

**North Conway Fire Department's
Ambulance Feasibility Study and Staffing Level Comparison**

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Independent Study

September 2023

Updated November 2024

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Disclaimer

This paper is designed as an independent research paper for the North Conway Fire Department (NCFD) to review the current feasibility of an ambulance and the current staffing level to provide feedback on possible improvements. Research conducted was based on interviews, review of scholarly articles, and review of different municipal budgets & operations. This paper is not designed to be a personal attack on any fire chief past or present. This paper is not designed to be an attack on any board of commissioners past or present. This report is also not a reflection of personal politics or voter response. This paper was drafted up and completed to start an open conversation that is civil and educated moving forward in the years to come.

The topic of a fire department-run ambulance and fire department staffing level is a very controversial topic that has been quickly shot down over the years with little to no discussion. I do believe if the reader takes the time to thoroughly review this paper and look at the data and statistics provided then it will better educate them on this topic on making a decision in the future. I would like to thank the taxpaying voters that have been very good to the North Conway Water Precinct as a whole over the years.

As this paper was written I removed my personal bias from being an active member within the NCFD and provided the reader with all of the data possible to formulate their own opinion. This paper has also been peer-reviewed by a fire chief from an outside agency with no ties to the NCFD, Town of Conway, or Mount Washington Valley as a whole. This fire chief has been with multiple different fire departments throughout the state working his way through the ranks and currently has his Executive Fire Officer through the National Fire academy and is completing his Masters Degree.

I hope this paper finds you well and as a group we can move forward to develop a three to five-year master plan. As part of the three to five year plan I would like this paper to be a

stepping stone for future progress, progression, and safety to the residents and visitors as a whole. Ultimately, anytime there is no forward progress with any agency, business, or entity, it creates complacency and we should always be looking for ways to self improve. Complacency can make any place fall behind and it is always harder to play catch-up then stay ahead.

About the Author

My name is Nicolas E. Preece and I am currently a resident in the Village of North Conway in Conway, New Hampshire. I was born and raised in the valley and I am currently a third-generation firefighter. I currently hold an associate's degree in Science: Fire Science graduating with honors. At the time of graduation in 2017 this degree was considered an entry level degree for a full-time firefighting position. This coming year I intend on starting my bachelor's degree for "Fire Service Administration." This degree will help meet the minimum education requirements for most full-time deputy and assistant chief positions statewide.

For the past six years starting in September, 2017 I have worked full-time for the City of Laconia Fire Department (LFD) as a Professional Firefighter / Paramedic. The LFD is a career department running 5,000 calls a year staffing a minimum of two engines, one ladder, and one ambulance. At any given time we can have three engines, three ambulances, two ladders, and a rescue in service due to cross staffing. Laconia currently has ten firefighters per shift not including chief officers or administrative secretaries. I have also worked throughout the Mount Washington Valley, Ossipee Valley, and other parts of the state working private EMS. On my days off from the City of Laconia, I am Lieutenant / Paramedic for the North Conway Fire Department with twelve years in the department. My role as a Lieutenant / Paramedic is to oversee the Rescue company, conduct monthly training, conduct continuous quality improvement (CQI) for EMS reviewing 100% of the reports, helping improve operations for

NCFD's Rescue and EMS as a whole, and other tasks as appointed. As a resident of the community with my knowledge of Fire and EMS, I felt obligated to conduct this study.

Background

This independent study has been constructed to evaluate the current services being provided to the North Conway Fire Department's primary response area and to see if there are any potential changes that can be presented. This study dates back to 2018 and will run to early in the year 2023. In 2021, the North Conway Fire Department operated 1,318 calls for service. The 2021 annual report exhibited the response categories as Fire, Rescue, Hazardous Conditions, Service Calls, and Good Intent Calls (NCWP annual report, 2021). The North Conway Fire Department is currently licensed at the Paramedic level through the NH Bureau of EMS and responds to all EMS calls dispatched in the Villages of North Conway, Redstone, East Conway, and Hale's Location. The population, square miles, and call volume for the coverage area most days is now equal to a small city.

In current time the villages listed above are covered by a contracted for-profit private ambulance service through the Town of Conway, NH. (Hale's Location's is Conway Village Fire District, formerly Careplus). The North Conway Fire Department once had an ambulance and would provide the area with an EMS response and transport to the hospital. As the current contract through the town reads, the private ambulance is to be staffed at the EMT level (Town of Conway Emergency Ambulance Service Agreement, 2022). An annual rate schedule for ambulance services (Image 1) is also listed in the Town's contract. Hale's Location pays an approximated \$30,000 (thirty thousand) for an ambulance contract. The total of both contracts would equal \$189,000 (One Hundred Eighty-Nine Thousand) this year and \$204,000 (Two Hundred Four Thousand) in 2026 annually.

M. Town of Conway Annual Contribution

The Town of Conway agrees to contribute payment to the provider as follows:

Year 1, May 1, 2022 to December 31, 2022:	\$103,339.35
Year 2, January 1, 2023 to December 31, 2023	\$159,659.82
Year 3, January 1, 2024 to December 31, 2024	\$164,449.61
Year 4, January 1, 2025 to December 31, 2025	\$169,383.10
Year 5, January 1, 2026 to December 31, 2026	\$174,464.59

Image 1

Currently, when a medical response is requested through 911 in the villages listed above, both the contracted ambulance service and the North Conway Fire Department will respond. The ambulance will respond as the transporting agency and NCFD will respond as a first response (non-transport) agency. There have been multiple cases annually where NCFD members needed to ride in on the ambulance to provide patient care. This is because the FD is either providing a higher level of care than the ambulance or they need more than the two providers to render patient care with a critical patient. As of recently this has been a more frequent event.

The North Conway Fire Department's Full Time staffing level hasn't changed since the 1970's when there was an annual call volume of around 200 calls a year. There has been an increase of over 1,000 calls annually. Percentage wise there is currently 750% increase in call volume with a 0% change in staffing. Currently as of 08/01/2023 the NCFD has done 906 calls for service placing it on track to do 1,553 calls for the year. Assuming NCFD completes 1,553 calls they would be the busiest fire department in the state of NH without a full time duty crew providing 24/7 coverage. In 2022, if you take the top five call firefighters based on call volume attendance, the average age comes out to 67.2 years old (Firehouse Software, 2022).

Approximately 50% of the current members of the fire department live out of precinct. The cost

of living in town isn't getting any cheaper and this causes the people in the fire department to live farther away giving a 10 - 20 minute response time to the station when a call is dispatched.

