

# Leverett Fire/EMS Staffing Proposal

Modern Challenges, Modern Solutions

1/14/2024

# Outdated Perceptions vs. Modern Reality

## The Role of the Modern Fire Department

### What People Think We Do:

- Respond to occasional fire emergencies.
- Hold annual pancake breakfast.
- Varying perspectives of availability - some think firefighters are at the station 24/7 while others think we are all entirely on call

### What We Actually Do:

- Deliver **high-quality emergency medical care**.
- Prevent *and* fight fires in homes, but also respond to an increasing amount of brush/wildland fires
- Provide essential layers of safety for a wide range of emergencies.



# Essential Services Provided by Leverett Fire/EMS

## Layers of Safety for Our Community

### Emergency Responses:

- **Fires:** Residential, vehicle, brush/wildland, chimney, unauthorized burns.
- **Medical Emergencies:** From critical trauma and cardiac arrests to “soft” cases (e.g., hospice support, fall assistance).
- **Carbon Monoxide:** Alarms and rescue
- **Car Accidents:** Extrications, stabilization, and medical care.
- **Service Calls:** Trees on power lines, animal rescues, life alert activations, water removal
- **Police Support:** Domestic calls, missing people searches and rescues.



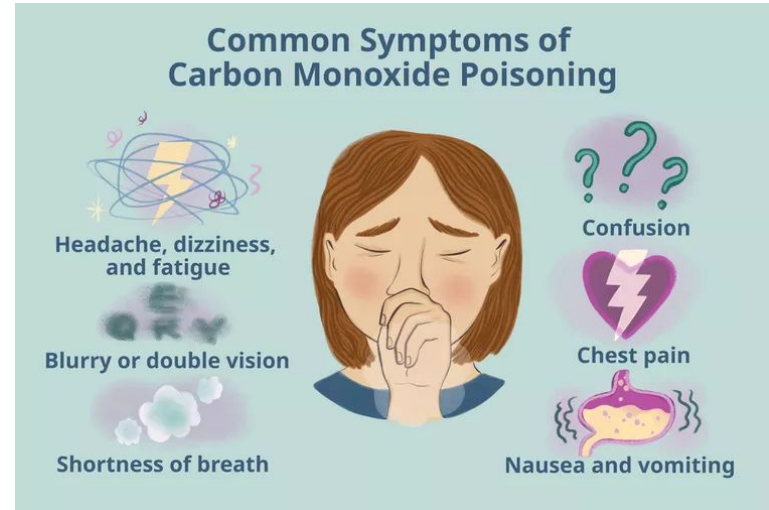
# Fire/Carbon Monoxide Alarm – Case Example

October 2024

*Leverett Fire/EMS answered a call that could have turned tragic. A family reported feeling unwell, and when we arrived, we quickly discovered dangerous levels of carbon monoxide filling the home—a silent threat caused by a faulty furnace.*

*Our team worked swiftly to get everyone the needed medical care, with four family members taken to the hospital by ambulance for further evaluation and treatment. We shut down the furnace, ventilated the house, and made sure working smoke and carbon monoxide detectors were in place before leaving as there were none prior to our arrival.*

*This incident was a stark reminder of how crucial it is to have functional detectors in every home. It also showed how our department is here to protect our community, no matter the danger.*



# Fire – Case Example

November 2024

*On a dry, windy afternoon this past November a local resident made the mistake of discarding ashes from their wood stove outside on the dry ground, thinking they were fully cooled. Unfortunately, the ashes were still smoldering, and when the wind picked up, it quickly spread the fire to the dry grass around their yard. The flames started to spread fast, and it could have turned into something much worse.*

*Leverett Fire/EMS responded quickly but only had one member available during the middle of the day. A total of five towns/agencies were requested mutual aid to assist with the fire.*

*Fortunately a retired member and one Leverett firefighter were able to stop the spread towards the house preventing significant damage while waiting on other crews to contain the fire. The fast action of our firefighter kept the situation from escalating, but it was a reminder of how dangerous even small oversights can be, especially when the weather is so dry. As the climate continues to change, these types of incidents may become more common, which is why it's more important than ever to stay vigilant and have a robust fire department at the ready.*



# Layers of Safety for Our Community

## Fire Prevention and Community Support:

- **Community Safety:** identify (fire) hazards, emergency planning, pre-planning
- **Public Education:** teach preschool, kindergarten, 2nd, 4th, and 6th grade fire education classes at the Leverett and Shutesbury elementary schools, attend Council on Aging meetings, host safety and health classes (co-taught with the town public health nurse), fire drills
- **Home Visits:** install smoke/carbon monoxide alarms and house numbers, perform home safety visits
- **Inspections:** Solar panels, battery storage, liquid propane tanks, oil burner, fire alarm systems, property development adherence, plan reviews, life safety inspections
- **Community Requests:** fall festivals, community events



