday, 7 a.m. to 4 p.m.
  - Saturday-Sunday, 8 a.m. to 4 p.m.

### Fire Suppression

Silvis Fire Department has adopted Standard Operating Guidelines. General Fireground Tactical Operations SOG (SPP-200-009) specifies that the first-in officer shall perform a 360-degree size-up and establish incident command.

The initial tactical decision and deployment model employed will follow the acronym S.L.I.C.E.– R.S. The Fireground Tactical SOG appears progressive and quite appropriate for the available resources of the Silvis Fire Department.

**Table 2: SLICE-RS, International Society of Fire Service Instructors**

S.L.I.C.E.-R.S. Operational Components	
Sequential Actions	
S	Size-up
L	Locate the Fire
I	Identify and Control Flow Path
C	Cool the Space from Safest Location
E	Extinguish the Fire
Actions of Opportunity	
R	Rescue
S	Salvage

According to the Mutual and Automatic Aid SOG (SPP-200-006), Silvis provides automatic aid for structure fires as indicated in the below chart:

*Table 3: Automatic Aid Given Assignments*

Automatic Aid to	Resources provided
East Moline	1 Chief and 1 Ladder with 4 personnel
Hampton	1 Chief, 1 Engine with 4 personnel, 1 Ladder with 4 personnel
Carbon Cliff/Barstow	1 Chief, 1 Engine with 4 personnel, 1 Ladder with 4 personnel

## Emergency Medical Services

The Silvis Fire Department does not have any policy or procedures covering Emergency Medical Services. According to QCOMM911, Silvis Fire is not available to respond to Emergency Medical Services incidents.

## Insurance Services Office (ISO™) - Fire Suppression Rating Schedule

The Fire Suppression Rating Schedule (FSRS) is a system utilized by ISO™ to review fire prevention and fire suppression capabilities of individual communities or fire protection areas. The schedule measures the major elements of a community's fire protection system and develops a numerical grading called a Public Protection Classification (PPC®). Scores range in diminishing order from 10 to 1. The best rating received under this model is a Public Protection Class 1, while an area having no fire protection is rated at a Public Protection Class 10. The overall rating considers emergency communications, fire department/district operational capabilities, water supply, and the community's efforts to reduce losses through fire prevention, public fire safety education and fire investigations. The rating schedule is used primarily by insurance companies to establish premiums for property owners based on the level of risk.

The Silvis Fire Department currently holds a Public Protection Rating of Class 4.

ISO will be discussed in more detail with information specific to the Silvis rating in the **National Standards Compliance** section of this report.

## National Fire Incident Reporting System (NFIRS)

The National Fire Incident Reporting System (NFIRS) was established in 1975 as one of the first programs of the National Fire Prevention and Control Administration, which later became the U.S. Fire Administration (USFA). The basic concept of NFIRS has not changed since the system's inception. All states and all fire departments/districts have been invited to participate on a voluntary basis. Participating fire departments/districts collect a common core of information on an incident and any casualties that ensue by using a common set of definitions. NFIRS categorizes incident types into nine (9) broad categories with each category having a series of sub-categories. The USFA collects and

analyzes NFIRS data from participating states to 1) provide a legal record of facts, 2) assist fire department/district administrators in evaluating their fire and EMS effectiveness, and 3) for use at state and national levels.

The below chart provides a 3-year comparison of Silvis’s call volume broken down by NFIRS category type. It is then compared against the same categories from the national NFIRS database. To provide a more holistic overview of the types of calls the department handles, the years have been totaled together so a 3-year call type percentage comparison can be calculated. This process allows trends in call volume to be easily identified.

The following table reflects the 2020 – 2022 emergency activities utilizing the NFIRS series categories:

**Figure 9: NFIRS Comparison to National Numbers**

Incident Type Group	2020	2021	2022	Fire Dept. 3 Yr. %	National %
100 – Fire	43	48	63	19.40%	4.70%
200 - Overpressure/Explosion	0	3	1	0.50%	0.20%
300 – Rescue/EMS	45	17	20	10.33%	64.10%
400 – Hazardous Condition	48	24	30	12.85%	3.70%
500 - Service Call	35	30	29	11.84%	7.10%
600 – Cancelled, Good Intent Calls	73	49	51	21.79%	10.50%
700 - False Alarm/False Call	57	59	55	21.54%	8.70%
800 - Severe Weather	0	0	0	0.00%	0.10%
900 - Special Incidents	14	0	0	1.76%	0.70%
<b>Totals</b>	<b>315</b>	<b>230</b>	<b>249</b>	<b>100%</b>	<b>100%</b>

To fully understand the calls categorized by series type (100, 200, 300, 400, etc.), the following chart is designed to provide an overview of incident types within each category.

**Table 4: Call type descriptions per NFIRS category**

Fire Series 100	Overpressure/Explosion Series 200	Rescue /EMS Series 300
<ul style="list-style-type: none"> <li>• Structure Fires</li> <li>• Fire in mobile property used as a fixed structure</li> <li>• Mobile property (vehicle) fire</li> <li>• Natural vegetation fire</li> <li>• Outside rubbish fire</li> <li>• Outside fire               <ul style="list-style-type: none"> <li>○ Mulch</li> <li>○ Outside equipment</li> <li>○ Outside gas or vapor</li> </ul> </li> <li>• Cultivated vegetation, crop fire (not harvested)</li> </ul>	<ul style="list-style-type: none"> <li>• Overpressure rupture from steam – no fire</li> <li>• Overpressure rupture from air or gas – no fire</li> <li>• Overpressure rupture, chemical reaction – no fire</li> <li>• Explosion – no fire</li> <li>• Excessive heat, scorch burns with no ignition</li> </ul>	<ul style="list-style-type: none"> <li>• Medical assist</li> <li>• Emergency medical service incident</li> <li>• Lock-in</li> <li>• Search for lost person</li> <li>• Extrication, rescue</li> <li>• Water or ice-related rescue</li> <li>• Electrical rescue</li> <li>• Rescue or EMS standby</li> </ul>

<b>Hazardous Condition Series 400</b>	<b>Service Call Series 500</b>	<b>Canceled, Good Intent Series 600</b>
<ul style="list-style-type: none"> <li>• Combustible/Flammable spills and leaks</li> <li>• Chemical release, reaction, or toxic condition</li> <li>• Radioactive condition</li> <li>• Electrical wiring/Equipment problem</li> <li>• Biological hazard</li> <li>• Accident, potential accident</li> <li>• Explosive, bomb removal</li> <li>• Attempted burning, illegal action</li> <li>• Hazardous condition, other</li> </ul>	<ul style="list-style-type: none"> <li>• Person in distress</li> <li>• Water problem</li> <li>• Smoke problem</li> <li>• Animal problem or rescue</li> <li>• Public service assistance</li> <li>• Unauthorized burning</li> <li>• Standby at fire station</li> </ul>	<ul style="list-style-type: none"> <li>• Dispatched and cancelled en route</li> <li>• Wrong location, no emergency found</li> <li>• Controlled burning</li> <li>• Vicinity alarm</li> <li>• Steam, other gas mistaken for smoke</li> <li>• EMS call – Patient left before arrival</li> <li>• Haz-Mat release investigation w/no Haz-Mat found</li> </ul>
<b>False Alarm / False Call Series 700</b>	<b>Severe Weather Series 800</b>	<b>Special Incidents Series 900</b>
<ul style="list-style-type: none"> <li>• Malicious, mischievous false alarm</li> <li>• Bomb scare</li> <li>• System or detector malfunction</li> <li>• Unintentional system or detector operation (no fire)</li> <li>• Biohazard scare</li> </ul>	<ul style="list-style-type: none"> <li>• Earthquake assessment</li> <li>• Flood assessment</li> <li>• Windstorm, tornado/hurricane assessment</li> <li>• Lightning strike (no fire)</li> <li>• Severe weather standby</li> </ul>	<ul style="list-style-type: none"> <li>• Citizen's Complaint</li> <li>• Report of Code or Ordinance Violation</li> </ul>

### *Identifying Emergency Service Trends*

When determining a fire department's efficiency and/or addressing future resource needs, it is prudent to examine the historical occurrences of emergencies.

**Table 5: Silvis Incident Data 2020-2022**

Incidents in Silvis		Total	Percent
1 - Fire		70	12.9%
2 - Overpressure Rupture, Explosion, Overheat (No Fire)		4	0.7%
3 - Rescue & Emergency Medical Service Incident		30	5.5%
4 - Hazardous Condition (No Fire)		77	14.2%
5 - Service Call		84	15.4%
6 - Good Intent Call		119	21.9%
7 - False Alarm & False Call		160	29.4%
		544	

### *Comparability of Silvis NFIRS Call Data*

When analyzing comparable data between an individual department and the national average, it is common to see a few percentage point differences within categories. When large variations are seen, it is the consultants' experience that either the data is coded incorrectly or there is a unique circumstance or community service demand causing the variation.



When comparing Silvis’s data, a couple variations are noted:

*Figure 10: Silvis NFIRS Data Variation*

<b>Data Variation: Difference Between Silvis vs. National Percentages</b>	
100 – Fire	14.70%
200 – Overpressure/Explosion	0.30%
300 – Rescue/EMS	-53.77%
400 – Haz. Condition	9.15%
500 – Service Call	4.74%
600 – Good Intent	11.29%
700 – False Alarm	12.84%
800 – Severe Weather	-0.10%
900 – Special Incident	1.06%

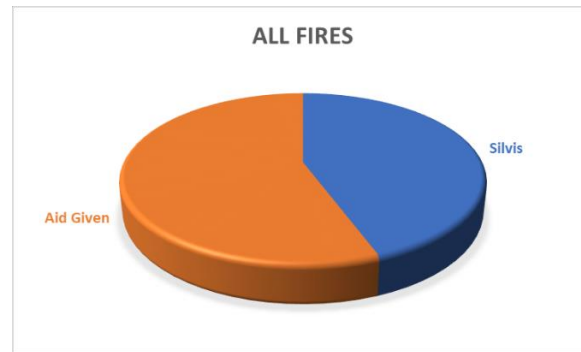
**Series 100 – Fire:** The national average is 4.70%, whereas Silvis is 14.70%. This indicates that the department responds to a significantly higher number of actual structure fire incidents. This higher percentage is likely due to the number of automatic aid/mutual aid responses the department makes assisting neighboring fire departments. The department is coding these responses as if they are structure fires occurring within the City of Silvis, which is presenting a false impression of the number of fires occurring.

*Table 6: Silvis Fire Responses*

All Fires	Incidents
0 - No Aid	40
1 - Mutual aid received	9
2 - Automatic aid received	21
3 - Mutual aid given	17
4 - Automatic aid given	71

If the response is cancelled while responding, it should be coded as a 611. If the automatic aid/mutual aid response was for an actual fire it should be noted in the narrative, then distinguished within the annual reporting showing the fires that actually occurred within the City of Silvis compared to fires in a neighboring community.

**Figure 11: Responses to Fires in In-Town Vx. Out-of-Town**



**Series 300 – Rescue/Emergency Medical Services:** Only 10.33% of Silvis’s total responses are categorized as Rescue/EMS response. This is 53.77% less than the national average. Not responding to EMS calls is a specific policy decision by the City of Silvis. Our national consulting firm has found that for departments/districts providing EMS services, call volumes for EMS range between 70% to 75%. The reality for today’s fire service is that most agencies have primarily become EMS services that happen to also provide fire suppression. Progressive departments work to align their resources with their service demands which are predominately EMS in nature.

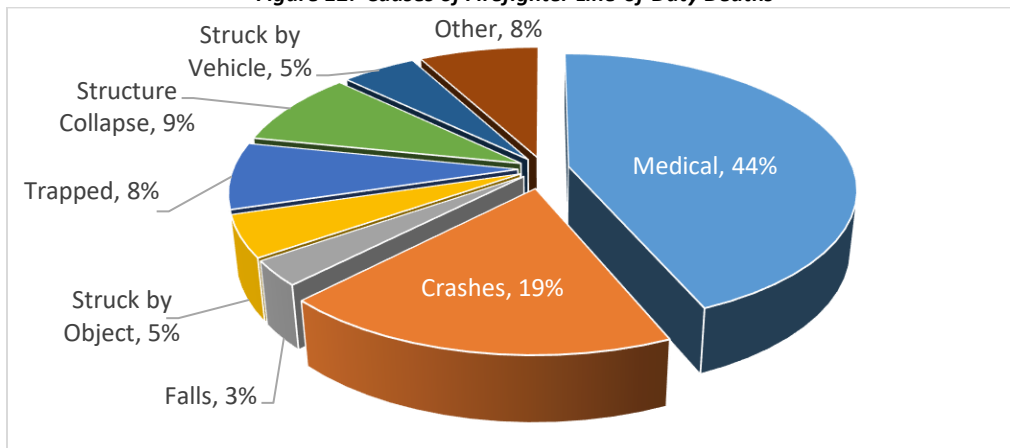
**Series 700 – False Alarms/Calls:** The department’s false alarm calls compared to the national average are notably higher (12.84% compared to 8.70%). The number of false Carbon Monoxide alarms is quite low. The number of Sprinkler Activations with no fire is surprisingly high. Examination of the incident reports reveals that the majority of sprinkler activations were the result of a dry pipe valve activation due to low air pressure. Supervisory alarms (trouble alarms) provide the occupant early warning that something is wrong with the sprinkler system. Instead of having QCOMM911 dispatch SFD for these alarms, SFD should receive regular supervisory alarm reports from QCOMM911. Then SFD should follow up with the affected businesses to ensure the systems have been serviced.

**Table 7: False alarm breakdown 2020 – 2022**

False Alarm & False Call	
Alarm system activation, no fire - unintentional	22
Alarm system sounded due to malfunction	18
Carbon monoxide detector activation, no CO	1
Central station, malicious false alarm	10
CO detector activation due to malfunction	10
Detector activation, no fire - unintentional	7
Extinguishing system activation	1
Heat detector activation due to malfunction	4
Smoke detector activation due to malfunction	31
Smoke detector activation, no fire - unintentional	25
Sprinkler activation due to malfunction	11
Sprinkler activation, no fire - unintentional	16
System malfunction, other	2
Telephone, malicious false alarm	1
Unintentional transmission of alarm, other	1
	160

Why is it important to evaluate false alarms? False alarms are a drain on the city’s resources, prevent personnel from responding to actual emergencies, and increase the chances for vehicle accidents. Thus, the resolution of false alarms reduces unnecessary emergency responses and increases significant safety factors for the community and the service providers. Vehicle accidents (responding to or returning from) are the second leading cause of firefighter line-of-duty deaths as illustrated in the chart below:

**Figure 12: Causes of Firefighter Line-of-Duty Deaths**



Source: NFPA Firefighter Deaths by Cause of Injury

Another consideration in evaluating the statistical anomaly related to false fire alarms is that the calls may simply not be coded correctly. A common belief is that any alarm activation that does not yield a working structure fire on arrival is a “false alarm.” This is inaccurate and not a full reflection of how alarms operate. Alarm activations can be broken into the following categories:

- Early detection of fire or smoke: In this situation, the alarm activates appropriately providing early detection of smoke or heat rise. Due to the early detection and notification, small incidents are often rectified by occupants who address the problem prior to the fire department’s arrival. When the fire companies arrive, little to no work is required due to the early detection and intervention. In these situations, the alarm did its job and should not be considered a “false alarm.”
- System Malfunction: This situation generally includes an alarm activation triggered from a system that is not functioning properly. This malfunction can be driven by a malfunction within a component of the system, lack of system maintenance, or a lack of housekeeping to keep the detectors free of dust and spider webs.
- Accidental alarms: Accidental alarms are transmitted mostly due to a pull station being accidentally hit or struck (i.e., a ball bounced at a school event accidentally strikes the pull station and causes an activation).
- Malicious false alarms: An individual intentionally activates a fire alarm knowing that no emergency exists, and fire department resources are not needed.

An analysis of calls coded as false alarms needs to be conducted to determine if the calls are being coded correctly.

The department also needs to look at ways to reduce emergency responses to unconfirmed alarm activations. National statistics indicate that a very low percentage of fire alarm activations are major incidents. Nationally, a growing threshold used by many fire departments/districts is to send a reduced response to alarm activations unless the alarm is followed by a 9-1-1 phone call reporting a fire.

In the most recent addition of NFPA 1710, a new section has been added to specifically address this situation. Section 5.2.4.5 reads:

*Initial alarm assignment to a fire alarm signal notification, without confirmation of a suspected fire condition and without multiple detection signals, shall be a minimum of one four-person company to investigate the cause of the fire alarm signal notification.*

Understanding that Silvis may not always be able to send a 4-person staffed company, the Department should endeavor to send one engine company, staffed with a minimum of two (2) personnel along and the duty officer to all alarm activations. Paid-on-call firefighters responding should be held at the stations until the responding company is on-scene and confirms whether additional resources will be needed. If

the duty officer arrives on-scene prior to the responding engine company and determines that no true emergency exists, the responding engine should be allowed to continue in a “non-emergency response mode” and assist with the investigation. This allows the responding firefighters to gain experience and serves to enhance their overall knowledge of the building as well as its alarm system. Both the experience and the knowledge enhancement are important aspects of leading a volunteer/paid-on-call fire department.

## National Standards

National standards can be useful for Silvis in management decision making for the fire department. Some standards are mandatory (i.e., OSHA standards) while others have been established as a benchmark of professional performance. It is prudent to understand the standards and their overall applicability to the City of Silvis. Due to the breadth of the standards, it is wise for the city to seek compliance with all mandatory standards and as much as possible with the “best practice” standards. Wise discernment and fiscal responsibility are necessary to apply these standards appropriately.

## Occupational Safety and Health Administration (OSHA)

The Occupational Safety and Health Administration (OSHA) was established by Congress in 1970 through the Occupational Safety and Health Act. The Act is intended to ensure safe and healthy working conditions for workers by setting and enforcing standards and by providing training, outreach, education, and assistance. The Act covers most private sector employers and their workers, in addition to some public sector employers and workers in the 50 states and certain territories and jurisdictions under federal authority. OSHA standards are mandatory in Illinois.

### *Respiratory Protection*

One of the primary standards applicable to the fire service is 29 CFR § 1910.134–Respiratory Protection.

The standard establishes (1910.134(1)): *In any workplace where respirators are necessary to protect the health of the employee or whenever respirators are required by the employer, the employer shall establish and implement a written respiratory protection program with worksite-specific procedures. The program shall be updated as necessary to reflect those changes in workplace conditions that affect respirator use. The employer shall include in the program the following provisions of this section, as applicable:*

- *1910.134(1)(i) – Procedures for selecting respirators for use in the workplace*
- *1910.134(1)(ii) – Medical evaluations of employees required to use respirators*
  - *NFPA 1582 serves to meet the standards as established within this section.*
  - *Other medical evaluation options other than following the NFPA standard exist as well.*
- *1910.134(1)(iii) – Fit testing procedures for tight-fitting respirators*
  - *The employer shall not permit respirators with tight-fitting facepieces to be worn by employees who have:*
    - *Facial hair that comes between the sealing surface of the facepiece and the face or that interferes with valve function; or*
    - *Any condition that interferes with the face-to-facepiece seal or valve function.*
  - *If an employee wears corrective glasses or goggles or other personal protective equipment, the employer shall ensure that such equipment is worn in a manner that does not interfere with the seal of the facepiece to the face of the user.*

- *For all tight-fitting respirators, the employer shall ensure that employees perform a user seal check each time they put on the respirator.*
- *1910.134I(1)(iv) – Procedures for proper use of respirators in routine and reasonably foreseeable emergency situations*
- *1910.134I(1)(v) – Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators*
- *1910.134I(1)(vi) – Procedures to ensure adequate air quality, quantity, and flow of breathing air for atmosphere-supplying respirators*
- *1910.134I(1)(vii) – Training of employees in the respiratory hazards to which they are potentially exposed during routine and emergency situations*
- *1910.134I(1)(viii) – Training of employees in the proper use of respirators, including putting on and removing them, any limitations on their use, and their maintenance*
- *1910.134I(1)(ix) – Procedures for regularly evaluating the effectiveness of the program*

Based on these mandatory standards it is recommended that the department establish within the Standard Operating Guidelines policies for use and maintenance of SCBA.

### *Two-in/Two-Out Standard*

Section 1910.134(g)(4)(i), commonly referred to as the fire fighters’ “two-in/two-out” regulation requires the following:

- *The interior structural firefighting procedures provide for at least two firefighters inside the structure.*
- *The two firefighters inside the structure must have direct visual or voice contact between each other and direct, voice or radio contact with firefighters outside the structure.*
- *That there be two firefighters outside the hazard area to initiate a rescue of the firefighters inside, should they become in trouble (this pertains to the “initial” interior operation crew).*
  - *One of these outside firefighters must actively monitor the status of the inside fighters.*
  - *The second outside firefighter may perform a variety of other duties, such as pump operations, Incident Commander, or outside hose line operation.*
- *Once a second crew is assigned or is operating in the hazardous area, the incident is no longer considered in the “initial” stage, and a dedicated rapid intervention crew is now required.*
- *The standard does not require the “two-in/two-out” provision if the fire is still in the incipient stage.*
- *It does not prohibit firefighters from fighting the fire from outside before sufficient personnel have arrived.*
- *It does not prohibit firefighters from entering a burning structure to perform rescue operations when there is a reasonable belief that victims may be inside.*
- *It is only when firefighters are engaged in the interior attack of an interior structural firefighting that the “two-in/two-out” requirement applies.*

- *It is the Incident Commander's responsibility to judge whether a fire is an interior structural fire and how it will be attacked.*

It is recommended that the department establish an SOG related to "two-in/two-out" practices, including a training plan related to managing firefighter maydays.

### ***Required Training***

- *1910.120 (q) – Requirements for emergency personnel who respond to hazardous materials incidents:*
  - *Every fire department has the potential to respond to known or unknown hazardous materials incidents.*
  - *All responders need to be trained to a minimum of first responder awareness.*
- *1910.132 – Personal Protective Equipment (PPE)*
  - *Departments are required to train all members that may be required to wear personal protective equipment before being allowed to perform work requiring the use of PPE.*
  - *Training must include:*
    - *When PPE is necessary*
    - *What PPE is necessary*
    - *How to properly don/doff*
    - *How to adjust and wear PPE*
    - *The limitations of PPE*
    - *The proper care, maintenance, useful life, and disposal of PPE.*
- *1910.156 & 1910.157 – The department shall provide a policy that details the type, amount, and frequency of training to be provided to members. This can be accomplished through an annual written training plan and calendar.*
- *1910.1030 – Blood Borne Pathogen Training*
  - *Department members who may respond and come into contact with bloodborne pathogens are required to receive training on management and protection.*
  - *Training shall take place before members are allowed to respond on calls and then at least annually thereafter.*

It is recommended that the department establish an annual training plan that incorporates required OSHA topics.

### **National Fire Protection Association (NFPA)**

The National Fire Protection Association (NFPA) is a global, non-profit organization that promotes safety standards, education, training, research, and advocacy on fire and electrical-related hazards.

Established in 1896 to standardize the use of fire sprinkler systems, the NFPA's scope grew to include building design, rescue response, electrical codes, and other safety concerns.



NFPA publishes more than 300 consensus standards intended to minimize the possibility and effects of fire and other risks. NFPA standards are administered by more than 250 technical committees comprising approximately 8,000 volunteers. NFPA standards are adopted and used throughout the world.

The National Fire Protection Association (NFPA) uses consensus standard rule making. Consensus standards are developed through the cooperation of all parties who have an interest in participating in the development and/or use of the standards. Consensus requires that all views and objections be considered and that an effort be made toward their resolution. Committees are composed of industry representatives, fire service representatives, and other affected parties who all work together to agree on the final rule. NFPA standard revision dates work on a three-five year review cycle.

It is important to understand that NFPA codes/standards are like a double-edged sword. Fire Departments/Districts are not required to meet the standards but will most likely be judged against these standards as part of any litigation, including investigations into a serious firefighter injury or a firefighter line-of-duty death.

### ***NFPA 1582***

NFPA 1582, Standard on Comprehensive Occupational Medical Program for Fire Departments, establishes the minimum “fitness for duty” medical standard required for firefighters to operate wearing personal protective equipment within an IDLH (immediately dangerous to life or health) atmosphere. This standard does not apply to single-role EMS providers, support personnel, exterior only firefighters, or personnel who only serve as drivers for emergency apparatus. The department should make every effort to comply with the medical standards as established per this standard, including testing requirements based on age and frequency of exams.

This standard complies with the Occupational Safety and Health Administration (OSHA) regulations related to medical evaluations of employees required to use respirators; 1910.134I(1)(iii).

Currently the department is utilizing standards for a Commercial Driver’s License (CDL) physical instead of an NFPA 1582 medical exam. This should be changed for firefighters who are authorized to operate wearing breathing apparatus in an IDLH atmosphere. Members who are not authorized to wear breathing apparatus can be evaluated using the lessor medical exam.

### ***NFPA 1710 / NFPA 1720***

NFPA has adopted two (2) standards addressing fire department organization and operation: NFPA 1710—Organization and Development of Fire Suppression, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments, and a sister standard, NFPA 1720—Organization

and Development of Fire Suppression, Emergency Medical Operations, and Special Operations to the Public by Volunteer/Paid-On-Call Fire Departments.

Although NFPA 1720 is very comprehensive, it is not as stringent as NFPA 1710. Since Silvis is technically a combination department with a workforce consisting of a full-time fire chief with paid-on-call/paid-on-premise employees, NFPA 1720 is the most applicable standard. Going forward, Silvis should use the standard as a performance benchmark attempting to meet as many NFPA 1720 standards as feasibly and fiscally possible.

Chapter 4 of the standard provides specific detail on a variety of benchmark issues. Each of these benchmarks offer Silvis guidance on goal setting and performance tracking.

- *Fire Suppression Organization*
  - *Fire suppression operations shall be organized to ensure that the fire department's fire suppression capabilities include sufficient personnel, equipment, and other resources to deploy fire suppression resources efficiently, effectively, and safely.*
  - *The authority having jurisdiction (AHJ) shall promulgate the fire department's organizational, operational, and deployment procedures by issuing written administrative regulations, standard operating procedures, and departmental orders.*
  - *Fire Department procedures shall clearly state the succession of command responsibility.*
  
- *Community Risk Management*
  - *The fire department shall participate in a process that develops a community fire and emergency medical services risk management plan.*
  - *The plan should address risks associated with the storage, use, and transportation of hazardous materials.*
  
- *Staffing and Deployment*
  - *The fire department shall identify minimum staffing requirements to ensure that a sufficient number of members are available to operate safely and effectively.*
  - *The following table shall be used by the AHJ (i.e., Silvis) to determine staffing and response time objectives. The objectives are based on structural firefighting in a 2,000 ft<sup>2</sup> two-story, single-family home, without basement and exposures.*
  - *Operational standards:*
    - *A jurisdiction can have more than one demand zone. Silvis's demand zone is highlighted in "yellow" within the chart.*
    - *Response time begins upon completion of the dispatch notification and ends when the required resources are on-scene.*

**Table 8: NFPA 1720 Response/Deployment Standards**

Demand Zone	Demographics	Minimum Staff to Respond	Response Time (Minutes)	Meet Objective (%)
Urban	>1,000/mi <sup>2</sup>	15	9	90
Suburban	500-1,000/mi <sup>2</sup>	10	10	80
Rural	<500/mi <sup>2</sup>	6	14	80
Remote	≥ 8 miles	4	Related to Travel Distance	90
Special Risk	Determined by AHJ	Determined by AHJ	Determined by AHJ	90

*NFPA 1720 - Staffing and Response Time (edition 2020)*

- **Annual Evaluation**
  - *The fire department shall evaluate its level of service, deployment delivery, and response time objectives on an annual basis.*
  - *The evaluation shall be based on data relating to level of service deployment, and the achievement of each response time objective in each demand zone within the jurisdiction of the fire department. (Silvis only has one “demand zone” which is the suburban zone.)*
  
- **Quadrennial Report (Every 4-Yrs)**
  - *The fire department shall provide the City Council with a written report, quadrennially, which shall be based on the annual evaluation required by the above chart (Table 8).*
  - *This report shall explain the predictable consequences of identified deficiencies and address the steps within the fire department’s strategic plan necessary to achieve compliance.*
  
- **Fire Suppression Operations**
  - *One firefighter shall be assigned as the Incident Commander. The Incident Commander shall be responsible for the overall coordination and direction of all activities for the duration of the incident.*
  - *Initial firefighting operations shall be organized to ensure that at least four members are assembled before interior fire suppression operations are initiated in a hazardous area.*
  - *Outside the hazardous area, a minimum of two members shall be present for assistance or rescue of the team operating in the hazardous area.*
  - *Initial attack operations shall be organized to ensure that if, upon arrival at the emergency scene, initial attack personnel find an imminent life-threatening situation where immediate action could prevent the loss of life or serious injury, such action is permitted with less than four personnel when conducted in accordance with NFPA 1500.*
  - *The fire department shall have the capability for sustained operations, including fire suppression; engagement in search and rescue, forcible entry, ventilation, and preservation of property; accountability for personnel; the deployment of dedicated rapid intervention crew (RIC); and provision of support activities for those situations that are beyond the capability of the initial attack.*

This standard complies with the Occupational Safety and Health Administration (OSHA) regulations related to the two-in/two-out standard—1910.134(g)(4)(i).

### *Automatic Aid / Mutual Aid*

Any analysis of Silvis’s compliance with NFPA response standards must include a discussion about the role of Automatic Aid/Mutual Aid.

Although fire departments/districts should work to provide staffing and available apparatus to cover the typical call volume encountered on a regular basis, there are instances when, due to heavy call volume or a large-scale incident, emergency service agencies are unable to cover the workload completely within their single agency. In these instances, emergency organizations must request aid from their surrounding neighbors. This is known as mutual aid.

Similarly, many departments/districts have entered into agreements with their neighboring agencies to respond automatically, thereby allowing the closest geographically located units to arrive and begin providing services regardless of jurisdictional boundaries. This is known as automatic aid.

- **Mutual Aid:** The philosophical concept is to aid a fire department upon a request made by a host agency (i.e., the community impacted by the emergency incident). The sole purpose is to give or receive assistance when all available resources—equipment or personnel—are depleted, and then on a limited basis. Generally, mutual aid is drawn upon during an emergency incident where a particular or specialized need arises.
- **Automatic Aid:** Automatic aid occurs when departments/districts agree prior to an emergency incident to share resources as part of the original/first dispatch to a 9-1-1 call for help. The National Fire Protection Association (NFPA) defines automatic aid as follows:

*Automatic aid is established through a written intergovernmental agreement that provides for the simultaneous dispatch of a predetermined response of personnel and equipment to a neighboring jurisdiction upon receipt of an alarm and is included as part of a communication center’s dispatch protocols.*

This automatic “front loading” of response equipment and staffing is extremely important in today’s fire environment since fires progress much quicker than in years past, due to the combustibility of the products burning (i.e., plastics/composites/laminates/foams compared to natural products). This faster-moving fire environment requires greater assets early in an incident to quickly gain control and minimize loss.

Automatic aid is also preplanned to include multiple alarms, allowing an Incident Commander to simply elevate the response (i.e., Box Alarm, 2<sup>nd</sup> Alarm, 3<sup>rd</sup> Alarm, 4<sup>th</sup> Alarm, etc.). This preplanning is efficient and greatly assists the Incident Commander in his/her decision-making process.

Automatic aid can also assist departments/districts in compliance with NFPA 1720 standards related to staffing.

The below side-by-side comparison highlights the differences between the two systems:

*Table 9: Comparison of Mutual Aid vs. Automatic Aid*

<b>Mutual Aid vs. Automatic Aid</b>	
<b>Mutual Aid</b>	<b>Automatic Aid</b>
Mutual aid is not automatic: <ul style="list-style-type: none"> <li>• Aid is requested on an ad hoc basis by the local Incident Commander.</li> <li>• Mutual aid, even in the best situations, takes time to put into operation.</li> </ul>	Provides the closest, most appropriate fire service resource regardless of jurisdictional boundaries.

**Mutual Aid Box Alarm System (MABAS)**

Silvis is part of the Mutual Aid Box Alarm System (MABAS). MABAS is the designated mutual aid system used by the State of Illinois. MABAS has a broad footprint that has expanded since its creation back in 1968. The system now includes emergency service assets in Illinois, Wisconsin, Indiana, Michigan, Missouri, and Iowa.

The MABAS system has been recognized as a “best practice” by the Department of Homeland Security. The concept behind MABAS is that a fire department/district develops an alarm card, which will indicate what apparatus/equipment and/or personnel they are requesting, who they are requesting it from, and what level (how much/many resources) is desired prior to the actual emergency. Different cards are designed for situations such as a high-rise response, mass casualty incident, special operations incident (confined space, trench, collapse, high-angle, dive/swift water rescues), hazardous materials, grass/brush fires, etc. MABAS asset deployment falls into the category of mutual aid.

Automatic aid is negotiated and established by Silvis directly with neighboring departments/districts. Automatic aid is designed to handle the initial response to an emergency. Mutual aid is used when the incident escalates beyond what can be handled by the initial and automatic aid companies. The huge benefit of MABAS is that it makes mutual aid operate more like automatic aid since responses have been pre-established.

### Automatic/Mutual Aid Response Data

An evaluation of Silvis's aid, both given and received, provides an interesting perspective on reciprocity. The below charts show a combined 3-year analysis of both aid given and aid received.

Table 10 looks at the number of calls in which Silvis receive no assistance (denoted as "none"). It also shows the number of times aid was received as well as the number of times it was given.

**Table 10: 3-year total of aid given and received**

All Incidents	Incidents
0 - None	480
1 - Mutual aid received	14
2 - Automatic aid received	50
3 - Mutual aid given	34
4 - Automatic aid given	217
5 - Other aid given	1

Based on the data shown in Table 10, Silvis provides far more aid to neighboring departments/districts than it receives.

Important is the number of times automatic/mutual aid is requested for actual fires. Table 11 and Figure 13 show a 3-year comparison of aid given/received for an actual structure fire. Fires occurring in Silvis where no aid was received are denoted as "None".

**Table 11: 3-year total of actual fires where aid was received or given**

111-Building Fire	Incidents
0 - None	5
1 - Mutual aid received	3
2 - Automatic aid received	10
3 - Mutual aid given	12
4 - Automatic aid given	57

**Figure 13: 3-year comparison of actual fires where aid was received or given**

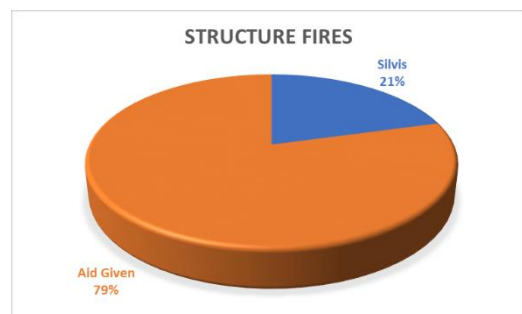


Table 12 provides 3-year compiled list of agencies assisted by Silvis Fire Department.

**Table 12: Incident locations Silvis responded to 2020-2022**

All Incidents 2020-2022	
City of Silvis	531
Barstow	3
City of East Moline	142
City of Geneseo	2
Colona	7
Hampton	35
Silvis	2
Spring Valley	1
Town of Annawan	4
Village of Carbon Cliff	51
Village of Coal Valley	4
Village of Cordova	3
Village of Hillsdale	4
Village of Orion	1
Village of Port Byron	2
Village of Rapids City	2
Village of Rockton	1
Village of Sheffield	1
Total Aid Given	265

**First Alarm Stike Team (FAST)**

An automatic aid agreement exists between the City of Silvis, The Village of Hampton–Department of Fire/Rescue, and the Carbon Cliff–Barstow Fire Protection District. This automatic aid agreement initiates a response from all three agencies when a report of smoke or flames is visible inside a structure or coming from a structure. Each of the agencies has agreed to respond with a designated piece of equipment and staff to the stricken department/district. This response is termed a “Full Still Alarm” as designated in the FAST interlocal agreement.

- Hampton Fire/Rescue will provide Silvis with a Squad Company (i.e., Heavy Rescue) and a Chief Officer
- Carbon Cliff–Barstow will provide Silvis with a Pumper/Tender Company (i.e., Engine Company with water shuttle capabilities) and a Chief Officer

Silvis reciprocates into these communities with the response of a 100’ Tower Ladder, an Engine Company, and a Chief Officer.

Since Silvis does not provide EMS first responder services, the agreement states “neither the duty chief or the City of Silvis Fire Department will respond to any EMS/Medical calls within... [Hampton or Carbon Cliff–Barstow]”.

#### [Automatic Aid from East Moline Fire Department](#)

Although not officially part of the FAST program, the City of East Moline Fire Department provides automatic aid to the City of Silvis on all Full Still Alarms, an aerial truck (i.e., Truck Company) and a Chief Officer.

#### [Duty Officer](#)

A unique and forward-thinking aspect of the FAST agreement is the Duty Chief program. As described within the interlocal agreement, a chief officer from one of the participating jurisdictions will be scheduled and available to immediately respond to another jurisdiction and act as the interim Chief Officer for the stricken agency. The Duty Chief will have all rights and authority granted to the position of Chief of the Department while serving as Duty Chief within the stricken agency’s jurisdiction.

The Duty Chief position is filled per a mutually agreed-upon calendar based on the officers’ availability. The current schedule is as follows:

- Weekdays – daytime: Silvis
- Weekdays – evenings and overnight: Hampton and/or Carbon Cliff–Barstow
- Saturday – 24 hrs. (6 a.m. to 6 a.m.): Silvis
- Friday Evening and Sunday (6 a.m. to 6 a.m.): Hampton and/or Carbon Cliff–Barstow

To make this system work, it is imperative that the workload be shared equally, with no single agency or individual becoming overly burdened by the assignment. Regular, open communication is essential, since this position and the associated workload ensure the quality of the FAST agreement.

