

2024 Firefighter Rescues in Ontario

January 2025
Anthony J De Benedictis



Abstract

When surveying and examining the number of rescues made by Firefighters in Ontario during the year 2024, an average of 2.7 rescues per week were made over a total of 94 incidents. 141 people were removed from burning structures with 48 confirmed deceased at time of data submissions. This data is the first of its kind to be collected uniquely to the Province of Ontario. Previous research and analytics from organizations such as Firefighter Rescue Survey has been completed (and is ongoing) by capturing rescues made internationally. This data puts evidence-based best practice at the forefront of fireground operations to maintain the last line of defence, emergency response for the protection of life.

Table of Contents

Abstract.....	1
Introduction	3
Methods	3
Criteria:	4
Limitations:	4
Results	4
Incidents.....	4
Weekly Average	4
Fatalities.....	5
Occupancy	5
Municipality	6
Month of Incident	8
Discussion.....	9
Occupancy	10
Number of Occupants	10
Location of Occupants	10
Municipality	10
Time of Year	11
Conclusion	11
References.....	12

Introduction

In Ontario, the Provincial Fire Marshal has reported record high fire fatality numbers. In 2022, 133 people died and in 2023, 121 deaths were recorded.³ These deaths all occurred as a result of fire inside of a structure with the cause of death ranging from smoke inhalation, asphyxia or burns.^{5,6,8}

Common issues such as lack of working smoke alarms have ignited public education campaigns throughout the province as a response to lower fire deaths and implement the first line of defence. While many Chiefs call for greater education and enforcement to prevent fire deaths, little is mentioned about how effective response and suppression may have contributed to these numbers. Surely these fatality numbers would be much higher had trained and well equipped Firefighters (both career and volunteer) not responded and worked courageously to rescue or remove these individuals from burning structures.

In the age of analytics and data capturing to provide evidence-informed practice, one area is being captured and focused on heavily, the deaths. This equates to a professional sports team only focusing on their losses. The area that is sufficiently lacking? The wins.

Firefighter Rescue Survey (FFRS) is a group that aims to capture the details surrounding fire service wins and analyze trends. This analysis and identification of trends creates evidence-informed best practice at one of our core mission and vision statement actions, the protection and preservation of life.²

One area that the Firefighter Rescue Survey falls short is in awareness and the reliance on user-submitted data. While the word is getting out, many are still unaware of what FFRS is and how important it is that individuals who make rescues submit their information. While the database has captured over 4,000 rescues internationally, only a handful have been submitted from Ontario.

Curious as to how many were actually happening, a year-long study was conducted in attempts to analyze what's happening in our own backyard. Surely Ontario is an anomaly and unlike those "cowboy" American States...right?

Methods

This study was conducted using the following method:

- Daily screening and searching for news articles, pictures, videos, tweets, or other online news media.
- Data was then captured and inputted into a spreadsheet.
- At the end of the reporting period, the data was then consolidated into tables, charts and graphs for report generation.



Criteria:

In order for an occurrence to be included in the report, the following criterion must be met:

- Events must occur between January 1st and December 31st, 2024
- People being rescued must be within a structure that has active smoke or fire within.
- Animals or pets were not included in any of the data for this study.
- Encampments, or other structures that are not built according to the Ontario Building Code were not included in this study.
- Articles that reference people being evacuated or injured at the fire scene are not accepted.
- Articles, events or other information gathered must make mention or show evidence of fire service personnel removing a victim from a building (either conscious or unconscious, alive or deceased)
- Events in which fire crews located an individual inside the structure (alive or deceased) while performing operations were included.

For the purposes of this study, the term “rescue” is defined as:

“The removal of occupants or dwellers within a structure by fire service personnel either alive or otherwise in a dangerous or distressing situation”

Limitations:

The following limitations were identified by the researcher:

- Reliance solely on social media and online news or television reporting and publishing.
- Underreporting or no reports, especially in rural or remote areas of the province.
- Misreports based on limited information made publicly available to the news media.
- Vague or non-descriptive writing based on the removal technique may have screened incidents in or out.