This research paper has multiple credible sources for professional opinions outside of my own have been used as well as multiple studies performed across the country. As a North Conway resident, taxpayer, and public servant, it is my duty to take the current knowledge of Fire, Rescue, and EMS to assist in further informing other residents and governing bodies of the current operations and possible ways to improve outcomes. There is a shortcoming in the current EMS situation in this area and there are ways to improve it. I would hope you will take the time to read this paper and strongly consider the recommendations provided.

Roster Breakdown

As the Fire Department roster stands as of **07/01/2023** there are a total of 39 members. 19 of which host an EMS License. There are currently at least 3 members stating that they are either taking a class or testing for certification to get a provider's license bringing the potential EMS roster to 22. The four levels are Emergency Medical Responder (EMR), Emergency Medical Technician (EMT), Advanced Emergency Medical Technician (AEMT), and Paramedic.

NCFD Roster Breakdown:

- 39 Total
- 19 EMS providers
- 3 Taking or testing for EMS Certification

EMS License Level Breakdown:

- Paramedic: 4
- AEMT: 4

- EMT: 11
- EMR: 1
- Total: 19

NCFD just added Fire Officer coverage 5 nights a week from 1800-0600 bringing the fire department's coverage to 7 nights a week. The majority of Fire Officers are licensed EMS providers however it is currently not required per the by-laws. The current coverage model with the officer coverage shows the NCFD will be able to respond to calls 21 out of 24 hours a day guaranteed. In 2015 the Fire Chief wanted every fire officer to become a licensed EMS provider, paid every officer to take the EMR class, and paid for the class itself. Some officers did not test after the class was over or did not pass and chose not to retest. Some officers completed their EMR then never recertified.

Current NCFD Staffing Model

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
12 AM - 1 AM	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Green
1 AM - 2 AM	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Green
2 AM - 3 AM	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Green
3 AM - 4 AM	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Green
4 AM - 5 AM	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Green
5 AM - 6 AM	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Green
6 AM - 7 AM	Green	Red	Red	Red	Red	Red	Green
7 AM - 8 AM	Red	Red	Red	Red	Red	Red	Red
8 AM - 9 AM	Orange	Blue	Orange	Blue	Orange	Blue	Orange
9 AM - 10 AM	Orange	Blue	Orange	Blue	Orange	Blue	Orange
10 AM - 11 AM	Orange	Blue	Orange	Blue	Orange	Blue	Orange
11 AM - 12 PM	Orange	Blue	Orange	Blue	Orange	Blue	Orange
12 PM - 1 PM	Orange	Blue	Orange	Blue	Orange	Blue	Orange
1 PM - 2 PM	Orange	Blue	Orange	Blue	Orange	Blue	Orange
2 PM - 3 PM	Orange	Blue	Orange	Blue	Orange	Blue	Orange
3 PM - 4 PM	Orange	Blue	Orange	Blue	Orange	Blue	Orange
4 PM - 5 PM	Orange	Blue	Orange	Blue	Orange	Blue	Orange
5 PM - 6 PM	Red	Red	Red	Red	Red	Red	Red
6 PM - 7 PM	Yellow	Yellow	Yellow	Yellow	Yellow	Red	Yellow
7 PM - 8 PM	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green
8 PM - 9 PM	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green
9 PM - 10 PM	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green
10 PM - 11 PM	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green
11 PM - 12 AM	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green

Image 2

To further expand on the model there are five different colors listed showing different levels of coverage. **Blue:** Two full time members staffing the FD 0800-1700. **Orange:** One

fulltime and one per-diem employee staffing the FD 0800-1700. **Yellow:** One fire officer at home or the station (their choice) covering night calls from 1800-0600. **Green:** One EMT and one FF covering calls at night also not required to be at the fire station from 1900-0700. Both shifts in green don't always get covered because it's on a volunteer sign-up basis. **Red:** No guaranteed call coverage.

To provide the reader with better knowledge of what an EMT, AEMT, and Paramedic does, I have listed some of the requirements below. To become an EMT the average class is 110 hours plus additional clinical time taking 4-6 months of training to complete. Requirements for AEMT: Obtain your EMT then complete an additional 200 hours of class plus clinical time taking 4-6 Months. Paramedics: Be either an EMT or AEMT first then complete 1,000 hours of class and clinical time taking approximately 2 full years to complete.

Roles of an EMT:

- Provide first aid & stop immediate life threats.
- Obtain a patient history.
- Obtain baseline vitals: BP, HR, SpO2%, Blood Glucose, Respiratory Rate.
- Obtain 4 - Lead and 12 - Lead EKGs.
- Provide basic airway management: CPAP, O2, BVM, Oral / Nasal adjuncts.
- Stopping bleeding with a variety of dressings.
- Administer basic medications. Examples: aspirin, epinephrine, oxygen.

Roles of an AEMT:

- Provide all that an EMT does.
- Start IV's and IO's: (Bone drill for advanced vascular access.)
- Push first line medications: (Cardiac, diabetic and respiratory.)

- Basic EKG recognition of four rhythms.
- Higher scope of practice for pediatrics compared to EMT.

Roles of a Paramedic:

- Provide all that an EMT and AEMT does.
- Administer up to 60 different types of medications prehospitally.
- Advanced patient assessments. (Paramedics are often referred to as clinicians performing procedures and interventions like a DR., not just technicians.)
- Needle chest decompressions. (Reinflates a collapsed lung)
- Advanced Cardiology: Cardioversions, manual defibrillation, pacing, and 50 different EKG rhythms recognition.
- Advanced Airway Management: Intubation, surgical airway placement, BiPAP, and ventilator operations.
- Ultrasound operations.
- Orogastric and Nasogastric tube placement.

Call Volume and Cost

In the annual report for 2021 the NCFD responded to 1,318 calls for service. After the first half of 2023 the NCFD has responded to 906 calls placing the department on track to do 1,553 calls for the year. Out of the 1,318 calls for service in 2021 there were 686 Rescue calls and 44 persons in distress (lift assist) other calls. Adding the two categories together this brings the fire department to 730 EMS calls. At 730 EMS calls this breaks down to 2.0 EMS calls per day. The NCFD uses “Rescue 1” as their primary medical response vehicle and is equipped with a full complement of supplies for anything needed on a medical aid. Rescue 1 is a full sized heavy rescue truck that less than 50% of NCFD’s EMS providers can drive due to its pure size

and personal comfort level. There has been conversations about moving the EMS equipment to “Rescue 2” a light rescue truck on a Ford chassis however there is no current means of climate control for EMS medications and equipment.