#### [Standard Operating Guidelines \(SOGs\)](#)

Absent from the FAST interlocal agreement is any reference to standardized operational guidelines. A major component of effective automatic aid programs is standardized operational guidelines. This is especially important related to the FAST agreement where the Duty Chief is expected to operate as the interim Chief Officer for the stricken agency.

Although the three departments/districts may operate similarly, it is very unlikely that all policies and procedures are alike and completely compatible. It is highly recommended that department leadership begin working to craft joint SOGs for all three agencies. This might be best accomplished through the creation of a committee consisting of members from all three agencies with functional oversight from the fire chiefs. This does not mean that the fire chiefs need to attend every meeting and be involved in



writing the policies. To the contrary, the committee needs to have autonomy to create DRAFT guidelines that will be reviewed and approved by the fire chiefs.

#### Regular FAST Training

The consultants were told that in the past the members of the FAST interlocal agreement regularly conducted joint training. For a variety of reasons, this training has ceased or has been substantially reduced. Training together is a hallmark of an automatic aid program. All three partner agencies would benefit from high quality joint training. The training needs to focus on how the three entities will function when operating jointly and not on specific skill sets performed by a singular department/district.

As an example, if the agencies want to work on rural water operations, a possible breakdown of focus areas may be as follows:

- Silvis – focus on pumping and flowing a heavy caliber water stream from the tower ladder
- Hampton – focus on drafting operations while pumping to the tower ladder
- Carbon Cliff–Barstow – focus on hauling and off-loading water

In the above example, cross training should be encouraged.

Any number of joint operations could be envisioned in a regular training plan. Like the committee concept recommended for SOG development, a committee consisting of the training officers/instructors from the three partner agencies should meet and determine topics, scheduling, and responsibilities to ensure that FAST training is valuable and enjoyable. This will add significantly to volunteer/POC involvement and motivation related to training.

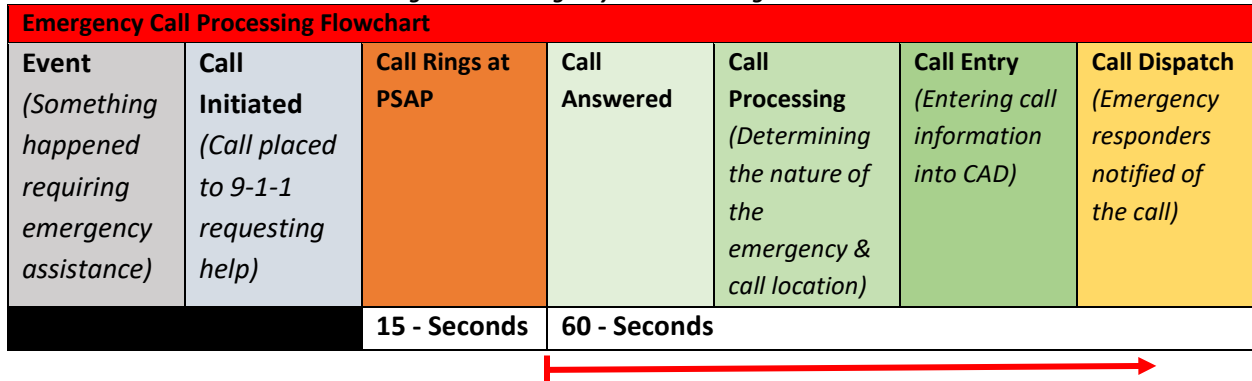
#### NFPA 1221

NFPA 1221 establishes performance criteria for dispatch centers and links this performance to NFPA 1720. This is important since NFPA 1720 establishes benchmarks for response times that have a direct tie to quality customer service. These benchmarks only work if call processing times are held to a strict standard of emergency responder notification.

*Table 13: Emergency Call Processing Standards*

Emergency Call Processing Standards		
PSAP Function	Process Time Standard	Performance Criteria
9-1-1 Calls Answered	≤15 Seconds	90% of the time
	≤20 Seconds	95% of the time
Time to Dispatch	≤60 Seconds	90% of the time
	≤90 Seconds	95% of the time

Figure 14: Emergency Call Processing Flowchart



### QCOMM911

Silvis Fire Department is dispatched by QCOMM911. QCOMM911 is the primary public safety answering point (PSAP) for 9-1-1 calls originating in the City of Silvis. All of Silvis’s automatic aid partners are also dispatched by QCOMM911.

QCOMM911 utilizes NFPA 1221 as a benchmark in dispatching and is compliant with the established performance criteria. The exception in this model is when an ambulance is requested from Genesis. Genesis Ambulance is dispatched by Scott Emergency Communication Center (SECC). When an ambulance is needed within the City of Silvis, QCOMM911 contacts SECC who then looks for an available Genesis Ambulance who can be assigned to the call or, if none are available, requests a mutual aid ambulance from a neighboring community.

### Scott Emergency Communication Center (SECC)

Scott Emergency Communications Center is an Iowa 28E organization (Joint Exercise of Governmental Powers, §28E.1). It is formed collaboratively by the cities of Davenport and Bettendorf and Scott County. Prior to Medic EMS becoming a Scott County asset (which occurred January 1, 2024), Medic EMS was also part of the collaborative. SECC answers all 911 calls for the entirety of Scott County and dispatches for all first responder agencies in the County. This includes eight (8) police departments, sixteen (16) fire departments, and four (4) ambulance services. Genesis Ambulance has been under contract with SECC and its predecessors since 1999. SECC utilizes NFPA 1221 as a benchmark in dispatching and is compliant with the established performance criteria. SECC is well staffed, well equipped, and seemingly well managed.

### Insurance Service Offices, Inc (ISO™)

Insurance Service Office (ISO™) is a leading source of information for property casualty insurance risk, and they provide risk information to many industries, including government. The ISO™ Public Protection

Classification (PPC) program is designed to help establish fire insurance premiums for residential and commercial properties based in part on a community's fire protection services.

By itself, ISO™ ratings do not provide a comprehensive assessment of staffing, deployment, and service delivery. ISO™ is not an industry standard; it is only an index developed through a standardized data pool that is used by insurers to set rates.

The Insurance Services Office, Inc. publishes and utilizes the Fire Suppression Rating Schedule (FSRS) to “review available public fire suppression facilities, and to develop a Public Protection Classification for insurance purposes.” Once a fire department's capability is determined and classified, the information is communicated to and possibly used by insurers to set rates for homeowners and commercial properties in local communities.

Although the primary purpose of this tool is to rate fire protection from which insurance rates can be established, ISO™ ratings have been one of the few benchmarks to compare community fire protection. Realizing the true intent of the ISO™ classification, one should not use it as the sole determining factor in establishing public fire protection. Rather, the schedule should be considered an instrument for comparison and an additional assessment factor from which organizations can make decisions on how to best provide services.

### *Public Protection Classification Number*

The Public Protection Classification Numbering system utilized by ISO™ is as follows:

**Table 14: Source ISO™ - Public Protection Classification Numbering**

PPC	Points
1	90.00 or more
2	80.00 to 89.99
3	70.00 to 79.99
4	60.00 to 69.99
5	50.00 to 59.99
6	40.00 to 49.99
7	30.00 to 39.99
8	20.00 to 29.99
9	10.00 to 19.99
10	0 to 9.99

ISO™ Classification grading is broken down into three (3) major categories, with Community Risk Reduction recently added as a fourth category, resulting in the total percentage becoming 105.5%.

**Table 15: Source ISO™: Point Values**

ISO Point Value	% Value	Point Value
Receiving & Handling of Fire Alarms	10%	10
Fire Department/District	50%	50
Water Supply	40%	40
Community Risk Reduction	5.5%	5.5
Total Possible Points	105.5%	105.5

**Silvis – PPC Classification**

In December 2019, ISO evaluated and rated the Silvis Fire Department as a Class 4 department.

**Table 16: Silvis PPC Score**

FSRS Item	Earned Credit	Credit Available
<b>Emergency Communications:</b>		
• Credit for Emergency Reporting	2.55	3
• Credit for Telecommunicators	2.40	4
• Credit for Dispatch Circuits	1.95	3
<b>Total Credit for Emergency Communications</b>	<b>6.90</b>	<b>10</b>
<b>Fire Department</b>		
• Credit for Engine Companies	6.00	6
• Credit for Reserve Pumpers	0.00	0.5
• Credit for Pumper Capacity	3.00	3
• Credit for Ladder Service	3.93	4
• Credit for Reserve Ladder and Service Trucks	0.00	0.5
• Credit for Deployment Analysis	9.57	10
• Credit for Company Personnel	5.49	15
• Credit for Training	2.67	9
• Credit for Operational Considerations	2.0	2
<b>Total Credit for Fire Department</b>	<b>32.66</b>	<b>50</b>
<b>Water Supply</b>		
• Credit for Supply System	17.76	30
• Credit for Hydrants	2.88	3
• Credit for Inspection and Flow Test	3.15	7
<b>Total Credit for Water Supply</b>	<b>23.79</b>	<b>40</b>
<b>Divergence</b>	<b>-1.17</b>	<b>--</b>
<b>Community Risk Reduction</b>	<b>2.98</b>	<b>5.50</b>
<b>Total Credit</b>	<b>65.16</b>	<b>105.5</b>

## Silvis ISO Evaluation – Class 4/4Y – (65.16 out of 105.5 points)

Below is an analysis of Silvis's ISO evaluation by classification denoting credits and shortcomings, as applicable.

### EMERGENCY COMMUNICATIONS – 6.9 OUT OF 10 POINTS

**(Current dispatch services have changed since the time of the last ISO survey. This ISO evaluation does not detail the impact/benefits of QCOMM911.)**

#### **Emergency Reporting – 85% credit**

The only shortcoming was the lack of Nomadic Voice over Internet Protocol (VoIP) which utilizes dynamic Automatic Location Identification (ALI) to provide updated callback number and caller location information.

#### **Telecommunicators – 60% credit**

The points lost in this category were due to alarm processing times not meeting the time frames in NFPA 1221 and telecommunicators not having Emergency Dispatch Protocols (EDP), which provide a process to facilitate correct call categorization and prioritization.

#### **Credit for Dispatch Circuits – 65% credit**

There is no specific information as to what accounted for the lost points, but the following subjects are evaluated using the NFPA 1221 standard:

- Dispatch circuit facilities
- Number and quality of dispatch circuits
- Monitoring for integrity of the primary dispatch circuit
- Emergency power supplies

### FIRE DEPARTMENT – 32.66 OUT OF 50

#### **Engine Companies – 100% credit**

Based on the buildings in their community, Silvis has a basic fire flow of 3,500gpm which requires a 3-engine response.

#### **Reserve Engines – 0% credit**

Silvis did not have a reserve engine, this accounts for minimal point loss.

#### **Pumper Capacity – 100% credit**

There is sufficient pump capacity between the 3 engines.

#### **Ladder Service – 98% credit**

Silvis had a dedicated ladder truck with sufficient equipment.

#### **Reserve Ladder Service – 0% credit**

Silvis did not have a reserve ladder truck, this accounts for minimal point loss.

**Deployment Analysis – 96% credit**

The location of the fire station and its proximity to protected occupancies within the Silvis jurisdiction boundaries received nearly full credit.

**Company Personnel – 36% credit**

Based on the number of firefighters responding to incidents, only 1/3 of the credit available was awarded. This area is one of the two largest shortcomings of this category. (See sections on recruitment and retention for suggestions to improve.)

**Training – 30% credit**

There appears to have been a lack of documented training which accounts for the other largest loss of points in this category. Lack of training in the following areas resulted in the loss of points:

- Training facility and live burn training
- In-station company training
- Officer training
- New and existing driver training
- Recruit training

(See section on training and certification for suggestions to improve.)

**Operational Considerations – 100% credit**

Silvis has developed and utilizes Standard Operation Procedures (SOPs) and an Incident Management System (IMS).

**WATER SUPPLY - 23.79 OUT OF 40 POINTS**

(The water supply system and hydrants fall under control of the Silvis Water Department, while the inspection and flow testing hydrants should be a shared responsibility with Silvis FD.)

**Water Supply System – 59% credit**

This reviews the supply capacity of the water distribution system, and the ability to deliver adequate water flow to selected locations in Silvis.

**Hydrants - 96% credit**

The number and type of hydrants in Silvis resulted in nearly full credit.

**Hydrant Inspection and Flow Testing – 45% credit**

There appears to have been a lack of documented inspection and/or flow testing of hydrants, which accounted for receiving under half of the credit available.

**COMMUNITY RISK REDUCTION – 2.98 OUT OF 5.5 POINTS**

(see sections on Inspections and Public Education for suggestions to improve.)

**Fire Prevention and Code Enforcement – 50% credit**

The adoption of fire prevention codes, the utilization of trained and certified fire inspectors and the presence and quality of fire prevention programs are evaluated.

**Public Fire Safety Education – 50% credit**

The availability of trained and certified public fire safety educators and the delivery of adequate programs are evaluated. Silvis received slightly less than 50% of the available credit.

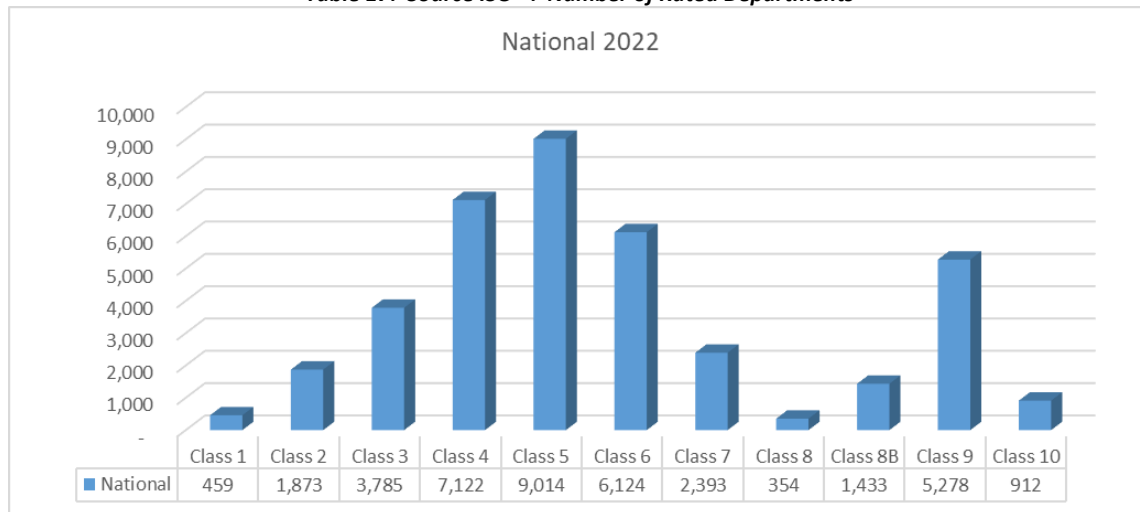
**Fire Investigation Programs – 75% credit**

The availability and utilization of trained and certified fire and arson investigators is evaluated, along with department participation in the National Fire Incident Reporting System. This was the highest score in this category.

Comparability of Silvis to Other Rated Departments/Districts

In 2022, there are 38,747 rated departments/districts.

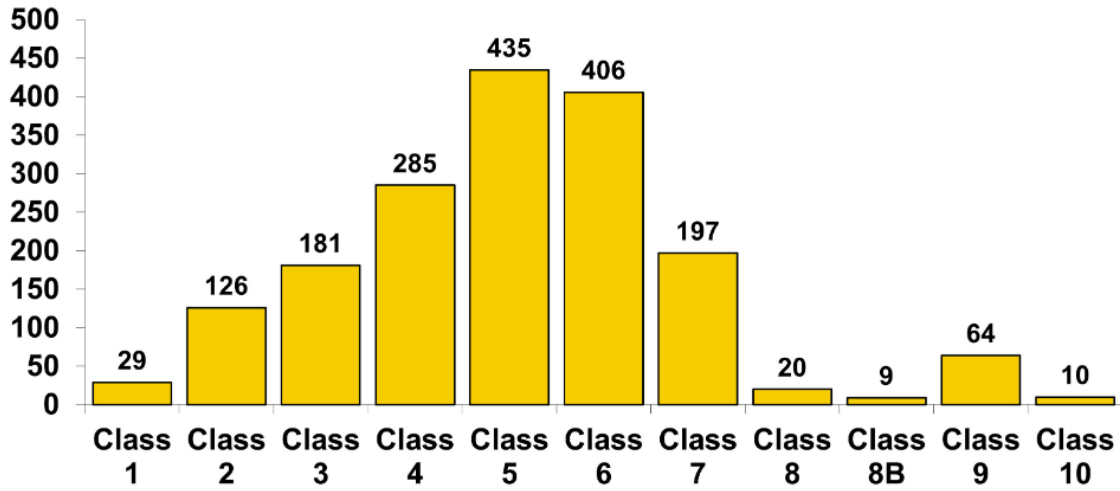
**Table 17: Source ISO™: Number of Rated Departments**



Nationwide, there are 7,122 departments/districts with a PPC classification of Class 4.

In the state of Illinois, 1,762 departments/districts received an ISO PPC score. Of these departments, 285 are rated with a PPC classification of Class 4.

Table 18: Illinois ISO Classification - 2022



### Applicability of ISO™ Rating

It is important to note what the ISO rating means to the City of Silvis.

Most insurance companies use the ISO™ rating as a benchmark, and then use market data to establish competitive rates for residential properties. Moreover, about 90% of the insurance companies will group Classes 1 – 4 together, and then look separately at Class 5, Class 6, Class 7, and so on. In essence, the ISO rating is only one factor in establishing premiums, and certainly not the primary one. It is this perceived link to insurance rates that for years has driven communities to base their decisions on the level of fire protection appropriate for their community, based upon ISO™ standards.



## Staffing

Silvis Fire utilizes part-time personnel to staff its fire apparatus with a combination of paid-on-call and paid-on-premise employees. Two personnel are paid to be on duty at the headquarters station, Monday through Friday, 7 a.m. to 4 p.m., and Saturday and Sunday, 8 a.m. to 4 p.m. During these time periods, the on-duty staff handle routine calls for service and perform various duties around the station.

The Chief reported that it has become increasingly difficult to fill the day shift schedule, and there are frequently unfilled shifts.

**Table 19: Daytime Staffing Experience**

Daytime Staffing Experience															
		January	February	March	April	May	June	July	August	September	October	November	December	Total	Percentage
2020															
	2 People	60	55	60	56	58	59	60	61	56	62	58	57	702	98.60%
	1 Person	0	1	2	0	2	1	0	1	2	0	0	1	10	1.40%
	No staff	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2021															
	2 People	54	52	59	51	52	54	54	43	48	58	49	53	627	88.56%
	1 Person	6	2	3	5	8	6	6	18	10	4	7	4	79	11.16%
	No staff	0	0	0	0	0	0	0	1	0	0		1	2	0.28%
2022															
	2 People	52	49	56	50	44	57	54	55	46	54	50	52	619	87.80%
	1 Person	8	5	5	5	13	3	6	7	11	8	6	3	80	11.35%
	No staff	0	0	1	1	3	0	0	0	1	0	0	0	6	0.85%
2023															
	2 People	56	53	56	50	48	54	59	46					422	89.41%
	1 Person	2	1	5	5	12	5	1	15					46	9.75%
	No staff	0	0	1	1	0	1	0	1					4	0.85%

The capabilities of a 2-man fire company are limited, resulting in minimal fireground operations able to be performed safely. Fire apparatus staffed with one person is limited to investigating and calling for help. The full-time Fire Chief often responds to daytime incidents.

In the evening and overnight hours, the stations are unstaffed, and all responses are handled by personnel responding on a paid-on-call basis. Personnel also respond on a paid-on-call basis during the day to supplement the day crew for larger incidents and to cover multiple simultaneous incidents.

**Table 20: Average and Total Numbers of Silvis Responders by Shift and Call Type**

Total Silvis responders (average) by hour and call type									
	Total	Fires	Ruptures	Rescues	Hazards	Service	Good Int	False Alm	Structure Fires
Daytime (Staffed)	4	6	7	3	4	3	5	4	7
Evenings (Unstaffed)	6	9	9	5	6	5	8	6	10

There are several factors that motivate volunteers to respond on a paid-on-call basis:

1. Availability – Volunteers who have a strict work schedule or who work out of town have limited available hours.
2. Perception of Need – Volunteers are often motivated to respond because they perceive that they are needed and can make a difference in the outcome of the incident. They may also respond as a form of pride in their organization and their community. If others are already handling the problem, they may be less prone to respond (e.g., “the day crew will handle it” or “East Moline will beat us there and handle it.”) Response apps like IAmResponding can have an unintentional effect of deterring responders.
3. Interesting Incidents – Volunteers are more prone to respond to interesting and exciting incidents, even if it means leaving work or losing sleep.

Structure fire responses are typically a good indication of the maximum capacity of firefighter response. Ideally, structure fires in town would be the best indicator; but since the sample is so small, dependable statistics are not available.

**Table 21: 3-Year Averages - Number of Responders to Structure Fires**

Total Silvis responders (average) by hour Building Fires			
	2020	2021	2022
Daytime (Staffed)	11	7	5
Evenings (Unstaffed)	13	9	7

Total Silvis firefighter response has decreased each year of the last three years.

- Since 2020, eleven (11) firefighters have left the Silvis Fire Department.
- During the same period, four (4) new firefighters have started.
- This leaves a net loss of seven (7). The current roster stands at twenty (20) members which is ten (10) short of the authorized strength of thirty (30).

## Stations / Facilities

Station 1 and Station 2 are both owned and operated by the City of Silvis.

**Figure 15: Fire Station 1 - 1207 1st Avenue, Silvis IL 61282**



Station 1 is a one-story fire station opened in 2021 with a total of approximately 3,600 square feet. This ADA-compliant facility is shared with the Silvis Public Works Department. There is a wall between the two occupancies with separate entrances to each facility.

The building is of non-combustible construction and is fully sprinklered with current testing and inspection. There is no fire alarm or monitoring of the facility. There is a natural gas-fueled, auto-start backup emergency generator which powers the entire building and is tested per standard. There is no dispatch circuit terminating at the fire station. The station is unoccupied; vehicles are utilized by on-call personnel.

There is a small shed in the parking lot as well as a steel storage container which will be converted to a training prop.

Office Area - A small office, tool room, restroom and a vented bunker gear room are adjacent to the apparatus floor. Temperature control of this area is accomplished with a furnace and central air conditioning.

Apparatus Floor - The fire station has 3 non-drive through bays with 14' high by 12.5' wide overhead doors. Engine 4664 and Engine 4662 are housed at this location, along with backup Command 4692. There is also an 800 square foot loft above the office space utilized for storage. Gas tubes are utilized for heating, and there is no air conditioning in the apparatus area.

There is an exhaust removal system which operates in the two bays where fire trucks are located. A gear extractor and conventional washer and dryer are located on the apparatus floor.

*Figure 16: Fire Station 2 - 2010 10th St, Silvis IL 61282*



Station 2 is a one-story fire station which serves as headquarters for the department. The station was built in 2011, is ADA compliant and has approximately 8,700 square feet of space.

The building is of non-combustible construction and is fully sprinklered with current testing and inspection. There is no fire alarm or monitoring of the facility.

There is a natural gas-fueled, auto-start backup emergency generator which powers the entire building and is tested per standard. Although there is no dispatch circuit terminating at the fire station, a computer station has been established with a mounted radio and a video monitor for IAmResponding<sup>®</sup> information.

The station is occupied by two on-duty operational personnel Monday through Friday, 7 a.m. to 4 p.m. and Saturday, 8 a.m. to 4 p.m. Response at all other times is provided by on-call firefighters.

There is a 20' x 10' shed behind the building which is used to store fire training and fire prevention props.

Administration/Living Quarters – This portion of the building is approximately 2,700 square feet and contains three small offices, a training room with a moveable long table and chair seating, two restrooms and a kitchen/lounge area. There is no commercial hood system above the stove in the kitchen. The three small offices were originally designed to be sleeping quarters but are currently used as offices and/or storage rooms.

Apparatus Floor – The apparatus floor and associated rooms are approximately 6,000 square feet. There are four apparatus bays with a drive through design and 14' high by 12.5' wide overhead doors. Bays 1 through 3 are used to park apparatus and Bay 4 contains physical fitness equipment and a trailer for the John Deere Gator.

Engine 4661 and Ladder 4657 are housed at this location along with utility vehicles 4699 and 4676. There is a 3-story hose tower adjacent to the apparatus floor. An enclosed bunker gear storage room is accessible from both the administration area and the apparatus floor.

Unlike Station 1, there is no exhaust removal system to rid exhaust from the apparatus floor.

*NFPA 1500 – Standard on Fire Department Occupational Safety and Health Program, Annex A, Section 10.1.5, requires that apparatus emission exhaust be limited to the lowest feasible concentration. Both OSHA and the National Institute for Occupational Safety and Health (NIOSH) state that exhaust removal should be managed by a vehicle exhaust removal system.*

The station is equipped with an SCBA compressor. OSHA requires that SCBA compressors be equipped with an outside fresh air intake system. The current compressor configuration does not include this required air intake.

## Apparatus / Equipment

An integral part of a fire department's emergency response is the ability to utilize adequate numbers and types of apparatus and equipment to meet the needs of the community. This, in combination with sufficient personnel who are trained and capable of operating the apparatus and equipment, will determine the efficiency and effectiveness of the department's operations.

Personnel training will be discussed in another area of the report, but NFPA 1901—Standard for Automotive Fire Apparatus is referenced for recommendations to select and maintain apparatus. The apparatus and equipment reviewed in this report meet the general criteria of NFPA 1901 and appear in good working order. The fleet also meets the basic needed fire flow for the community.

### Sufficiency of Apparatus

Silvis appears to have the appropriate type and number of apparatus to meet the operational needs of the community. All three engines are capable of pumping more than 1,000 gallons per minute and carry more than 1,200 feet of 2.5" or larger fire hose. Truck 4657 has a pump similar to the engines and a 300-gallon water tank along with a 100' aerial ladder to serve the buildings over three stories and 30' in height. There is a front-line Command vehicle and one back up (2015 Ford pickup). A John Deere Gator with a small pump and water tank can be utilized to fight grass fires. Thought should be given to adding reserve apparatus to utilize while in-service apparatus is under repair.

There is sufficient self-contained breathing apparatus (SCBA) and turnout bunker gear for the number of responding firefighters on each vehicle. SCBA is tested per standard and turnout bunker gear is inspected regularly and cleaned in the gear extractor machine.

*Figure 17: Apparatus*

Year	Type	Manufacturer	ID	Pump size	Tank size	Mileage	Hours
1998	Engine	Pierce	4662	1000 gpm	1000g	24,000	2,990
2011	Engine	Pierce	4661	1250 gpm	1000g	7,100	2,045
2019	Engine	Pierce	4664	1250 gpm	1000g	4,000	556
2011	Truck	Pierce	4657	1250 gpm	300g	6,200	1,940
2002	Pickup	Ford	4676	NA	NA	72,000	NA
2015	Pickup	Ford	4692	NA	NA	48,000	NA
2020	Command	Ford	4691	NA	NA	19,000	NA
2021	Gator	John Deere	4699	5.8 hp	90g	200	32



**Figure 18: Apparatus Photos**



**4662**



**4661**



**4664**



**4657**



**4676**



**4691**



**4699**

## Apparatus Maintenance and Replacement

Conducting maintenance and testing of apparatus is of major importance. The Department recognizes this and conducts annual pump and hose testing on all apparatus. The aerial ladder on Truck 4657 is inspected and tested annually, and Non-Destructive Testing (NDT) is performed every five years. All ground ladders are also inspected and tested annually.

Even with the best care, apparatus have a limited life expectancy based on reliability. This reliability factor is influenced by mileage, engine hours, quality of the preventative maintenance program, technology advancements, quality of the driver training program, quality of the original builder and components, availability of parts, and whether the vehicle utilizes a custom or commercial chassis. Also, the general overall appearance of the vehicle related to body deterioration, corrosion and/or damage can influence reliability.

## ***NFPA Recommendation for Apparatus Replacement Schedule***

### ***Apparatus Type -- Serviceable Life***

*Engines/Pumper -- 20 Years*

*Pumper/Tenders -- 25 Years*

*Ambulances -- 10 Years*

*Ladders/Tower Ladders/Heavy Rescue -- 25 Years*

*Light Rescue / Type VI Fire Engines -- 20 Years*

*Command Vehicles -- 10 Years*

*Utility Vehicles -- 15 Years*

*Boats -- As Needed*

*Specialty Vehicles (ATV, Trailers, etc.) -- As Needed*

Over the years, NFPA has attempted to define the life expectancy of apparatus. This has been met with varying degrees of success due to variations in the use of apparatus by individual communities. NFPA provides a generalized statement recommending that fire departments evaluate whether to retain fire apparatus in a front-line capacity for more than 15 years based on safety considerations.

*It is recommended that apparatus more than 15 years old that have been properly maintained and that are still in serviceable condition be placed in reserve status; be upgraded in accordance with NFPA 1912; and incorporate as many features as possible of the current fire apparatus standard. Apparatus that was not manufactured to the applicable NFPA fire apparatus standard or that are over 25 years old should be replaced.*

Another factor in maintaining up to date apparatus is the evolving technology related to firefighter safety. For example, improvements such as the “clean cab” concept keep items that have been exposed to carcinogens, toxins, and chemicals out of the cab. This, along with on-scene decontamination, is part of a carcinogen exposure reduction process at fire scenes. This concept is incorporated in Engine 4664.

NFPA 1911 should be used to evaluate Engine 4662, which is approaching 25 years old and is the only apparatus that is nearing the end of its recommended serviceable life.

## **Sinking Fund / Escrow Account**

Due to the cost associated with modern apparatus, it is wise to utilize a sinking fund/escrow system to plan for future purchases. The Silvis Fire Department Strategic Plan 2023-2042 notes the need to replace apparatus in 2023, 2030, 2031, 2035, 2036 and 2039.

A sinking fund/escrow system allows funds to be saved throughout the life of the apparatus. By using an established replacement schedule, while diligently working to ensure that the annual contribution to the fund is made, the department will be able to replace apparatus before its serviceability diminishes.

This type of funding also allows a “smoothing” of annual revenue needs, thereby making budgeting more efficient. As an example, a new command vehicle may cost around \$85,000, while an engine could cost more than \$800,000. Ladder trucks and tower ladders are now costing well over \$2,000,000.



These varying numbers make it difficult for most departments to maintain a consistent tax levy/revenue model when including apparatus purchases into their capital program.

The key to the sinking fund system is determining the future cost of each apparatus. To do this, the serviceable life of the apparatus must be identified. A percentage multiplier is then applied against the original purchase price, compounded annually, to determine the replacement cost of the vehicle. The calculated replacement cost is then divided by the life expectancy (number of years remaining) of the vehicle to determine the annual sinking fund payment. Sinking fund payments are placed in a restricted "savings account" reserved for the purchase of apparatus.

The formula for calculating the cost of the rig based on the compounded interest is:

$$FV = PV(1+i)^n$$

- FV = Future Value (anticipated replacement cost)
- PV = Present Value (original purchase price)
- i = Inflationary Multiplier in Years
- n = Planned Service Life

One of the biggest challenges in using this model is determining the percentage multiplier. The difficulty comes about based on the number of years that fire apparatus are kept in service. Many departments/districts commonly schedule apparatus to have a 20- to 25-year serviceable life. A great deal can change in technology and standards over 25 years. Up until only a few months ago, using historical cost increases seen by the lead consultant, the percentage multipliers typically suggested were as follows:

- Command vehicles, pickup trucks, and light duty utility vehicles – 5%
- Pumpers, aerial apparatus – 7%

These multipliers are nowhere close to the inflationary increases being seen today. Fire apparatus manufacturers are reporting double digit percentage increases which will have a significant impact on sinking fund contributions. Based on today's volatile financial market, a multiplier between 10%-15% is much more realistic.

The consultants also recommend that other items, such as SCBA, be included in the sinking fund. The typical multiplier that has worked well for SCBA is 2.5%, but a more realistic number based on conversations with SCBA manufacturers is 11%. As the economy stabilizes along with the supply chain concerns, these multipliers can be reduced based on actual future costs of new vehicles and breathing apparatus.

## Training / Certifications

Training is a fundamental necessity of every fire department/district. As a general statement, all fire departments/districts, regardless of size and geographic location, are required to do two things well:

1. Continually train their personnel so they can be in a constant state of operational readiness
2. Respond when called – providing the help that is needed

Fire departments/districts have become full-service organizations managing needs far beyond responding to just fires. Departments/districts must be “all-hazard” response agencies, which require vast expertise in a multitude of areas. This requires extensive and ongoing training to ensure the readiness of personnel to meet the various and evolving demands of a community. The overarching goal in training firefighters should be to create smart firefighters who can think through problems to find solutions.

The members of the Silvis Fire Department receive training in multiple ways. The members who work shifts participate in company training during their working hours. Other members participate in scheduled monthly training opportunities offered on the 1<sup>st</sup> and 3<sup>rd</sup> Monday of each month. Members participate in local, regional, and state training offerings. There are several members who work for multiple fire departments where they participate in additional training.

Many fire service experts hold the common belief that no single activity in a fire department is as important as their training and preparedness. How individuals train, how often they train, and the quality of such training is directly reflected in the way a firefighter performs during difficult emotional and physical emergency situations and conditions. Training is, therefore, often considered the backbone of emergency operations since it produces a well-prepared force that, through repetition, increases the speed of an operation and enhances proper execution while reducing injuries. It must also be noted that documentation of the training is an essential part of the training process.

## Documentation

In an increasingly litigious society, the liability associated with poor training and/or poor documentation of that training is significant. Within the last decade, there has been an increased tendency for municipalities/townships/districts to be stripped of their immunity protection when dealing with an employee’s injury or death. At a minimum, the training records of the employee(s) would be scrutinized to determine whether they had been trained to address the situation that had led to their injury or death. The district would need to provide the investigating agencies with the following:

- Documentation that the individual received training in the evolution(s) in which the injury or death occurred.
- Comprehensive written curriculum and lesson plan of the training topic.
- Attendance sheet with the individual’s signature indicating attendance.
- Record of the instructor’s qualification to teach the topic.

- Competency documentation showing how the district measured the ability of the individual to safely perform the task in which the injury or death occurred.
- Historical record showing how frequently this topic was instructed and what other topics supported a safe environment under the conditions found at the accident scene.

## Competencies vs. Training Hours

Beyond the actual training program, today’s fire service requires more than simply teaching members how to perform their jobs safely; it requires validation of their competency to do so. A well-constructed training program will employ a system to ensure all members receive required training and document core competencies (Job Performance Requirements).

After personnel are tested/validated using JPRs for each skill, the records should be maintained for each department member as part of their training file.

## ISO™ Training Requirements

Although ISO™ is not a regulatory agency, they do establish standards that are utilized when conducting a rating for an individual fire department. ISO™ does not distinguish between career and volunteer employees when it comes to annual training requirements. Many fire departments utilize the ISO™ template as a best practice model with a goal of trying to meet their standards where possible.

The most recent ISO™ annual training hour requirements are illustrated in the table below. The hours listed are the current requirements to receive maximum credit during an evaluation:

*Figure 19: ISO Fire Training Requirements*

ISO Fire Training Requirements	
Topic	Hours
Company Training	192 (16 per firefighter per month)
Officer Training	12 per officer per year
Existing Driver Training	12 per driver per year
New Driver Training	60 per new driver per year
Hazardous Material	6 per firefighter per year
Recruit Training (within 1 year of employment)	240 per recruit
Pre-planning Review	1 pre-fire planning inspection per firefighter per year
Facility Training (live fire/smoke training)	18 per firefighter per year

Chief Winters submitted compiled training records for all members of the Silvis Fire Department for 2022. The training was separated by Chief Winters in an attempt to be in alignment with the general description of the ISO training categories and is captured in the chart below.

Figure 20: Fire Training - Silvis Personnel

Firefighter	Company Training	Officer Training	Existing Driver	New Driver	HAZMAT	Recruit	Preplan	Facility Training
██████	145	0	8	8	41	0	0	162
██████	31.5	0	0	0	0	5	0	0
██████████	16.16	0	0	0	0	0	0	0
██████	177	0	5	4	38	5	0	162
██████	47	1	0	0	4	0	0	0
██████	46.62	1.5	0	0	0.25	0	0	0
██████	12	1	1	0	0	0	0	0
██████████	36	1	2	0	4	0	0	0
██████	45.83	1.5	1	2	2	0	0	0
██████	17.48	1	0	0	2	0	0	0
██████	41.61	0	1	0	4	0	0	0
██████	20	1	0	0	0	0	0	0
██████	42.32	1	10.75	0	6	0	0	0
██████	56.24	122.5	6	0	5.75	0	0	0
██████	31	5	0	0	0	0	0	0
██████	40	1.5	40.25	0	4	0	0	0
██████	137	0.5	9	14	16.75	0	0	3
██████████	10	0	0	0	0	0	0	0
██████████	43	2	13.25	4	2.25	0	0	0
██████	75.16	4	41.5	0	4.25	0	8	0
██████	14.5	1	2.7	0	2	0	0	0
██████	16	0	0	0	0	0	0	0.5
<b>TOTALS</b>	1101.42	145.5	141.45	32	71.25	10	8	327.5
<b>AVERAGE</b>	50.06	18.18	5.3	6.4	3.6	5	0.43	14.88

\* For privacy purposes the names of the individual firefighters are redacted.

