FITCH

& ASSOCIATES

CONSULTANT REPORT

# GREENE COUNTY, NEW YORK

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# Executive Summary

## Project Overview

In December of 2023, Greene County engaged Fitch & Associates, LLC (FITCH) to assess the County's emergency medical services (EMS) resources and develop future options for a high-performing, sustainable EMS system. The County was aware that the current EMS agencies were experiencing increased stress due to staffing and financial issues, which continued to impact the community. These are trends FITCH is seeing across the State of New York and the entire Country.

As requested, FITCH performed a comprehensive and complete system review of the current EMS system, paying close attention to potential opportunities for improvement and advancement. The project deliverables requested were:

- Evaluate the current EMS system performance, utilization, and resource allocation as it relates to current providers and any recommended alternative future models.
- Evaluate current and projected demand and stratify demand by acuity level.
- Develop a staffing-to-demand model that shows both current and potential alternatives for resource utilization.
- Produce deployment strategies for potential stations and/or mobile post locations based on a marginal value of each deployed asset based on a Geo-Spatial analysis.
- Evaluate strategies for implementation and future staffing to meet the needs for workload, volume, and geography.
- Engage stakeholders by interviewing key personnel and receiving their input on service components necessary for the provision of high-quality and efficient service.
- Analyze financial support, legal and statutory regulations to create a sustainable service model.
- Develop options for the county to implement while balancing both operations and costs.

# Key findings

### LACK OF PERFORMANCE METRICS CONTRIBUTES TO SYSTEM INEQUALITY

Currently, there are no common countywide response times or performance standards. Each agency is tasked to monitor its own standards and is not required to report them. The system does not formally track or trend any aggregate performance metrics. This reliance on self-policing by the agency has led to inequities in service levels regionally and across the system the system as a whole.

### GEOGRAPHY AND SEASONALITY CREATE STAFFING AND PERFORMANCE CHALLENGES

The geography of Greene County presents unique challenges for the system. Three distinct geographic regions exist: the mountain region, the valley region, and the river region. Each presents unique characteristics that must be planned for in system design. Due to the region's characteristics, each requires unique performance standards and operational expectations.

Seasonality also presents challenges that affect the system as a whole. During the winter months, there is an influx of visitors for ski season. These visitors predictably increase demand during weekends and holidays of the ski season. It was reported that system resources could quickly become challenged by this increased demand for service despite its predictability. System design must account for these demands and other reasonable, predictable temporal events.

### SILOED EMS AGENCIES INCREASE RISK.

As each EMS agency participating in the County is independent, they are all unique in various operational aspects. Each agency has its own policy and procedures, pay rates, quality assurance program, and operational expectations for staff. Patient experience can vary from agency to agency based on the level of care provided, equipment purchased and utilized, level of experience and training of practitioners, and protocol differences to a lesser extent. These disparities lead to a variety of patient experiences throughout the system. Variances in any EMS system increases risk to equitable service and clinical care.

**NEED TO REGIONALIZE SERVICES**

The EMS agencies in Greene County all work independently of each other, carrying their overhead expenses and direct labor costs. Many also employ the same care providers. Having multiple agencies increases costs and inherent inefficiencies in operations. The Certificate of Need (CON) process[1] in New York State establishes service areas, but as of now, these areas are not financially sustainable on their own. Implementing a localized EMS strategy would benefit the entire County and provide more cost-effective options.

**SYSTEM LACKS A CULTURE OF SAFETY**

The system as a whole lacks a culture of safety. It was reported that multiple care providers routinely work more than 72 hours per week, including more than 24 hours at any particular time. Numerous leaders and care providers reported this practice. With many agencies needing help to meet their specific staffing requirements, safety has taken a back seat to readiness. There is also a need for routine safety monitoring programs to be utilized.

**DISPATCH SERVICES SHOULD BE EXPANDED**

Greene County Emergency Medical Services (GCEMS) dispatch provides excellent communication services. The Medical Priority Dispatch System (MPDS) is currently being utilized effectively. All 911 EMS calls should be initially received by GCEMS dispatch. EMS agencies being dispatched by GCEMS should be required to accurately provide all status changes and unit "mark-ups" 100% of the time. In addition, EMS agencies should be encouraged to provide real-time location data for accurate tracking and system management.



[1] https://www.nysenate.gov/legislation/laws/PBH/3005

# List of Recommended Options

Four options are detailed in this report's "Pathway Forward" section. A list of the options is provided below.

- **Option Zero** – Support the status quo through immediate no-cost and low-cost improvements and process changes.
- **Option One** – Stronger system coordination. In this option, Greene County would take steps to increase and strengthen overall system coordination.
- **Option Two** – Establish a Single Provider System with coordinated districts. This proposed strategy outlines a significant improvement opportunity considering geographical constraints and local expectations. It involves the establishment of separate EMS districts under a unified EMS agency that would oversee operations. This approach promotes system-wide improvement with increased levels of coordination while providing system support through a single provider.
- **Option Three** – Establish a single provider unified county system. Ultimately, a single-provider system offers the most affordable and efficient option to maintain acceptable system performance with the least tax burden.