Results

Incidents

94 Incidents were captured in 2024 with a total of **141** people being rescued.

It is worth mentioning that one occurrence had upwards of 10 rescued and many more evacuated. It was difficult to find an accurate number of how many were rescued versus evacuated.

Additionally, there were two incidents captured that involved civilians making the rescue prior to fire department arrival. One incident occurred on First Nations land and it is unknown how many more occurred throughout the province on First Nations or federal land.

Weekly Average

In Ontario, an average of **2.7** people are found and/or rescued by Firefighters **per week**.

Fatalities

At the time of data collection and submission, there were a total of 48 confirmed deceased individuals. It is unknown how many have perished since reporting and data collection of the incidents, however, it can be used as a reference to what the OFM will publish officially in 2025. It can be estimated based on the OFM data that an average of 94 fatalities occur annually over a 12-year period.^{3,5,6}

Occupancy

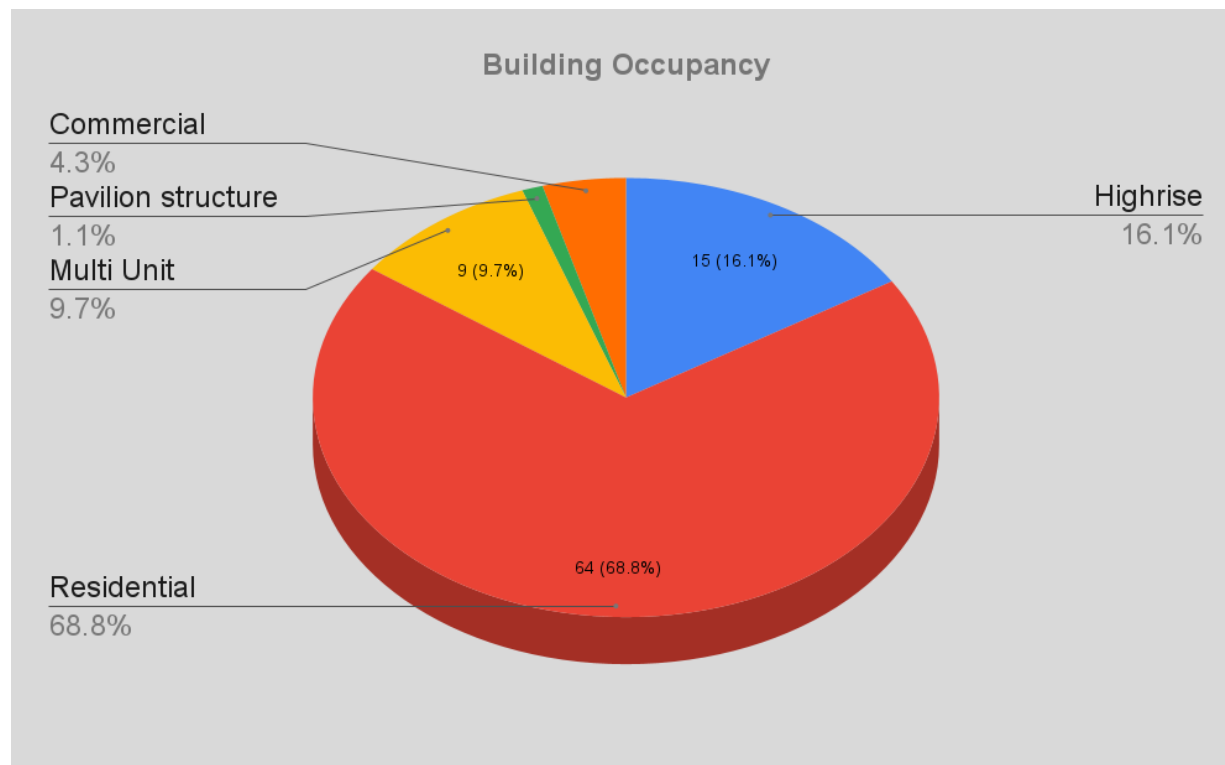


Figure 1: Occupancy Classification of Rescue or Fatality

The majority of rescues made were in residential occupancies (~69%), with another 25% occurring in highrise or multi-unit occupancies. Commercial occupancies consisted of less than 5% of the total.

