



FIRE DEPARTMENT

MONTHLY INFORMATION REPORT

March 2021

HIGHLIGHTING DATA METRICS
TO IDENTIFY OPERATIONAL TRENDS
AND
FACILITATE INFORMED DECISION-MAKING

70 E. MAIN STREET
LAKE ZURICH, IL 60047

OUR MISSION: To care for and protect our community.

OUR VISION: The Lake Zurich Fire Department is dedicated to meeting the ever changing needs of our community, while ensuring a safe and secure environment for all, through professional development, unity and teamwork.

OUR VALUES: Professionalism, Responsibility, Integrity, Dedication, Honor

Departmental Narrative - March 2021 Overview

The Department responded to **294 calls** for service in March, which averaged **9 calls per day** and required **427 individual vehicle responses** to provide the necessary personnel for each incident.

Thirty-eight percent (**38%**) of the responses occurred while another call was in progress. Seventeen percent (**17%**) of needs required a response from the non-primary engine, ambulance, or a mutual aid department due to multiple calls in progress.

Our current staffing model increases response times when simultaneous calls occur as the Department is only structured to handle a single response per station. We staff two vehicles with only three personnel using what is called a "jump company." If the call is for the ambulance, the personnel respond with the ambulance, and if it is a fire call, the staff responds with the engine. One of the vehicles remains in the station unstaffed on every call we respond to due to the limited personnel we have on shift. Once a station commits on a call, the next call for service requires another station or mutual aid to handle the incident.



Lake Zurich Significant Calls

Commercial Structure Fire – March 30, 2021

Fire department crews responded to a commercial structure fire at 642 South Rand Road (Burger King) on March 30, 2021. The preliminary fire investigation determined the fire started in the exterior landscape mulch and progressed into the building's exterior wall. The business sustained fire, smoke, and water damage estimated at \$150,000. The estimated property and contents saved is \$400,000. There were no reports of any civilian or firefighter injuries. *(Pictured right)*





Motor Vehicle Crash – March 10, 2021

Battalion 32, Engine 321 and Ambulance 324 responded for a motor vehicle accident – a semi-tractor trailer versus a car. A motor vehicle struck the driver's side of the semi, causing a transmission oil leak. Due to the leak's size, the command requested Utility 321 to respond with additional oil dry bags. Engine 321 contained the leak and applied absorbent to the spill. Subjects involved in the accident were assessed for injuries and refused transport to a hospital. Due to the extent of damage to the semi, the vehicle was not drivable and towed. *(Pictured left)*

Lake Zurich - Year To Date - Fire Value/Save/Loss



Cardiac Arrest – March 21, 2021

Ambulance 322 and Ambulance 321 were dispatched for a patient not conscious and not breathing on Donegal Court. Upon A322 arrival, CPR was being performed by Lake Zurich Police Officers. All crews assisted during the cardiac arrest; the patient achieved "ROSC" (return of spontaneous circulation) several times and was transported to Good Shepherd Hospital. A322 reported the patient was alive and taken to the Cardiac Cath Lab.

Grass Fire – Wildland Members Requested – March 20, 2021

Engine 322 responded to a grass fire on March 20, 2021. Upon arrival, the engine found the homeowner burning dead tree limbs in an open yard. Embers from the fire ignited two dead trees at the end of the property in heavy brush and water/marsh. The fire progressed from the tree's base to just below the highest tip. Engine 322 extinguished all the fire on the outside of the tree, but an internal fire was still burning. The officer requested assistance from the on-duty wildland members. Engine 323 responded with two wildland firefighters, Justin Brooks and Jeremy Holden, and their wildland gear. They assessed the situation and determined that the tree would need to be felled to stop the fire from spreading. The Wildland team safely dropped one of the trees into the marsh and the other onto the ground.

Mutual/Auto Aid Significant Fire Calls

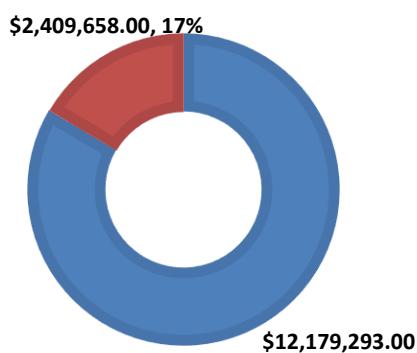
- Barrington Fire Department – Engine 322 responded to a structure fire at the 400 block of Hillside Avenue in Barrington on March 21, 2021. Engine 322 was assigned vertical ventilation on the garage roof. The crew deployed a ground ladder to access the roof, removed a roof vent, and located the fire in the area below the roof.
- Countryside Fire Protection District – Engine 323 responded to the Countryside Fire Protection District for a residential fire on March 20, 2021. Upon arrival, Engine 323 assisted in making an interior fire attack on the residence. Engine 323 also provided an overhaul of the fire area locating fire extension in the walls and ceiling and completed the extinguishment of remaining fire hot spots. Additionally, Engine 323 performed salvage activities by safeguarding the residence contents, preventing water damage to them.

Administration Division

Budget Update – As of March 31, 2021

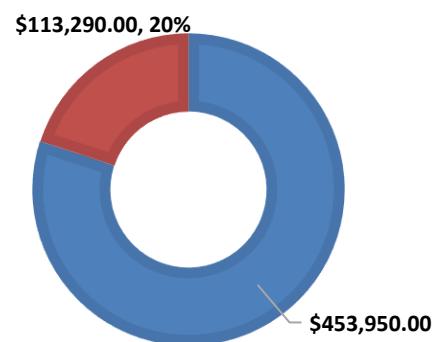
FIRE DEPARTMENT BUDGET

■ Overall Budget ■ Amount Spent



OVERTIME ACCOUNTS

■ Overtime Budget ■ Overtime Spent



New Bullard QXT Thermal Imager Purchase:



The thermal imaging camera, also known as the "TIC," is a valuable piece of fire service equipment. One of its many uses is to help firefighters search for victims and fire suppression tasks during structure fires. The camera also allows firefighters to see through smoke and monitor fire spread, hot spots and helps identify the fire origin.

During a hazardous material spill, the TIC can determine the size and magnitude of the spill. When a liquid product is on the ground, it is often not visible to the naked eye. The TIC enables firefighters to see the product and the spill's extent because of the temperature differences between the product and the surrounding material.

When called to assist in a ground search, the TIC can help locate lost victims because of the human body's heat. It enables searchers using the camera to see through heavily wooded areas and dense foliage. This allows searchers to cover more ground quickly and potentially locate victims sooner. Another important use of the TIC is to help size up and find wildland fires. With the TIC's aid, firefighters can navigate through smoke conditions and identify how rapidly the fire is moving.

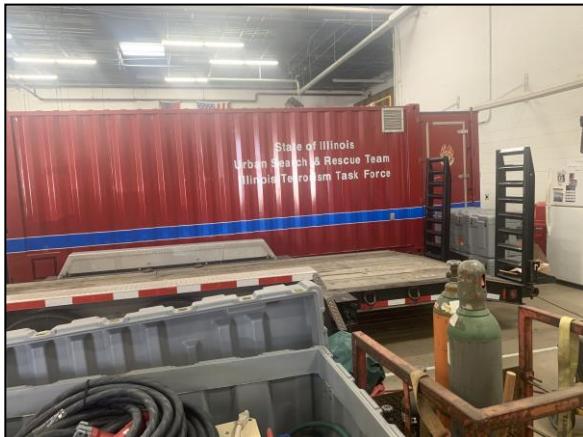
For more information on the Bullard thermal imager, visit: <https://www.bullard.com/thermal-imaging>

Member Spotlight

Firefighter/Paramedic Chris Hedquist –
HazMat Team Leader & Member of IL Task Force 1



This month's training for Illinois Task Force 1 was a HazMat specialist course for the team's accreditation. These tasks included setting up a mass decontamination system for a large-scale incident, reviewing the team's chemical PPE, respiratory protection and members calibrated the team's chemical monitoring equipment.