As the North Conway Fire does not transport they do not currently bill a patient for their EMS services. There is currently a Paramedic intercept “ALS Fee” that was just implemented in July drafted up by Lieutenant / Paramedic Preece, revised by Asst. Chief / Paramedic MacMillan, then approved by the commissioners and fire chief. The ALS Fee is to help offset any additional cost incurred by the fire department when providing the ambulance with a higher level of service. When the fire department provides a higher level of service the EMS provider is legally bound to the patient forcing them to ride in the ambulance to the hospital. This is a very strong possibility due to a NCFD Paramedic being on shift 7 days a week. If the NCFD provider was to leave the patient to a lower license level this would cause abandonment.

Billing / Reimbursement:

- Contracted Ambulance: \$3,000 through \$5,000 per transport
- North Conway Fire: -\$20 through -\$500 per transport assist
 - (NCFD loses money due to payroll and supplies)

NCFD’s money loss explained: \$20 is the minimum payroll of an hour to an hour and a half for one ALS provider and \$500 being potential equipment used. This cost can easily double and in some cases even triple. When an AEMT or Paramedic from NCFD rides in with the ambulance to render patient care at a higher level, the fire department was losing money through payroll, supplies, and/or medications used prior to the ALS fee. When the ambulance transports with a fire department member providing patient care, the ambulance service is still billing between \$3,000 through \$5,000 per transport and \$70 / mile (NH Health Costs, Ambulance

Billing 2022) with no reimbursement from the patient coming back to the Fire Department. The current ALS fee is charging the service that the FD is assisting. NH Health Costs conducts billing surveys every three months.

For the year of 2023 there were 56 documented events where a member of North Conway Fire had to provide a higher level of care then ride in the ambulance to the hospital. This past year is one of the lower years on record, however there are prior years where there have been twice the events. For a quick cost breakdown of an “ALS Intercept” this is listed below. Note for documentation purposes an *ALS Intercept* is different from a “Paramedic Intercept.” Statistics provided are only ALS intercepts. An ALS intercept is when a NCFD member supplements the ambulance with a higher level of care for a call NCFD was already on. A paramedic intercept is when a NCFD paramedic responds to a dispatched paramedic tone to assist an ambulance service on a call they were not previously called to.

- At \$20 for 56 NCFD transports: -\$1,120.00
- At \$500 for 56 NCFD transports: -\$28,000.00
- At \$3,000 per 56 private AMB. transports: \$168,000.00
- At \$5,000 per 56 private AMB. transports: \$280,000.00

With this quick comparison it shows that NCFD could spend upwards of \$28,000 on the 56 ALS intercepts in 2023. The current private ambulance is billing upwards of \$280,000 for those 56 transports.

Listed below will be a table showing the amount of times NCFD has provided the ambulance with a higher level of service. These numbers show how many times member(s) had to ride in the ambulance to supplement the level of care. These numbers do not include “Paramedic Intercepts” only “ALS Intercepts” (times North Conway Fire had already responded

to the initial 911 call.) This data also does not express when the ambulance has requested a NCFD member to drive while both ambulance attendants are in the back with the patient.

Year	Times Riding	Estimated Loss	Potential Billing*
2023	56	\$1,120 - \$28,000	\$168K - \$280K
2022	37	\$740 - \$18,500	\$111K - \$185K
2021	65	\$1,300 - \$32,500	\$195K - \$325K
2020**	21	\$420 - \$10,500	\$63K - \$105K
2019	63	\$1,260 - \$31,500	\$189K - \$315K
5 Year AVG.	45.8	\$916 - \$22,900	\$137.4K - \$229K

* Cost based on the EMS Billing Survey NH Health Cost.

**TEMSIS (EMS reporting software) Showed significant drop in EMS calls due to COVID.

Statewide most fire departments had less calls in 2020.

When looking at the above chart, 2020 was the slowest year for times riding in as compared to the years before and after. This is likely due to a significant drop in total calls during COVID lockdown. Due to the loss of tourism and dropping 911 calls statewide EMS in NH had slowed down. Listed below is another chart breaking down the total percentage NCFD is having to ride in with the ambulance based on total calls as a whole not just transports.

Year	Times Riding	TEMSIS Reports	Percent Riding In
2023	56	556	10.07%

2022	37	544	6.80%
2021	65	459	14.16%
2020	21	260	8.07%
2019	63	335	18.81%
5 Year AVG.	48.4	430.8	11.23%

--This percentage shows the percent of a NCFD member providing a higher level of care based on *total EMS Calls* not total transports. A transport only statistic would yield a higher percentage.

Regarding the current ambulance service, I personally spoke with three different anonymous residents. A local woman who lives within the North Conway Water Precinct was transported to the ER last summer and received a \$4,000 ambulance bill for a 1.7 mile transport. Another anonymous resident stated that their bill was \$5,500. A third anonymous resident stated their bill was \$6,168. All of them reported to me that whereas the ambulance company is based out of Massachusetts their insurance companies only offered to cover up to \$600 because it was considered an “out of network transport.” This leaves one resident with a remaining bill of \$5,568 out of pocket for an emergent 911 ambulance transport. If the fire department was to take over the ambulance and does not affiliate with specific insurance companies for billing it would be considered an “in-network” coverage for the people who call 911 within their own community. The statewide average ALS bill in 2022 was \$1,300 before mileage. If the North Conway fire department billed an ambulance at one-third the current service, the money coming back to the FD would more than cover the EMS budget and could cover multiple additional salaries.

Reviewing the 2021 actual budget and the 2022 approved budget for Rescue and EMS, 2021's budget showed a total of \$6,000 between rescue equipment and supplies with a total spent of \$4,367.70. The 2022 approved budget for rescue equipment and supplies combined is \$6,500 showing a \$500 or 8% increase. From 2019 through 2022 there was an 11% increase nationwide in EMS equipment cost (*EMS economic and Operational Models Executive Summary 2023*).

As mentioned before, the North Conway Fire Department uses "Rescue 1" as its primary medical response apparatus. Having a heavy rescue is critical to NCFD's response area. There is a complement of resources and is loaded with a plethora of equipment from struts, airbags, auto extrication tools, medical equipment, etc. Running a heavy rescue as a first due EMS piece has its downfalls for a non-career department. This truck was purchased for \$600,000 after discounts however valued at over \$750,000 as of 08/24/2021 from E-One. This is big enough where it qualifies as a CDL vehicle however not every EMS provider can drive this truck. If NCFD had an ambulance, 100% of EMS providers would be able to drive.