The chart indicates that the Officer Training category had limited attendance. The hours spent training in this area are vital to the decision making of the officers, increase their value to the firefighters they supervise, and improve overall operational success.

While training was conducted for the remainder of the categories, attendance was well below the associated maximum credit hours (see Figure 19). Although not optimal, it is not unusual for volunteer, paid on-call and combination departments to be shy of maximum credit for training hours. Most firefighters in these departments have full time occupations and have limited time to commit to the fire department. Along with this problem, the widely varying experience level in these departments causes difficulty in designing meaningful training for all attendees in the limited time they have available.

A well-designed and executed annual training plan is essential to all departments, but none more so than non-career fire departments. It is recommended that the ISO training requirements be used in conjunction with the 2022 training summary to design an effective training schedule for future years which will have the greatest impact on these categories. It is also recommended that training records

be kept specifically for ISO purposes so that training not recognized by ISO will not be included. This is easily accomplished using the existing software modules owned by the department.

## Certifications

The department has a handful of members who hold state/national levels of certification(s). Going forward, the Department should focus on attainment of certifications by all personnel. Although certifications/licenses are not required, (except in the case of Emergency Medical Services and Chief positions) certifications reflect professional standards related to training and testing. Having department members meet accredited standards helps to lessen liability and enhance the professionalism of the organization.

The Office of the Illinois State Fire Marshal is charged with establishing training programs to raise the level of local fire protection by upgrading and maintaining a high level of training for fire protection personnel. This has led to the development of the OSFM certification program and the funding of the Illinois Fire Service Institute to provide training for these certifications.

Below are the certifications which would be most relevant to a department such as Silvis:

### *Basic Operations Firefighter*

Department records show that 75% of the firefighters on the Silvis roster are either certified to the Firefighter II or Basic Operations Firefighter level. (Firefighter II is the previous version of Basic Operations Firefighter.) This certification is designed to give new firefighters the practical and cognitive training needed to operate safely and effectively on the fire ground and is the basis for more advanced certifications. While it would be optimal to have 100% of firefighters certified to this level, it can be difficult for the volunteer/paid-on call individuals to take time away from their family and work responsibilities to attend a full academy.

The Illinois Fire Service Institute has established a 180-hour blended Basic Operations Firefighter program in which students attend online classes along with weekend hands-on training at regional training sites. It focuses on an intense classroom and hands-on approach to firefighting, which promotes both skill competency and an understanding of the fire ground. Upon successful completion, the student will meet Illinois OSFM, Pro Board, and IFSAC NFPA Firefighter I requirements for certification.

This program is offered at no cost to Illinois students on an Illinois fire department roster and is supported by a grant offered through the Office of the Illinois State Fire Marshal. It would be recommended to encourage all newly enrolled firefighters to take advantage of this training opportunity.

### *Fire Officer*

The Company Fire Officer (Officer I) certification is designed to provide the Fire Officer, who oversees a single fire company or station, with information and skills required for success. It provides training and education in the requisite areas of Human Resource Management, Community and Government

Relations, Administration, Inspections and Investigations, Emergency Service Delivery, along with Health and Safety. This is the first level in the Fire Officer Series. One firefighter holds this certification.

The Advanced Fire Officer (Officer II) certification is designed to provide the Fire Officer, at the supervisory/managerial level, who oversees multiple fire companies or stations, with information and skills required for success. This is the second level in the Fire Officer Series. One firefighter holds this certification.

The Chief Fire Officer certification is for Fire Officers who are working at or wish to work at the level of a Chief Fire Officer and is the highest level of Chief Fire Officer Certification Training in the State of Illinois. This is the level of certification held by Chief Winters.

It is recommended that any officers in the department become certified to the level of their responsibility.

#### *Fire Department Incident Safety Officer*

This certification prepares firefighters who will be designated by an Incident Commander (IC) as the Incident Safety Officer (ISO). This certification provides training to monitor the various types of incidents including Fire, EMS, Technical Rescue, and Hazardous Materials scenes, and to report to the IC the status of conditions, hazards, and risks present. The Safety Officer is prepared to review current safety policies and procedures, conduct district safety training, perform accident investigations, review Standard Operating Procedures, and provide post-incident analysis. There are two members of the department holding this certification.

#### *Hazardous Materials*

The Hazardous Materials Certification Series prepares first responders to identify and properly mitigate hazardous materials/weapon of mass destruction incidents. They are trained in the initial isolation of the area, proper identification of the product, notifications to be made, mitigation levels and procedures, and termination of the incident. Seventy-five percent of the department is trained to the Hazardous Materials Operation level and three have advanced certifications.

#### Recommended Minimum Training Standard

There are other avenues to prescribe training outside of the certification programs. The University of Illinois Fire Service Institute – State Fire Academy (IFSI) has developed a recommendation for minimum training standards that is tiered based on the duties and functions of fire department members. The tiered system considers that not all members of a volunteer fire department perform the same functions based on their areas of interest as well as limitations to their physical abilities.

In Illinois, there is no mandated certification for firefighters so, as the Authority Having Jurisdiction (AHJ), Silvis could use this tiered recommendation system to determine the standards and training that are required for employee performance. Although it would be optimal for Silvis to have a mandated training standard that includes a basic firefighter certification as established by the Office of the Illinois State Fire Marshal, this minimum training standard could be used to ensure an elevated level of basic training.

Although there is no mandated certification for firefighters, Silvis does have an ordinance in place that requires that a firefighter must hold a Basic Operations Firefighter certification through the Office of the Illinois State Fire Marshal to qualify for officer consideration. At a minimum, this ensures that there will be trained personnel to oversee on-scene operations.

Another avenue to consider in creating a minimum training plan is to consult the Occupational Safety and Health Compliance Guide for Fire Departments, which was developed by the Illinois Department of Labor (IDOL). This document is a resource for fire departments in Illinois to achieve compliance with the minimum legal requirements for occupational safety and health contained in the standards adopted by the State of Illinois. There is a three-part series of video lessons dubbed IL OSHA 101 for Fire Departments which is available on IDOL's YouTube channel.

## National Incident Management System (NIMS) Training

The National Incident Management System (NIMS), under the Federal Emergency Management Agency (FEMA), is a collection of principles and methods that can be utilized by local, state, and federal emergency managers, as well as the private sector. A basic premise of NIMS is that all incidents begin and end locally, with the focus being to improve the nation's overall response to emergencies. The NIMS model does not take command away from state and local authorities, but rather provides a framework to enhance the ability of responders to work together more effectively. Large-scale national disasters in the past have suffered from a lack of coordination, authority, and a universally accepted plan to organize and mitigate such events. To that end, FEMA developed the National Incident Management System. The system incorporates several available online training classes. Those most applicable to district staff are:

- ICS-100: Introduction to the Incident Command System: interactive web-based course
- ICS-200: Basic Incident Command System for Initial Response: interactive web-based course
- ICS-300 Intermediate ICS for Expanding Incidents: 24-hour classroom based
- ICS-400: Advanced ICS for Command and General Staff: 24-hour classroom based
- ICS-700a: National Incident Management System: an introduction
- ICS-800b: National Response Framework: an introduction

The NIMS ICS 300 course is required under the “Homeland Security Presidential Directive (HSPD-5).” Based on the ICS role, district officers who serve as Incident Commanders are mandated to complete this training. The training is designed to enhance coordination, compatibility, and safety on emergency scenes as well to receive federal funding, grants, training, and reimbursement of disaster recovery cost. A review of district certification records indicated that all district officers have completed each of these required NIMS training certifications.

## Auto Aid Training

Silvis has an existing auto aid Inter-Governmental Agreement (IGA) in place with Hampton Fire and Rescue, Carbon Cliff–Barstow Fire Protection District, and East Moline Fire Department. In practice, there are several factors that influence the effectiveness of auto aid. Having the following attributes in common will increase the value of auto aid:

- Common dispatching system

- Common Standard Operating Procedures
- Common vehicle/equipment/manpower and annual training performed with each department.

Presently, the dispatching system is shared by all departments, but they do not have mutual Standard Operating Procedures or common vehicles/equipment/manpower. There were four combined training events conducted between the departments in 2022. While this is a good effort, increased attendance at each event from all departments could provide improved service to all the areas. Silvis, Carbon Cliff–Barstow, and Hampton Fire Departments intend to have monthly automatic aid training together. The consultants were told that this training is normally scheduled on the second Monday night of each month. Since Silvis does not train on the second Monday, they generally miss this important opportunity.



## Life Safety Services (Fire Prevention / Safety Education)

The fire service in general recognizes the importance of firefighting operations and emergency response, but the key to reducing loss and minimizing injuries from fires comes through a multi-stage approach that involves permitting, plan reviews, inspections, code enforcement, pre-incident planning, public education, and fire cause investigations.

### Fire/Life Safety Inspections

Silvis Fire personnel do not conduct documented fire/life safety inspections and the training records submitted for this report indicated that no department personnel held an OSFM Fire Inspector certification. In 2022, Chief Winters did conduct 55 walk-thru occupancy evaluations but did not record any of the violations found. These were more of a “courtesy” inspection meant to bring potentially dangerous situations to the attention of the building occupant.

Silvis relies on County and/or State Fire Inspectors to conduct inspections within their jurisdiction. Per the Illinois Fire Investigation Act, local Fire Chiefs hold concurrent jurisdiction in the application of the 2015 Edition of the NFPA 101 Fire and Life Safety Code as adopted by the State of Illinois. Silvis has also adopted this code at the local level, as well as the International Code Commission 2015 International Fire Code and 2015 International Building Code. The 2015 International Fire Code is a recognized equivalent of the NFPA 101 Life Safety Code as adopted by the State of Illinois.

Although the OSFM does have Fire Inspectors positioned throughout the State, the inspections they conduct are in State-owned, licensed, or leased occupancies. Outside of these occupancies, the OSFM Inspectors will only do inspections for local departments upon request and will then work with the local departments to pursue compliance through the local court system. Although a good backstop to have, depending on the OSFM is not the most effective way to conduct fire/life safety inspections.

Records submitted for this report indicate that there are 153 non-residential buildings within the Silvis Fire Department jurisdiction. It would be ideal to have all 153 buildings inspected annually to ensure compliance with the adopted fire and life safety code.

In the absence of certified fire inspectors, Silvis could have selected department personnel participate in the OSFM Online Life Safety Code Core Program. The OSFM Life Safety Code Program is free to the Illinois fire service and consists of two parts: OSFM Life Safety Code Core Program and the OSFM Life Safety Code Occupancy Programs.

Both programs provide information on the NFPA 101 Life Safety Code 2015 edition and assist the Illinois Fire Service in building their professional knowledge and understanding of the OSFM adopted code that serves as the state’s minimum fire safety standard. This is not a certification, but rather an educational tool which enables firefighters to participate in an inspection program, to identify and attempt to mitigate hazards in their jurisdiction, and to be in compliance with the Fire Investigation Act.

This entire process could be documented utilizing a generic inspection report available from the Life Safety Code Core Program or other versions available from electronic inspection software programs. In

either case, it is important to maintain these records for future reference. Other important parts of completing these inspections are to reference the adopted codes as necessary, to take photos as needed to attach to inspection files, and to ensure that a copy of the entire document is given to the owner/manager/responsible party.

Once established, the inspection process would need to be viewed as a learning opportunity where the occupant/business is assisted in reducing their risk of fire. The process should never be initiated with a punitive feel, but rather “we as the fire department are here to help you be successful and safe.” When a problem is uncovered, the owner/manager/responsible party needs to understand what should be done to correct the problem and reduce their risk (i.e., pass the inspection) and how to get assistance with questions.

## Pre-Incident Planning

Silvis Fire Department personnel routinely conduct pre-incident planning activities. Although this is not a substitute for fire and life safety inspections, it does allow fire department personnel to become familiar with a building, the occupants, construction techniques, specific hazards, and adjacent structures prior to an emergency incident. Armed with this prior knowledge, firefighters are better equipped to address a fire or emergency in a particular building, thereby increasing the margin of safety for both occupants and firefighters.

Silvis has begun the process of converting their paper-based pre-planning program to an electronic format (FlowMSP) which can be used in training curriculum for firefighters and will be much more accessible to Incident Commanders at emergency scenes. At the time of this report, there are 62 of the 153 commercial buildings identified that have been incorporated into the FlowMSP program. The order of priority for completing the pre-plans will be:

- Commercial buildings
- Multi-family residences
- Single family homes (voluntary)

Information typically contained in each pre-plan includes:

- Location—address
- Operating information and access
- Occupancy information
- Special hazards
- Type of construction
- Available water supply
- Building protection systems
- Utilities—including location of shut-offs
- Exposures
- Special resource considerations
- Technical rescue exposures
- Additional applicable information

ISO™ states as part of their fire department rating schedule that a building familiarization/pre-incident planning program should be implemented by all departments:

*The community should conduct a pre-fire planning inspection of each commercial, industrial, institutional, and other similar structure once a year for maximum credit in the Fire Suppression Rating Schedule (FSRS). Records of the inspections should include complete and up-to-date notes and sketches.*

Pre-incident planning can be conducted at the time of a fire inspection, or as an independent activity, and then incorporated into the training curriculum for all fire department personnel. Many records management software systems allow development of formalized pre-plans that can be accessed via computer/iPad/tablet on-scene during an emergency event.

## Investigations

Per the Illinois Fire Investigation Act, all fire department chiefs are responsible to conduct a cause and origin investigation on every fire. This investigation does not have to be completed by a certified fire investigator, but having the experience and education of a certified fire investigator on scene makes reaching an accurate determination much more likely and would have a greater impact on any criminal trial. Silvis has one certified Fire Investigator and can call Arson Investigators from the Office of the Illinois State Fire Marshal if the fire does not appear to be accidental in nature.

A subset of investigations is a Youth Fire Setter Interventionist Program. This program aims to work with youth who have been involved in playing with or starting fires. Silvis has one department member who is a certified Youth Fire Setter Interventionist and can effectively work with at-risk youth in the community to determine if further professional assistance is needed.

## Public Education

Silvis FD participated in numerous public education activities in 2022 and has made a good effort to reach out to the community in the following ways:

- Installation of smoke detectors in 14 homes
- Fire safety presentation in 14 homes
- 4 group fire station tours
- 2 pre-school fire safety presentations
- 7 elementary school fire safety presentations
- 1 weekend fire safety material hand out at a grocery store
- Fire extinguisher training at 3 businesses
- Fire safety presentation at 3 businesses
- Utilized a Facebook page for fire safety education and updated community information
- Conducted exit drills at 2 elementary schools

Public safety education has long been associated with the fire service. Many look back fondly on grammar school visits from the fire department and a firefighter dressed in a Sparky costume. The school fire safety messaging has grown into efforts aimed at protecting residents from all hazards,

working with diverse groups of people in multiple settings presenting information which is credible and relevant to the community. This expansion has presented significant challenges but also opportunities for public education efforts such as the Community Risk Reduction (CRR) Program.

CRR is a data-driven process to identify and prioritize local risks, followed by the integrated and strategic investment of resources (emergency response and prevention) to reduce their occurrence and impact.

A recent effort by the Illinois Office of the State Fire Marshal, in conjunction with the 13 Statewide Fire Service Organizations, established the Illinois Community Risk Reduction Task Force. The mission of the taskforce is to promote the importance of risk reduction in Illinois by inspiring community ownership and providing coordinated resources. The Task Force works closely with the Vision 20/20 team to incorporate their national effort with those in Illinois.

The Illinois CRR Task Force holds several conferences each year in the North, Central and South regions of the State. These conferences are free to attend and assist local departments in identifying and mitigating risks relevant to their community. The Illinois Fire Service Institute has also developed an 8-hour Community Risk Reduction Awareness course that is free for the Illinois fire service members.

Silvis has one department member certified as a Public Fire and Life Safety Educator who would be an ideal candidate to pursue this program to bring the greatest results from their public education efforts.

## Emergency Medical Services (EMS)

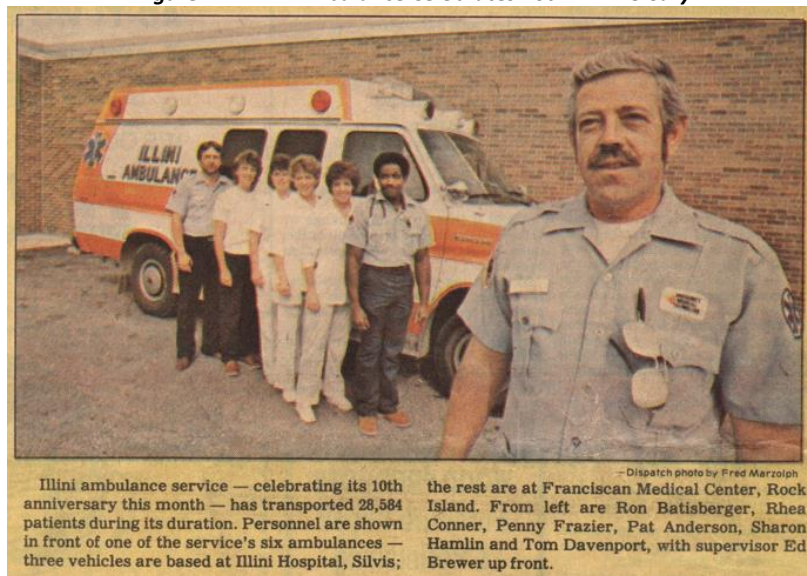
### Illini/Genesis Ambulance

Illini Hospital, now Genesis Medical Center–Silvis, opened in 1968. The hospital began providing ambulance service in 1974. The service expanded in 1982 when the hospital was awarded a contract to serve both the City of Rock Island as well as the Village of Milan. This ended in 1986 when the Rock Island Fire Department took over the ambulance service for both communities. The name Illini Ambulance was changed to Genesis Ambulance to reflect the name of the hospital owning the service.

The ambulance service, like the Silvis Fire Department, were early trendsetters. Emergency Medical Technicians (EMTs) were assigned to the hospital's emergency room and provided direct patient care when not responding to ambulance calls. This allowed the EMTs to gain valuable experience in all facets of emergency care while working alongside physicians and emergency room nurses. For many years, the Illini Hospital EMTs were considered some of the most knowledgeable and experienced providers in the Quad Cities.

Although paramedic level care was first initiated in Illinois in the early 1970's, the Illinois Quad Cities were relatively slow to transition to this new advanced level of pre-hospital field care. Early in Illini Ambulance's history, the hospital-based ambulance service made the decision to begin staffing its ambulances with two EMTs and a registered nurse (RN). The nurses received expanded training in advanced cardiac life support. These nurses—equipped with a cardiac defibrillator, IVs, medications, and advanced airway supplies—began providing pre-hospital advanced life support care prior to any other Illinois Quad Cities' service.

**Figure 21: Illini Ambulance Celebrates 10th Anniversary**



The Moline Fire Department was the first Illinois Quad Cities ambulance service to upgrade to paramedic level care followed soon after by Illini Ambulance. Illini argued that their RN level providers delivered equal to or superior level care when compared to the paramedics, but the Illinois Department of Public Health disagreed stating that RNs were not licensed to provide pre-hospital level care. Ultimately, driven in large part by Illini Hospital, the Illinois Department of Public Health developed and instituted the Pre-Hospital Registered Nurse (PHRN) program and certification. This certification continues to exist today. However, the certification came after Illini's decision to train their EMTs as paramedics.

In the early 1990s, the Dailey-Gibson Funeral Home provided ambulance services to upper Rock Island County (Rapids City, Port Byron, Rapids City Fire Protection District, Hillsdale Fire Protection District, and Cordova Fire Protection District). When the decision was made to discontinue the funeral home-based ambulance service, Illini Ambulance was awarded a contract to service these areas. This contract has continued basically unchanged to date, except that the Cordova Fire Protection District now contracts with the Albany Fire Protection District for ambulance service.

Genesis Ambulance currently staffs ambulances out of their East Moline Facility and a Colona Fire Station. Genesis Ambulance has in the past also provided services in Mercer County. Genesis reportedly exercised an opt-out clause in their contract with Mercer County which caused some turmoil as the County searched for a new ambulance provider. Genesis also staffs ambulances in Dewitt, Iowa, to service that town and its surrounding area.

Recently Genesis Health System has consolidated with MercyOne headquartered in Clive, Iowa. MercyOne operates hospital-based ambulance services, but the exact future of Genesis Ambulance following the consolidation is unknown. Genesis Ambulance leadership have been told that they should expect no significant changes except possibly a new color scheme for the ambulances.

## Receipt and Dispatching of Ambulance Calls

### *History*

For many years Illini Ambulance was self-dispatched. Calls would come into the emergency room at Illini Hospital where they would be answered and crews dispatched. This self-dispatch model did not include receiving 9-1-1 calls. Calls came to the ambulance service by the local PSAP who had received the 9-1-1 call and simply relayed the need for an ambulance response.

### Priority Dispatching

Medical Priority Dispatch (MPD) uses protocols to help dispatchers prioritize the level of medical need and then send the most appropriate EMS response.

Although not called at the time priority dispatching, Illini Ambulance (now Genesis) has utilized an in-house model of medical priority dispatching since it began utilizing RNs on its ambulances. In cases prior to the ambulances being staffed by paramedics, more emergent calls would include a nurse on the ambulance prior to it leaving the hospital. For more basic calls—such as a fall where the patient was conscious and alert—the EMTs would handle the call without the RN staffing.

Again, this exemplifies the forward thinking and progressive mindset of Illini Ambulance prior to these practices becoming commonplace.

### ***QCOMM911***

QCOMM911 serves as the Public Safety Answering Point (PSAP) for the City of Silvis. QCOMM911 provides dispatch and radio services for five police departments and nine fire departments/districts in Rock Island County. QCOMM911 is a consolidated state of the art communications center located in Milan, Illinois. Communities/Fire Protection Districts served include:

- City of East Moline
- Village of Hampton
- Village of Milan
- City of Moline
- City of Silvis
- Blackhawk FPD
- Carbon Cliff-Barstow FPD
- Coal Valley FPD (Joined January 1, 2024)
- Coyne Center FPD (Joined January 1, 2024)
- Reynolds FPD (Joined January 1, 2024)

QCOMM911 has enhanced 911 capabilities and utilizes Computer Aided Dispatch to facilitate operations. Fire incidents are dispatched by QCOMM911 directly to the Silvis Fire Department and its automatic aid partners. For EMS incidents, QCOMM911 answers the call and provides Emergency Medical Dispatch (EMD) using Pro-QA protocols.

Emergency Medical Dispatching (EMD) is a process where trained telecommunicators take callers through a series of steps to provide lifesaving medical care prior to the arrival of medical first responders and/or the ambulance. Some of the most important types of incidents where pre-arrival instructions have the greatest impact is in the delivery of CPR, usage of AEDs, choking, actions to stop bleeding, and childbirth. These pre-arrival instructions are scripted and provided using guide cards. In this process, the telecommunicator remains connected to the caller until the arrival of dispatched units.

EMD using the Pro-QA protocol includes a computer-directed process of questioning that allows the telecommunicator to gather pertinent information from the caller to classify the EMS incident in a

standardize system and recommends the appropriate level of emergency response. This includes whether the ambulance should respond in emergency or non-emergency mode and whether additional first responders should be dispatched to the incident (e.g., medical first responders or fire apparatus needed for rescue/extrication).

QCOMM911 routinely utilizes EMD protocol when answering 911 calls from Silvis. Although EMS incidents could be classified and response determinants derived, this information is not used because QCOMM911 does not dispatch Genesis Ambulance. Genesis Ambulance is dispatched by Scott Emergency Communication Center (SECC). Once the 9-1-1 call is answered by QCOMM911 and EMD initiated, SECC is contacted by QCOMM911, and an ambulance is requested.

### *Scott Emergency Communication Center (SECC)*

In 1999, Illini/Genesis Ambulance entered a contract with MEDIC EMS for dispatch services (MED-COM Division of Medic EMS). Effective January 1, 2024, MEDIC EMS became a governmental agency within Scott County. Therefore, ambulance calls in Silvis, although answered by QCOMM911 and processed by MED-COM dispatchers, are really dispatched by SECC.

Silvis 9-1-1 ambulance calls are routed to QCOMM911. The calls are answered and EMD provided if needed. QCOMM911 dispatchers use a manual process (personal phone call versus an automated computerized contact) to then notify SECC that an ambulance is needed in Silvis. Any priority dispatch determinants are not relayed to SECC and are, therefore, not utilized in the dispatch decision.

In the rare case when the ambulance request comes directly to SECC (e.g., a cellular caller whose signal bounced off a cell site located in Scott County or a 9-1-1 call made by a 3<sup>rd</sup> party located in Scott County), SECC will provide EMD and assign appropriate response determinants.

In all cases, SECC is responsible for ambulance dispatch and collects all status data and times for Genesis Ambulance. SECC also utilizes Automatic Vehicle Location (AVL) technology to determine the closest available ambulance to dispatch to an emergency call. If no Genesis Ambulance is available to handle a call in Silvis, SECC relies on a predetermined hierarchy of ambulance services to try and find one that is available and able to respond. The below table shows the hierarchy used for calls in Silvis. It also shows who dispatches the respective ambulance.



**Table 22: Silvis Ambulance Call Hierarchy**

Zone 2 Silvis	
Agency	Dispatched by
Genesis	SECC
Coal Valley	Q-Comm
Moline	Q-Comm
Rock Island Arsenal	Arsenal Dispatch
Rock Island	RICOMM
Medic EMS	SECC
Upper RI (Genesis)	SECC

Securing a mutual aid ambulance can require communications back and forth between dispatch centers since unit status (AVL) is not shared among centers. This can lead to extended call processing times.

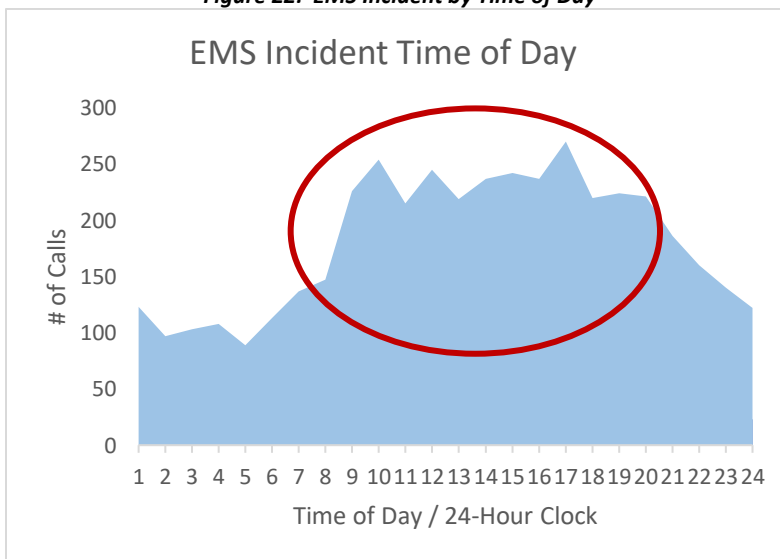
**Genesis Call Data**

Call data was obtained and evaluated for Genesis Ambulance. Data is reflective of responses to all of Genesis’s coverage areas—not just the City of Silvis.

The data indicates that the busiest time for Genesis Ambulance is between the hours of 8 a.m. and 8 p.m. The calls are reduced during the overnight hours. Genesis staffs 3-4 ambulances during the day and 2-3 at night.

In compliance with the agreement between Genesis Ambulance and the Illini Hospital Board, only one (1) ambulance can be assigned on a non-emergency transfer at any given time.

**Figure 22: EMS Incident by Time of Day**



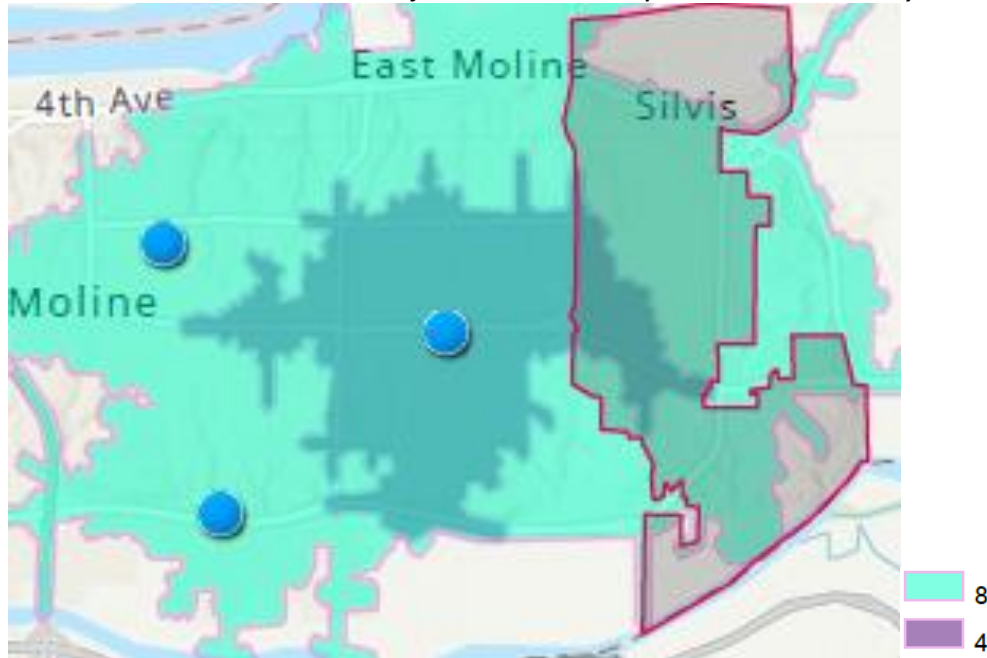
Ambulance response time information was derived from raw data provided by Scott Emergency Communication Center (SECC) for incidents between January 2000 through December 2022.

Mutual aid ambulance times are not tracked by SECC. The below numbers have been “cleaned” to remove all calls with incomplete data due to the lack of tracking for mutual aid calls. Also removed were all calls in which the ambulance was cancelled by a first responder agency prior to arriving on-scene.

**Table 23: Genesis Ambulance response times: Dispatch to Turnout and Dispatch to Arrival**

	Dispatch to Turnout	Dispatch to Arrival
Average Response Time	0:01:37	0:06:17
90% of Responses	0:02:51	0:09:07

**Figure 23: Denotes a 4- and 8-minute Drive Time from the Genesis Headquarters Ambulance Facility in East Moline.**



As shown in the above driving time map, most of Silvis is within an 8-minute response time.

It should be noted that these response times are in addition to call processing times from the dispatch center(s) (i.e., how long it takes for the call to be received and processed by the Public Safety Answering Point (PSAP) – QCOMM911 – and then SECC).

By comparing incident data between QCOMM911 and SECC ambulance incident logs, the approximate call processing time by SECC's can be estimated. The consultants used data from 40 incidents in June 2022 and extensive manual calculations to derive the following data:

**Table 24: Call processing time for EMS incidents transferred to SECC**

Call Processing Time in Seconds	
Average	183
90th Percentile	239
95th Percentile	253

This generates an average total response time (9-1-1 call answered until the ambulances arrival on-scene) as shown below:

**Table 25: Estimated Total Ambulance Response Time including Call Processing**

Total System Response Time	
Average	0:09:20
90th Percentile	0:13:06

For ambulance incidents handled by Genesis, patient disposition is also tracked. Transport disposition is defined as the action taken with the patient after evaluation by EMS personnel. This includes transport to the hospital using lights and siren or transported without the use of lights and siren. It also includes patient refusals (i.e., refusal of care by ambulance personnel), death on scene, and cancelled on route.

**Table 26: Genesis Transport/Disposition 2000-2022**

Transport/Disposition	3 years
Emergent	275
Non-Emergent	2652
Dead on Arrival	54
Refusal	726
Cancelled	567
No Chart	2
Mutual Aid *	59

NOTE: Patient disposition is not tracked for mutual aid ambulances and is not reflected in the above numbers.

## First Responder EMS Services

The impetus behind first responder EMS services is to utilize trained personnel to quickly respond and begin patient care prior to the arrival of the ambulance. These programs put trained responders on the scene quickly and provide an increased level of staffing for the care of critical patients. Early Quad Cities

adopters of the first responder concept were Colona Community Fire Protection District and the Village of Hampton Fire Rescue Department. Others have joined suit, with all areas currently receiving ambulance service from Genesis now providing some level of fire department first responder support. The City of Silvis is the only exception. In the City of Silvis, the police department has historically responded, but as noted earlier in the report, this has been substantially reduced with most ambulance calls now being handled by the ambulance only.

For critical patients, time is of the essence. The first responders arrive, begin lifesaving patient care, and “stop the clock” for a responding ambulance. If appropriate and quality patient care is provided, the arrival of the ambulance for transport (in most cases) can be lengthened. Without first responder care for a patient suffering a critical medical emergency, the risk of an irreversible medical condition or death is significantly increased.

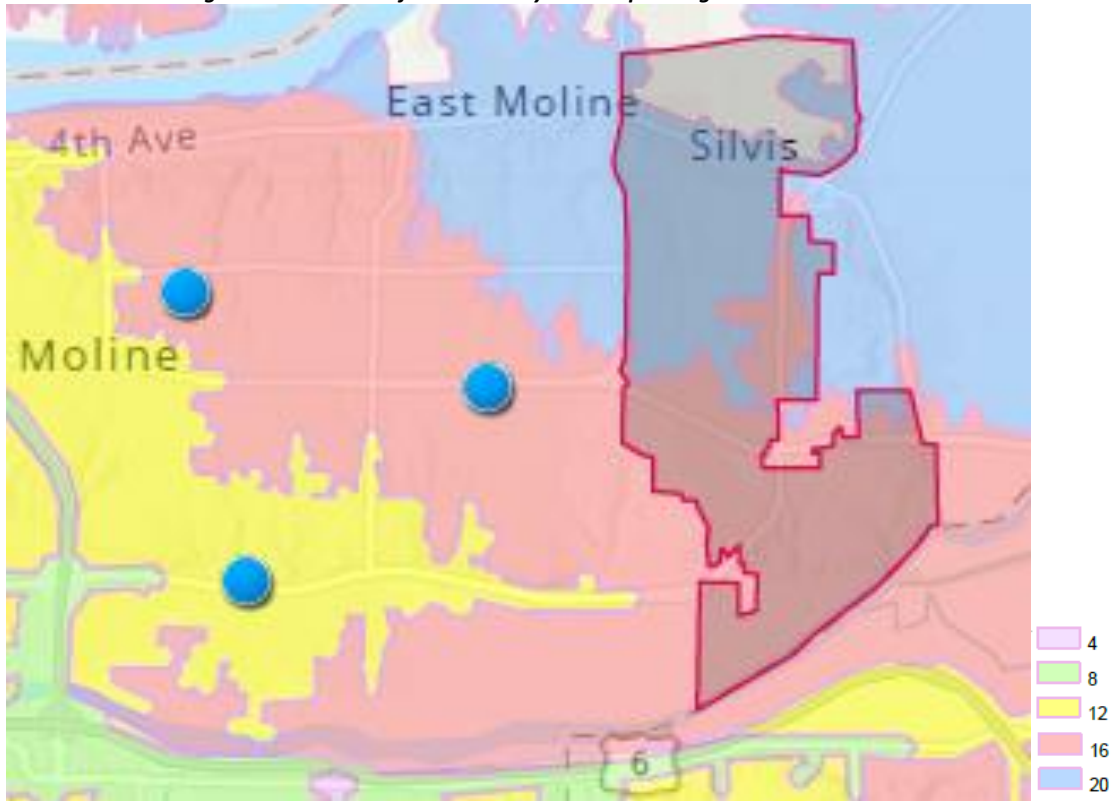
A recent and concerning development is beginning to emerge related to first responder services in the City of Silvis. Shown in Figure 26 is the dispatch box card utilized by Genesis Ambulance. **Zone 2** (plus the bulleted section below) reflects the response standards of Genesis Ambulance for the City of Silvis.

1. In Genesis’s most recent dispatch guide (box card dated August 2023), East Moline Fire Department is to be dispatched into the City of Silvis for calls involving a cardiac arrest (the patient has no pulse) and respiratory arrest (the patient is not breathing). This is due to the labor-intensive workload associated with providing advanced life support care to a patient without a pulse or who is not breathing.
2. Genesis Ambulance has started relying on Coal Valley Fire Protection District as its primary mutual aid ambulance into the City of Silvis. Genesis reportedly made this change based on the limited availability of a mutual aid ambulance from a closer entity.

To help readers understand the acronyms used in the box card, the “SSM” listed refers to the professional EMS phrase “System Status Management”. This means that when an ambulance call occurs within the City of Silvis, SECC first looks for an available Genesis Ambulance (i.e., one that is close to Silvis and available to handle a call). If a Genesis Ambulance is available, that crew will be dispatched to the Silvis address. If no Genesis ambulance is available, they will then request an ambulance from Coal Valley Fire Protection District. If Coal Valley is unavailable, Moline Fire Department will next be requested followed by the Rock Island Arsenal Fire Department, Rock Island Fire Department, Medic EMS (responding from Iowa), and lastly a Genesis ambulance responding from Upper Rock Island County.

The below drive time map denotes response times from Coal Valley into Silvis. All drive times are between 16-20 minutes. This does not include call processing times which are known to be around 4-minutes (90<sup>th</sup> percentile). This means that that the primary mutual aid ambulance response to Silvis calls can be estimated at between 20-24 minutes.

Figure 24: Drivetime for Coal Valley FPD Responding to Calls in Silvis



Since any response from Coal Valley into the City of Silvis will exceed 20-minutes, Coal Valley Fire Protection District recently started requesting that Carbon Cliff–Barstow Fire Protection District respond into the City of Silvis as a first responder when their ambulance has been dispatched. This is one fire agency (Coal Valley) requesting assistance from another fire agency (Carbon Cliff-Barstow) into a community protected by its own fire agency (Silvis), who chooses to not provide first responder services.

