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# Tioga County EMS

## Current State and Options for the Future

July, 2022

**Prepared for:**

Tioga County

**Prepared by:**

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Project Director



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# Executive Summary

When a person becomes suddenly ill or suffers serious injury, they often need the emergency medical services (EMS) system to respond. The modern EMS system has existed for about fifty years and has been undergoing substantial change in the last decade. The Tioga County Legislature and the Tioga County Office of Emergency Services have sought outside assistance to understand the changes that have occurred in their EMS system, how it is currently performing and to identify opportunities to improve the service to the community.

Across New York State and the rest of the country, EMS agencies are struggling to meet the needs of the community. Recent studies have indicated that recruitment and retention of EMS providers, both paid and volunteer, is difficult everywhere. A study published by the New York State Department of Health in 2019<sup>1</sup> stated:

*“A substantial number of EMS agencies report an impaired ability to respond to calls for assistance due to shortages of certified EMTs and paramedics. This is true for agencies that utilize volunteer responders and those that use paid responders. A majority of survey respondents had an unfavorable outlook on their agency’s ability to recruit the workforce necessary to adequately serve their community in the future.”*

Between 2017 and 2022, the number of Emergency Medical Technicians (EMTs) in New York declined 27%. In Tioga County, the drop was even sharper with 42% of the 267 certified EMTs in 2017 no longer certified in 2022. Among paramedics, the state decline was 14% while in Tioga County it was 32%.

EMS agencies that bill for services are struggling to balance their budgets as a result of limited growth in Medicare and Medicaid payments, burdensome requirements from commercial insurances, and costs rising faster than inflation. Agencies that rely on tax dollars and donations are facing constrained funding environments and the same rising costs that effect the other EMS agencies.

This report focuses on how the agencies that serve Tioga County are faring among the national and state trends, how the residents of Tioga County are being served by the existing EMS system, and what could be done to improve the EMS system.

## Overview of Existing EMS Situation in Tioga County

There is no single EMS system in Tioga County. Instead, multiple towns, villages and fire districts have developed a method to ensure an ambulance responds. The County Sheriff’s 911 Center is burdened with the responsibility of answering the 911 calls and sending an ambulance to a scene based on a script written by a local authority (town, village, agency or fire department.) There are nine EMS transport agencies that

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<sup>1</sup> <https://ubmdems.com/wp-content/uploads/2020/01/Download-2019-NYS-EMS-Workforce-Report.pdf>

routinely provide service in the County and others provide assistance through mutual aid. Each of these transport agencies creates the script for the 911 Center to follow in sending ambulances to their catchment areas?. Several volunteer ambulances have ceased operations in the County during the last decade, one as recently as November 2021. This has led to some consolidation in service territories. Also, many agencies have expanded their paid staffing to ensure coverage as volunteer activity has reduced.

There are minimum standards for education, training, staffing, ambulance equipment, policies, procedures and medical care that are established by New York State, the Department of Health and the quasi-governmental Susquehanna Regional EMS Council. The agencies all meet or exceed these standards.

Each of the nine ambulance services operate independently. They set their own levels of staffing, establish their internal training, operate their own budgets, develop their operating practices and plan for the future. They often compete with each other for employees and volunteers. Several of them are tasked with negotiating service contracts with communities they serve. Outside of mutual aid requests for service, there is little cooperation between the services. Each seems to be working independently for their own success and to serve their own community but little seems to be done to focus on the whole County.

### Ambulance Service Summary Table

	Certified EMS Volunteers	Career Staff (full or part time)	Ambulances	Level of Care	2021 Tioga County Calls for Service	2021 Did Not Respond %	Reported Budget (in Thousands)	Estimated Share for Staffing	Share of Revenue From Tax	Estimated Population Served *	Calls per capita
Apalachin Fire Dept.	22	8	2	Para.	978	10%	\$450	90%	100%	6,300	0.155
Campville Fire Dept.	14	20	3	Para.	1,056	1%	\$1,150	Unk.	100%	6,300	0.168
Candor Ambulance	2	23	2	Para.	652	7%	\$635	75%	75%	5,057	0.129
Nichols Joint Fire District	15	0	2	EMT.	284	39%	n/a	unk.	100%	2,659	0.107
Owego EMS	53	2	4	Para.	1,618	7%	\$ 387	42%	0%	6,300	0.257
Spencer Emergency Squad	5	1	1	AEMT-CC	315	10%	\$ 100	unk.	0%	2,944	0.107
Tioga Center	12	0	2	AEMT-CC	324	26%	n/a	unk.	unk.	4,729	0.069
Maine Emergency Squad	23	28	4	Para.	469	8%	\$1,100*	75%	25%	6,015	0.078

	Certified EMS Volunteers	Career Staff (full or part time)	Ambulances	Level of Care	2021 Tioga County Calls for Service	2021 Did Not Respond %	Reported Budget (in Thousands)	Estimated Share for Staffing	Share of Revenue From Tax	Estimated Population Served *	Calls per capita
Greater Valley EMS Services, Inc.	2	55	8	Para.	1,470	<1%	\$2,500*	70%	none	8,455	0.174
<b>Total</b>	148	137	28		7,166					48,759	0.147
<b>*- Total operating costs including their operations in other counties</b>											

## Key Findings

As the County and the EMS agencies that serve it consider their future operations, the following findings provide important context.

- Each community has their own “system”, the county role is to dispatch, to help support training and provide coordination of efforts.
- The EMS Coordinator position in Tioga County is part time. Its primary responsibilities are planning for EMS training, disseminating information to EMS agencies and advocating for EMS inside the government such as working with the 911 center and Emergency Services. The EMS Coordinator position has been vacant for several years, although the title is held by the Emergency Services Coordinator on an extended interim basis.
- The community solutions for EMS vary greatly from fully volunteer to nearly fully paid. Some communities don’t even have their own service and instead contract with a neighboring community.
- There are about 150 certified EMS volunteers and 140 paid EMS personnel that serve the county. The true number of people involved is likely smaller by approximately 20 percent due to the people who have positions with multiple agencies, particularly among paid providers. Anecdotally, this figure is less than it was in the past, but firm data on this was not available.
- The different organizations that serve the county report that they spend about \$3.0 million on providing ambulance services in aggregate, although this cost is a rough estimate with two of the largest ambulance services providing care across multiple counties.
- There are about 20 EMS calls per day in the county.
- More than half of EMS calls occur in the Town of Owego.

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- About 90% of EMS calls are answered by an agency with a partially or fully paid staff.
  - Most residents pay some portion of their property tax to support EMS services, although the amount varies widely and a few communities pay no property tax that directly supports EMS operations.
  - The County appears to have a sufficient number of ambulances available (28) and adequate advanced life support equipment.
  - There are currently an adequate number of EMS personnel, but they are not always available and the long term trend is downward, particularly with volunteers.
  - The number of certified EMS providers who live in Tioga County has declined from 398 to 232 in the five years since 2017, a 42 percent drop seen across all levels of certification. While not all EMS providers who provide care in the county live in the county, this is a remarkable decline.
  - Some communities are reliant on a very small number of volunteer providers and if they are not available, there is no one to answer the call.
  - The data available from the current 911 database provides some basic information but does not allow for more advanced analytics such as the number of mutual aid calls or objectively identifying calls that are performance outliers.
  - A survey of 135 EMS providers (detailed later in the report) found the following information:
    - A large number of respondents stated that Tioga County has few or no strengths in EMS service. Public perception and professionalism were identified as strengths by some respondents. Staffing was identified as a County weakness by a majority of respondents. This was followed by elected and municipal leadership and EMS response as weaknesses.
    - More than 80% of respondents consider themselves well-prepared to perform essential EMS tasks. About two-thirds (63%) agree that patients receive excellent care in Tioga County; however, more than a quarter (28%) disagree.
    - A large number of respondents have complaints about EMS dispatching. While these vary, at least three major themes emerged: radio equipment is considered outdated; dispatch information is considered inconsistent or inaccurate at times; and the delays on re-toning calls is causing critical problems with timely responses to medical emergencies.

- When asked, no single option to improve EMS service was endorsed by a majority. The top three actions to improve service, each endorsed by more than a quarter of respondents, were: provide incentives to EMS volunteers; reduce responses to non-emergency calls; and create a single provider for EMS transport.
- Procedures dictated by the local agencies and carried out by the 911 Center related to mutual aid sometimes inhibit the timely response of an ambulance.
- The current dispatching process for out-of-county agencies leads to a delay in response by one to three minutes.
- The County has a software product, IAmResponding, that is not fully utilized and could improve the flow of information about available ambulances and personnel.

## Options for the Future

The following options are based on the above key findings, industry best practices and the following assumptions:

- The overall population of Tioga County will both decline and continue to become more elderly over the next decade and beyond.
- The demand for EMS services will continue to increase at a pace of about 5 to 10 percent per year.
- The number of available volunteer EMS providers will continue to trend downward and the competition for career EMS providers will continue to lead to a tight labor market.

The following Options for the Future are presented in several categories – Administrative, Operational and Long Range. They each identify who is likely responsible for acting on the options, the potential costs and the measures of success.

### Administrative Actions

These actions are focused on administrative and policy changes that can be driven by Tioga County employees or the Legislature. Several of these have additional costs but these increases will bring significant benefits to the life and safety of the residents, visitors and professionals served by the EMS System.

- Create a full-time EMS Coordinator position
- Evaluate the need for additional staffing in Emergency Communications

- Improve EMD utilization
- Strongly encourage the use of IAmResponding (IAR) software to indicate units available
- Quickly implement and require global positioning for EMS Transport and ALS Units
- Develop better data tracking on causes of mutual aid
- Establish performance goals for EMS Services such as:
  - Response time for critical calls in the County should be 10 minutes or less 90 percent of the time in densely populated areas and 15 minutes or less in more rural areas.
  - Agencies should be able to respond to no less than 95% of calls or have a primary crew available at all times.
  - Agencies should look at clinical care bundles such as Aspirin for chest pain, blood glucose checks on decreased level of consciousness, stroke scale utilization and triage to appropriate facilities, and minimal scene time for trauma patients. The agency performance on clinical care bundles should be shared with local elected officials.
- Develop model agreements for EMS service for Towns
- Implement an EMS Retention Task Force

## Operational Actions

These options are characterized by requiring active engagement and changes to operations by the organizations that respond to calls for service, at the encouragement of Tioga County.

- Reduce the re-tone time interval to five minutes
- Reduce call processing times
- Develop a Move – Up Model for EMS Resources

## Options for Future Consideration

EMS in Tioga County has seen substantial changes in the last decade and will see continued changes at a fast rate. There are areas of the county that are struggling to have a response at all while others have made substantial, and perhaps unsustainable, financial investments to support an EMS response. Still other areas provide strong and reliable service with no tax subsidy. These potential options are not needed immediately, but should be considered as possible solutions for the future.

- Consider obtaining a County Wide EMS Operating Certificate
- Work with Town of Owego to develop a Town EMS Agency
- Work with the Towns of Berkshire, Newark Valley and Richford to improve their service
- Contingency plan for the end of AEMT-Critical Care
- Develop the EMS workforce of the future
- Explore nurse triage for 911 Calls
- Consider developing a Community Paramedicine program

## Choosing Among Options

This project has identified nearly twenty options for action that can be taken by Tioga County and/or the agencies that serve it. The majority of the options, including nearly all of the administrative and operational options, can be implemented by the county on its own. There are several options with associated costs that would be added to the local share of the tax burden in Tioga County including adding the full time EMS coordinator position and increasing the staff in the 911 center. They are suggested as having benefits that will outweigh the costs in terms of improved EMS system operations and a higher quality of life.



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## Acknowledgements

A Steering Committee from Tioga County assisted in the development of this project at every stage. The members of the Steering Committee were:

- Michael Simmons, Tioga County Director of Emergency Services,
- Robert Williams, Tioga County Deputy Director of Emergency Services,
- Adam Bessey, Lieutenant, Tioga County Sheriff's Office,
- Stephanie Cole, Dispatch Supervisor, Tioga County Sheriff's Office,
- Abbey Ortu, Tioga County Planning Department, and
- Debora Stubecki, Tioga County Emergency Services Department.

During the course of the project, CGR staff met or spoke with representatives of the following organizations:

- Apalachin Fire Department:
- Campville Fire Department:
- Candor EMS
- Greater Valley EMS
- Maine EMS
- New York State Department of Health Bureau of EMS
- Nichols Fire Department Ambulance:
- Southside Fire Department:
- Spencer EMS
- Susquehanna Regional EMS Council
- Tioga Center Ambulance
- Town of Newark Valley
- Village of Owego EMS

## Staff Team

Kieran Bezilia and David Riley contributed to the writing of this report. Katherine Bell helped develop the maps. Tathagata Mukherjee led the data analysis. Lee Burns assisted with background research and development of the hospital profiles.

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# Section I: Findings and Opportunities

## Background

When a person becomes suddenly ill or suffers serious injury, they often need the emergency medical services (EMS) system to respond. The modern EMS system has existed for about fifty years and has been undergoing substantial change in the last decade. The Tioga County Legislature and the Tioga County Office of Emergency Services have sought outside assistance to understand the changes that have occurred in their EMS system, how it is currently performing and to identify opportunities to improve the service to the community.

Across New York State and the rest of the country, EMS agencies are struggling to meet the needs of the community. Recent studies have indicated that recruitment and retention of EMS providers, both paid and volunteer, is difficult everywhere. A study published by the New York State Department of Health in 2019<sup>2</sup> stated:

*“A substantial number of EMS agencies report an impaired ability to respond to calls for assistance due to shortages of certified EMTs and paramedics. This is true for agencies that utilize volunteer responders and those that use paid responders. A majority of survey respondents had an unfavorable outlook on their agency’s ability to recruit the workforce necessary to adequately serve their community in the future.”*

Other findings from that report include:

- Fifty-nine percent of rural volunteer responders reported their ability for timely EMS responses in their community was moderately or severely impaired by certified volunteer staff shortages.
- Sixty-eight percent of rural agencies using only paid responders reported that the shortage in the number of qualified paramedics diminished their ability to cover their calls or scheduled shifts. Similarly, 46% reported that the shortage of qualified EMTs diminished their ability to cover their calls or scheduled shifts.
- Fifty-nine percent of agencies utilizing only paid responders reported an increase of 11% or more in the number of paid overtime hours in the last two years to compensate for responder shortages.
- Sixty-eight percent of rural respondents had an unfavorable outlook on the future of responder recruitment.

Between 2017 and 2022, the number of Emergency Medical Technicians in New York declined 27%. In Tioga County, the drop was even sharper with 42% of the 267 EMTs

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in 2017 were no longer certified in 2022. Among paramedics, the state decline was 14% while in Tioga County it was 32%.

New York state is not alone with these struggles. The National EMS Advisory Council has identified rural and volunteer EMS recruitment and retention as a serious issue that is impacting care for 57 million people.<sup>3</sup> A national survey on volunteerism indicates that while the number of people volunteering has remained relatively even over the last 20 years, the amount of time volunteered is declining<sup>4</sup>. The longitudinal studies that evaluate general volunteer trends do not yet include the impact of COVID-19, but anecdotes indicate the volunteers are less likely to want to leave their homes and interact with the public.

EMS agencies that bill for services are struggling to balance their budgets as a result of limited growth in Medicare and Medicaid payments, burdensome requirements from commercial insurances, and costs rising faster than the high cost of inflation. Agencies that rely on tax dollars and donations are facing constrained funding environments and the same rising costs that effect the other EMS agencies.

The focus of this report is how the agencies that serve Tioga County are faring among the national and state trends, how the residents of Tioga County are being served by the existing EMS system, and what could be done to improve the EMS system.

## Overview of Existing EMS Situation in Tioga County

There is no single EMS system in Tioga County. Instead, multiple towns, villages and fire districts have developed a method to ensure an ambulance responds. The County Sheriff's 911 Center is burdened with the responsibility of answering the 911 calls and sending an ambulance to a scene based on a script written by a local authority (town, village, agency or fire department.) There are nine EMS transport agencies that routinely provide service in the County and others provide assistance through mutual aid. Each of these transport agencies creates the script for the 911 Center to follow in sending ambulances. Several volunteer ambulances have ceased operations in the County during the last decade, one as recently as November 2021. This has led to some consolidation in service territories. Also, many agencies have expanded their paid staffing to ensure coverage as volunteer activity has reduced.

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<sup>3</sup> [https://www.ems.gov/NEMSAC-advisories-and-recommendations/2020/Rural\\_&\\_Volunteer\\_EMS\\_Recruitment\\_&\\_Retention\\_Jan\\_2020.pdf](https://www.ems.gov/NEMSAC-advisories-and-recommendations/2020/Rural_&_Volunteer_EMS_Recruitment_&_Retention_Jan_2020.pdf)

<sup>4</sup>

[https://www.americorps.gov/sites/default/files/document/2019%20CPS%20CEV%20findings%20report%20LEAN\\_10Dec2021\\_508.pdf](https://www.americorps.gov/sites/default/files/document/2019%20CPS%20CEV%20findings%20report%20LEAN_10Dec2021_508.pdf)

There are minimum standards for education, training, staffing, ambulance equipment, policies, procedures and medical care that are established by New York State, the Department of Health and the quasi-governmental Susquehanna Regional EMS Council. The agencies all meet or exceed these standards.

Each of the nine ambulance services operate independently. They set their own levels of staffing, establish their internal training, operate their own budgets, develop their operating practices and plan for the future. They often compete with each other for employees and volunteers. Several of them are tasked with negotiating service contracts with communities they serve. Outside of mutual aid requests for service, there is little cooperation between the services. Each seems to be working independently for their own success and to serve their own community but little seems to be done to focus on the whole County.

The Bureau of EMS reports that the number of certified EMS providers has declined sharply over the past five years in the County, which is similar to the entire state.

Providers Living in Tioga County Certification Level	2017	2020	2022	Difference	Percent Difference
CFR	21	10	9	-12	- 57%
EMT	267	176	154	-113	- 42%
AEMT	2	2	2	0	
AEMT/CC	43	26	23	-20	-47%
Paramedic	65	47	44	-21	-32%
<b>Totals</b>	<b>398</b>	<b>261</b>	<b>232</b>	<b>-166</b>	<b>-42%</b>

## Key Findings

As the County and the EMS agencies that serve it consider their future operations, the following findings provide important context.

- Each community has their own “system”, the county role is to dispatch, to help support training and provide coordination of efforts.
- The EMS Coordinator position in Tioga County is part time. Its primary responsibilities are planning for EMS training, disseminating information to EMS

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agencies and advocating for EMS inside the government such as working with 911 center and Emergency Services. The EMS Coordinator position has been vacant for several years, although the title is held by the Emergency Services Coordinator on an extended interim basis.

- The community solutions vary greatly from fully volunteer to nearly fully paid. Some communities don't even have their own service and instead contract with a neighboring community.
- There are about 150 certified EMS volunteers and 140 paid EMS personnel that serve the county. Because of people who have positions with multiple agencies, particularly among paid providers, the true number of involved individuals is smaller by an estimated 20 percent. Anecdotally, this figure is less than it was in the past, but firm data on this was not available.
- The different organizations in that serve the county report that they spend about \$3.0 million on providing ambulance services, although this cost is a rough estimate with two of the largest ambulance services providing care across multiple counties.
- There are about 20 EMS calls per day in the county.
- More than half of EMS calls occur in the Town of Owego.
- About 90% of EMS calls are answered by an agency with a partially or fully paid staff.
- Most residents pay some of their property tax to support EMS services, although the amount varies widely and a few communities pay no property tax that directly supports EMS operations.
- The County appears to have a sufficient number of ambulances available (28) and adequate advanced life support equipment.
- There are currently an adequate number of EMS personnel, but they are not always available and the long term trend is downward, particularly with volunteers.
- The number of certified EMS providers who live in Tioga County has declined from 398 to 232 in five years, a 42 percent drop seen across all levels of certification. While not all EMS providers who provide care in the county live in the county, this is a remarkable decline.
- Some communities are reliant on a very small number of volunteer providers and if they are not available, there is no one to answer the call.
- The data available from the current 911 database provides some basic information but does not allow for more advanced analytics such as the

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number of mutual aid calls or objectively identifying calls that are performance outliers.

- A survey of 135 EMS providers (detailed later in the report) found the following information:
  - Nearly half of respondents are under 40 and most (at least 70%) are male. A majority of respondents identified Professionalism and Equipment as the most important strengths of their primary agency. Staffing, internal communications and elected and municipal leadership were most frequently identified as significant weaknesses of their primary agency.
  - A large number of respondents stated that Tioga County has few or no strengths in EMS service. Public perception and professionalism were identified as strengths by some respondents. Staffing was identified as a County weakness by a majority of respondents. This was followed by elected and municipal leadership and EMS response as weaknesses.
  - More than 80% of respondents consider themselves well-prepared to perform essential EMS tasks.
  - About two-thirds (63%) agree that patients receive excellent care in Tioga County; however, more than a quarter (28%) disagree.
  - A large number of respondents have complaints about EMS dispatching. While these vary, at least three major themes emerged: radio equipment is considered outdated; dispatch information is considered inconsistent or inaccurate at times; and the delays on re-toning calls is causing critical problems with timely responses to medical emergencies.
  - The respondents were asked their opinions on reasonable response times for minor and serious medical emergencies. The results vary widely. For a minor medical emergency, respondents suggest an average appropriate response time of 16 minutes. For a serious medical emergency, respondents suggest an average appropriate response time of 10 minutes.
  - When asked, no single option to improve service was endorsed by a majority. The top three actions to improve service, each endorsed by more than a quarter of respondents, were: provide incentives to EMS volunteers; reduce responses to non-emergency calls; and create a single provider for EMS transport.
- Procedures dictated by the local agencies and carried out by the 911 Center related to mutual aid sometimes inhibit the timely response of an ambulance.
- The current dispatching process for out of county agencies leads to a delay in response by one to three minutes.

- The County has a software product, IAmResponding, that is not fully utilized and could improve the flow of information about available ambulances and personnel.
- The largest share of EMS transports goes to Guthrie Robert Packer (44%). UHS Wilson receives 26% and Our Lady of Lourdes 16% of EMS Transports.

## Options for the Future

The following options are based on the above key findings, industry best practices and the following assumptions:

- The overall population of Tioga County will both decline and continue to become more elderly over decade and beyond.
- The demand for EMS services will continue to increase at a pace of about 5 to 10 percent per year.
- The number of available volunteer EMS providers will continue to trend downward and the competition for career EMS providers will continue to lead to a tight labor market.

The following Options for the Future are presented in several categories – Administrative, Operational and Long Range. They each identify who is likely responsible for acting on the options, the potential costs and the measures of success.

### Administrative Actions

These actions are focused on administrative and policy changes that can be driven by Tioga County employees or the Legislature. Several of these have additional costs but the increased costs will bring significant benefits to the life and safety of the residents, visitors and professionals served by the EMS System.

#### Create a Full Time EMS Coordinator Position

- A full time Tioga County EMS Coordinator with competitive pay should be hired. They would be a resource to the EMS agencies, area officials and the general public. This position should be compensated similar to a sergeant in the Sheriff's Office road patrol or the Director of Emergency Services (both around \$65,000) to recruit and retain a quality candidate.
- The current responsibilities around education, communications, mutual aid and emergency management need to remain a focus.



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- Expanded areas include engaging in recruitment of volunteers, regularly monitoring system performance, and working with the regional EMS council.
  - Being an advanced life support provider and/or an EMS instructor would be beneficial for the position, but are not necessary.
  - The position should be empowered to provide leadership for the EMS organizations in the County and regularly report to the Legislature on the performance of EMS in the County.

### **Evaluate the Need for Additional Staffing in Emergency Communications**

- The staffing levels in the 911 Center have been the same for several decades while the demand for services and the level of complexity have increased. This study did not focus specially on the staffing levels at the 911 center, but comments from interviews, data on the calls for service and the potential impact of several recommendations all lead toward additional staffing.
- Based on volume of EMS calls, the peak demand for services runs from late morning to early evening. Adding an additional staff member during those hours would improve the level of service given to the public and the responders.
- A specific staffing evaluation looking at all the transactions (radio calls, phone calls, record look ups and data entry) would clarify both the demand and the level staffing needed to meet it.
- There is likely to be a recommendation for additional staffing in the 911 center which would lead to additional costs.

### **Improve EMD Utilization**

Emergency Medical Dispatching (EMD) is a process where a caller to 911 is asked a series of scripted questions to understand what the problem is at the scene and identify the appropriate help needed. In some cases, the dispatcher can provide essential advice on emergency medical care like CPR or stopping bleeding. While the dispatchers in Tioga County are universally certified and able to provide instructions, they do not always use the script to determine the appropriate response at the time of dispatch. This is particularly important when advanced life support is recommended for a call. It should be assigned at the time of dispatch. Proper EMD can take additional time which prevents a dispatcher from moving on to another task such as dispatching the event. Therefore, having additional staff available is vital for this option. There is an additional cost related to additional staffing as outlined in the above option.

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## **Strongly Encourage the Use of IAmResponding (IAR) Software to Indicate Units Available**

Tioga County has made an investment in the software program that enables responders to communicate with dispatchers. This system also enables all dispatchers and responders to track available units and events in the system. By strongly encouraging the consistent use of this system, dispatchers and others attempting to manage resources in the system will know what is available. Nearly all ambulance agencies use the system the majority of the time, but even the relatively small gaps lead to challenges in getting a prompt EMS response. There is no additional cost to this option.

## **Quickly Implement and Require Global Positioning for EMS Transport and ALS Units**

The new Spillman Computer Aided Dispatch (CAD) system that is being implemented by the Tioga County 911 Center has the capability to track the location of units using global positioning, a laptop or tablet and mobile modem. This technology can be used to facilitate the response of the nearest appropriate unit, especially in cases where the first due unit is not available. There will be a cost associated with implementing this option to purchase and install appropriate hardware. This is estimated to be \$3,000 per unit with a countywide cost of about \$100,000 for the 28 ambulances that regularly serve it.

## **Develop better data tracking on causes of mutual aid**

Mutual aid is the emergency sharing of a resource from one jurisdiction to another on an ad hoc basis following a pre-established plan. While it is rare that mutual aid is completely reciprocal, by definition it should not be one agency always sending and another always receiving. The current records management system does not regularly track the circumstances that led to an exchange of aid. The new CAD system is an opportunity to begin that reporting. Each time mutual aid is used, the dispatcher should indicated the reason for the aid. Examples could include: no crew on duty, on duty crew(s) tied up on another call in their district, on duty crew(s) tied up on another call in a neighboring district, higher than normal volume of calls, and multiple crews needed for a single call.

## **Establish Performance Goals for EMS Services**

There is no single EMS performance standard for any type of community. Each community should consider their circumstances and establish performance goals. While response time is relatively easy to measure, it is only one performance indicator that should be considered. Also, response times goals are variable depending on the population density of a community. While the establishment of goals by a County Legislature would carry little formal weight, they would provide guidance for communities and agencies as to what they should work towards. They should be

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developed by a group including EMS professionals, qualified physicians and the Susquehanna Regional EMS Council.

Examples of performance goals include:

- Response time for critical calls in the County should be 10 minutes or less 90 percent of the time in densely populated areas and 15 minutes or less in more rural areas.
- Agencies should be able to respond to no less than 95% of calls or have a primary crew available at all times.
- Agencies should look at clinical care bundles such as Aspirin for chest pain, blood glucose checks on decreased level of consciousness, stroke scale utilization and triage to appropriate facilities, and minimal scene time for trauma patients. The agency performance on clinical care bundles should be shared with local elected officials.

### **Develop Model Agreements for EMS Service for Towns**

Local elected officials do not often have the expertise to evaluate the performance of EMS agencies in their community. The EMS professionals – both paid and volunteer – are well meaning and dedicated. However, the communities in Tioga County would be better served if the EMS agencies had clear responsibilities and performance goals, particularly if they are receiving tax dollars to support their operations. The Tioga County EMS Coordinator should identify and share model agreements between municipalities and EMS agencies. They should also be available to serve as an objective third party to assist both the municipalities and agencies to come to an agreement. A sample agreement is included as an appendix to this report.

### **Implement an EMS Retention Task Force**

Tioga County has a relatively healthy number of EMS providers, both volunteer and career. According to the survey in this report, nearly half of the EMS providers are under 40 and therefore have the potential to serve the community for 20 years or more. There should be a coordinated effort across the agencies to sustain this existing workforce through improved working conditions and incentives. The provider survey identified some of the negative aspects of workplaces that can be addressed (e.g. – poor internal communication and lack of support from political leaders) and the need for incentives to recognize their efforts. The option is to develop a short-term task force from across the county EMS agencies to build on the findings of the survey and their own experiences to develop programs and policies to help them remain active in EMS.

