



# MOORHEAD FIRE DEPARTMENT ANNUAL REPORT

# 2019



# MOORHEAD FIRE DEPARTMENT

## ANNUAL REPORT

### MESSAGE FROM THE CHIEF

*On behalf of the members of the Moorhead Fire Department, I am pleased to present our annual report for 2019.*

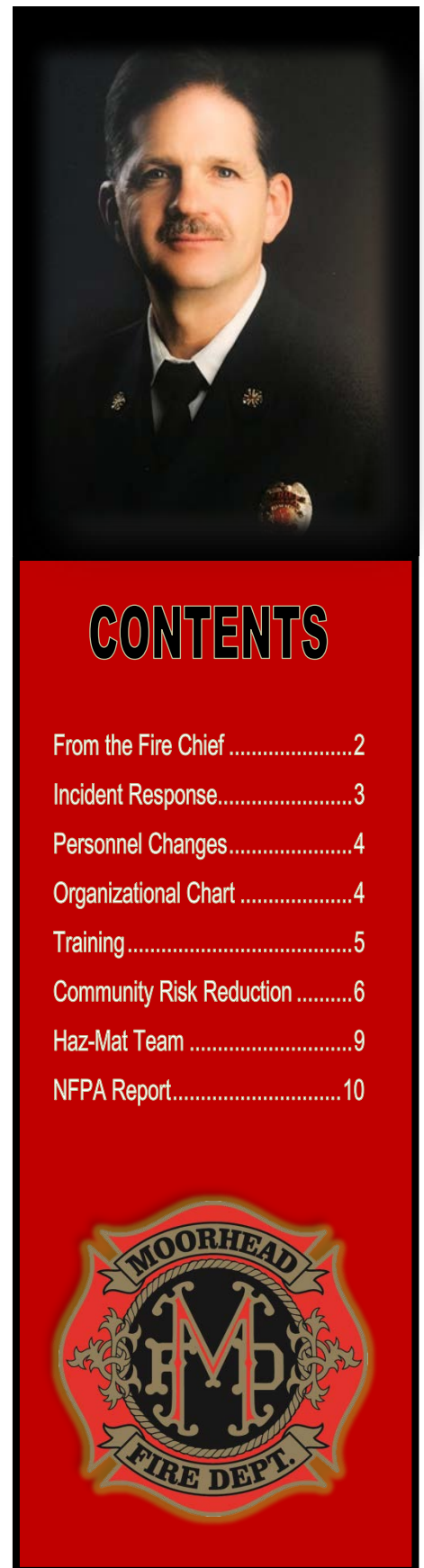
*This report contains a list of highlights and accomplishments which reveal the outstanding work which occurred this past year. As public safety professionals our team is called not only to fires but also medical emergencies, hazmat incidents, vehicle accidents, traumatic events, and many other emergencies. Same day service is not acceptable in this business! We take pride in immediately helping our community members and visitors every day of the year and at any time of day. Over the past year, the Moorhead Fire Department has reached an all-time high call volume of over 4,000 calls for service. We achieved this by cross-staffing our fire engines and rescue vehicles which maximizes efficiencies while responsibly utilizing our resources.*

*We also reorganized the fire department and promoted Jeff Wallin from the Training Assistant Chief to the Deputy Fire Chief. Deputy Chief Wallin has taken on many administrative tasks and is doing a great job directing the fire department operations division. Chad Stangeland was promoted to Division Chief. Division Chief Stangeland is responsible for emergency management for the City as well as community risk reduction. He has been a great asset to the entire City helping plan for our perpetual flooding, which seems to occur annually. We also filled an open Firefighter position with Nate Smith, which was created by a retirement in 2018. Firefighter Smith embodies our department values and is a great addition to the team! These promotions and new hire did not add an FTE but filled out our current roster for 2019.*

*A Citywide strategic plan was initiated in 2019 which includes strategies, goals, objectives, and tasks for every department and division of the City. One part of the plan allowed us to conduct a needs assessment to look at service delivery needs of the fire department as the City grows. This report will be completed in 2020 and will contain recommendations for our future.*

*Finally, we are always grateful for the unwavering support from our community. In the year ahead our team is motivated to serve those in need and are dedicated to meeting the expectations of those who live, work and visit the City of Moorhead! Sincerely,*