Figure 25: Genesis Ambulance Box Card

## General Mutual Aid Response

Zone 1	Zone 2	Zone 3	Zone 4
East Moline	Silvis	Carbon Cliff - Barstow	Hampton
SSM	SSM	SSM	SSM
Moline Fire Amb	Coal Valley	Coal Valley	URIC
Coal Valley	Moline Fire Amb	RI Arsenal Amb	Medic EMS (LeClaire)
RI Arsenal Amb	RI Arsenal Amb	Medic EMS (LeClaire)	RI Arsenal Amb
Medic EMS (Bettendorf)	Rock Island Fire Amb	Moline Fire Amb	Moline Fire Amb
Rock Island Fire Amb	Medic EMS	Rock Island Fire Amb	AMT
AMT	URIC	AMT	Rock Island Fire Amb
URIC		Albany Ambulance	Albany Ambulance
		Erie Ambulance	Erie Ambulance
		URIC	

**\*\*Agency assist, ambulance still needed**

**\*\*\* EM Fire only to respond to Silvis For Cardiac or respiratory Code**

Zone 5	Zone 6	Zone 7	Helicopter Resources
Port Byron - Rapid City	Hillsdale	Colona	All Zones
SSM	SSM	SSM	Med Force 1
Medic EMS (LeClaire)	Erie Ambulance	Coal Valley	Med Force 2
Erie Ambulance	Geneseo Amb	Geneseo Amb	Medforce Command**
Albany Ambulance	Atkinson Amb	AMT	OSF Lifeflight 18556733598
RI Arsenal Amb	Medic EMS (LeClaire)	Medic EMS (LeClaire)	REACT (Rockford) 18556673228
Geneseo Amb	Albany Ambulance	Erie Ambulance	Iowa City 18002726440
AMT	RI Arsenal Amb	Moline Fire Amb	Cedar Rapids 18002236627
Fulton Ambulance	AMT	RI Arsenal Amb	Quincy 18002236627
		URIC	

Revised on 08/2023

Genesis Ambulance

### Workarounds

The “workaround procedures” being implemented by Genesis Ambulance and the neighboring communities to the City of Silvis is profound. Genesis has even pulled a second Genesis Ambulance to scenes where additional medical providers are needed to assist in patient care. This practice reduces the available ambulances to an already tightly-stretched EMS system. Bottom line, the need for first responder assistance clearly exists, but since Silvis has no first responder program established, workarounds are being created. It can be argued that these workarounds are detrimental to the entire Quad Cities EMS system.

No community or fire protection district is opposed to providing mutual aid assistance when a stricken community has exhausted its ability to handle emergency incidents. The first responder situation that has emerged is not technically a mutual aid situation inasmuch that the City of Silvis simply does not offer the service needed. Therefore, the neighbors are providing the service as a courtesy to the City of Silvis. In essence, the taxpayers of the City of East Moline and the Carbon Cliff–Barstow Fire Protection District are subsidizing the City of Silvis by providing first responder services with no ability to recoup their costs associated with these responses since the City of Silvis does not offer a reciprocal service.



As stated earlier, mutual aid must be “mutual.” This is not the case related to the workarounds implemented to provide pre-hospital care within the City of Silvis.

## EMS – “A System of Care”

First responder programs are an essential aspect of modern pre-hospital care. In years past, EMS care was about transporting the patient from the field to the hospital. Once in the hospital the patient would be evaluated, stabilized, and admitted for definitive care.

Modern EMS theory is to bring more and more of the historical emergency department treatment modalities to the field. EMS personnel have greater levels of diagnostic tools and equipment and preparatory treatment algorithms that allow them to better diagnose the problem so patients can bypass the emergency department and proceed directly to the appropriate hospital definitive care unit.

Early recognition of electrical conduction changes indicating a heart attack (i.e., an elevation in the ST segment noted via a 12-lead EKG) as well as definitive signs associated with a stroke allow EMS personnel to recognize and transport patients to specialized treatment facilities to quickly address the underlying medical condition. This practice has become a mainstay of modern EMS and has strong evidence of having dramatic positive impacts on patient outcomes with reduced mortality. Pit crew cardiopulmonary resuscitation (CPR), 12-lead electrocardiograms, capnography, drillable interosseous access, new medications, more advanced airway options, and any number of additional critical care procedures are all being implemented, with others being pilot tested by aggressive medical directors. The challenge in bringing such care to the field is the staffing levels needed. Ambulances are required to be staffed with two patient care providers, but modern EMS standards of care often take more than the two personnel assigned to the unit. This need for additional personnel is stretching the capabilities and staffing needs of EMS agencies.

For example, care provided in the emergency room involves a tremendous number of personnel. Between the physician, nurse, and the ancillary care specialists, the number can range between four to eight providers at any one time. With the modern changes in EMS, the standard of care brings the emergency room to the patient’s living room. The question: if we are providing more and more time sensitive emergency department treatments in the field, how many players do we really need?

Using a cardiac arrest patient as an example:

- 1 person is required to manage the airway
- 1 - the cardiac monitor/defibrillator
- 1 to initiate IV access and deliver medications
- 2 are needed to provide pit crew CPR
- 1 is needed to set up and prepare the equipment needed to get the patient from the location of the arrest to the back of the ambulance.

This totals six (6) emergency responders. You can easily replace the cardiac arrest situation with any number of other medical emergency scenarios and still come up with the need for six, seven, or more personnel.

In the City of Silvis, the workload of these six or more responders is done by only two ambulance personnel and, if available, a Silvis police officer. The overall efficiency of care based on limited staffing numbers is not optimal.

### ***NFPA Standard Related to Fire Department EMS Response***

NFPA 1710 states that fire departments/districts should provide a basic level of EMS response capabilities. At a minimum, a first responder trained member along with an Automatic External Defibrillator (AED) needs to be available on all responding apparatus/companies.

NFPA establishes that the arrival of Advanced Life Support care (i.e., paramedics) should be within 240 seconds (4-minutes) unless a first responder with an AED arrives within 240 seconds (4 minutes), in which case Advanced Life Support personnel have 480 seconds (8 minutes) to arrive and begin patient treatment. This response standard applies to patients who have a high acuity of care needs (e.g., cardiac, and respiratory emergencies, strokes, and life-threatening bleeds) and not to those patients with a lesser acuity level (e.g., falls, generic illnesses, lift assists, etc.).

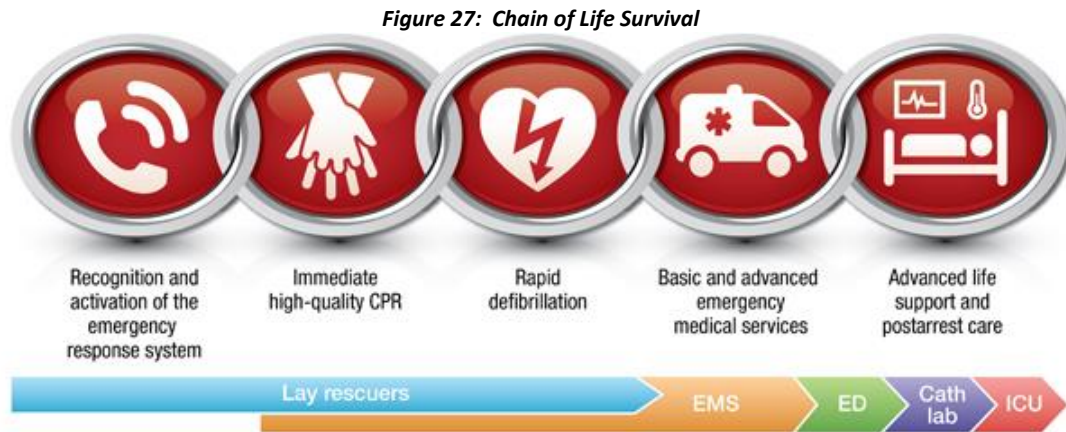
**Figure 26: Percentage of Survivability Based on Response Time (Source IAFF NFPA 1710 Implantation Guideline)**

<b>Minutes</b>	4	5	6	7	8	9	10	11	12	13	14	15
<b>Survival</b>	25.3%	23.2%	21.1%	20.0%	15.0%	14.3%	12.7%	10.0%	8.5%	6.4%	4.3%	2.2%

\*Important to note is that between call processing times and the response time of Genesis Ambulance, the average time for an ambulance to arrive on-scene following a 9-1-1 call exceeds the NFPA response time standard of 8-minutes. Likewise, the survival potential of a cardiac arrest patient with a mutual aid response from Coal Valley in 0%.\*



The American Heart Association has determined that the recovery percentage of someone who is not breathing and has no pulse diminishes quickly after four minutes. The Association has established the Chain of Life Survival as a visual example of the various aspects required to minimize death from sudden cardiac/respiratory arrest.



Key aspects of the chain are detailed as:

- If EMS intervention or citizen Cardiopulmonary Resuscitation (CPR) is performed within the first 4 minutes, patient survival rate is 45%.
- Every minute without patient intervention for a non-breathing, non-heartbeat patient, the chances of survival decrease by 10%. Brain damage occurs within 4 to 6 minutes without patient intervention.
- If patient treatment (citizen CPR or EMS) is not provided within 10 minutes, the survival rate is close to zero.
- Citizens performing CPR prior to the arrival of EMS is the most critical component to patient survival.

*Source: American Heart Association*

This information provides compelling evidence supporting the need for first responder services including a timely advanced life support response.

## EMS Call Acuity within the City of Silvis

Based on data obtained from SECC, approximately 1450 ambulance calls occur annually in the City of Silvis. Since QCOMM911 does not dispatch Genesis Ambulance and Pro-QA data is not end-to-end, only generic patient types are available related to patient acuity (e.g., stable patient, moderate-risk patient, complex patient, high-risk patient). The consultants have (for analysis purposes) classified these calls into acuity levels of:

- High
- Medium
- Low

This process is imperfect but provides a perspective of ambulance calls occurring in Silvis.

**Table 27: Ambulance Call Volume Numbers Based on Level of Acuity**

<b>High Acuity</b>	<b>3 years</b>	<b>Annual</b>		<b>Low Acuity</b>	<b>3 years</b>	<b>Annual</b>
Cardiac or Respiratory Arrest	54	18		Abdominal Pain	95	32
Chest Pain	209	70		Allergy	92	31
Choking	9	3		Ambulance Request Hot	1	0
Drowning	1	0		Animal Bite	6	2
Electrocution/Lightning	1	0		Assault/Sexual Assault	60	20
Inaccessible	3	1		Back Pain	37	12
Inhalation	7	2		Burns	5	2
Stab/Gunshot	10	3		Difficulty Breathing	421	140
Traffic	110	37		Falls	842	281
<b>Total High Acuity</b>	<b>404</b>	<b>135</b>		Fire Request	2	1
				Fire Request Cold	5	2
				Headache	13	4
<b>Medium Acuity</b>	<b>3 years</b>	<b>Annual</b>		Heat/Cold	5	2
Diabetic Problems	63	21		Hemorrhage	85	28
Heart Problems	42	14		Interfacility Eval/Transfer	95	32
Overdose	60	20		Pandemic/Epidemic/Outbreak	21	7
Pregnancy/Childbirth	9	3		Pd Request Cold	19	6
Seizures	87	29		Police Request Hot	52	17
Stroke (CVA)	71	24		Psych/Abnormal	266	89
Unconscious/Fainting (Near)	171	57		Public Assist	2	1
<b>Total Medium Acuity</b>	<b>503</b>	<b>168</b>		Request - Cold	7	2
				Sick Person	581	194
				Standby	33	11
				Traumatic Injuries (Specific)	46	15
				Unknown Problem	637	212
<b>Grand Total</b>	<b>4335</b>	<b>1445</b>		<b>Total Low Acuity</b>	<b>3428</b>	<b>1143</b>

## Silvis Fire Department's Role in EMS

Based on conversations with Chief Winters, the City of Silvis purchased Unit 4676 (white utility bed truck) in 2002 to use as a first responder medical vehicle. Reportedly, Chief David Leibovitz planned to use the vehicle to respond on EMS calls with the paid-on-premise personnel. The plan was that these personnel would respond when on duty. When the paid-on-premise personnel were not on duty, the medical first responder program would be shut down.

To begin offering this service, the City of Silvis would need to become part of an EMS Resource Hospital per the Emergency Medical Services (EMS) Systems Act (210 ILCS 50/). Silvis would have likely joined the Genesis EMS System. Reportedly, this "shutting down" of the service offering was not approved by the proposed Resource Hospital based on the practice violating the EMS System Act. In essence, if Silvis was to begin providing medical first responder services, the service would have to be offered around the clock. This did not mean that the service had to be provided by paid-on-premise personnel. Paid-on-call personnel could have provided the service after hours just as they do for all other fire department response needs. The concept was reportedly scrapped.

### *Development of a First Responder Program*

The consultants strongly believe that there should be EMS First Responder Services provided within the City of Silvis. This service needs to have sufficient personnel to provide strong assistance to the responding ambulance. The consultants believe that the need is justified, and the implementation of a program would stop the workaround solutions that are currently burdening neighboring agencies. Several options are offered on how this service might be instituted. Each option will have varying associated costs.

1. Establish a contractual relationship with the City of East Moline and/or the Carbon Cliff–Barstow Fire Protection District to provide first responder services in the City of Silvis. In this scenario, one or both agencies would respond from their current fire stations and would provide services as needed. The City of Silvis would need to negotiate a contractual price for the delivery of this service.
  - a. Benefit: The City of Silvis would not need to develop a medical responder program and be subject to the requirements of such as stipulated by the Illinois EMS Act and the Resource Hospital.
  - b. Drawback: The City of Silvis would have no control over the level of medical first responder services. There would also be a built-in delay as responders would be coming from fire stations located in other communities.
2. Provide a subsidy to Genesis Ambulance Service to staff a medical first responder vehicle dedicated to the City of Silvis.

- a. **Benefit:** The City of Silvis would get the benefit of a medical first responder unit without being subject to the requirements stipulated by the Illinois EMS Act and the Resource Hospital.
  - b. **Drawback:** The subsidy cost to implement such a program would be high. The cost of provider salaries and benefits, along with the annual maintenance of a vehicle and supplies would easily exceed \$500,000 annually.
3. Develop a medical first responder program within Silvis Fire Department.
- a. **Benefit:** Paid-on-premise personnel are already working daytime hours. Evening and overnight responses could be covered by paid-on-call personnel. The fire department would need to purchase EMS equipment but already has emergency response vehicles that could be used to provide the service. Response times would be shortened based on responders coming from fire stations located within the City of Silvis. A fire-based program is likely the most cost-efficient way to deliver medical first responder services within the city.
  - b. **Drawback:** The fire department would need to train and certify personnel to provide medical first responder care. There would be an increase in paid-on-call costs as the overall call volume of the department would increase. This could result in a strain on the capabilities of the current volunteer membership. Additionally, it would change the job duties from strictly “fire focused” to one of “fire and EMS,” which may deter member participation. In any case, an increased call volume would result in more hours worked. Cost assumptions are made as follows:
    - i. If Silvis Fire Department was to respond on all EMS calls (no priority dispatch), an estimated 1500 additional responses would be made by the department annually.

**Table 28: Annual EMS Calls Occurring in the City of Silvis**

Year	EMS Incidents
2020	1369
2021	1443
2022	1523

- ii. During the time period when the paid-on-premise personnel are not staffing the station, approximately 42%, or 600, ambulance responses occur annually.

**Table 29: Call Time Distribution into the City of Silvis**

Annual EMS Call Distribution		
7:00 am-4:00 pm	764	53%
4:00 pm-7:00 am	681	47%

- iii. If three (3) paid-on-call personnel answered each of these “off hours calls,” the annual increase in payroll expense is estimated between \$13,000 - \$20,000.

Higher maintenance costs associated with apparatus usage would be expected as well as a likely increase in insurance premiums for coverage related to patient care errors or omissions. The City of Silvis would need to comply with all requirements stipulated by the Illinois EMS Act and the Resource Hospital.

### *First Responder Program within Silvis Fire Department*

Should the City of Silvis choose Option 3 as listed above, the consultants recommend the following:

1. Train and certify all members as Emergency Medical Responders (EMR). EMR training using the National Standard Curriculum provides students with the core knowledge and skills to perform an initial patient assessment and basic interventions designed to assist other EMS providers. The length of the training is 52-hours and requires students to pass a National Registry of EMTs written exam. Comparatively, to become certified as an Emergency Medical Technician, the classroom training is approximately 80 additional hours. EMT training also includes supervised hospital and ambulance clinical rotations.

As a first step for the City of Silvis to enter the first responder arena, EMR training makes the most sense.

2. Not all ambulance calls are high acuity. The National Institute of Health estimates that 72.70% of patients treated by ambulance providers are low acuity in nature. This means that the patient is stable and does not require extensive intervention by the pre-hospital care providers.

The consultants recommend that Silvis work with QCOMM911 to use their Medical Priority Dispatch System (MPDS) to triage 9-1-1 calls, thereby only sending Silvis Fire Department on calls that have the potential for a higher patient acuity level. As an example:

- OMEGA RESPONSE= Ambulance only, no lights or siren for transport requests to a hospital. The fire department should respond to lift assist calls without the response of an ambulance.
- ALPHA RESPONSE= No lights or siren response. Likely a Basic Life Support Ambulance call with no response from the fire department.
- BRAVO RESPONSE= Lights and siren response. Likely a low acuity incident requiring an ambulance only response. No response from the fire department.
- CHARLIE RESPONSE = Lights and siren response. Incident may be life threatening in nature. An ambulance and fire department should respond.

- DELTA RESPONSE = Lights and siren response to a confirmed life-threatening incident. An ambulance and fire department should respond.
- ECHO RESPONSE = Lights and siren response to a confirmed full arrest or imminent death. An ambulance and fire department should respond.

Assuming that there are 1500 ambulance calls annually in the City of Silvis and 72% of them are low acuity, by implementing MPDS through QCOMM911 the number of medical calls that Silvis Fire Department would respond to drops to around 420 annually. Using the financial estimates provided above, the cost in paid-on-call wages for calls not handled by the on-duty, paid-on-premise personnel can be estimated to be around \$12,000 annually.

**Table 30: Increased Wage Costs for Silvis Fire Department to Respond on EMS Calls**

Additional Annual Wages for EMS Call Response (off hours)					
	Total runs	After Hours	Responders	Average	Total Annual
		Runs (47%)	Per run	Wage	Cost (1hr/run)
All EMS Runs	1500	705	3	\$ 20.00	\$ 42,300.00
MODS High Acuity (28%)	420	197	3	\$ 20.00	\$ 11,844.00

3. Whether or not the City of Silvis begins offering first responder medical services, a strong recommendation is made that Silvis apply political pressure to Genesis Ambulance to move its dispatch system from SECC to QCOMM911. Priority Dispatch could then be used to its full potential if the answering PSAP (QCOMM911) handled the entire dispatch of the ambulance. This is currently not practical since two separate dispatch centers are utilized. Furthermore, QCOMM911 is the PSAP for the City of Silvis and complies with NFPA 1221 call processing standards.

Since QCOMM911 dispatches ambulances from both Moline Fire Department and Coal Valley Fire Protection District, they have the capability of utilizing automatic vehicle locators (AVL) for all ambulances dispatched by their agency. By bringing Genesis Ambulance into the QCOMM911 system, all AVL-equipped Genesis ambulances would also be visible to QCOMM911 telecommunicators. QCOMM911 would then assess and dispatch the closest mutual aid ambulance into the City of Silvis should a Genesis Ambulance not be available or be responding from a significant distance.

AVL locators on ambulances are an industry standard for high performance EMS systems. Although Genesis ambulances have AVL capabilities now, their usefulness is reduced because SECC does not coordinate and dispatch the neighboring ambulances. The static box card model currently used by Genesis Ambulance is antiquated and does not account for the dynamic movement of ambulances around the Quad Cities area. Again, the AVL program as described would only be effective for Silvis if Genesis Ambulances were dispatched by QCOMM911.

## Member Survey

The consultants conducted a survey of all current members of the Silvis Fire Department. Of the twenty-two (22) rostered members, ten (10) chose to return survey information. The surveys were emailed to each of the employees. Responses were received by McGrath Consulting Group in an anonymous format which encouraged participants to speak openly about their opinions related to the department. All ratings used a scale of 1 to 5.

- 1 = Extremely Unsatisfied
- 2 = Unsatisfied
- 3 = Neutral
- 4 = Satisfied
- 5 = Highly Satisfied

The consultants received feedback from less than half (45%) of the current department members. A good survey response rate is around 30%, with an excellent response rate being 50% or higher. Based on the number of responses, the survey information obtained should be considered valid.

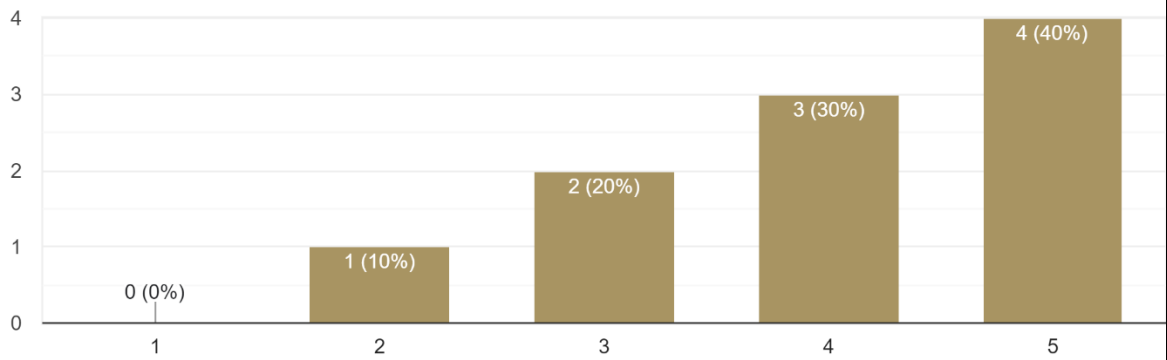
Survey questions were broken into three broad categories:

- Employee Experience
- Management Performance
- Department Assessment (from the perspective of the employee)

Responses were compiled and are shown in the following graphs.

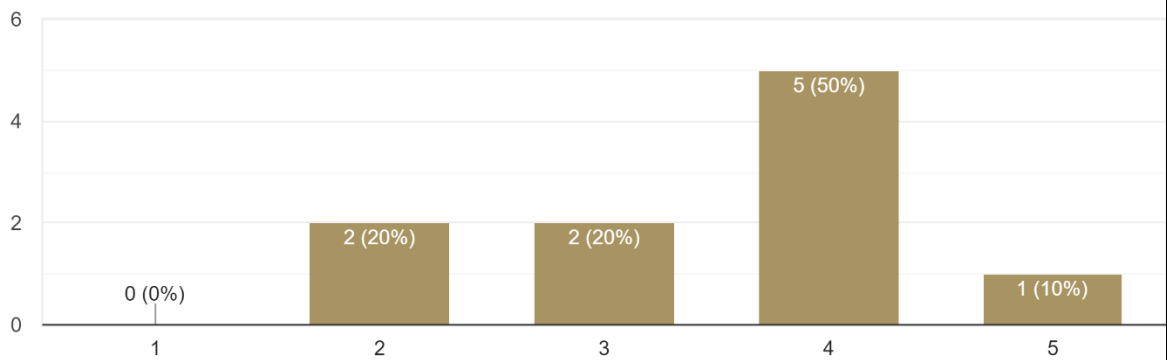
I would recommend Silvis as a good fire department to join.

10 responses



I feel my contributions are valued.

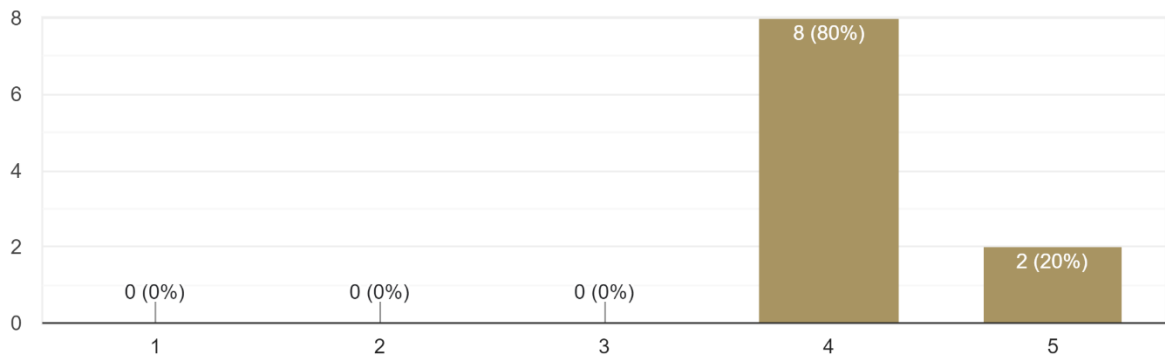
10 responses





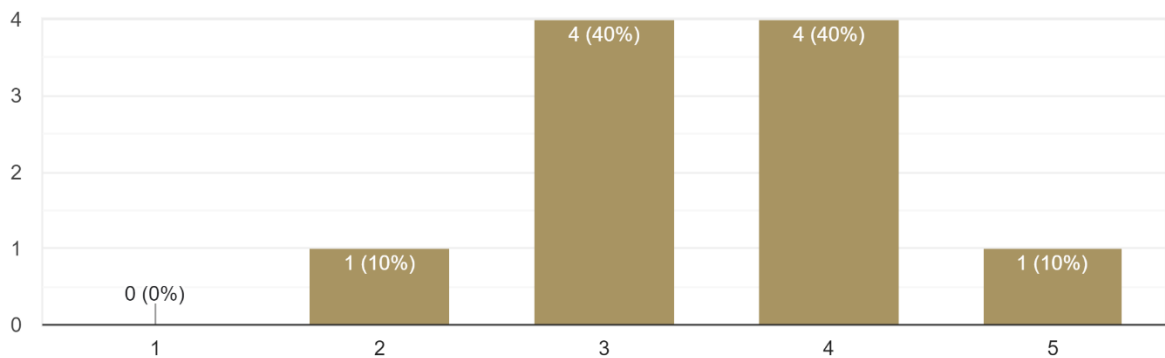
My work here provides me with a feeling of accomplishment and satisfaction.

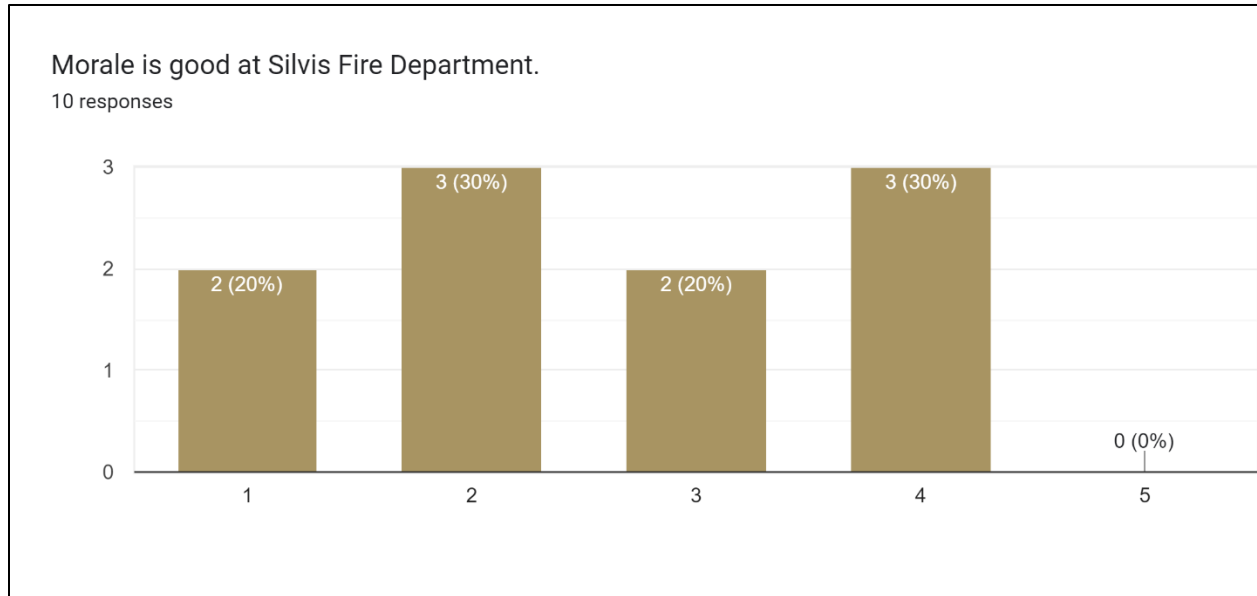
10 responses



Silvis Fire Department provides a productive and supportive work environment.

10 responses





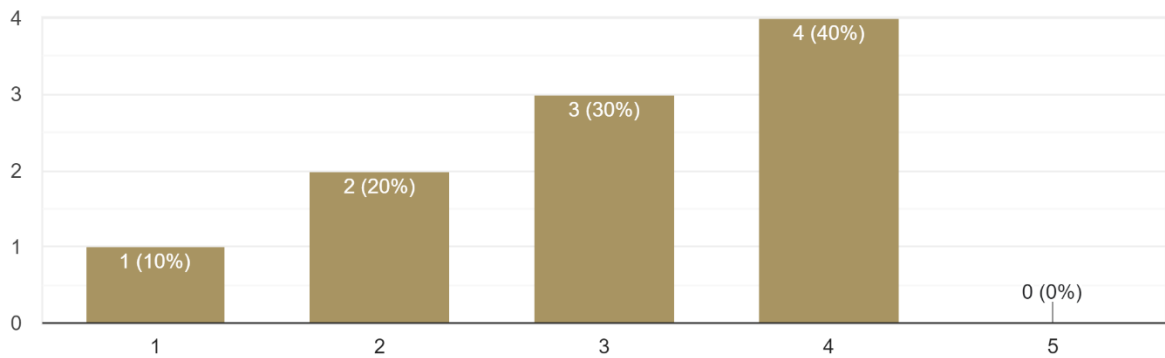
Employee morale was brought up during several of the interviews conducted by the consultants. Concerns ranged from the department no longer being a “fun place to be a member” to an overall lack of community engagement. Neighboring emergency personnel shared with the consultants that Silvis firefighters’ actions reflect departmental morale struggles when they are engaged in outside training and during automatic aid/mutual aid calls.

Employee morale comes from internal psychological factors (abilities, feelings, and actions) related to an employee’s motivation to participate and complete specific tasks and projects. Personal satisfaction, pride, and self-esteem are by-products of participation. Studies indicate that leaders (i.e., fire chief and officers) have the greatest impact on helping employees build intrinsic value in their work and organization. Thus, leaders bear responsibility in creating interactions and processes that foster the development of positive morale.

Employee morale is especially important within volunteer/paid-on-call/paid-on-premise departments. Department staffing revolves around members having a strong desire to do the work of the organization. Although they may receive a financial stipend or an hourly wage for covering an assigned shift, this monetary value (for most members) is not the primary motivator. If members are not motivated to be part of the organization, there is little enticement to continue their participation. This issue of employee morale needs to be further assessed to better understand the issues impacting this situation.

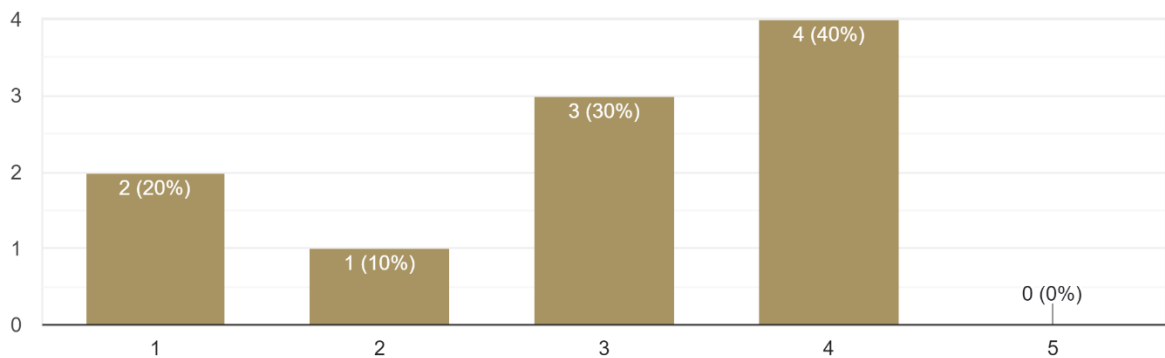
I receive sufficient evaluation, feedback and training for my continued development.

10 responses



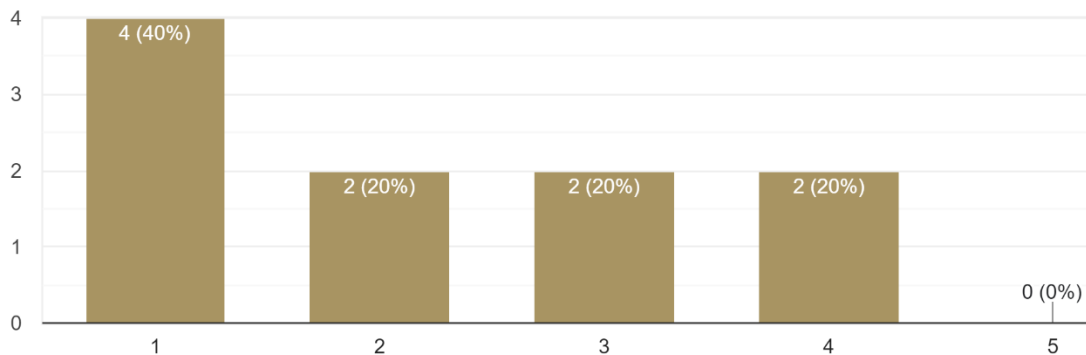
Our department presents well-planned training that is relevant to me.

10 responses



Silvis Fire Department provides adequate training opportunities with our automatic aid departments.

10 responses

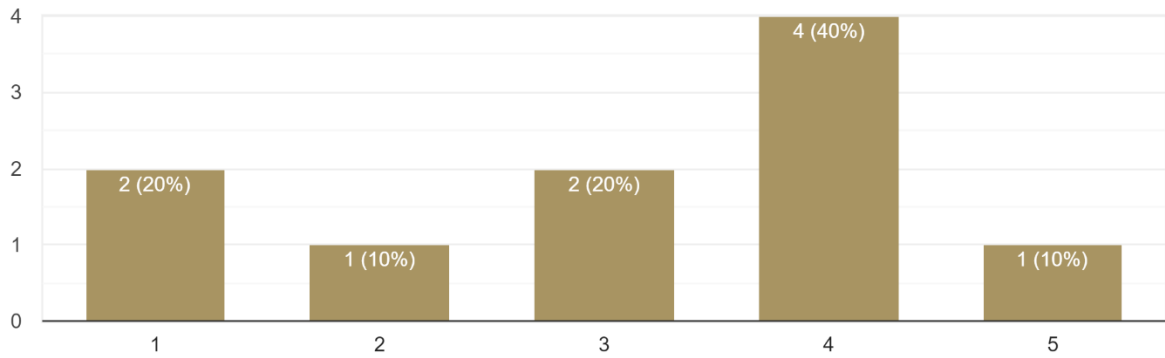


Both survey questions related to training align with the consultant's review. One training meeting/drill night per month is not sufficient to remain versed in the variety of "all hazard" response demands required of a modern fire department. The fact that 60% of the employee respondents rated department training at a score of 3 or less is concerning. Likewise, employee ratings related to automatic aid training show 80% of respondents indicate that the training they are receiving is not adequate.

In today's volunteer/paid-on-call fire service it is challenging for members to find the time to attend meetings and training. They are being drawn in a many different directions with increasing demands on their limited discretionary time. When members show up for training that is not well thought out nor of high quality, members feel that it is a waste of their discretionary time, negatively impacting their overall morale toward the organization. Fire department leadership needs to address the issue of training, both in-house and automatic aid, as a high priority need.

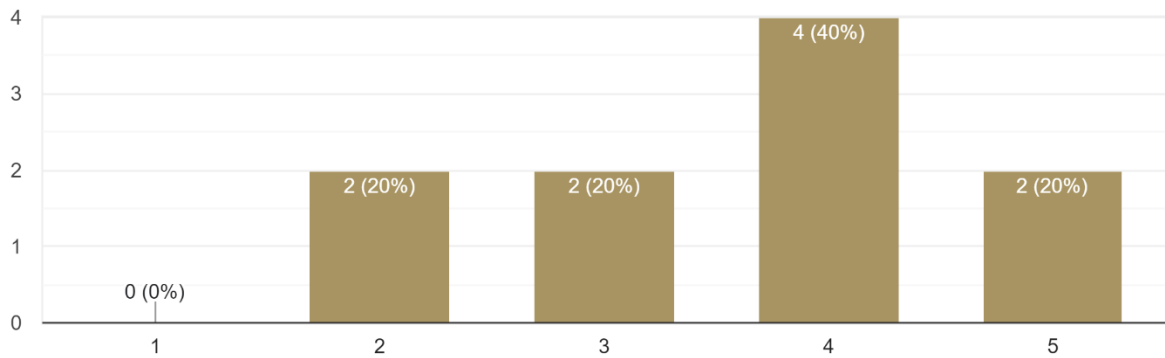
I feel comfortable expressing my views to my co-workers and supervisors.