It is important to consider the current provincial economic climate in 2024 and how it has changed behaviour and living situations for many Ontario residents. One rescue was made in a public pavilion structure that had caught fire and there have been numerous homeless encampment deaths from fire. These were not included in the study due to the non-compliance with being an officially recognized building as per the Ontario Building Code. There was however at least one rescue that was made in a confirmed vacant home. The OFM 10 year summary identifies 6% of fatal fires occurred in outdoor structures (shed, barn, tent, other structures not classified by provincial building code)^{8,9}

Municipality

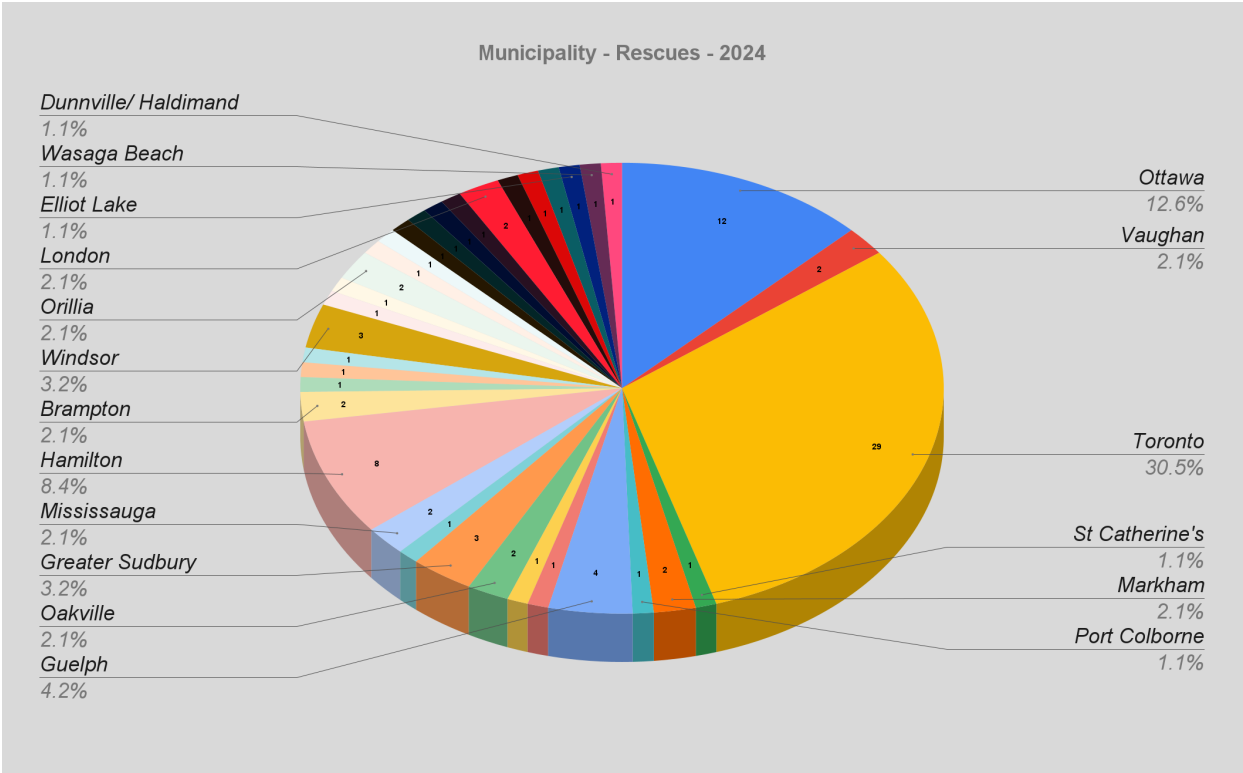


Figure 2: Municipalities and Incidents

The top 10 largest municipalities by population in 2024 were the following:⁴

Municipality	2024 Population
Toronto	2.9 million
Ottawa	1 million
Mississauga	734,000
Brampton	725,000
Hamilton	565,000
London	413,000
Markham	377,000
Vaughan	337,000
Kitchener	257,000
Windsor	227,000

Table 1: Top 10 Largest Municipalities by Population in Ontario, 2024.