Firefighter/Paramedic
Collin Boeckmann -
Rope Operations
certification



Firefighter/Paramedic
Anthony Campbell –
Hazardous Materials
Incident Command and
Hazardous Materials
Technician certifications



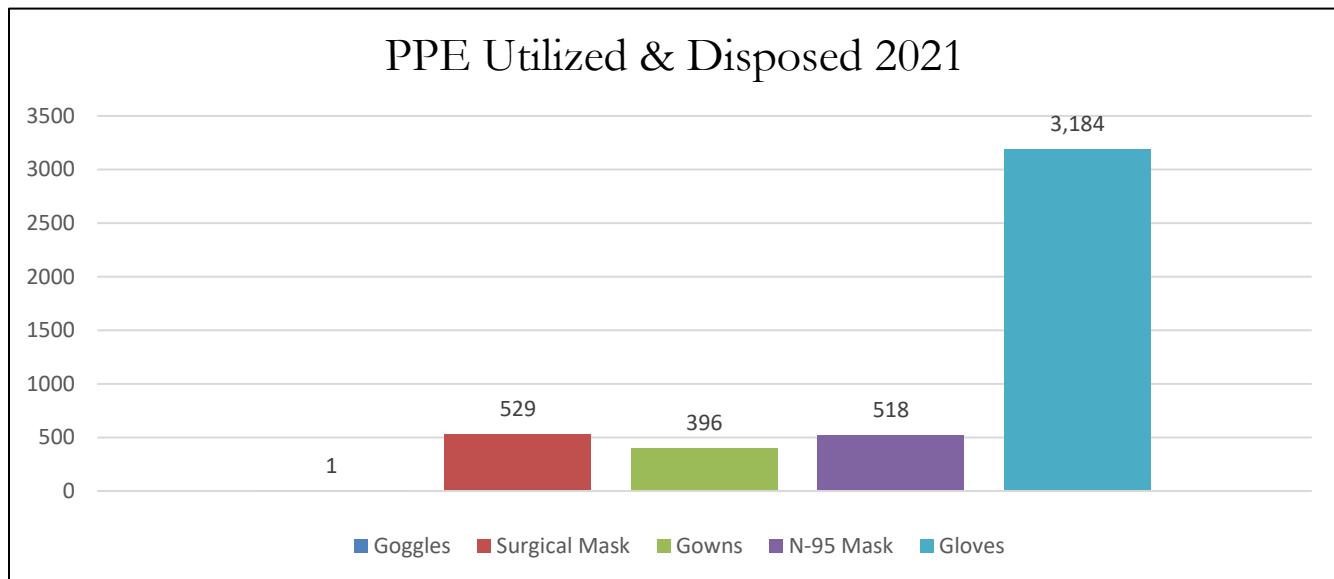
Lieutenant Keith Hohs –
Fire Inspector II and
Public Fire and Life
Safety Educator I
certifications



Lieutenant
Jason Henriksen –
Humanitarian Service
Medal and Award for the
2019 Mississippi and
Illinois River Flood
Response and Relief Effort

COVID-19 Updates

We are currently tracking the Personal Protective Equipment (PPE) that members are using and disposing of due to the COVID-19 pandemic. In March, we have issued 0 pairs of safety goggles, used 183 surgical masks on patients, 152 N95 respirators for our personnel, 131 gowns, and about 1,057 pairs of surgical gloves. The graph pictured below shows year-to-date.



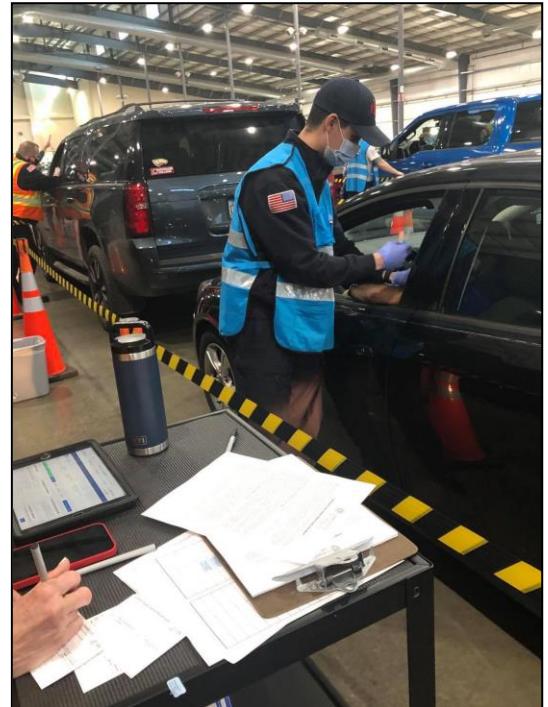
COVID-19 Vaccine

We are pleased to be offering assistance to the Lake County

Health Department with COVID-19 vaccinations located at the Lake County Fairgrounds. Pictured are Firefighter/Paramedics Kevin Glasder (*left*) and Firefighter/Paramedic Jacob Bartoli (*right*).

Thank you for your service!

We look forward to continuing our assistance and support during the upcoming months.



Community Focus and Risk Reduction

We want to express gratitude for the extra community-wide support shown to the Department during this COVID-19 pandemic and give a shout out to all of the residents and businesses that have donated miscellaneous PPE and mailed us well wishes. We genuinely appreciate it.

EMS Division

Procedure Performed Description And Code (eProcedures.03)	Number of Times Procedure Administered	Percent of Total Procedures Administered
Surgical face mask applied to patient (465635009)	183	53.20%
Cervical Spine Motion Restriction (398041008)	40	11.63%
IV - Peripheral (392230005)	32	9.30%
Cold pack application (229585002)	10	2.91%
CPR - Mechanical Device (429283006)	6	1.74%
Wound - Application of bandage (182555002)	6	1.74%
CPR - Manual (89666000)	5	1.45%
IO - Intraosseous Access (430824005)	5	1.45%
Assist Ventilation - BVM (425447009)	4	1.16%
Airway - Clear / Suction (230040009)	3	0.87%
Orotracheal intubation using video + Bougie (398128007)	3	0.87%
Wound - Application of minor dressing (15631002)	3	0.87%
Orotracheal Intubation Video Assisted (-3)	2	0.58%
Cervical Spine Exam Normal (284405008)	2	0.58%
Wound Care - General (225358003)	2	0.58%
iGel Airway Insertion (-2)	2	0.58%
Nasopharyngeal Insertion (182692007)	2	0.58%
Splinting - General (79321009)	2	0.58%
Drug Assisted Intubation DAI (429734006)	1	0.29%
Active external cooling (431774007)	1	0.29%
Airway - Open/Position (232664002)	1	0.29%
Full Spinal Restriction of Motion (426498007)	1	0.29%
IV - Discontinue (424287005)	1	0.29%
Oropharyngeal Insertion (7443007)	1	0.29%
Physical Restraints (386423001)	1	0.29%

What Is the LUCAS 3 Chest Compression System? *(Highlighted Above)*



The Lucas 3 device automatically performs chest compression on a person whose heart stops beating. The Fire Department only has one Lucas device housed and brought to the incident by the shift commander. In the current operations model, the first ambulance to arrive performs manual "traditional" chest compression until the Lucas device arrives. The crew then deploys the LUCAS system as shown to the right. The Fire Department paramedics utilized this device 6 times last month.