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## Operational Actions

These options are characterized by requiring active engagement by the organizations that respond to the calls for service to change their operations, at the encouragement of Tioga County.

### Reduce the Re-Tone Time Interval to Five Minutes

At the time of a call, the 911 Center tones (alerts) the agency that serves that area to respond. The dispatcher then waits ten minutes for the agency to acknowledge the call. If they do not acknowledge inside the ten minutes, the 911 Center re-tones the first agency and the next agency on the list for that address. This time interval is too long for serious calls when you consider that there might be another ten or more minutes to then drive to the scene. The re-tone interval should be reduced to no more than five minutes. It would be reasonable to consider that if no unit from the primary agency is available based on the IAR information, then for critical calls both the primary agency and the nearest appropriate available unit should be dispatched on the initial alert. If the primary agency does have a crew available, the other agencies can be canceled.

### Reduce Call Processing Times

Two of the busiest agencies that serve Tioga County are based in neighboring counties – GVEMS in Bradford County, Pennsylvania and Maine EMS in Broome County, NY. They account for 19 and 7 percent of calls in the county respectively in 2021. For those calls, there is a delay of one to two minutes as the call information is given by phone from the Tioga County 911 center to those centers. This is in addition to the one to two minutes that Tioga County has already taken to gather the necessary information. Tioga County should work with their neighboring dispatch centers and the involved agencies to reduce the time involved to assign them to a call. Potential fixes include electronic sharing of data for calls and the agencies assigning their units to monitor Tioga County frequencies. Regularly saving time on these calls will have an immediate impact on response times, although GVEMS already has some of the best response times. There may be an additional cost to this option if a software patch is necessary to share data.

### Develop a Move – Up Model for EMS Resources

With better awareness of available resources that can be achieved with either global positioning or better use of IAR, the EMS Coordinator and 911 Center could work with agencies to develop a mutual aid plan that involves repositioning resources when there is potential gap from units tied up on a transport. For example, the 911 Center observes that Candor EMS will be tied up on a transport of a patient to Binghamton, they could pre-position an ambulance from the Village of Owego towards Candor as long as resources are available to cover Owego – either their own second ambulance or from a mutual unit. This example is relevant because the area around Owego is

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relatively rich with resources, but the rural areas often have only one unit and if it is tied up on a call for a period of time, that area is uncovered.

Columbia County has initiated a program like this where the county has obtained an ambulance operating certificate for the whole county and uses it to facilitate repositioning of resources to the areas of greatest need/risk. The county doesn't operate its own ambulance service but instead coordinates the efforts of the town and village services. Further exploration of the operational details will be necessary to ensure that it is a good fit for Tioga County.

## Options for Future Consideration

EMS in Tioga County has seen substantial changes in the last decade and will see continued changes at a fast rate. There are areas of the county that are struggling to have a response at all while others have made substantial, and perhaps unsustainable, financial investments to support an EMS response. Still other areas have a strong service that provides reliable service with no tax subsidy. These potential options are not needed immediately, but should be as possible solutions for the future.

### Consider Obtaining a County Wide EMS Operating Certificate

As noted elsewhere in the report, Counties in New York are increasingly becoming involved in EMS as either an advanced life support or ambulance service. The services in most of Tioga County are meeting the needs of their residents. There are reasonable solutions with the reallocation of existing services to solve the current gaps in the system. However, it may occur in the next five or ten years where the existing resources are no longer providing reliable services. At that time, Tioga County may need to proceed to become an ambulance service for portions of the county. In other counties, the county EMS service typically is needed to step in when an agency is no longer able to meet the needs of one community but the county service is available for the entire county on an emergency basis. Often, the operation of the county service expands as other agencies falter.

While initially obtaining the operating certificate only requires the County Legislature to pass a resolution indicating they will begin the service, actually operating the service requires a substantial investment from the County. Steps in the process include:

- Obtaining the requisite licenses from New York State and federal agencies for billing, medications, and narcotics;
- Purchasing capital equipment including ambulances, cardiac monitors, lifting stretchers, radios, ventilators and computers;
- Obtaining the necessary medications and medical supplies;

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- Identifying and acquiring an operating base;
  - Recruiting, selecting and hiring about six to eight full time employees (or combination of part time) per ambulance to be staffed;
  - Developing appropriate policies and procedures;
  - Select a patient care report vendor;
  - Identify and typically hire a physician medical director;
  - Identifying a billing company or hiring employees to conduct the billing; and
  - Creating a supervision process.

It is usually possible to develop enough billing revenue from 800 to 1,000 transports to support a single ambulance unit annually. If the number of transports is below that threshold, it is usually necessary to have a subsidy from taxes to support the operation. The above action items can take six months or more to complete. This option has substantial upfront capital costs and ongoing operational costs. The former could be supported by American Rescue Plan and the latter by billing for services. Although, there will likely be a tax burden as well.

### **Work with Town of Owego to Develop a Town EMS Agency**

The Town of Owego has three ambulance agencies that serve different portions of the Town – Apalachin Fire Company, Campville Fire Company and Village of Owego. Combined, these three agencies responded to more than half the calls for service in Tioga County and they serve about 40 percent of the population. While each describes a successful and healthy operation, there is an inherent duplication of services when three agencies serve 18,000 people inside 100 square miles. They operate four stations and nine ambulances. Also, the two fire companies were unable to bill until a recent change in state law, meaning that all of their 2,000 EMS responses were funded fully by tax revenue while the Village ambulance is able to bill for services.

While this current model seems to be meeting the needs of the community, its long term viability is concerning, especially if the fire companies do not begin to bill for services. The Town of Owego would benefit from consideration of a consolidated EMS service either as a town department or as an independent non-profit. There would likely be some cost savings as paid staffing could be optimized and especially if the new service began to bill for service.

### **Work with the Towns of Berkshire, Newark Valley and Richford to Improve their Service**

The three rural towns in the northeast corner of the county have some of the consistently worst response times in the county. This is driven by the fact that the responding ambulance is typically coming from Maine in Broome County. In addition to the large area, there is a delay in the calls being assigned. Unfortunately, the call volume in this area is not sufficient for an ambulance service to develop enough revenue from any one of these towns or the three combined. The towns each have a contract with Maine EMS to provide services and they give Maine EMS a subsidy to help ensure coverage.

The first option would be to work with Maine in a coordinated effort to improve their response to the area. These three towns make up about third of Maine's call volume and more than 40 percent of the population and territory served. A coordinated discussion with the Towns, County and Maine EMS might lead to an agreement that would station an ambulance in the area for significant periods of time with higher calls for service. Three quarters of calls occur between 8 am and 8 pm in these three communities.

However, the towns might be better served from another ambulance service such as Campville and Dryden which have stations that are physically closer to portions of the three towns than Maine. Any agreement for service should focus on using the available ambulance that is physically closest to a call. Additionally, if the County chose to pursue an Ambulance Operating Certificate, this area would be prime for coverage. The cost associated with this option would be the staff time dedicated to its implementation.

### **Contingency Plan for the End of AEMT-Critical Care**

New York State no longer provides initial certification or testing for Advanced EMT-Critical Care Technicians. Current policy is that existing AEMT-CCs may continue to operate and recertify using the Continuing Medical Education process. There has also been a commitment that if that policy were to change, there would be a significant lead time. In Tioga County, several agencies have a significant number of practicing AEMT-CCs that provide the backbone of advanced life support. There are 23 AEMT-CCs that live in the County representing a third of ALS providers. The Village of Owego relies heavily on this level of certification and would be significantly impacted if it stopped. Nine of their current fourteen ALS providers (64%) are AEMT-CC. Data was not available for other agencies, but verbal reports indicate that several other agencies would be impacted.

### **Develop the EMS Workforce of the Future**

The EMS workforce, both career and volunteer, is struggling to both recruit and retain qualified staff. Across the country and New York, one program that has had substantial success is to teach EMT classes in the high schools. These programs can be operated either regionally (such as a BOCES program) or directly at a high school as an elective.

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This effort will involve coordination and identification of appropriate instructors but has a good track record in many communities.

### **Explore Nurse Triage for 911 Calls**

An emerging trend in EMS is the utilization of a nurse navigation system for less urgent 911 calls to reduce the need for ambulances to respond. The process is focused on connecting low acuity calls to 911 to an appropriate alternative care scenario which could be an urgent care center or a telehealth visit. This system has recently been started in Oneida, Onondaga and Monroe Counties in New York. The system works when a caller contacts 911 and their condition meets specific local criteria for nurse navigation. The caller is then warm transferred to a nurse navigator who asks additional questions and helps identify an appropriate local resource for the patient. The program used by those three counties is operated by Global Medical Response. The costs for the program are based on the call volume of the 911 center and the number of calls transferred to the system. The nurse navigator system has been shown to reduce the number of 911 responses by up to 10% for communities, although information is primarily from the vendor and needs to be confirmed with communities that use the program.

### **Consider Developing a Community Paramedicine Program**

Community Paramedicine is an emerging field that focuses on using EMS personnel to provide care in a community setting to reduce the overall burden on the healthcare system. This is often handled by specially trained paramedics working under the direction of a physician. Currently, there are only pilot programs across New York and each one has a different set of protocols and goals. However, as Tioga County works to improve its EMS system, creating a community paramedicine program to expand the availability essential healthcare should be a strong consideration.

### **Choosing Among Options**

This project has identified nearly twenty options for action that can be taken by Tioga County and/or the agencies that serve it. The majority of the options, including nearly all of the administrative and operational options, can be implemented by the county on its own. There are several options with associated costs that would be added to the local share of the tax burden in Tioga County including adding the full time EMS coordinator position and increasing the staff in the 911 center. They are suggested as having benefits that will outweigh the costs in terms of improved EMS system operations and a higher quality of life.



## Section II: Organizational Profiles

This section of the report will provide an overview of each of the organizations that are a part of the EMS system in Tioga County – the ambulance services, first response organization, communications center, hospital and County EMS Office. The information was current at the time it was received, although the operations are dynamic and details may have shifted over the several months of the project.

### EMS Transport Agencies

There are nine ambulance services that are currently serving Tioga County as primary response organizations. Seven are headquartered in the county, one is based in Broome County and another in Bradford County, Pennsylvania. Each is authorized to provide a specific level of service to a specific primary area under New York State Public Health Law Article 30. Their standard of care and specific care protocols are regulated by the Susquehanna Regional EMS Council and its Regional Medical Advisory Committee.

In addition to those currently serving the County, the Berkshire Fire Department Ambulance stopped operation during 2021. Several agencies from Broome County also provided service to Tioga County on an as needed basis. The table below gives the call volume for the agencies based on the number of patient care reports submitted to the state. A companion table in the appendix lists the agencies and in which zip code the calls were located.

#### EMS Call Volume in Tioga County (SREMS)

Agency	Total		% Change
	2020	2021	Year over yr
Apalachin Fire Department, Inc.	487	635	30%
Berkshire Fire District Ambulance	81	26	-68%
Campville (Town of Owego Fire District)	792	924	17%
Candor Emergency Squad	441	619	40%
Greater Valley Emergency Medical Services, Inc.	1,441	1,834	27%
Maine Emergency Squad, Inc.	249	403	62%
Nichols Joint Fire District	145	136	-6%
Owego Emergency Squad	1,198	1,512	26%
Spencer Emergency First Aid Squad, Inc.	228	291	28%
Tioga Center Emergency Squad	297	278	-6%
Lisle Med Team (Lisle Medical Emergency Team)	5	0	-100%
Lockwood Volunteer Fire Department First Responder	0	32	100%
Southside Fire Company First Responders	5	4	-20%
Weltonville Fire Department	8	14	75%

Agency	Total		% Change
Broome Volunteer Emergency Squad, Inc.	27	44	63%
Chenango Ambulance Service, Inc	0	1	100%
Harpur's Ferry Student Vol. Ambulance Service, Ltd.	0	1	100%
Superior Ambulance Service, Inc.	11	8	-27%
Union Volunteer Emergency Squad, Inc.	12	23	92%
Vestal Volunteer Emergency Squad Inc.	1	10	900%
<b>TOTAL</b>	<b>5,428</b>	<b>6,795</b>	<b>72%</b>

The table below shows key pieces of information to compare the different ambulance services, including staffing data and number of ambulances, which were provided by the agencies via a survey. The level of care – either paramedic or Advanced EMT-Critical Care – is defined by the regional EMS council and establishes the maximum level of care that can be provided by the agency. Agencies may only provide a lower level of care if they do not have the proper person available. The 2021 Calls for Service indicate the number of calls that the agency was dispatched to during the year. The total number of unique EMS calls in the county is lower because of calls that required mutual aid from another agency. The reported budget and estimated shares came from the agencies. The population and calls per capita are based on census data.

Owego EMS has the largest number of certified volunteer EMS providers in the county and a number of uncertified drivers that also assist the agency to answer the highest call volume in the county. There are one or more paid staff that help ensure a response to calls. Greater Valley EMS has the largest paid staff and the largest total call volume, although many of their calls occur outside of Tioga County in Chemung and Bradford County, PA. The Town of Owego is the busiest town in County and accounts for just over half of the calls in the County among the three agencies that serve it. Nichols and Tioga Center are the only two fully volunteer agencies. They have the some of the lowest call volumes of any agency and also the highest share of “did not respond” at 39% and 26% each. No other agency missed more than 10% of its own calls. More details are provided in the agency profiles later in the report.

### Ambulance Service Summary Table

	Certified EMS Volunteers	Career Staff (full or part time)	Ambulances	Level of Care	2021 Tioga County Calls for Service	2021 Did Not Respond %	Reported Budget (in Thousands)	Estimated Share for Staffing	Share of Revenue From Tax	Estimated Population Served *	Calls per capita
Apalachin Fire Dept.	22	8	2	Para.	978	10%	\$450	90%	100%	6,300	0.155
Campville Fire Dept.	14	20	3	Para.	1,056	1%	\$1,150	Unk.	100%	6,300	0.168

	Certified EMS Volunteers	Career Staff (full or part time)	Ambulances	Level of Care	2021 Tioga County Calls for Service	2021 Did Not Respond %	Reported Budget (in Thousands)	Estimated Share for Staffing	Share of Revenue From Tax	Estimated Population Served *	Calls per capita
Candor Ambulance	2	23	2	Para.	652	7%	\$635	75%	75%	5,057	0.129
Nichols Joint Fire District	15	0	2	EMT.	284	39%	n/a	unk.	100%	2,659	0.107
Owego EMS	53	2	4	Para.	1,618	7%	\$ 387	42%	0%	6,300	0.257
Spencer Emergency Squad	5	1	1	AEMT-CC	315	10%	\$ 100	unk.	0%	2,944	0.107
Tioga Center	12	0	2	AEMT-CC	324	26%	n/a	unk.	unk.	4,729	0.069
Maine Emergency Squad	23	28	4	Para.	469	8%	\$1,100*	75%	25%	6,015	0.078
Greater Valley EMS Services, Inc.	2	55	8	Para.	1,470	<1%	\$2,500*	70%	none	8,455	0.174
<b>Total</b>	<b>148</b>	<b>137</b>	<b>28</b>		<b>7,166</b>					<b>48,759</b>	<b>0.147</b>
<b>*- Total operating costs including their operations in other counties</b>											

The data in the table below was provided by the Tioga County 911 Center. It provides a count of the calls for service for each of the ambulance services currently operating in the County which were dispatched to emergencies by the County 911 center. There is a trend of increase in call volume over the last four years across the county and in nearly every jurisdiction. We also show the response time for the agencies, as recorded in the 911 Center and whether the dispatched agency was able to respond to the call. While the data reported by Tioga County 911 may have flaws due to data entry errors, it provides good context about the operation of the EMS system in the County. It is also tracked in a consistent manner across all agencies.

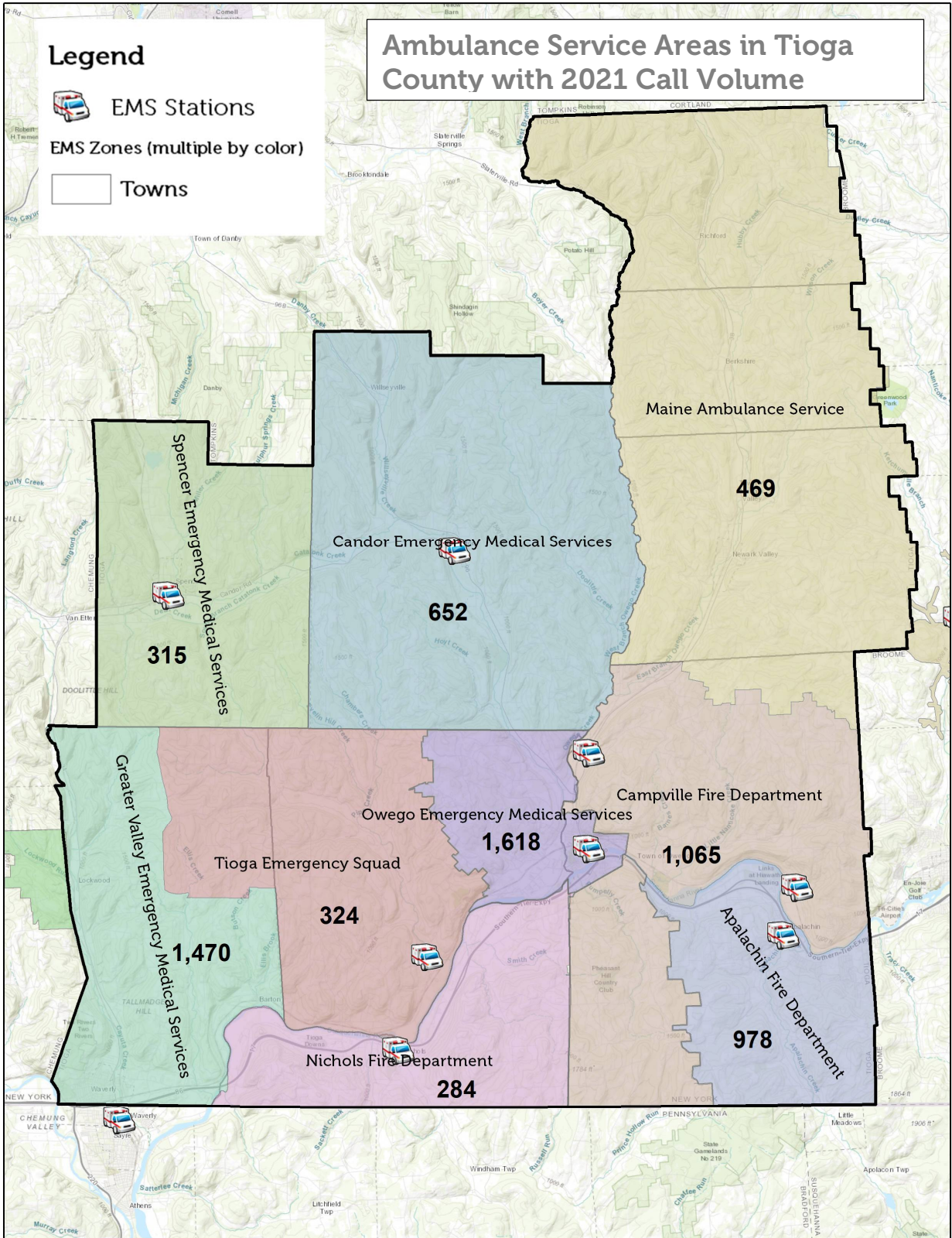
The response time for this report is defined as the time from when the call was received by the 911 operator to the time an agency arrived on the scene. There is no defined standard and a "slow" response is appropriate for many EMS calls. However, there are some calls – cardiac arrest, stroke, trouble breathing, seizures and serious trauma as examples – where a quicker response time is essential. The table below looks at the response time for all EMS calls at the median 50<sup>th</sup> percentile (half of calls are quicker and half are slower than that time) and at the 90<sup>th</sup> percentile (90 percent of calls are responded to in less than that time). In the agency profiles that follow, we include those response metrics for each agency for calls based on dispatch information.

## Summary of Ambulance Calls for Service in Tioga

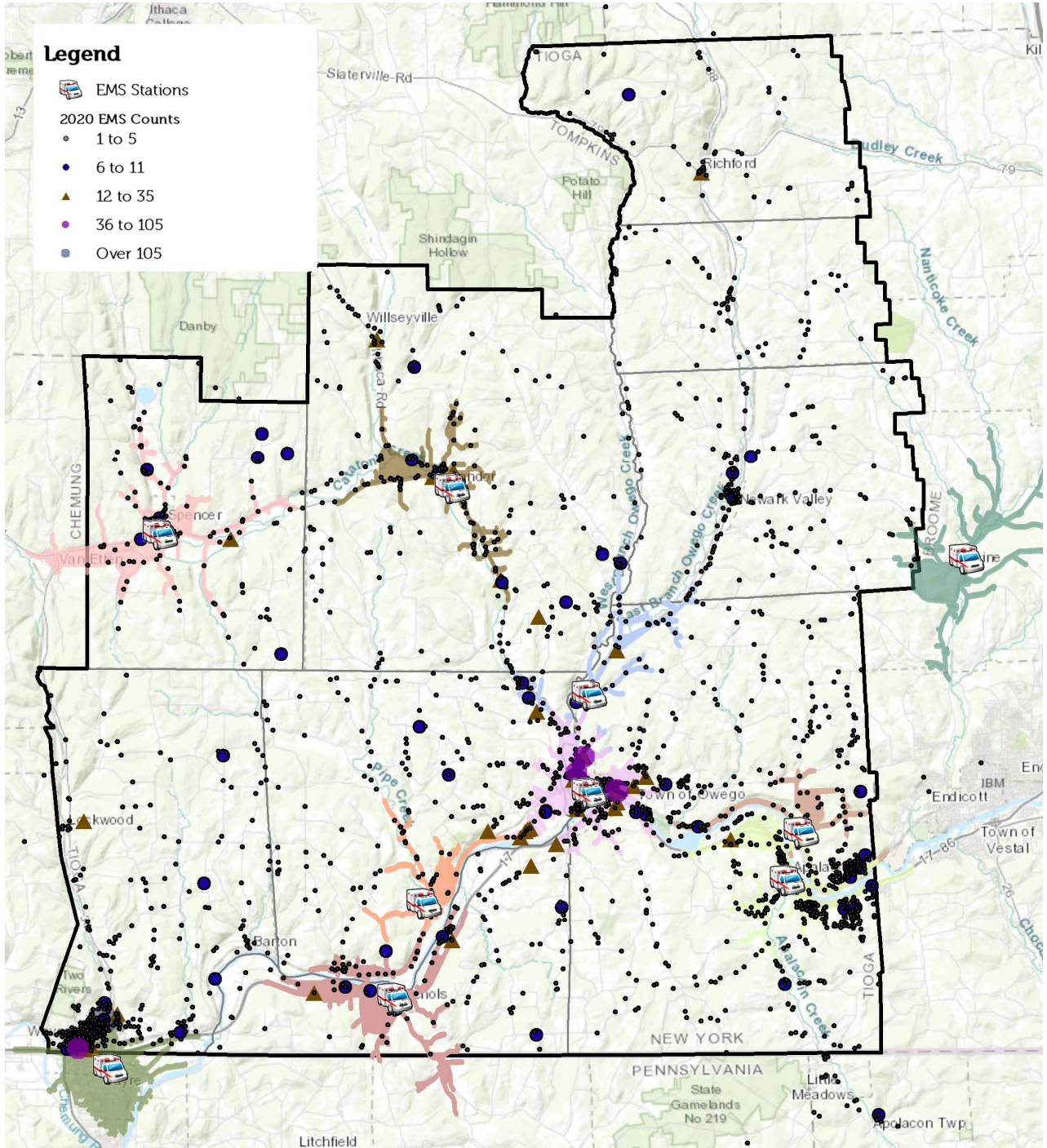
Agency	2018	2019	2020	2021	Avg	Response Time 50th Percentile	Response Time 90th Percentile
Apalachin Fire Dept	684	743	768	978	793	12.0 mins	25.0 mins
Campville Fire Dept	747	978	1,051	1,056	958	14.0 mins	26.0 mins
Candor EMS	473	547	528	652	550	16.0 mins	30.0 mins
Greater Valley EMS	1,273	1,147	1,154	1,470	1,261	11.0 mins	29.0 mins
Maine EMS	399	470	404	469	436	22.0 mins	43.0 mins
Nichols Fire Dept	340	274	280	284	295	15.0 mins	29.0 mins
Owego Emergency Squad	0	1,056	1,410	1,618	1,508	15.0 mins	26.0 mins
Owego Fire Dept	1,557	389	0	0	487	13.0 mins	23.0 mins
Spencer EMS	270	278	250	315	278	19.0 mins	32.0 mins
Tioga Center Fire Dept	321	297	317	324	315	20.0 mins	34.0 mins
<b>TOTAL</b>	<b>6,064</b>	<b>6,179</b>	<b>6,162</b>	<b>7,166</b>			

The first map shows the primary response zones for each of the ambulance services in Tioga County and the number of calls that they responded to in 2021. The response areas do not match the town boundaries in many situations but rather follow fire district lines, even if those fire districts aren't providing the ambulance service.

The following map includes both the locations of calls in Tioga County in 2021 (represented by shapes indicated in the legend) and the estimated area that could be covered by a vehicle in five minutes from the stations (represented by colors spreading from each EMS station). The calls are heavily weighted toward the southeast corner and southwest corner of the county. Maps of each district appear in the appendix.



## Call Locations in Tioga County in 2020



## Apalachin Fire Department, Inc.

The Apalachin Fire Department is a fire district serving the southern and eastern portions of the town of Owego. They provide a full suite of fire and rescue services and a paramedic transport ambulance. The fire district began providing full-time paid paramedic service beginning in the fall of 2021. Prior to that, they had paid paramedics during the day, but relied on volunteers in the evening. The decision was made to add a second paid staff – typically an EMT – from 0700 to 1500 on weekdays to help ensure that there is an adequate response. The volunteer EMS providers will usually sign up for a shift and either be in station or nearby to help facilitate a prompt response. The agency is usually able to count on a volunteer to cover a shift for about half of the hours in a week. Part-time staff are usually scheduled to fill in those gaps. The paid paramedics work either 36-hour shifts or 24-hour shifts each week.

The fire commissioners have been very supportive of the need to provide career staffing for the ambulances. There is an expectation of spending about \$270,000 a year for the next few years for the current staffing model. Because they are funded through a fire district, they have not historically been allowed to bill for services provided; although a recent law change enabled such billing, this has not been implemented yet.

Apalachin Fire Department, Inc.		
Type	Fire District Ambulance	
Service Area	Portion of Town of Owego around the Hamlet of Apalachin	
Staffing	Total Number of Volunteers	32
	Non-Certified	12
	CFR	0
	EMT	10
	AEMT or AEMT-CC	3
	Paramedics	7
	Full-time EMTs	1
	Full-time ALS	4
	Part-time EMTs	1
	Part-time ALS	2
Other Paid	n/a	
Staffing Schedule	1 ALS crew 7 am to 3 pm; 1 ALS provider 3 pm to 7 am	
Facility	Bays	8
	Year Built	2017
	Apx. Sq. Ft	10,000
	Typical sleeping Spaces	2

Apalachin Fire Department, Inc.		
<b>Facility Features</b>	Exhaust capture	No
	Oxygen cascade system	No
	Training rooms	Yes
	Security system	No
	Generator	Propane
<b>Vehicles</b>	Vehicle #1	Vehicle #2
Identifier	131	132
Year	2015	2015
Type	Modular	Modular
Manufacturer	Horton	Horton
Mileage	35,000	35,000
<b>Equipment</b>	Sets of ALS Gear	3
	Stretcher Type	Stryker
	ALS Monitor	Physio-Control
	Auto Compression Device	Lucas
	Ventilator	None
<b>BLS Skills</b>	Check and Inject Epinephrine	Yes
	CPAP	Yes
	Glucometry	Yes
	12-Lead EKG	No
	Nebulized Albuterol	Yes
	Narcan	Yes
<b>Finance</b>	EMS Budget	\$450,000
	Share on Staffing	90%
	Share for Capital Equipment	5%
	Insurance Share	5%
	Tax Dollars for Operation	100%
	Share from Billing	0%

### EMS Calls by Month

The call volume for Apalachin increased substantially in 2021 to nearly 1,000 calls. The previous three years averaged under 750. The increase was across the board, although it was sharpest during the pandemic surges.