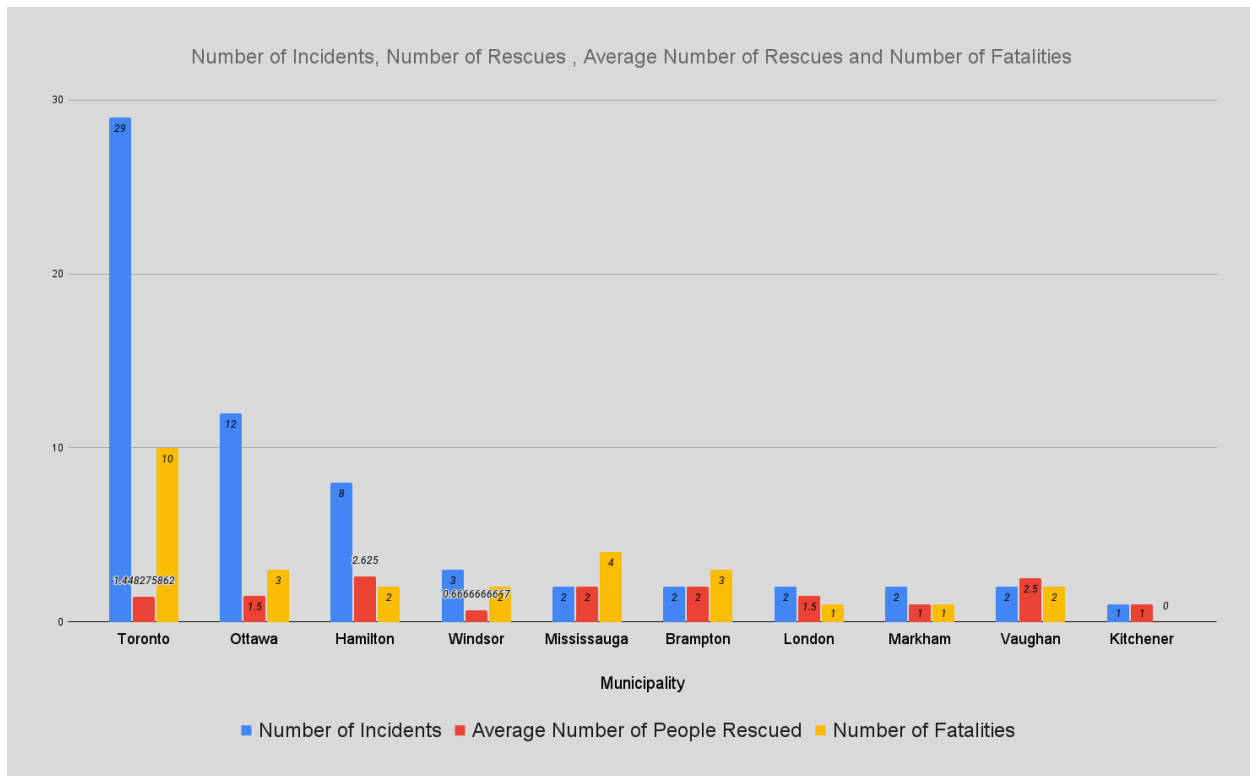


Figure 3: Municipality and Incidents, Rescues, Fatalities and Average Number of Rescues

In 2024, Toronto Fire Services saw the highest number of incidents with 29 or just under $\frac{1}{3}$ of the total. Ottawa Fire Services saw the second highest with 12. Hamilton Fire Department saw the third highest with 8 incidents even though it is 5th highest in population.