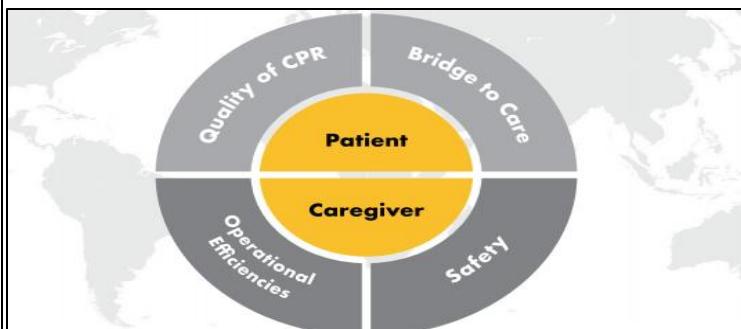
Benefits

Reduces injuries from prolonged CPR (back, neck, shoulders, and wrists)

Improves overall survival

Allows member to be reassigned to another critical area of resuscitation (Airway, IV, Drugs)

Allows transport of patient safely without Paramedics standing to do CPR.



Special Rescue Division

CMC Levr™ Escape System "Bail-Out System"

The CMC Levr™ System purchase was a combined effort between the Village and Foreign Fire. The dual effort has given the firefighters of Lake Zurich an option to perform an emergency bailout of an environment unsuitable for survival, providing a chance to walk away from that event.

A firefighting crew can experience a quick change in conditions while operating inside a structure, causing a quick exit. Often, the path in may not be the path out due to these changes. The CMC Levr™ System provides a safer way out a window compared to jumping. The CMC Levr™ System design allows rapid emergency egress with a safe, controllable descent. It is built around the new CMC Levr™ descender, a next-generation device that uses its lever-shaped handle for improved descent control.

Generally speaking, a lower extremity injury that requires surgery has a minimum cost attached to it of 30k. This number does not include lost time at work. The escape bags will provide a way out of an elevated room in a controlled descent.

Pictured below showcases Firefighter/Paramedic Kevin Glasder training on the system.



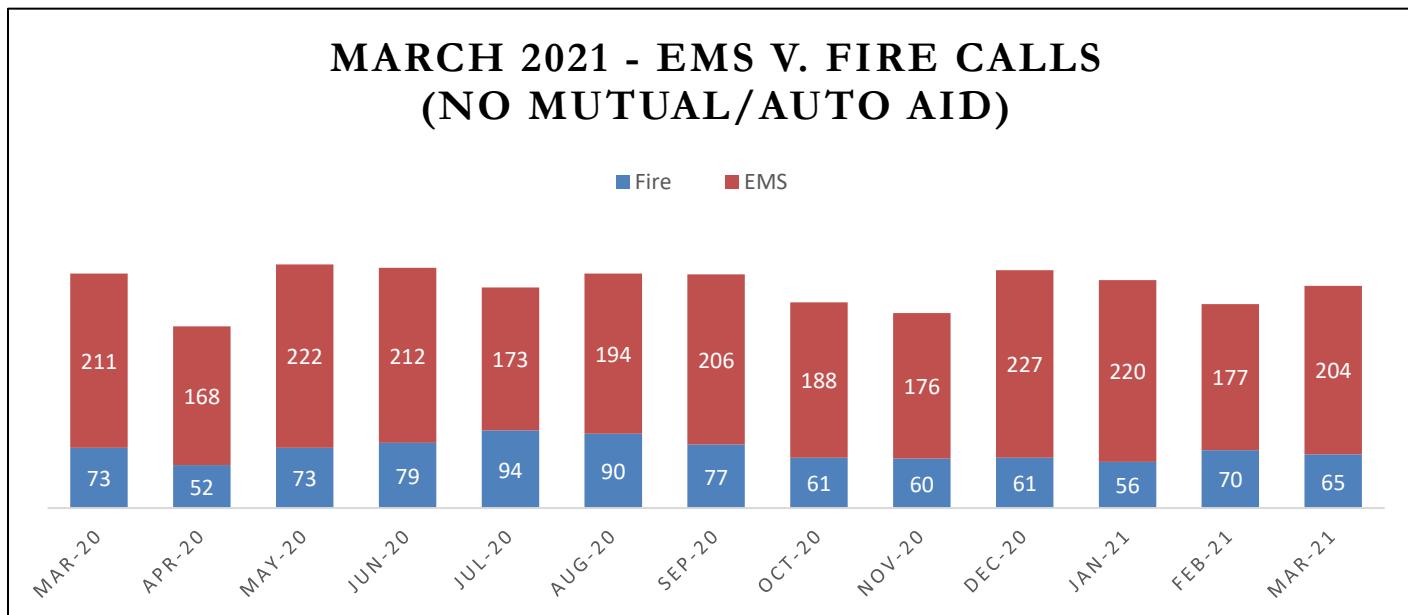
Operations Division

Vehicles Out of Service

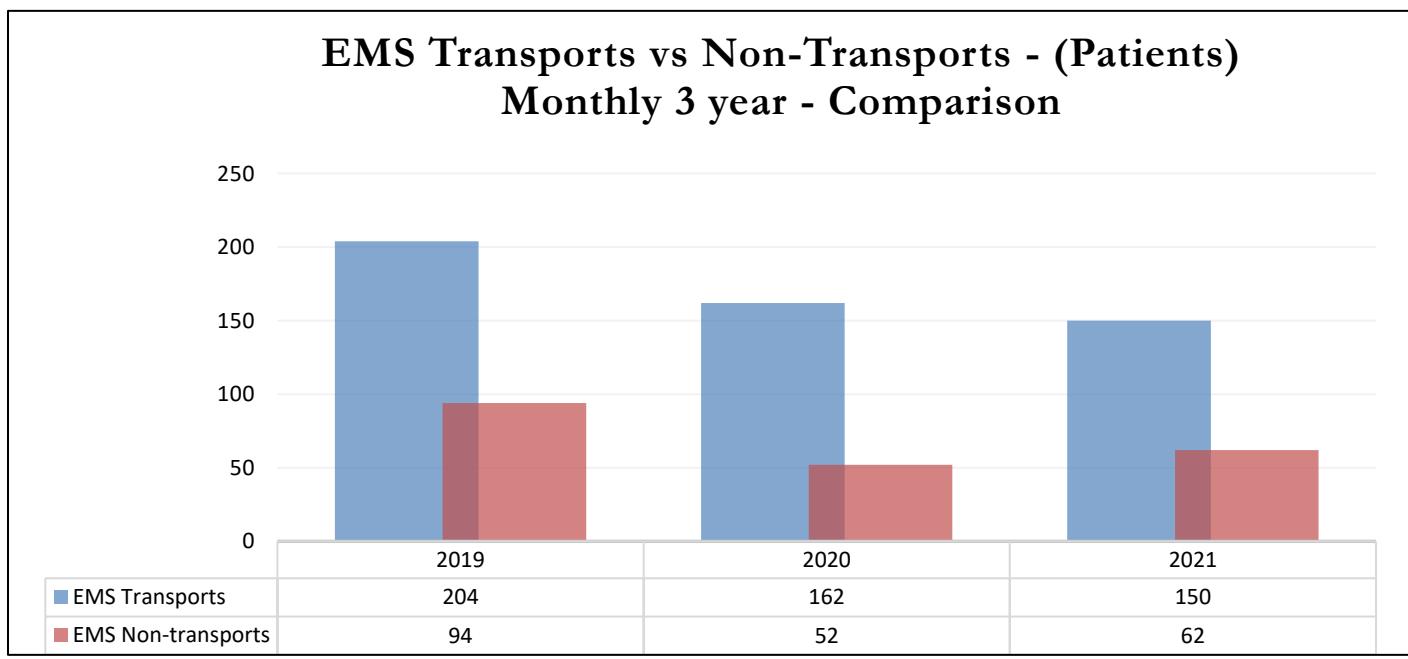
- During March, the following vehicles were out-of-service due to maintenance, repairs, or breakdowns:
 - Ambulances – 16 hours
 - Engines – 119.50 hours
 - Year-To-Date Hours:

Ambulances: **210.08 hours** | Engines: **244.50 hours**

Below is the breakdown of Fire versus EMS incidents in Lake Zurich – minus aid given. Our fire calls include structure fires, car fires, grass fires, dumpster fires, wires down, and other types of service calls.