**Rich Duysen**  
**Fire Chief**



## CONTENTS

From the Fire Chief .....	2
Incident Response.....	3
Personnel Changes.....	4
Organizational Chart .....	4
Training .....	5
Community Risk Reduction .....	6
Haz-Mat Team .....	9
NFPA Report.....	10

# EMERGENCY RESPONSE

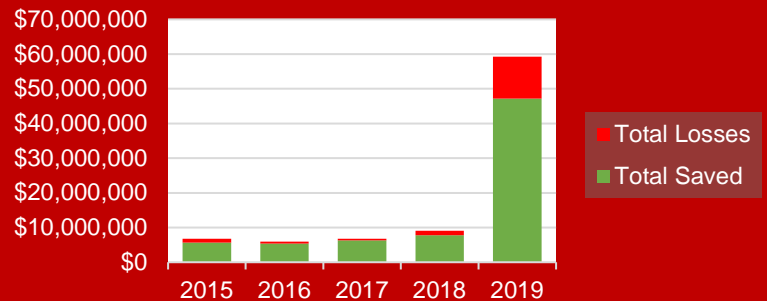
In 2019 we responded to 4,039 calls for service as shown in the chart below. This averaged just above 11 calls for service each day. Of those, 63.6% were related to medical and rescue calls, the remaining 36.4% were related to fires, hazardous materials, and other incidents. A more detailed breakdown can be found in the 2019 NFPA Report in the Appendix on page 10.

The total valuation of property involved in fire-related calls in 2019 totaled 59.2 million dollars. Fire damage was estimated at 12.1 million dollars resulting in just under an 80% save rate.

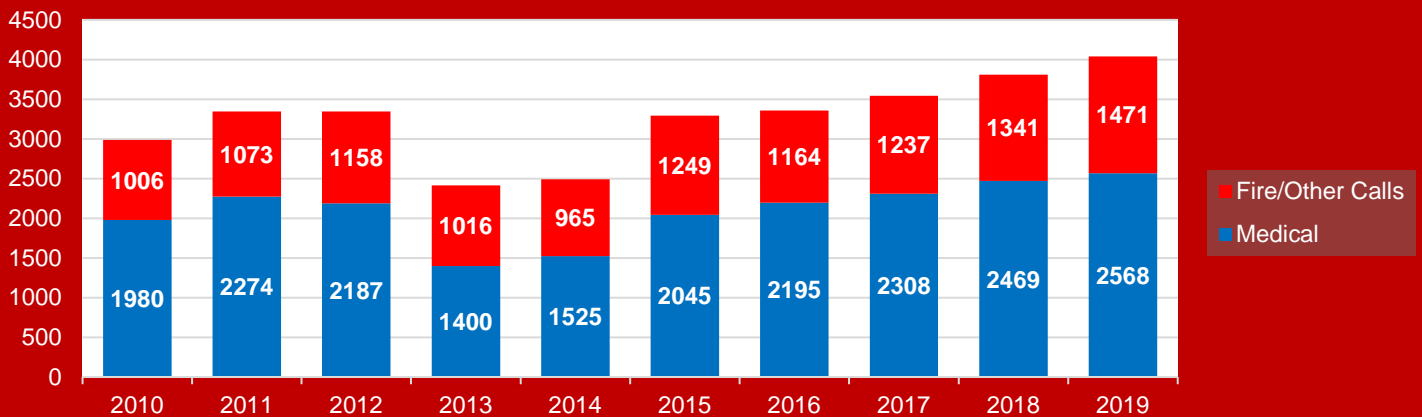
The Insurance Services Office (ISO) conducted an analysis of the City's fire protection capability and reaffirmed our ISO Class 3 rating (lower numbers on a 1 to 10 scale are better). This places the Moorhead Fire Department in a better rating bracket than 87.8% of fire departments in the United States. This generally translates into lower fire insurance rates for homes and businesses (2017 ISO statistics).