An ambulance's primary responsibility is EMS after that is MVAs. It is possible for a NCFD member to respond to a medical call by themselves in Rescue 1 then have to leave the truck. The Rescue could be left unattended on the side of the road due to the need of assisting the ambulance with an ALS provider or even an ambulance driver in some cases. If someone had to ride in with the ambulance to provide advanced life support or drive the ambulance then the rescue truck is out of service on the side of the road unattended until someone can get it. If the truck is out of service it will be unable to respond to any other calls as needed ie: MVAs. This is a very possible scenario with the limited NCFD staffing of one to two people being on a shift or on call. If there were two people dedicated to an ambulance as opposed to just one or two on Rescue 1 you wouldn't have to worry about leaving a truck behind.

Control of the Scene & Patient

With private ambulance services statewide, North Conway included, there isn't any guarantee that the FD will be staffed for calls appropriately. The ambulance is staffed for EMS calls only. There are a few occasions where the NCFD was dispatched along with the ambulance and there was not a responder from NCFD due to a shift not being staffed. Most municipalities throughout the state and country use private EMS as a crutch to "save money" by not staffing the FD appropriately. Fire based EMS by use of an ambulance run by the fire department there are people ready to respond to any call who can be cross-trained in fire and EMS. Ambulance billing would go back to the FD offsetting equipment costs and salaries.

According to a position paper published by the International Association of Fire Chiefs (IAFC), Fire-based EMS is proven to be more beneficial for the community. The IAFC took a stance stating Fire-Based EMS is more beneficial than private EMS in 1975 and has held the same position to this day. This shows 48 years worth of data proving that private EMS is less effective than municipal. Some of the points they took not only provide the patient but also the community with a higher level of service. Fire-based runs deeper than just answering the 911 call listed below are a few key takeaways of their position paper:

- Unity Of Command.
- Continuity of Administration.
- Continuity of patient care / patient rapport from the first responding agency to the ER.
- Ability to provide Advanced Life Support during technical rescue including high angle, low angle, auto extrication, water rescues, etc.
- Ability to control who is providing patient care in the community.
- Continuity of quality assurance and medical direction.

- Continuity of EMS training.
- Continuity of medical equipment.
- Continuity of Standard Operating Procedures on emergencies.

To elaborate on some of the positions, I will provide some important examples. If the fire department was running the ambulance when there is an emergency, everybody is on the same page on how to operate the call for service. Currently the ambulance can be first on scene and operate in a manner that does not align with fire department operations or safety factors. NCFD provides its members with an annual in-house EMS license refresher and constant monthly training on EMS equipment and patient care. Private EMS does not guarantee the same training.

Continuity of equipment: If NCFD runs a Zoll Monitor / Defib and the ambulance decides to switch to a different manufacturer then none of NCFD's AED pads, capnography adaptors, joule settings, or other functions would not be interchangeable. Currently the NCFD has a mechanical CPR device allowing an extra set of hands to be freed up during CPR, but the contracted service does not have this.

Quality assurance and continuity of administration: More often than not if there is a complaint about the ambulance company's operations or providers, their manager is out of state and is not around to properly rectify the problem immediately. With an ambulance at the fire department, the NCFD holds the EMS providers to a higher standard for patient care, scene operations, and bedside manner. At any given time, the closest supervisor for the contracted ambulance could be several towns away or out of state. NCFD has a fire officer on shift 7 days a week to handle issues or complaints as they occur.

Technical rescue: Low occurrence high risk task performed by the fire department. When there is a serious car accident, private EMS providers are not trained in how to operate

safely within close proximity of the incident. Private ambulance companies will only provide their EMS providers with a traffic vest during MVAs. In this situation wearing fire gear is required to enter the vehicle and provide patient care. With continuity of care there would be no discrepancies on how to extricate the patient while performing patient care with fire-based EMS.

There are times where there might be a serious accident resulting in multiple different agencies involved. Fire-Based ambulances allow the FD to have full control of patient care, extrication, and other functions as needed. Occasionally on these calls the fire department has a specific way they would like to extricate the patient however; the private ambulance who transports the patient has their own opinion on what needs to be done. With two different opinions and approaches to a high risk rescue it then placed the patient at risk due to miscommunications between the rescuers, firefighters, and ambulance providers. It becomes very difficult to make a unified decision in a high stress environment if there is a disagreement in patient care. The FD is responsible for the patient during the rescue and the private ambulance is responsible for the transport. Both render patient care however who gets the final say, ultimately the fire department however the ambulance crew answers to the ER.

In conclusion of the International Association of Fire Chiefs Position Paper they stated, *“Fire service EMS is the most efficient and effective model for the rapid delivery of all emergency medical services. When time is critical and effective pre-hospital care is necessary, the fire service is well positioned strategically, geographically, administratively, financially, and operationally. Therefore, the International Association of Fire Chiefs urges all elected and government appointed officials, professional associations and health care providers to recognize and support the provision of emergency medical care first response and ambulance transport by the fire service.”* (International Association of Fire Chiefs, 2009)

Taxpayers Get A Say

In addition to the advantages over control of the service by bringing the EMS service in house, it would give taxpayers a say in the level of care being provided. Right now the town puts out the ambulance contract through the selectmen and the current standard is EMT level care being provided. Over the past five years what this has meant to the tax base is that on the Conway end of town they have had paramedic coverage at a close to 100% of the time due to the ambulance service being part of their fire department. When they did not have a paramedic on duty there was almost always one in town in the fire department that could respond to more critical calls. In North Conway this has not been the case due to the private ambulance. The NCFD should feel privileged to have now gained a Paramedic 7 days a week within the past year.

Over the past several years the private service that has been contracted has also been contracted to cover the 6 towns of Madison, Tamworth, Freedom, Ossipee, Eaton and Effingham. In their 6 town contract they have an ALS minimum standard with the requirement for there to be at least one paramedic on the trucks covering those towns. They also have a paramedic service that is available from Huggins hospital that will respond to scenes. What this has meant for the North Conway coverage area is that the ALS providers have been prioritized to cover the southern portion of the private contracts because they are not required to provide that same level of coverage up here. If the district decided to bring EMS response in house, the taxpayers would easily be able to decide what level of coverage they felt was best for the district. North Conway Fire is already in a position to be able to provide paramedic level care to patients at a much higher rate than is currently available with the private EMS coverage.