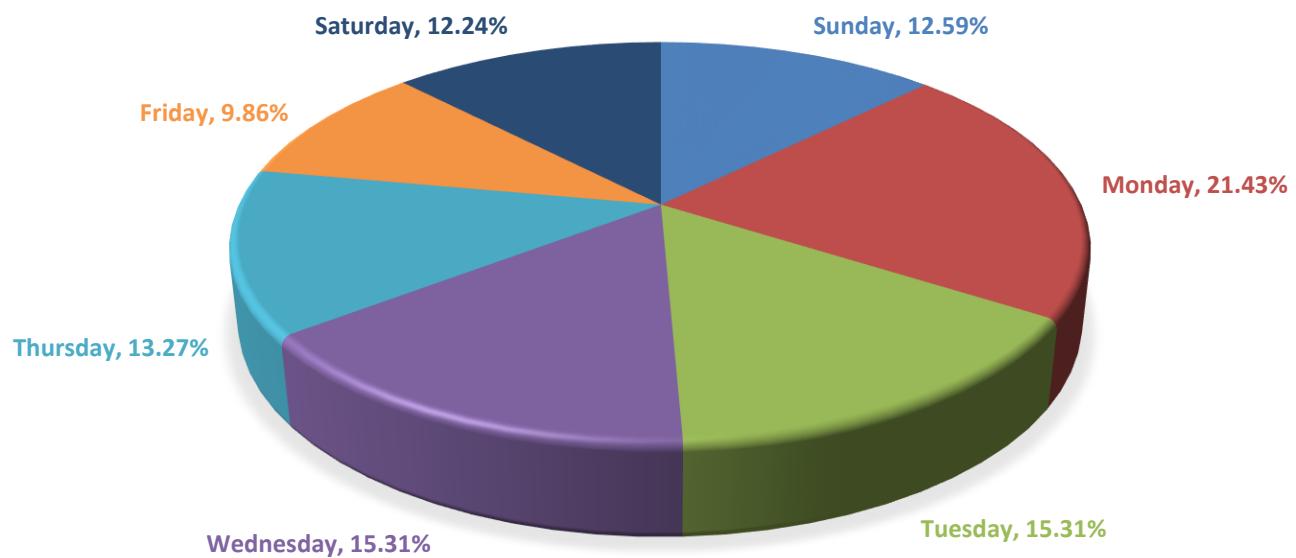


This next chart reflects activity related to emergency medical services, a core function of the fire department — not every EMS call results in transport. A prime example of this is an automobile accident where several victims refuse transport. EMS transports always outpace refusals. This chart compares the month of March across 3 years. The trend is consistent with the data period. These numbers represent the patients seen.

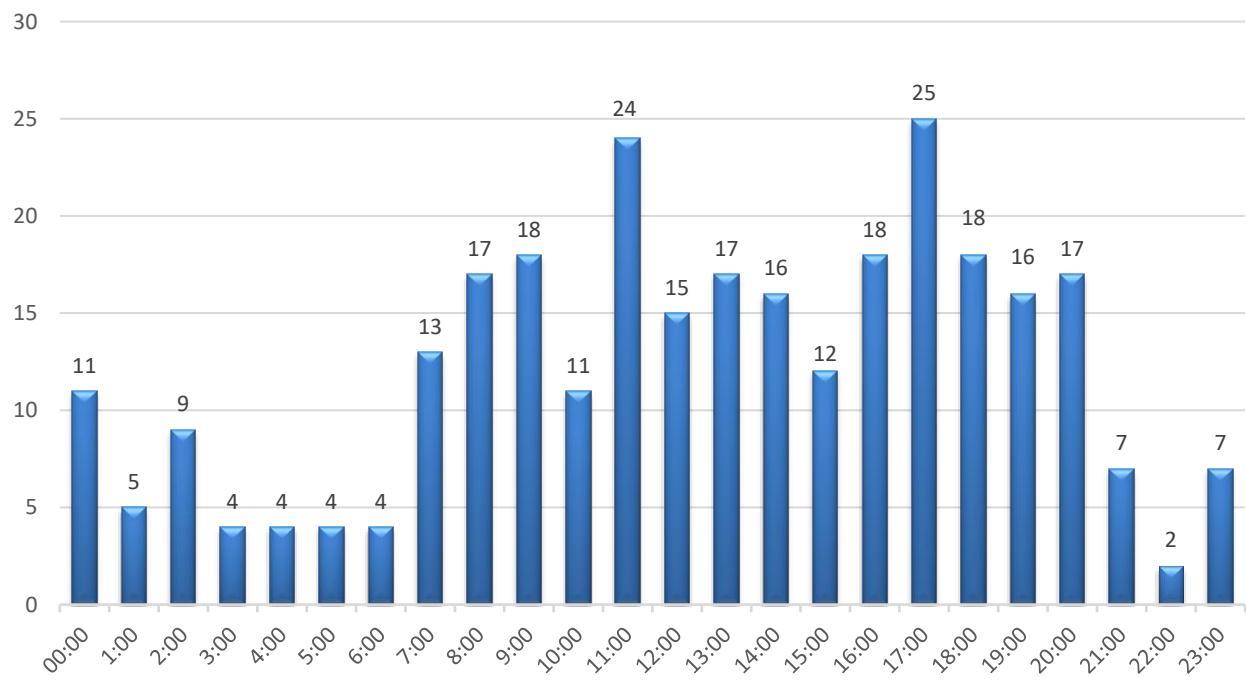


The following two charts break down calls by the day-of-week and hour-of-day.