10 responses



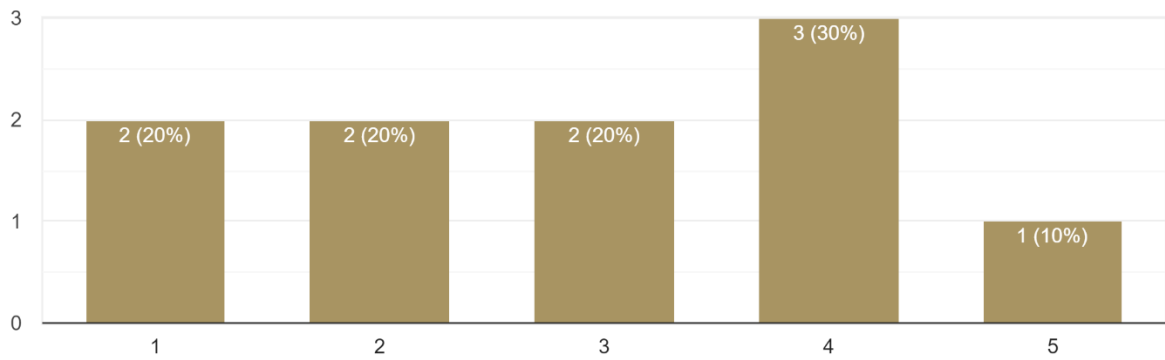
I feel like I am a crucial part of the department.

10 responses



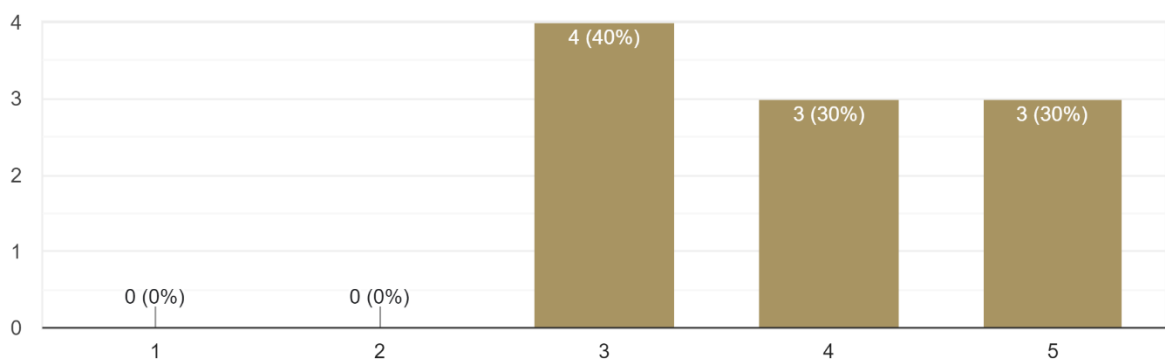
The direction and goals of the agency have been explained to me.

10 responses



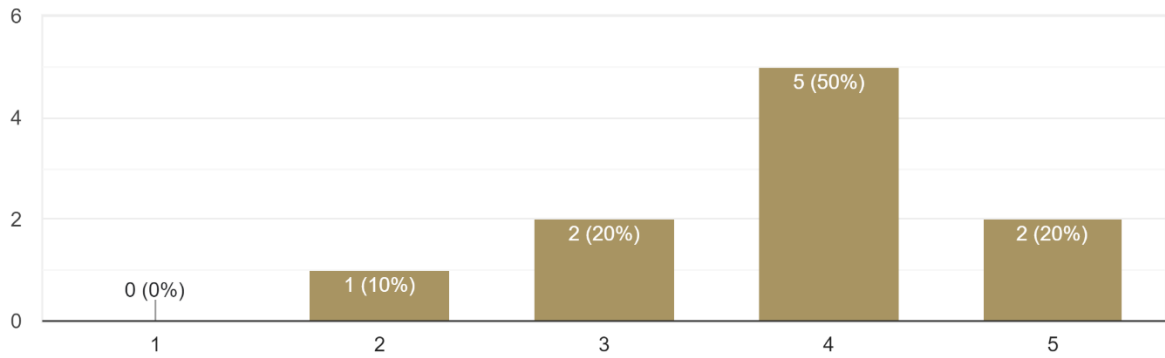
I feel I have clear and reasonable work expectations.

10 responses



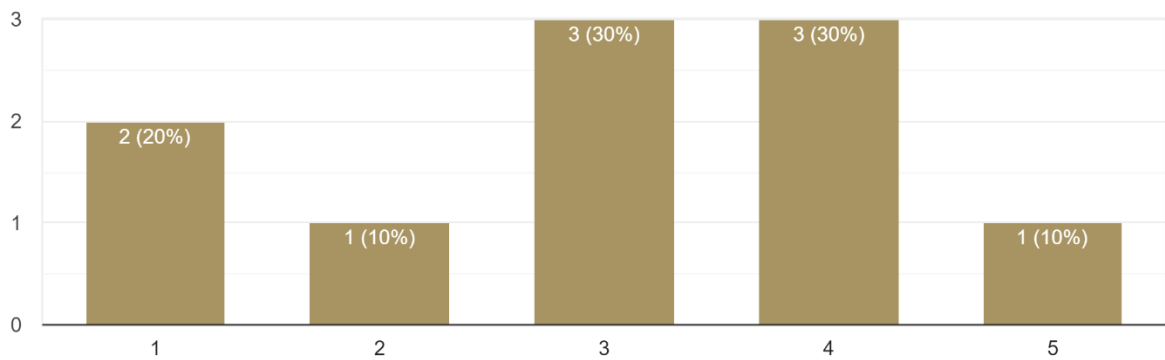
I understand how my work contributes to the larger goals of the department.

10 responses



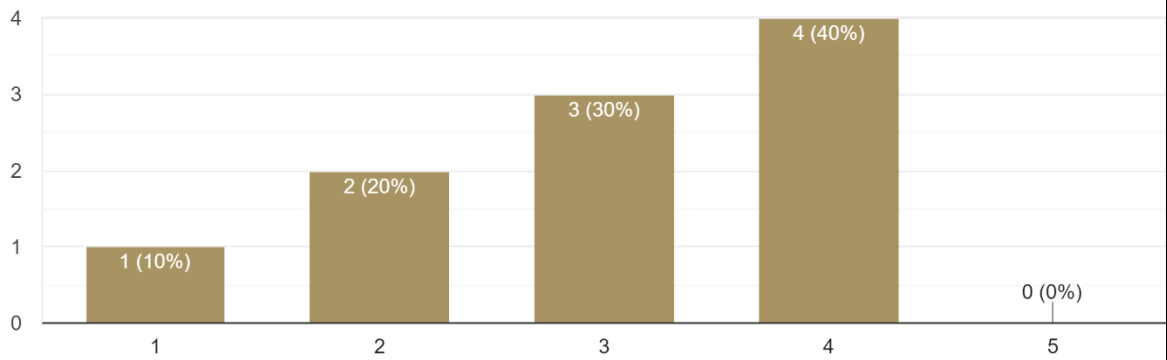
My supervisors lead by example.

10 responses



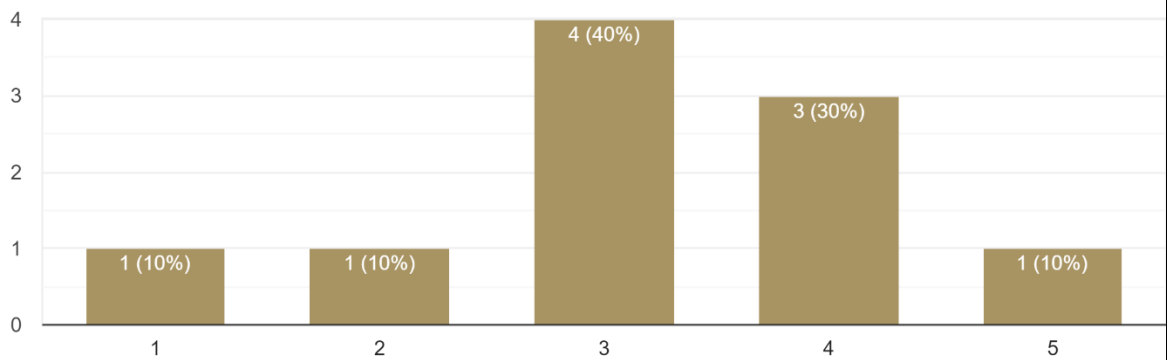
**My supervisors work to motivate firefighters.**

10 responses



**My supervisors are trustworthy and capable.**

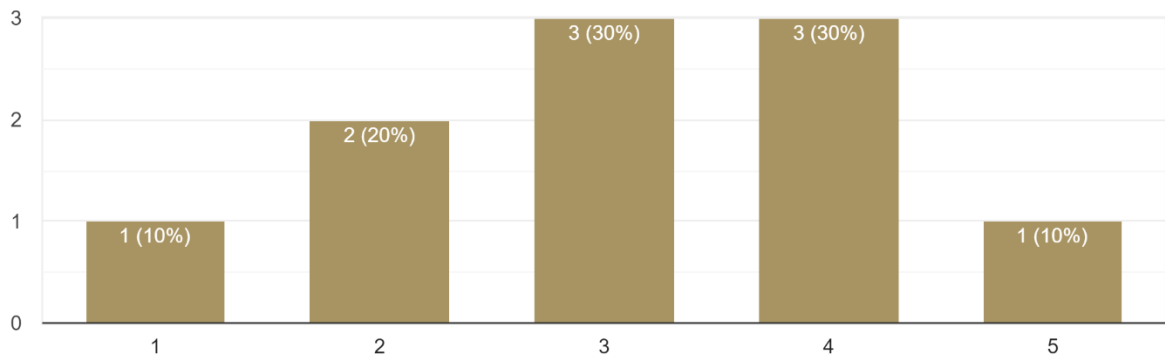
10 responses





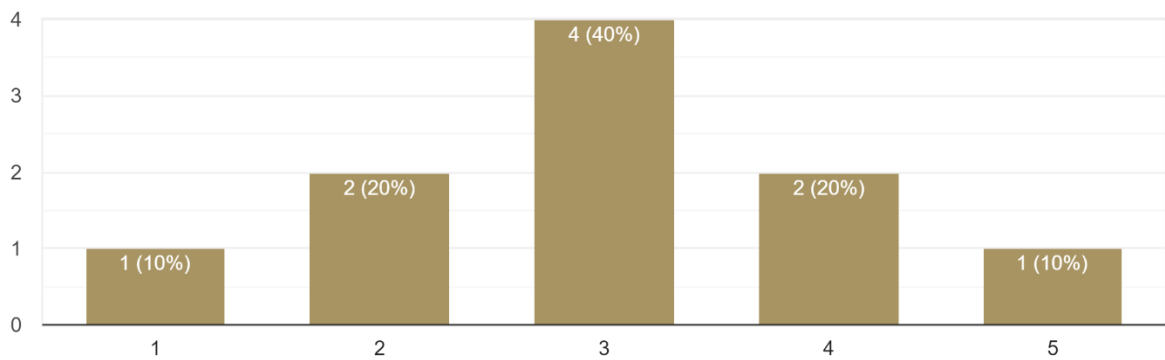
My supervisors encourage and respect my input in their decision making.

10 responses



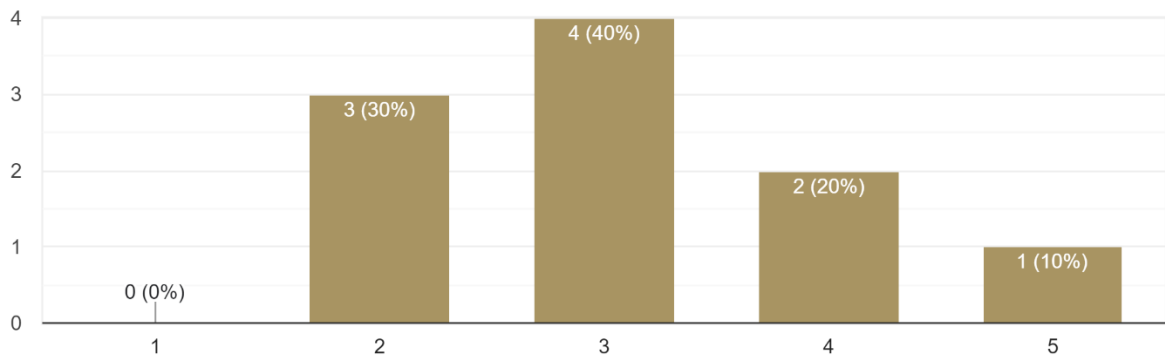
I am comfortable using the chain of command with concerns.

10 responses



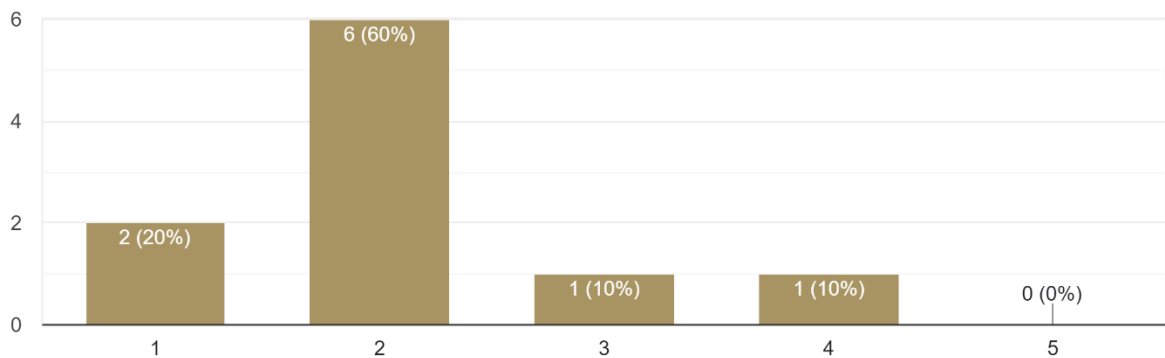
The department runs effectively and efficiently.

10 responses



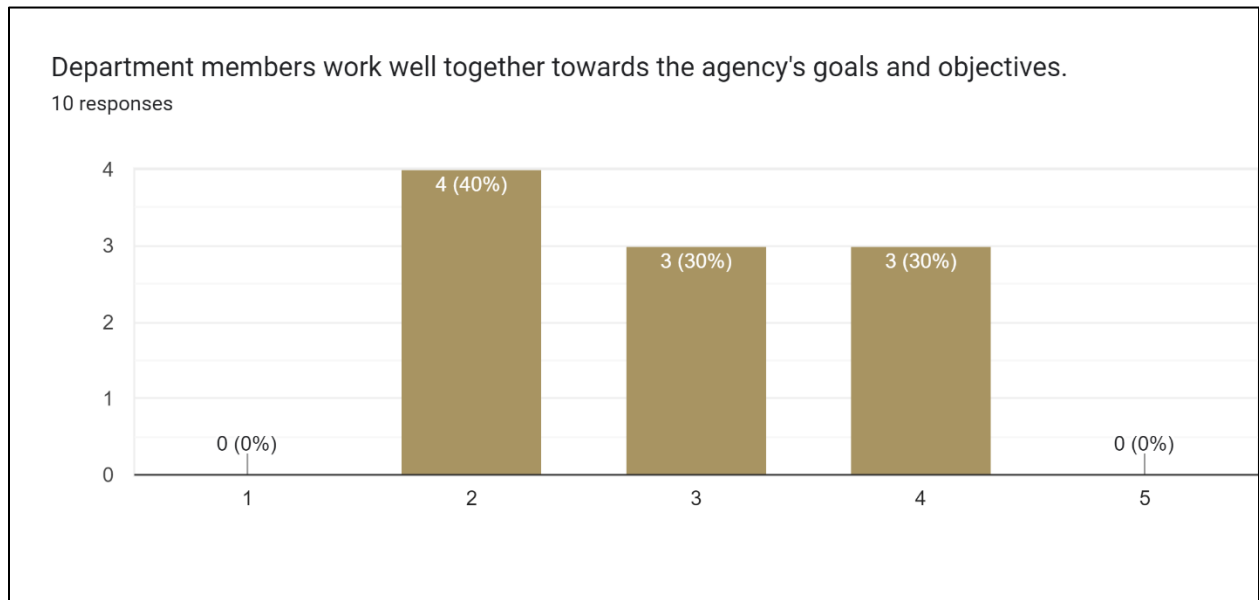
Work is evenly distributed amongst department members.

10 responses

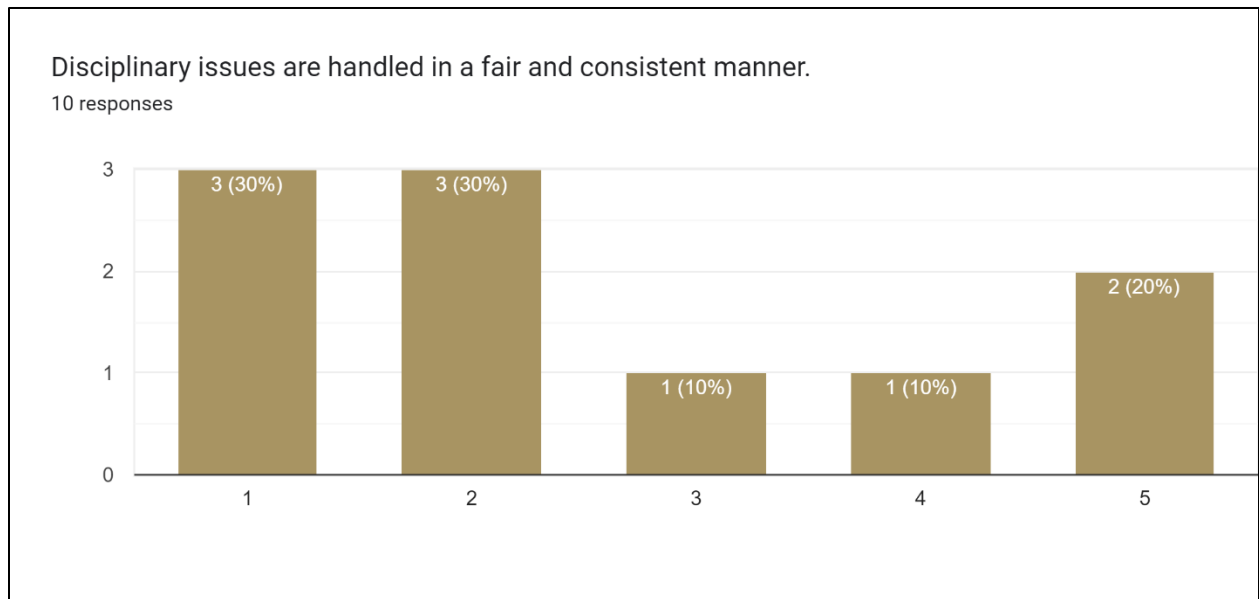


Although this question and the associated responses would appear to paint a negative light related to overall work distribution, the fact is that this question asked in most organizations would have a very similar response. Derek Price, a British physicist, historian of science, and information scientist, discovered what is now known today as Price's Law. This law states that 50% of the work is done by the square root of the total number of people who participate in the work. In essence, if an organization has 25 employees, 5 people (square root of 25) would do 50% of the work. Although this does not seem equitable and leadership should work to fairly assign work and encourage members to engage and

participate, the reality of the matter is that Price's Law exists and is often the prevailing factor in most organizations regardless of as to whether members are paid or volunteer.



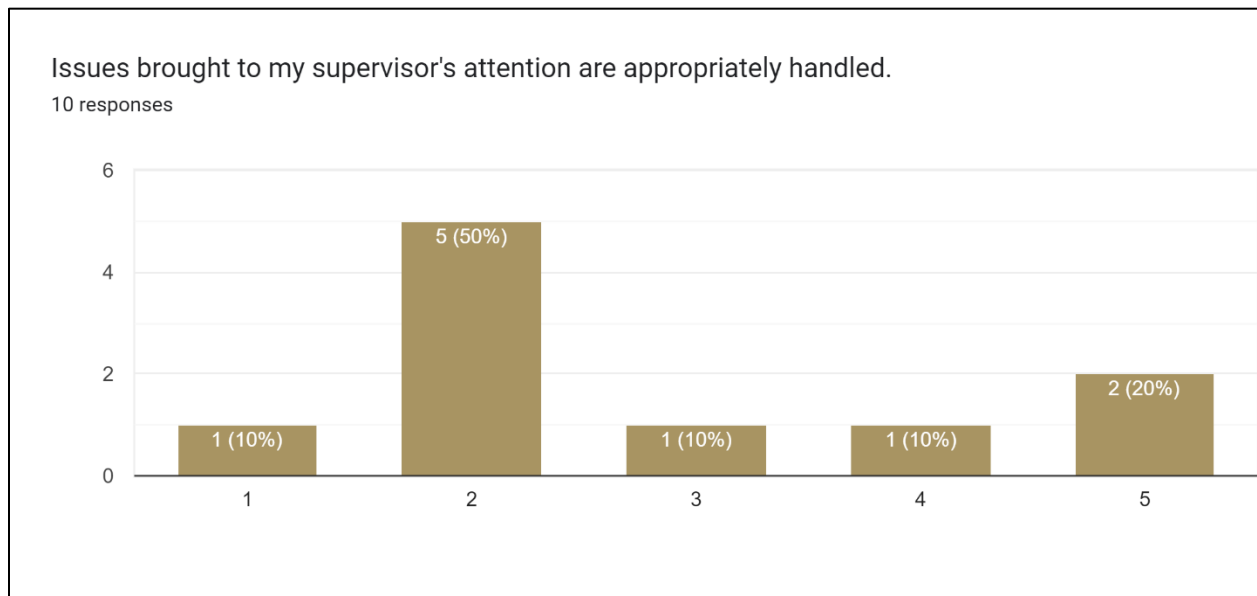
This response shows a level of ambivalence in the members' willingness to work toward common organizational goals. Typically, when the consultants see survey questions with similar responses it signifies a level of dysfunction within the interpersonal dynamics of the organization. This is an area that needs further review by department leadership.



This negative response to how employee discipline is handled is very concerning. Department policies should specifically address how discipline is to be handled within the organization.

Generally, discipline should be handled at the lowest organizational levels (i.e., company officers). Only repeat or serious disciplinary issues should be elevated to a chief officer level. If the organization functions at a high level, most discipline can be handled through “employee coaching” with little to no need to move further in the progressive disciplinary process.

Discipline is used to modify poor performance or bad behavior. When it is not applied fairly, or there is a perception that it is not applied fairly, this is a sign of poor internal organizational health. It is likely that limited training has been provided to department officers related to employee discipline. It is recommended that department leadership develop policies related to employee discipline and provide annual training for all officers. This training may be best conducted by an outside instructor well versed in fire department disciplinary practices.



Like the question related to employee discipline, the consultants’ suspicion that a lack of officer development training is directly tied to the negative rating regarding issues brought to the supervisor’s attention. If officers have not been trained on their level of authorization and expectations related to handling issues, they will tend to either not address them appropriately or will elevate all concerns to the fire chief. Abdication of responsibility is common with supervisors who have not received training on their responsibility in handling issues brought to their attention. As previously mentioned in the ISO training review, officer development training appears to be greatly needed.

The next two questions offered survey participants the ability to provide short answers:

- What is the department's greatest strength?
- What is one thing the department could improve on?

The responses are shown as written by the members completing the survey.

<b>What is the department's greatest strength?</b>
• <i>Illinois Fire Service Institute Classes/Training</i>
• <i>Full truck responses</i>
• <i>Making sure that we have quality equipment</i>
• <i>Can't think of one</i>
• <i>Firefighters</i>
• <i>The Firefighters</i>
• <i>Senior Members</i>
• <i>Cohesiveness</i>
• <i>The People</i>

<b>What is one thing the department could improve on?</b>
• <i>Training</i>
• <i>Auto-aid Training</i>
• <i>Promoting the qualified rather than the certified</i>
• <i>Communication</i>
• <i>Communication</i>
• <i>Communication</i>
• <i>I literally just got on the department, and I know that my one request is being handled</i>
• <i>Recruiting</i>
• <i>More firefighters</i>
• <i>Retention of members</i>

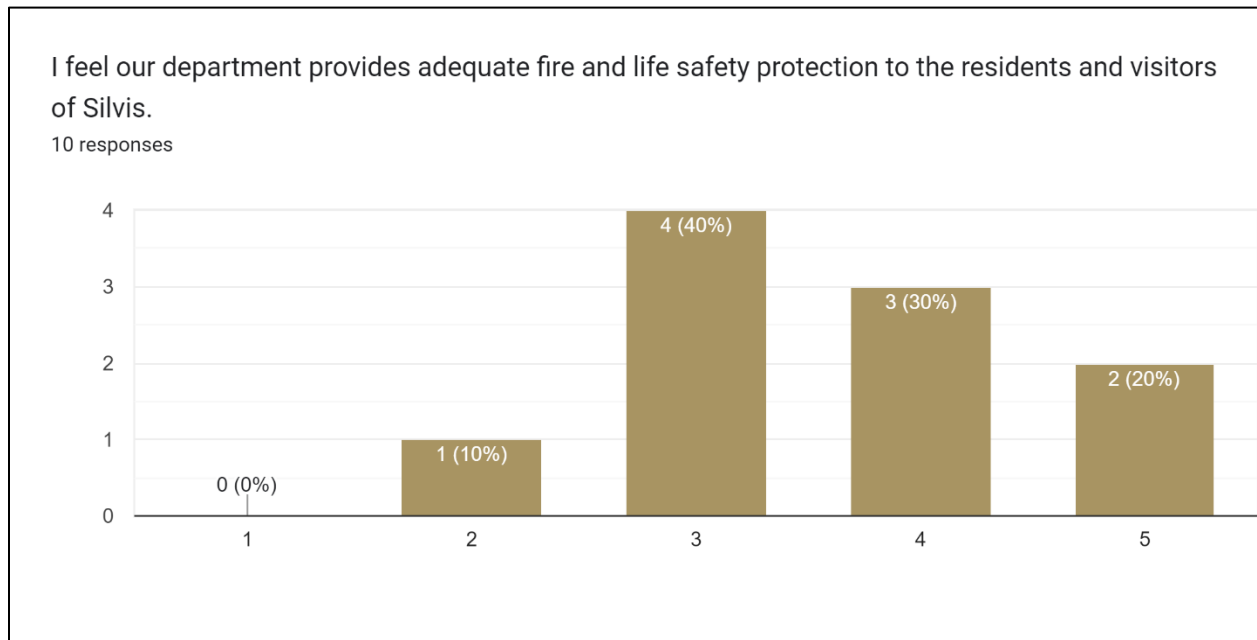
Clearly the respondents identify the people within the department as a strength. They then list issues with training, internal communication, and the need for additional members as areas needing improvement.

Research of volunteer organizations (fire departments, church groups, civic organizations, etc.) reveals poor leadership as the primary reason volunteer organizations see new members walk in the front door but then quickly leave by the back door. Reasons listed are:

- Lack of Communication
- Lack of Coordination
- Failure to manage as a professional organization
- Overly authoritarian management style
- Failure to manage change

- Wasting member’s time
- Failure to align member interests and capabilities with organizational needs
- Failure to allow members to align their life needs (family, work, etc.) with their time commitment to the volunteer organization
- Lack of feeling appreciated
- Organizational drama

Department leadership needs to be keenly aware of these volunteer detractors and do all possible to minimize their impact on the internal health of the department.



The consistency of employee responses throughout the survey provides significant validity to the answers received. This provides confidence that the respondents took the process seriously and believe that their input will have a positive impact on this study and the organization. Responses relating to training, interpersonal dynamics, communication, and recruitment and staffing are all consistent with issues seen in other areas of the study.

## Human Resources

Personnel management is a major component of any organization. The Department is comprised of a full-time Chief, with all other personnel being paid-on-call/paid-on-premise. The City is compensating these employees at an hourly rate for their hours of work. The maintenance of a volunteer staff who are motivated to contribute service for civic, charitable, or humanitarian reasons has been difficult for the Department, like many others across the nation, so the City introduced hourly compensation as an incentive to attract and retain personnel to be available for calls for service.

Adapting to today's continuously changing society, an organization must recognize the value and contribution of both its paid staff and its paid-on-call/paid-on-premise members. In an environment where these types of employees are becoming more and more scarce, organizations need to become very strategic about this fragile resource.

### Volunteer, Paid-On-Call, and Paid-On-Premise Workforce

For the purposes of this section, volunteers, paid-on-call, and paid-on-premise will be referred to collectively as “members.” It is important to note that since Silvis does not have volunteer employees, but rather paid-on-call/paid-on-premise employees, a much more stringent employment standard is applicable in many areas.

### Recruitment and Retention

Although often referred together, recruitment and retention are not the same. Recruitment is the act of enlisting new people to join an organization (whether paid or unpaid). Retention is engaging the human capital at a level that keeps them interested and motivated to do the work. Both are important elements but may have different approaches.

#### Recruitment

Recruitment is a critical action to ensure proper staffing. It is the potential member’s first contact with the organization and the first opportunity to make a positive impression. Right or wrong, first impressions can influence decisions. The recruitment process should be easy to follow, transparent, and timely, so the applicant has an overall positive experience.

A recruitment strategy is a plan of action devised to help an organization plan and carry out its recruitment needs in a most impactful way. A strategy is typically targeted and outlines the strengths and benefits of membership. It is more in-depth than just identifying marketing sources. A formal recruitment strategy identifies recruitment sources, target populations, target locations, information to showcase about the Department, and the community served. The City does not currently have a recruitment strategy other than relying on those interested in volunteering to come to them. This “let them come to us” process is no longer a successful strategy.

Areas of discussion when developing a recruitment strategy should include:

- **Showcase Silvis:** Identifying what makes Silvis Fire Department a preferred employer (its skill development, training, career opportunities, community support, etc.). A key recruitment message to potential new members is that by joining the Silvis Fire Department, their skills, passions, and abilities matter and align with the work of the organization.
- **Targeted Groups:** Identifying targeted people groups within the community. The Department should develop relationships with high schools, diverse community groups, after school programs, and mentoring programs.
- **Non-Responder Members:** Identify what opportunities exist in the Department that may be more non-traditional in nature. These might include individuals who would be interested in helping with mentor programs, conducting specialized training, or utilizing their marketplace skills to help the Department with administrative support/assistance, accounting/financial management, heavy equipment mechanics, public education, fitness training, athletic training, etc. Not all members of a volunteer/POC/POP department need to be emergency responders. Many different skill sets are required to make a department operate efficiently. Leadership should analyze areas where non-emergency responders could be utilized and then begin an active recruitment program to find members who could contribute their skills to the Department.
- **Training Requirements:** Identify what qualifications are required immediately and what can be acquired over time.
- **Membership Disqualifying Factors:** Identifying what should or should not disqualify someone from being a member of the Department.
- **Service:** Emphasize or showcase the Department as a community service provider, and the opportunity to give back to the community served.
- **Messaging Sources:** Social media platforms provide a direct link to multiple generations and extend beyond community borders. This includes Facebook, Twitter, Instagram, YouTube, LinkedIn, Handshake, the Department's and City's websites, and even marketing fliers that are made available for community and public education events.
- **Current Members as Department Ambassadors:** Existing personnel are a department's strongest recruitment tool. The Department should consider holding training sessions designed to teach members how to recruit new members. This should also include the development of recruitment tools that members can use to connect potential new members to the Department.
- **Recruitment Opportunities:** The Department should see every community event and public education program as a recruitment event.

When recruiting members to the Department, it is important to utilize a value-based recruitment process. This means that the new members should be recruited and admitted to the organization based on alignment of their personal values with that of the Department. Members need to be a good fit for



the organization, and the organization needs to be a good fit for them. Without this alignment, things like member engagement and interpersonal communications fail. If the Department does not currently have a clear picture of its organizational values, a values assessment should be conducted ASAP. The findings from this value assessment can then be linked to the recruitment training developed for current members. It is imperative when thinking about recruitment that the selection of new members is much more than simply finding a warm body. A mistake in hiring a new member who does not gel with the team has the potential to hurt the organization significantly. The message – choose members carefully!

## Retention

Retention is also critical. Below are a few recommended strategies to increase internal satisfaction and member engagement.

- **Public appreciation events:** Members who feel appreciated typically have greater satisfaction, which translates into engagement and a reason to maintain their membership.
- **Training:** The time commitment of being a member is a consistent concern. Training alone requires countless hours and places a strain on members who often hold full-time jobs and balance family demands with their department membership. Look for flexibility in training opportunities where possible.
- **Safety:** Policies and procedures need to align with industry standards and best practices to minimize risks to members. This includes ensuring mental health support services are available and that your work culture encourages the use of these services.
- **Camaraderie:** Building camaraderie and cohesiveness fosters a connection between members. This connectedness motivates members to respond to calls and participate in training. Camaraderie is one of the strongest retention tools available.
- **Family Support:** Being a First Responder affects more than just the individual member. Helping families understand and adapt to the unique attributes of the first responder lifestyle can make a great difference in member retention.
- **Mentoring:** Creating a welcoming environment by pairing new members with more experienced members may assist in helping recruits feel less isolated and can help address any generational tension by encouraging bonds between younger and senior members. The mentoring program should be inclusive of gender, age, etc. This issue will be discussed further in subsequent sections.
- **Feedback:** The Department needs to develop a culture where feedback is encouraged, including a system to allow members to make suggestions. This will foster a more positive and engaging experience for the team members.
- **Leadership:** Acknowledgement of and supporting the value of each member is one of the most significant retention tools available. This issue will be discussed further in subsequent sections.

## Leading the Workforce

### *Create Workforce Connection*

One of the most critical aspects of leading a nontraditional workforce—regardless of whether that workforce operates as part of an emergency service organization, church group, civic organization, scouting, etc.—is identifying the motivational, psychological drive behind the member’s desire to be part of the organization. Motivational drive is uniquely personal to each member.

Working with a paid-on-call/paid-on-premise organization is different from the typical work environment. In the workplace/marketplace, the motivation may be collecting a paycheck or obtaining health care benefits. The employee may love or despise the work, but sustaining their basic need for food, water and shelter is of the highest importance. Most employees need to have a job, and the psychological aspect of the work becomes secondary to the financial impact.

For the paid-on-call/paid-on-premise worker, psychological motivation becomes the driving force behind their willingness to devote time and energy to a mission. This motivation may be associated with an emotional attachment of belonging, positional responsibility, learning, mastery of skills, achievement, meaning, self-esteem, shared values, or any number of other factors. It is these motivational factors that drive the passion needed to be part of a paid-on-call/paid-on-premise organization.

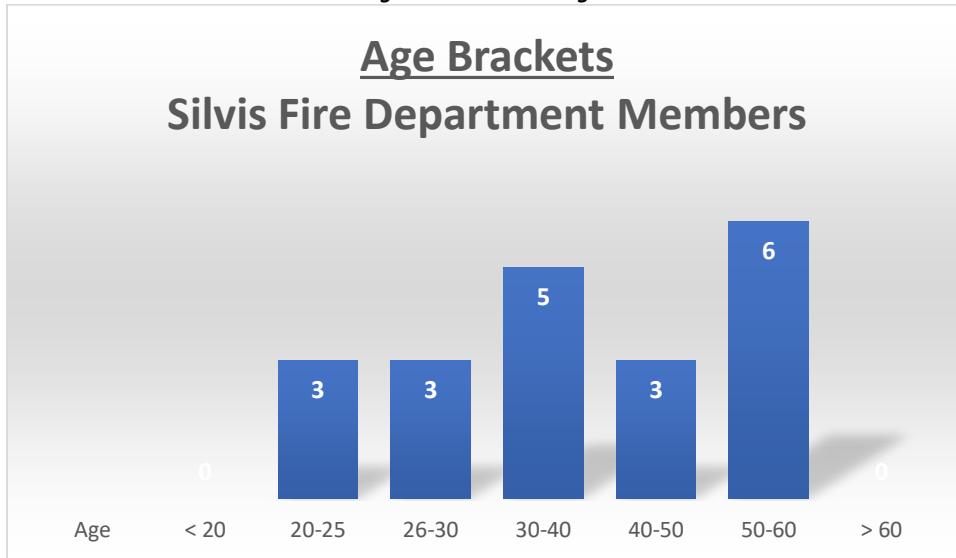
### *Embrace Diversity in the Workforce*

Today, member recruitment is incredibly challenging. Two income families, increased work and or personal demands, lifestyles that do not revolve around a singular community or geographical region, a general decrease in seeing volunteerism as important, a reduced community mindedness, and an expectation that emergency services should be managed by paid positions (although the constituents are generally unwilling to increase taxes to pay for services), all combine to create a massive challenge for volunteer/paid-on-call/paid-on-premise emergency service organizations. It is almost impossible to find a volunteer/paid-on-call/paid-on-premise emergency service organization that is not struggling with recruitment.

It is also interesting to look at the age bracket of members entering the volunteer/paid-on-call/paid-on-premise workforce. In general, emergency service agencies have strong recruitment in the 16-24-year-old age bracket. Membership then falls off until around age 50 when members start returning to the organization or arrive as new volunteers who have had a change in their life conditions (family and marketplace) and now are looking for a way to get involved. Currently, the fastest growing workforce age bracket, whether paid or volunteer, emergency services or the marketplace job arena, is the 65+ aged worker. These workers are wired to work, and they want to make a difference.