### Dollar Value of Property and Contents 2015-2019



### Incident Responses 2010-2019



# PERSONNEL

## PROMOTED

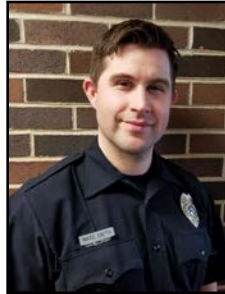


**Jeff Wallin**  
Deputy Fire Chief  
1/7/2019



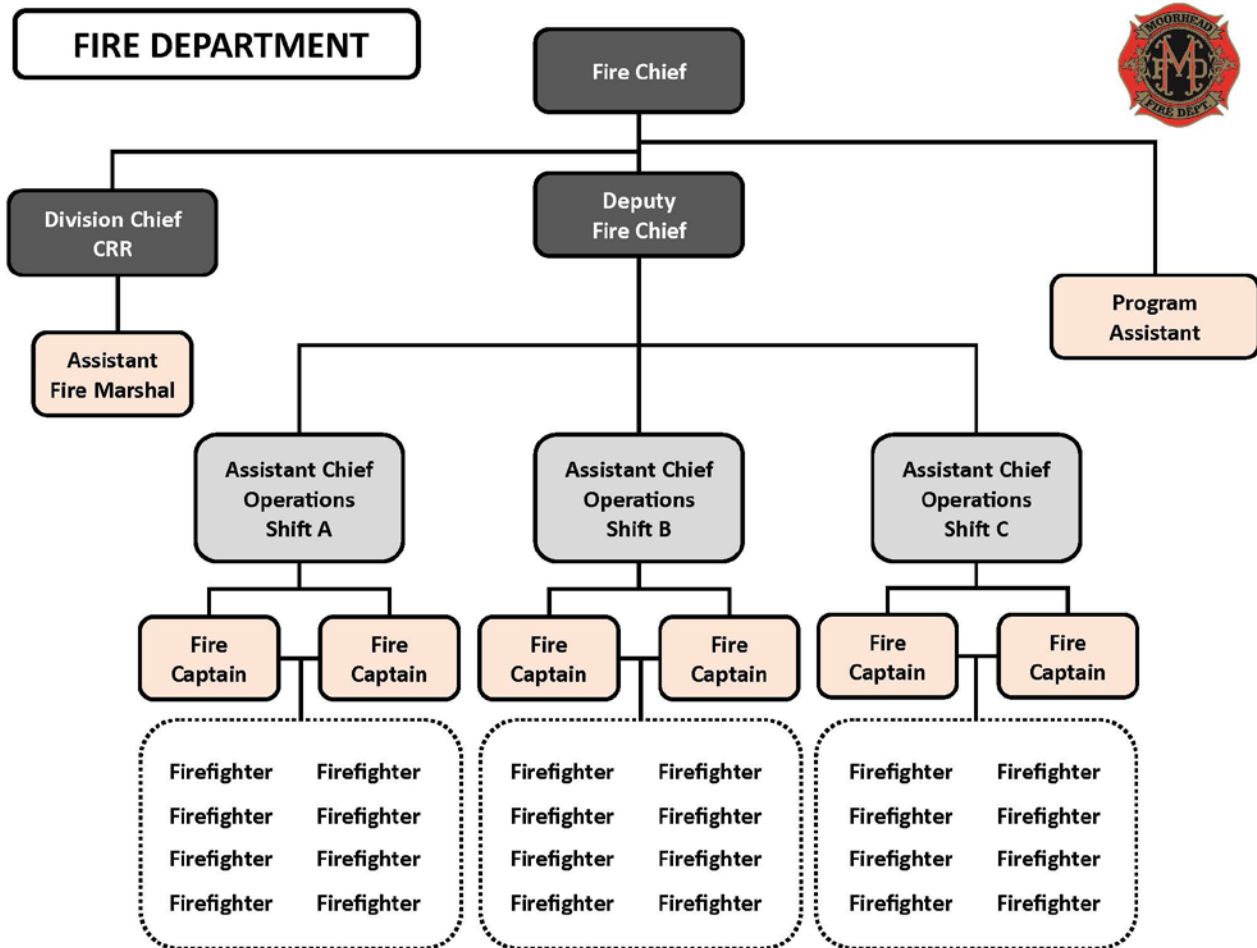
**Chad Stangeland**  
Division Chief  
9/9/2019

## HIRED



**Nate Smith**  
Firefighter  
2/4/2019

Nate spent nine years with the Bemidji Fire Department, most recently as a Fire Captain. He worked as a Minnesota Department of National Resources Wildland Firefighter for seven years and as an industrial firefighter and rescue technician at Norbord MN, Inc. for six years.