RESPONSE BY DAY OF WEEK - MARCH 2021

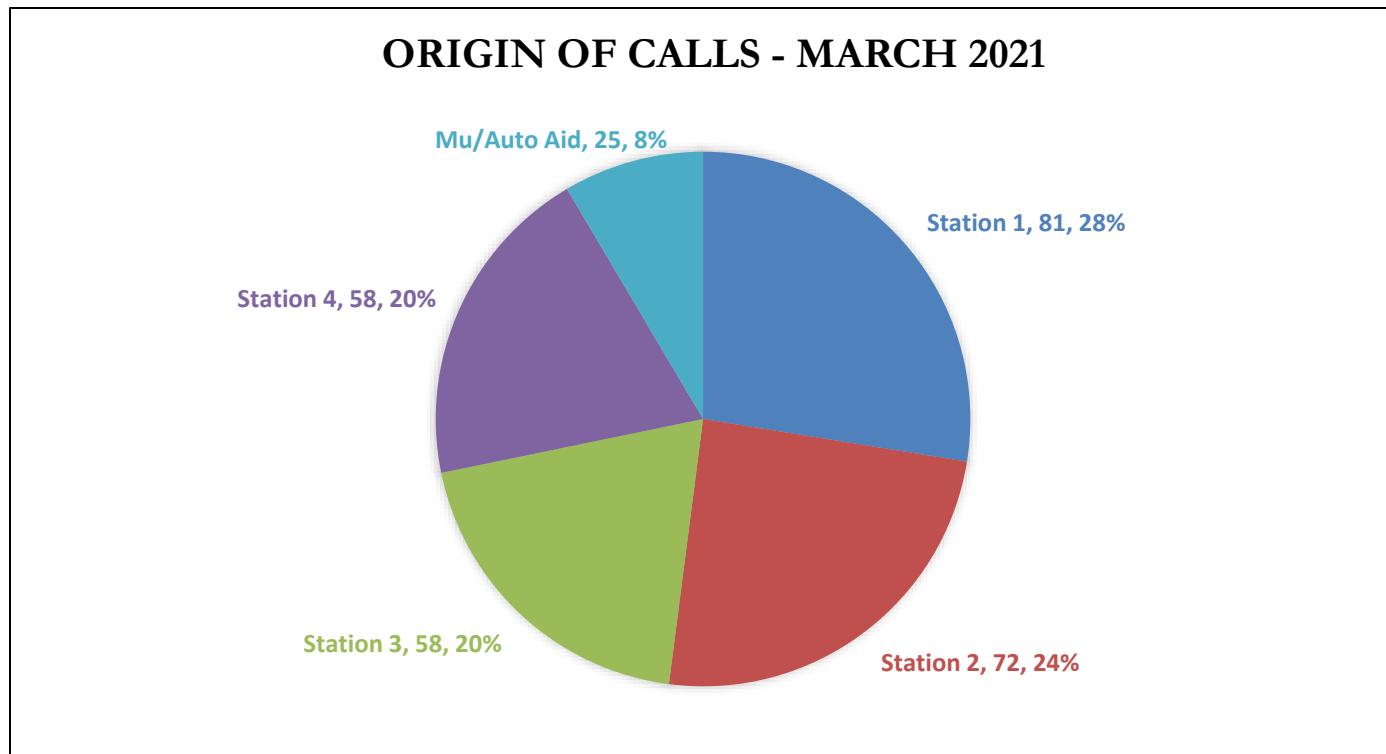


RESPONSE BY HOUR OF DAY - MARCH 2021

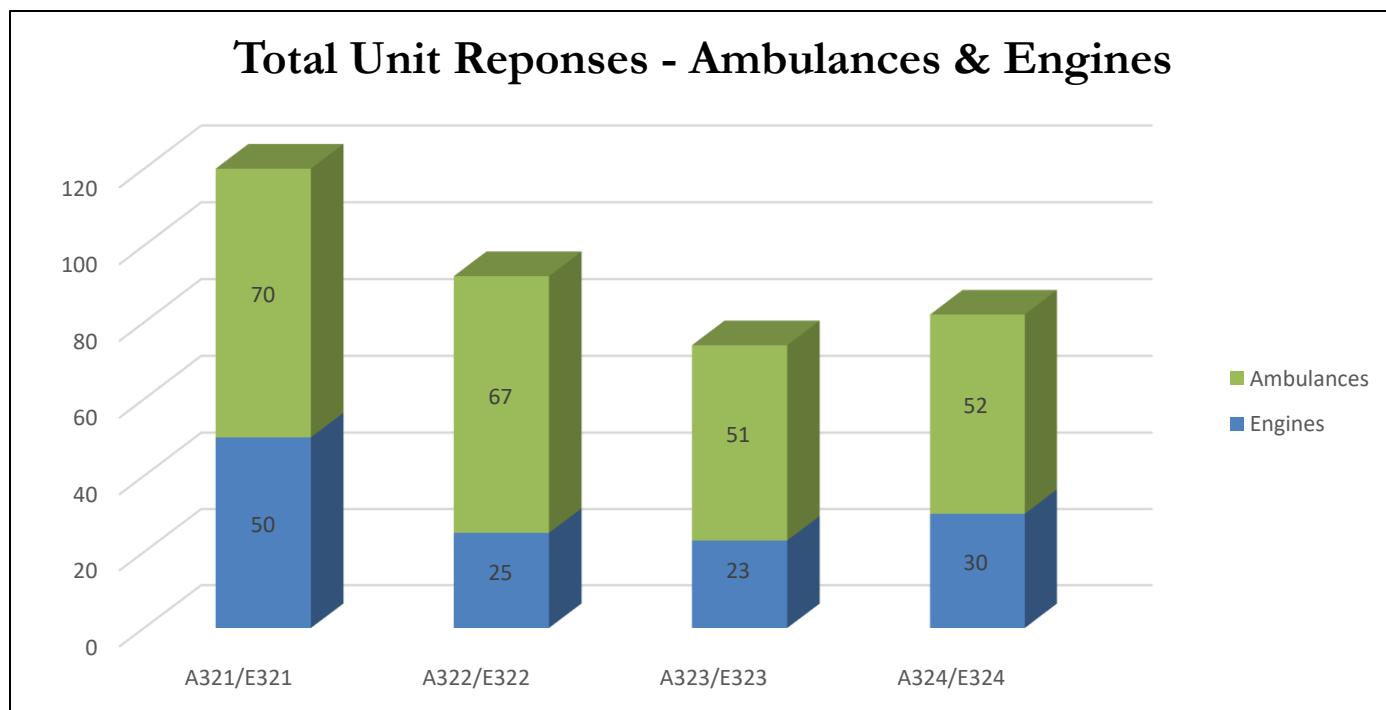


The Lake Zurich Fire Department's service area contains the Village of Lake Zurich and the Lake Zurich Fire Protection District. The placement of the four fire stations allows division of the service area into first response areas.

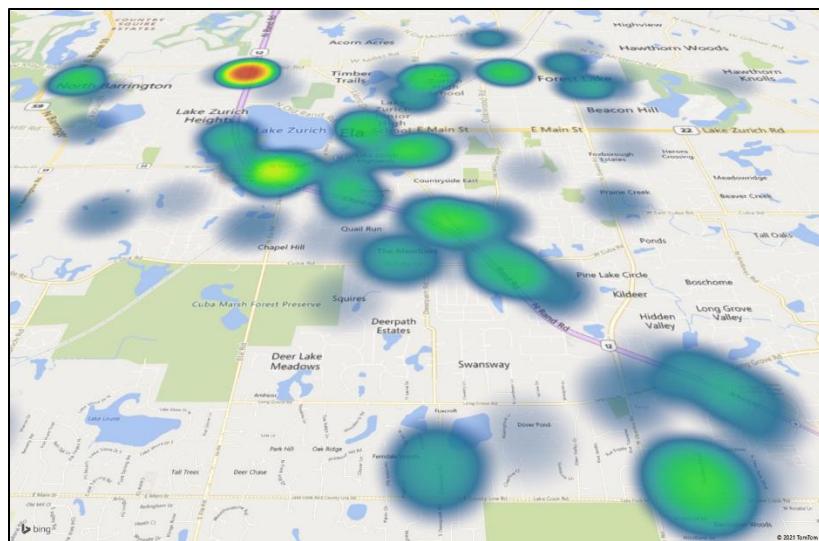
The graph below represents the percentage of calls by each station and mutual/auto aid for March 2021. The chart does not represent the station that responded as the primary resource to the area – it means where the call originated. Station 1 is historically the busiest district.



The graph below shows the responses by each unit – Ambulances & Engines – in March 2021.



The next graphic is a visual representation of call distribution for March. As visually displayed, the assisted living/memory care facilities are a large portion of our department calls and are consistently within the top ten locations responded to each month. We frequently respond to doctor offices and health clinics, along with automobile accidents near the Route 12 corridor.