# Other (Hidden) Tasks/Duties/Responsibilities

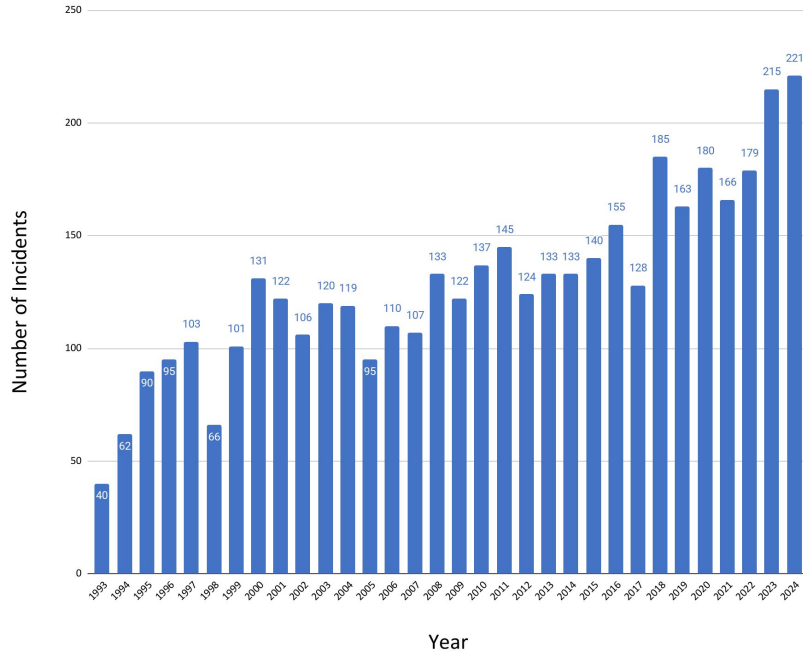
What we do that no one sees:

- **Vehicle Maintenance**
- **Equipment Maintenance:** weekly running of equipment (chainsaws, pumps, SCBA air packs), changing radio and SCBA batteries
- **Training:**
  - Advanced Active Integrated Response (AAIR)
  - NERO's Law
  - Hazardous Materials Awareness/Operations
  - Emergency Medical Responder (26 hours every 3 years)
  - EMT (150+ hours initial, 20+ hours annual)
  - Fire Response (Structural and Wildland)
  - Rescues (Vehicle and Patient Extrication, Ice/Water Rescue, Animal Rescue)
  - Fire Prevention (Rules and Regulations, Permitting and Inspections)
  - Weather related incidents (heat, storms, snow)
  - Incident Command Systems
- **Station Maintenance**
- **Administrative:** Reporting to the state, grant writing and management, personnel (recruitment and retention), policies and guidelines, meetings, medical examiner requests, documentation