# TRAINING

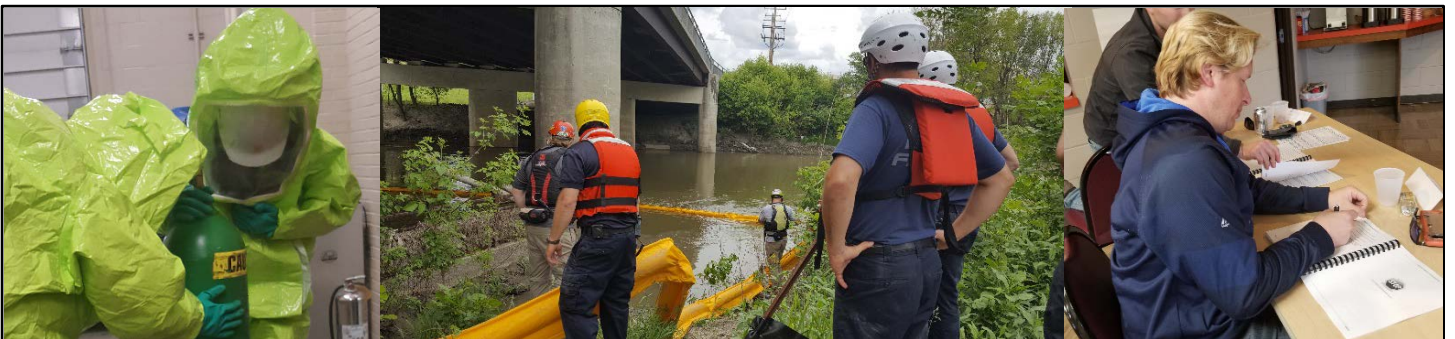
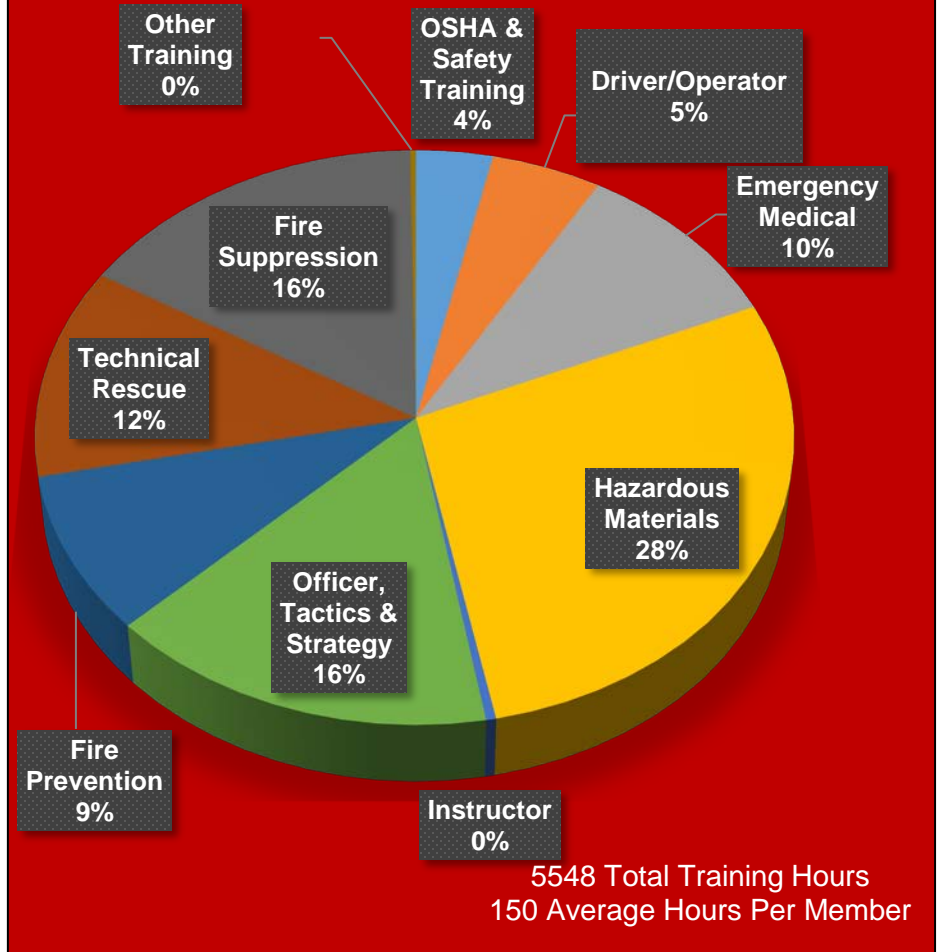
In 2019 our crews completed 5,514 hours of training to prepare for a wide variety of emergency calls. This averaged out to 149 hours per member.