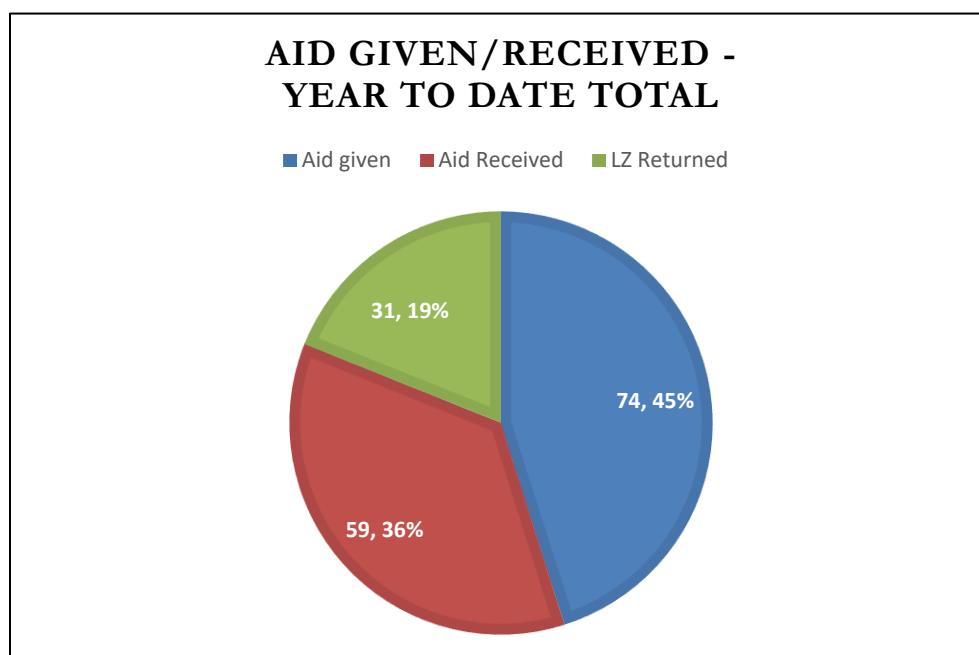


Frequent Call Locations:

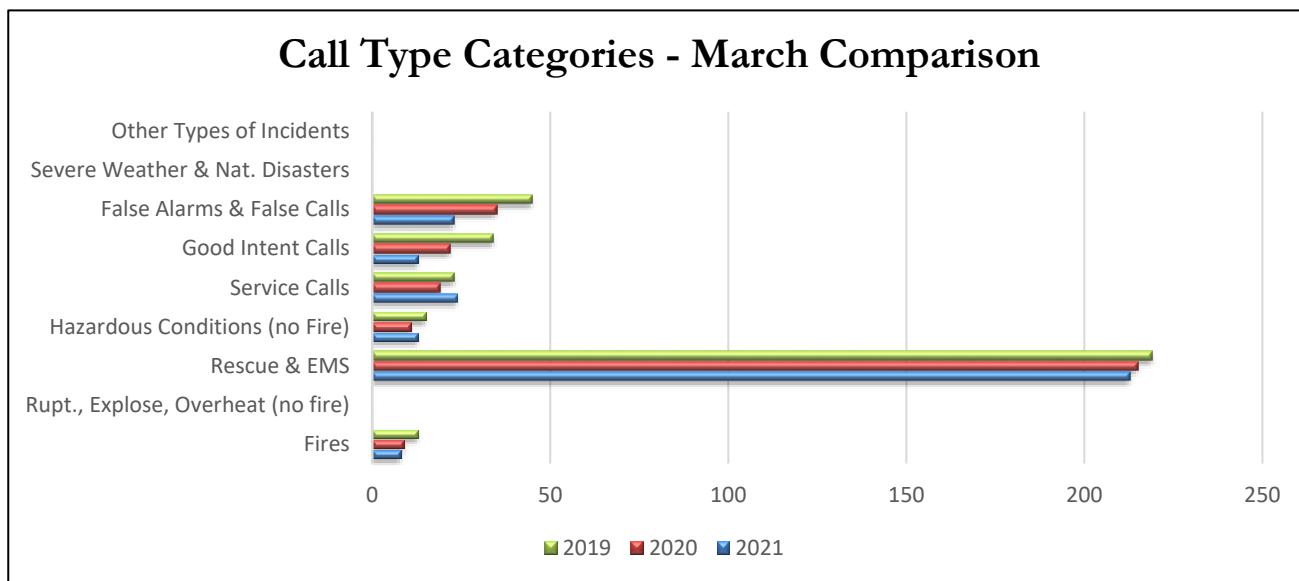
- 795 N. Rand Road – Azpira Place Assisted Living – 25 responses
- 777 Church Street – Cedar Lake Assisted Living & Memory Care – 9 responses
- 21840 Lake Cook Road – Solana Senior Living – 8 responses
- 21481 N. Rand Road – Northwest Community Healthcare – 8 responses
- 555 America Court – Auberge at Lake Zurich – 4 responses

Mutual/Auto Aid Response Year to Date –

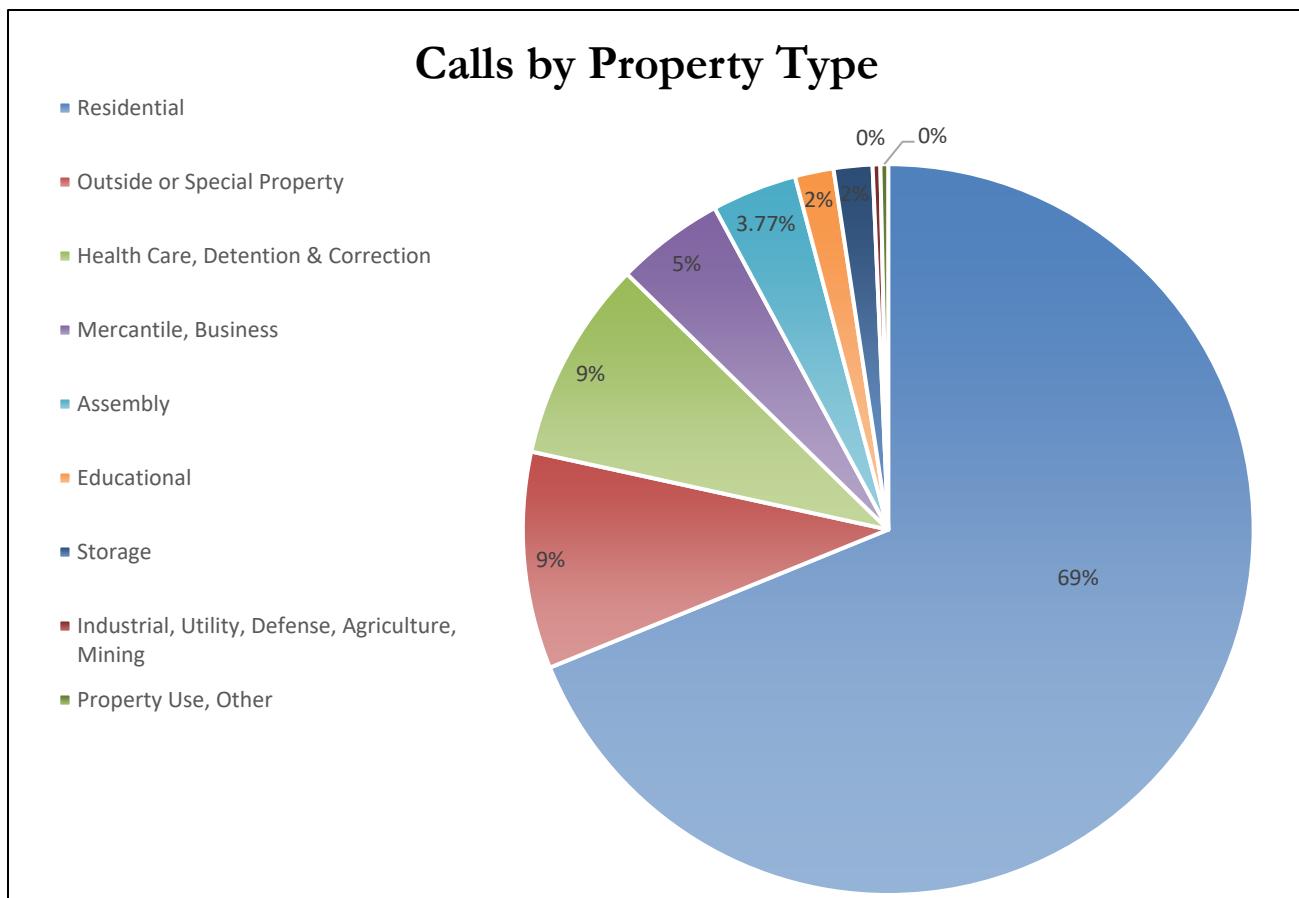
The mutual aid agreements are designed not to overburden any one agency and are looked at carefully for any necessary adjustments. Run cards for the Department have changed, and our partners are responding to assist us more often. In March, we responded to **26 calls** for mutual-aid and were **returned 11 times** before our arrival. The chart to the right shows YTD Aid Given/Received and how many times LZ returned before their arrival. Many of our response incidents do not require intervention from the LZPD 911 center through automated dispatching and resource sharing. They are entirely handled by the agency requesting our response — direct cost savings to our budget and an added benefit of the automated dispatch system.