Month name	2018	2019	2020	2021	Avg
January	48	70	52	61	58
February	55	56	43	69	56
March	51	61	46	96	64
April	56	43	53	79	58
May	64	51	47	79	60
June	59	53	48	84	61
July	65	59	75	85	71
August	65	71	63	77	69
September	53	70	60	69	63
October	53	72	89	86	75
November	61	60	94	90	76
December	54	77	98	103	83
Total	684	743	768	978	794

### Calls by Time of Day

The distribution of calls by time of day follows the typical pattern for EMS agencies with the majority of calls coming during the daytime hours. The department's response times are relatively long over the course of four years, but this has improved recently with the addition of paid staff at the station that allows the ambulances to respond immediately at time of dispatch.

Time of Day	2018	2019	2020	2021	Avg	Response Time 50th Percentile	Response Time 90th Percentile
0-Overnight 00:00-03:59	45	58	50	90	61	14	27
1-Early Morning 04:00-07:59	86	75	154	155	118	5	23
2-Morning 08:00-11:59	151	187	157	202	174	12	21
3-Afternoon 12:00-15:59	158	171	148	190	167	12	24
4-Evening 16:00-19:59	149	145	156	185	159	14	28
5-Night 20:00-23:59	95	107	103	156	115	16	29
Total	684	743	768	978	794		

### Calls by Day of Week

The calls for service in the district drop slightly on the weekends compared to the weekdays.

Weekday	2018	2019	2020	2021
Sunday	79	97	98	115
Monday	104	116	109	145
Tuesday	106	93	133	150

Weekday	2018	2019	2020	2021
Wednesday	100	110	103	138
Thursday	88	100	111	150
Friday	112	134	108	152
6-Saturday	95	93	106	128
Total	684	743	768	978

## Calls by Ability to Respond

During 2021, Apalachin did not respond to about 10% of their calls for service. This is higher than their rates of about 7% from the previous two years. This was a contributing factor to them adding paid staff in the fall of 2021.

Disposition Type	2018	2019	2020	2021
Assign Complete	634	686	705	867
Did Not Respond	47	56	52	101
Other	3	1	11	10
Total	684	743	768	978

## Call Types and Time on Task

The following table looks at the types of calls the ambulance received, the response time and the total time on task. The 50<sup>th</sup> percentile is the median (half of calls are above and half are below this number) and the 90<sup>th</sup> percentile indicates that 90 percent of the measured intervals were less than what is shown. While all response times matter, it is preferred to have shorter response times for serious call types such as cardiac arrest and stroke. The time on task is defined as the time from when call was received until the time that an agency reported they were back in service.

Merged Type	2018	2019	2020	2021	Response Time 50th Percentile	Response Time 90th Percentile	Task Time 50th Percentile	Task Time 90th Percentile
Abdominal Pain	16	19	23	26	13	24	74	113
Alarm	26	41	30	31	12	20	21	94
Allergies Hives Sting	5	7	11	6	15	21	78	124
ALS Assist	25	34	41	36	17	40	54	133
Ambulance Broome County	1	1	1	0	2	3	4	5
Ambulance Pennsylvania	16	15	19	15	20	30	73	143
Ambulance Call	29	42	23	34	12	26	68	134
Animal Bite	0	1	0	0	9	9	46	46
Assist Ambulance	0	1	0	1	36	40	36	63
Back Pain	17	6	9	14	12	26	69	113
Breathing Problems	66	60	70	80	12	22	77	132

Merged Type	2018	2019	2020	2021	Response Time 50th Percentile	Response Time 90th Percentile	Task Time 50th Percentile	Task Time 90th Percentile
Burn	0	1	1	2	10	14	32	75
Cardiac Respir Arrest	6	0	0	0	8	14	34	120
Choking	2	1	3	1	9	20	26	68
Convulsions Seizures	14	7	19	17	13	20	73	121
Crime	0	0	0	2	12	17	58	95
Death Unattended Death	1	1	2	2	14	32	22	53
Diabetic Problems	13	19	14	21	12	24	66	122
Falls	80	81	90	126	12	24	53	114
Headaches	4	3	4	3	12	17	63	128
Heart Problems	56	75	40	79	13	26	76	113
Heat Cold Call	0	0	0	1	1	1	47	47
Hemorrhage	6	13	18	13	13	26	74	120
Intoxication	0	1	1	4	14	22	102	130
Mental Subject	3	4	1	1	9	17	70	128
Mental Transport	0	0	0	1	8	8	99	99
Misc Complaint	1	2	1	0	2	3	40	70
Multiple Complaints	4	4	1	3	13	24	78	100
Mutual Aid - Ems	55	35	14	40	13	26	40	109
MVA	42	45	35	39	13	26	56	112
Overdose	4	3	4	10	13	27	70	104
Overdose - Opiod	0	1	1	1	14	16	107	130
Pregnancy Child Birth	2	0	3	0	10	19	68	79
Public Service Call	48	43	41	43	14	34	23	85
Spec Diag-Sick Person	75	110	93	147	13	25	73	124
Standby - Ems	5	6	89	108	2	16	0	62
Standby - Special Event	0	1	1	0	2	2	14	24
Stroke Cva	15	14	20	24	11	19	77	131
Traumatic Injury-Specific	15	18	12	9	12	24	73	135
Unconscious Fainting	22	24	22	32	10	22	68	123
Unknown Prob-Man Down	10	4	11	6	10	19	51	84
Total	684	743	768	978				

## Campville Fire Department (Town of Owego Fire District)

The Campville Fire Department serves the northern portion of the Town of Owego and the Southside Fire Department's service area inside the Town's fire district. They have a paid staff of paramedics and EMTs to respond to ambulance calls. There are some volunteers that help answer second calls that occur or fill in for illnesses. They typically staff one ambulance 24 hours a day with a paramedic and EMT on duty at Station 1 and a second ambulance 16 hours a day (6 am to 10 pm) with a paramedic and EMT at Station 3. This staffing model has been in place for several years. They added their first paid EMS staff in 2008. The total cost is about \$1.15 million for EMS staff, annually. Because they are funded through a fire district, they have not historically been allowed to bill for services provided until a recent law change, which has not been implemented yet.

Campville Fire Department, Inc.		
<b>Type</b>	Fire Company Ambulance	
<b>Service Area</b>	Northern portion of Town of Owego and also the Southside Fire Department area (about 68 Square miles in Town of Owego)	
<b>Staffing</b>	Total Number of Volunteers	
	Non-Certified	40
	CFR	0
	EMT	10
	AEMT or AEMT-CC	1
	Paramedics	3
	Full-time EMTs	8
	Full-time ALS	7
	Part-time EMTs	3
	Part-time ALS	2
<b>Other Paid</b>	1 Administrative person (full time)	
<b>Staffing Schedule</b>	24 hours station 1, 16 hours at Station 3 ( EMT and Paramedic Crew)	
<b>Facility #1</b>	Bays	5
<b>Station 1</b>	Year Built	1992
	Apx. Sq. Ft	
	Typical sleeping Spaces	2
<b>Facility Features</b>	Exhaust capture	No
	Oxygen cascade system	No
	Training rooms	Yes

Campville Fire Department, Inc.			
	Security system		Yes
	Generator		
<b>Facility #2</b>	Bays		4
<b>Station 3</b>	Year Built		2015
	Apx. Sq. Ft		
	Typical sleeping Spaces		If needed availability for 6
<b>Facility Features</b>	Exhaust capture		No
	Oxygen cascade system		Yes
	Training rooms		Yes
	Security system		Yes
	Generator		Yes
<b>Vehicles</b>			
Identifier	331	332	333
Year	2019	2019	2015
Type	Type I-Modular	Type I-Modular	Type III-Modular
Manufacturer			
Mileage	61,000	58,000	38,000
<b>Equipment</b>	Sets of ALS Gear		3
	Stretcher Type		Stryker
	ALS Monitor		Zolls
	Auto Compression Device		Auto-Pulse
	Ventilator		No
<b>BLS Skills</b>	Check and Inject Epinephrine		Yes
	CPAP		Yes
	Glucometry		Yes
	12-Lead EKG		Yes
	Nebulized Albuterol		Yes
	Narcan		Yes
<b>Finance</b>	EMS Budget		
	Share on Staffing		At least 50%
	Share for Capital Equipment		
	Insurance Share		
	Tax Dollars for Operation		100%
	Share from Billing		0%

## EMS Calls by Month

The calls for service for Campville have been on an upward trend over the last three years. There is some variation between the months with the summer months and fall being busier than winter and spring. Overall, the average is about 80 calls per month.

Month name	2018	2019	2020	2021	Avg
January	62	64	91	66	71
February	63	56	69	68	64
March	49	86	76	64	69
April	55	74	62	92	71
May	52	82	66	72	68
June	79	91	84	92	86
July	62	90	102	105	90
August	69	83	93	113	90
September	66	101	101	104	93
October	68	91	124	95	94
November	63	82	101	92	84
December	59	78	82	93	78
Total	747	978	1,051	1,056	958

## Calls by Time of Day

The distribution of calls by time of day follows the typical pattern for EMS agencies with the majority of calls coming during the daytime hours. The department's response times are longer during the overnight than at other times of the day. Campville reports that their 90<sup>th</sup> percentile is 18 minutes from the time of dispatch

Time of Day	2018	2019	2020	2021	Avg	Response Time 50th Percentile	Response Time 90th Percentile
0-Overnight 00:00-03:59	65	70	95	65	74	17	28
1-Early Morning 04:00-07:59	71	99	123	105	100	15	27
2-Morning 08:00-11:59	175	218	227	228	212	12	25
3-Afternoon 12:00-15:59	160	224	215	232	208	13	24
4-Evening 16:00-19:59	161	235	241	234	218	13	26
5-Night 20:00-23:59	115	132	150	192	147	14	27
Total	747	978	1,051	1,056	959		

## Calls by Day of Week

There is minimal variation in call volume by day of the week.

Weekday	2018	2019	2020	2021
Sunday	110	160	154	131
Monday	118	142	163	173
Tuesday	108	128	158	158
Wednesday	96	133	147	133
Thursday	96	154	141	147
Friday	118	146	166	162
Saturday	101	115	122	152
<b>Total</b>	<b>747</b>	<b>978</b>	<b>1,051</b>	<b>1,056</b>

## Calls by Ability to Respond

Over the last four years, CFD has been unable to respond to only about 1 percent of their calls. They report that this always occurs when their on duty crews are already tied up on another call(s).

Disposition Type	2018	2019	2020	2021
Assign Complete	741	961	1,022	1,033
Did Not Respond	4	9	13	15
Other	2	8	16	8
<b>Total</b>	<b>747</b>	<b>978</b>	<b>1,051</b>	<b>1,056</b>

## Calls by Merged Type

The following table looks at the types of calls the ambulance received, the response time and the total time on task. The 50<sup>th</sup> percentile is the median and the 90<sup>th</sup> percentile indicates that 90 percent of the measured intervals were less than what is shown. While all response times matter, it is preferred to have shorter response times for serious call types such as cardiac arrest and stroke.

Merged Type	2018	2019	2020	2021	Response Time 50th Percentile	Response Time 90th Percentile	Task Time 50th Percentile	Task Time 90th Percentile
Abdominal Pain	16	37	19	32	13	28	90	134
Alarm	28	23	36	23	14	21	23	101
Allergies Hives Sting	10	4	10	5	12	20	69	117
ALS Assist	25	62	73	35	13	29	79	136
Ambulance Broome County	0	4	0	11	14	18	59	95
Ambulance Call	25	40	30	37	15	28	78	126
Animal Bite	0	1	1	1	5	11	30	93
Assist Ambulance	0	0	2	2	6	8	50	68
Back Pain	9	19	14	11	14	26	84	135
Breathing Problems	54	73	57	64	14	24	90	150

Merged Type	2018	2019	2020	2021	Response Time 50th Percentile	Response Time 90th Percentile	Task Time 50th Percentile	Task Time 90th Percentile
Burn	0	1	0	1	12	14	76	94
Cardiac Respir Arrest	2	2	0	0	12	19	46	104
Choking	6	2	2	2	14	20	28	96
Convulsions Seizures	21	24	45	72	14	20	31	123
Crime	1	0	4	1	18	34	30	42
Death Unattended Death	1	0	1	0	16	18	43	47
Diabetic Problems	4	14	16	18	13	25	64	125
Falls	79	100	97	95	14	25	66	133
Headaches	3	3	0	3	11	24	89	120
Heart Problems	77	72	66	85	14	25	91	141
Heat Cold Call	0	0	3	1	19	27	70	98
Hemorrhage	10	13	6	11	16	32	84	135
Intoxication	0	2	1	1	16	21	98	125
Mental Subject	2	3	4	2	20	42	79	124
Mental Transport	0	0	0	1	12	12	79	79
Misc Complaint	1	0	0	1	8	10	31	31
Multiple Complaints	4	1	1	2	12	17	78	127
Mutual Aid - Ems	87	218	236	179	13	27	81	141
MVA	46	42	39	35	13	26	56	116
Overdose	9	2	9	4	18	29	80	110
Overdose- Opioid	2	2	1	0	14	21	73	175
Pregnancy Child Birth	1	3	2	5	17	31	90	126
Public Service Call	53	57	40	63	12	30	25	99
Spec Diag-Sick Person	92	80	125	139	15	26	90	144
Standby - EMS	8	13	25	27	15	35	23	119
Standby - Special Event	6	0	0	2	1	13	80	275
Stroke CVA	13	20	27	21	13	25	90	136
Traumatic Injury-Specific	26	17	20	20	13	20	75	155
Unconscious Fainting	20	13	23	32	12	26	97	164
Unknown Prob-Man Down	6	11	16	12	13	24	61	143
<b>Total</b>	<b>747</b>	<b>978</b>	<b>1051</b>	<b>1056</b>				



## Candor Emergency Squad

The Candor Emergency Squad is an independent, not-for-profit ambulance agency that serves the town of Candor. The organization has been serving the community since 1963. It started as part of the American Legion and then became an independent 501(c)3 in 1987, and has been entirely volunteer for most of its history. However, in 2020, the department chose to add paid staff to ensure that an ambulance would be available to respond to calls when needed. The agency had been billing for service since the 1990s and had a sufficient fund balance to cover about a year of paid staff. The agency then entered into a contract with the Town of Candor to receive a constant stream of revenue, in part because the billing revenue was not sufficient for long-term operations.

The agency is led by a volunteer board of directors. Three of the five directors are members of organization and two are community members. Since it began utilizing paid staffing, it is able to cover 95% of calls received and, in most cases, has an ambulance enroute to calls in under 90 seconds.

Candor Emergency Squad		
Type	Independent Not-For Profit	
Service Area	Town of Candor	
Staffing	Total Number of Volunteers (Active)	4
	Non-Certified	2
	CFR	1
	EMT	1
	AEMT or AEMT-CC	0
	Paramedics	0
	Full-time EMTs	8
	Full-time ALS	4
	Part-time EMTs	4
	Part-time ALS	7
Other Paid	Director of Operations; Office Manager	
Staffing Schedule	1 ALS crew 24/7	
Facility	Bays	2
	Year Built	1970
	Apx. Sq. Ft	3,000
	Typical sleeping Spaces	2
Facility Features	Exhaust capture	No
	Oxygen cascade system	No
	Training rooms	Yes

Candor Emergency Squad		
	Security system	Yes
	Generator	Propane
<b>Vehicles</b>	Vehicle #1	Vehicle #2
Identifier	2232	2233
Year	2013	2013
Type	Modular	Modular
Manufacturer	Ford	Ford
Mileage	81,000	81,000
<b>Equipment</b>	Sets of ALS Gear	2
	Stretcher Type	Stryker Power Load
	ALS Monitor	Zoll
	Auto Compression Device	No
	Ventilator	No
<b>BLS Skills</b>	Check and Inject Epinephrine	Yes
	CPAP	Yes
	Glucometry	Yes
	12-Lead EKG	Yes
	Nebulized Albuterol	Yes
	Narcan	Yes
<b>Finance</b>	EMS Budget	\$635,000
	Share on Staffing	75%
	Share for Capital Equipment	5%
	Insurance Share	5%
	Tax Dollars for Operation	75%
	Share from Billing	25%

### EMS Calls by Month

The call volume for Candor increased during 2021, compared to the previous three years. The call volume was up more than 20%, from an average of 516 calls in a year to 652. The increase was across the board, with every month being higher than the average. The pandemic apparently led to an increase in calls during the last quarter of 2021.

Month name	2018	2019	2020	2021	Avg
January	39	31	45	41	39
February	32	45	38	52	42
March	33	45	48	50	44

April	42	39	40	50	43
May	32	43	29	55	40
June	50	56	35	42	46
July	30	59	51	57	49
August	39	51	50	56	49
September	54	50	41	50	49
October	39	46	42	71	50
November	44	42	59	61	52
December	39	40	50	67	49
<b>Total</b>	<b>473</b>	<b>547</b>	<b>528</b>	<b>652</b>	<b>552</b>

### Calls by Time of Day

The distribution of calls by time of day follows the typical pattern for EMS agencies with the majority of calls coming during the daytime hours. The department's response times are relatively long over the course of four years, but this has improved recently with the addition of paid staff at the station that allows the ambulances to respond immediately at time of dispatch. As well, Candor's mutual aid responses out of the district lead to some long response times that were included in the analysis.

Time of Day	2018	2019	2020	2021	Avg	Response Time 50th Percentile	Response Time 90th Percentile
0-Overnight 00:00-03:59	54	36	44	64	50	17	31
1-Early Morning 04:00-07:59	62	55	60	78	64	18	32
2-Morning 08:00-11:59	93	136	112	147	122	15	28
3-Afternoon 12:00-15:59	95	128	126	139	122	14	27
4-Evening 16:00-19:59	87	115	114	126	110	17	32
5-Night 20:00-23:59	82	77	72	98	82	18	32
<b>Total</b>	<b>473</b>	<b>547</b>	<b>528</b>	<b>652</b>	<b>550</b>		

### Calls by Day of Week

The calls for service in the district are effectively even across the days of the week.

Weekday	2018	2019	2020	2021
0-Sunday	52	78	77	96
1-Monday	77	82	80	103
2-Tuesday	57	87	80	98
3-Wednesday	65	74	79	83
4-Thursday	53	75	82	92
5-Friday	91	80	62	90
6-Saturday	78	71	68	90
<b>Total</b>	<b>473</b>	<b>547</b>	<b>528</b>	<b>652</b>

## Calls by Ability to Respond

During 2021, Candor did not respond to about 7% of their calls for service. This is lower than their rates of about 12% and 13% from the previous two years. The number of missed calls was a factor that led to paid staff beginning in the fall of 2020.

Disposition Type	2018	2019	2020	2021
Assign Complete	455	476	450	603
Did Not Respond	17	64	70	43
Other	1	7	8	6
<b>Total</b>	<b>473</b>	<b>547</b>	<b>528</b>	<b>652</b>

## Call Types and Time on Task

The following table looks at the types of calls the ambulance received, the response time and the total time on task. The 50<sup>th</sup> percentile is the median and the 90<sup>th</sup> percentile indicates that 90 percent of the measured intervals were less than what is shown. While all response times matter, it is preferred to have shorter response times for serious call types such as cardiac arrest and stroke.

Merged Type	2018	2019	2020	2021	Response Time 50th Percentile	Response Time 90th Percentile	Task Time 50th Percentile	Task Time 90th Percentile
Abdominal Pain	17	20	22	24	16	31	108	143
Alarm	7	14	5	11	15	27	24	127
Allergies Hives Sting	5	9	4	5	15	36	89	148
ALS Assist	4	0	0	1	8	12	73	145
Ambulance Call	21	22	8	22	18	33	79	153
Animal Bite	0	1	1	0	16	27	22	28
Back Pain	12	6	7	8	19	34	114	143
Breathing Problems	53	53	40	67	16	29	115	147
Burn	0	3	1	0	18	19	114	123
Cardiac Respir Arrest	1	1	1	0	17	20	120	172
Choking	0	1	1	1	12	21	46	112
Convulsions Seizures	27	26	27	29	12	23	31	129
Crime	1	2	0	0	16	26	30	167
Death Unattended Death	2	2	3	2	18	28	23	50

Merged Type	2018	2019	2020	2021	Response Time 50th Percentile	Response Time 90th Percentile	Task Time 50th Percentile	Task Time 90th Percentile
Diabetic Problems	12	5	10	13	20	34	122	168
Falls	56	79	71	91	16	29	80	147
Headaches	1	5	3	5	16	25	74	128
Heart Problems	48	52	52	64	16	29	116	144
Hemorrhage	10	13	6	9	16	24	117	136
Intoxication	1	1	1	1	18	48	84	128
Mental Subject	2	1	1	0	19	30	82	144
Multiple Complaints	5	6	2	2	15	25	100	124
Mutual Aid - EMS	27	23	37	48	17	32	38	123
MVA	26	22	27	29	17	31	54	151
Overdose	5	5	5	8	16	29	107	125
Pregnancy Child Birth	2	3	0	1	16	27	106	128
Public Service Call	10	11	7	16	11	26	20	64
Spec Diag-Sick Person	60	83	97	81	18	32	112	142
Standby - EMS	20	20	34	49	11	39	24	131
Standby - Special Event	1	0	0	1	16	26	134	200
Stroke CVA	8	9	11	18	14	23	116	146
Traumatic Injury-Specific	12	18	21	15	18	28	104	138
Unconscious Fainting	9	22	17	24	16	27	117	150
Unknown Prob-Man Down	8	9	6	7	16	24	48	136
<b>Total</b>	<b>473</b>	<b>547</b>	<b>528</b>	<b>652</b>				

## Greater Valley EMS

Greater Valley EMS is an independent, non-profit ambulance service that is headquartered in Sayre, Pennsylvania. They provides service to Chemung County (NY), Tioga County (NY) and Bradford County (PA). In addition to paramedic ambulance services, they also provide about 7,000 wheelchair van transports annually (7,421 in 2021) and have technical rescue services available.

Their overall call volume for the ambulance service is about 6,000 (6,637 in 2021). Less than a quarter of those responses are in Tioga County. It primarily provides service to the Village of Waverly and Town of Barton in the southwest corner of the County. However, it does have state operating authority for advanced life support for the whole county and will respond as requested. The agency is frequently asked to provide ALS services for Spencer, Tioga Center and Nichols. There has been an increase in demand for providing ambulance service in Tioga Center and Nichols when their volunteer crews aren't available.

All responses come from their base in Sayre and at least 80% of their transports are back to that facility. There are typically two paramedic crews on duty, but additional crew will be added as needed. They also serve as the EMS service to Tioga Downs Casino. GVEMS receives no tax money to provide the services and relies fully on fee for services, grants and some minimal donations.

Greater Valley EMS		
<b>Type</b>	Independent, Non-Profit	
<b>Service Area</b>	In Tioga Co.: V. of Waverly; T. of Barton; ALS CON for all of Tioga Co.; In PA: Northern tier Bradford Co.; ALS for northern half of Bradford Co.; In Chemung Co.: T. of Chemung; T. of Van Etten.	
<b>Staffing</b>	Total Number of Volunteers	12
	Non-Certified	10
	CFR	0
	EMT	2
	AEMT or AEMT-CC	0
	Paramedics	0
	Full-time EMTs	10
	Full-time ALS	9
	Part-time EMTs	24
	Part-time ALS	10
<b>Other Paid</b>	1 Chief/Executive Director (Paramedic); 1 Dep. Chief/Ops Manager (Paramedic)	

Greater Valley EMS				
<b>Staffing Schedule</b>	Normally 2 ALS crews 24/7; minimally 1 ALS crew & 1 BLS crew 24/7; daytime surge capacity for 3-4 ALS crews; 1 BLS crew weekdays 10 am – 7 pm, as needed.			
<b>Facility</b>	Bays	8		
	Year Built	1996		
	Apx. Sq. Ft	10,000		
	Typical sleeping Spaces	6		
<b>Facility Features</b>	Exhaust capture	No		
	Oxygen cascade system	Yes		
	Training rooms	Yes		
	Security system	Yes		
	Generator	Natural gas		
<b>Vehicles</b>	Vehicle #1	Vehicle #2	Vehicle #3	Vehicle #4
Identifier	12-31	12-32	12-33	12-34
Year	2017	2019	2017	2020
Type	Modular	Van	Modular	Van
Manufacturer	Ford/Medix	Ford/Medix	Ford/Medix	Ford/Demers
Mileage	104,000	62,000	135,000	30,000
<b>Vehicles</b>	Vehicle #5	Vehicle #6	Vehicle #7	Vehicle #8
Identifier	12-35	12-36	12-37	12-51
Year	2017	2020	2006	2020
Type	Modular	Van	Modular	EASV
Manufacturer	Ford/Medix	Ford/Demers	Ford/Horton	Chevy Suburban
Mileage	165,000	4,600	102,000	17,000
<b>Equipment</b>	Sets of ALS Gear	10		
	Stretcher Type	Stryker MX Power Pro		
	ALS Monitor	Zoll X Series		
	Auto Compression Device	n/a		
	Ventilator	ParaPac PneuPac & LTV1200		

Greater Valley EMS		
BLS Skills	Check and Inject Epinephrine	No
	CPAP	Yes
	Glucometry	Yes
	12-Lead EKG	Yes
	Nebulized Albuterol	Yes
	Narcan	Yes
Finance	EMS Budget	(not answered)
	Share on Staffing	70%
	Share for Capital Equipment	8%
	Insurance Share	6%
	Tax Dollars for Operation	No
	Share from Billing	88%

### EMS Calls by Month

The calls for service represent only about a quarter of the calls handled by GVEMS which occurred in Tioga County. Their demand for services increased by more than 23% in 2021 compared to the previous year three years average. Although every month was higher than in previous years, the call volume in December of 2021 was the busiest month in the four years of data by more than 20 calls.

Month name	2018	2019	2020	2021	Avg
January	121	84	98	112	104
February	106	88	91	94	95
March	101	99	103	119	106
April	112	110	72	108	100
May	103	111	92	112	104
June	85	104	81	110	95
July	99	92	100	125	104
August	113	100	99	140	113
September	123	89	90	125	107
October	103	90	109	139	110
November	96	98	108	125	107
December	111	82	111	161	116
Total	1,273	1,147	1,154	1,470	1,261

### Calls by Time of Day

The distribution of calls by time of day follows the typical pattern for EMS agencies with the majority of calls coming during the daytime hours. The department's response times are very consistent in the median at 11 or 12 minutes for all times. This response time includes the inherent delay of 90 seconds to two minutes that occurs



when a call is transferred from the 911 Center in Tioga to the 911 Center in Bradford County. However, the 90<sup>th</sup> percentile is rather long, representing some of the mutual calls that are well outside their typical service area.

Time of Day	2018	2019	2020	2021	Avg	Response Time 50th Percentile	Response Time 90th Percentile
0-Overnight 00:00-03:59	129	98	127	160	128	12	31
1-Early Morning 04:00-07:59	115	130	148	155	137	11	27
2-Morning 08:00-11:59	251	268	246	332	274	11	28
3-Afternoon 12:00-15:59	293	243	241	336	278	12	29
4-Evening 16:00-19:59	291	214	203	256	241	12	30
5-Night 20:00-23:59	194	194	189	231	202	11	30
<b>Total</b>	<b>1,273</b>	<b>1,147</b>	<b>1,154</b>	<b>1,470</b>	<b>1,260</b>		

### Calls by Day of Week

The calls for service for GVEMS drop slightly during the weekends compared to the weekdays, with Sunday being the slowest day of the week.

Weekday	2018	2019	2020	2021
0-Sunday	162	148	146	167
1-Monday	183	172	190	208
2-Tuesday	217	180	152	247
3-Wednesday	171	158	169	197
4-Thursday	188	160	163	249
5-Friday	178	166	166	232
6-Saturday	174	163	168	170
<b>Total</b>	<b>1,273</b>	<b>1,147</b>	<b>1,154</b>	<b>1,470</b>

### Calls by Ability to Respond

GVEMS responded to nearly all of the calls it was dispatched to during the four years evaluated during the study.

Disposition Type	2018	2019	2020	2021
Assign Complete	1,259	1,137	1,139	1,454
Did Not Respond	6	1	1	5
Other	8	9	13	11
<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>

### Call Types and Time on Task

The following table looks at the types of calls the ambulance received, the response time and the total time on task. The 50<sup>th</sup> percentile is the median and the 90<sup>th</sup> percentile indicates that 90 percent of the measured intervals were less than what is

shown. While all response times matter, it is preferred to have shorter response times for serious call types such as cardiac arrest and stroke. The response times for ALS Assist calls are noticeably longer as those are typically responses well away from their base in Sayre when the home agency does not have available resources.