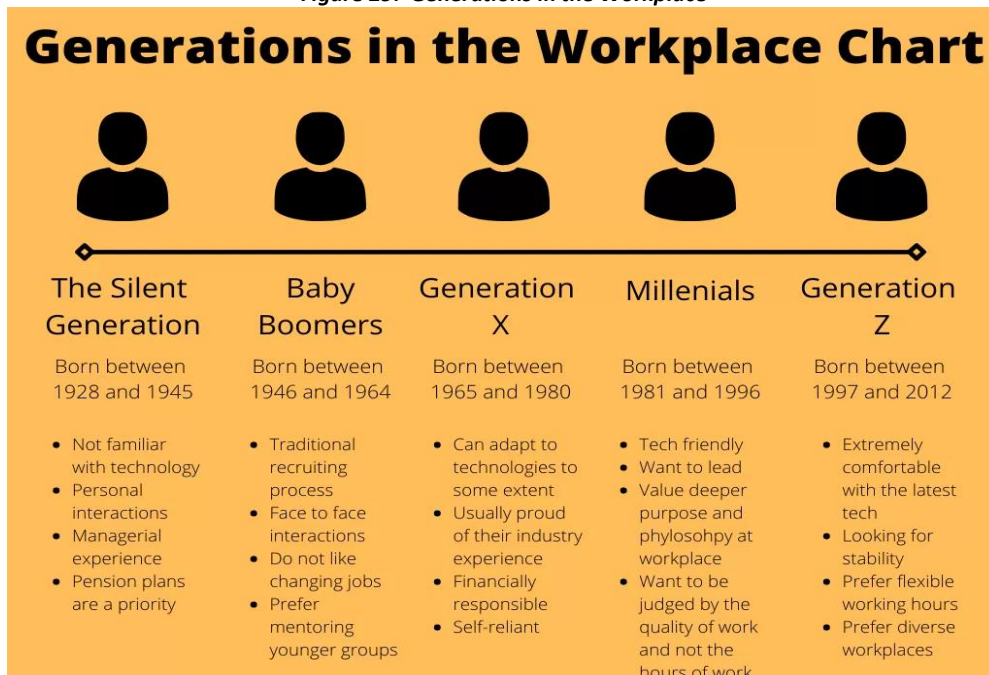
An analysis of Silvis Fire Department reveals the following related to member ages:

**Figure 28: Member Ages**



This diverse age spread challenges four (4) different generations to work together. The below chart provides a snapshot of the generations and their focus within the workplace.

**Figure 29: Generations in the Workplace**



Generation Z, the newest members entering the workforce, bring an interesting and bright outlook that can be harnessed by emergency service organizations. The below chart details some of the characteristics of this age group.

*Figure 30: Generation Z Employees*

Generation Z Employees (Age 21-25)
Nearly half (48%) are racial or ethnic minorities.
Ideal job is one that offers in-person work with flexibility.
Looking for connectedness and personal interaction.
They witnessed the Great Recession and what it did to their parents' jobs and homes.
Living through a global pandemic has led to record unemployment and political and civil unrest.
They want to work for organizations that can provide them security and stability.
They have a sense of purpose.
They want detailed instruction (YouTube Generation).
They are cautious and skeptical and aren't afraid to question.
They are adept at deciphering between what's fake and what's true.
Mental health is a high priority.
A balanced work life is imperative.
It is important that they work for a values-based organization.

A key in leading organizations with such a diverse generational spread is connecting the values of the various generations across age brackets. As an example, the Baby Boomers value personal interaction. Generation Z values the same. Baby Boomers have a passion to mentor younger groups, and Generation Z is looking for detailed instruction and the ability to ask questions. The Baby Boomers are struggling with the use of technology, while Generation Z sees technology as a normal and necessary part of life. Harnessing Generation Z workers to help teach our older members how to use technology in one-on-one interactions is a great example of using the entire workforce to the greatest advantage. Conversely, Baby Boomers can provide detailed mentoring and answers to questions that Generation Z craves.

Furthermore, Millennials and Generation Z are looking for a deeper purpose in work and desire to work for value-based organizations. Simply put, you can't get much more value-based than a fire service organization. Although these varying generations relate differently, their underlying passions are very similar. The job of today's leadership is connecting their similarities to create a united and strong workforce. You can't treat everyone the same because they see life differently; however, you can connect the commonalities.

Based on the workforce and the need for continual recruitment and overall long-term member retention, Silvis Fire Department leadership needs to understand how to connect generational similarities, making this a cultural value of the Department. The Department's current mentoring program can help bridge this gap by adding focus to generational differences. It is recommended that

the Department discontinue using the name “Big Brother Program” to eliminate negative perception regarding gender.

### *Flexible Work Environment and Shared Workspace*

An emerging new member workforce is made up of individuals who are now working from home. The Society for Human Resource Management (SHRM) reported that almost 40% of the employers offer some level of remote work.

A new development gaining traction in the volunteer emergency services field is shared workspaces designed for remote work within fire stations. These spaces allow members to spend their time at the station doing their marketplace work while also being available to respond to emergency calls. Progressive volunteer agencies have developed dedicated shared office spaces that include high-speed internet services, shared office tools such as printers and copiers, and shared private conference areas where members can hold occasional meetings. These organizations encourage members to hold meetings at their facilities as an opportunity to showcase the work they do while also encouraging volunteerism.

Silvis should evaluate how a shared workspace environment might be incorporated into the existing fire stations.

### *Cadet Program*

A well thought out and managed cadet program will likely also have a positive impact on member recruitment. Leadership should focus significant attention on building a cadet program. Many organizations try to protect these members by developing policies that are overly restrictive and fail to allow cadets the experiences they crave. This ultimately harms the programs because cadets feel as if they are getting little from the program, and they move on to something more in alignment with their interests.

### *Commendation Program*

A major topic in workforce engagement today is recognition programs. Members want to feel valued and recognized for what they do. Years-of-service awards, recognition for excellent project work and commendations for excellence during emergency calls are all incredibly valuable, low-cost actions to acknowledge the work of team members.

### *Stay Interviews*

For years, organizations have used exit interviews. Exit interviews are conducted with members leaving an organization, typically to discuss and glean information about their reasons for leaving and their experience of working for the organization. Exit interviews are “after the fact” discussions that arguably

provide little value in employee retention, especially for the small organization/unit. A much better management tool is “stay interviews.” Stay interviews focus on what members like about being part of the department and what, if given the power, would they change. Questions such as:

- Are you happy here?
- What’s the best and worst part of the job?
- Do you see yourself here for the next few years? Why?
- How can we help you achieve your (career/life) goals?
- How can I help you find more satisfaction in what you do for the Department?
- Have you considered leaving? Why?
- What would you change if you could?
- What can the department do to make you feel more valued?
- Will you talk to me, in the future, if you’re considering leaving the department before you make a final decision?

Based on information uncovered through these interviews, the consultants highly recommend that leadership institute a program of bi-annual “stay interviews” for all members.

### ***Member Accountability/Separation***

The age-old question for volunteer/paid-on-call/paid-on-premise fire departments is whether it is better to have a 30-member roster with 15 active members or to have a 15-member roster with 15 active members? The answer probably falls somewhere in the middle and revolves around the organization’s definition of “active.” Some members will define “active” as responding to calls, while others will provide a more diverse definition that includes other duties important to the department including the staffing of daytime shifts. It is important that the Department define the term “active” and assess how it aligns with the mission and values of the organization.

Successful volunteer/paid-on-call/paid-on-premise organizations hold their members to high standards. If members are being treated well and other stumbling blocks to participation are eliminated, it will be easier to determine the motivating factors for being a volunteer. Allowing uninvolved members to continue being part of the organization will demotivate the other members of the Department. These members need to be held accountable, and in some cases dismissed from membership.

### **Other Human Resources Recommendations**

This section is not intended to focus on what is currently wrong, but to provide best practices and compliance with various state and federal laws. This compliance provides a level of protection for the employee, Department leadership, and the City as a whole.

## Personnel Policies

### Employee Handbook

Personnel Policy Manuals/Handbooks are a summary of information about an organization that will often include administrative procedures and employment related policies. These documents cover basic topics such as expectations of conduct, selection and promotional processes, hours of work, discipline, benefits (if applicable), separation, and standard employment policy topics such as harassment, bullying, use of technology, etc. The City has a draft Employee Handbook, but it has not been finalized and approved by the City Council. Because fire department members are employees of the City of Silvis, they should be covered under the provisions of the Handbook.

The Fire Department provided the consultants with Department SOG's. Many of these SOGs include administrative topics that would normally be included in an Employee Handbook. SOG's or operational policy should be determined by the Fire Department, but personnel related policies should be developed and managed by a human resource subject matter expert. Department policies related to personnel management should be included in the Employee Handbook. Due to the paramilitary standards of public safety, some policies are applicable to the Fire Department that do not apply to all City employees. In these cases, it is acceptable to have additional Fire Department specific policies that add to those included in the Employee Handbook. When this occurs, a statement should be included clarifying which policy takes precedence. An example of language for insertion into a department specific policy might read:

*Duplicated or similar sections between the personnel policy manual and this SOG shall be enforced using the strictest language.*

All employees need to have easy access to the handbook and should sign an acknowledgement form indicating that they have received the document. They should also sign an acknowledgment form each time the handbook is updated or additions are made. This acknowledgment form should be maintained within their personnel file. Basic standards that should be included in a handbook are denoted below (excluded are those already covered in the Silvis Fire Department Policies and SOGs). Also shown, where applicable, are Illinois general statutes related to recently-enacted laws that govern these policies and apply to the City of Silvis and the Silvis Fire Department

- Values of the City of Silvis and the Silvis Fire Department
- Professional Communications
  - Chain-of-Command
  - Interpersonal Communications
- Equal Employment Opportunity Statement
- Criteria for Employee Selection
- Employee Standards of Conduct

- Employee Discipline
  - Complaints
  - Internal Investigations
  - Who is authorized and responsible to administer discipline
  - Progressive Discipline
  - Grievance Process
- Conflicts of Interest
- Personnel File
- Verification of Employment
- Immigration Law Compliance
- Benefits and Leave:
  - Paid Leave for All Workers (820 ILCS 192/1)
  - Health Insurance
  - Sick Leave
  - Pregnancy and Firefighting
  - Maternity Leave
  - Lactation Policy
  - Military Leave
  - Family Bereavement (820 ILCS 154/1)
  - Family Medical Leave Act (FMLA)
- Appointment of the Fire Chief (65 ILCS 5/10-1-7.3)
- Compensation
  - Payroll Schedule
  - Direct Deposit
  - Payroll Deductions/Withholding
  - Errors in Pay
- Harassment Policy
  - Employee Complaint Procedure
  - Retaliation
  - Investigations
- Problem Resolution and Appeal Procedures
- Violence and Weapons in the Workplace
- Drug Free Workplace and Cannabis Usage
- Electronic Resources Policy
- Photographs, Videos, Social Media
- Expectation of Privacy - Inspection of City Owned Property
- Health and Safety
  - Reporting Unsafe Conditions and Near Misses
  - Maintaining a Safe Worksite
  - Using Safety Equipment



- Hazard Communication
- Hepatitis B
- Worker’s Compensation
- Light Duty
- Medical Evaluations/Annual Exam/Respiratory Protection Questionnaire

It is recommended that the Employee Handbook be finalized and approved as soon as possible. Not having a handbook is a significant liability risk for the city. Once the Employee Handbook is updated, the Fire Chief is recommended to evaluate and update SOG’s to ensure no policies conflict with the handbook and to eliminate any SOGs that might overlap.

**FLSA Work Period**

The Employee Handbook should include policies specifically related to the Fair Labor Standards Act – Firefighter Exemption. Fair Labor Standards Act (FLSA) overtime requirements for public safety employees differ from those for other employees, because a specified number of work hours is needed within the FLSA work period before the FLSA rate can be applied to overtime pay. This provision is commonly referred to as the 7(k) exemption. The law allows the employer to choose a pay cycle from seven (7) to twenty-eight (28) days, as illustrated in the table below, for specific positions in fire protection.

**Table 31: FLSA 7(k) Work Period Chart  
Maximum Hours Worked (Rounded)  
Before Overtime**

<b>Days’ Work Per Cycle</b>	<b>Hours</b>
28	212
27	204
26	197
25	189
24	182
23	174
22	167
21	159
20	151
19	144
18	136
17	129
16	121
15	114
14	106

<b>Maximum Hours Worked (Rounded) Before Overtime</b>	
<b>Days' Work Per Cycle</b>	<b>Hours</b>
13	98
12	91
11	83
10	76
9	68
8	61
7	53

The City of Silvis is required to establish a written work period in which it calculates firefighter compensation. The City does not currently have a written policy on its work period for firefighters. If no written work FLSA cycle exists, the city is required to follow the traditional 40-hour/7-day work week to calculate overtime. Although it is unlikely any staff would work enough hours to earn overtime, the City is recommended to develop a written policy outlining the FLSA work periods for firefighters. If the Department sometime in the future adds EMS-only responders or support personnel who do not provide emergency response services, these members do not qualify for the 7(k) exemption. Firefighter/EMS providers who are considered cross-trained/dual-role do, however, qualify.

Most municipalities choose the highest FLSA cycle (28-days). This would mean that any member, other than an exempt member, would not receive overtime at a rate of 1.5 times normal hourly rate until that member exceeds 212 hours within the 28-day cycle, which lowers the overtime exposure for the City.

The FLSA cycle's beginning date and ending date must be set by the City, who must account for the hours any employee works (receives compensation) within those 28 days. At the end of the 28<sup>th</sup> day, a new 28-day cycle would begin. The Department has an obligation to track hours and ensure all time worked, if over 212 hours in the 28-day cycle, is paid at the overtime rate.

### Residency

Currently the Department has a residency limit of 13 minutes (via google maps) from either fire station. Twenty percent (20%) of the members can live outside Silvis city limits, but everyone must live in the State of Illinois. For purposes of recruitment and retention, the City should relax the Illinois residency requirement for members willing to cover station staffing shifts (paid-on-premise). By doing this, the City has the potential to increase membership. One challenge that will need to be addressed is the issue of Iowa driver's licenses and commercial driver's license (CDL) requirements. Iowa does not currently have the Class B non-CDL classification that Illinois offers to firefighters. This requires Iowa drivers to attend training and obtain a CDL to drive fire apparatus in Illinois. This should not be considered an impediment to allowing members from Iowa to join the department, but simply something that needs to be addressed.

## Hiring

### Applicant Communication

The Fire Chief is currently responsible for ensuring all applicants are notified of their status during the application process, but this occurs verbally. It is recommended all communication to applicants be generated via email so messages can be sent quickly, and copies retained. This would include communicating a change to the status of their application, if the applicant is not being considered for a posted position and/or will not be moving forward in the hiring process after an interview. This correspondence can be standardized so there is a consistent message being sent from the organization for each scenario. All correspondence should be retained for three years.

### Recruitment Records Custodian

Recruitment records include the documents and actions taken for the hiring of each position such as job advertisements, resumes, employment applications, interview evaluations, reference checks, results of physical examinations, employment test results, applicant data for candidates not hired, and related information. These records must be maintained for candidates that are hired as well as those that are not hired. These records should be retained and held by the official records custodian (City Clerk) for proper retention/destruction. These documents must be kept for three years after a no-hire decision has been made. Records generated for those who become employees must also be retained and included in the City's confidential personnel records held by the City Clerk.

### Application, Recruit Academy, and Pre-employment Process

Applications are either submitted directly to the Chief, or via the City and routed to the Chief. The City is recommended to develop an application document that can be placed on the City's website and completed and submitted electronically.

The Chief and an officer currently conduct in-person interviews. Interview questions exist, although it is not known how often they are changed. A State of Illinois background check is also completed. If a candidate is not considered, the Chief provides notification to the candidate, but the process does not include a standardized template, so there is no standardization of the rejection message.

If the City accepts the candidate for the Recruit Academy, a medical clearance form is provided to the recruit for completion and submittal back to the City. The candidate must have a physician's authorization to attend the Recruit Academy. The Academy is a 12-week long program (one day per week for 12- weeks), which is uncompensated. The Academy teaches skills and knowledge that can be used toward obtaining their Basic Operations Firefighter Certification. During the 9th week of Academy, the City will coordinate an appointment with an occupational health clinic to conduct a pre-employment physical and drug screening.

This Recruit Academy process is legally problematic due to the following unanswered questions:

- Is the recruit an employee of the City of Silvis or not?
- If a recruit is injured during the training, who covers them for worker's compensation, disability, or line-of-duty death benefits?
- If they are not employees, whose protective equipment are they using?

It could be argued that these recruits are de facto employees of the City of Silvis with any adverse impact from the training being the responsibility of the City.

Furthermore, if these recruits are employees—regardless of compensation—they should be medically evaluated and screened using the same standards applicable to all other City of Silvis firefighters. Physicians not specifically schooled in occupational medicine related to the physiological demands of firefighting can inadvertently sign off on a recruit's participation in a training program without a full understanding of exclusionary criteria. This creates a high liability for the City of Silvis for placing recruits in a position where they are not physically capable of meeting the rigorous physical ability standards.

If the recruit is an employee of the City of Silvis, and they are not being compensated for the work they are doing related to training for the position of firefighter, the City is likely violating wage and hour standards. The recruit could be compensated at a different rate of pay than other members; but if they are an employee, they need to be compensated. The City should reconsider the uncompensated standard and ensure compliance with Illinois wage and hours standards related to minimum wage.

### New Hire Orientation/On-Boarding

The orientation/on-boarding process is as important as the interview process in terms of the impressions an organization makes on a new hire. An engaging orientation process that is clearly organized and documented for the new member will be smoother and more productive than informal processes and sets a standard of expectation. An effective orientation process will cover the culture and history of the department, policies, performance expectations, job requirements, communication expectations, issuing gear, and much more.

A written, comprehensive orientation checklist will help ensure consistent training and documentation of the training process, especially if assigned trainers vary. The City Clerk's office is responsible for the administration, I-9, W4, payroll aspects. Providing job descriptions, City policy items, Employee Handbook, and specific training on required policy topics—such as harassment—are not occurring but should be.

### Probationary Status

Currently, once a new hire has completed the Recruit Academy, they currently work in a probationary status for 12 months. Under current practice, the use of the term "probation" differentiates a

member's ability to pick up daytime shift hours only. Probationary requirements need to be expanded so that the 12-month period serves as an on-boarding and learning period for the new member. This should include the development of a policy outlining the base standards required for a member to complete probation.

The probationary period should include, at a minimum, the following:

- Periodic candidate evaluations
- Strengths and weaknesses made known to the candidate
- Conduct various training exercises to assist the candidate in learning how to be a Silvis firefighter
- Written documentation of performance
- Remedial training, if needed

Candidates not meeting the minimum standards established by the policy should be dismissed from the Department.

### Annual Medical Clearance (all firefighters)

The City indicated the pre-employment physical and drug screen have been used for many years, and no validation documents exist. Hiring practices that include testing components that cannot be directly linked to job functions are problematic in that they may be considered discriminatory, thereby, wrongly eliminating candidates who would otherwise be qualified for the job. Only validated tests should be used. The City should work with occupational health providers to conduct medical exams for both new recruits and incumbent personnel that align with *NFPA 1582: Standard on Comprehensive Occupational Medical Program for Fire Departments*. See the section of this report titled **Occupational Safety and Health Administration (OSHA) – Respiratory Protection** for further information related to annual clearance standards for the use of Self-Contained Breathing Apparatus (SCBA).

### Job Descriptions

The Department does maintain job descriptions. Job descriptions are useful communication tools to explain to employees what tasks an employer expects them to perform. Job descriptions should also address performance standards. Without these tools, employees may not perform as expected. Job descriptions also identify the education, skill, and ability necessary for a position. Minimum qualifications assist in screening for recruitment and promotional purposes and provide employees with a guide of what will be needed for promotion.

Job descriptions are also an important part of the application process – in which the applicant signs off that they can perform the essential functions of the job. Job descriptions should also delineate responsibilities – not only operational skills, but also management and leadership skills required for the positions. Major categories of all job descriptions include:

- Summary of the Position
- Essential Duties and Responsibilities
- Supervisory Responsibilities (if applicable)
- Qualifications, Certifications, Licenses, Registrations
- Education and Experience
- Language Skills
- Mathematical Skills
- Reasoning Ability
- Physical Demands
- Common Work Environment/Hazards

To keep job descriptions updated, it is recommended that every document be reviewed annually for necessary modifications, and a revision date be added to document the frequency of the updates.

## Performance Management

Performance appraisals are among the most valuable and important tools available to a supervisor; however, they are seldom completed in volunteer/paid-on-call/paid-on-premise organizations. Evaluations, or performance appraisals, are essential to improving employee performance. When handled effectively, these reviews can help close the gap between what employees do and what administration needs them to do. Further, performance discussions can assist with the retention of a member. Employees who feel engaged and respected contribute more to the organization and are more likely to stay.

At present, the Department does not conduct evaluations of members, although an SOG exists. The Department should introduce a simple process that not only provides feedback on a member's operational performance, but one that also looks at the establishment of member goals and professional development.

Employees typically desire honest and regular feedback. As a result, an effective performance management system should include regular communication between a supervisor and employee to ensure that the employee's performance in all areas is reinforced and supported; identify and leverage opportunities to utilize the employee's greatest strengths, and address performance deficiencies and expectations immediately. In addition, the process provides an opportunity to discuss career and professional development opportunities which can also benefit the Department for effective succession planning.

## Promotion

The below table shows the Department's current officer ranks and how they are appointed.

*Table 32: Current Officer Ranks*

Position	Appointment Process
Chief	City Appointment
Assistant Chief	Chief Appointment
Captain	Chief Appointment
Lieutenant	Chief Appointment

Although the officer ranks are appointed, the Department currently does not have a standardized process or requirements for how members are appointed. The consultants suggest the inclusion of a testing process/assessment center for all future promotions. An assessment center is a process that places the candidate in a testing environment that provides a high degree of reliability and insight into their supervisory, leadership, management, and/or operational potential by evaluating skills, abilities, job knowledge, and personality characteristics needed to be a successful supervisor. The candidate participates in a series of exercises designed to simulate their competency to perform a particular job.

The assessment center process allows assessors the opportunity to observe the candidate's thought process, organizational skills, leadership ability, stress tolerance, analytical skills, influence, delegation ability, decisiveness, sensitivity and/or empathy, communication techniques (both verbal and non-verbal), ability to function as a team member, and his/her ethics. In addition, assessment center testing can also be utilized to show a candidate's ability to command. A critical aspect of the assessment center process is that assessors are not from within your own department, but are external fire officers who have specific training and experience in both the skills needed to be a successful officer as well as how to evaluate candidates through the assessment center process.

## On Call

The Department is currently set up for the Chief, Assistant Chief, and Captains to rotate on-call. The Assistant Chief and Captains receive additional annual compensation/stipend for this task. As a salaried position, the Chief does not. In the past, the lieutenants would occasionally be asked to cover an on-call shift but were not paid the stipend. Based on advice from legal counsel the practice of using lieutenants was discontinued. Legal counsel explained that since the lieutenants do not receive a stipend for this work, they are eligible for hourly compensation. To avoid this excessive cost, the practice was stopped. However, during interviews with fire department personnel, it was identified that weekend on-call is more challenging to cover now that Lieutenants are not allowed to be part of the rotation.

Each Assistant Chief and Captain are on-call one (1) out of every five (5) weekends. The Chief is on-call the 5<sup>th</sup> weekend and all weekday nights. The on call-call schedule starts on Friday after the person gets off work from their full-time job (usually between 4 p.m.-5 p.m.) The Officers have the command

vehicle and will respond to all calls until Monday morning when the command vehicle is dropped back off at the station on their way to work (anywhere from 6 a.m.-7 a.m.). If the officers need time off on the weekend that they are on-call, they can try to make a trade without imposing on the Chief, because the Chief has all weekdays as well. If there isn't anyone available to trade, the Chief assumes the on-call. Members describe on-call coverage more and more difficult because the officers also work weekend hours as part of their full-time employment, and the on-call responsibility then falls back on the Chief. It is understood this is an expectation of the position of Chief, but time away from work is necessary for work life balance and burnout concerns. The City should reconsider adding the rank of Lieutenant back into the on-call rotation to fully relieve the Chief of weekend duty, unless for fill-in purposes. This will entail paying the on-call stipend to the lieutenants and then following the normal compensation process for actual response to calls including overtime if applicable.

It is important to note that rank by itself is not an exclusionary standard for overtime. FLSA provides an "exemption test" related to supervisory authority which may or may not impact whether other officers beyond the fire chief are eligible for overtime. The FLSA supervisory exemption test is denoted later in this report.

Further, under the FLSA, an employee who is required to remain on the employer's premises or so close thereto that they cannot use the time effectively for their own purposes is working while on call. Whether hours spent on-call is hours worked is a question of fact to be decided on a case-by-case basis. All on-call time is not hours worked. On-call situations vary. As example:

- Although an employee may be required to be accessible by telephone or paging device, and there are established rules governing use of alcohol or participation in other activities while the employee is on-call, they may still be able to use the on-call time to engage in personal activities, such as cutting the grass, going to the movies, going to a ball game, or engaging in other activities of his or her choosing.
- The other consideration in determining whether the employee can use the on-call time for their own purpose is the frequency of the work calls received during his or her on-call time. If the employee is interrupted to such an extent the employee cannot conduct his or her regular activities, the employee probably cannot use the on-call time for their own purposes. For example, if the employee is unable to finish a meal, read a story to their child or read a newspaper during the same on-call period, they probably cannot use the time effectively for their own purposes.

### FLSA Supervisory Exemption Test

The question is whether the preponderance of the officer's work is truly administrative. If the preponderance of the work is that of a company officer or field services provider, then any officer,



regardless of rank, would likely be considered a non-exempt employee and thereby eligible for overtime. If, however, it can be proven that the bulk of their responsibilities are administrative, meeting the FLSA exemption test, they would then not be eligible for overtime compensation.

The FLSA requires that most employees in the United States be paid at least the federal minimum wage for all hours worked and overtime pay at not less than time and one-half the regular rate of pay for all hours worked over the established firefighter FLSA standard of the City of Silvis.

However, Section 13(a)(1) of the FLSA provides an exemption from both minimum wage and overtime pay for employees employed as bona fide executive, administrative, and professional. To qualify for exemption, employees generally must meet certain tests regarding their job duties and be paid on a salary basis at not less than \$684 per week. Job titles do not determine exempt status. For an exemption to apply, an employee's specific job duties and salary must meet all the following requirements.

- The employee must be compensated on a salary or fee basis (as defined in the regulations) at a rate not less than \$684 per week;
- The employee's primary duty must be the performance of office or non-manual work directly related to the management or general business operations of the employer;
- The employee's primary duty includes the exercise of discretion and independent judgment with respect to matters of significance. Primary Duty means the principal, main, major, or most important duty that the employee performs. Determination of an employee's primary duty must be based on all the facts in a particular case, with the major emphasis on the character of the employee's job as a whole. Primary duties are defined as follows:
  - The employee must perform work directly related to assisting with the running the organization. This includes, but is not limited to, work in functional areas such as tax; finance; accounting; budgeting; auditing; insurance; quality control; purchasing; procurement; advertising; marketing; research; safety and health; personnel management; human resources; employee benefits; labor relations; public relations; government relations; computer network, internet and database administration; legal and regulatory compliance; and similar activities.
  - The employee must exercise discretion and independent judgment involving the evaluation of various possible courses of conduct, including having the authority to make an independent choice, free from immediate direction or supervision. Factors to consider include:
    - Whether the employee has authority to formulate, affect, interpret, or implement management policies or operating practices;
    - Whether the employee carries out major assignments in conducting the operations of the organization;
    - Whether the employee performs work that affects operations to a substantial degree;

- Whether the employee has authority to commit the organization in matters that have significant financial impact;
  - Whether the employee has authority to waive or deviate from established policies and procedures without prior approval;
  - The fact that an employee's decisions are revised or reversed after review does not mean that the employee is not exercising discretion and independent judgment. The exercise of discretion and independent judgment must be more than the use of skill in applying well-established techniques, procedures or specific standards described in manuals or other sources.
- Highly Compensated Employees performing office or non-manual work and paid total annual compensation of \$107,432 or more (which must include at least \$684\* per week paid on a salary or fee basis) are exempt from the FLSA if they customarily and regularly perform at least one of the duties of an exempt executive, administrative or professional employee identified in the standard tests for exemption.

Based on the liability risk associated with an FLSA violation, the consultants strongly recommend a legal review and analysis as to whether any officers below the rank of Fire Chief are truly exempt. This analysis will have a significant impact on bringing the rank of lieutenant back into the on-call rotation.

## Wellness/EAP

The Department currently has a regional crisis debriefing group available if needed. Given public safety personnel continuously put their lives in jeopardy and respond to stressors most citizens do not experience, ensuring they have support is critical, and knowing that the department genuinely cares about their general wellbeing is of great importance. Leadership should incorporate stress management and available mental health support as part of regular training. It should also be a topic during normal employee "check-in meetings" so it becomes a common and recurring discussion item, and not one that brings discomfort when brought up. The City is recommended to also ensure a formal confidential EAP service is available to all employees for additional services an employee may need, beyond what the regional group is able to provide.

## Personnel Records

Personnel records have three (3) major functions in an organization. They provide a memory or recall to administration and employees; they offer documentation of events for use in resolving questions or human resources problems; and they provide data for research, planning, problem solving, and decision-making.

While federal, state, and local laws require that certain employee information be maintained, certain basic records should also be retained to avoid errors of memory and provide information for making management and human resources decisions.

It is understood by the consultants that all personnel-related documents are maintained and secure with the City Clerk.

Contents of personnel files vary by organization, but most human resources professionals accept some practices as standard. The following provides a non-inclusive list of standard items, and where they should be maintained:

**Table 33: HR Personnel Records**

<b>MAIN EMPLOYEE FILE</b>
Acknowledgement of employee handbook
Acknowledgement of policies/policy revisions
Application materials
Certifications, licences, transcripts, etc.
Official performance documentation (memos, notes, letters, discipline, recognition, etc.)
Offer/promotion/transfer letter(s)
Orientation checklist
Performance appraisals
Status change documentation (change of address, position, etc.)
Termination checklist
Training requests (with approval and/or denial documentation)

<b>SEPARATE PAYROLL FILE</b>
COBRA and other mandatory benefits notices
Direct deposit authorizations
Group benefit enrollment forms (health insurance or other forms with medical information must be placed in medical file)
Miscellaneous deductions, garnishment orders, etc.
New hire verification
Retirement system calculations/benefits
W-4 form

<b>SEPARATE MEDICAL FILE – MANDATORY SEPARATION</b>
FMLA documentation or other medical leave
Medical/Psychological pre-employment exams
Non-CDL drug and/or alcohol screening (CDL screening mandates its own file)
Other medical tests results
Sick verification notes

Vaccine records and/or declination form
Worker's compensation information (doctor reports, letters, etc.)

<b>SUBJECT FILES – MANDATORY SEPARATION OR BEST PRACTICE SEPARATION</b>
CDL/DOT drug and alcohol tests (maintain together for auditing purposes)
Immigration Control Form I-9 (maintain together for auditing purposes)
Investigation notes or reports
Litigation documents
Worker's compensation claims

## Emerging Issues

### Ambulance Services

The future of ambulance coverage for the City of Silvis must be a discussion topic related to organizational planning. Although Genesis Ambulance has made it clear to the consultants that they anticipate no changes in their overall 9-1-1 delivery model, the fact remains that they have recently exited a contract in the Aledo/Mercer County market. Couple this with the unknown impact of a new hospital/ambulance owner, and the basis for concern is reasonably high. Since it cannot be fully predicted what the future holds related to ambulance service within the City of Silvis, the consultants strongly recommend that city leadership begin developing contingency plans should a time come when it finds itself in a position where sustainable 9-1-1 ambulance availability is in question.

Ambulance service providers, both public and private, have been struggling with a shortage of licensed paramedics. Fewer individuals are attending paramedic training, and many of those who complete training have many attractive options. Paramedics can work in hospitals and other medical facilities and enjoy better working conditions and more flexible schedules than those working on ambulances. Many government employers including fire departments need paramedics and offer higher pay, benefits, and better pension plans than private ambulance providers. Recently, Scott County Iowa took over Medic EMS—a private service. Their paramedics are now county employees with enhanced benefits. This will likely make Scott County a destination employer and further challenge recruitment for Genesis Ambulance.

### *Financial Aspects of Ambulance Operations*

A misconception related to ambulance operations is that they are a money-making business. With today's regulations related to insurance billables, allowable Medicare reimbursements, Medicaid and the uninsured, 9-1-1 ambulance providers are finding it increasingly difficult to fund their operations. It is almost unheard of for a successful 9-1-1 ambulance service to not operate in the red related to revenue generated from billing, thereby requiring a governmental tax subsidy to sustain operations. Although not known, it is suspected that Genesis Ambulance is operating with very little profit/loss

margin. What is known is that Illini Hospital is one of eighteen (18) hospital taxing districts identified by the Illinois Office of Comptroller. The chart below shows the district’s annual appropriation ordinance for 2023 including how much is appropriated for the Genesis Hospital ambulance contract. It can be reasonably estimated that the appropriation of \$792,200 “may” cover the operational expenses (personnel and benefits) associated with one-and-a-half 24-hour ambulances.

**Table 34: Illini Hospital District Annual Appropriation Ordinance 2023**

Illini Hospital District Annual Appropriation Ordinance	
Anticipated Revenue	
Property Taxes	\$469,600.00
Replacement Tax	\$343,600.00
Total Revenue	\$813,200.00
Anticipated Expenditures	
Attorney Fees	\$10,000.00
Audit Fees	\$11,000.00
Contract to GHS for Ambulance Services	\$792,200.00
Total Expenditures	\$813,200.00

**Ambulance Billing Explanation**

Ambulance billing standards are extremely complicated. Penalties for not following billing standards are high, with several services over the years being assessed large fines for Medicare/Medicaid fraud.

Also impacting ambulance revenue is the payer mix of a community. An ambulance may do well in recovering fees from private pay insurance companies, but then be significantly impacted by allowable Medicare and Medicaid rates. Medicare is the nation’s largest payer of ambulance services and has created a fee schedule for reimbursement based on geographical regions. Private insurance allowable ambulance rates are generally 150% of the Medicare allowable amounts. This means that an ambulance service may charge a rate more in line with the cost of providing the service, but if the patient has Medicare coverage, the reimbursement will be substantially less based on the established regional rates. This reimbursement rate in most areas does not cover the actual cost of operating the service. If the patient has Medicaid, recovery is more dire as the reimbursement rate is much less. The below chart provides a comparison of the national payer mix compared against what is believed to be the payer mix for Silvis:

**Table 35: Medical Insurance Payer Mix**

	National Payer Mix	Silvis Payer Mix
Private Pay Insurance	25% - 35%	56%
Medicare Payer Mix	30% - 40%	17%
Medicaid Payer Mix	15%	13%
Uninsured/Self-Pay/Non-group/No Pay	10%	14%

Andres Medical Billing Ltd. (<https://andresmedical.com/>) is headquartered in Illinois and works nationally as a contract ambulance billing agency. They have over 360 clients in 25 states. One hundred ninety-six (196) of those clients are in Illinois. Each year Andres produces a listing of ambulance billing rates broken down by clients. Many of Andres clients charge different rates based on whether the patient being transported is a resident of their coverage area or a non-resident. The fees are further broken down by the level of care provided:

- Basic Life Support: Supportive care such as wound care, splinting, oxygen delivery, etc.
- Advanced Life Support: Assessment and stabilization using IVs, cardiac monitoring, administration of 1-2 medications (including non-intravenous medications)
- Advanced Life Support 2: The administration of three or more intravenous medications and one or more of following procedures: manual defibrillation/cardioversion, endotracheal intubation, cardiac pacing, chest decompression, surgical airway, intraosseous line insertion
- Mileage: Patient transport miles

For calendar year 2023, Andres reports that the average ambulance fees for their Illinois clients are as follows:

**Table 36: Average Ambulance Fees - 2023**

Resident				Non-Resident			
BLS	ALS	ALS 2	Mileage	BLS	ALS	ALS 2	Mileage
\$1,684	\$1,799	\$1,872	\$17.72	\$1,765	\$1,899	\$1,975	\$18

If these rates are used and applied specifically to the City of Silvis (1,500 calls annually), a projection of ambulance revenue can be extrapolated. For purposes of this example, resident rates are used.

**Table 37: Projected Ambulance Revenue - Silvis Calls**

Level of Care	Estimated % of Total Calls	Revenue Generation: Private Insurance Rate (non-Medicare)
BLS	50%	\$1,263,000
ALS	40%	\$1,079,400
ALS 2	10%	\$280,800
Mileage	5 miles per transport	\$132,900
<b>Total Revenue</b>		<b>\$2,756,100</b>

What is important to note is that these revenue projections as shown are very likely higher than the actual revenue received. This is because the consultants do not know the exact fees charged by Genesis ambulance, or the payer mix and collection rate for the City of Silvis (i.e., private pay insurance, Medicare, Medicaid). Also, the projections are based on 1,500 patients being transported. Since not all ambulance calls generate patient transport, the actual numbers will be less. A very conservative projection is that the revenue may be around \$918,700 less than what is shown in the chart.

Realistically, ambulance revenue generated annually within the City of Silvis is likely between \$1,800,000 – \$2,000,000. If the projections are close to being accurate, even using the most conservative numbers related to employee pay, benefits, vehicle, facility, and equipment expenses, the overall cost to operate an ambulance service for the City of Silvis likely exceeds the annual revenue generated from 9-1-1 ambulance billing.

Ambulance services attempt to mitigate this 9-1-1 reimbursement challenge by providing non-emergency interfacility transfer services. To receive payment for patient transfers, physicians sign a medical necessity of need, which both authorizes the transfer and meets the standard for insurance payment. Although 9-1-1 transport may not have guaranteed payment, an interfacility transfer does. Non-governmental ambulance providers juggle hourly the financial balance between keeping ambulances available to handle 9-1-1 calls and doing the work that actually pays for the cost of operations. To say that it is a challenging endeavor is an understatement.