All calls we code as a department within the National Fire Incident Reporting System (NFIRS). The codes all relate to the text categories noted in the chart below. As indicated below, you will see across the three years that the trends remain mostly the same. Rescue and EMS incidents account for the majority of calls we respond to and continue to increase, as indicated below.

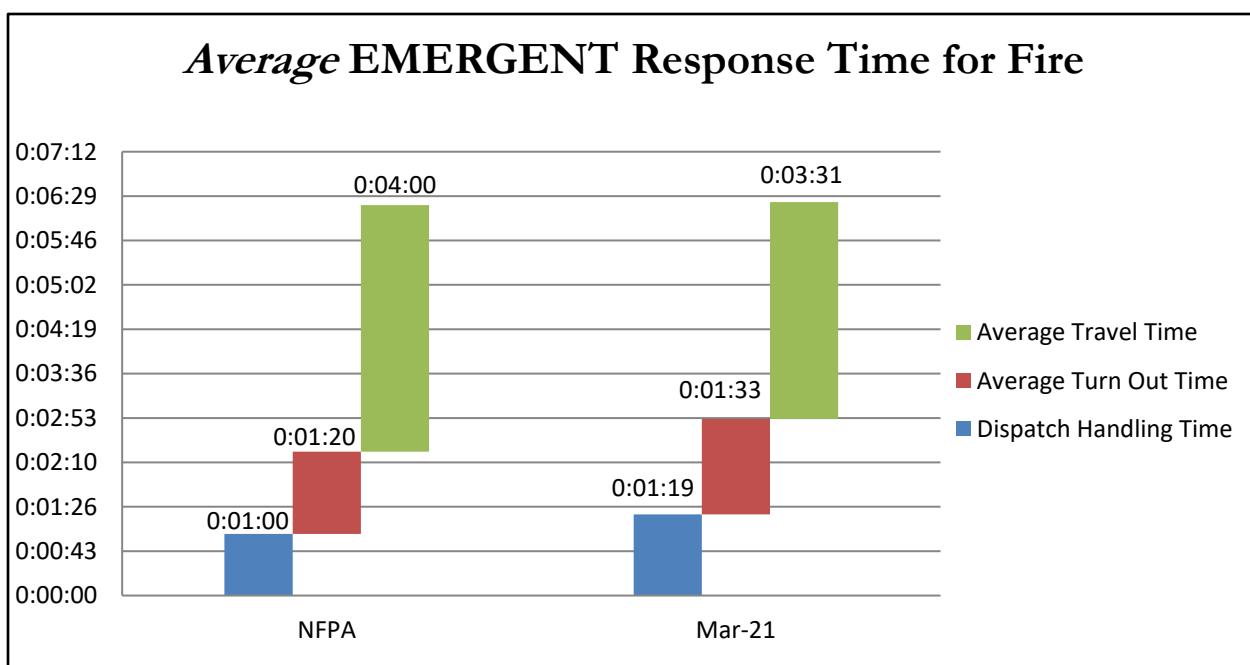
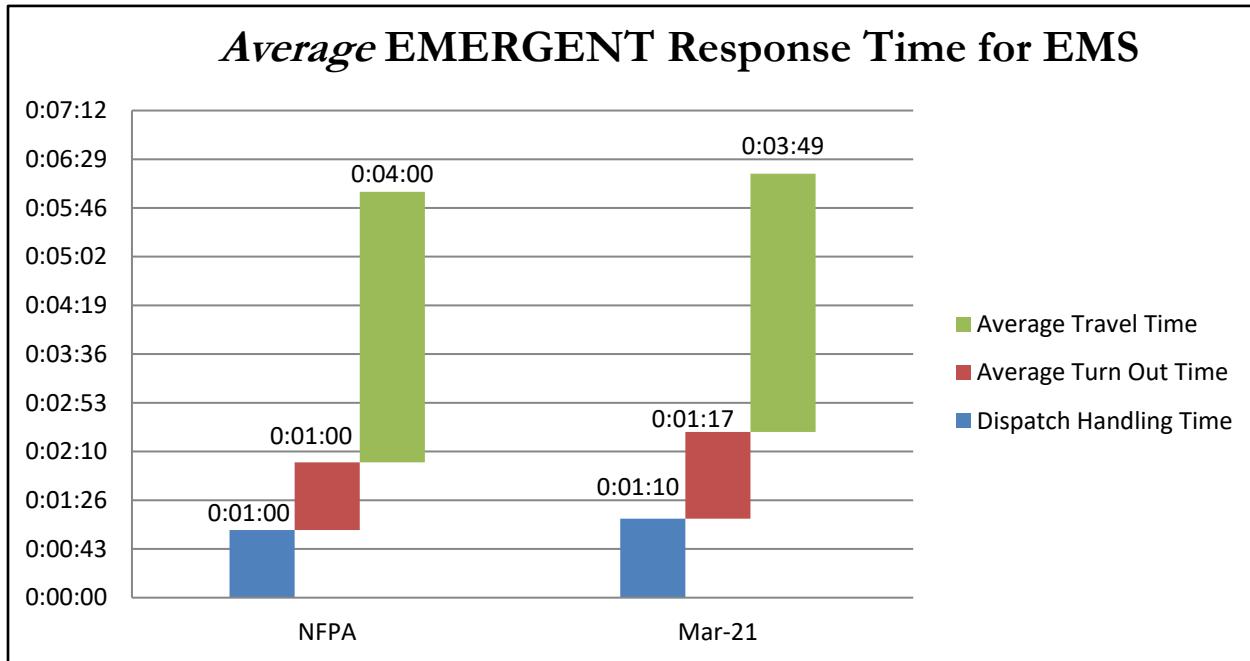


As previously mentioned, there is a national standard for coding the type of property use. How is this relevant? We see trends in various types of occupancies and use them to determine our service demand. For example, the healthcare category would increase if additional assisted living or nursing homes open. As shown below, we continue to respond to Residential Properties more than any other (69%), and Outside/Special Property and Health Care were second with (9%) of all calls.



Response time includes three key factors: dispatch handling time, turnout time, and travel time. Dispatch handling time is the time for dispatch to take in information and then dispatch personnel. The turnout time is when the crews receive the call to the time they get into the vehicles and hit the en-route button. Travel time reflects the time from en route to the time they arrive at the incident scene. Construction, speed limits, weather, and train traffic can impact response times. The overall goal for arrival at an emergency fire call is a total of 6 minutes and 20 seconds from the time of notification until the first unit arrives on the scene. For a response to an EMS incident, this time is 6 minutes.