Merged Type	2018	2019	2020	2021	Response Time 50th Percentile	Response Time 90th Percentile	Task Time 50th Percentile	Task Time 90th Percentile
Abdominal Pain	36	30	39	32	11	20	25	56
Alarm	105	96	99	93	9	24	9	39
Allergies Hives Sting	7	2	7	8	12	23	24	54
ALS Assist	65	45	52	94	22	46	23	56
Ambulance Call	88	98	62	107	11	26	21	51
Animal Bite	4	0	0	0	13	27	6	12
Assist Ambulance	0	1	3	1	3	23	4	23
Back Pain	25	18	16	11	12	27	23	47
Breathing Problems	130	118	122	142	11	28	25	53
Burn	0	2	1	0	10	39	0	13
Cardiac Respir Arrest	8	4	2	0	12	19	18	51
Choking	2	2	1	10	10	13	9	73
Convulsions Seizures	30	49	31	19	10	26	24	64
Crime	3	5	2	8	16	51	16	72
Death Unattended Death	2	3	6	5	15	22	17	54
Diabetic Problems	25	21	14	19	11	21	25	55
Falls	176	141	150	171	12	26	22	54
Headaches	4	12	7	10	11	27	22	43
Heart Problems	85	66	72	65	12	25	26	53
Heat Cold Call	0	0	0	2	11	14	40	51
Hemorrhage	35	29	27	30	11	23	23	47
Intoxication	2	3	1	4	16	33	18	58
Mental Subject	7	7	8	7	14	30	15	40
Mental Transport	0	1	0	0	15	15	33	33
Misc Complaint	1	0	0	1	8	9	20	34
Multiple Complaints	11	2	1	2	19	37	14	48
Mutual Aid - EMS	25	30	45	87	20	40	31	77
MVA	45	44	27	54	12	33	18	56
Overdose	11	13	28	26	13	29	22	68
Overdose -Opioid	3	5	2	0	10	14	20	41

Merged Type	2018	2019	2020	2021	Response Time 50th Percentile	Response Time 90th Percentile	Task Time 50th Percentile	Task Time 90th Percentile
Pregnancy Child Birth	3	4	2	0	11	33	12	51
Public Service Call	5	8	4	8	11	31	10	23
Spec Diag-Sick Person	193	159	177	272	12	28	24	58
Standby - EMS	30	25	55	68	10	29	10	58
Stroke CVA	30	28	29	14	10	23	27	58
Suicide	1	0	1	0	14	20	9	15
Traumatic Injury-Specific	31	30	19	33	11	28	20	49
Unconscious Fainting	24	34	26	46	10	21	26	74
Unknown Prob-Man Down	21	12	16	21	7	17	23	80
<b>Total</b>	<b>1,273</b>	<b>1,147</b>	<b>1,154</b>	<b>1,470</b>				

## Maine Emergency Squad

Maine Emergency Squad (MESI) separated from the Maine Fire District in 2002. They were founded to serve the town of Maine and parts of the Town of Nanticoke in Broome County. In Tioga County, MESI provides service to the towns of Berkshire, Newark Valley, Richford and a portion of Owego served by the Newark Valley Fire Protection District. Newark Valley and Richford were previously served by the Northern Tioga Ambulance, which ceased operations in 2015. The Berkshire Fire Department operated an ambulance into 2021. MESI provided back-up service to Berkshire under a written agreement and then became primary when Berkshire ceased operations. MESI has written agreements with each of the municipalities in Tioga County to provide the service. The estimated population served in Tioga County by MESI is 6,015 (Berkshire, Newark Valley and Richford), plus an additional 8,400 in Broome County. The total service area (both counties) is about 188 square miles.

The service typically has one ambulance on duty at all times and a second ambulance four days a week. Most of the part-time staff and all of the volunteers live in the areas served by MEMS, which enables them to muster a second crew for calls that occur when the prime ambulance is already on a call.

MESI is primarily dispatched by Broome County dispatch. All information related to calls is recorded by Broome County 911 for MESI, even when the events are in Tioga County. When MESI is needed for a call in Tioga County, the Tioga County 911 center needs to request them through the Broome County dispatch. This process lengthens the time from when a caller dials 911 to when an ambulance arrives, because the transfer of information between the dispatch centers takes 45 to 90 seconds, or on occasion more. As well, because of how cell phone reception occurs in this part of Tioga County, some 911 calls are answered in Broome County and dispatched directly to MESI. Tioga County is only notified if law enforcement or fire service is needed. The primary base of operations is in Maine. However, they do at times use space in a building in Newark Valley where Northern Tioga EMS used to operate. Their primary base had a fire in 2020 and is under significant renovation. They are using the base in Newark Valley into 2022, but intend to return operations to Maine by the end of the year. This will negatively affect response times in the three towns they serve in Tioga County.

About a third of Maine's calls (450 a year) are in the three towns they serve in Tioga County. The remaining 1,000 or so calls are in Broome County.

Maine Emergency Squad		
Type	Independent, Non-Profit	
Service Area	Town of Maine, Newark Valley, Berkshire, Richford, parts of Town of Nanticoke	

Maine Emergency Squad		
<b>Staffing</b>	Total Number of Volunteers	23
	Non-Certified	9
	CFR	0
	EMT	11
	AEMT or AEMT-CC	1
	Paramedics	2
	Full-time EMTs	6
	Full-time ALS	3
	Part-time EMTs	13
	Part-time ALS	6
<b>Other Paid</b>	n/a	
<b>Staffing Schedule</b>	1 24/7 ALS Crew: 1 ALS & 1 BLS/Driver	
<b>Facility #1</b>	Bays	2
	Year Built	1970s
	Apx. Sq. Ft	8,000
	Typical sleeping Spaces	6
<b>Facility #1 Features</b>	Exhaust capture	No
	Oxygen cascade system	No
	Training rooms	Yes
	Security system	Yes
	Generator	Propane
<b>Facility #2</b>	Bays	4
	Year Built	Unknown
	Apx. Sq. Ft	3,000
	Typical sleeping Spaces	2
<b>Facility #2 Features</b>	Exhaust capture	No
	Oxygen cascade system	No
	Training rooms	No
	Security system	No
	Generator	None
<b>Vehicles</b>	4 Ambulances	Additional Details not provided
<b>Identifier</b>		

Maine Emergency Squad		
Year		
Type		
Manufacturer		
Mileage		
<b>Equipment</b>		
	Sets of ALS Gear	
	Stretcher Type	
	ALS Monitor	
	Auto Compression Device	
	Ventilator	
<b>BLS Skills</b>		
	Check and Inject	
	CPAP	
	Glucometry	
	12-Lead EKG	
	Nebulized Albuterol	
	Narcan	
<b>Finance</b>		
	EMS Budget	\$1.1 million
	Share on Staffing	70%
	Share for Capital Equipment	
	Insurance Share	\$800,000
	Tax Dollars for Operation	\$300,000
	Share from Billing	

### EMS Calls by Month

The calls on the table below are just the calls in Tioga County recorded by the Tioga County 911 Center<sup>5</sup> and represent about one third of the total call volume. Their call volume did not increase in Tioga County during 2021 much above the long term

<sup>5</sup> MESI provided data that was about 10 to 15 percent higher than the figures provided by Tioga County 911 Center for each month and the years in total. The higher call totals were consistently up by month, day of week and time of day. The variation is a result of MESI being dispatched to calls in Tioga County by Broome County 911 and the information not getting shared to Tioga County 911. CGR chose to use a single data source, Tioga County 911, for the tables and acknowledges that there is likely an error of 10 to 15% when compared to MESI's internal data.

average. However, their two busiest months in the last four years were September and October of 2021.

Month name	2018	2019	2020	2021	Avg
January	28	41	46	30	36
February	30	42	24	27	31
March	39	31	32	31	33
April	29	35	30	29	31
May	21	39	34	23	29
June	22	39	38	30	32
July	34	46	41	45	42
August	43	30	44	49	42
September	36	43	27	54	40
October	30	48	26	58	40
November	37	37	24	49	37
December	50	39	38	44	43
Total	399	470	404	469	436

### Calls by Time of Day

The distribution of calls by time of day follows the typical pattern for EMS agencies with the majority of calls coming during the daytime hours. The department's response times are relatively long (compared with other agencies in the study) over the course of four years, with a consistent median response time of 23 minutes and 90 percent of their responses taking less than 44 minutes. This length of response is directly related to two key factors: the time it takes to transfer information between the 911 centers and the large response area served by MESI. MESI provided data that showed their average incident dispatch to unit on scene time was 17.5 minutes in Newark Valley, 22.4 in Berkshire and 27.1 in Richford when sent through the Tioga County 911 Center, which are consistent with the 50<sup>th</sup> percentile shown in the report. However, two of the intervals are each about 3 minutes shorter when calls in those jurisdictions are not dispatched through Tioga County's 911 center (14.3 in Newark Valley, 19.1 in Berkshire and 26.7 in Richford.)

Time of Day	2018	2019	2020	2021	Avg	Response Time 50th Percentile	Response Time 90th Percentile
0-Overnight 00:00-03:59	27	31	34	44	34	23	42
1-Early Morning 04:00-07:59	31	48	39	59	44	23	42
2-Morning 08:00-11:59	93	103	97	96	97	20	38
3-Afternoon 12:00-15:59	82	118	88	102	98	22	44
4-Evening 16:00-19:59	103	104	94	107	102	22	45
5-Night 20:00-23:59	63	66	52	61	60	22	44
Total	399	470	404	469	435		

## Calls by Day of Week

There is no measurable variation in call volume by day of the week. Again, MESI indicates their call volume is about 10 to 15% higher than those calls dispatched through Tioga County.

Weekday	2018	2019	2020	2021
0-Sunday	63	72	53	66
1-Monday	50	68	67	72
2-Tuesday	49	62	59	62
3-Wednesday	49	64	50	65
4-Thursday	61	76	46	76
5-Friday	69	55	72	60
6-Saturday	58	73	57	68
<b>Total</b>	<b>399</b>	<b>470</b>	<b>404</b>	<b>469</b>

## Calls by Ability to Respond

Over the last four years, MESI has been unable to respond to about 5 to 7 percent of their calls in Tioga County. They report that this is when their first crew is already tied up on another call. According to their internal records, they only dropped 25 calls in 2019, 14 in 2020 and 19 in 2021, which is about half of the number reported by Tioga County.

Disposition Type	2018	2019	2020	2021
Assign Complete	375	431	379	431
Did Not Respond	24	37	23	36
Other	0	2	2	2
<b>Total</b>	<b>399</b>	<b>470</b>	<b>404</b>	<b>469</b>

## Call Types and Time on Tasks

The following table looks at the types of calls the ambulance received, the response time and the total time on task. The 50<sup>th</sup> percentile is the median and the 90<sup>th</sup> percentile indicates that 90 percent of the measured intervals were less than what is shown. While all response times matter, it is preferred to have shorter response times for serious call types such as cardiac arrest and stroke.

Merged Type	2018	2019	2020	2021	Response Time 50th Percentile	Response Time 90th Percentile	Task Time 50th Percentile	Task Time 90th Percentile
Abdominal Pain	14	7	11	15	26	45	63	121
Alarm	8	19	12	11	20	45	11	84



Merged Type	2018	2019	2020	2021	Response Time 50th Percentile	Response Time 90th Percentile	Task Time 50th Percentile	Task Time 90th Percentile
Allergies Hives Sting	2	1	6	4	21	43	43	108
Als Assist	28	36	34	27	22	36	48	106
Ambulance Call	24	16	14	13	24	41	47	95
Animal Bite	1	1	0	2	18	25	20	80
Assist Ambulance	0	0	0	1	80	80	0	0
Back Pain	7	8	6	7	20	33	72	117
Breathing Problems	47	51	25	57	22	47	54	119
Burn	1	0	0	2	36	42	16	49
Cardiac Respir Arrest	1	2	0	2	22	47	31	86
Choking	0	0	2	0	13	20	18	24
Convulsions Seizures	9	15	7	9	25	40	57	128
Crime	5	2	2	1	28	74	48	98
Death Unattended Death	0	2	0	4	26	45	56	110
Diabetic Problems	2	5	3	4	18	50	46	131
Falls	42	53	40	36	22	47	48	103
Headaches	1	3	3	2	20	35	44	90
Heart Problems	38	30	46	36	21	37	61	116
Heat Cold Call	1	0	1	1	24	38	25	90
Hemorrhage	10	12	3	4	23	37	47	91
Intoxication	0	0	0	1	22	22	23	23
Mental Subject	1	2	0	1	37	48	26	93
Multiple Complaints	3	3	0	1	24	32	51	147
Mutual Aid - EMS	16	20	12	49	22	37	59	112
MVA	22	38	37	22	21	40	46	97
Overdose	4	5	7	6	18	30	56	132
Overdose	1	0	0	0	12	12	49	49
Pregnancy Child Birth	2	0	1	1	32	36	68	127
Public Service Call	3	8	7	5	6	12	18	91

Merged Type	2018	2019	2020	2021	Response Time 50th Percentile	Response Time 90th Percentile	Task Time 50th Percentile	Task Time 90th Percentile
Spec Diag-Sick Person	46	66	58	61	25	47	61	114
Standby - EMS	20	22	25	35	12	37	18	76
Stroke CVA	5	9	12	8	22	37	52	117
Suicide	0	1	0	0	21	21	31	31
Traumatic Injury-Specific	15	14	11	16	22	40	56	106
Unconscious Fainting	14	11	14	15	21	47	51	97
Unknown Prob-Man Down	6	8	5	10	17	42	54	132
<b>Total</b>	399	470	404	469				

## Nichols Joint Fire District

The Nichols Joint Fire District Ambulance is a fully volunteer service serving the Town of Nichols. They are a basic life support agency that needs to call a neighboring agency, often GVEMS, for advanced life support. Because they are funded through a fire district, they have not been allowed to bill for services provided until a recent law change that has not been implemented yet. The fire district ambulance relies fully on volunteers to answer their calls. Nichols recently established a procedure for automatic mutual aid to be requested at the time of dispatch from 6:00 am to 6:00 pm and for mutual aid to be requested after 5 minutes at other times. They will still attempt to muster a crew, but are seeking to ensure a quicker response when mutual aid is needed.

Nichols Joint Fire District		
Type	Fire District Ambulance	
Service Area	Town of Nichols	
Staffing	Total Number of Volunteers	15
	Non-Certified	4
	CFR	0
	EMT	8
	AEMT or AEMT-CC	0
	Paramedics	0
	Full-time EMTs	0
	Full-time ALS	0
	Part-time EMTs	0
	Part-time ALS	0
Other Paid	n/a	
Staffing Schedule	n/a	
Facility	Bays	2
	Year Built	2020
	Apx. Sq. Ft	2,000
	Typical sleeping Spaces	0
Facility Features	Exhaust capture	Yes
	Oxygen cascade system	Yes
	Training rooms	Yes
	Security system	Yes
	Generator	Diesel
Vehicles	Vehicle #1	Vehicle #2

Nichols Joint Fire District		
Identifier	731	732
Year	1998	2000
Type	Modular	Modular
Manufacturer	Ford	Chevrolet
Mileage	100,000+	100,000+
<b>Equipment</b>		
	Sets of ALS Gear	2
	Stretcher Type	Stryker
	ALS Monitor	Lifepak 15
	Auto Compression Device	Lucas
	Ventilator	No
<b>BLS Skills</b>		
	Check and Inject	Yes
	CPAP	Yes
	Glucometry	Yes
	12-Lead EKG	Yes
	Nebulized Albuterol	Yes
	Narcan	Yes
<b>Finance</b>		
	EMS Budget	Unknown
	Share on Staffing	n/a
	Share for Capital Equipment	Unknown
	Insurance Share	Unknown
	Tax Dollars for Operation	Yes (% not specified)
	Share from Billing	0%

### EMS Calls by Month

Their call volume during 2021 was similar to their long term average. There is no distinguishable pattern of variation by month for their calls service. The range is from 13 to 38 with an average just above 20.

Month name	2018	2019	2020	2021	Avg
January	23	13	30	15	20
February	32	17	30	19	24
March	30	22	23	26	25
April	19	20	14	25	20
May	28	25	14	22	22
June	32	20	17	31	25
July	39	21	30	27	29
August	38	38	26	18	30

September	35	19	25	28	27
October	15	32	19	19	21
November	21	18	19	22	20
December	28	29	33	32	30
<b>Total</b>	<b>340</b>	<b>274</b>	<b>280</b>	<b>284</b>	<b>293</b>

### Calls by Time of Day

The distribution of calls by time of day follows the typical pattern for EMS agencies with the majority of calls coming during the daytime hours, although the peak for Nichols is between 4 pm and 8 pm. The department's median response times vary by time of day. In early morning and morning, they are 5 minutes and 10 minutes respectively. They are relatively long during the night and overnight with a median of 17 and 18 minutes, reflecting the longer time it can take to muster a crew.

Time of Day	2018	2019	2020	2021	Avg	Response Time 50th Percentile	Response Time 90th Percentile
0-Overnight 00:00-03:59	30	27	27	41	31	18	31
1-Early Morning 04:00-07:59	35	39	39	25	34	5	31
2-Morning 08:00-11:59	64	58	50	48	55	10	28
3-Afternoon 12:00-15:59	73	51	49	50	56	12	27
4-Evening 16:00-19:59	90	52	69	71	70	16	30
5-Night 20:00-23:59	48	47	46	49	48	17	31
<b>Total</b>	<b>340</b>	<b>274</b>	<b>280</b>	<b>284</b>	<b>294</b>		

### Calls by Day of Week

There is no measurable variation in call volume by day of the week.

Weekday	2018	2019	2020	2021
0-Sunday	44	39	37	46
1-Monday	57	41	39	39
2-Tuesday	45	34	36	47
3-Wednesday	41	35	40	26
4-Thursday	40	42	35	44
5-Friday	51	37	42	47
6-Saturday	62	46	51	35
<b>Total</b>	<b>340</b>	<b>274</b>	<b>280</b>	<b>284</b>

### Calls by Ability to Respond

In 2021, Nichols did not respond to 39 per cent of the calls it was dispatched to by the 911 center. This was a jump from 28 percent in 2020 and 17 percent in 2019. These calls are typically covered by Greater Valley when Nichols is not available.

Disposition Type	2018	2019	2020	2021
Assign Complete	292	228	201	169
Did Not Respond	46	46	77	112
Other	2	0	2	3
<b>Total</b>	<b>340</b>	<b>274</b>	<b>280</b>	<b>284</b>

## Call Types and Time on Task

The following table looks at the types of calls the ambulance received, the response time and the total time on task. The 50<sup>th</sup> percentile is the median and the 90<sup>th</sup> percentile indicates that 90 percent of the measured intervals were less than what is shown. While all response times matter, it is preferred to have shorter response times for serious call types such as cardiac arrest and stroke. The table below doesn't differentiate between the calls covered by Nichols or for those covered by mutual aid.

Merged Type	2018	2019	2020	2021	Response Time 50th Percentile	Response Time 90th Percentile	Task Time 50th Percentile	Task Time 90th Percentile
Abdominal Pain	7	10	8	12	11	27	45	90
Alarm	13	6	10	4	14	31	25	81
Allergies Hives Sting	3	0	2	1	11	18	26	66
Ambulance Pennsylvania	0	0	0	1	3	3	19	19
Ambulance Call	15	19	3	7	17	28	50	107
Animal Bite	2	0	1	0	17	18	53	89
Assist Ambulance	0	0	0	1	1	1	25	25
Back Pain	1	6	8	5	18	28	58	81
Breathing Problems	42	27	33	27	15	27	64	106
Burn	0	0	1	0	16	16	39	39
Choking	2	1	0	1	16	24	44	86
Convulsions Seizures	9	5	7	5	12	22	56	84
Crime	2	0	2	2	25	59	45	84
Death Unattended Death	1	3	0	0	25	31	66	102
Diabetic Problems	8	6	5	6	15	30	43	88
Falls	31	32	34	27	15	29	51	95
Headaches	2	1	0	1	21	24	56	78

Merged Type	2018	2019	2020	2021	Response Time 50th Percentile	Response Time 90th Percentile	Task Time 50th Percentile	Task Time 90th Percentile
Heart Problems	28	14	16	19	16	31	67	108
Heat Cold Call	1	0	1	1	2	16	25	64
Hemorrhage	7	4	2	5	20	31	60	92
Intoxication	1	0	0	1	11	19	38	53
Mental Subject	1	0	1	0	15	26	49	75
Multiple Complaints	1	1	2	0	18	38	46	75
Mutual Aid - EMS	7	3	6	10	16	28	26	90
MVA	27	38	32	27	20	37	50	108
Overdose	2	1	2	3	12	30	24	121
Overdose - Opioid	1	2	0	1	8	16	61	118
Pregnancy Child Birth	2	0	0	2	16	31	64	90
Public Service Call	26	17	18	16	14	31	34	146
Spec Diag-Sick Person	46	26	28	47	11	26	50	94
Standby - EMS	9	10	9	9	7	23	37	199
Standby - Special Event	7	7	7	7	1	3	183	288
Stroke CVA	10	8	10	7	15	28	59	98
Traumatic Injury-Specific	10	10	13	10	14	28	51	111
Unconscious Fainting	10	11	11	11	14	28	56	109
Unknown Prob-Man Down	6	6	8	8	8	17	57	103
<b>Total</b>	<b>340</b>	<b>274</b>	<b>280</b>	<b>284</b>				

## Owego Village EMS Dept.

The Owego Village EMS Department became an independent department inside the village government in April of 2019. Prior to that, it was considered to be a part of the fire department. It is the busiest agency that is based in Tioga County, with nearly 5 calls per day on average, or a quarter of the total call volume. The department is primarily staffed by volunteers who respond to the station when a call occurs. The exceptions to that are the paid staff during the weekday and the volunteer drivers for the paid staff who typically stay at the station during their shift. The agency has been very successful in both recruiting and retaining volunteers since they became an independent service. They bill for service and receive payment for their treatment and transport. They use a third-party service, MedEx, and the revenue from the billing covers all of the costs of the ambulance operations. The Village and Agency share the costs to maintain the building. The Agency is responsible for the capital needs of the department.

Owego Village EMS Dept.		
<b>Type</b>	Municipal Ambulance Service	
<b>Service Area</b>	Village of Owego and the northeast corner of Tioga	
<b>Staffing</b>	Total Number of Volunteers	53
	Non-Certified	11
	CFR	1
	EMT	28
	AEMT or AEMT-CC	7
	Paramedics	6
	Full-time EMTs	0
	Full-time ALS	1
	Part-time EMTs	0
	Part-time ALS	3
<b>Other Paid</b>		
<b>Staffing Schedule</b>	Full time, 4-10 hour days, Part time 30 to 64 hours a week of additional coverage, now all 5 days are back covered again at least 08:00 to 1800. Some days have coverage starting at 06:00 when two medics are on with overlapping backup coverage. Some portions of the schedule are fluid as new staff are added to the mix.	
<b>Facility</b>	Bays	5
	Year Built	1911
	Apx. Sq. Ft	9,000
	Typical sleeping Spaces	3



Owego Village EMS Dept.				
<b>Facility Features</b>	Exhaust capture			No
	Oxygen cascade system			No
	Training rooms			Yes
	Security system			No
	Generator			None
<b>Vehicles</b>	Vehicle #1	Vehicle #2	Vehicle #3	Vehicle #4
Identifier	2031	2032	2033	2051
Year	2019	2009	2005	2011
Type	Modular	Modular	Modular	EASV
Manufacturer	Ford/Horton	Ford/Horton	Ford/Horton	Chevrolet
Mileage	7,358	92,000	105,571	30,000
<b>Equipment</b>	Sets of ALS Gear	4		
	Stretcher Type	Stryker Power Lift and power stretchers		
	ALS Monitor	LP15, with CO, CO2, NIBP, PACE, DEFIB, Cardiovert, Transmission capable on 3.		
	Auto Compression Device	Autopulse		
	Ventilator	No		
<b>BLS Skills</b>	Check and Inject			Yes
	CPAP			Yes
	Glucometry			Yes
	12-Lead EKG			Yes
	Nebulized Albuterol			Yes
	Narcan			Yes
<b>Finance</b>	EMS Budget			387,000
	Share on Staffing			42%
	Share for Capital Equipment			10%
	Insurance Share			6%
	Tax Dollars for Operation			No
	Share from Billing			100%

### EMS Calls by Month

There is little variation in the calls by month for the Owego EMS Squad. The months average about 120 per month since their service separated from the fire department. It has ranged as low as 73 in the first month of COVID and as high as 172 in October of 2021.

Month name	2018	2019	2020	2021	Avg
January	n/a	n/a	130	128	129
February	n/a	n/a	130	121	126
March	n/a	n/a	99	118	109
April	n/a	88	73	120	97
May	n/a	120	124	128	124
June	n/a	119	125	145	130
July	n/a	128	108	108	115
August	n/a	126	125	159	137
September	n/a	104	105	145	118
October	n/a	112	148	172	144
November	n/a	111	112	134	119
December	n/a	148	131	140	140
Total	0	1056	1410	1618	1485

### Calls by Time of Day

The distribution of calls by time of day follows the typical pattern for EMS agencies, with the majority of calls coming during the daytime hours. The department's response times are noticeably quicker during the daytime hours when their crews are encouraged to stay at the base. Their longest response times are during overnight hours when many crew members who live in district choose to respond from home.

Time of Day	2019	2020	2021	Avg	Response Time 50th Percentile	Response Time 90th Percentile
0-Overnight 00:00-03:59	90	137	155	127	18	31
1-Early Morning 04:00-07:59	87	138	131	119	18	28
2-Morning 08:00-11:59	234	301	322	286	13	24
3-Afternoon 12:00-15:59	247	331	400	326	13	23
4-Evening 16:00-19:59	234	301	355	297	15	27
5-Night 20:00-23:59	164	202	255	207	16	26
Total	1,056	1,410	1,618	1,361		

### Calls by Day of Week

Owego is noticeably busier during weekdays than on the weekends. This is likely a result of calls to healthcare facilities, such as doctor's offices, that are busier during the weekdays.

Weekday	2019	2020	2021
0-Sunday	141	179	192
1-Monday	165	209	250
2-Tuesday	151	187	240

Weekday	2019	2020	2021
3-Wednesday	154	206	225
4-Thursday	171	222	253
5-Friday	140	224	247
6-Saturday	134	183	211
Total	1,056	1,410	1,618

### Calls by Ability to Respond

During the last three years, OEMS has responded to more than 91% of their calls each year. In 2021, their busiest year, they responded to 93% of their calls. They report that many of the calls they miss are when they are already out on another call and have no other crews available. The agency is addressing this 2022 by adding overlapping staff during the peak-demand hours of the day.

Disposition Type	2018	2019	2020	2021
Assign Complete	n/a	972	1,275	1,488
Did Not Respond	n/a	78	125	117
Other	n/a	6	10	13
Total	n/a	1,056	1,410	1,618

### Calls by Merged Type

The following table looks at the types of calls the ambulance received, the response time and the total time on task. The 50<sup>th</sup> percentile is the median and the 90<sup>th</sup> percentile indicates that 90 percent of the measured intervals were less than what is shown. While all response times matter, it is preferred to have shorter response times for serious call types such as cardiac arrest and stroke.