Ambulance services operated by cities/counties/townships/fire protection districts generally do not address the balancing issue because they utilize tax dollars to pay for service availability and the revenue generated through service billing is simply used as an off set of the total cost but is not the driving factor related to financial viability. Without question, Genesis Ambulance must be finding it difficult to financially balance revenue against expenses.

### *Options for Consideration*

Should Genesis Ambulance or a successor organization elect to stop providing 9-1-1 service to the City of Silvis, a contingency plan needs to exist. Although Genesis Ambulance leadership told the consultants that they expect to continue servicing the community, the fact remains that a 120-day (4-month) termination clause exists in the ambulance service agreement.

Section 14 (a) – Term/Termination reads as follows:

***Termination.*** *Either Party may terminate this Agreement immediately upon written notice in the event (a) the other Party materially breaches the terms of this Agreement and fails to cure such breach within thirty (30) days following written notice from the other party; (b) either Party is suspended or excluded from participation in any government healthcare program; or (c) the license of the Genesis is permanently suspended or revoked by any State in which Genesis holds a license; (d) Assignment of Provider for the benefit of its creditors; (e) bankruptcy or insolvency of either Party; or (f) adoption of a plan or authorization of a petition for dissolution of Provider. Additionally, either Party may terminate this Agreement without cause by providing one hundred twenty (120) days’ written notice to the other party.*

A four-month termination clause is an extremely short amount of time and if executed would place the City of Silvis and its partner communities in a very problematic position. Trying to find another contract

ambulance provider servicing the Quad Cities would likely be exceedingly difficult. If one or more of the communities involved decided to start their own ambulance service, whether fire based or EMS third service, this short timeframe would make it a near impossibility. Not to overstate and to make clear that we do not know all the decisional factors involved with Genesis leaving Mercer County, it is important to keep in mind that Genesis Ambulance did recently executed their contractual rights for termination of their agreement. Such a move would surely be terrible for the City of Silvis. To that end, the consultants believe it critical that Silvis develop a contingency plan with varying scenarios to prepare for this possibility.

The consultants offer four scenarios for consideration. Each of these scenarios has pros and cons and must be thoroughly vetted. There may be other options or individualized adjustments that exist, but the following broad consideration points provide conversation and research topics related to the issue.

- Begin providing a governmental tax subsidy to the private ambulance service beyond what is generated through the Illini Hospital Tax District. This would likely need to be done in partnership with the other communities receiving 9-1-1 services from the private ambulance.
- The City of East Moline Fire Department could begin operation of an ambulance service providing contractual services to the area previously covered by Genesis Ambulance. Based on the billing challenges identified earlier in the report, any contractual ambulance service will most likely require a governmental tax subsidy to be sustainable.
- The City of East Moline could begin operation of an ambulance service covering only East Moline. This would necessitate that the City of Silvis find another option for 9-1-1 ambulance service.
- Silvis Fire Department could develop and implement an ambulance service. Consideration should be given to whether this new service can and should contract ambulance services to Hampton, Carbon Cliff–Barstow and Colona Community Fire Protection District.

## Consolidation

In general, volunteer fire and emergency services are struggling to maintain members capable of responding to emergency situations. This is not just a Quad Cities' issue, but one that is impacting departments/districts throughout the United States and Canada. Along with the challenges in volunteer/paid-on-call recruitment and retention is the overall cost of providing fire and emergency services. Many organizations have looked to regional consolidation to try and address both concerns.

Fire service consolidation can take many forms. Examples are as follows:

- Administrative consolidation: Departments/districts remain legally separate but consolidate administrative/staff functions (i.e., a single fire chief, training officer, administrative support). All entities contribute funds to support the cost of the administrative functions and staff.



- Functional consolidation: Departments/districts remain legally separate but operate as if they are a single entity with all jurisdictional response boundaries becoming invisible. This usually includes response standards like the FAST program as well as joint purchasing of supplies, protective equipment, tools, shared reserve apparatus, shared apparatus maintenance, etc. Functional consolidation is typically the first step in moving toward full consolidation. It allows departments/districts to align equipment (e.g., the same breathing apparatus, extrication tools, turnout gear, apparatus, etc.) to prepare for the time when the participating agencies become one entity. It normally prevents the purchase of expensive duplications such as multiple ladder trucks, tenders, brush apparatus, etc. and forces the sharing of these costly assets. It also provides a measure of time for changes in organizational leadership who may not be supportive of full consolidation and the change associated with losing their organizations singular identity.
- Full consolidation: Departments/districts legally join to become a single agency. This may include one singular department/district absorbs one or more departments/districts resulting in a single entity.

It is recommended that the City of Silvis begin considering as a planning tool what consolidation of fire department services might look like and the associated pros and cons. Likely partners in a consolidation analysis are the City of Silvis Fire Department, Carbon Cliff–Barstow Fire Protection District, and the Village of Hampton Fire Rescue Department.

## Recommendations

Recommendations				
Number	Priority Rating	Page #	Report Section	Recommendation
1	4	28	Overview of Operations	Conduct a call analysis to determine if false alarms are being coded correctly within the NFIRS.
2	3	31	National Standards	It is recommended that the department establish within the SOGs policies for the use and maintenance of SCBA.
3	3	32	National Standards	It is recommended that the department establish an SOG related to “two-in/two-out” practices, including a training plan related to managing firefighter maydays.
4	3	32	National Standards	It is recommended that the department establish an annual training plan that incorporates required OSHA topics.
5	2	33	National Standards	The department should establish minimum fitness for duty standards as outlined within NFPA 1582 for all firefighters required to wear personal protective equipment and SCBA within an IDLH atmosphere.
6	2	34	National Standards	The department should seek to comply with NFPA 1720.
7	1	40 41	National Standards	The department should reengage with FAST group instead of relying as heavily on East Moline Fire Department. This includes the development of shared SOGs and reinitiating regular FAST training.
8	1	53	Stations/Facilities	OSHA requires that SCBA compressors be equipped with an outside fresh air intake system. The current compressor configuration does not include this required air intake. This intake needs to be installed.
9	4	54	Apparatus/ Equipment	Consideration should be given to adding a reserve engine to the fleet.
10	4	57	Apparatus/ Equipment	Create an apparatus sinking/escrow fund including SCBA replacement.
11	3	59	Training/ Certifications	Integrate Job Performance Requirements (JPRs) in the training program. Maintain individual member records after testing and validation on each JPR.
12	2	60- 61	Training/ Certifications	Design an effective training schedule to meet ISO requirements, and maintain separate records for ISO-specific training using existing software capabilities.
13	3	61	Training/ Certifications	Encourage newly enrolled members to complete Basic Operations Firefighter training.

<b>Recommendations</b>				
<b>Number</b>	<b>Priority Rating</b>	<b>Page #</b>	<b>Report Section</b>	<b>Recommendation</b>
14	2	92	Member Survey	Consider increasing the frequency of training/drill nights to weekly. A mirrored daytime training plan should also be implemented.
15	3	62	Training/ Certifications	All officers should obtain OSFM certification to their level of responsibility.
16	3	65- 66	Life Safety Services	Designate a member(s) as Fire/Life Safety Inspectors, completing required training. The department should begin conducting fire and life safety inspections.
17	1	81	EMS	Ensure that all Silvis Fire Department personnel are trained and certified in CPR/AED.
18	1	83	EMS	Silvis Fire Department should begin responding on all High Accuity EMS calls which includes traffic accidents, and any call where Genesis Ambulance is requesting assistance.
19	1	83- 85	EMS	Make application and become part of an EMS System as required by the Illinois EMS Act.
20	1	85	EMS	Train Silvis Fire Department personnel to a minimum of Emergency Medical Responder (EMR). Encourage interested members to continue their training to obtain certification as an EMT.
21	2	103	Human Resources	Develop a recruitment strategy.
22	3	103- 104	Human Resources	Work to improve community relations through more frequent interactions with the public.
23	2	104	Human Resources	Incorporate new member recruiting into all aspects of community involvement.
24	3	105	Human Resources	Conduct an organizational values assessment and then move to a values-based member recruitment process.
25	2	105	Human Resources	Follow recommended retention strategies.
26	3	104	Human Resources	Strengthen the use of social media, participation in college career days, and high school career fairs to bring attention to the work of the Department.
27	3	109	Human Resources	Develop a marketing campaign for potential firefighters who work remotely. This campaign should include tools to show their employers the benefits of allowing their remote workers to participate as members of Silvis Fire Department.
28	4	109	Human Resources	Develop shared workspaces within the fire stations where members working remotely can work and still be available to respond on emergency calls.

<b>Recommendations</b>				
<b>Number</b>	<b>Priority Rating</b>	<b>Page #</b>	<b>Report Section</b>	<b>Recommendation</b>
29	3	109	Human Resources	Rebuild the cadet program making it an attractive environment and skill development process for individuals interested in emergency services.
30	3	109	Human Resources	Develop an employee awards/commendation program.
31	3	110	Human Resources	Initiate member "stay interviews" conducted on a bi-annual basis.
32	1	113	Human Resources	The Employee Handbook should be finalized and approved as soon as possible
33	1	113	Human Resources	Evaluate and update SOG's to ensure no policies conflict or overlap with the Employee Handbook.
34	1	114	Human Resources	Establish a written work period for the calculation of firefighter compensation and overtime.
35	1	114	Human Resources	The City should relax the Illinois residency requirement and 13-minute residency requirement for members willing to cover station staffing shifts (paid-on-premise). By doing this, the City has the potential to increase membership.
36	2	115	Human Resources	The City Clerk should become the records custodian overseeing retention and destruction.
37	2	115	Human Resources	Establish a policy that all applicant correspondence should be retained for 3-years.
38	2	115	Human Resources	All communication with applicants should be generated via email so messages can be sent quickly, and copies retained.
39	2	115	Human Resources	Develop an application document that can be placed on the city's website that is able to be completed and submitted electronically.
40	1	115	Human Resources	Stop the process of having recruits provide a medical clearance document from a physician. All recruits should be medically evaluated and screened using the same standards applicable to all other City of Silvis Firefighters.
41	1	116	Human Resources	Recruits should be officially hired and then compensated ensuring compliance with Illinois wage and hours standards related to minimum wage.
42	1	116	Human Resources	Strengthen the new candidate onboarding process to include obtaining all required employment documents as well as providing access to job descriptions, City policy items, Employee Handbook, SOGs, and conducting specific training on required policy topics, such as harassment.

<b>Recommendations</b>				
<b>Number</b>	<b>Priority Rating</b>	<b>Page #</b>	<b>Report Section</b>	<b>Recommendation</b>
43	1	117	Human Resources	Develop a policy outlining the base performance standards for a probationary member including evaluation and testing.
44	1	117	Human Resources	Conduct medical exams for both new recruits and incumbent personnel that align with NFPA 1582: Standard on Comprehensive Occupational Medical Program for Fire Departments.
45	4	118	Human Resources	Review and update job descriptions annually.
46	3	118	Human Resources	Develop a program for semi-annual employee feedback sessions to discuss member operational performance, establishment goals including plans for professional development.
47	3	119	Human Resources	Move to a testing process/assessment center for all future promotions.
48	1	120	Human Resources	Conduct an analysis of on-call officers related to the FLSA supervisory exemption test.
49	1	120	Human Resources	Expand supervisory on-call to include lieutenants.
50	3	122	Human Resources	Stress management and available mental health should be included as part of regular training. It should also be a topic during normal employee check-in meetings.
51	4	122	Human Resources	Establish a contract with an Employee Assistance Provider (EAP) and make the services available to all employees.
52	1	124	Emerging Issues	Begin development of written contingency plans for sustainable 9-1-1 ambulance coverage should a private provider no longer be willing/available to provide services. This is especially important in that the Genesis ambulance contract includes a 120-day opt out clause.
53	3	127-128	Emerging Issues	The Department should develop a more targeted, 3-year strategic plan. As part of the planning process, consideration should be given to possible future consolidation with neighboring fire departments/districts.

## Appendix A – Silvis Fire Department Data/Information Request

- **General Information**
  - Overview of the department
  - History
  - Overview of the service area protected
  - Population
  - In-flux or Out-flux of Daytime Population
  - Department’s Strategic Plan
  
- **Governance**
  - Structure (Board, Council, Trustees, Commissioners etc.)
  - # of elected or appointed officials
  - Hierarchy (organization chart)
  - Member’s term (years, staggered, term limits)
  - Authority flow
  - Fire/EMS Leadership
  - Organization chart
  - Selection process of officers
  - Job requirements:
    - Administrative
    - Supervisory
    - Operational
  - Requirement/certifications needed for each officer position
  - Fiscal responsibilities
  
- **Response District**
  - Map of Coverage Area
  - Map of Contiguous Surrounding Area Showing Department Stations Locations
  - Total Square Miles Protected
  - Square Miles of Hydrant Area
  - Square Miles of Non-Hydrant Area
  
- **Personnel Management/Human Resources**
  - Current Roster of Members
  - Personnel (information needed for all employees)
  - List of members
  - Hire date
  - Age or date of birth
  - Organizational Chart
  - # of Paid On Call
  - # of Part-time (Paid On Premise)
  - # of Volunteers
  - # of Other Employees (civilian)
  - Rank Structure (Number of Employees in Each Category)
  - Minimum/Maximum Staffing

- Minimum staffing =
  - Maximum staffing =
  - # of days at maximum daily staffing (show for each study period year)
  - # of days at minimum daily staffing (show for each study period year)
  - Current salary of each employee (name, rank, salary)
  - Spreadsheet – name, rank, current salary,
  - Spreadsheet with the benefit breakout -health, pension, taxes, etc. for fiscal year of the study
  - Department’s By-Laws
  - Police & Fire Commission or Civil Service Regulations
  - Employee Policy & Procedure Manual (electronic version)
  - Promotional Process – including forms utilized
  - History of Turnover (All Employees Last 3 Years – Include Reason and/or Exit Interview Data)
  - Recruiting/Retention Programs
  - Hiring Process (all forms)
  - Application
  - Hiring packet
  - Reference questions
  - Interview questions
  - Etc.
  - Any Discipline Issues
  - Performance Evaluation process and forms
  - Last year’s overtime by employee – include rank
  - FLSA pay cycle
  - SOG/SOP Manual – prefer electronic copy
  - Department Employee’s Handbook
  - Department Rules & Regulations
  - New employee Orientation Process – (packet and/or forms)
- **The Department**
    - Annual Reports – Last 3 Years
    - Current ISO Rating
    - Provide complete ISO document
    - Last ISO On-Site Evaluation (copy of point distribution sheet)
    - Last On-Site Evaluation
    - Others
- **Emergency Activities –**
    - Total calls last ten years (no breakdown just total calls per year)
    - Call breakdown – Last 3 Years (All NFIRS Sub-Sections)
      - Incidents by Time of Day
      - Incidents by Day of the Week
      - Incidents by Month
      - Calls Breakdown by Area (City, District, Town, Etc.)
      - Distribution by Shift

- Distribution by Station
  - Response Times: (include documentation from dispatch)
  - Notification time
  - Turnout time
  - Drive time
  - Mitigation time
  - Mutual Aid – Auto Responses (Given & Received) – With Whom? – Copy(s) of Written Agreement
  - Simultaneous (Overlapping) Call Data
- **Fire Station(s)**
  - Current Facilities
  - # Of Stations – Street Address
  - Square Footage – (Floor Plans for each if available)
  - Age
  - Future Facility Plans/Needs Documents
- **Apparatus & Equipment –**
  - Type of Apparatus (i.e., engine, ladder, command, utility, etc.)
  - Apparatus department ID number
  - Pump & Tank sizes
  - Mileage
  - Engine Hour Reading (if appropriate)
  - Vehicle VIN Number
  - Age of Apparatus
  - Manufacturer
  - Replacement Schedule
  - Apparatus maintenance records
  - Special Teams Apparatus
  - Specialized Equipment: Haz Mat, Water Rescue, Etc.
  - Radio, Type and Frequencies
  - Computers (Number of, Type, Age, Replacement Plan)
- **Training**
  - Training Records (Last 3 years) for each member
  - Training schedule
  - Training hours per month and subject / per employee
  - Training Curriculum & Lesson Plans
  - Instructor(s) qualifications
  - Training Manual
  - Special Teams – certifications
  - All current employees' certification level
- **Fire Prevention**
  - Review the current general fire prevention and fire inspection programs
    - Number of inspectable building



- Types of inspections/number each category last 3 years
    - History of inspections
    - Violations corrected last 3 years
  - Number and types of re-inspections
  - Code adoption and enforcement activities
    - Fire codes
    - Building codes
  - Trends in permits
  - New construction and involvement in last 3 years
  - Department's sharing of information and resources
  - Review pre-incident planning program
    - Number of pre-plans completed
  - List fire investigation programs and activities last 3 years
- **Safety Education**
  - Public Safety Education Programs
  - Public Safety Education Data (Last 3 Years)
- **Fiscal**
  - Past three years of audited year financial statement
  - Current year audited financials
  - Past three years' budget
  - Operating – include all revenue and expenses
  - Capital - include all revenue and expenses
  - Financial policies and procedures
  - Purchasing policies
  - Equipment or Capital reserve fund ledger
  - Overtime records
- **Revenue**
  - List of grants applied for and/or received for current year and two previous years
  - List 2% fire dues received current year and two previous years
  - List and explanation of any other department revenue received i.e. inspections fees, permit fee, etc.
  - Other information needed:
  - Equalized Assessed Valuation (EAV) if multiple communities for all

## Appendix B – Historical Timeline of Silvis Fire Department

**1908 March.** The department was organized. Members of the department met on Tuesday evenings at the Downing Brothers General Store located at 910 1<sup>st</sup> Avenue. William H. Downing was Chief, Fred Hartline was named Assistant Chief, and Martin Tennell; was chosen Lieutenant of 10<sup>th</sup> Street. The original signers of the Constitution and By-Laws of the Silvis Volunteer Fire Department are as follows:

Morton Pennell  
Chas. Roach  
Geo. Sleeth  
Chas. Fanjoy  
H. H. Cowles  
James Shannon  
F. P. Shannon  
Louis Newton  
Henry Kirkpatrick  
James Nickols  
John Korb  
Fred Hartline  
James Hill  
Howard Hough  
L. F. Crawford  
Frank McKendrick  
Henry Schmidt  
Henry Bahnks  
Robert Wanless  
Eugene Lund

Committees were appointed to look after different matters dealing with the fire department. Duties included making sure ladders were scattered about the village, so they would be in easy reach of the fire department. Martin Tennell, John Tree, and Henry Miller were appointed as the committee for an alarm system; Fred Hartline was appointed as the committee to secure a cart in which to carry the apparatus. The first fire alarm was a bell between 11<sup>th</sup> and 12<sup>th</sup> Streets. On Halloween children rang a false alarm, employing the use of a fishing rod and string.

**1916.** It was reported that a new fire truck was on its way from the factory and would soon arrive in Silvis. Silvis would then be equipped with modern fire-fighting equipment and a proficient fire department.

**1921.** The fire department moved into its first permanent home, located at 2010 10<sup>th</sup> Street. The second story of the structure was a dance hall. Over the next 100 years the building would not only be home to the fire department, but also the Silvis City Hall, Silvis Police Department, the Silvis Public Library.

**1931 October.** Police Chief Morton W. Pennell issued a serious warning to the pranksters of the city as a result of a false fire alarm. "Halloween is a great temptation to every boy, old or young. So many, however, allow their instincts to carry them into destructive or dangerous methods of observing the fall occasion," Chief Pennell said. The Chief warned that the penalty for turning in false fire alarms was \$200.

**1939 July.** The city signed a contract with American LaFrance-Foamite Corporation to purchase a fire truck at a cost of \$7,573.50.

**1939 May 23.** Council made a motion that the Silvis Fire Department could answer fire calls on South 19<sup>th</sup> Street, State Route 80, as long as there was a deposit of \$25.00 on hand and circumstances permitted.

**1939 October 12.** (Taken from an uncited newspaper). Tests made on Silvis new \$7300 fire truck conducted yesterday on the bank of the Hennepin canal near Colona were highly satisfactory, it was reported today by Chief Joseph Stevens of the Silvis fire department, and upon his recommendations the city council at a special session tonight is expected to approve purchase of the equipment.

The tests, conducted under supervision of state underwriters, were held throughout yesterday afternoon at Colona where water from the canal was used to make possible the demonstration. All points of the pump and mechanical equipment were checked and re-checked and everything was found according to specifications, it was reported. Glenn Parish, factory representative of the American-LaFrance fire equipment manufacturing company of Elmira, N. Y., was in charge of the tests.

Fire chiefs from as far away as La Crosse, Wis., as well as members of the fire departments of Clinton, Geneseo and other nearby cities were present to watch the demonstration. Following

the tests, a fish dinner was served by the Silvis fire department at the firemen's camp on the Rock River near Golden's grove. The meal was prepared by Ray Pilcher, Silvis police chief. The visiting fire department officials, state underwriter representatives as well as firemen from throughout the quad-cities gathered during the afternoon and evening to partake of the fish fry.

**1944.** The city installed seven new fire alarm boxes.

**1944.** A new fire hose for the Fire Department was purchased for \$200. It came from the Fabric Fire Hose Company and was 200 feet in length and 2 ½" in diameter.

**1946 October 1.** The council discussed the feasibility of buying tarps for the fire trucks to protect the fire hose in bad weather.

**1954 January 19.** The council discussed the feasibility of having an extension from the fire department telephone to the City Clerk's office.

**1956 November 6.** The council approved a bid from Doc and Jim's D-X for \$372.44 for six tires and tubes for the Silvis No. 2 American LaFrance fire truck.

**1959 March.** Norman Schadt was appointed the new fire chief. He replaced his father, Conrad H. Schadt.

**1960.** A modern radio system was installed in City Hall and operated 24 hours a day. Residents of Silvis could now reach the police or fire department within seconds.

**1961 April 10.** The Auxiliary to the Silvis Volunteer Fire Department was organized. Officials for the new organization were elected, with Mrs. Peter Dreier elected as president, Mrs. Norman Schadt as vice president, and Mrs. William Shaffer as secretary-treasurer. The Auxiliary purchased an emergency traffic signal, which was installed at the intersection of 1<sup>st</sup> Avenue and 11<sup>th</sup> Street at City Hall. The signal would operate during fire calls when fire trucks were leaving the station.

**1963.** A 1926 Seagrave fire truck was donated by the Rock Island Lines to the Silvis Fire Department. Master Mechanic J.H. Whipple presented the fire truck to Silvis Fire Chief Norman Schadt. The truck was used during parades and on special occasions.

**1970 February.** The city council decided to have the fire department building inspected by a structural engineer. The purpose of the inspection was to determine if the steel reinforcements in the floors were sound. Emily Wilson, the librarian of the Silvis Public Library had stated that when the fire engine returned from a fire and the fire hoses were hung up to dry, the library staff had to cover the tops of the bookshelves with plastic to avoid the water coming through the floor onto the tops of the book cases.

**1970 June 23.** After a review of preliminary plans, the council voted to advertise for bids for an addition to the fire station.

**1971.** The two-bay extension to the west side of the building was opened.

**1974 Mid-April.** A fire started at the railroad that destroyed the communication and signal shops. The 200-foot-long structure held the signal repair shop, the radio repair shop, a signal material storehouse, and the diesel oil test lab. Damage of over \$1.3 million to electronic equipment was estimated. The fire began at 2:45 a.m., during a tornado watch. Lightning struck a transformer, and the building was quickly engulfed in flames. Firemen from Silvis and East Moline fought the flames through high winds, driving rain and hail. The heat from the fire was so intense that large steel girders were twisted into grotesque shapes. C. J. Nelson, general superintendent of communications and signals said, "It was a very costly fire for the railroad. But, we've got to do the best we can with what we have left until we can rebuild our facilities.

**1974 September 1.** A new ambulance service was started at Illini Hospital. Rates were \$45 per call within the district and \$65 per call plus 50 cents per mile outside the district.

**1974 September.** The icehouse at the Rock Island Lines burned down. The downtown was filled with smoke.

**1974 December.** The end of the demolition of the icehouse and clean up of the property was complete. Silvis Cashways was complimented for their clean up efforts of the icehouse.

**1975.** The Silvis Country Music Festival was started. It was started with only a few organizations involved: The Silvis Women's Club, the Silvis Optimists, the Silvis Fire Department, the Silvis-East Moline Kiwanis Club, and the Junior Chamber of Commers. The first festival had 3 stages with two Nashville acts and several local country performers. A double bill of Bobby Helms and Jeannie Sheppard were the main performers. There was no admission charge; only donations

were asked for and unfortunately not many people donated. It was not at all profitable the first year.

**1976.** Silvis rejected the 911 system, at the time stating that the planning and cost of a total area concept was beyond the needs of the fire department and they had just gotten out of MetroCom, an emergency communications service. At the time only Moline and Geneseo had the system.

**1976 February.** The mayor read a letter from Illini Hospital praising city personnel and the fire department in regard to the fire that occurred at the Happy Haven Rest Home.

**1976 October.** The 911 system was starting to show its worth and got support from the city council. A state law later required implementation of the system by 1985.

**1978.** The fire department started staffing the fire department during the day, Monday through Friday. Shifts were set for 7 a.m. to noon and noon to 5 p.m. This was started to ensure that firefighters were available in town to respond during the work day when many of the firefighters were working. They would also train and do apparatus and building maintenance during the shifts. Shifts were staffed by firefighters that worked 2<sup>nd</sup> and 3<sup>rd</sup> shift for the full-time employment.

**1978 September.** Fire Chief Norman "Tip" Schadt died. He was the Silvis fire chief for twenty years. His passing was greatly mourned. Robert Leibovitz became the new Silvis fire chief. He had been with the fire department for 18 years.

**1979 June 28.** Firefighters were called to a fire at the old McKinley School in the early hours. Two Silvis fire trucks and 22 firefighters were on the scene by 5:30 a.m., with more trucks and firefighters coming from East Moline. Firefighters worked for 19 hours to contain the blaze. The fire destroyed the old McKinley School, which had been part of the community since 1908 and most recently had been used as a boxing center for young people under the direction of Bert Viscioni. According to the fire department, the school building was a total loss while the gymnasium was badly damaged.

**1979 August.** Bob Leibovitz addressed the council on the specifications for a new fire truck. He had decided on the platform aerial truck rather than the one with a ladder with a nozzle on it.

**1980 May.** Residents along 8<sup>th</sup> and 11<sup>th</sup> Streets were concerned about fire protection. They were worried that the fire truck would not be able to reach them in case of a fire, as the road was

under construction and impassable in some places. Ingenuity prevailed as the Silvis Fire Department came up with a plan, rigging a 150-gallon water pump on the back of one of the city's four-wheel drive trucks to ensure protection.

**1981.** The fire department received delivery of a 1981 85' Pierce platform ladder truck. This is the first time in the department history that 3 working apparatus would be in service. Two engines and the platform ladder truck

**1981 June.** The 11<sup>th</sup> Street Park was officially renamed Norman "Tip" Schadt Park.

**1983.** It took nine months to get the Silvis Country Music Festival organized, with two representatives from each of the sponsoring organizations, the Silvis Fire Department, the Optimist Club of Silvis, and the Silvis-East Moline Kiwanis club, and the festival director Bob Leibovitz. Volunteers were a key part of the festival's organization and success. Bob Leibovitz had been involved in the very first festival and eventually became the festival chairman. Remembering his start, he stated, "It all started when I joined the Silvis Fire Department. The chief at the time didn't want to get involved and gave it to me. It has been mine ever since."

**1984 October.** Halloween celebrations started in Schadt Park, including a bonfire and hot dogs for the kids, along with a costume parade. Many children enjoyed the annual event, sponsored by the Optimist Club of Silvis and the Fire Department, giving the children a safe place to celebrate Halloween.

**1994 June 19.** Lightning struck between the fire station and city hall. "There was actually fire climbing up the walls of city hall," said Silvis city clerk Barb Fox. Luckily it struck right next to the Fire Department and the fire was quickly extinguished. There was extensive damage to the electrical and telephone systems.

**1994 August 18.** Lightning struck city hall again. This time the lightning hit the power unit outside the building. The second strike did even more damage than the first.

**1995.** The final year of the Silvis Country Music Festival. Throughout the years of the festival, the Silvis Fire Department used its portion of the proceeds to purchase new equipment including a squad car, pickup truck, breathing equipment, and furniture for the Fire Department.

**1995 November 7.** Dave Leibovitz was selected as Fire Chief. He replaced his father, Bob Leibovitz who had been Chief since 1978.

**1999 July.** The city council voted to allow Fire Chief Dave Leibovitz to purchase a new fire truck.

**2000.** The farm house on the old Hynd Farm was donated to the Silvis Fire Department to train in.

**2002 February.** Because of the increase in housing starts and construction, Silvis began looking into the possibility of a new fire station that would be more centrally located to accommodate the expansion of the residential area.

**2003 April.** A 200-acre grass fire blazed in Silvis and East Moline. Nine local fire departments were called to fight the fire. The fire was first reported on the Silvis side of the railroad tracks; with strong winds the fire moved quickly, pushing north. The flames moved 100 feet per minute and reached 50 feet in the air. One Barstow firefighter was taken to the hospital and homes and businesses were evacuated, but the fire did little property damage. Power to 7,900 customers was knocked out in Silvis, East Moline, Port Byron, Rapids City, Carbon Cliff, Hampton, Cleveland, and Barstow for over an hour. People in Silvis watched from the businesses along 1<sup>st</sup> Avenue as the voluminous black clouds of smoke and ash rolled in the sky. The cause of the fire was later attributed to sparks from a passing train.

**2003 June.** Fire Chief Dave Leibovitz discussed an Automatic Mutual Aid Agreement between East Moline and Silvis. East Moline does not have a platform ladder truck, so when they have a fire alarm on any of their six or eight story buildings, they are asking that Silvis respond with the Silvis Fire Department's platform ladder truck. East Moline's part of the agreement was that if Silvis had a fire at the old foundry, now Riverbend Development, East Moline would respond; they could get there quicker, because a train could hold up the Silvis Fire Department.

**2004 November.** The farm house from the Hynd Farm was burned to the ground by the fire department in a training exercise.

**2005.** The department started utilizing daytime workers on Saturdays from 8 a.m. to 4 p.m. The hours on Monday through Friday were reduced from 7 a.m. to 5 p.m. to 7 a.m. to 4 p.m. in an effort to help offset the cost of the Saturday workers.

**2008.** Firefighters started staffing the station on Sundays from 8 a.m. to 4 p.m.



**2011 September.** Silvis Fire Station #2 opened on property that used to be part of Hynd Farm. At the same time, the department took possession of a 2011 Pierce Engine and a 2011 Pierce 100' platform ladder truck. The engine was an additional engine to improve response time to the southern portion of the city and the platform replaced the 1981 Pierce platform.

**2014 November 11.** Dollar General, located at 1312 John Deere Expressway was consumed by fire. The fire was assumed to be started by a child. Silvis Police Chief William Brasche said, "The child had started paper towels on fire in the papers section of the store with a lighter he had brought from home. The child was in the store with his family, wandered from parental supervision during the shopping trip and used his lighter to start the fire." It is estimated that there was \$500,000 in content damage during the fire.

**2015 August 3.** Around 3:30 p.m. fire broke out at Anchor Lumber, which has been a staple in Silvis since 1962. The fire quickly spread due to heavy winds. The fire was trapped between the original roof of the building and a roof that was added later with a void space in between. Total damage from the fire was estimated to be up to \$4 million.

**2016 January 9.** Fire broke out at 11:53 a.m. at National Railway located on 900 North 9<sup>th</sup> Street. The fire started in the paint booth area and engulfed two locomotives. Firefighters had to deal with 20+ mile an hour winds and temperatures in the teens. The fire was under control in about 3 hours, but crews stayed on scene for 12 hours extinguishing hot spots. A crew was assigned to spend the night on scene to ensure the fire did not reignite and spread. The next morning crews returned to the scene to finish extinguishing hot spots in the daylight. It was estimated that there was approximately \$1,000,000 in contents lost and \$1,000,000 in structural damage to the building.

**2018 May 7.** John Winters was sworn in by Mayor Matt Carter as the new Fire Chief. He would work alongside Chief Dave Leibovitz until his official retirement on May 31<sup>st</sup>. Winters had been on the department for 15 years.

**2019.** The Fire Department took possession of a 2019 Pierce Fire Engine. The engine was built utilizing a clean-cab design in efforts to try to reduce the risk of cancer for firefighters. It was the first clean-cab design in the area. The engine replaced a 1989 Pierce engine.

**2021 February.** The Fire Department moved into its new station at 1207 1<sup>st</sup> Avenue. The building is a combination of the fire department and the public works department.

**2021 July.** The department received a donation of a John Deere Gator from John Deere. The Gator was equipped with a 90-gallon water tank and a 5.6 horse power pump. The gator will be used to fight brush and/or field fires.

**2024 August.** The fire department purchased the 1939 American LaFrance fire engine that had been in service for the city from 1939 to 1964. It was purchased from a gentleman in Granite City, Illinois. The gentleman had found the engine in a barn in 2022 and intended to restore it himself. He contacted the department in early 2024 to see if the department would be interested in purchasing it. A donation to the Silvis Fire Department Brotherhood was received from Paul Jones, who had served on the department from 1951 to 1978, to purchase the engine. It is being restored by the members of the department.