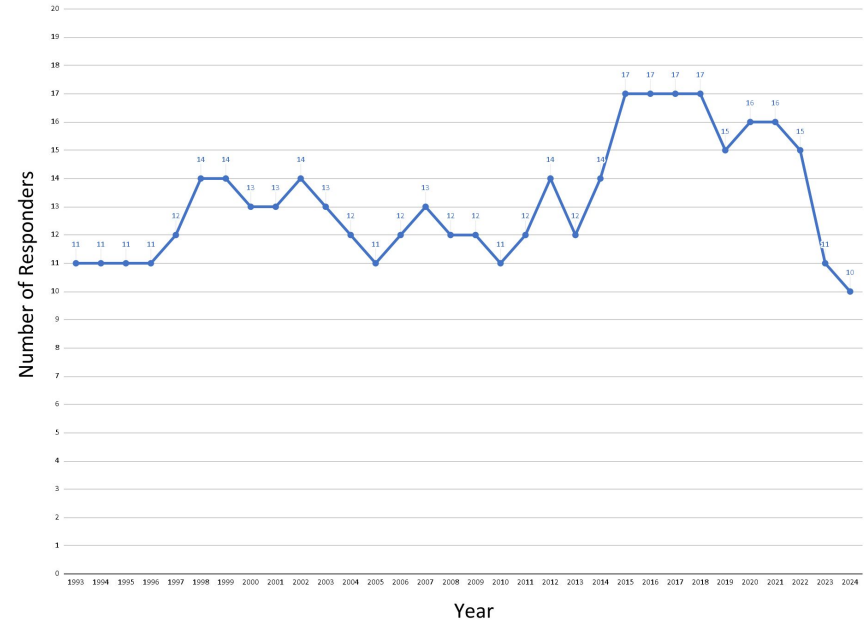


# Call Volume: Our community needs are changing

Number of Incidents 1993-2024



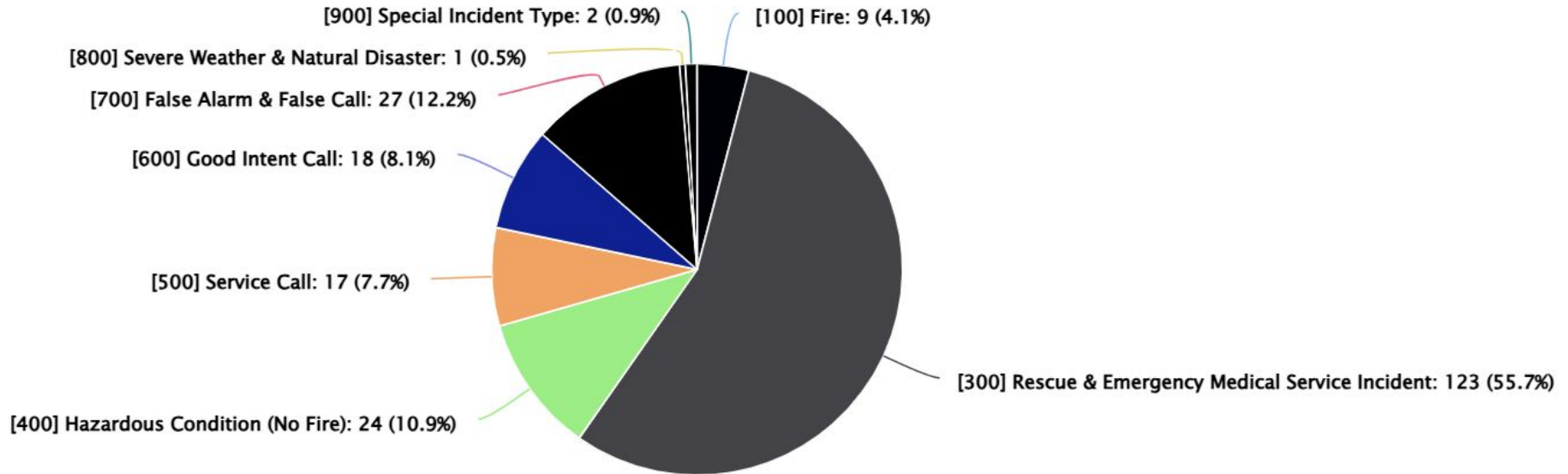
Number of Responders 1993-2024



In 2024:  
43 Incidents (19.45%) had only 1 Leverett responder  
3 Incidents (1.35%) had 0 Leverett responders