Our crews conduct fire training to meet the continuing education requirements for maintaining their Minnesota Firefighter License and National Firefighter II Certification as well as accumulating credit to maintain our City's ISO rating.

We have staff members Nationally Certified in 18 different training categories that include firefighting, technical rescue, hazardous materials response, fire prevention, fire investigation, fire code enforcement, fire supervision and adult education. A majority of this training was conducted in-house by our own on-duty staff; a considerable cost savings.

Our Emergency Medical Technicians receive all required training in-house to maintain their licenses in a partnership with the MN Emergency Medical Services Regulatory Board and Sanford Health.

## 2019 Training Hours by Type



# COMMUNITY RISK REDUCTION

The goal of the Fire Prevention Bureau is to minimize the risk of life and property loss through a proactive Community Risk Reduction Program. Community risk reduction combines prevention and mitigation strategies. Risk prevention involves anticipating potential hazards within the community and facilitating interventions to prevent occurrences. Risk mitigation involves anticipating potential hazards within the community and facilitating interventions to diminish adverse outcomes.

Community risk reduction is the sharing of responsibility between government and its citizens to create an environment where people live, work and invest in a safe community. The entire community (including citizens sharing in the responsibility for their own safety and preparedness) and the fire department collaborate to mitigate the fire risk within the community.

The Moorhead Fire Department supports this effort through a variety of programs such as emergency management and fire prevention.

## FIRE CAUSES

In 2019 there were 59 reported fires within the City of Moorhead. Those include fires occurring in homes, apartments, businesses, vehicles, and outside areas such as grass and dumpsters. For structure fires, the vast majority of the 2019 fires started in the kitchen area. This can be contributed to the increased risk associated with unintended cooking and complacency which can quickly catch someone by surprise. The next leading locations were bedrooms and common spaces in a home. This year's data showed that fires occurred where people spend the majority of their time and become comfortable, which can lead to a sense of complacency and feeling that nothing will happen to them. Kitchen and garage areas have an increased risk of fire due to the activities that occur in those spaces.

The locations of where fires occur is only one part of the story. What caused the heat and fuel to join together to start a fire is the other important detail. In 2019 fires from heat sources such as stoves and appliances caused 45% of the fires. Fire caused by careless use of smoking materials such as cigarettes and lighters accounted next leading cause at 20%. The root cause for the majority of the fires is not being attentive of what is occurring.

Between the known common locations of where fire occurred and the known heat sources which start the fire, it highlights steps people can take to prevent these fires. We encourage our residents to be vigilant and mindful when they are cooking and to always properly dispose of their smoking materials.

**“An ounce of prevention is worth a pound of cure”**  
*Benjamin Franklin*



## CODE ENFORCEMENT

- Rental Housing Inspections for Buildings with 5+ Units
  - 5,324 Units / 256 Buildings
- Commercial Inspections
- Hotel Inspections
- Plan Review
- 59 Daycare / Foster Care Facilities
- Permits
- Citizen Concerns and Complaints
- Campus Inspections

### *Top 3 Rental Housing Violations*

- Electrical Hazards
- Interior/Exterior Building Component Deficiencies
- Smoke/Carbon Monoxide Alarms Missing or Inoperable

## EMERGENCY MANAGEMENT

### *Spring Flooding*

Mayor Johnathan Judd and the Moorhead City Council declared a local emergency on March 22<sup>nd</sup>, 2019 due to the National Weather Service projected forecast indicating a chance of a 40'-41' flood impacting Moorhead. The declaration allowed the Mayor and City Manager to implement the city's flood plan, take emergency protective measures, and contract necessary work to protect the lives and property of Moorhead citizens.