The current state of private EMS is failing throughout the country. Staffing shortages, for profit services, and lack of supervision are the big factors. Private EMS throughout the country used to be a field where someone could do a full career and be satisfied. Many people throughout the state, myself included, would work for a private EMS company as a stepping stone to become a fulltime firefighter simply getting experience and hosting a fulltime job until one opened. Many years ago private EMS companies would pride themselves in professionalism however now with lack of supervision there is little structure anymore.

Apparatus Staffing & Response

Running an ambulance would assist with staffing the fire department to an National Fire Protection Agency (NFPA) 1710 and 1720 standard which NCFD is not currently meeting. Having an ambulance out of the fire department brings money back to the FD, offsetting the cost of calls and salaries. Staffing an ambulance according to Saf-C 5902.06(c) there needs to be a minimum of 2 licensed providers (Saf-C 5902.06(c), 2023). Saf-C 5904.01 defines license levels as (b) as an EMR, (c) NH EMT-B, (d) EMT, (e) AEMT, (f) Paramedic (Saf-C 5904.01 (b),(c),(d),(e),(f), 2023). An EMR can provide patient care during transport as long as treatment falls within their scope of practice (Saf-C 5902.06 (f), 2023).

Throughout the state there are many fire departments that either have a small roster or a not very active call department so they cross staff an engine and ambulance to guarantee a response to their community. Other NH departments with their staffing level, ambulance status, and call volume are later listed on this report. Staffing levels in this report for other fire departments do not include chiefs, assistant chiefs, deputy chiefs, or other administrative roles. Staffing listed is strictly “duty crew” personnel.

Looking at the staffing model of 2002 there were 2 full time employees for the fire department running around 400 calls a year. There was also one lane in and one lane out of North Conway. Since 2002, the call volume has peaked to 1,397 calls for service and there has been a major burst in infrastructure, box stores, tourism, hotels, population gain during the weekends and vacations, high hazards, and traffic. The only staffing change was 1 FT Secretary, 2 PT Employees from 0800-1700, officer coverage Sunday through Thursday 1800-0600, and two stipend shifts on Friday and Saturday Nights 1900-0700. NCFD has a long way to go to meet staffing needs per NFPA 1710 (Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments) and NFPA 1720 (Volunteer Departments) and have fallen behind due to trying to save money in the budget. Obtaining an ambulance would help greatly. Having an ambulance would provide NCFD with 2 additional people around the clock and the billing / ambulance contract would offset the costs of staffing.

Adding additional Full-Time firefighters would also aid in our current response time for fire and EMS calls. Recent building fires NCFD had were on July 13th, 2023 and took the first arriving engine 13 minutes to arrive 1.9 miles from the station. On April 29th, 2023 it took 11 minutes for the first fire engine to arrive on scene 1.1 miles from the station. The fire before that took place on January 5th, 2023. This building fire took 15 minutes for the first fire engine to arrive 1.8 miles from the station. NFPA 1710 states the first due fire engine should arrive on scene within 4 minutes 90% of the time (NFPA 1710, 2020).

Backup Ambulances

Throughout the state and locally there are many fire departments who own an ambulance however are not the primary transporting agency. These departments have an ambulance due to either shortcomings of the current ambulance provider, shared EMS contract with another town making an ambulance unavailable to them if they are on another call, or even providing their own transport to offset cost of a call allowing the service to collect revenue from a service they provided. Some fire departments that have an ambulance as backup to private EMS and have the capability of transport are as listed below.

- Ashland Fire
- Center Conway Fire
- Center Ossipee Fire
- Tamworth Fire
- Tuftonboro Fire

There can be many benefits to having an ambulance between now and when the private contract ends in 2026.

1. If the fire department gets on the scene first in the village or West Side Road, they can transport if they please and do not have to wait for the contracted service to arrive.
2. If this patient requires a higher level of care than the contracted service, then the FD can transport, bill the patient, and collect reimbursement instead of taking a loss.
3. If there are multiple calls in progress which often happens townwide, then NCFD could transport one of them as opposed to calling for an ambulance out of Conway, Bartlett, Tamworth, or even Fryeburg reducing wait times.
4. Adding staffing to the FD provides a better aid in NFPA staffing and response requirements and better ISO rating.

Municipalities Staffing Schedule 2021

Town	Staffing Level	Ambulance	Call Volume 2021
Barnstead Fire	3 Shifts of 2 24/7	Fire Department	811
Belmont Fire	4 Shifts of 3 24/7	Fire Department	1,600
Berlin Fire	4 Shifts of 5 24/7	Private	904
Bow Fire	3 Shifts of 3 24/7	Fire Department	1,160
Claremont Fire	4 Shifts of 4 24/7	Private	1,468
Hanover Fire	4 Shifts of 5 24/7	Fire Department	1,704
Littleton Fire*	4 Shifts of 3 24/7	Fire Department	1,276
Moultonborough**	4 Shifts of 2 24/7	Private	1,067
Tilton-Northfield Fire	4 Shifts of 4 24/7	Fire Department	2,014
Pelham Fire	4 Shifts of 5 24/7	Fire Department	1,567
Rye Fire	4 Shifts of 2 24/7	Fire Department	937
Somersworth Fire	4 Shifts of 4 24/7	Private	1,527
Wakefield Fire	3 Shifts of 2 24/7	Fire Department	1,202
Wolfeboro Fire***	4 Shifts of 3 24/7	Private	1,382
North Conway Fire	2 People 8HR Daily	Private	1,318

* Littleton Fire took over the ambulance from Private EMS in 2019.

** Moultenborough just added 6 FT Firefighter positions FY23-24 bringing them to 24/7 staffing.

*** Wolfeboro is taking over ambulance services and adding 6 additional firefighters, 1 EMS Captain, and assuming full EMS duties thereafter.

-Note to calculate total full time firefighters multiple shifts by personnel.

As mentioned prior, the staffing model listed above does not include chiefs, assistant chiefs, deputies, or other administrative personnel. The different departments referenced are of

similar call volume to North Conway Fire. North Conway Fire currently ran 1,318 calls in 2021 without 24/7 coverage and without an ambulance. For 2023 NCFD is on track to do 1552 calls for service. Running an ambulance would offset the cost of adding personnel to the fire department's staffing level and NCFD would be providing a better service to the community. Adding an ambulance with staffing will add the ability to cross-staff fire apparatus for a multi-tier response and will also help the ISO rating.