# Appendix C – Maps

Figure 31: Drivetime from Silvis Station 2 (Headquarters)

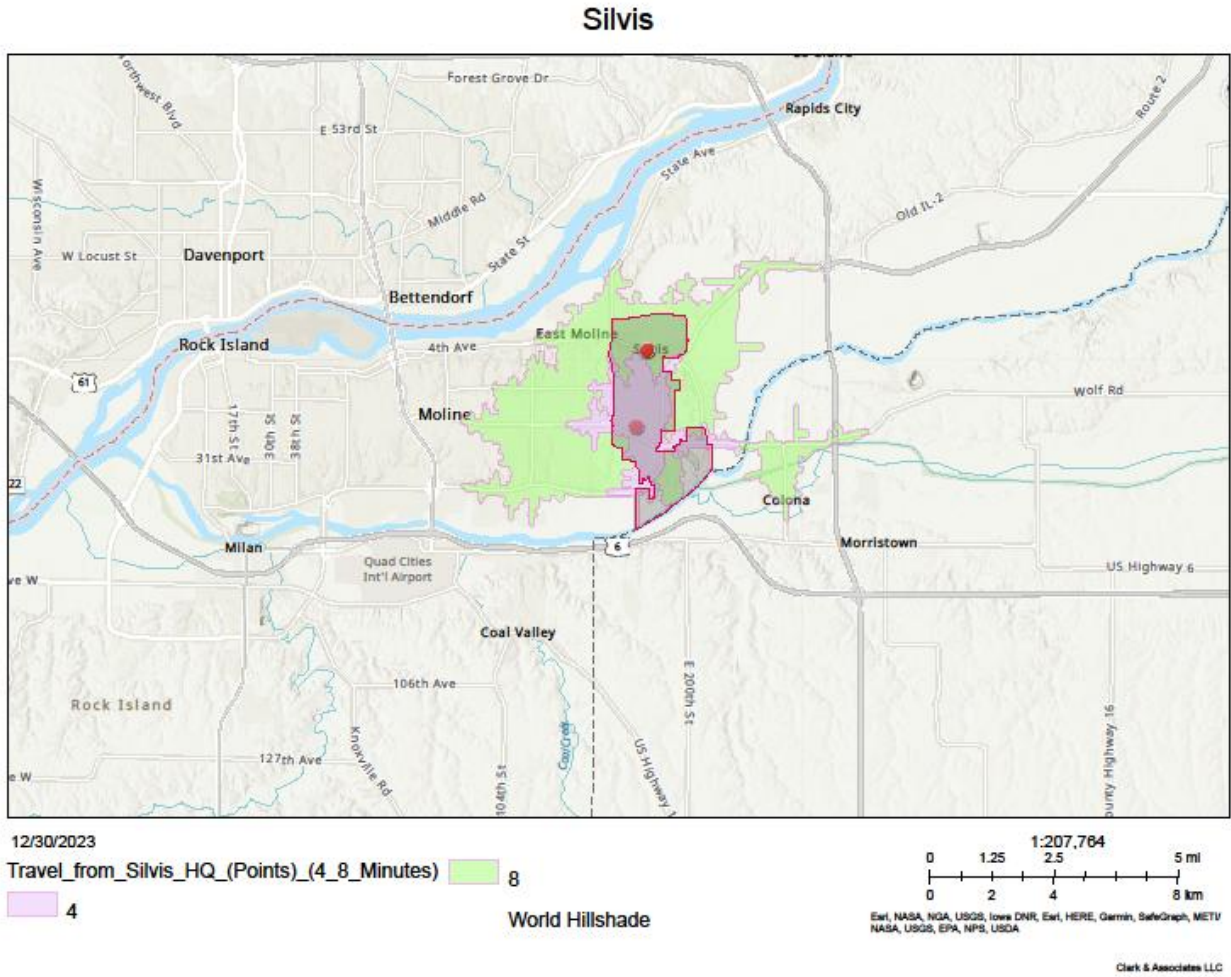
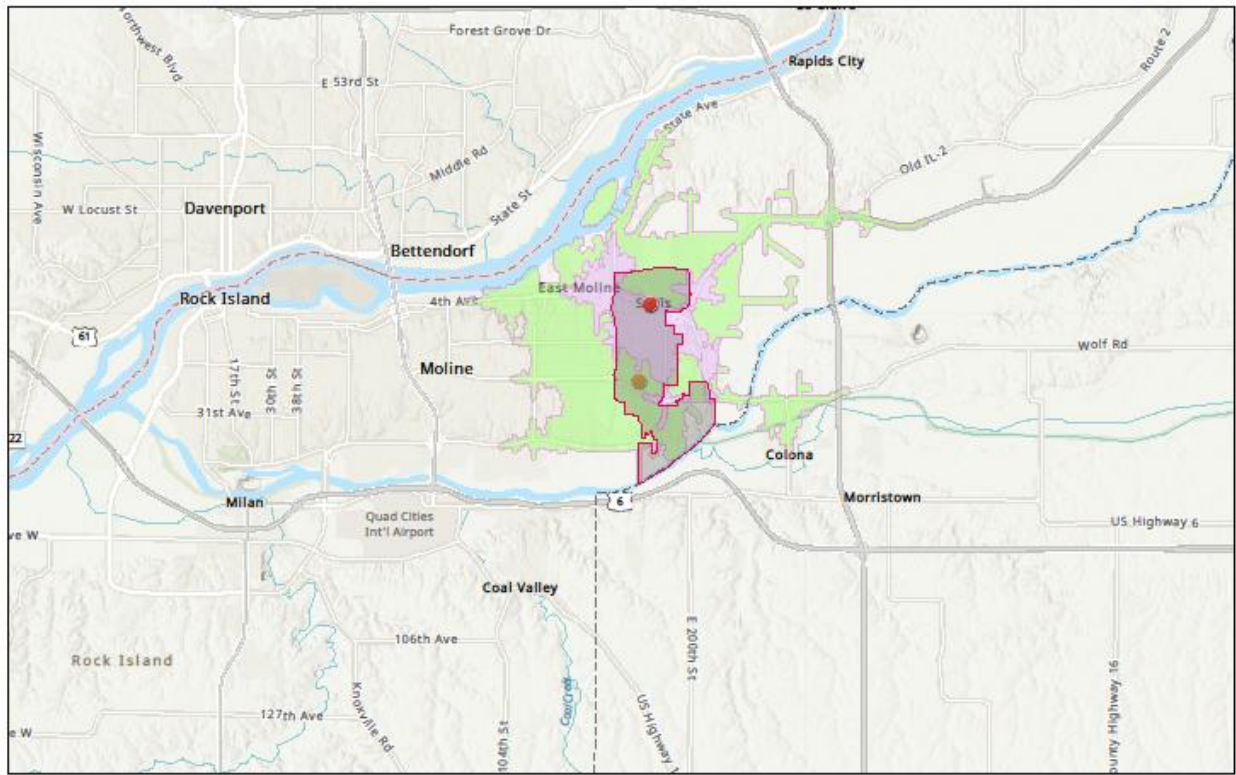


Figure 32: Drivetime from Silvis Station 1

### Silvis

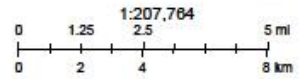


12/30/2023

Travel\_from\_Silvis\_1\_(Points)\_4\_8\_Minutes 8

4

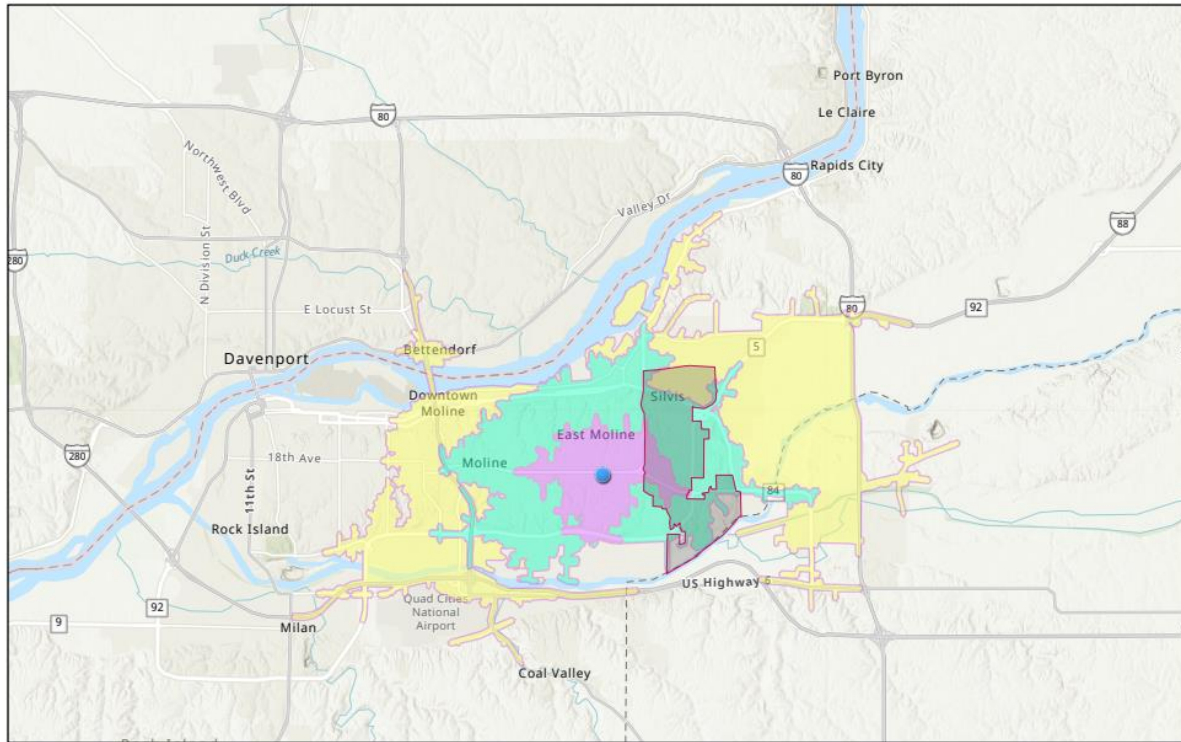
World Hillshade



1:207,764  
Esri, NASA, NOAA, USGS, Iowa DNR, Esri, HERE, Garmin, GeoGraph, METV, NASA, USGS, EPA, NPS, USDA

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**Figure 33: Ambulance Drive Time from Genesis Ambulance Headquarter  
Silvis**

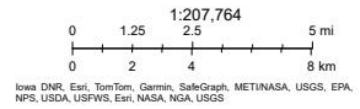


2/14/2024

Travel\_from\_Genesis\_Amb\_(Points)\_(4\_8\_12\_Minutes) 12

- 4
- 8

World Hillshade



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Figure 34: Drivetime from Coal Valley FPD Station

### Silvis

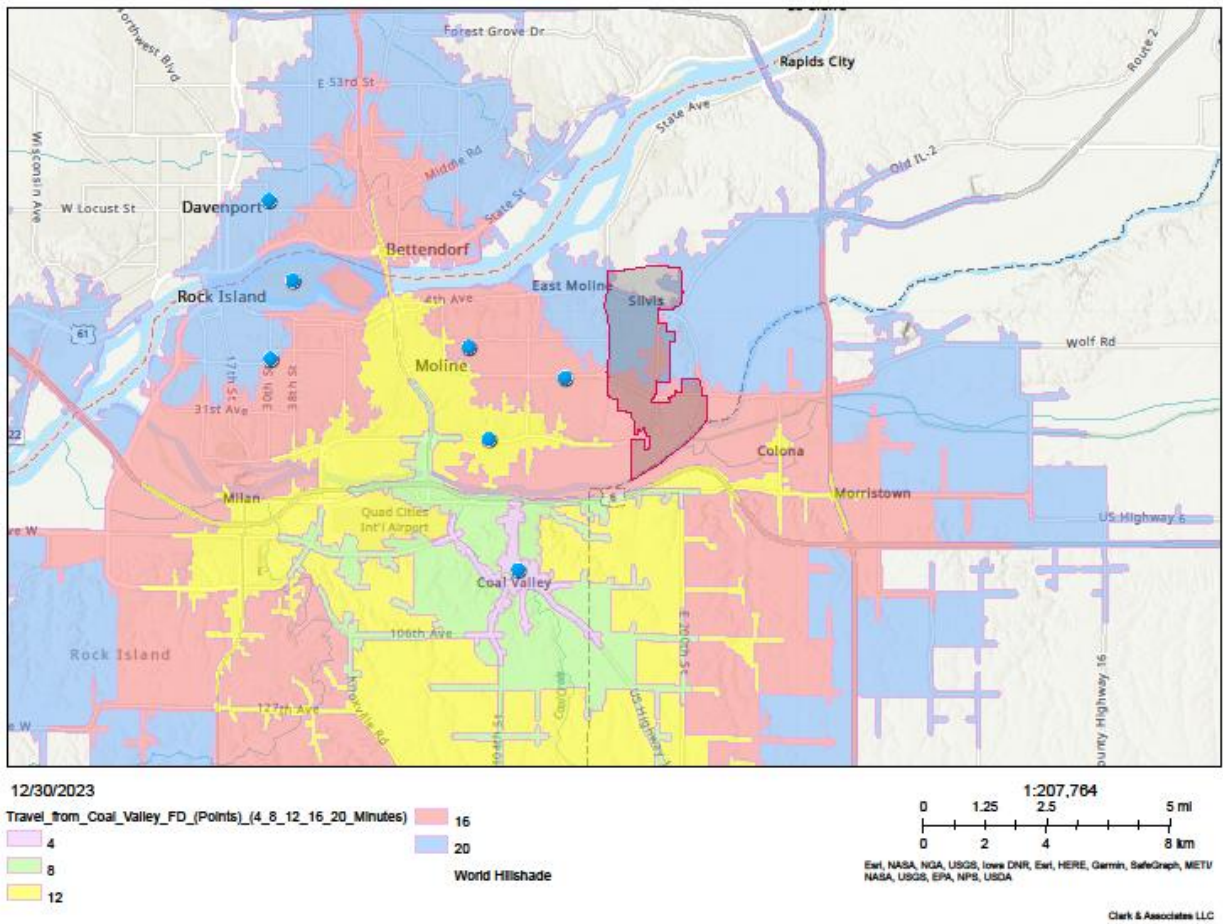


Figure 35: Drivetime from Moline FD - Station 13

### Silvis

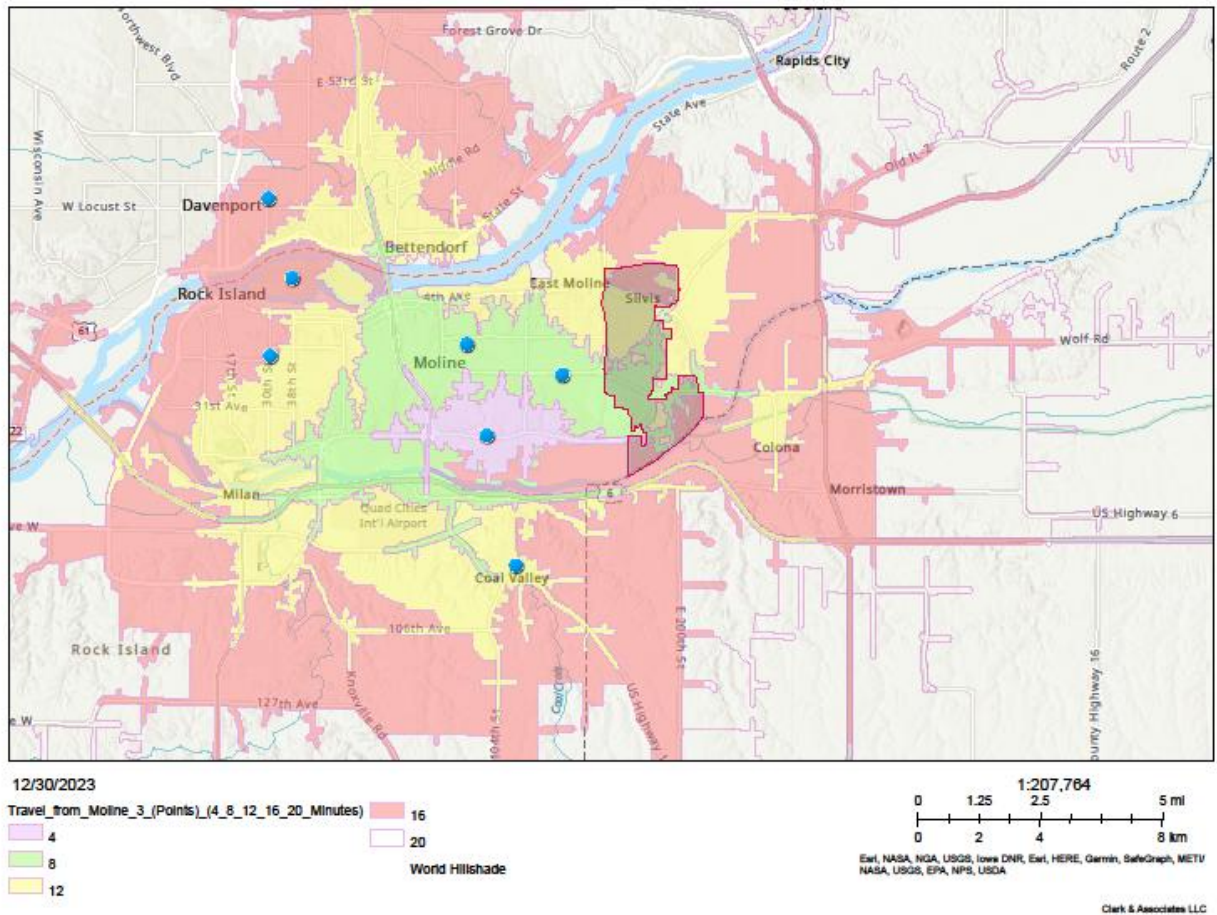
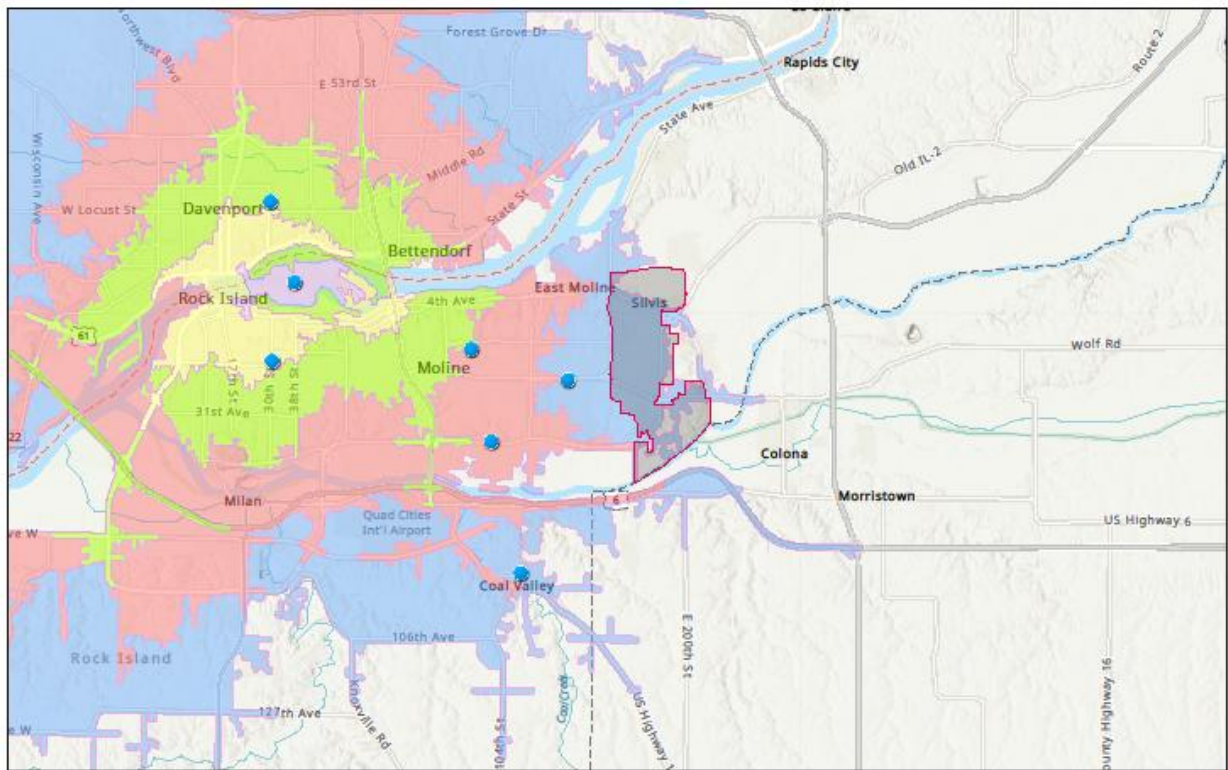
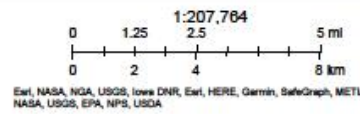
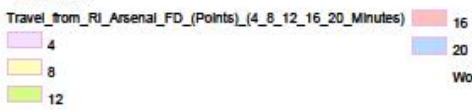


Figure 36: Drivetime from Rock Island Arsenal FD

### Silvis



12/30/2023

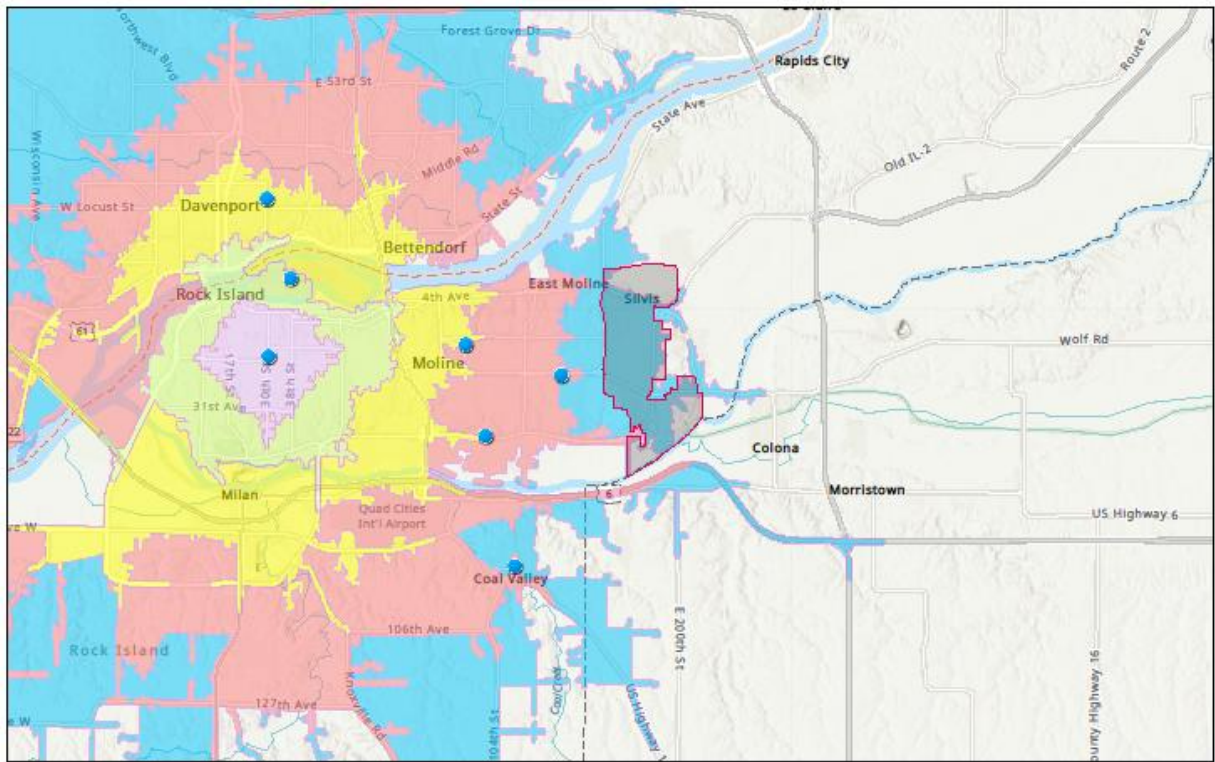


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Figure 37: Drivetime from Rock Island FD - Station 33

### Silvis



12/30/2023

Travel\_from\_Rock\_Island\_3\_(Points)\_ (4\_8\_12\_16\_20\_Minutes)

4	16
8	20
12	

World Hillshade

1:207,764

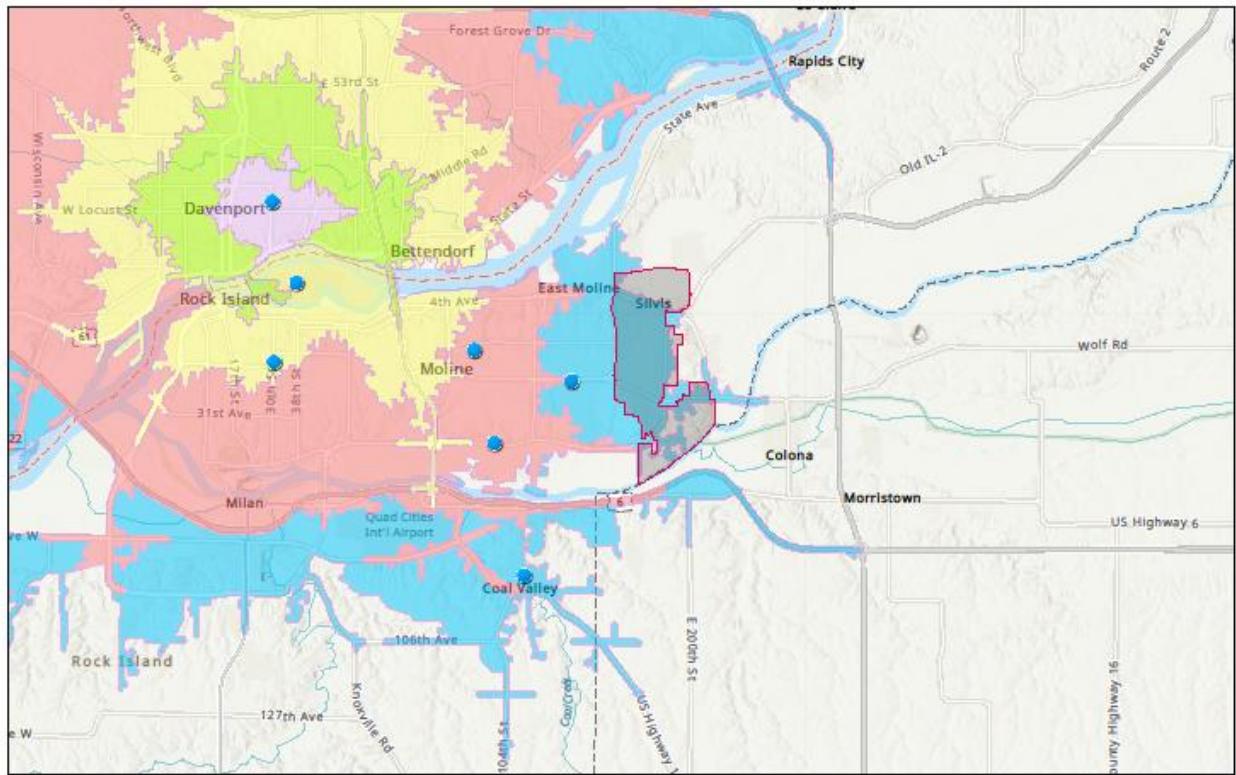
0 1.25 2.5 5 mi  
0 2 4 8 km

Esri, NASA, NOAA, USGS, Iowa DNR, Esri, HERE, Garmin, SafeGraph, METV, NASA, USGS, EPA, NPS, USDA

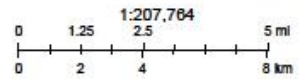
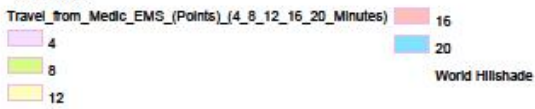
Clark & Associates LLC

Figure 38: Travel from Medic EMS

### Silvis



12/30/2023

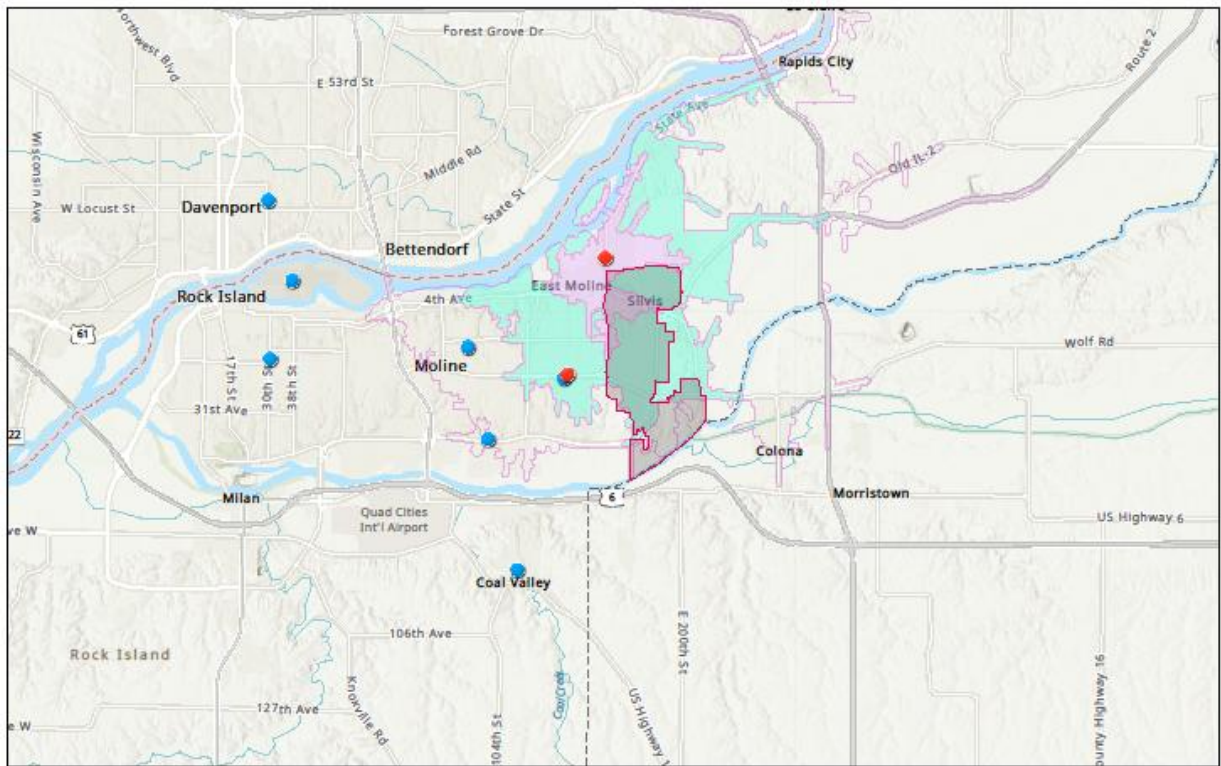


Esri, NASA, NOAA, USGS, Iowa DNR, Esri, HERE, Garmin, Sweco, METI, NASA, USGS, EPA, NPS, USDA

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Figure 39: Drivetime from East Moline FD - Station 22

### Silvis

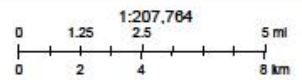


12/30/2023

Travel\_from\_East\_Moline\_22\_(Points)\_ (4\_8\_12\_Minutes) 12

- 4
- 8

World Hillshade

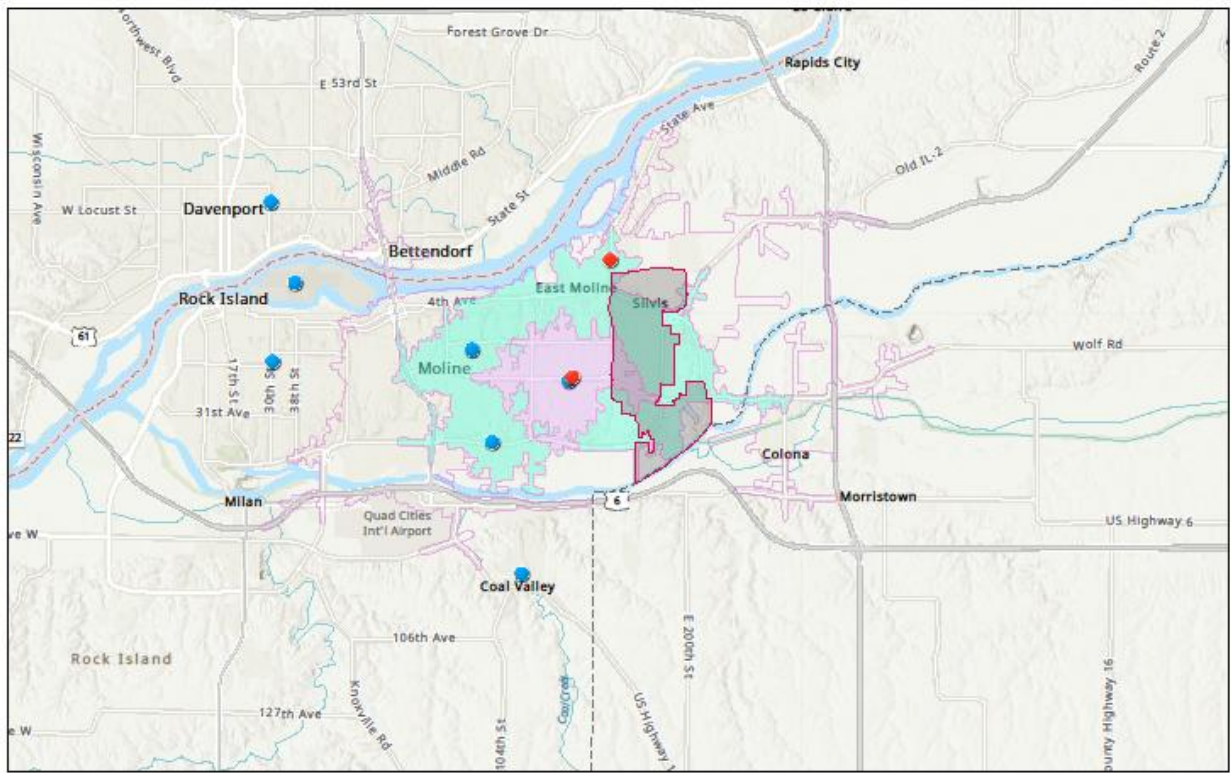


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Esri, NASA, NOAA, USGS, Iowa DNR, Esri, HERE, Garmin, SafeGraph, METU, NASA, USGS, EPA, NPS, USCA

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Figure 40: Drivetime from East Moline FD - Station 23

### Silvis

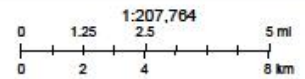


12/30/2023

Travel\_from\_East\_Moline\_23\_(Points)\_ (4\_8\_12\_Minutes)  12

- 4
- 8

World Hillshade



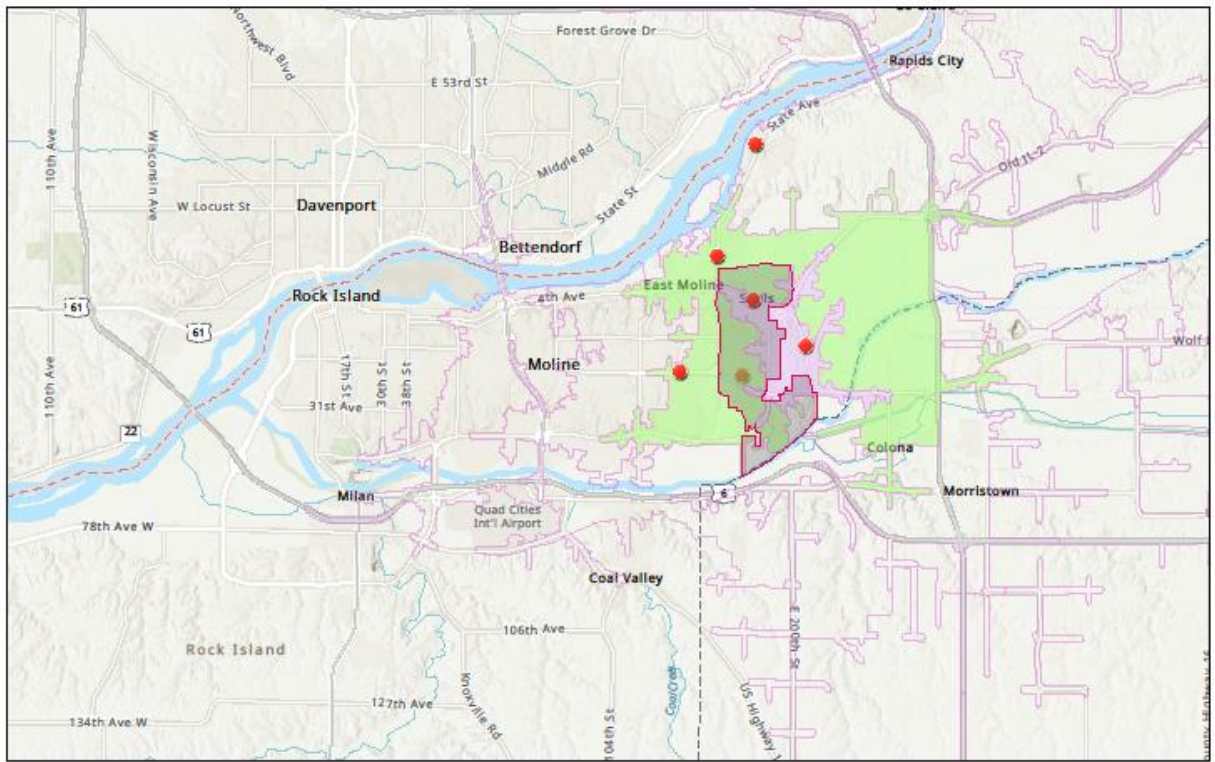
Esri, NASA, NOAA, USGS, Iowa DNR, Esri, HERE, Garmin, Swisstopo, METU, NASA, USGS, EPA, NPS, USDA

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Figure 41: Drivetime from Carbon Cliff/Barstow FPD

### Silvis

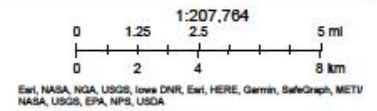


12/30/2023

Travel\_from\_Carbon\_Cliff\_(Points)\_ (4\_8\_12\_16\_Minutes)

- 4
- 8
- 12
- 16

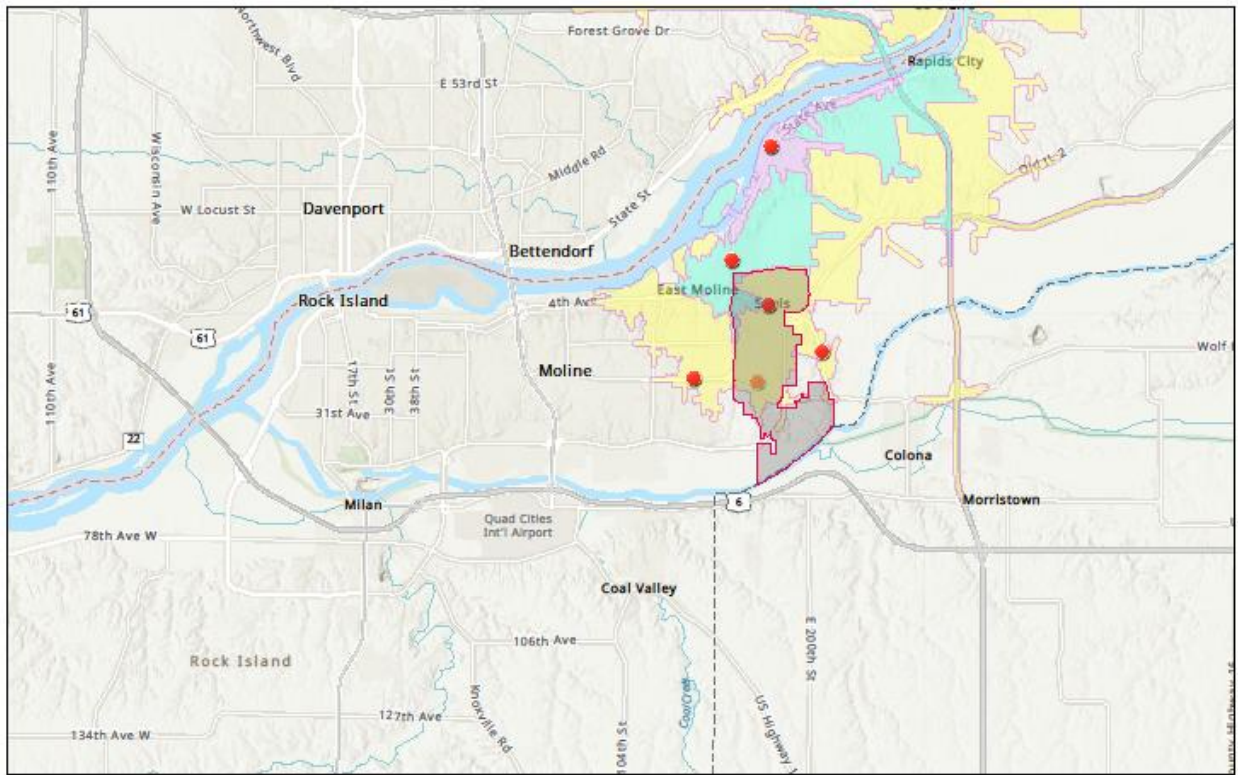
World Hillshade



Clerk & Associates LLC

Figure 42: Drivetime from Hampton Fire Rescue

### Silvis

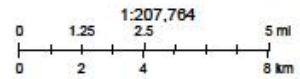


12/30/2023

Travel\_from\_Hapton\_FD\_(Points)\_ (4\_8\_12\_Minutes) 12

- 4
- 8

World Hillshade



Esri, NASA, NOAA, USGS, Iowa DNR, Esri, HERE, Garmin, SafeGraph, METV, NASA, USGS, EPA, NPS, USDA

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