# January - December 2024



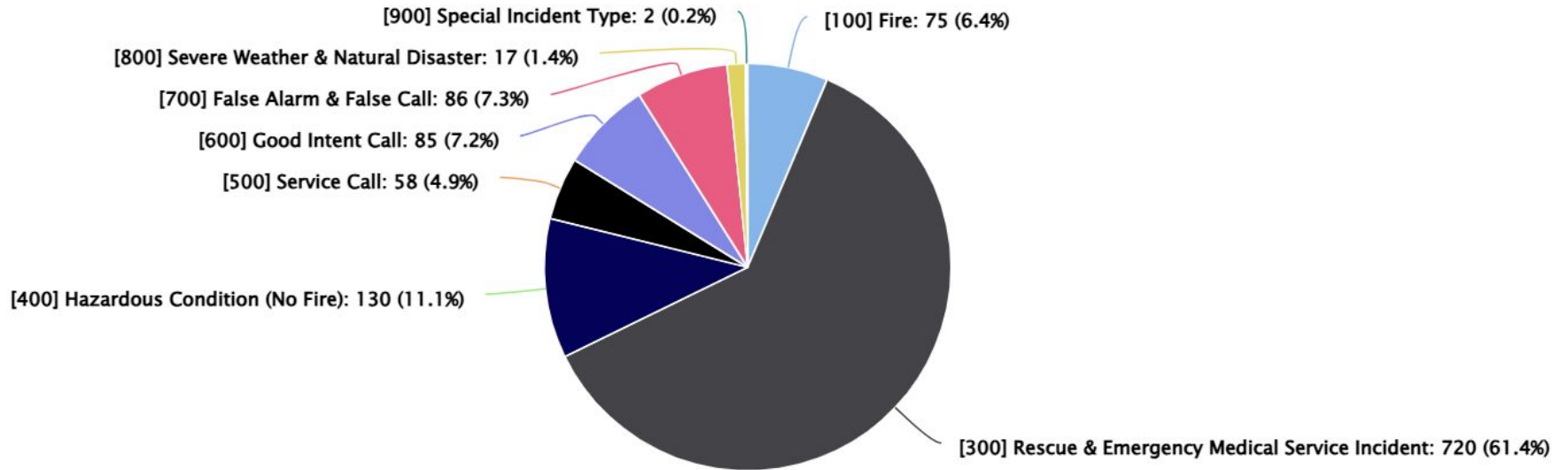
Medical Incidents - 55.7%

Fires - 4.1%

Hazardous Conditions - 11.4%

Other Incidents - 28.8%

# January 2017 - December 2024



Medical Incidents - 61.4%

Fires - 6.4%

Hazardous Conditions - 12.5%

Other Incidents - 19.7%

# Call Volume: Future Projections

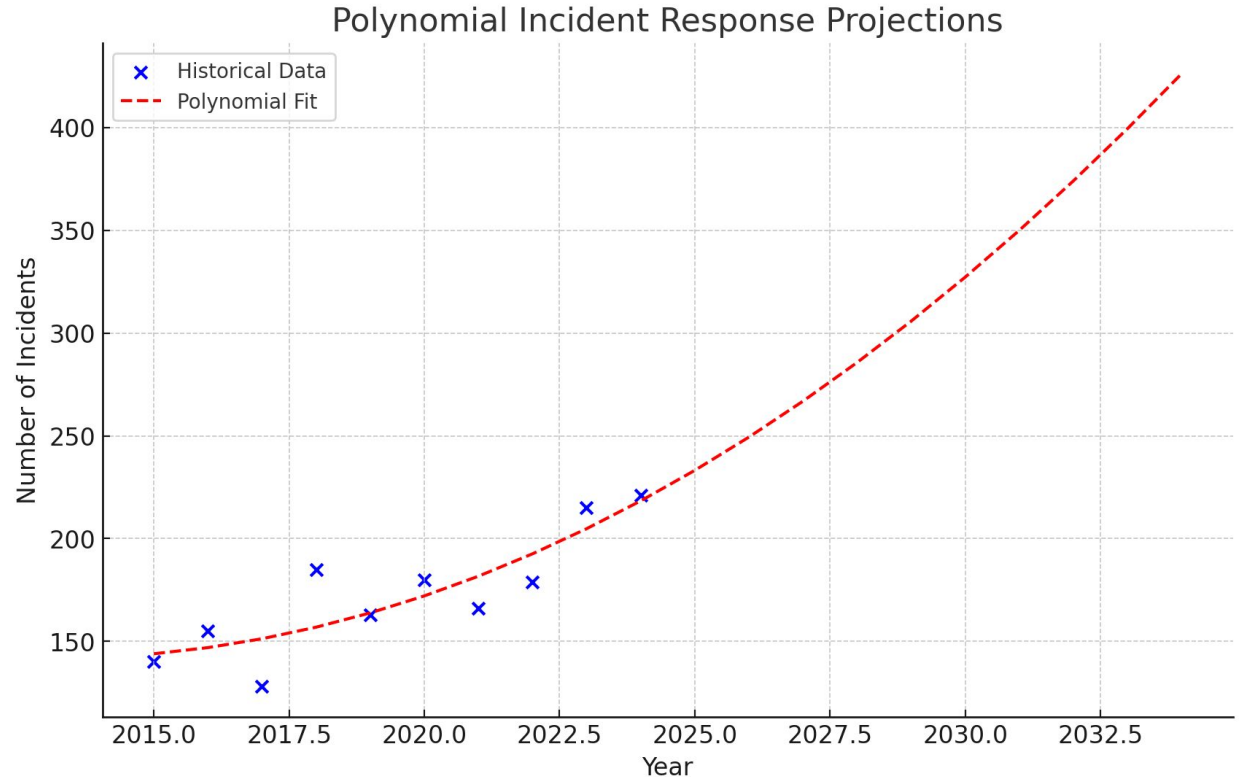
**1 Year Ahead (2025):**  
Approximately **233 incidents**

**3 Years Ahead (2027):**  
Approximately **267 incidents**

**5 Years Ahead (2029):**  
Approximately **306 incidents**

**10 Years Ahead (2034):**  
Approximately **426 incidents**

The  $R^2$  value for the polynomial regression model is approximately **0.744**, indicating that about 74.4% of the variance in the number of incidents is explained by the model. This suggests a reasonably good fit to the data.



# What medical care do you get from Leverett Fire/EMS?

- Minimum training required is First Responder (26 hour class every three years)
- 7 out of 11 responders hold EMT-Basic or higher licenses
  - The EMT-Basic program is a minimum of 150 hours of training
  - Requires 40 hours of refresher training every two years (20 hours / year)
  - EMTs are able to:
    - perform a higher level of patient care and improved patient assessment
    - provide increased care during trauma incidents (falls / MVC)
    - perform stroke assessments and assess blood glucometry
    - can administer some additional medications (aspirin, epi, glucose)
- Of the 4 first responders:
  - One is a Registered Nurse (RN)
  - Another is a Nurse Practitioner (NP)
- The Police can support EMS but do not have this level of medical training, do not carry the same equipment, nor can they operate at the EMT level

# Medical Emergency – Case Example

This past spring the Fire Department quickly responded to a call about a local resident who was showing signs of a stroke—facial drooping and slurred speech. When the single available Leverett Firefighter/EMT arrived, it was clear that the resident needed immediate help. The firefighter performed a stroke assessment and worked together with the incoming EMS to provide care.