The North Conway Fire Department has not added any additional full time firefighters since the 1970's. Over the course of 50 years the town and village has seen drastic growth in population, commercial, residential, tourism, inspections, and calls for service. There are many more hotels, apartments, restaurants and developments being added in the next five years. The Pine Hill development is a similar model to the "Taylor Community" in Wolfeboro & Laconia, and could possibly increase the call volume by approximately 200 calls a year. With the other growth in the valley the 5 year projected call volume for North Conway can be anywhere from 1,700 through 1,900 calls a year. With this in mind I would encourage the reader to look back at the Municipal Staffing Schedule and compare it to the Current NCFD model.

In 2006, Franconia started their own ambulance. In 2007, Campton-Thorton added two positions to support their new ambulance starting in 2008. In 2007, South Hampton started their own ambulance. In 2016, Amherst Fire and Amherst Rescue merged, giving the fire department the ambulance. In 2017, Tamworth Fire and Tamworth Rescue merged, giving Tamworth Fire the ambulance. In 2018, Laconia Fire took over the ambulance from the hospital. In 2019, Littleton Fire took over the ambulance. In 2020, Gorham Fire and Gorham Rescue merged, giving Gorham Fire the ambulance. In 2023, Allenstown Fire Started their own ambulance taking over from Tri-Town EMS.

In the 2002 Town of Conway Master Plan compared to now it shows a large growth townwide. The Police, DPW, NCWP usage, CVFD full time members all grew. However, there were no changes in NCFD personnel. In other precincts, CVFD had the same staffing model as NCFD for Full Time employees in 2002 (image 3.) Since then due to an increase in call volume, infrastructure, demand on the FD, and tourism they are currently up to 9 Full Time employees (chief, asst. chief, 3 shifts of 2 working a 24 hour shift with, and a station captain working 24 hour shifts.) The CVFD fills in all of the open spots with full time, part time, and call members to maintain two duty crew members 24/7 and a third member on the weekends. Currently NCFD is on tract to do more calls then CVFD with 7 less Full Time firefighters.

	North Conway	Center Conway	Conway Village	East Conway	Redstone	Total
Major Equipment	6	6	10	5	3	30
Personnel, Full-Time	2.5	0	2	0	0	4.5
Personnel, Part-Time/On Call	40	20	43	20	20	143
Source: Conway Fire District/Precinct Fire Chiefs						

Image 3

Regarding the Town of Conway’s master plan back in 2002 compared to now, 21 years later there had been a great leap in growth. Almost every aspect of the local municipalities has been increasing in size with the exception of the NCFD staying the same size. Conway PD, Department of Public Works, and Conway Village FD (CVFD), have all increased their staffing needs to accommodate the constant growth of the town. There has been very little change to NCFD since the 1970’s. The southern end of the town has done a good job in educating the commissioners and tax payers on the importance of staffing the past several years and approved to add full time members. CVFD has gone from two members in 2002 to nine in 2023. North

Conway takes pride in being one of the best tourist destinations in New England, however the fire department is still operating at a below minimum level per NFPA standards.

When looking throughout NH at different municipal budgets there was an interesting trend that I found. Most fire departments that are either combination or full-time had an annual budget of around \$900,000 through \$1.3 Million dollars for every one thousand calls for service. The budget for NCFD showed around \$900,000 for 1,350 calls for service. If NCFD completes 1,500 calls for service based on the budget averages the budget could be between \$1.35 million through \$1.95 Million to follow the trend around the state and be considered “average.” Currently the budget is between \$400,000 through \$1 Million below the average trend.

Based on the current budget I do believe you could take that money and add additional staffing to aid in NFPA standard plus cross-staff an ambulance in the process. The ambulance would aid in offsetting staffing / equipment cost as time went on through revenue. Currently with the low cost budget, minimal staffing, and growth I do believe that the NCFD is providing a shortcoming to the community. With the cost of everything increasing, not having an ambulance to offset cost, and volunteers moving away / aging out, it's time to add a duty crew 24/7.

Offsetting Cost

Offsetting costs to taxpayers and providing a greater service is always a bonus. Obtaining an ambulance and staffing it appropriately can benefit the community and department in several ways. Looking through different municipal budgets of Fire Departments throughout the state, those who run an ambulance can cover the first 2 - 4 FT firefighter positions. When collecting ambulance revenue you can approach this from a few different angles. First, place the money in a revolving EMS fund and keep the money to pay for supplies. Over time you could buy a new

ambulance without cost to the taxpayer. Second, place the money towards the duty crew salaries. Third, place the money into a general fund offsetting the budget as a whole.

When looking around at different budgets around the state I found that Milton NH has the easiest one to explain for a revolving fund. The image below (Image 4) shows their cost to operate an ambulance (red), revenue gained (blue), and capital replacement of an ambulance (green) that pays for itself all in billing.

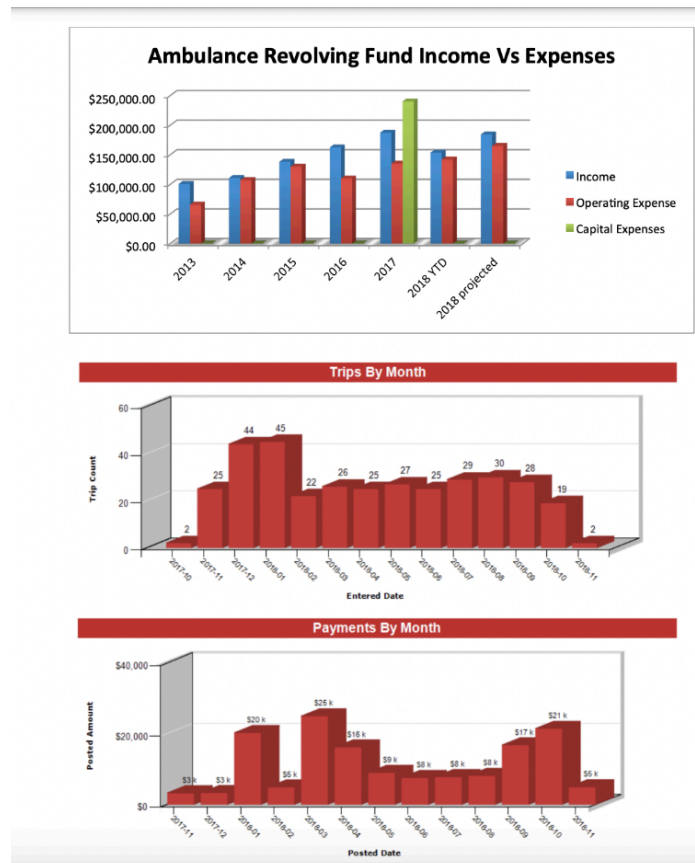


Image 4

The Milton, NH Fire Department operates using the fire department run ambulance model. Currently Milton has two full-time FF/EMTs (Voting in 2023 to add a third) and 45 call / part-time members running 800+ calls a year for fire and EMS. Looking at the ambulance revolving fund it shows that it costs less to operate an ambulance then what they get in return

providing them with a foundation to buy a new ambulance every five years without the stress of taxation.