The following two graphs compare the average emergency response times for both Fire and EMS calls within our first arriving unit's primary response area. These times will vary based on part on the first responding unit's location, multiple calls, weather, time of day, and traffic conditions. *Dispatch handle times have increased after switching to the new CAD system and delays caused by processing an alarm. The ETSB and Infor continue to work on the issue.



Training Division

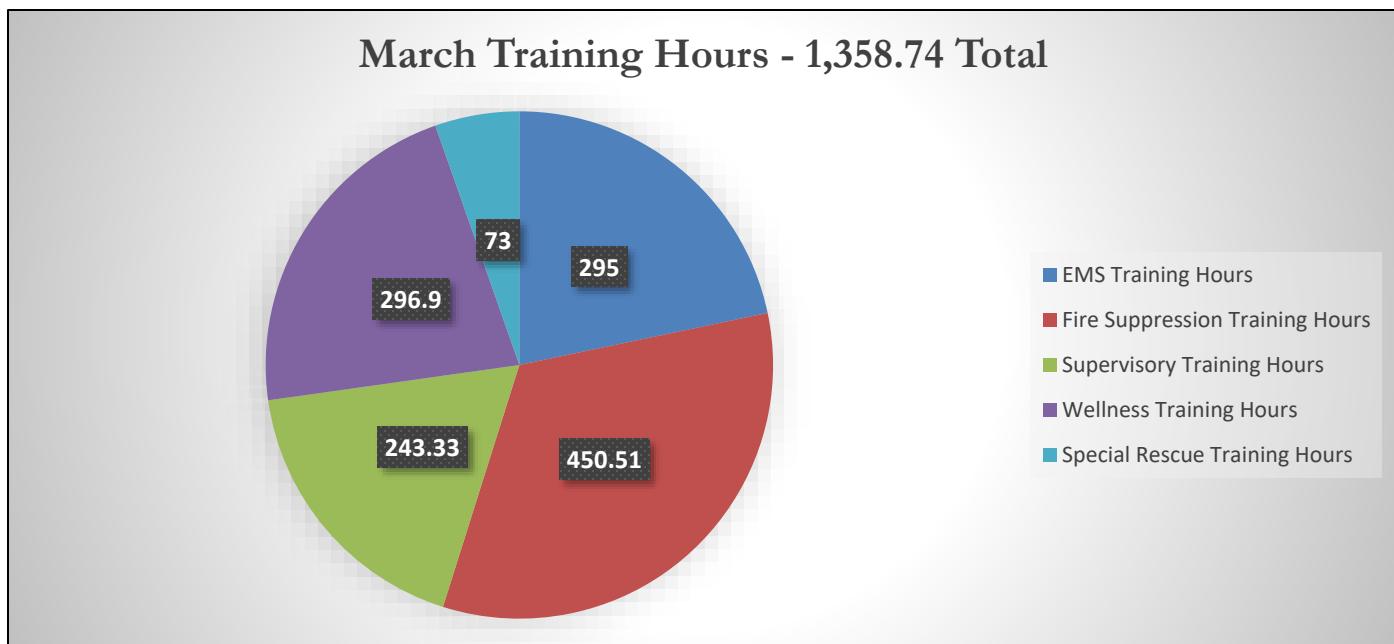
During March, we completed the following shift training:

- **Safety Data Sheet Review** – When we get a new chemical product at the fire department, the crews review the SDS for that product. This was a review of Micro-Dot Wipes.
- **Small Tool Use and Maintenance** – A review of the many uses of the hand tools we have on the fire engines and the proper maintenance for each of them.
- **Bailout Bags In-Service** – A continuation of the bailout bags in-service to improve the firefighter's confidence and skill in performing an emergency bailout. The bailout bags are for trapped firefighters to self-rescue from elevated areas.
- **EMS In-Station** – Paramedics during March's EMS In-station trained on Cardiac Emergencies.
- **EMS SOG Review** – Paramedics reviewed the Pediatric Respiratory Emergencies SOG's
- **CPR Recertification** – Northwest Community Hospital requires all Paramedics to complete an annual CPR recertification class that is taught in-house by our CPR instructors. This was a make-up session for paramedics that missed CPR training during February.
- **Rig Checks** – Complete cleaning, inspection and operating of all Fire and EMS equipment.
- **Ladder Inspections** – Monthly cleaning and inspection of all fire department ground ladders.
- **Vaccine Administration Part 2** – This is required training for our paramedics to assist with administering the COVID-19 Vaccine. We anticipate completing part two of this training during the beginning of March.
- **SCBA Front Door Drill and Emergency Procedures** – Firefighters practiced donning their SCBA to get ready to go into a fire. They then practiced emergency procedures in the event of a problem with their SCBA.
- **SCBA Maze/Communication Drill** – While in a smoke-filled environment with minimal visibility, firefighters received orders via the radio to complete assigned tasks.
- **Multi-Company Rapid Intervention Team (RIT) Drill** – While performing simulated fire suppression activities in the training tower, one crew had a simulated emergency. The RIT was activated to assist them in exiting the building.
- **Reading Smoke Quick Drill** – Crews completed a short morning drill on reading smoke conditions to determine the extent of the fire conditions inside a building.
- **Safety National EVOC Intersections Drivers Training** – Firefighters completed an online emergency driver training covering the proper procedures for approaching and departing from an intersection based on traffic conditions.

Outside training during March consisted of the following:

- FF/PM Cornell, FF/PM Michehl, FF/PM Stapleton & Lieutenant Yee attended the 40-hour Leadership Development and Decision Making class at IFSI. This class helps the participants develop good decision-making skills as it prepares them for a leadership position within the fire department.

The training division conducted three Office of the State Fire Marshal Certification Exams during March for Lake Zurich firefighters and firefighters from other departments.



Fire Prevention Bureau Division

The month of March found the Fire Prevention Bureau doing numerous inspections and site meetings following up on repairs due to the cold weather in February.

March saw an uptick in construction and site meetings. Numerous large industrial park spaces either are occupied with new companies or are moving in. Some of these are:

- Arlington Machinery – 650 Church
- Lightmart – 1881 Rose
- G2 Revolution – 800 Church
- Sports complex – 143 Main

The Fire Investigative Team responded to two fires during March. A vehicle fire at AFCO Products and a commercial building fire at Burger King. Both of these fires appear accidental.

Due to COVID, our school district had to put off all fire drills until spring. With the schools split into two daily sessions, our drill numbers have increased to two drills per school. All of the drills need to be completed before the end of the year. The drills began in March and will carry into April, as the state requires each school to complete three drills per year.

Throughout the month, the Fire Prevention Bureau conducted the following special duties:

- Construction Meetings
 - Walmart
 - Avery Ridge
 - Deer Park new townhome project
 - Lake Zurich High School
 - 650 Church Street
 - 800 Church Street
 - 143 E. Main Street
 - Korean restaurant fire alarm
 - Kueschmann Park with Building Department and Mike Brown
- NIFIA Board Meeting
- NIFIA General Meeting and Training
- Picked up PPE supplies at Fairgrounds twice in March
- Acceptance testing at the new May Whitney. All sprinklers, fire alarms, and final inspections were completed in one day.
- Vehicle fire and investigation at AFCO Products
- Building fire and investigation at Burger King
- Staff meetings



Prescribed burn at the Sonoma Townhomes – With limited personnel, the Fire Prevention Bureau does their best to stop by and check permits and safety every chance they get with these burns.

Year-To-Date - March 2021