Intuitively, the amount of incidents correlates with population. Bigger cities tend to have more incidents, however, there are many rural municipalities that have had rescues/fatalities. Some examples of smaller municipalities include: Elliot Lake, Springfield, Tillsonburg and Wasaga Beach.

Table 2 showcases the 10 largest municipalities and the respective rescue data for 2024 in order of number of incidents.

Municipality	Number of Incidents	Number of Rescues	Average Number of People Rescued	Number of Fatalities
Toronto	29	42	1.448275862	10
Ottawa	12	18	1.5	3
Hamilton	8	21	2.625	2
Windsor	3	2	0.666666667	2
Mississauga	2	4	2	4
Brampton	2	4	2	3
London	2	3	1.5	1
Markham	2	2	1	1
Vaughan	2	5	2.5	2
Kitchener	1	1	1	0

Table 2: Top 10 Municipalities and Number of Incidents with Number of Rescues, Average Rescues and Number of Fatalities

Month of Incident

Examining the number of rescues and time of the year shows trends that align with other data such as FFRS, the OFM and the United States Fire Administration (USFA). Winter months tend to see a higher number of incidents than the warmer months of summer.^{2,5,6-11}

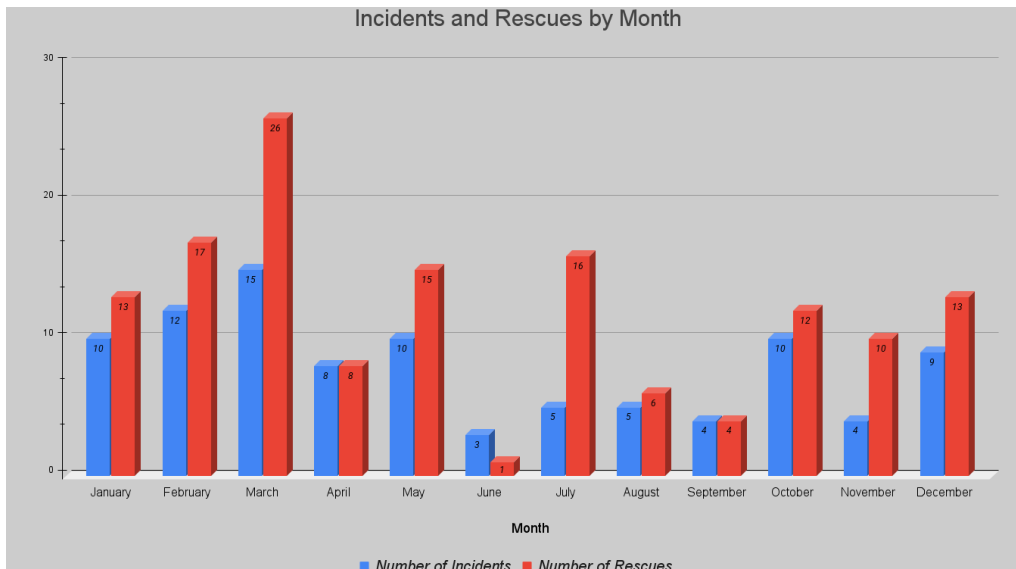


Figure 4: Month and number of incidents

Examining incidents and rescues with location, this data aligns with findings from FFRS highlighting the importance of search and rescue operations that can be atypical.² There is a substantial gap in data collection in terms of victim location due to the collection method.