Time is essential for suspected stroke patients so to have a Leverett FF/EMT able to reduce on scene time patient care is ultimately improved. The ambulance then transported the resident to the hospital, where they could receive further treatment. Thanks to the quick thinking and fast action of Leverett Fire/EMS, the resident received the care they needed quickly, helping to reduce the potential impact of the stroke.



## SPOT A STROKE™ **F.A.S.T.**



**FACE** Drooping



**ARM** Weakness



**SPEECH** Difficulty



**TIME** to Call 911

Learn more at [stroke.org](http://stroke.org)

# How does increased police availability over the past several years impact fire department response?

- Police availability over the past several years has had no direct impact on fire department response.
- Both departments operate well collaboratively when necessary however their functions, operations, and responsibilities remain distinct.
- Firefighters are not trained to perform police functions just as police are not trained to perform fire functions.
- Police are trained as first responders and carry different medical equipment
- Police have other responsibilities at emergency incidents (fires, motor vehicle collisions, missing persons, domestic violence, etc.)
- Over 40 incidents in 2024 had no Leverett police on duty

# Current Staffing Challenges

Insufficient Staffing is Holding Us Back

Current Staff:

- 1 full-time position (Fire Chief)
- 10 on-call firefighters (availability varies, 27% and increasing don't live in Leverett so their response time is slower, majority work during the day so daytime hours are hard to get responses).

Key Issues:

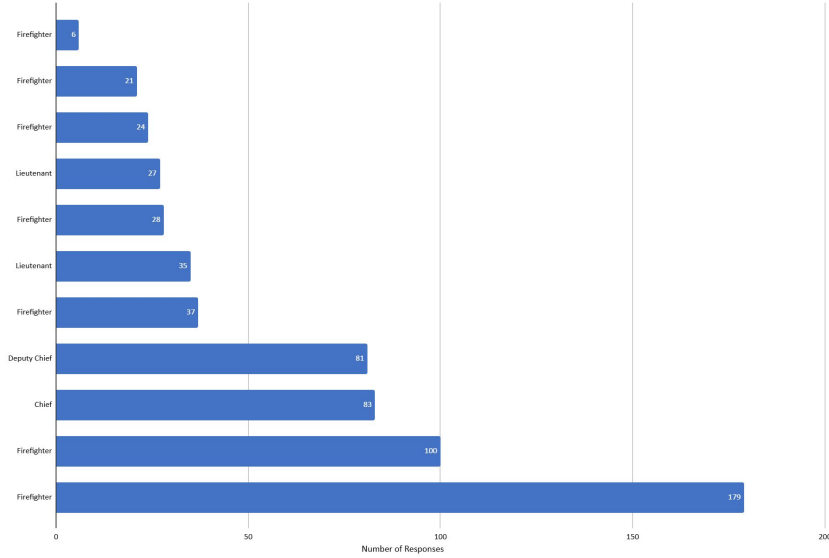
- Call volume is highest between 8am-7pm (~65% of incidents), but few responders are available during the daytime hours due to other obligations.
- Aging population - Nearly 40% (39.1%) of the Leverett population is 60 years or older
- Limited affordable housing
  - a. Individuals are unable to afford purchasing home in Leverett
  - b. Many dual income families to afford to live in Leverett and unable to be an on-call firefighter

Impact:

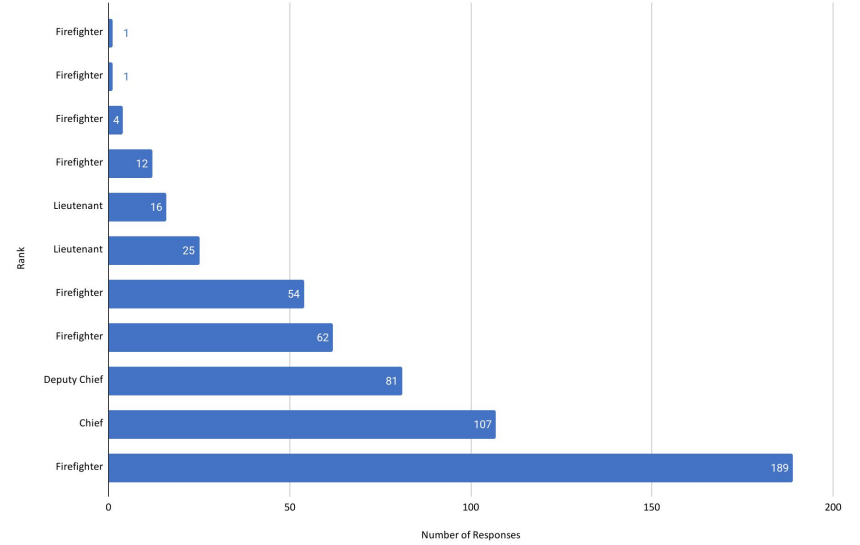
- Delayed response times.
- Risk to lives, property, and firefighter safety.