When speaking with a deputy chief from the Tilton-Northfield Fire Department they had conducted an in-house study many years ago and found that running their own ambulance out of the fire department is the best solution for offsetting cost and staffing. Running an ambulance helps add staffing to the fire department while providing a better service to its citizens. The TNFD runs around 1,800-2,000 total calls a year (1,300 being EMS) in 2022 they had \$574,379.99 in ambulance revenue.

Billing

There are many billing solutions that can be used for ambulance reimbursement. There are a few popular companies that fire departments in NH use including but not limited to Quick Med Claims, Comstar, Zoll Data Technologies, in-house billing, and so on. Depending on the company used, there are several options for their billing services. As an agency they can collect their cost of billing based on a percentage of the bill, monthly / yearly flat rate, or fixed amount per ambulance trip.

Billing can be made very simple. In Laconia, the deputy chief of EMS will go into each TEMSIS Report, make sure the report is complete, perform any CQI, then send it to the billing company. The billing company then sends out the bill, if it goes unpaid the billing company is also unpaid so they chase down the bill leaving less for the FD to worry about. Billing for an ambulance trip to the ER can take up to 1-3 months from initial 911 call to the return of the ambulance bill. Listed on the start of the next page is a multi town billing comparison that came from their annual reports.

Fire Department	EMS Calls*	Ambulance Billing	AVG per Call
Alton	716	\$273,809.12	\$382.41
Amherst	1,000	\$400,000	\$400
Bow	700	\$250,000	\$357
Franklin**	1,012	\$425,989	\$420.94
Gilford	1,342	\$445,051.13	\$331.63
Lancaster***	723 (2,000)	\$1,722,129	\$861.06
Littleton	948	\$292,535	\$308.58
Milton	622	\$174,195	\$280.05
Multi town Average			\$417.71

*This is total EMS calls; Transports, Non-Transports, MVAs, and EMS service Calls. Most fire departments only bill if the patient is transported.

**Franklin gets an additional \$80,000 on top of their Billing for covering other towns without an ambulance.

***Lancaster Fire does 723 calls for 911 service however also does a total of 2,000 ambulance EMS calls total due to interfacility transfers and details.

Whereas NCFD ran 730 EMS calls in 2021, the ambulance revenue could be up to \$304,928 using the multi-town average of \$417.71 per call. Taking the \$300,000 and adding the \$180,000 for the Town of Conway's contract and potential of \$30,000 from Hale's Location would bring NCFD's potential EMS revenue to \$510,000 yearly. That leaves NCFD with \$510,000 a year to add additional equipment, staffing as needed, and ambulance replacement funds.

The recommended life of an ambulance is five years first due and five years as a backup. As a start up cost of two ambulances costing one new and one used would be around \$500,000. If you add the \$510,000 a year of billing to an ambulance revolving fund, by the second year, the NCFD would have generated enough revenue to offset any startup costs from the first year. After the next three years when the new ambulance is five years old, there would be more than enough money in the budget to purchase an ambulance without taxation.

Conclusion

In conclusion there is sufficient evidence to support the North Conway Fire Department obtaining and running an ambulance. Based on medical billing and ambulance contracts alone, the fire department could run the ambulance offsetting and additional startup costs within a couple years. The NCFD already has the equipment needed to stock / supply a primary ambulance and carries more specialized equipment than the current contracted service does. With the constant growth and development of the area, it is time to take EMS transport and staffing into their own hands. A large conversation among the commissioners is how to "offset costs" and having an ambulance would greatly do so. Not having one at this point would be fiscally irresponsible.

The NCFD could bill one third of what the current service does and still maintain an adequate income to be efficient. The fire department also serves as a very knowledgeable service to the Mount Washington Valley of which the ambulance services lack. The fire department also carries special keys and gate keys that can allow access to commercial and some residential buildings that the ambulance doesn't carry.

Over time with running an ambulance generating revenue it will also aid in the NFPA staffing requirements. Staffing may cost money up front however the ambulance can help offset

that cost. There are also alternative routes to pay for staffing for the first three years fully funded by FEMA through SAFER Grants. With SAFER grants the municipality would have to go for multiple positions at once for a better chance of winning. The majority of EMS providers on NCFD now are also cross trained as firefighters so having an ambulance would allow better responses from the fire department taking more appropriate trucks to calls. The NCFD is currently holding business in town to the NFPA standards 1 and 101 (The fire code and Life safety Code) for inspections however the FD is far from holding itself to a NFPA 1710 and 1720 staffing and response standard providing a substandard response.

With the current call volume, high hazards, and fire load of this town NCFD would need at least 3 firefighters 24/7 to start. For obtaining an ambulance, the NCFD could enter a lease - purchase option to offset start-up costs and start transports prior to the contract being over to collect revenue. According to the NH Bureau of EMS, the only thing NCFD would need to do to take over an ambulance is to obtain an ambulance, have it state inspected, and obtain a transporting license, and there would be no need for change to the NCWP charter. Due to the NCFD being the primary response agency we would be allowed to transport the patients even with the private contract in place. This concludes my paper and thank you for your time and consideration.

References

- Health Cost, N. H. (n.d.). *Action ambulance services*. NH Health Cost.
<https://nhhealthcost.nh.gov/provider/action-ambulance-services/costs/medical>
- (Health Cost, n.d.)
- Division of Fire Standards & Training and EMS, N. H. D. of S. (Ed.). (n.d.). *Trauma and emergency medical services information system (TEMSIS)*. TEMSIS.
<https://one.nhtsa.gov/nhtsa/stateCatalog/states/nh/docs/TEMSISImplementation.pdf>
- (Division of Fire Standards & Training and EMS (TEMSIS), n.d.)
- Anonymous residents providing Private EMS Billing data
- “NFPA 1720.” *NFPA 1720: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments*,
<https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1720>.
- “NFPA 1710: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments.” *Nfpa.org*, 2016,
www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1710.
- *Fire departments - kling report*. Kling Report - NE Essential Service Information, All In One Place. (2023, March 24). <https://klingreport.com/fire-departments/>
- *IAFC position: Fire-based Emergency Medical Services*. International Association of Fire Chiefs. (n.d.).