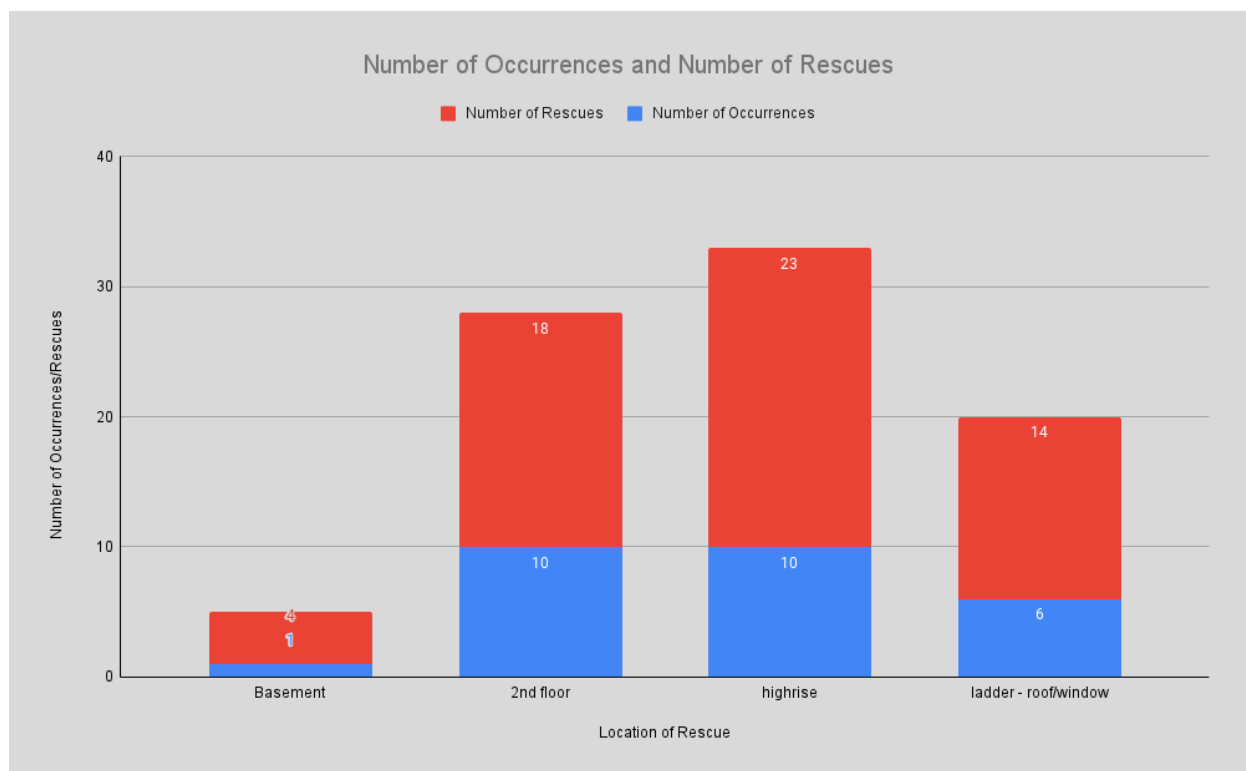


Figure 5: Number of Rescues and Incidents with Victim Location

Although there was a substantial gap in the data as to the location of rescues within the structure (~28% of all incidents had location information), some trends can be identified. In over

4,000 rescues reported from FFRS, 45% were made when the victim was located in a bedroom and 17% were located in a family room.²

Discussion

This study provided extremely eye-opening insight into the previously unexplored number of Firefighter rescues made in Ontario. Referencing other datasets from reputable sources such as the Ontario Fire Marshal's Office, the U.S Fire Administration and the Firefighter Rescue Survey, it can be concluded that now more than ever, Firefighters need to utilize analytics and data collection to improve operations based on evidence-based best practice.

With just under three rescues a week in the Province of Ontario, Firefighters should be both proud and vigilant at how many are happening. This new information should be shared to all throughout the province and it should be at the forefront of their minds when responding to any reported structure fire.