# Current Staffing Challenges

Number of Responses by Responder 2023



Number of Responses by Responder 2024





# Modern Technologies

## 1. Electric Vehicles (EVs)

- **Challenges in Fires:** EV battery fires are harder to extinguish than traditional vehicle fires. Lithium-ion batteries can reignite hours or even days after a fire is extinguished, requiring specialized training and resources.
- **Hazardous Materials:** Battery fires release toxic gases, creating additional health risks for firefighters and the public.

## 2. Climate Change and Its Impact on Technology

- **Extreme Weather Events:** More frequent and severe storms often result in power outages, increased reliance on backup generators, and heightened risks of electrical fires.
- **Wildfires and Urban-Wildland Interface:** Technologies like power lines and transformers in wildfire-prone areas contribute to fire risks, requiring proactive fire department involvement.

## 3. Renewable Energy Systems

- **Solar Panels:** Firefighters face challenges in safely shutting off solar panels during fires, as panels remain energized even when disconnected from the grid. These systems also require additional permitting, plan reviews, and inspections from Leverett Fire/EMS.
- **Battery Storage Systems:** Similar to EVs, residential and commercial battery systems pose risks of high-temperature fires and explosions.

# Modern Technologies - Continued

## 4. Hazards from New Materials

- **Flammable Cladding:** Materials like aluminum composite panels have been linked to devastating fires (e.g., Grenfell Tower).
- **Synthetic Materials:** Modern furnishings made of synthetic materials burn faster and release more toxic smoke than traditional materials.
- **3D Printing:** The use of flammable powders and gases in 3D printing introduces new fire risks.

## 5. Smart Homes and IoT Devices

- **Complex Systems:** Smart homes integrate advanced electrical systems, which can fail or overload, leading to fires. Firefighters need to understand these systems to navigate and address hazards effectively.
- **False Alarms:** Smart devices can trigger more frequent false alarms, which increase call volumes and strain resources.

# Consequences of Insufficient Staffing: What's at Risk?

## Community Risks:

- **Increased response times during emergencies:** With an aging population these calls are frequent and can have dire consequences.
- **Greater damage to property, and higher risk to lives:** Especially with the greater threat of brush fires the risk to peoples houses if a brush fire gets out of control could be catastrophic.

## Firefighter Risks:

- Burnout and stress from inadequate support.
- Difficulty maintaining safety standards during critical incidents.



# Proposed Staffing Solution

## Meeting Our Community's Needs

### Immediate Goal:

- Add a full-time position to help cover peak hours (8am - 7pm)

### Long-Term Vision:

- Bring staffing levels to consistent levels
- Continue working towards regionalization with Shutesbury, Wendell, and New Salem (currently in Phase 2 of study)
- Fire Chief and 3 full time day firefighters (OSHA 2 in 2 out rule)

### Benefits:

- Faster response times.
- Improved safety for the community and firefighters.
- Expanded capacity for preventative and educational services.



# Firefighter/EMT Responsibilities

- **Emergency Medical Care**
  - Respond to medical emergencies such as heart attacks, strokes, falls, and other accidents
  - Provide first aid, CPR, and basic life support (BLS)
  - Perform patient assessments
- **Firefighting**
  - Respond to fire emergencies and extinguish fires (wildland/brush, structural)
- **Fire Prevention**
  - Inspections and Permits
  - Solar panels, life safety, plans review, tank inspections, oil burners
- **Community Engagement**
  - Teach SAFE classes at LES/SES
  - Perform home safety inspections
  - Install house numbers
  - Attend public events (fall festivals)
- **Equipment Maintenance**
  - Run chainsaws, SCBA air packs, change radio/SCBA batteries
- **Vehicle Maintenance**
  - Weekly truck checks

# Proposed Schedule

## Full Time Firefighter/EMT

	<u>Start</u>	<u>End</u>	<u>Hours</u>
Monday	8:00 AM	4:00 PM	8
Tuesday	8:00 AM	4:00 PM	8
Wednesday	8:00 AM	4:00 PM	8
Thursday	1:00 PM	9:00 PM	8
Friday	8:00 AM	4:00 PM	8
			40

Highest call volume: 8am - 7pm

Increased coverage:

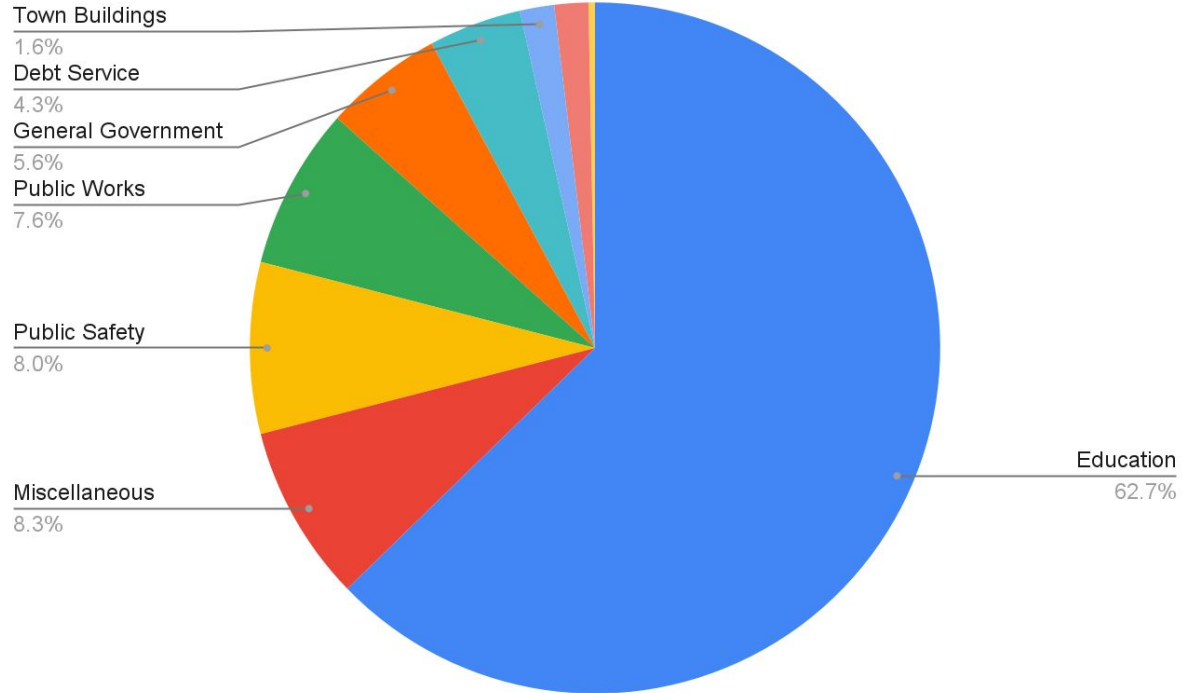
- Monday - Friday 8am - 9am
- Fridays
- During meetings and trainings

## Fire Chief

	<u>Start</u>	<u>End</u>	<u>Hours</u>
Monday	9:00 AM	5:00 PM	8
Tuesday	9:00 AM	5:00 PM	8
Wednesday	9:00 AM	5:00 PM	8
Thursday	9:00 AM	9:00 PM	12
Friday	9:00 AM	1:00 PM	4
			40
Sunday	9:00 AM	11:00 AM	2
Monday	9:00 AM	5:00 PM	8
Tuesday	9:00 AM	8:00 PM	11
Wednesday	9:00 AM	4:00 PM	7
Thursday	9:00 AM	9:00 PM	12
Friday			
			40

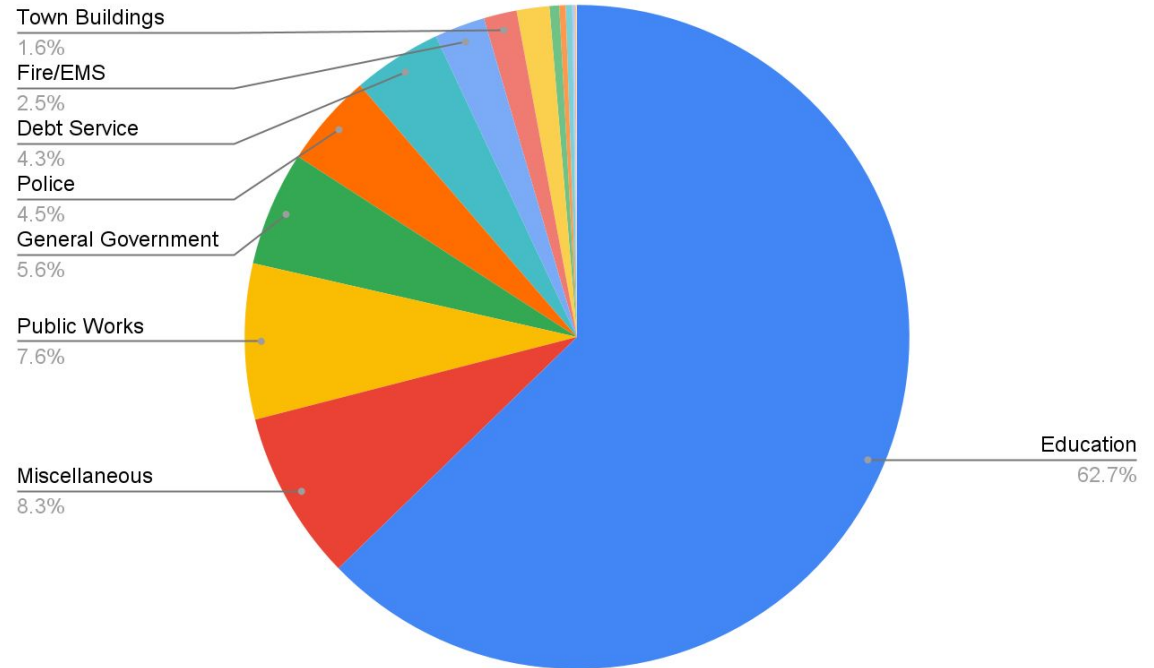
# Town of Leverett FY25 Budget Breakdown