Merged Type	2018	2019	2020	2021	Response Time 50th Percentile	Response Time 90th Percentile	Task Time 50th Percentile	Task Time 90th Percentile
Abdominal Pain	0	38	41	63	15	25	83	117
Alarm	0	57	107	97	15	22	24	106
Allergies Hives Sting	0	15	12	14	13	21	74	102
ALS Assist	0	35	44	32	12	35	69	133
Ambulance Call	0	64	77	105	15	24	38	110
Animal Bite	0	3	2	0	24	27	29	84
Assist Ambulance	0	1	1	2	4	6	24	31
Back Pain	0	16	21	24	15	28	85	110
Breathing Problems	0	117	119	140	15	26	90	114

Merged Type	2018	2019	2020	2021	Response Time 50th Percentile	Response Time 90th Percentile	Task Time 50th Percentile	Task Time 90th Percentile
Burn	0	0	2	3	18	24	31	86
Cardiac Respir Arrest	0	3	1	0	8	10	68	110
Choking	0	2	1	4	12	27	25	95
Convulsions Seizures	0	24	77	80	14	21	46	112
Crime	0	3	4	3	12	24	34	100
Death Unattended Death	0	2	3	1	14	18	15	74
Diabetic Problems	0	23	23	21	14	24	81	107
Falls	0	127	168	143	15	23	44	113
Headaches	0	12	8	12	15	27	84	120
Heart Problems	0	98	115	117	14	25	85	113
Heat Cold Call	0	0	2	2	16	23	27	83
Hemorrhage	0	34	34	37	15	23	81	110
Intoxication	0	2	1	6	23	32	91	122
Mental Subject	0	1	7	13	16	26	83	113
Mental Transport	0	0	0	4	20	61	66	93
Multiple Complaints	0	7	3	8	17	28	86	123
Mutual Aid - EMS	0	55	81	116	22	38	84	126
MVA	0	15	23	44	13	27	53	117
Overdose	0	9	12	15	15	27	80	139
Overdose-Opioid	0	0	2	0	16	21	68	102
Pregnancy Child Birth	0	12	7	6	15	22	84	106
Public Service Call	0	19	30	24	7	20	19	78
Spec Diag-Sick Person	0	148	200	252	16	25	85	117
Standby - EMS	0	20	55	88	6	26	19	89
Standby - Special Event	0	9	1	12	2	15	160	236
Stroke CVA	0	15	25	19	14	25	91	116

Merged Type	2018	2019	2020	2021	Response Time 50th Percentile	Response Time 90th Percentile	Task Time 50th Percentile	Task Time 90th Percentile
Traumatic Injury-Specific	0	39	47	46	14	24	73	111
Unconscious Fainting	0	20	42	48	14	23	86	116
Unknown Prob-Man Down	0	11	12	17	12	23	40	94
<b>Total</b>	<b>0</b>	<b>1,056</b>	<b>1,410</b>	<b>1,618</b>				

## Spencer Emergency First Aid Squad

The Spencer Emergency Squad is based in the Village of Spencer and serves both the Town and Village of Spencer. They also report that they are called to respond into Chemung County for mutual aid several times a month. The department has a single full-time EMT who provides coverage during weekdays from 8 am to 5 pm. They rely on a volunteer driver to complete the crew with him. The other times are covered by fully volunteer crews. The crews almost always spend their time on call at their home and then come to the station when a call occurs. They have only one volunteer AEMT-CC. If ALS is needed, they will typically intercept with a paramedic unit from Greater Valley EMS while they are transporting to the hospital. The five volunteer EMTs with Spencer range from five years' experience to 23 years' experience. Their roster of staff has been relatively stable, with no new members but also no one leaving for the last few years.

There is no contract with any of the municipalities that they serve. They bill for service, which covers nearly all of their expenses. They receive a small amount of donations to help offset their costs.

The agency reports that its district has gaps in both its cell phone coverage and radio coverage that can make it difficult to communicate about crew status with the dispatch center using either the radio or IAmResponding.

Spencer Emergency First Aid Squad		
Type	Independent EMS Agency	
Service Area	Village and Town of Spencer	
Staffing	Total Number of Volunteers	24
	Non-Certified	17
	CFR	0
	EMT	5
	AEMT or AEMT-CC	1
	Paramedics	0
	Full-time EMTs	1
	Full-time ALS	0
	Part-time EMTs	0
	Part-time ALS	0
Other Paid	n/a (All volunteer)	
Staffing Schedule	1 EMT Mon-Fri 8 AM to 5 PM	
Facility	Bays	2
	Year Built	1995
	Apx. Sq. Ft	2,500
	Typical sleeping Spaces	0

Spencer Emergency First Aid Squad		
<b>Facility Features</b>	Exhaust capture	No
	Oxygen cascade system	Yes
	Training rooms	Yes
	Security system	No
	Generator	Natural gas
<b>Vehicles</b>	Vehicle #1	
Identifier	2331	
Year	2011	
Type	EASV	
Manufacturer	Ford	
Mileage	99,000	
<b>Equipment</b>	Sets of ALS Gear	1
	Stretcher Type	(no answer)
	ALS Monitor	Zoll
	Auto Compression Device	No
	Ventilator	(no answer)
<b>BLS Skills</b>	Check and Inject	Yes
	CPAP	No
	Glucometry	Yes
	12-Lead EKG	No
	Nebulized Albuterol	Yes
	Narcan	Yes
<b>Finance</b>	EMS Budget	\$100,000
	Share on Staffing	(no answer)
	Share for Capital Equipment	(no answer)
	Insurance Share	(no answer)
	Tax Dollars for Operation	No
	Share from Billing	95%

### EMS Calls by Month

The calls by month are relatively level. 2021 was the busiest year for calls in Spencer, about 20% higher than the average of the previous three years.

Month name	2018	2019	2020	2021	Avg
January	28	12	18	24	20
February	18	27	25	26	24

March	23	27	20	24	24
April	16	26	21	23	22
May	28	20	15	19	20
June	21	22	12	32	22
July	24	28	29	35	29
August	23	31	21	29	26
September	33	29	20	17	25
October	18	20	22	26	22
November	17	19	31	26	23
December	21	17	16	34	22
Total	270	278	250	315	279

### Calls by Time of Day

The call volume on the overnight and early morning time blocks is about half of what it is at other times of the day. The median response times during the day and evening are also several minutes slower than during the overnight and morning hours.

Time of Day	2018	2019	2020	2021	Avg	Response Time 50th Percentile	Response Time 90th Percentile
0-Overnight 00:00-03:59	29	36	28	32	31	22	35
1-Early Morning 04:00-07:59	31	31	30	39	33	23	34
2-Morning 08:00-11:59	53	62	45	82	60	16	28
3-Afternoon 12:00-15:59	47	63	56	61	57	17	31
4-Evening 16:00-19:59	53	46	46	64	52	18	32
5-Night 20:00-23:59	57	40	45	37	45	19	31
Total	270	278	250	315	278		

### Calls by Day of Week

There is no measurable variation in call volume by the day of the week.

Weekday	2018	2019	2020	2021
0-Sunday	41	41	42	43
1-Monday	41	35	40	50
2-Tuesday	47	43	28	52
3-Wednesday	35	38	41	40
4-Thursday	32	45	22	49
5-Friday	45	36	37	45
6-Saturday	29	40	40	36
Total	270	278	250	315



## Calls by Ability to Respond

The 911 Center data indicates that Spencer typically has a call coverage rate of greater than 90% for each of the last four years.

Disposition Type	2018	2019	2020	2021
Assign Complete	248	257	222	287
Did Not Respond	22	21	26	28
Other	0	0	2	0
<b>Total</b>	<b>270</b>	<b>278</b>	<b>250</b>	<b>315</b>

## Calls by Merged Type

The following table looks at the types of calls the ambulance received, the response time and the total time on task. The 50<sup>th</sup> percentile is the median and the 90<sup>th</sup> percentile indicates that 90 percent of the measured intervals were less than what is shown. While all response times matter, it is preferred to have shorter response times for serious call types such as cardiac arrest and stroke

Merged Type	2018	2019	2020	2021	Response Time 50th Percentile	Response Time 90th Percentile	Task Time 50th Percentile	Task Time 90th Percentile
Abdominal Pain	18	11	9	9	22	30	100	129
Alarm	13	11	8	14	16	24	26	104
Allergies Hives Sting	4	4	5	1	17	22	94	111
ALS Assist	0	0	0	1	2	2	33	33
Ambulance Call	14	13	6	9	20	33	88	124
Assist Ambulance	0	1	0	0	2	2	4	4
Back Pain	7	7	1	5	20	25	96	136
Breathing Problems	16	23	17	26	19	31	96	128
Burn	2	0	0	0	22	23	110	116
Choking	1	0	0	2	18	23	19	22
Convulsions Seizures	13	11	3	10	19	26	96	119
Crime	0	1	0	0	9	9	42	42
Death Unattended Death	2	0	0	3	21	29	22	51
Diabetic Problems	2	1	5	2	17	29	49	99
Falls	29	22	23	30	18	31	92	126

Merged Type	2018	2019	2020	2021	Response Time 50th Percentile	Response Time 90th Percentile	Task Time 50th Percentile	Task Time 90th Percentile
Headaches	2	3	0	1	20	22	96	114
Heart Problems	28	15	22	30	20	33	102	134
Heat Cold Call	0	1	0	2	20	26	133	140
Hemorrhage	4	2	6	10	16	25	89	111
Intoxication	0	0	1	0	16	16	84	84
Mental Subject	3	1	0	1	10	21	21	107
Multiple Complaints	3	1	0	0	19	27	105	107
Mutual Aid - EMS	13	40	34	33	21	41	44	124
MVA	9	17	16	16	20	42	26	117
Overdose	1	2	2	2	18	30	26	93
Pregnancy Child Birth	2	1	0	0	20	31	117	128
Public Service Call	13	8	6	7	4	14	26	62
Spec Diag-Sick Person	30	38	37	47	20	32	98	134
Standby - EMS	10	12	25	19	8	33	26	78
Standby - Special Event	0	0	0	2	3	4	212	230
Stroke CVA	6	8	9	9	17	28	108	152
Traumatic Injury-Specific	11	5	7	5	18	27	75	119
Unconscious Fainting	9	11	6	15	19	29	103	132
Unknown Prob-Man Down	5	8	2	4	16	31	49	131
<b>Total</b>	<b>270</b>	<b>278</b>	<b>250</b>	<b>315</b>				

## Tioga Center Emergency Squad

The Tioga Center Emergency Squad is part of the Tioga Center Fire District. They are a fully volunteer organization with two ambulances that are staffed as needed. There are 24 volunteers who help staff the ambulance. Six are certified as EMTs, six are certified as Advanced EMT-Critical Care (AEMT-CC) and a dozen others lack state certification, but are trained in first aid, CPR, and may have been previously certified. The AEMT-CC are the highest level of care for the agency. Greater Valley EMS is used to provide ALS if one of the volunteer AEMT-CCs isn't available.

The agency is always staffed by a "scramble crew" that assembles based on who is available at the time of the call. Some staff do sign up for duty nights and one volunteer works at the nearby school and is often available during daytimes. They communicate with each other using IAmResponding. If a crew does not indicate they are responding within five minutes, mutual aid is requested, typically from Greater Valley. Because they are funded through a fire district, they have not been allowed to bill for services provided until the recent law change that has not been implemented yet.

Tioga Center Emergency Squad		
Type	Fire District Emergency Squad	
Service Area	Town of Tioga – Tioga Center Fire District	
Staffing	Total Number of Volunteers	24
	Non-Certified	12
	CFR	0
	EMT	6
	AEMT or AEMT-CC	6
	Paramedics	0
	Full-time EMTs	0
	Full-time ALS	0
	Part-time EMTs	0
	Part-time ALS	0
Other Paid	n/a (All volunteer)	
Staffing Schedule	n/a (All volunteer)	
Facility	Bays	5
	Year Built	(not given)
	Apx. Sq. Ft	(not given)
	Typical sleeping Spaces	4
Facility Features	Exhaust capture	Yes
	Oxygen cascade system	Yes

Tioga Center Emergency Squad		
	Training rooms	Yes
	Security system	Yes
	Generator	Propane
<b>Vehicles</b>	Vehicle #1	Vehicle #2
Identifier		
Year	(not given)	(not given)
Type	Modular	Modular
Manufacturer	(not given) (not given)	(not given)
Mileage	(not given)	(not given)
		(not given)
<b>Equipment</b>	Sets of ALS Gear	(not given)
	Stretcher Type	(not given)
	ALS Monitor	(not given)
	Auto Compression Device	(not given)
	Ventilator	(not given)
		(not given)
<b>BLS Skills</b>	Check and Inject	(not given)
	CPAP	(not given)
	Glucometry	(not given)
	12-Lead EKG	(not given)
	Nebulized Albuterol	(not given)
	Narcan	(not given)
		(not given)
<b>Finance</b>	EMS Budget	(not given)
	Share on Staffing	(not given)
	Share for Capital Equipment	(not given)
	Insurance Share	(not given)
	Tax Dollars for Operation	100%
	Share from Billing	0%

### EMS Calls by Month

TCFD is dispatched to an average of about 26 calls per month, over the last four years. The busiest month was July of 2018, with 42. March of 2020 had the lowest number of calls, at 14.

Month name	2018	2019	2020	2021	Avg
January	20	20	32	26	24
February	25	21	22	28	24
March	23	25	14	23	21
April	27	21	23	18	22

Month name	2018	2019	2020	2021	Avg
May	24	20	23	17	21
June	20	19	24	37	25
July	42	25	22	41	32
August	32	29	30	26	29
September	33	26	30	27	29
October	28	32	36	32	32
November	25	27	29	20	25
December	22	32	32	29	29
Total	321	297	317	324	313

### Calls by Time of Day

Tioga Center is busiest between 8 am and 8 pm.

Time of Day	2018	2019	2020	2021	Avg	Response Time 50th Percentile	Response Time 90th Percentile
0-Overnight 00:00-03:59	36	23	32	33	31	24	37
1-Early Morning 04:00-07:59	40	28	30	30	32	23	34
2-Morning 08:00-11:59	62	74	81	54	68	19	31
3-Afternoon 12:00-15:59	76	61	59	69	66	19	31
4-Evening 16:00-19:59	69	59	72	82	70	20	34
5-Night 20:00-23:59	38	52	43	56	47	23	37
Total	321	297	317	324	314		

### Calls by Day of Week

There is little variation between the days of the week for calls of service.

Weekday	2018	2019	2020	2021
0-Sunday	39	51	57	43
1-Monday	55	44	49	49
2-Tuesday	41	33	42	51
3-Wednesday	42	33	43	37
4-Thursday	43	40	36	47
5-Friday	48	49	46	49
6-Saturday	53	47	44	48
Total	321	297	317	324

### Calls by Ability to Respond

Based on information from the 911 center, Tioga Center has had increasing difficulty responding to calls for service. In 2021, there did not respond to a quarter of their calls, compared 6% in 2018 and 13% in 2020.

Disposition Type	2018	2019	2020	2021
Assign Complete	301	270	272	240
Did Not Respond	19	24	41	83
Other	1	3	4	1
<b>Total</b>	<b>321</b>	<b>297</b>	<b>317</b>	<b>324</b>

## Calls by Merged Type

The following table looks at the types of calls the ambulance received, the response time and the total time on task. The 50<sup>th</sup> percentile is the median and the 90<sup>th</sup> percentile indicates that 90 percent of the measured intervals were less than what is shown. While all response times matter, it is preferred to have shorter response times for serious call types such as cardiac arrest and stroke. The table below doesn't differentiate between the calls covered by Tioga Center or for those covered by mutual aid. The long response times may be attributed to mutual aid units coming to the scenes.

Merged Type	2018	2019	2020	2021	Response Time 50th Percentile	Response Time 90th Percentile	Task Time 50th Percentile	Task Time 90th Percentile
Abdominal Pain	10	4	12	15	21	27	69	92
Alarm	2	7	3	7	18	39	22	76
Allergies Hives Sting	2	3	3	0	28	49	62	101
ALS Assist	16	30	29	15	16	34	31	91
Ambulance Call	11	5	3	5	22	28	68	91
Animal Bite	2	0	0	1	25	30	28	57
Assist Ambulance	0	2	0	1	2	26	26	124
Back Pain	5	0	7	4	28	35	78	96
Breathing Problems	26	17	19	24	24	33	78	108
Cardiac Respir Arrest	2	0	0	0	23	26	96	115
Choking	1	2	1	1	19	27	13	62
Convulsions Seizures	4	6	9	10	20	40	63	109
Crime	3	1	0	0	10	21	20	56
Death Unattended Death	0	0	3	0	28	32	35	45
Diabetic Problems	7	3	5	2	21	36	66	125
Falls	23	19	19	21	23	32	69	114

Merged Type	2018	2019	2020	2021	Response Time 50th Percentile	Response Time 90th Percentile	Task Time 50th Percentile	Task Time 90th Percentile
Headaches	1	1	2	3	26	35	92	108
Heart Problems	10	11	28	16	23	33	73	102
Hemorrhage	3	4	6	5	22	31	84	106
Intoxication	0	0	1	0	6	6	30	30
Mental Subject	1	0	1	2	24	50	28	106
Multiple Complaints	3	1	2	1	25	33	85	99
Mutual Aid - EMS	93	89	77	64	17	31	27	100
MVA	10	12	16	22	22	36	47	104
Overdose	1	0	2	4	23	31	59	112
Overdose	1	1	0	0	31	34	73	95
Pregnancy Child Birth	1	0	1	4	28	44	92	103
Public Service Call	18	17	10	20	18	37	33	100
Spec Diag-Sick Person	31	29	32	39	23	34	78	107
Standby - EMS	6	5	5	9	23	42	69	159
Standby - Special Event	3	7	0	5	1	4	170	254
Stroke CVA	3	2	6	7	19	29	68	97
Suicide	0	0	0	1	4	4	31	31
Traumatic Injury-Specific	14	7	4	5	22	29	76	116
Unconscious Fainting	7	4	6	10	17	30	67	99
Unknown Prob-Man Down	1	8	5	1	17	31	58	103
<b>Total</b>	<b>321</b>	<b>297</b>	<b>317</b>	<b>324</b>				

## First Response Agencies

In addition to the ambulance and advanced life support services, First Response Agencies play an important role in the EMS system in Tioga County. There are four fire departments that are recognized by New York State as Non-Transporting Basic Life Support EMS Agencies. As well, the Berkshire Fire Department has stopped operating their ambulance and has transitioned to a first-responder-only role. Each of these agencies has trained EMS responders and the necessary equipment to begin care in the case of medical emergencies. At a minimum, the responders have first aid, CPR and AED training. Often, the responders are certified EMTs or certified first responders. They are dispatched by the 911 center to respond to calls based on pre-established criteria. Looking at the calls in the table below, note that during the height of COVID the number and type of calls that organizations responded to was limited.

Agency	Calls in 2019	Calls in 2020	Calls in 2021	Town
Berkshire Fire Department	164	117	126	Berkshire
Halsey Valley Fire Company	45	22	None Reported	Spencer
Lockwood Volunteer Fire Company	69	119	85	Barton
Southside Fire Company	105	81	78	Owego
Weltonville Volunteer Fire Company	81	38	55	Newark Valley

In addition to the fire companies that have specific state-recognized first response agencies, the Lockheed Martin plant has an on-site EMS team that provides a first response to events on their campus. Both the Tioga County Sheriff and the New York State Police have limited training and equipment that they can utilize if they are first on scene. For example, most of the patrol vehicles are equipped with AEDs.

## Communications

The Tioga County Sheriff's Office is the only public safety answering point for 911 calls in the County. Both the state police and Owego police department do receive direct calls for service, but rarely for EMS calls. Owego Police will respond to EMS calls in the Village when they are on duty and available. Outside of those limited exceptions, the 911 Center handles all the emergency calls in the County, about 26,000 emergency calls each year. They also handled over a thousand non-emergency phone calls each month. Fire and EMS agencies account for about a third of the 911 calls, while the remaining are exclusively for law enforcement.

The unit has a chief dispatcher holding the rank equivalent to sergeant and twelve full-time dispatchers. Each dispatcher is trained as a call taker and a dispatcher. There is typically a console dedicated to law enforcement and one to fire and EMS. When a call is received, either dispatcher can answer it. There is a minimum staffing of two people,



but on many days and evening there are three people on duty. The staffing model has remained constant since the early 1970s, although the call volume has steadily grown. The dispatchers typically work 8-hour shifts, although overtime occurs regularly to ensure adequate staffing when there is illness, vacations or training.

New dispatchers complete a Basic EMS Dispatcher Course which leads to credential from the Association of Public-Safety Communications Officials (APCO). They are also certified in Emergency Medical Dispatching (EMD) through APCO. The training prepares dispatchers to gather essential information from a caller, categorize the event, and provide instructions in essential care over the phone. All dispatchers are also trained in first aid, CPR and AED utilization. The new dispatchers also have extensive on-the-job training before they are allowed to work independently.

The department has had substantial turnover in the last five years. In 2020, they hired eight new dispatchers and have retained half of them two years later. An increase in the starting pay and a change in leadership has helped lead to a stabilization in the workforce.

## EMS Dispatch Operations

The dispatchers manage EMS calls based on guidelines set forth by the leaders of the individual organizations (fire departments, ambulances and law enforcement). The current standard has the dispatcher answering the 911 calls and gathering information about the event using a standard script. This script helps categorize the call so appropriate help can be sent and enables the dispatcher to provide instructions for certain life-threatening types of emergencies.

As the dispatcher is gathering information, they are entering it into a VCAD/Impact computer aided dispatch (CAD)<sup>6</sup> system that also serves as the primary records management system for the Sheriff's Office. The dispatcher then determines which agency or agencies should respond to the call based on the location and nature. They are alerted using the radio system. The agencies then acknowledge the call and communicate with the dispatcher throughout it. The dispatcher records the times for the call and notes about the event in the CAD.

If the agency does not immediately acknowledge the emergency, the dispatcher re-tones them ten minutes later, again asking them to respond to the call and asking for an appropriate mutual aid agency to respond. If the second agency does not acknowledge the call within ten minutes, then another agency is sought until an appropriate ambulance is responding. At the time of dispatch, advanced life support is sought for serious calls (heart attacks, strokes, seizures, major injuries, and other calls determined by regional medical authorities). Many of the ambulances have ALS on

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<sup>6</sup> The CAD is slated to be replaced with a more capable modernized CAD in May of 2022 that will improve functionality and address some current operational concerns.

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duty and available at the time of the call, but if it is not, the dispatcher will request it from the closest appropriate available unit.

Tioga County has a license for the software "IAmResponding"(IAR). IAR has a variety of functions available for each of the fire and EMS agencies in the county. The primary function is to alert agencies of calls and allow agencies to indicate which units are staffed and available to respond to calls. For agencies that do not have a staffed unit, the members that choose to respond can indicate they are going via IAR. The software is reliant on a mobile data signal and a smartphone. IAR is also able to send messages, track available resources on GPS, and be a scheduling tool for training or other events. The majority of agencies (including the five busiest) use IAR for indicating which units are staffed and available, but several of the smaller ones do not indicate if they have a crew available to respond or when their crews are responding.

## Observations

The radio system for the county is in need of an upgrade and there are extensive plans underway. The upgrade will improve coverage, interoperability and resilience. It was discussed in several interviews that there are some "dead zones" for radio transmission and portable radios provide limited coverage.

The CAD needs to be upgraded, as well, to improve its functionality. This was not a central focus of the project, but the structure of the CAD makes it difficult to monitor system operations such as the number of times mutual aid is exchanged or where a patient was transported. There are data-entry concerns that would be addressed with modern software. For example, dispatchers spelled the hamlet Apalachin more than a dozen different ways and were not consistent in entering addresses for state highways. Many or all of these concerns will be addressed when the new CAD is installed in May of 2022.

Because of the limited staff in the dispatch center and the numerous dispatching guidelines they are asked to follow, it was reported by outside observers that there are occasional inconsistencies in data recording and following guidelines precisely. These observations were also identified in the provider survey, referenced elsewhere in the report. Staff turnover is also a possible cause of these inconsistencies. This has led to some agencies having a fraught relationship with the dispatch center.

## EMS Coordinator

The EMS Coordinator position in Tioga County is currently vacant. It is authorized as a part-time position of 17 hours a week at about minimum wage. The position has been vacant since 2019. The position is called on to assist in organizing the mutual plan for EMS, coordinate planning for EMS courses, plan and execute EMS public relations programs and serve as a liaison with the various EMS agencies in the county. The responsibilities of the role are currently being handled by the Deputy Fire/Emergency

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Services Coordinator on a part-time basis. That individual's primary experience is in law enforcement and in the fire service. There was an initial effort to fill the position, but the interim solution has remained in place throughout the COVID pandemic and likely until this project is completed and its recommendations considered.

## EMS Training

Tioga County is authorized by the New York State Department of Health to conduct certified first responder (CFR), emergency medical technician, and advanced EMT – Critical Care courses. The county primarily offers EMT training for both original and refresher students. The pattern of course offerings is a single EMT course in the spring and fall that accommodates both original and recertifying students. Students are able to take the course for free if they are associated with an ambulance or fire department certified for EMS response. NYS pays the county \$700 for tuition upon a student successfully completing the EMT course. The tuition rate has not changed in more than two decades. It hardly ever conducts CFR courses as there is limited demand from the EMS and fire community. New York State is no longer supporting original AEMT-CC courses, but Tioga County could support an AEMT-CC refresher course, if needed.

EMS providers are required to recertify every three years (although during COVID, the state extended expiration dates by a year). Providers can choose either a traditional classroom challenge refresher program or a series of continuing education programs. Most students in Tioga County have been opting to take continuing education, which has led to a decline in the number of students and a steady stream of revenue to support this program.

The EMS Training program relies on a primary certified instructor coordinator (CIC) who leads the EMT courses. The CIC teaches most of the recent EMT classes for the county. There are also several EMS providers who work as lab instructors to help students learn the necessary skills. Students are required to acquire a book for the EMT classes, which costs about \$150 new. Many students borrow from past students or their agencies, which helps reduce the cost but inhibits the instructor from using a variety of on-line tools to help supplement and reinforce learning.

## Paramedic Training

Paramedic education is not available in Tioga County. The nearest course sponsors are in Elmira at the Arnot Ogden – EMSTAR program or at SUNY-Broome (Our Lady of Lourdes Hospital) in Binghamton. The paramedic programs range from 15 months to 24 months long and can lead to most of the requirements of an associate's degree. Some students from Tioga County also travel to Onondaga County to enroll in the paramedic program there.

Typically, paramedic students enroll in programs and pay for most of the costs on their own. Several of the paramedic agencies help to defer costs either through reimbursements upon completion or paying portions of the tuition.

## Hospitals

There are no hospitals in Tioga County. About 60 percent of EMS calls result in patients being transported to a hospital. The most common hospital for transport is Robert Packer Hospital in Sayre, PA, with about 30% of EMS calls (half of transports) ending up at that facility. The next highest is Wilson Medical Center in Johnson City, at 18% of calls and Our Lady of Lourdes in Binghamton, at 11% of calls. Much of the county is more than a 20-minute drive from any hospital, as shown on the following map.

The following table shows the distance in miles between the ambulance stations, the fire stations in Berkshire, Newark Valley and Richford and the common hospitals for ambulance transport. The distance from hospitals impacts both patient care and the length of time that ambulances are assigned to a task. Greater Valley is able to complete a call in Waverly that transports to Guthrie substantially quicker than an ambulance in Owego that has to transport to UHS Wilson, which are the two of the most common transport scenarios. Lourdes Hospital is several miles further than UHS Wilson from every location in Tioga County.