Occupancy

95% of rescues made were in some type of residential structure. Although it can be hypothesized why this might be the case, it should not deter from formulating effective strategies and tactics that support effective search and removal of occupants from these structures

Number of Occupants

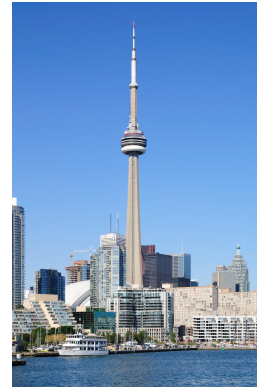
One area that was not directly studied but has substantial impact on operations is the expectation of multiple victims. 1.6 people were rescued on average across all incidents in 2024. An interesting point to note is that several of the top 10 highest population municipalities had an average of 1.4 - 2.5 people rescued. Although not a conclusive result, it is important to consider having a plan for one search crew of Firefighters locating more than one victim. This information also aligns with FFRS data that identified a majority (67%) of fire crews located a second victim at the same location as the first victim when multiple victims were found.²

Location of Occupants

Cross referencing data from this study with data from other organizations such as FFRS, it is clear that there are trends as to the location that victims are being found within residential structures. Fire service professionals that are able to quickly locate and search common areas such as bedrooms and living rooms will have the highest probability of finding victims.² It is clear that this data was the most difficult to obtain as the collection method often did not disclose this information in the reports. More research is needed to conclude and validate the trends identified by FFRS specific to the region of study.

Municipality

Although trends can be seen in the top 10 largest municipalities in the province, fire does not discriminate based on population, staffing, career or volunteer. Additionally, fire risk throughout the province is not necessarily tied to population or municipality. All municipalities that offer fire protection under the Fire Protection and Prevention Act (FPPA) must be both prepared and ready to execute the third line of defence (emergency response) in support of their mission and vision statements, which regularly mentions the preservation and protection of life.



A multitude of factors can contribute to certain municipalities having higher incidents such as socio-economic factors, age and compartmentalization of building stock, lifestyle factors of generational homes and financial factors of adequate fire detection and protection within the residence.

Department factors such as staffing of fire prevention and education can also be contributing to certain municipalities having higher or lower incidents. Departments such as: Burlington, Central York and Richmond Hill all had 0 incidents in 2024.

Additional longitudinal research is needed to examine year to year differences and trends. Furthermore, future research should consider the factors discussed previously against the number of incidents to examine for correlative effects.

Time of Year

When examining figure 4, it is evident that the winter months show a dramatic increase in the number of incidents and rescues on average. Although several variables can be considered, none should take away from the mindset that rescues can and will occur at any month. Although July had one of the lowest number of incidents, one large fire saw the rescue and removal of 10 people. The mindset should not diminish incidents in the warmer months but simply heighten the awareness that rescues are a higher probability during the winter months. No months saw zero incidents and in fact, some days had multiple rescues throughout the province. (10 days saw two or more incidents)

Conclusion

Although this study has substantial gaps in data collection and information sourcing, it is an excellent foundation to showcase the hard work that many Firefighters are doing throughout Ontario as the last line of defence to preserve and protect life. Further research should continue to examine trends and establish an industry best-practice to search, remove and rescue occupants from burning structures.

References

1. Aggressiveness and Analytics: Search Considerations for Firefighters. Brush, B. Fire Engineering. 12/16/2024. fireengineering.com
2. Firefighter Rescue Survey: *The First 4,000*. [Firefighterrescuesurvey.com](https://firefighterrescuesurvey.com)
3. Mitchell, Don. January 3 2023, *OFM Reveals 133 Fire Deaths in Ontario for 2022, Highest in Two Decades.*, globalnews.ca
4. Ontario Cities By Population, 2024. worldpopulationreview.com
5. Ontario Fire Marshal's Office, *Ontario Fatal Fires: Fire Death Rate (20-year summary)*
6. Ontario Fire Marshal's Office, *Ontario Fatal Fires: Summary (10-year)*
7. Ontario Fire Marshal's Office, *Ontario Fire Incident Summary*.
8. Ontario Fire Marshal's Office, *Ontario Residential Fire Fatalities (10-year)*
9. Ontario Fire Marshal's Office, *Ontario Residential Fires: Injuries (10-year)*
10. U.S Fire Administration, *Fire Death Rate Per Million Population (2013-2022)*
11. U.S Fire Administration, *Residential Fire Estimate Summaries (2013-2022)*
12. 2021 Fireground Civilian Rescue Research Project. Brush, B. Oklahoma State University