<https://www.iafc.org/topics-and-tools/resources/resource/iafc-position-fire-based-emergency-medical-services>

- *Q&A: Evaluating the state of fire-based EMS in America*. FireRescue1. (2020, May 21).
<http://www.firerescue1.com/fire-products/training-products/articles/qa-evaluating-the-state-of-fire-based-ems-in-america-tkJ8EYqq9VzjfbDP/>.
- *EMS economic and Operational Models Executive Summary*. NAEMT. (2023).
https://naemt.org/docs/default-source/ems-data/ems-economic-and-operational-models-survey-02-20-2023-final.pdf?sfvrsn=1fb9f493_2
- NCWP 2021 Annual Report
- Annual Town Reports 2021 MS-434 NH Dept. of Revenue Reports
- 2002 Town of Conway Master Plan

Image Appendix

M. Town of Conway Annual Contribution

The Town of Conway agrees to contribute payment to the provider as follows:

Year 1, May 1, 2022 to December 31, 2022:	\$103,339.35
Year 2, January 1, 2023 to December 31, 2023	\$159,659.82
Year 3, January 1, 2024 to December 31, 2024	\$164,449.61
Year 4, January 1, 2025 to December 31, 2025	\$169,383.10
Year 5, January 1, 2026 to December 31, 2026	\$174,464.59

Image 1

Current NCFD Staffing Model							
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
12 AM - 1 AM	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Green
1 AM - 2 AM	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Green
2 AM - 3 AM	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Green
3 AM - 4 AM	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Green
4 AM - 5 AM	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Green
5 AM - 6 AM	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Green
6 AM - 7 AM	Red	Red	Red	Red	Red	Red	Red
7 AM - 8 AM	Red	Red	Red	Red	Red	Red	Red
8 AM - 9 AM	Orange	Blue	Orange	Blue	Orange	Blue	Orange
9 AM - 10 AM	Orange	Blue	Orange	Blue	Orange	Blue	Orange
10 AM - 11 AM	Orange	Blue	Orange	Blue	Orange	Blue	Orange
11 AM - 12 PM	Orange	Blue	Orange	Blue	Orange	Blue	Orange
12 PM - 1 PM	Orange	Blue	Orange	Blue	Orange	Blue	Orange
1 PM - 2 PM	Orange	Blue	Orange	Blue	Orange	Blue	Orange
2 PM - 3 PM	Orange	Blue	Orange	Blue	Orange	Blue	Orange
3 PM - 4 PM	Orange	Blue	Orange	Blue	Orange	Blue	Orange
4 PM - 5PM	Orange	Blue	Orange	Blue	Orange	Blue	Orange
5 PM - 6 PM	Red	Red	Red	Red	Red	Red	Red
6 PM - 7 PM	Yellow	Yellow	Yellow	Yellow	Yellow	Red	Red
7 PM - 8 PM	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green
8 PM - 9 PM	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green
9 PM - 10 PM	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green
10 PM - 11 PM	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green
11 PM - 12 AM	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green

Image 2

	North Conway	Center Conway	Conway Village	East Conway	Redstone	Total
Major Equipment	6	6	10	5	3	30
Personnel, Full-Time	2.5	0	2	0	0	4.5
Personnel, Part-Time/On Call	40	20	43	20	20	143

Source: Conway Fire District/Precinct Fire Chiefs

Image 3

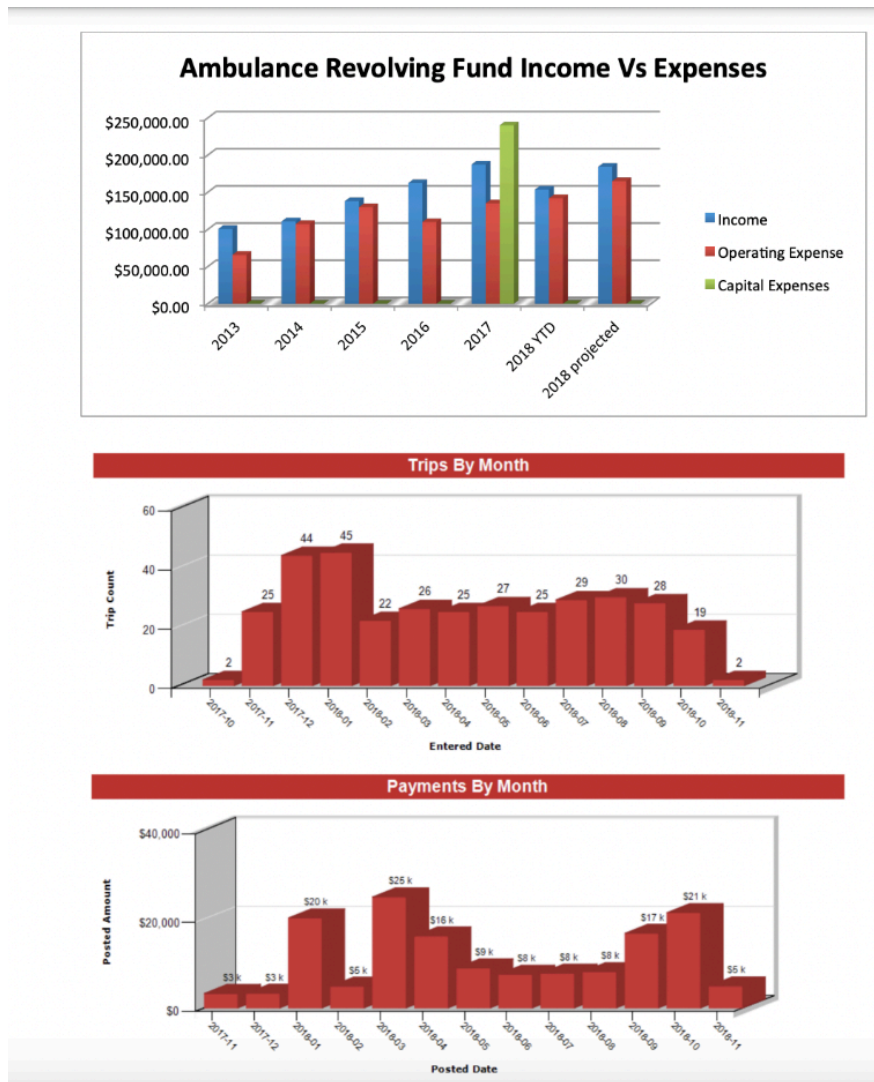


Image 4