	<b>Budget</b>	<b>%</b>
Education	4,729,174	62.73%
Miscellaneous	622,655	8.26%
<b>Public Safety</b>	<b>604,059</b>	<b>8.01%</b>
Public Works	570,775	7.57%
General Government	420,523	5.58%
Debt Service	327,324	4.34%
Town Buildings	121,247	1.61%
Culture/Recreation	119,680	1.59%
Human Services	22,904	0.30%
<b>Total</b>	<b>7,538,341</b>	<b>100.00%</b>



# Town of Leverett FY25 Budget Breakdown

	<b>Budget</b>	<b>%</b>
Education	4,729,174	62.73%
Miscellaneous	622,655	8.26%
Public Works	570,775	7.57%
General Government	420,523	5.58%
<b>Police</b>	<b>341,655</b>	<b>4.53%</b>
Debt Service	327,324	4.34%
<b>Fire/EMS</b>	<b>185,157</b>	<b>2.46%</b>
Town Buildings	121,247	1.61%
Culture/Recreation	119,680	1.59%
<b>Ambulance</b>	<b>35,861</b>	<b>0.48%</b>
Human Services	22,904	0.30%
<b>Tree Warden</b>	<b>24,151</b>	<b>0.32%</b>
<b>FRCOG Inspection</b>	<b>7,600</b>	<b>0.10%</b>
<b>Emergency Planning</b>	<b>5,760</b>	<b>0.08%</b>
<b>Animal Control</b>	<b>3,775</b>	<b>0.05%</b>
<b>Animal Inspector</b>	<b>100</b>	<b>0.00%</b>
<b>Total</b>	<b>7,538,341</b>	<b>100.00%</b>





# Grant Opportunities?

- Federal Staffing for Adequate Fire and Emergency Response (SAFER) Grant
  - a. Applied March 2024 for 2 Additional Full Time Daytime Firefighter Positions
    - i. Grant pays for personnel salaries and benefits for 3 year period
    - ii. Asked for \$550,000 (Salaries, Benefits, and PPE with 2 Years of COLA increases)
  - b. Was not selected
  - c. Those selected were:
    - i. Lynnfield - \$1,199,469 (pop. 12,925)
    - ii. Medfield - \$1,138,176 (pop. 13,088)
    - iii. Northborough - \$2,864,376 (pop. 15,689)
    - iv. Middleborough - \$2,019,030 (pop. 24,504)
    - v. Quincy - \$6,181,261 (pop. 101,597)
  - d. Unsure if will be continue to be funded under new administration

# Budget Breakdown & Financial Implications

## Financial Impact of Increased Staffing

### Current Budget Overview:

- Annual Department Budget: FY25 - \$185,157
- Percentage of Town Budget: FY25 - 2.45%
- Fire/EMS Budget Breakdown:
  - Personnel: 72% (\$133,497)
  - Expenses: 18% (\$51,660)
- Current Property Tax Rate: 2024 - \$15.72

### Proposed Staffing Cost:

- Cost of Adding 1 Additional Full-Time Firefighter/EMT: \$72,200
  - Salary: \$52,200
  - Benefits: \$20,000
- Impact on Total Budget: Increase by 0.95%
- Impact on Property Tax Rate: Increase by \$0.18/\$1,000 valuation (Tax Rate: \$15.90)
  - \$63 increase on a \$350,000 property tax bill
  - \$90 increase on a \$500,000 property tax bill
  - \$135 increase on a \$750,000 property tax bill
  - \$180 increase on a \$1,000,000 property tax bill

# The Value of Leverett Fire/EMS

A Lifeline for Our Community

Why It Matters:

- Leverett Fire/EMS is more than just firefighting.
- It is saving lives, protecting property, and engaging with the community.

Call to Action:

- Invest in staffing to protect the town's future.
- Support the department with resources to meet modern demands.

*“Leverett Fire/EMS: Prepared Today, Protecting Tomorrow.”*