The spring flooding impacted not only the City of Moorhead, but also areas throughout Minnesota. Based on the statewide flooding impacts Minnesota Governor Tim Walz requested a declaration for federal public assistance for 51 counties, 4 tribal nations, and hazard mitigation statewide. According to the preliminary damage assessments, the primary impact was damage to roads/bridges with the cost estimated at \$39,257,773 throughout Minnesota. Presidential Disaster Declaration, DR- 4442, was granted to Minnesota communities to help the recovery process and get communities back to the new normal. Moorhead preliminary damages from the flood fights were estimated around \$342,939. Due to the approval of the DR-4442, the federal share of eligible flood expense was 75% covered by FEMA with the remaining 25% of eligible expense covered by the State of Minnesota.

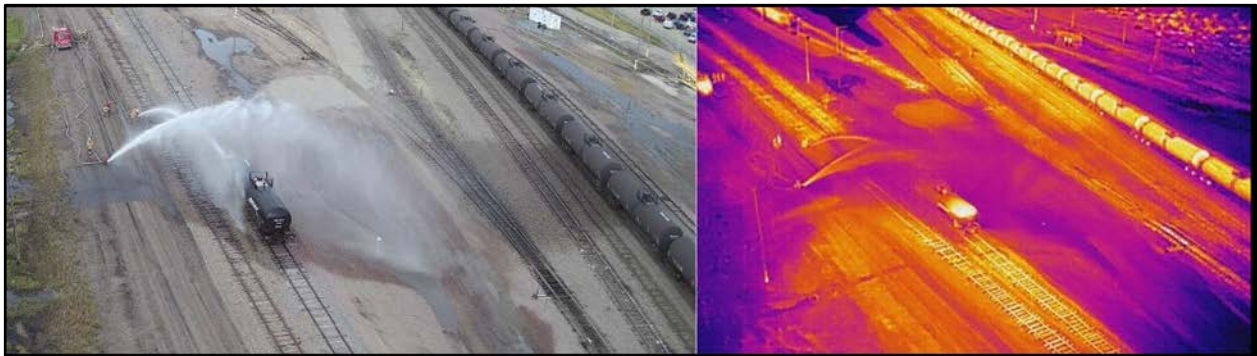
The flood fight was a city-wide effort to protect the general health, safety, and wellbeing of the community, which meant staff made a concerted effort to protect public infrastructure and services. Staff from all City departments pitched in to help and contributed over 4,135.25 work hours and had 2,051 hours of equipment utilized towards the flood fight. The City's flood plan is very robust with over 290 actions including closing storm and sewer gates, installing temporary pumps and operating lift stations, providing temporary clay levees or alternative measures to close gaps in the permanent levees system, floodwall installation, and road closures. The 2019 spring flood crested on April 8<sup>th</sup> at 35.3 ft. which was the 10<sup>th</sup> highest flood recorded in Moorhead. In the end, the City preformed 100 of the 290 actions within the flood plan, which then had to be reversed as the water returned to normal. It cannot be understated that this was a tremendous effort by all the City departments working together to lessen the impacts to the citizens of Moorhead.



## *Clay County Hazardous Material Full Scale Exercise*

On September 14, 2019, Emergency Management from Moorhead and Clay County completed a two-part, full-scale exercise at the Burlington Northern Santa-Fe rail yard in Dilworth, Minnesota. Approximately 60 individuals practiced responding to a simulated scenario where a rail car carrying explosive hazardous material was on fire. Agencies participating included 7 local fire departments, the Burlington Northern Santa-Fe Railroad, Salvation Army, Valley Water Rescue, and the Moorhead Chemical Assessment Team. Capabilities tested included local communication, operational coordination, and fire management and suppression.