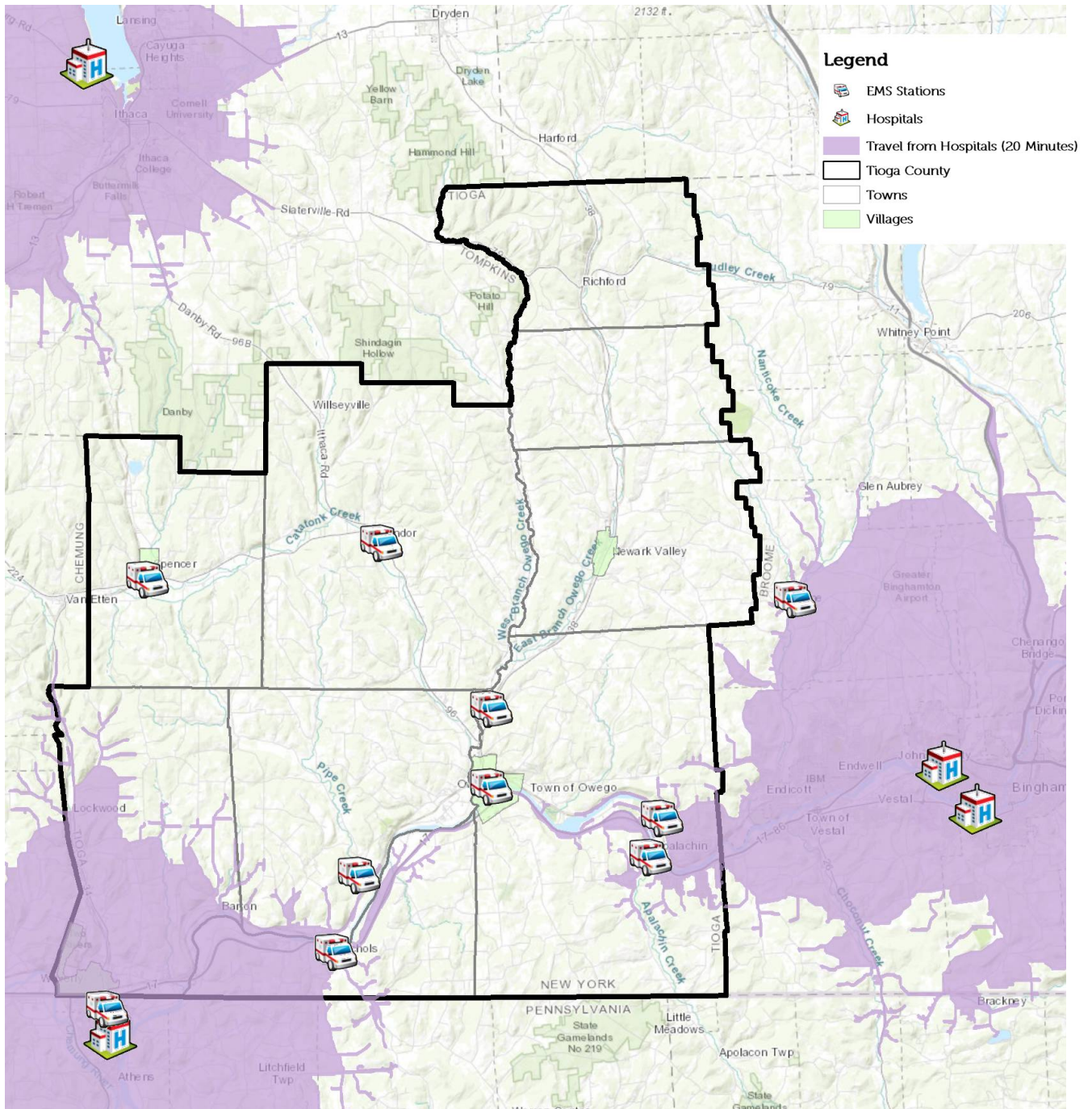
### Distance from Locations to Hospital, in Miles

Location	Caygua Med. Ctr.	Guthrie Robert Packer	UHS-Wilson Med. Ctr.
Apalachin Fire Department, Inc.	40	26	12
Candor Emergency Squad, Inc.	22	28	29
Nichols Joint Fire District	39	11	28
Owego EMS Dept., Village of	32	21	19
Owego Fire District, Town of (Campville) #1	39	28	13
Owego Fire District, Town of (Campville) # 3	32	23	22
Spencer Emergency First Aid Squad, Inc.	21	21	38
Tioga Center Emergency Squad	35	14	25
Maine Emergency Squad, Inc.	37	39	12
Greater Valley Emergency Medical Services,	39	1	37
Richford Fire Dept	21	40	27
Berkshire Fire Dept	24	37	23
Newark Valley Fire Dept	31	28	26

The following table uses information from the Susquehanna Regional EMS Council regarding transports for agencies that serve Tioga County and the dispositions of their

transports, based on records recorded in their system for 2021. There is some variation from the calls reported elsewhere in the report because it includes calls from outside Tioga County, especially for both Greater Valley and Maine. Also, some agencies appear not to have their non-transport calls recorded in this data set.

## Map of County, Common Hospitals and EMS Stations



## Transported Patients from Agencies that Serve Tioga County

Agency	Cayuga Medical Center at Ithaca	Guthrie Robert Packer Hospital	Our Lady of Lourdes Memorial Hospital, Inc.	UHS - Binghamton General Hospital	UHS - Wilson Medical Center	Not Transported/ Not Recorded	Other Location	Total Reported
Apalachin Fire Department, Inc.	0	48	163	37	214	0	0	462
Berkshire Fire District Ambulance	0	0	9	0	7	0	0	16
Campville (Town of Owego Fire District)	1	136	159	35	312	0	2	645
Candor Emergency Squad	61	187	25	12	96	265	1	647
Greater Valley EMS	4	1,361	4	3	8	864	357	2,601
Maine Emergency Squad, Inc.	16	34	232	54	484	517	27	1,364
Nichols Joint Fire District	0	60	7	3	7	76	1	154
Owego Emergency Squad	1	336	285	67	289	600	4	1,582
Spencer Emergency First Aid Squad, Inc.	39	164	0	0	1	84	3	291
Tioga Center Emergency Squad	0	109	11	7	23	0	0	150
<b>Total</b>	<b>122</b>	<b>2,435</b>	<b>895</b>	<b>218</b>	<b>1,441</b>	<b>2,406</b>	<b>395</b>	<b>7,912</b>
<b>Overall Share of Reported Events</b>	<b>2%</b>	<b>31%</b>	<b>11%</b>	<b>3%</b>	<b>18%</b>	<b>30%</b>	<b>5%</b>	

As part of this project, we gathered information from the hospitals that are most frequently used for ambulance transports that originate in Tioga County. The profiles are presented below in a standard format.

### Cayuga Medical Center

Cayuga Medical Center is located at 101 Dates Drive in Ithaca, NY (Tompkins County). It received about 120 transports from Tioga County Agencies in 2021. Candor (61), Spencer (39) and Maine (16) were the primary transporters to the hospital. It is a designated Primary Stroke Center, a Level 2 Perinatal Center and capable of Cardiac Catheterization - Percutaneous Coronary Intervention (PCI).

### Bed Types and Capacities

Bed Type	Number
Cardiac	8
Intensive Care	8
Maternity	20
Med/Surg	127

Bed Type	Number
Neonatal ICU	8
Physical Med/Rehab	15
Psychiatric	26
<b>Total</b>	<b>212</b>

## Emergency Department Volume

Based on data from the NYS SPARCS, Cayuga receives about 1,900 emergency department visits each month over the last four years, or about 23,000 visits a year.

Year	ED Volume
2021	25,302
2020	19,706
2019	22,514
2018	23,136
<b>Total for 4 years</b>	<b>90,658</b>
<b>Average</b>	<b>22,664.5</b>

## Guthrie Robert Packer Medical Center

Guthrie Robert Packer Medical Center is located 1 Guthrie Square in Sayre, Pennsylvania. It received 2,435 transports in 2021 from agencies that serve Tioga County. Greater Valley (1,364 transports), Owego EMS (336), Candor EMS (187) and Spencer EMS (164) combined accounted for 84% of the transports to that facility from the county. Packer is a Level 2 Trauma Center, and an American Heart Association Primary Stroke Center. It also is a cardiac center and labor and delivery facility.

Because this facility is not in New York, the classification of beds and emergency department volume is not available. Available data from their website indicates that they have a total of 288 beds in the hospital and 38 of them are designated as intensive care unit beds. Promotional material indicates that they have about 37,000 visits each year.

## Our Lady of Lourdes Memorial Hospital

Our Lady of Lourdes Memorial Hospital is located at 169 Riverside Drive in Binghamton, Broome County. It received 895 transports from Tioga County Agencies in 2021. The top transporters to it were Owego EMS (285 patients), Maine (232), Apalachin (163) and Campville (159). It is Level 1 Perinatal Center, Primary Stroke Center and Sexual Assault Forensic Examiner Designated Hospital.

## Bed Types and Capacities

Bed Type	Number
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Intensive Care	12
Maternity	25
Med/Surg	194
Pediatric	11
Total	242

### Emergency Department Volume

Based on data from the NYS SPARCS, Our Lady of Lourdes receives about 2,500 emergency department visits each month over the last four years or about 29,000 visits a year.

Year	ED Volume
2021	23,470
2020	23,499
2019	34,097
2018	34,691
Total for 4 years	115,757
Average	28,939

### United Health Services Hospitals Inc. – Binghamton General Hospital

UHS – Binghamton General Hospital is located 10-42 Mitchell Avenue in Binghamton, Broome County. It received 218 transports from Tioga County Agencies in 2021. The top transporters to it were Owego EMS (67 patients), MESI (54), Apalachin (37) and Campville (35). It also is capable of Cardiac Catherization – Percutaneous Coronary Intervention, inpatient Chemical Dependence Rehabilitation and a Comprehensive Psychiatric Emergency Program.

### Bed Types and Capacities

Bed Type	Number
Chemical Dependence - Rehabilitation Beds	20
Coma Recovery Beds	1
Intensive Care Beds	8
Medical / Surgical Beds	86
Physical Medicine and Rehabilitation Beds	24
Psychiatric Beds	56
Transitional Care Beds	20
Traumatic Brain Injury Beds	5
Total Beds	220

## Emergency Department Volume

Based on data from the NYS SPARCS, Binghamton General receives about 1,200 emergency department visits each month over the last four years or about 14,300 visits a year.

Year	ED Volume
2021	12,999
2020	12,934
2019	15,301
2018	15,979
<b>Total for 4 years</b>	<b>57,213</b>
<b>Average</b>	<b>14,303</b>

## United Health Services Hospitals Inc. - Wilson Medical Center

UHS - Wilson Medical Center is located at 33-57 Harrison Street, Johnson City Broome County. It received 1,441 transports from Tioga County Agencies in 2021. The top transporters to it were Maine (484 patients), Campville (312), Owego EMS (289), and Apalachin (214). It is a Level 2 Trauma Center, Level 2 Perinatal Center, and Primary Stroke Center. It also is capable of Cardiac Catherization – Percutaneous Coronary Intervention, outpatient Chemical Dependence treatment and outpatient Certified Mental Health.

## Bed Types and Capacities

Bed Type	Number
Cardiac	14
Intensive Care	14
Maternity	34
Med/Surg	190
Neonatal ICU/Continuing/ Intermediate	14
Pediatric	14
<b>Total</b>	<b>280</b>

## Emergency Department Volume

Based on data from the NYS SPARCS, Wilson Medical Center receives about 2,200 emergency department visits each month over the last four years, or about 26,000 visits a year.

Year	ED Volume
2021	21,888
2020	24,473
2019	29,457

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2018	27,842
Total for 4 years	103,660
Average	25,915

## Section III: Benchmark Counties

Nearly a third of counties in New York state either directly provide emergency medical services or directly manage resources that provide the service. These counties, identified on the list below, perform varying levels of service ranging from coordinating the responses of other agencies to operating a paramedic transport system that covers the majority of its residents. The role of counties in EMS is rapidly changing with several (Chenango, Otsego and Wayne) actively expanding their existing services or working to establish brand new ones to meet a need in their community.

County	Sq. Mi.	Population	Density	EMS Service Provided
Tioga	518.8	48,455	93.4	None
Albany	522.9	314,848	602.1	ALS First Response
Chautauqua	1060.4	127,657	120.4	ALS First Response
Chenango	893.6	47,220	52.8	ALS First Response moving toward Ambulance
Columbia	634.7	61,570	97.0	System Coordination
Delaware	1442.6	44,308	30.7	Contract for Service
Essex	1794.1	37,381	20.8	ALS Ambulance and First Response
Franklin	1629.3	47,555	29.2	Unsure
Fulton	495.5	53,324	107.6	ALS Ambulance
Greene	647.2	47,931	74.1	ALS First Response Contract
Lewis	1276.5	26,582	20.8	ALS Ambulance
Livingston	631.8	61,834	97.9	ALS Ambulance
Madison	654.9	68,016	103.9	Unsure
Nassau	284.5	1,395,774	4905.3	ALS Ambulance
Otsego	1001.7	58,524	58.4	Unsure

County	Sq. Mi.	Population	Density	EMS Service Provided
Putnam	230.3	97,668	424.2	Contract for Service
Schoharie	621.8	29,714	47.8	Unsure
Suffolk	910.9	1,525,920	1675.2	ALS Ambulance
Wayne	603.8	91,283	151.2	ALS First Response
Wyoming	592.8	40,531	68.4	Contract for Service

As noted elsewhere, New York state is facing a staffing crisis for EMS which is particularly acute in rural communities that have historically relied on volunteers to provide emergency medical care. Below are brief case studies on four similar counties that have established EMS services to meet the needs of their communities.

## Chenango County

Chenango County borders Tioga to the northeast. They are rapidly developing a county-based advanced life support fly car and transport ambulance system in response to a two-pronged crisis. First, they have been faced with a long-term decline in volunteers that has led to many communities in the county having unreliable EMS response. This decline has been underway for more than a decade and has led to several agencies stopping service in the last few years. The second crisis was the withdrawal of American Medical Response, a commercial ambulance, from the county in 2021.

Chenango County's initial plan has been to operate two ALS fly cars to support the existing volunteer services and also to provide staffing to two strategically located volunteer ambulances. The plan has been developed to use only part time employees, about 25 of them, to cover primarily daytime and some weekend shifts. The plan will likely evolve over the next several years with the possibility of county owned and operated ambulances under consideration. However, the initial steps are being taken intentionally to fill in the gaps of the existing volunteers ambulance services, rather than replace them.

The program will be funded from fee for services, ARPA funds, property tax and also from a motor vehicle use fee. The motor vehicle fee was adopted at \$5 for vehicles under 3,500 and \$10 for larger vehicles. The motor vehicle fee is anticipated to bring in about \$350,000 annually to help support the operations.

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Chenango County is the primary source of EMT education in the county and offers several courses each year. It provides both original and recertification education.

## Essex County

Essex County is located entirely in the Adirondack Park and has one of the largest geographies and lowest population densities in New York. Its system has only been in operation since 2019 and continues to evolve. It primarily provides ALS fly car service to areas of the county that do not have available resources. They typically operated 2 or 3 units to support volunteer fire department and independent ambulances. They own 4 fly cars and have 10 full time and several part time employees. They lease ambulances from existing agencies. The county is used as “staffing agency” where their employees at volunteer agencies. The volunteer agencies then pay the county for the hourly rate of the employees while the county covers the fringe benefits. The staffing for volunteer agencies is typically done during the day when volunteers are not available. The county has focused its efforts on placing employees at agencies that were having difficulty answering calls.

The start up costs for the system chiefly came from a New York State Municipal Restructuring Fund grant. The grant provided up to \$6.5 million in funding for use over several years to cover the initial capital costs and to support staff positions. After the grant is over, the costs will be funded through patient billings and potentially property taxes. Essex County has sought to create an EMS district on a county basis, rather than individual towns, to support the operations in the areas that need it. Because of the low call volume, it is not likely to be a financially self-sufficient system and will need to rely on some tax dollars.

In Essex County, although they have an operating certificate for the full county, they have been choosing to provide service only for communities that ask for help. They are focusing on working alongside existing services, particularly volunteer, rather than stepping in without an invitation. There have been a few agencies that were initially resistant that have chosen to utilize the county system after their organizations failed to meet community expectations for service.

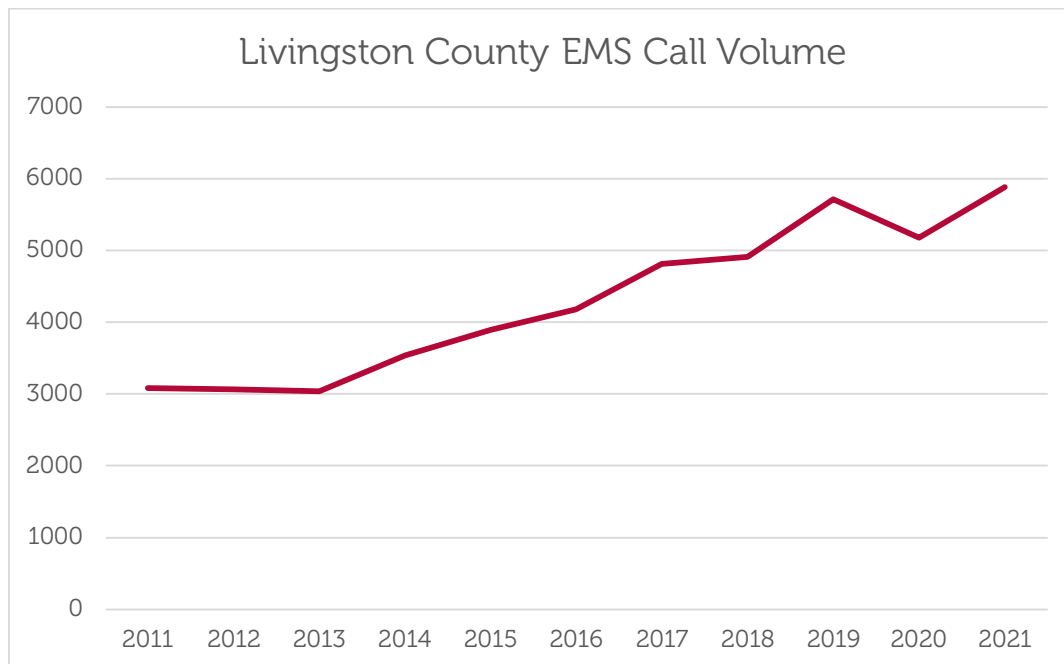
The Essex County EMS system was started as a “non-competitive” agency that is focused on filling in gaps and supporting existing agencies, rather than trying to replace the existing service. The costs for the service have been covered to date from a mix of local municipal funds and outside grant funds. However, the grant funding will run out in 2025 and the county will need to identify local funds to support the system.

## Livingston County

Livingston County is a well-established EMS service that now provides coverage to the majority of residents in the county. The service started in 2004 when two commercial

ambulance services pulled out of the county leaving a gap, specifically related to advanced life support. At the beginning, the county provided advanced life support via a fly car model to areas that did not have their own paramedics. Very quickly, two small agencies asked the county to provide staffing to their ambulances to supplement their volunteers. The county entered into a contract to provide the service using the two agencies' ambulances and facilities.

The county then expanded to provide backup ambulance service when they identified a gap in service in certain areas. Now, nearly 20 years later, Livingston County EMS has about 60 employees, 15 vehicles, and an annual operating budget of \$2.8 million. The service has about \$2.1 million in revenue from patient billings, with tax revenue filling in the gap. Livingston County responded to 5,887 calls in 2021 or about 16 per day. 2021 was their third year in a row of 5,000 calls or more. The increase in calls has been influenced by a growth in coverage area in addition to the trend of higher call volume seen across the industry.



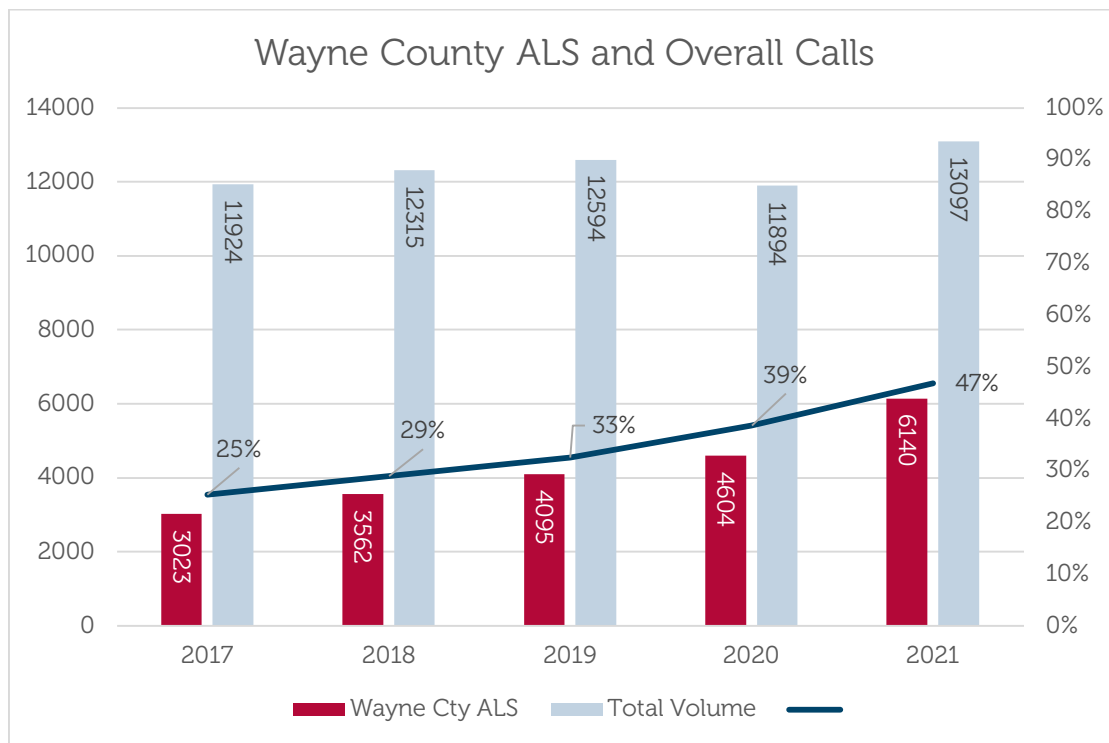
In addition to the operation of an ambulance, Livingston County remains an active EMS course sponsor and is the primary source of EMS education in the county. They offer several EMT courses each year to support their employees and the members of the volunteer EMS agencies.

## Wayne County

Wayne County EMS has been providing advanced life support first response to its residents since 2002. The ALS-FR program was developed to provide ALS in support of primarily volunteer BLS ambulances that service the county. During the history of the

program, they have always been available to “complete the crew” by sometimes serving as the only care provider with a single volunteer driving the ambulance. The hours of the fly car program have grown steadily over the last twenty years. At first it was only in service during weekday hours when volunteers were not typically available and only in certain areas of the county. The program has now grown to always serve the entire county. The growth in the program is in response to a decline in the number of volunteer providers and agencies.

The Wayne County ALS FR program has seen their call volume steadily increase over the last five years. This has come with them being involved with an increasing share of the overall call volume in the county. The total call volume for EMS in the county has increased about 10% from 11,924 to 13,097 in the last five years. The ALS FR program has seen their call volume double during that time from 3,023 to 6,140. They are now involved on nearly half of the calls in the county, up from a quarter in 2017.



With the growth of calls, the costs to operate the ALS FR program have increased 243% from 2018 (\$625,680) to 2022 (\$1,516,606). This increase followed an expansion of the program’s staff and available resources. In 2021, the ALS-FR program anticipates \$389,000 in billing revenue, or only about 27% of the costs for operating the program. In 2022, the ALS-FR program has a supervisor, a chief paramedic, 12 full time paramedics (up from 8 in 2021) and about 20 per diem or substitute ALS providers.



In Wayne County, nearly half of the 22 EMS agencies in 2010 have either ceased operations or have combined with another leaving fewer operating organizations. This has led the county to pursue becoming a full ambulance provider. In March 2022, the County Board of Supervisors voted to pursue the creation of a county wide ambulance service. The new ambulance program is expected to take two years to establish. The vision for the program is to have a minimum of 5 ambulances functioning at all times in order to respond to all areas in the county in 15 minutes or less if all units are available. The program has an estimated startup capital cost of \$5.5 million and annual operating costs of \$6.2 million when fully operational. If the new service captures all the calls for service, it anticipates billing revenue of \$5.6 million. This would have a lower net cost for Wayne County than the current ALS-FR program. They anticipate providing services for only about 25% of the calls for service in the first year of operations with reduction in operating costs.

## Findings from County EMS Operations

Counties in New York are relatively new to the role of providing EMS. It is not a mandated or essential service in a legal sense. The mandated role of an EMS Coordinator is limited in statutory responsibility and authority to areas around system coordination and mutual aid. However, as small, generally volunteer, agencies in relatively rural communities have stopped providing service, about a third of New York's counties have stepped in to actively provide or coordinate some form of EMS. Several key themes have emerged from the four counties studied and general knowledge of other EMS systems:

- Counties can successfully provide this service in support of existing EMS agencies and step in when existing agencies can no longer meet the need.
- The revenue from transport services can support a sizeable share of the operations but there will be the need for taxpayer support.
- ALS FR has been the first step for all four counties studied, although in some cases it was quickly followed by staffing of BLS ambulance services, often under the banner of the existing agency.
- EMS Education for EMTs is a frequent role for counties, but this can also be provided through regional councils or community colleges.

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## Section IV: Case Studies

CGR reviewed several individual cases as part of the study. The cases were suggested by EMS Agency and County leadership in Tioga County as examples of how the system operates. Brief, but anonymized, synopses are included below.

### Frequent Calls

One of the ambulance companies reported that they had a location that generated about 30 calls in a two-month time period. The caller was an elderly, partially disabled woman who needed help when she fell and also in managing her long-term medical health. She almost never wanted to go to the hospital, although she was transported several times. She was in an independent living situation and was eligible for homecare assistance, but reportedly declined to use it. The agency's providers and leadership reached out to social services to attempt to have the person relocated to a supportive living environment or to receive services in situ, but she reported declined further assistance. Eventually, after a hospital stay, the patient was relocated to another community.

The impacts on the agency included dozens of calls for service that tied up the ambulance crew for minor (and possibly preventable) situations. During those calls, it was reported that multiple calls needed to be given to another agency through mutual aid. Also, the agency bills for service and they were only able to bill for transports of this patient. Another impact of these calls was that several of the volunteers involved reported their frustration at being called repeatedly to unnecessary calls.

### Dog Bite

On a summer evening at 7:48 pm, in one of the more rural parts of the county, there was a report of a dog bite. The first reports indicate that there was a pit bull that had bitten a person who was bleeding severely. The ambulance was requested at 7:52 pm when the law enforcement officers arrived on the scene. The ambulance went enroute at 7:54 pm. The scene of the emergency was 17.5 miles of travel away from the ambulance base. A second victim of the dog was identified a short distance away from the first inside a house at 8:08 pm and a second ambulance was requested from the same agency. Their second ambulance was available but was just leaving a hospital 27 miles away and it starts to the scene. The first ambulance arrives on scene at 8:14 pm, an approximately 20-minute response time. They transported a patient that had a tourniquet applied due to the severity of the injuries and goes enroute to the hospital. The second ambulance arrives on scene 8:40 pm, a 32-minute response time and 52 minutes from the initial 911 call. The second ambulance begins transport to the hospital at an unrecorded time but then at 9:00 pm has mechanical difficulties and needs to have another ambulance respond. An ambulance from the next nearest

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agency responds and meets up with them at 9:15 pm. The patient finally arrives at the hospital at 9:47 pm, nearly two hours after the initial call to 911.

This event highlighted several characteristics of the EMS system. First, in rural areas of the county, response times can be long even when all resources are available. Second, when the first ambulance is tied up on an event, subsequent ambulances have even longer to travel. Third, the dispatchers are not able to track where ambulances are coming from. In this situation, when there was a request for a second ambulance, there was an ambulance that was seven miles closer (20 miles vs. 27 miles), but it was not used because the “home” agency had an ambulance available and the closer one was “mutual aid.” If the dispatcher had accurate GPS available for the ambulances and was able to pick a closer unit, the response time for the second ambulance would have been shorter by about 10 minutes. A final factor is the presence of trained law enforcement on the scene likely had a positive influence on the outcome of the patient who received a tourniquet.

### **Severe Medical Emergency**

Late one spring afternoon at 4:26 pm, a call was received by the 911 center from a third-party caller about a loved one (age 59) who was severely ill and might be unresponsive. After several minutes of information gathering, the 911 center dispatched the call to the local volunteer ambulance at 4:31 pm. The local ambulance was unable to secure a volunteer crew and requested mutual aid from a neighboring, also volunteer ambulance, at 4:42 pm. That ambulance began to respond as an ALS unit. At 4:46 pm, a family member of the patient called to say that they had arrived on scene to find the patient was breathing shallowly and had a weak pulse. The local ambulance did eventually secure a crew and arrived on scene at 4:56 pm. The ALS ambulance arrived on scene at 5:02 pm. After spending 19 minutes on scene, they transported to the hospital, arriving there at 5:33 pm. The patient arrived at the hospital in critical condition 67 minutes after the call to 911 and eventually died.

This event highlighted several concerns of the ambulance system. First is the nature of ambulances not always having crews available, particularly when they are staffed by volunteers. Second, county dispatching policy of waiting 10 minutes before asking for mutual aid delayed the response time. It was 30 minutes from the time of the 911 call to the arrival of the first ambulance and 35 minutes before the arrival of advanced life support. 10 minutes of that delay was the result of long-standing operational practices in the 911 center. From the available information, it is not knowable if a shorter response time would have helped the outcome in this case, but it is a generally accepted premise that a shorter response time for a serious situation is better.

### **Mutual Aid Responses**

In the middle of the afternoon in late December of 2020, there was a flurry of EMS calls that resulted in delayed response times. The first call occurred in a fully volunteer

area at 12:46 pm. The home agency was not available and at 1:02 pm mutual aid was requested from a second fully volunteer agency. At 1:14 pm, the 911 center assigned the call to a third agency that had a partially paid crew and they responded, arriving on scene at 1:26 pm, a 40-minute response time. The second call occurred at 1:26 pm at the other end of the county in an area served by a paid agency. They were not available because they were on a call in another county and at 1:37 pm a mutual aid agency was assigned arriving on scene 10 minutes later at 1:47 pm, a 21-minute response time. A third call came in at 1:48 pm in the district of the agency that covered the first call on mutual aid. They did not have a second crew available and mutual aid was requested at the time of the call from a volunteer agency – that 45 minute before could not assemble a crew. After 10 minutes, at 1:58 pm, an agency with a paid crew was dispatched after a different agency was considered, but was already out on a call. While that agency was enroute, there was an update at 2:17 pm that the patient was no longer breathing. Fire service and law enforcement were sent as a first response, arriving at 2:22 pm. The EMS agency arrived at 2:30 pm, 42 minutes after the call was received.