A water shuttle was established by exercise participants which allowed fire personnel to cool the tank car using a rotation of available engines. In this scenario, it was imperative to have a steady supply of water available to keep the rail car cool and decrease the danger of an explosion. This took a coordinated effort and effective communication from all local fire departments and response personnel. The area was mapped and monitored utilizing the Moorhead Chemical Assessment Team as well as drone technology from Valley Water Rescue. Earlier, an Emergency Operations Center was also established at the Clay County Law Enforcement Center to simulate operations supporting on-scene needs and public notification.



Local response personnel participate in several exercises annually in order to practice and to plan for local disaster scenarios. This exercise was a success on numerous levels, showcasing successful previous training/exercises, high personnel participation, and adaptability to changing scenarios. Follow-up events are being planned for 2020.

### **PUBLIC EDUCATION**

Public education focuses on educating the community about the benefits of proper safety practices and eliminating hazardous conditions. Firefighters and fire prevention staff participated in station tours and delivering safety messages to area youth, businesses, and the community.

In addition to delivering safety messages, fire prevention staff provided various groups the opportunity to use fire extinguishers. Groups are taught the different types of fire extinguishers, when to use them, and the proper techniques.





## FIRE PREVENTION MONTH

October is fire prevention month. The 2019 Fire Prevention Week campaign theme was "Not Every Hero Wears a Cape, PLAN and PRACTICE your ESCAPE!"



### Fire Prevention Month Activities

- Station Tours
- Block Parties
- Fire Truck Tours
- Fire Safety Presentations
- New Smoke Alarms Installed

## EVENTS

Night to Unite is a nationwide event that builds and fosters community bonds between citizens, businesses, and public safety organizations, such as the Moorhead Fire Department. This annual celebration occurs on the first Tuesday in August and gathers neighborhoods and public safety personnel together for an evening to promote safe communities.

### 2019 Events

- 7 Fire Prevention Presentations
- 11 Smoke Alarm Installations
- 209 Smoke Alarm Battery Installations
- 2 Carbon Monoxide Installations
- 17 Fire Truck & Station Tours
- Night to Unite
- 228 Individuals Received Fire Extinguisher Training

On Sunday, October 13<sup>th</sup>, Moorhead Fire held their Annual Open House at the headquarters fire station. It was one of the most well attended open houses with over 700 individuals attending.

This year's theme was selected to provide a mix of fun for all ages, along with providing impactful fire safety messages. The following are a list of the events:

2019 OPEN HOUSE	
Fire Extinguisher Demonstration	
Educational Material and Craft Projects	
Water Target House	
Finger Printing (Moorhead Police Volunteers)	
Firefighter Recruitment	
Pizza Meal	
Red Cross Get a Smoke Alarm / Batteries	
Tours of the Fire Station and Equipment	
Extrication Demonstration	
Rollover Simulator (Moorhead Police Dept.)	
2 <sup>nd</sup> Grade Poster Contest	
Picture with a Firefighter	

# HAZ-MAT TEAM

The Moorhead Fire Department works with MN Homeland Security and Emergency Management (HSEM) to provide hazmat response to the Northwest and West Central regions of Minnesota. The response area includes 14 counties, encompassing 13,560 square miles with a population of 287,869 (2018 Estimated Census). The Moorhead Regional Hazmat Response Team is designated by HSEM as both an Emergency Response Team (ERT) and Chemical Assessment Team (CAT). Incident complexities determine whether the ERT or CAT responds to an event. In brief, the difference between the two is the ERT responds with 10 personnel with emphasis on controlling a complex hazardous materials leak, whereas the CAT responds with 5 personnel and provides incident technical support and air monitoring.

Our 2019 Budget was \$60,000.00 for the Chemical Assessment Team and \$100,000 for the Emergency Response Team, funded by contracts with the State of Minnesota. We also were awarded \$17,000 in grants to support the team.

## 2019 Moorhead Hazmat Team HMEP Grant

Training Event	80% HMEP	20% Match Plus Overages	Total Cost of Training
Cold Zone Haz-Mat Conference	\$ 3,907	\$2,027	\$ 5,934
IAFC Haz-Mat Conference – Baltimore, MD	\$ 3,449	\$2,277	\$ 5,726
NFPA 472 Technician Class	\$ 1,224	\$ 306	\$ 1,530
Clay County Haz-Mat Exercise	\$ 3,200	\$ 800	\$ 4,000
<b>TOTALS</b>	<b>\$ 11,780</b>	<b>\$5,410</b>	<b>\$ 17,190</b>

## 2019 Hazmat Responses:

83 Local Responses:

Notable local responses:

- Response to American Crystal Sugar Company for an issue with calcium hypochlorite tablet storage making workers ill.
- Response to a natural gas leak in a distribution line that impacted central Moorhead for over 24 hours.

1 State Response:

- Response to Barnesville, MN for an abandoned cylinder containing an unknown product. Assisted with identifying the contents.

## 2019 Training Hours:

1403 hours of documented training amongst its 37 members over the 2019 calendar year.

# APPENDIX – NFPA REPORT

The following are the applicable statistical sections of the 2019 NFPA report that are used by the Moorhead Fire Department.

## NATIONAL FIRE PROTECTION ASSOCIATION FIRE EXPERIENCE REPORT MOORHEAD FIRE DEPARTMENT January 2019 to December 2019

Part II: MAJOR FIRES			
Date	Name of Occupant or Owner, Property Use, and Address	Number of Civilian Fire Deaths	Property Loss
11/7/2019	Ind., utility, defense, agricult 4310 110TH AVE N	0	\$450,000.00
12/9/2019	Grain elevator, silo 4310 110TH AVE N	0	\$750,000.00
12/18/2019	Residential street, road or resi 2604 11TH ST S	0	\$10,250,000.00

Part IV: BREAKDOWN OF FALSE ALARM RESPONSES	
Types of False Alarm	Number of Incidents
1. Malicious, Mischievous False Call	24
2. System Malfunction	142
3. Unintentional	277
4. Other False Alarm	1

Part V: INTENTIONALLY SET FIRES IN STRUCTURES AND VEHICLES				
	Number Of Fires	Number of Civilian Fire Casualties		Estimated Property Damage
		Deaths	Injuries	
1. Structure Fires Intentionally Set	5	0	0	\$27,020.00
2. Vehicle Fires Intentionally Set	0	0	0	\$0.00

**Part III: BREAKDOWN OF STRUCTURE FIRES AND OTHER FIRES AND INCIDENTS**

A. Fires In Structures By Fixed Property Use (Occupancy) (all in Section A are Incident Type 110-129)	Number Of Fires	Number of Civilian Fire Casualties		Estimated Property Damage
		Deaths	Injuries	
1. Private Dwellings	8	0	0	\$45,252.00
2. Apartments	15	0	0	\$93,210.00
3. Hotels and Motels	1	0	0	\$9,000.00
4. All Other Residential	1	0	0	\$0.00
5. TOTAL RESIDENTIAL FIRES	25	0	0	\$147,462.00
6. Public Assembly	1	0	0	\$0.00
7. Schools and Colleges	0	0	0	\$0.00
8. Health Care/Penal Institutions	2	0	0	\$1,130.00
9. Stores and Offices	0	0	0	\$0.00
10. Industry/Utility/Defense/Labs/Manufacturing	4	0	0	\$473,000.00
11. Storage in Structures	2	0	0	\$81,000.00
12. Other Structures	0	0	0	\$0.00
13. TOTAL STRUCTURE FIRES	34	0	0	\$702,592.00
14a. Highway Vehicles	11	0	0	\$10,268,701.00
14b. Other Vehicles	1	0	0	\$501.00
15. Non-Structure/Non-Vehicle	4	0	0	\$7,200.00
16. Brush/Grass/Wildland	1	0		
17. Rubbish/Dumpsters	8	0		
18. All Other Fires	0	0	0	\$0.00
19. TOTAL FOR FIRES	59	0	0	\$10,978,994.00
20. Rescue/Emergency Medical Responses	2,568			
21. False Alarms	444			
22. Mutual Aid Given	4			
23a. Hazmat Responses	68			
23b. Other Hazardous Responses	106			
24. All Other Responses	790			
25. TOTAL FOR ALL INCIDENTS	4,039			

	Number of Confined Fires	Number of Nonconfined Fires
5. Residential Fires (line 5 above)	7	18
13. Structure Fires (line 13 above)	8	26