The series of calls in one area of the county combined with the lack of available volunteers at the time led to a lack of resources that resulted in very long response times. From the available information, it is not knowable if a shorter response time would have helped the outcome in this case, but it is a generally accepted premise that a shorter response time for a serious situation is better.

## Key Findings from Case Studies

- The EMS system in Tioga County has gaps in the availability of resources that impact the ability to provide timely and effective EMS care. The frequency of these gaps is difficult to measure, but their consequences can be severe when they occur.
- The 911 system has been asked by providers to wait 10 minutes before assigning a call for mutual aid. This process delays responses.
- The ambulance agencies do not universally provide the dispatchers with their status or their location, preventing the dispatcher from assigning the closest available appropriate unit.
- State laws on operating territories also prevent the 911 center from assigning the closest available, appropriate unit.
- EMS providers are, at times, asked to provide services for individuals that would be better served in other situations – for example people of frail health who fall regularly and would be better served in an assisted living facility.
- When EMS resources are available, which appears to be most of the time, the EMS providers can provide prompt and effective medical care quickly.

- The rural nature of Tioga County will lead to situations where there are both long response times and long transport times.
- A long-term trend of declining volunteerism has led to a reduced availability of resources for calls.
- The individual providers will go out of their way to ensure that the caller to 911 receives the best possible care in the situation, but as a system there might have been a better way for some calls to be answered.

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## Section V: Survey of Providers

### Survey Overview

A survey was administered during the project to gauge the opinions and experiences of the existing EMS workforce in Tioga County. The survey should not be viewed as scientifically valid assessment of the workforce, but rather an effort to assess the general opinions of the volunteers and employees that dedicate their time to responding to EMS calls in their communities. The responses should be considered just one set of data points in developing a comprehensive solution to a complex problem.

### Survey Results Summary

135 respondents answered questions, with varying levels of responses per question. The volunteers and employees from 5 of the bigger and busier agencies accounted for 79% percent of the respondents.

#### Demographics

- **70%** of respondents **live in the district** of the primary agency they work or volunteer for.
- **Nearly half** of respondents are **certified as EMTs** and **a quarter** are **certified as paramedics**.
- **Nearly half** are **under 40** and most (at least **70%**) are **male**. All respondents who picked a race or ethnicity identify as **White**.

#### Agency strengths & weaknesses

- A **majority** of respondents **identified Professionalism and Equipment** as the most **important strengths** of their primary agency.
- **Staffing, internal communications** and **elected and municipal leadership** were most frequently identified as **significant weaknesses** of their primary agency.

#### County strengths & weaknesses

- A **large number** of respondents **stated** that **Tioga County has few or no strengths in EMS service**. **Public perception** and **professionalism** were the next most frequently identified strengths.

- **Staffing** was identified as a **County weakness** by a majority of respondents. This was followed by **elected and municipal leadership** and **EMS response** as weaknesses.

### General attitudes

- More than **80%** of respondents consider themselves **well-prepared** to perform essential EMS tasks
- About **two-thirds (63%)** agree that **patients receive excellent care** in Tioga County; however, more than a quarter (28%) disagree.
- A large number of respondents have **complaints about EMS dispatching**; while these vary, at least three major themes emerged;
  - **Satisfaction with dispatch varies by agency**: Berkshire, Spencer and Owego are most satisfied, while Apalachin and Campville are least satisfied;
  - **Radio equipment** is considered **outdated**;
  - **Dispatch information** is considered **inconsistent** or **inaccurate** at times;
  - The **delays on re-toning** calls is causing **critical problems with timely responses** to medical emergencies.

### Response time

Opinions on reasonable response times for minor and serious medical emergencies vary widely. However:

- For a **minor medical emergency**, respondents suggest an average appropriate response time of **16 minutes**.
- For a **serious medical emergency**, respondents suggest an average appropriate response time of **10 minutes**.

### Actions to improve service

- **No single option** to improve service was **endorsed by a majority**.
- **The top three actions** to improve service, each endorsed by more than a quarter of respondents, were: **provide incentives to EMS volunteers**; **reduce responses to non-emergency calls**; **create a single provider for EMS transport**.

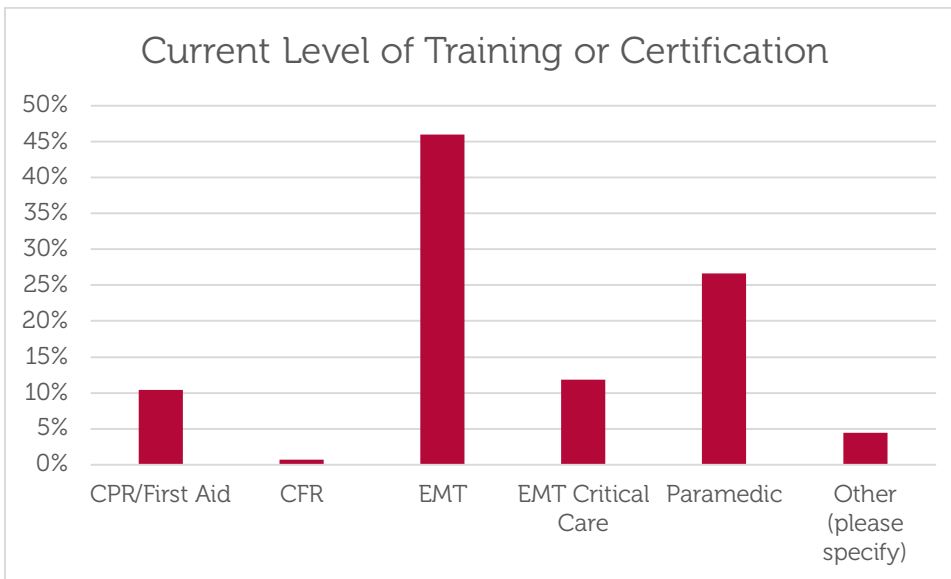
## Agency Demographics

### Q1: Respondent training/certification level

Respondents were asked: *"Please pick your current level of training or certification"*.

The largest portion of respondents are at the EMT level (46%), with slightly more than a quarter at the paramedic level.

Please pick your current level of training or certification		
CPR/First Aid	10%	14
CFR	1%	1
EMT	46%	62
EMT Critical Care	12%	16
Paramedic	27%	36
Other (please specify)	4%	6
	<b>Answered</b>	<b>135</b>
	<b>Skipped</b>	<b>0</b>



Six respondents selected "Other", with one identifying as the employing agency (Town of Owego EMS), three as drivers, one as an EMT student and one as a Chief.

Please pick your current level of training or certification	CPR/First Aid		CFR		EMT		EMT Critical Care		Paramedic		Other (please specify)	
	%	#	%	#	%	#	%	#	%	#	%	#
Apalachin Fire Department, Inc.	14%	2	0%	0	36%	5	14%	2	36%	5	0%	0
Berkshire Fire District Ambulance	0%	0	0%	0	5%	1	0%	0	0%	0	5%	1
Campville Fire Department	17%	4	0%	0	43%	10	4%	1	3%	7	4%	1



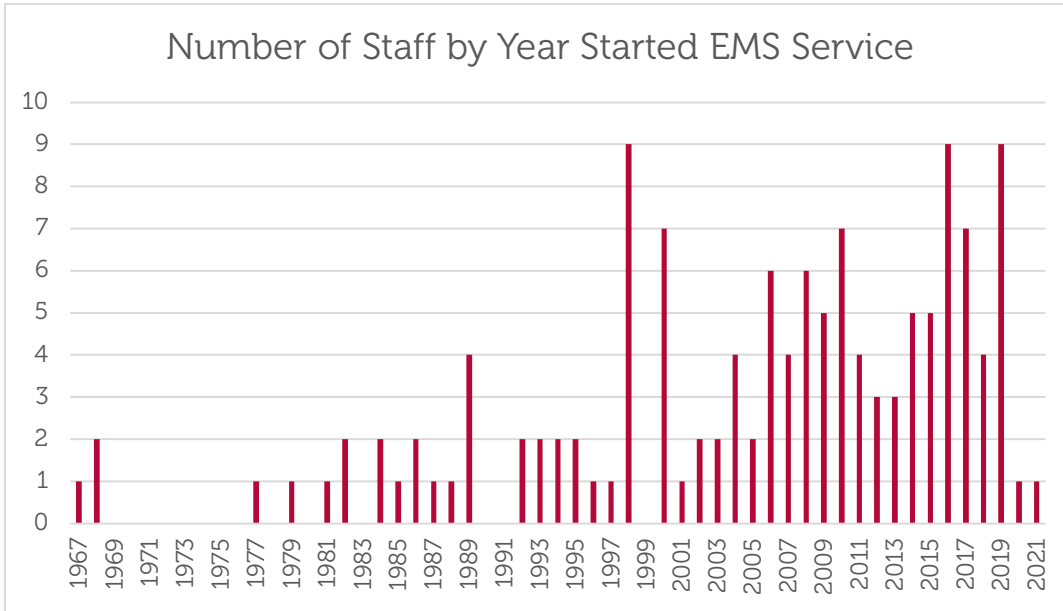
Please pick your current level of training or certification	CPR/First Aid		CFR		EMT		EMT Critical Care		Paramedic		Other (please specify)	
<b>Candor Emergency Squad, Inc.</b>	0%	0	0%	0	77%	10	8%	1	15%	2	0%	0
<b>Greater Valley EMS</b>	7%	1	0%	0	29%	4	0%	0	64%	9	0%	0
<b>Lockwood Fire Department</b>	0%	0	25%	1	25%	1	0%	0	0%	0	5%	2
<b>Maine Emergency Squad</b>	12%	2	0%	0	35%	6	0%	0	47%	8	6%	1
<b>Nichols Joint Fire District</b>	33%	1	0%	0	67%	2	0%	0	0%	0	0%	0
<b>Owego EMS Dept.</b>	12%	3	0%	0	48%	12	2%	5	16%	4	4%	1
<b>Spencer Emergency First Aid Squad</b>	0%	0	0%	0	1%	6	0%	0	0%	0	0%	0
<b>Tioga Center Emergency Squad</b>	0%	0	0%	0	14%	1	86%	6	0%	0	0%	0
<b>Weltonville Fire Department</b>	0%	0	0%	0	1%	1	0%	0	0%	0	0%	0
<b>Other (please specify)</b>	5%	1	0%	0	5%	1	0%	0	0%	0	0%	0

The two respondents who picked "Other" did not designate a primary agency they work for.

## Q.2: Year respondent started EMS work

Respondents were asked: "In what year did you first get involved in EMS?"

The distribution of starting years is skewed with the bulk of current staff joining after 1997, with a tri-modal peaks in 1998, 2016 and 2018.



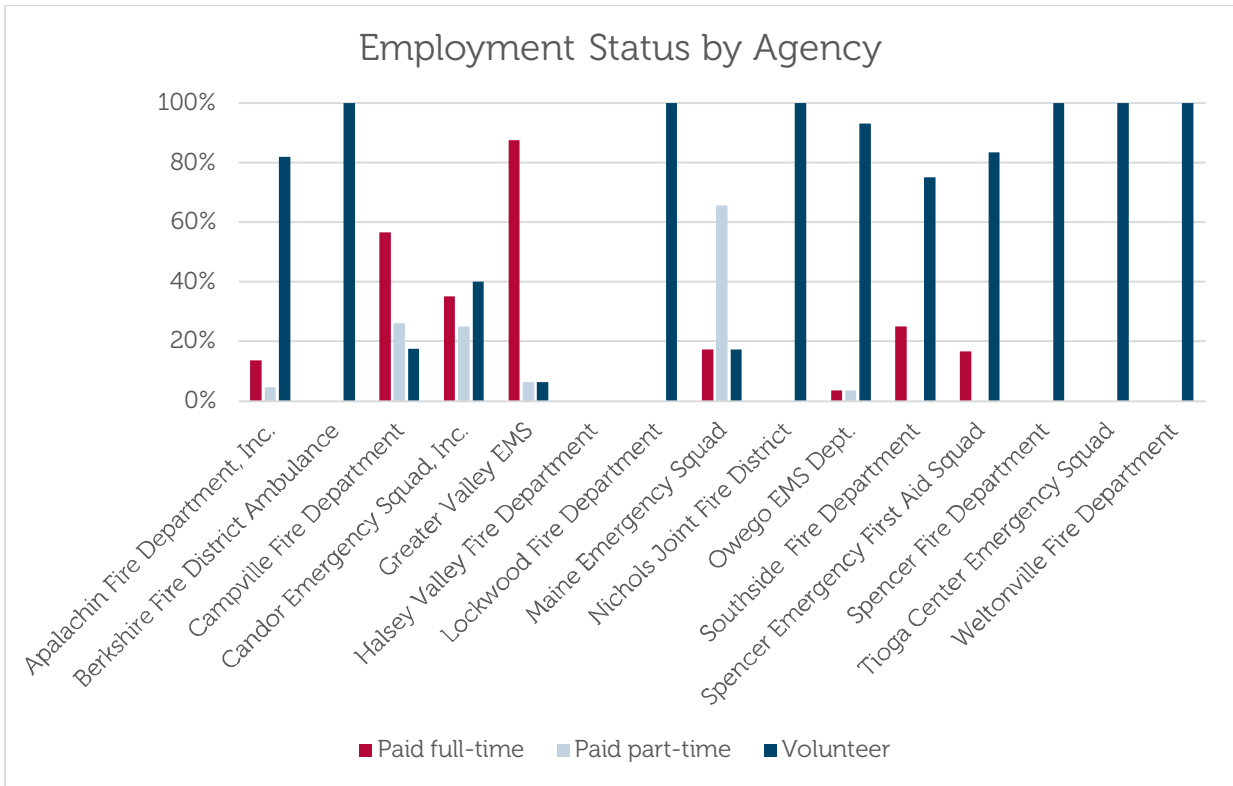
### Q.3: Employment level by agency

Respondents were asked: “Please indicate your level of involvement for each agency you work for.”

Five agencies (Apalachin, Campville, Candor, Maine and Owego) had the highest level of involvement, with 20 or more respondents working for them in some capacity. Greater Valley EMS has the highest percentage of paid full-time staff (88%). Maine Emergency Squad has the highest percentage of paid part-time staff (66%).

Employment level by agency	Paid full-time		Paid part-time		Volunteer		Total #
	%	#	%	#	%	#	
Apalachin Fire Department, Inc.	14%	3	5%	1	82%	18	22
Berkshire Fire District Ambulance	0%	0	0%	0	100%	2	2
Campville Fire Department	57%	13	26%	6	17%	4	23
Candor Emergency Squad, Inc.	35%	7	25%	5	40%	8	20
Greater Valley EMS	88%	14	6%	1	6%	1	16
Halsey Valley Fire Department	0%	0	0%	0	0%	0	0
Lockwood Fire Department	0%	0	0%	0	100%	3	3

Employment level by agency	Paid full-time		Paid part-time		Volunteer		Total
Maine Emergency Squad	17%	5	66%	19	17%	5	29
Nichols Joint Fire District	0%	0	0%	0	100%	5	5
Owego EMS Dept.	3%	1	3%	1	93%	27	29
Southside Fire Department	25%	2	0%	0	75%	6	8
Spencer Emergency First Aid Squad	17%	1	0%	0	83%	5	6
Spencer Fire Department	0%	0	0%	0	100%	2	2
Tioga Center Emergency Squad	0%	0	0%	0	100%	7	7
Weltonville Fire Department	0%	0	0%	0	100%	1	1
Other (please specify)							9
					Answered		134
					Skipped		1



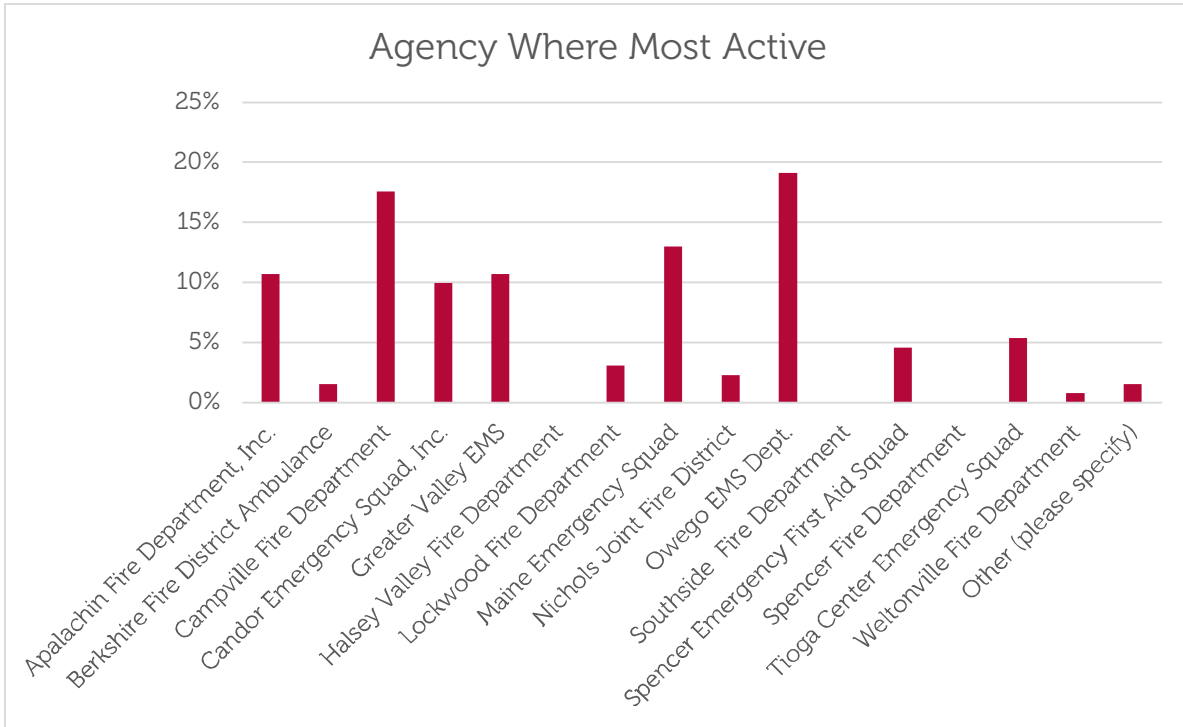
The nine "Other" responses include: Town of Owego employer response, IBM First Response team, Broom County, "other county", educator at TECMS & GVEMS EMT instructor, volunteer for Campville, former Greater Valley/Apalachin/Newark Valley EMS, Lockheed Martin, and a blank response.

#### Q.4: Primary agency

Respondents were asked: "What is the agency where you are busiest or most active?" The largest number of respondents reported being busiest at Campville (18%) and Owego (19%).

What is the agency where you are busiest or most active?		
Apalachin Fire Department, Inc.	11%	14
Berkshire Fire District Ambulance	2%	2
Campville Fire Department	18%	23
Candor Emergency Squad, Inc.	10%	13
Greater Valley EMS	11%	14
Halsey Valley Fire Department	0%	0
Lockwood Fire Department	3%	4
Maine Emergency Squad	13%	17
Nichols Joint Fire District	2%	3
Owego EMS Dept.	19%	25
Southside Fire Department	0%	0
Spencer Emergency First Aid Squad	5%	6
Spencer Fire Department	0%	0
Tioga Center Emergency Squad	5%	7
Weltonville Fire Department	1%	1
Other (please specify)	2%	2
	<b>Answered</b>	<b>131</b>
	<b>Skipped</b>	<b>4</b>

The two respondents who picked "Other" did not designate a primary agency they work for.



### Q.5: District residency

Respondents were asked: "Do you live in the district of the primary agency you work/volunteer with?"

The majority of respondents live in the district of the agency they volunteer with, although the exact percentage varies by agency.

Do you live in the district of the primary agency you work/volunteer with?		
Yes	70%	91
No	30%	39
	<b>Answered</b>	<b>130</b>
	<b>Skipped</b>	<b>5</b>

Do you live in the district of the primary agency you work/volunteer with?	Yes		No	
	%	#	%	#
Apalachin Fire Department, Inc.	86%	12	14%	2
Berkshire Fire District Ambulance	100%	2	0%	0
Campville Fire Department	52%	12	48%	11
Candor Emergency Squad, Inc.	77%	10	23%	3
Greater Valley EMS	79%	11	21%	3
Lockwood Fire Department	100%	4	0%	0

Do you live in the district of the primary agency you work/volunteer with?	Yes		No	
Maine Emergency Squad	53%	9	47%	8
Nichols Joint Fire District	100%	3	0%	0
Owego EMS Dept.	67%	16	33%	8
Spencer Emergency First Aid Squad	100%	6	0%	0
Tioga Center Emergency Squad	57%	4	43%	3
Weltonville Fire Department	100%	1	0%	0
Other (please specify)	5%	1	5%	1

### Q.6: Tioga County residency

Respondents were asked: "Do you live in Tioga County?"

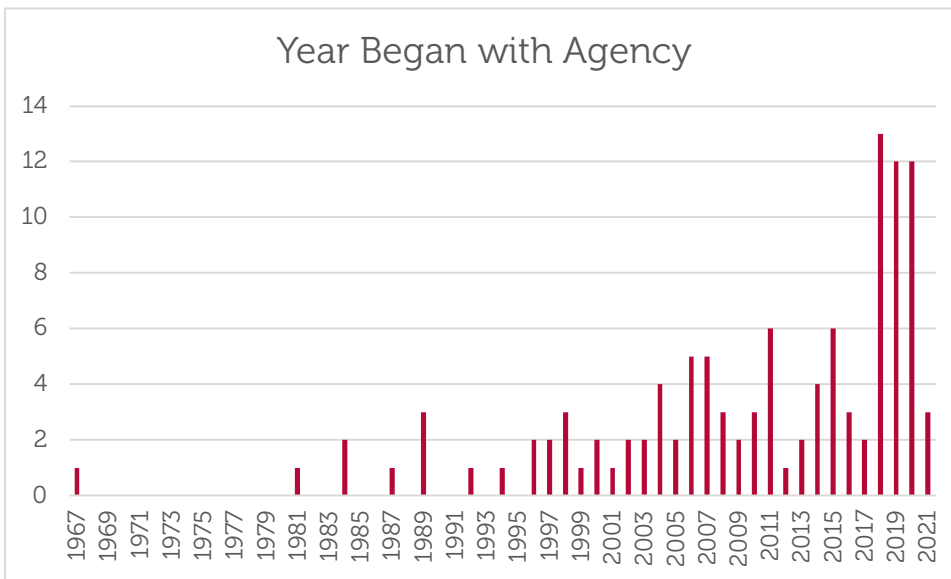
Three-quarters of respondents live in Tioga County.

Do you live in Tioga County?		
Yes	75%	98
No	25%	32
	<b>Answered</b>	<b>130</b>
	<b>Skipped</b>	<b>5</b>

### Q.7: Year started with agency

Respondents were asked: "In what year did you first start working for this agency?"

The distribution is skewed, with the largest number of staff having joined their busiest agency in the last few years.



## Q.8: Satisfaction with agency's EMS dispatching

Respondents were asked: "Are you satisfied with this agency's EMS dispatching?"

Half of the question respondents report themselves very or somewhat satisfied with their agency's EMS dispatching, while a bit more than a third report themselves somewhat or very dissatisfied.

Are you satisfied with this agency's EMS dispatching?		
<b>Very satisfied</b>	27%	30
<b>Somewhat satisfied</b>	23%	26
<b>Neutral</b>	16%	18
<b>Somewhat dissatisfied</b>	11%	12
<b>Very dissatisfied</b>	24%	27
	<b>Answered</b>	<b>113</b>
	<b>Skipped</b>	<b>22</b>

Breaking results out by agency reveals different levels of satisfaction at different agencies, with majorities at Apalachin and Campville dissatisfied with their dispatching, while Berkshire, Spencer and Owego respondents were largely satisfied.

Satisfaction with Dispatch	Very satisfied		Somewhat satisfied		Neutral		Somewhat dissatisfied		Very dissatisfied		(Did not respond)		Grand Total
	%	#	%	#	%	#	%	#	%	#	%	#	
<b>Apalachin Fire Department, Inc.</b>	7%	1	0%	0	7%	1	14%	2	57%	8	14%	2	14
<b>Berkshire Fire District Ambulance</b>	100%	2	0%	0	0%	0	0%	0	0%	0	0%	0	2
<b>Campville Fire Department</b>	9%	2	4%	1	4%	1	17%	4	43%	10	22%	5	23
<b>Candor Emergency Squad, Inc.</b>	15%	2	31%	4	23%	3	15%	2	8%	1	8%	1	13
<b>Greater Valley EMS</b>	7%	1	50%	7	29%	4	7%	1	7%	1	0%	0	14
<b>Lockwood Fire Department</b>	50%	2	0%	0	50%	2	0%	0	0%	0	0%	0	4
<b>Maine Emergency Squad</b>	29%	5	12%	2	12%	2	12%	2	29%	5	6%	1	17
<b>Nichols Joint Fire District</b>	0%	0	0%	0	100%	3	0%	0	0%	0	0%	0	3

Satisfaction with Dispatch	Very satisfied		Somewhat satisfied		Neutral		Somewhat dissatisfied		Very dissatisfied		(Did not respond)	Grand Total	
Owego EMS Dept.	44%	11	24%	6	4%	1	4%	1	8%	2	16%	4	25
Spencer Emergency First Aid Squad	33%	2	33%	2	0%	0	0%	0	0%	0	33%	2	6
Tioga Center Emergency Squad	29%	2	43%	3	14%	1	0%	0	0%	0	14%	1	7
Weltonville Fire Department	0%	0	100%	1	0%	0	0%	0	0%	0	0%	0	1
Other (please specify)	0%	0	0%	0	0%	0	0%	0	0%	0	100%	2	2
(blank)	0%	0	0%	0	0%	0	0%	0	0%	0	100%	4	4
<b>Grand Total</b>		<b>30</b>		<b>26</b>		<b>18</b>		<b>12</b>		<b>27</b>		<b>22</b>	<b>135</b>

## Q.9: Most important strengths of primary agency

Respondents were asked: "Please select up to five of the most important strengths of your primary agency."

Professionalism and equipment are seen as the most important strengths of their agency by a majority of all respondents.

Most important strengths of your primary agency	%	#
Professionalism	63%	72
Equipment	60%	68
Staying current/progressive with new practices and technology	41%	47
Department leadership	40%	46
Response	39%	45
EMS response	39%	45
Training	33%	38
Dept atmosphere	32%	36
Staffing	25%	29
Public perception	22%	25
Pay for employees	13%	15
Internal communication	12%	14
Financial situation	11%	12
Elected/municipal gov't leadership	2%	2
Other (please specify)	1%	1



	<b>Answered</b>	<b>114</b>
	<b>Skipped</b>	<b>21</b>

Indication of specific strengths differed by agency.

Most important strengths of your primary agency	Department atmosphere		Department leadership		Elected/municipal government leadership		EMS Response		Equipment		Financial situation		Internal communication	
	%	#	%	#	%	#	%	#	%	#	%	#	%	#
Apalachin Fire Department, Inc.	6%	4	14%	10	0%	0	1%	1	14%	10	4%	3	8%	6
Berkshire Fire District Ambulance	14%	1	0%	0	0%	0	14%	1	0%	0	0%	0	0%	0
Campville Fire Department	5%	5	6%	6	1%	1	13%	12	13%	12	5%	5	2%	2
Candor Emergency Squad, Inc.	4%	2	6%	3	2%	1	16%	8	18%	9	4%	2	0%	0
Greater Valley EMS	4%	3	10%	7	0%	0	18%	12	18%	12	0%	0	0%	0
Lockwood Fire Department	7%	1	7%	1	0%	0	27%	4	20%	3	7%	1	0%	0
Maine Emergency Squad	6%	4	11%	8	0%	0	19%	13	11%	8	0%	0	3%	2
Nichols Joint Fire District	23%	3	0%	0	0%	0	8%	1	8%	1	0%	0	8%	1
Owego EMS Dept.	9%	8	9%	8	0%	0	9%	8	8%	7	1%	1	1%	1
Spencer Emergency First Aid Squad	6%	1	0%	0	0%	0	22%	4	6%	1	0%	0	6%	1
Tioga Center Emergency Squad	14%	4	11%	3	0%	0	18%	5	14%	4	0%	0	4%	1
Weltonville Fire Department	0%	0	0%	0	0%	0	0%	0	17%	1	0%	0	0%	0

Most important strengths of your primary agency (cont.)	Pay for employees		Professionalism		Public perception		Staffing		Staying current/progressive with new practices and technology		Training		(No Response)	
	%	#	%	#	#	#	%	#	%	#	%	#	%	#
Apalachin Fire Department, Inc.	6%	4	10%	7	0%	0	3%	2	14%	10	3%	2	18%	13
Berkshire Fire District Ambulance	0%	0	29%	2	29%	2	0%	0	0%	0	0%	0	14%	1
Campville Fire Department	7%	7	15%	14	5%	5	9%	9	5%	5	1%	1	12%	11
Candor Emergency Squad, Inc.	6%	3	6%	3	12%	6	2%	1	6%	3	6%	3	10%	5

<b>Greater Valley EMS</b>	0%	0	18%	12	3%	2	4%	3	12%	8	9%	6	3%	2
<b>Lockwood Fire Department</b>	0%	0	13%	2	0%	0	7%	1	0%	0	13%	2	0%	0
<b>Maine Emergency Squad</b>	1%	1	14%	10	1%	1	10%	7	13%	9	4%	3	6%	4
<b>Nichols Joint Fire District</b>	6%	4	8%	1	8%	1	8%	1	15%	2	0%	0	15%	2
<b>Other (please specify)</b>	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	100%	2
<b>Owego EMS Dept.</b>	0%	0	13%	12	5%	5	2%	2	8%	7	17%	16	18%	17
<b>Spencer Emergency First Aid Squad</b>	0%	0	17%	3	6%	1	11%	2	11%	2	6%	1	11%	2
<b>Tioga Center Emergency Squad</b>	0%	0	14%	4	4%	1	4%	1	0%	0	11%	3	7%	2
<b>Weltonville Fire Department</b>	0%	0	17%	1	17%	1	3%	2	17%	1	17%	1	17%	1

## Q.10: Please select up to five of the most significant weaknesses of your primary agency:

Respondents were asked: "Please select up to five of the most significant weaknesses of your primary agency."

Staffing, internal communications and elected and municipal leadership secured the top spots as the most significant weaknesses of their agency reported by respondents.

<b>Most significant weaknesses of your primary agency:</b>	<b>%</b>	<b>#</b>
<b>Staffing</b>	41%	47
<b>Internal communication</b>	35%	40
<b>Elected/municipal government leadership</b>	32%	36
<b>Financial situation</b>	29%	33
<b>Department leadership</b>	20%	23
<b>Training</b>	19%	22
<b>Dept atmosphere</b>	18%	21
<b>Public perception</b>	18%	21
<b>Professionalism</b>	15%	17
<b>Response</b>	14%	16
<b>Other (please specify)</b>	13%	15
<b>EMS response</b>	11%	12
<b>Staying current/progressive with new practices and technology</b>	10%	11
<b>Equipment</b>	9%	10
	<b>Answered</b>	<b>114</b>

	<b>Skipped</b>	<b>21</b>
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Indication of specific weaknesses differed by agency.

Most significant weaknesses of your primary agency	Dept atmosphere		Dept leadership		Elected/municipal government leadership		EMS Response		Equipment		Financial situation		Internal communication	
	%	#	%	#	%	#	%	#	%	#	%	#	%	#
Apalachin Fire Department, Inc.	3%	1	3%	1	6%	2	17%	6	3%	1	14%	5	3%	1
Berkshire Fire District Ambulance	0%	0	14%	1	14%	1	0%	0	0%	0	0%	0	14%	1
Campville Fire Department	6%	4	9%	6	12%	8	6%	4	1%	1	1%	1	13%	9
Candor Emergency Squad, Inc.	11%	5	6%	3	4%	2	2%	1	0%	0	17%	8	4%	2
Greater Valley EMS	9%	5	7%	4	5%	3	2%	1	5%	3	7%	4	11%	6
Lockwood Fire Department	16%	3	0%	0	11%	2	0%	0	0%	0	0%	0	16%	3
Maine Emergency Squad	0%	0	2%	1	14%	7	2%	1	0%	0	6%	3	14%	7
Nichols Joint Fire District	0%	0	0%	0	0%	0	20%	2	0%	0	30%	3	10%	1
Other (please specify)	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
Owego EMS Dept.	1%	1	8%	6	10%	7	8%	6	6%	4	8%	6	7%	5
Spencer Emergency First Aid Squad	0%	0	0%	0	6%	1	0%	0	6%	1	12%	2	18%	3
Tioga Center Emergency Squad	5%	1	0%	0	9%	2	5%	1	0%	0	5%	1	9%	2
Weltonville Fire Department	2%	1	2%	1	2%	1	0%	0	0%	0	0%	0	0%	0

Most significant weaknesses of your primary agency	Professionalism		Public perception		Staffing		Staying current/progressive with new practices and technology		Training		(No Response)	
	%	#	%	#	%	#	%	#	%	#	%	#
Apalachin Fire Department, Inc.	3%	1	6%	2	17%	6	0%	0	3%	1	23%	8

Most significant weaknesses of your primary agency	Professionalism		Public perception		Staffing		Staying current/ progressive with new practices and technology		Training		(No Response)	
	%	#	%	#	%	#	%	#	%	#	%	#
Berkshire Fire District Ambulance	0%	0	0%	0	29%	2	0%	0	0%	0	29%	2
Campville Fire Department	4%	3	1%	1	3%	2	4%	3	12%	8	28%	19
Candor Emergency Squad, Inc.	2%	1	4%	2	11%	5	6%	3	6%	3	26%	12
Greater Valley EMS	4%	2	5%	3	21%	12	0%	0	0%	0	23%	13
Lockwood Fire Department	5%	1	16%	3	16%	3	0%	0	0%	0	21%	4
Maine Emergency Squad	4%	2	12%	6	6%	3	0%	0	8%	4	32%	16
Nichols Joint Fire District	0%	0	0%	0	20%	2	0%	0	10%	1	10%	1
Other (please specify)	0%	0	0%	0	0%	0	0%	0	0%	0	100%	2
Owego EMS Dept.	7%	5	3%	2	10%	7	3%	2	3%	2	26%	19
Spencer Emergency First Aid Squad	0%	0	12%	2	6%	1	0%	0	6%	1	35%	6
Tioga Center Emergency Squad	5%	1	0%	0	14%	3	14%	3	9%	2	27%	6
Weltonville Fire Department	0%	0	0%	0	20%	1	0%	0	0%	0	20%	1

## Q.11: Rating of leadership

Respondents were asked: "Please give us a general rating of this agency's leadership:" on a five-point scale of Very Strong to Very Weak. In general, most respondents rated their agencies as relatively strong and few gave ratings of Weak or Very Weak.

Please give us a general rating of this agency's leadership:	Very strong		Strong		Average		Weak		Very weak	
	%	#	%	#	%	#	%	#	%	#
Apalachin Fire Department, Inc.	67%	8	17%	2	17%	2	0%	0	0%	0
Berkshire Fire District Ambulance	0%	0	50%	1	50%	1	0%	0	0%	0
Campville Fire Department	17%	3	56%	10	0%	0	17%	3	11%	2
Candor Emergency Squad, Inc.	17%	2	42%	5	33%	4	0%	0	8%	1
Greater Valley EMS	29%	4	43%	6	21%	3	0%	0	7%	1

Please give us a general rating of this agency's leadership:	Very strong		Strong		Average		Weak		Very weak	
Lockwood Fire Department	25%	1	25%	1	50%	2	0%	0	0%	0
Maine Emergency Squad	38%	6	50%	8	12%	2	0%	0	0%	0
Nichols Joint Fire District	0%	0	33%	1	67%	2	0%	0	0%	0
Owego EMS Dept.	38%	8	19%	4	24%	5	10%	2	10%	2
Spencer Emergency First Aid Squad	50%	2	25%	1	25%	1	0%	0	0%	0
Tioga Center Emergency Squad	33%	2	67%	4	0%	0	0%	0	0%	0
Weltonville Fire Department	0%	0	0%	0	0%	0	100%	1	0%	0

## Q.12: Other agencies' strengths and weaknesses

Respondents were asked: "Considering other agencies you work for, are their strengths and weaknesses different? Please explain."

Respondents gave a variety of answers to this question, with varying levels of specificity. Answers were grouped by general theme, with the most frequent response being that the question was not applicable to the respondent, followed by those stating there were no major differences in strengths and weaknesses between the different agencies they worked for.

Do your other agencies have different strengths/weaknesses?	#
Not applicable/Don't work for other agencies	14
No differences	11
My primary agency is most dedicated/better than others	9
Other agencies better	8
Other departments less organized	4
Some differences/It varies	4
Unclear	2
Better leadership	1
Finances differ	1
Funding levels	1
Issues w/ volunteer availability	1
Lack town support	1
Primary agency needs to support other agencies better	1
Unsure	1

### Q.13: Most important strengths of Tioga County EMS

Respondents were asked: “Please select up to five of the most important strengths of Tioga County EMS, as a whole.”

The largest percentage of respondents selected “Other” as the most important strength. Of these “Other” responses, 80% (32 respondents) stated that the County had few or no strengths in EMS; another 15% (6 respondents) stated their responses were not applicable; one respondent stated that the County’s strength was a dedicated group of EMS providers; another respondent stated that some classes had been offered for providers recently.

Most important strengths of Tioga County EMS	%	#
Other (please specify)	36%	40
Public perception	23%	25
Professionalism	21%	23
Training	20%	22
Equipment	18%	20
EMS response	17%	19
Staying current/progressive with new practices and technology	14%	15
Department leadership	9%	10
Dept atmosphere	9%	10
Internal communication	6%	7
Pay for employees	6%	7
Financial situation	5%	5
Elected/municipal government leadership	3%	3
Staffing	2%	2
	<b>Answered</b>	<b>111</b>
	<b>Skipped</b>	<b>24</b>

### Q.14: Most significant weaknesses of Tioga County EMS

Respondents were asked: “Please select up to five of the most significant weaknesses of Tioga County EMS, as a whole:”

More than half of respondents (54%) to this question selected EMS staffing as a significant weakness in the County. This was followed by elected and municipal leadership and general EMS response as county weaknesses.

Most significant weaknesses of Tioga County EMS	%	#
Staffing	54%	60
Elected/municipal government leadership	46%	51
EMS response	46%	51

Most significant weaknesses of Tioga County EMS	%	#
Staying current/progressive with new practices and technology	38%	42
Internal communication	29%	32
Department leadership	26%	29
Financial situation	26%	29
Training	25%	28
Professionalism	23%	26
Equipment	14%	16
Other (please specify)	14%	16
Public perception	12%	13
Dept atmosphere	7%	8
	<b>Answered</b>	<b>111</b>
	<b>Skipped</b>	<b>24</b>

Sixteen respondents selected "Other". Of these, 25% (4 respondents) stated that dispatch was a weakness; 19% (3 respondents) stated that there were no notable weaknesses; 19% (3 respondents) identified leadership as a weakness; 13% (2 respondents) stated the question was not applicable to them and one respondent each stated that the county needs more paid staff, needs a volunteer coordinator, needs to advertise more for EMS volunteers, and suffers from a general lack of quality in EMS service.

### Q.15: Prepared to perform essential EMS tasks?

Respondents were asked: "Considering your current training, leadership and resources, how prepared are you to perform your essential EMS tasks?"

Eighty-two percent of question respondents consider themselves either very well or well prepared to perform their essential EMS tasks. Only 4% consider themselves underprepared in some respect, with only one respondent considering themselves very underprepared.

Prepared to perform essential EMS tasks?	%	#
Very well prepared	41%	43
Well prepared	41%	43
Neutral	14%	15
Underprepared	3%	3
Very underprepared	1%	1
	<b>Answered</b>	<b>105</b>
	<b>Skipped</b>	<b>30</b>

### Q.16: Do patients receive excellent care?

Respondents were asked: "Please rate your agreement with this statement: I believe the patients who need ambulance treatment and transport in our community currently receive excellent medical care."

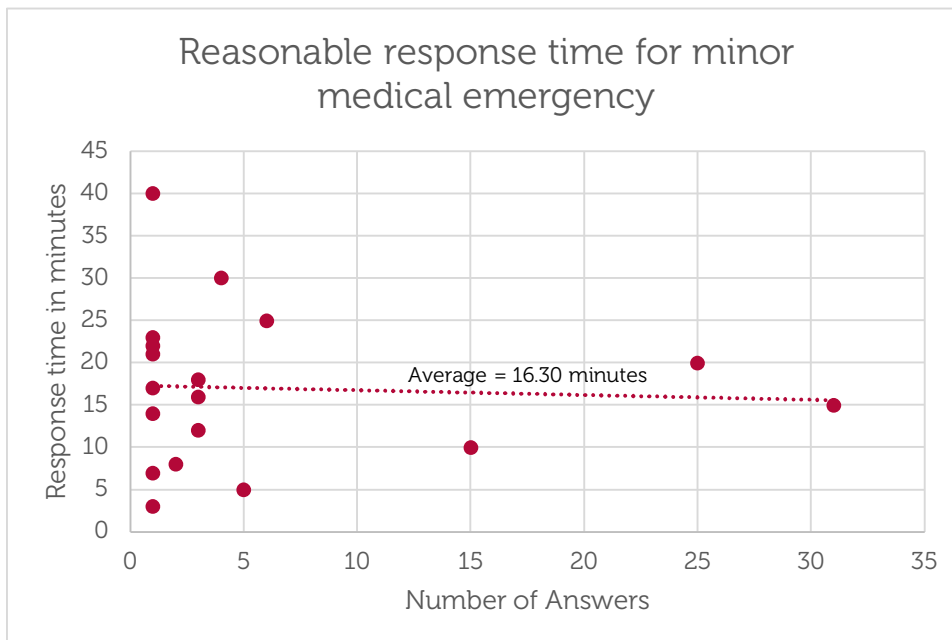
Nearly two-thirds of question respondents agreed with this statement, with just above a fifth (22%) strongly agreeing and about two-fifths (41%) agreeing. A bit more than a quarter of respondents (28%) either disagreed or strongly disagreed. A tenth had no opinion either way.

Patients receive excellent EMS care in Tioga County	%	#
<b>Strongly Agree</b>	22%	23
<b>Agree</b>	41%	43
<b>No Opinion</b>	10%	10
<b>Disagree</b>	18%	19
<b>Strongly Disagree</b>	10%	10
	<b>Answered</b>	<b>105</b>
	<b>Skipped</b>	<b>30</b>

### Q.17: Reasonable response time to minor medical emergency

Respondents were asked: "For a minor medical emergency, what do you think a reasonable response time is from dispatch to unit on scene?"

Answers ranged from three minutes to 40 minutes, with an average (mean) of 16.30 minutes. The top three answers were 15 minutes (31 respondents), 20 minutes (25 respondents) and 10 minutes (15 respondents).

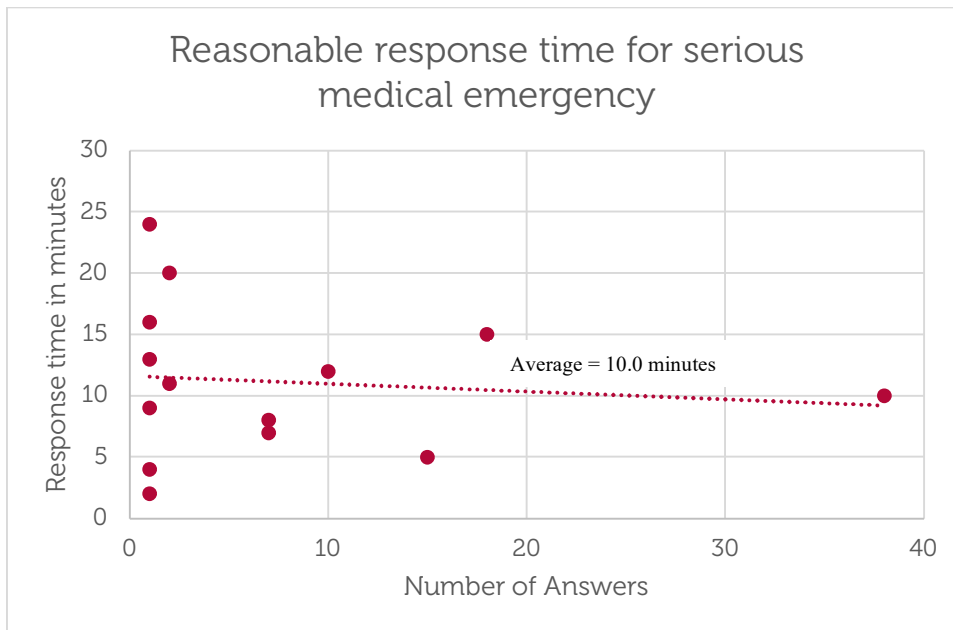




## Q.18: Reasonable response time for serious medical emergency

Respondents were asked: "For a serious medical emergency, what do you think a reasonable response time is from dispatch to unit on scene?"

Answers ranged from two minutes to 24 minutes, with an average (mean) of 10.0 minutes. The top three answers were 10 minutes (38 respondents), 15 minutes (18 respondents) and 5 minutes (15 respondents).



## Q.19: Top actions to improve EMS service

Respondents were asked: "What are the top three actions or changes that could most improve EMS service?"

The top action, recommended by a bit over a quarter (27%) of question respondents, is to provide incentives for EMS volunteers. This is closely followed by the suggestion to reduce unneeded responses to non-emergency calls and to create a single provider for EMS transport.

What are the top three actions or changes that could most improve EMS service?	%	#
Provide incentives for EMS volunteers at agency or county level	27%	29
Work with 911 center to reduce or eliminate responses to non-emergency calls	26%	28
Create a single provider that covers the whole county for EMS transport	26%	28
Recruit new EMTs from high schools through youth programs	23%	24

What are the top three actions or changes that could most improve EMS service?	%	#
Other (please specify)	22%	23
Develop program for EMS providers to refuse transport of certain types of stable patients	20%	21
Enhance EMS first response program in areas far from EMS stations	19%	20
Establish minimum performance guidelines for EMS responses	19%	20
Require agencies to indicate if they have a crew available using IAR	19%	20
Increase pay scale for paid providers	18%	19
Provide subsidies for EMS agencies from county, town or village	17%	18
Create a county-wide “safety net” provider that communities could choose to use	17%	18
Improve EMS specific training	11%	12
Provide leadership training for EMS	11%	12
At county level, work with employers to release volunteers during the day	8%	9
Acquire better patient-care equipment	2%	2
No changes are needed	1%	1
	<b>Answered</b>	<b>106</b>
	<b>Skipped</b>	<b>29</b>

The “Other” option was selected by 23 respondents. Of these, 39% (9 respondents) suggested variations on improving dispatch, instituting Emergency Medical Dispatch (EMD) and improving the radio system. Another 30% (7 respondents) suggested a county-operated EMS service and/or full ALS coverage. Five other individual respondents selected: changing policy in Owego to allow hiring from the volunteer pool, improving leadership and continuity of training and resources from the county, instituting standards of care and accountability, providing a county-level leader/coordinator for volunteer management, and eliminating the 10-minute delay for re-tone. Two individuals did not provide substantive responses.

## Q.20: Other Thoughts

Respondents were asked: *“Is there anything else you would like to share about EMS service in Tioga?”*

Sixty-nine respondents gave substantive answers to this question. These responses were coded into 27 general themes. Fourteen themes that were mentioned by at least two respondents were classified into three general groups: system issues, staffing issues and leadership issues.

### System Issues

The category of system issues includes seven themes:

- Response times need to improve / 10-minute re-tone is excessive (14 respondents)
- Dispatch problems need to be addressed: need EMD; radios don't work well; dispatchers fail to pass on critical information or follow protocols (12 respondents)
- A county-wide EMS system is needed (8 respondents)
- There are problems with mutual aid availability; response should be dispatching from closest agency (7 respondents)
- ALS fly cars should be used so ambulances don't have to be dispatched to every call (4 respondents)
- Care must be more patient-centered and accountable (2 respondents)
- County training programs need improvement and more standardized training for all county EMS workers (2 respondents)

### Staffing Issues

The category of staffing issues includes three themes:

- Agencies should shift to more paid staff (7 respondents)
- Volunteers are dwindling and more recruitment and retention efforts are needed (5 respondents)
- More incentives should be provided to volunteers (2 respondents)

### Leadership Issues

The category of leadership issues includes three themes:

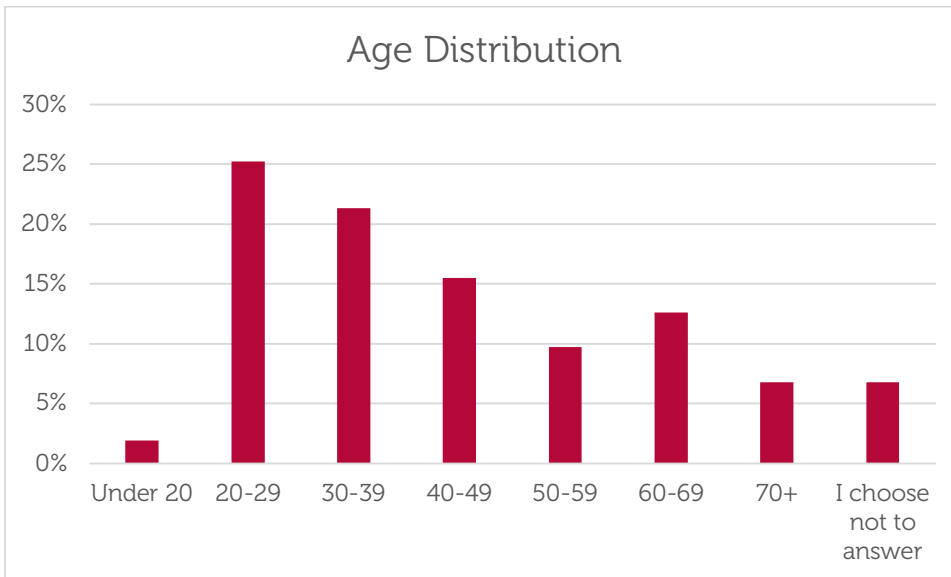
- County leadership and legislative leadership on EMS is lacking (8 respondents)
- A county-level EMS coordinator is needed (3 respondents)
- Better financing is needed for EMS services (2 respondents)
- EMS should be classified as an essential service and have proportionate resources dedicated to it (2 respondents).

## Q.21: Age

Respondents were asked: "What is your age?"

EMS workers clearly skew younger, with nearly half (48%) of question respondents under 40 years of age.

What is your age?	%	#
Under 20	2%	2
20-29	25%	26
30-39	21%	22
40-49	16%	16
50-59	10%	10
60-69	13%	13
70+	7%	7
I choose not to answer	7%	7
	<b>Answered</b>	<b>103</b>
	<b>Skipped</b>	<b>32</b>



## Q.22: Gender

Respondents were asked: "What is your gender?"

Question respondents are approximately 70% male and 20% female, with about 10% choosing not to identify their gender.

What is your gender?	%	#
Male	69%	72
Female	20%	21
I choose not to answer	9%	9
Other (please specify)	2%	2
	<b>Answered</b>	<b>104</b>
	<b>Skipped</b>	<b>31</b>

## Q.23: Race/Ethnicity

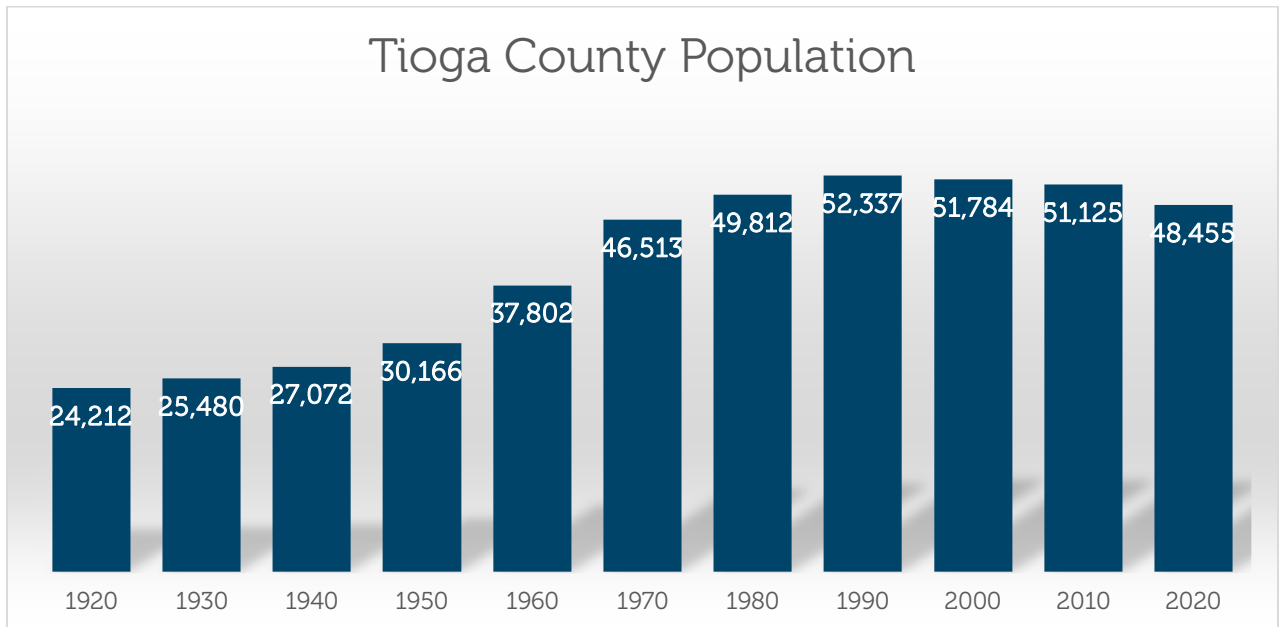
Respondents were asked: “What race/ethnicity best describes you?” and allowed to pick multiple options.

Every question respondent who selected a race picked only White (84%), while another 16% chose not to answer (the two “Other” responses involve non-answers).

What race/ethnicity best describes you? (Please check all that apply)	%	#
White or Caucasian	84%	87
Black or African American	0%	0
Hispanic or Latino	0%	0
Asian or Asian American	0%	0
American Indian or Alaska Native	0%	0
Native Hawaiian or other Pacific Islander	0%	0
I choose not to answer	15%	16
Other (please specify)	2%	2
	<b>Answered</b>	<b>104</b>
	<b>Skipped</b>	<b>31</b>

## Section VI: Demographic Trend

Tioga County's population has declined by 5.2% in the past decade from 51,125 to 48,455. The median age has increased from 42.0 to 44.5. The percentage of residents 65 and older has grown to 19.7% from 15.1%. The population that is 75 years and older has grown to 9% from 6.8%. The population is both declining and getting older. The latter places a particular burden on EMS organizations as there are fewer able bodied volunteers and older people use EMS more frequently.



Source: US Census Bureau

The Cornell Program on Applied Demographics suggests that Tioga County will see 5% population declines in each of the next two decades and a continued "graying" of the population.

The table below presents the most recent census data for the whole County. The appendix includes tables with totals for the individual communities in the County.

Tioga County	
<b>Total population (2020)</b>	<b>48,455</b>
• Hispanic or Latino	1,117
• Not Hispanic or Latino:	47,338
<b>Population of one race:</b>	<b>45,231</b>
• White alone	44,195
• Black or African American alone	434

Tioga County	
• American Indian and Alaska Native alone	62
• Asian alone	370
• Native Hawaiian and Other Pacific Islander alone	12
• Some Other Race alone	158
% White	98%
Housing Units	<b>21,787</b>
• Occupied	19,878
• Vacant	1,909
Total population (2015-19)	<b>48,686</b>
• Male	24,144
• Female	24,542
• Under 5 years	2,474
• Under 18 years	10,271
• 18 years and over	38,415
• 18 to 64 years	28,811
• 65 years and over	9,604
• Percent 65 and older	20%
• 75 years and over	4,273
• Percent 75 years and older	9%
• % White	96.3%
Median age (years)	44.5
Housing Units	<b>22,527</b>
Median Household Income	\$62,999
% in Poverty	10.2%
Source: 2020 Decennial Census, ACS 5-year 2015-19	

# Appendix A: Call Locations by District