# Methodology

FITCH collected data using multiple resources and methods to analyze historical call volume, organizational data, and other information provided by agencies serving Greene County. At the start of the consultancy, every other week meetings were established. Data counts were provided by the Greene County Department of Public Safety 911 computer-aided dispatch (CAD) system. Throughout the project, almost all of the EMS agencies in the county were involved in various stages.

FITCH collected, processed, and validated data for EMS responses. Consultants worked to obtain data to complete the Information Data Request from each EMS agency. Not all EMS agencies participated in a timely fashion, which caused a delay in the receipt, review, and analysis of data. It should be noted that Greenville Rescue Squad and Durham Ambulance refused to complete the Information Data Request as requested. Many responses to FITCH's Information Data Request were incomplete. Based on the limited information provided, FITCH verified information with the individual participating agencies in a series of remote meetings. Information was also verified with the Project Steering Committee so that the project could move forward. Lastly, due to the data reporting challenges from the County, FITCH had to provide a Microsoft Access tool to collect the needed data. This caused a significant delay in the project and resulted in the data report being significantly delayed. FITCH worked with the County to adjust timelines accordingly.

The data utilized for this report focused specifically on call volume. Each event is treated as an individual call for service without consideration of the number of units responding. Audits of the data files were first conducted to reduce duplication of events and to identify anomalies in the base data that would impact analysis. It should be noted that no data values were changed or modified in the cleanup process. Some spelling and abbreviation differences were adjusted in the names of towns and jurisdictions only where it was evident and necessary to provide the most accurate counts aggregated by geographic region.

Datasets that contained geographic coordinates were modified to latitude/longitude format. Datasets that did not contain coordinates were geocoded using an online service. Since this geocoding process is not 100% reliable, addresses that could not be reliably geocoded were

removed from the datasets. Once an official dataset was established and agreed on, we completed our analysis steps and provided the output for consideration in this final report.

FITCH assessed the response time performance of EMS agencies in Greene County, including those outside the county but with primary coverage areas within it. Travel times of 10-minute, 15-minute, and 20-minute intervals were modeled from optimized locations based on historic volumes. Once response time performance was determined, analysis was performed to strategically match supply with demand and ensure the appropriate number of locations were utilized for ambulance deployment to meet a prescribed response objective. The primary objective is to ensure that geographical deployment and demand are staffed appropriately with the correct level of resources.

Over the project timeline, FITCH and Greene County representatives met virtually to discuss findings and options for results-based solutions.

# Evaluation Of The Current System

## Service Area Overview

Greene County is comprised of 658 square miles. It is located in southeast central New York, south of Albany. The northern and eastern regions of the county are primarily low-lying and flat, bordering the Hudson River. The southern and western areas rise into the Catskill Mountains. Catskill Park is located in this area. The county supports two major ski destinations and numerous other year-round outdoor enthusiast locations. Greene County is comprised of fourteen towns and five villages. According to the 2020 U.S. Census, the population of Greene County stands at 47,931 individuals. This figure represents a 2.6% decrease from the 49,221 individuals reported in 2010.

## Current System Description

Ambulance services are regulated in The State of New York by the Department of Health. Each ambulance service is issued an operating certificate, permitting the service to operate in a designated primary area to provide emergency services. Before an ambulance service is granted an operating certificate, the Regional Emergency Medical Service Council must determine that there is a public need for service. This process is often called the “Certificate of Need” or CON process.

Emergency Medical Services are organized disparately in Greene County, with each Town and Village having to either provide or contract for service. The system comprises ten agencies that provide emergency services for the County. All ten agencies are based in Greene County. They include Ashland Ambulance Service, Cairo Ambulance Service, Catskill Ambulance Service, Coxsackie Ambulance Service, Durham Ambulance Inc., Greene County Emergency Medical Services Inc., Greenville Rescue Squad Inc., Hunter Area Ambulance Service, Windham

Ambulance Service, and Ski Windham Operating Corporation. All the services that respond to emergency calls in Greene County primarily operate in their designated service areas as dictated by the State. This is how almost all emergency medical systems operate in the State of New York.

Eight of the ten services are traditional; they own and operate ambulances. In addition to these eight traditional services, Green County Emergency Medical Services Inc. provides Paramedic fly-car services countywide. Ski Windham Operating Corporation also provides limited first responder services at the Windham ski resort during ski season via a first aid station and ski patrol. This service relies on other agencies to transport patients. Moving forward in the report, anytime the services are referenced, it should be understood that this reference does not include Ski Windham Operation Corporation.

All eight transport agencies provide BLS-level services. In addition, Cairo Ambulance Service, Coxsackie Ambulance Service, and Durham Ambulance Inc. are licensed to provide Advanced EMT services. Catskill Ambulance Service and Windham Ambulance Service provide their own Paramedic transport services. The other six transport agencies rely on Greene County Emergency Medical Service Inc. to provide Paramedic services via fly-cars when needed. These fly-cars will rendezvous with the requesting service to provide necessary Paramedic services to the patient and accompany them to the destination hospital.

Each service is dispatched by the Greene County Emergency Services dispatch center (GCEMS Dispatch), the county's primary PSAP. It should be noted that a PSAP exists in the Village of Catskill. This PSAP handles only police requests. It transfers all other requests to GCEMS Dispatch. This additional PSAP adds an unknown amount of call processing time that cannot be accurately accounted for in the response data.

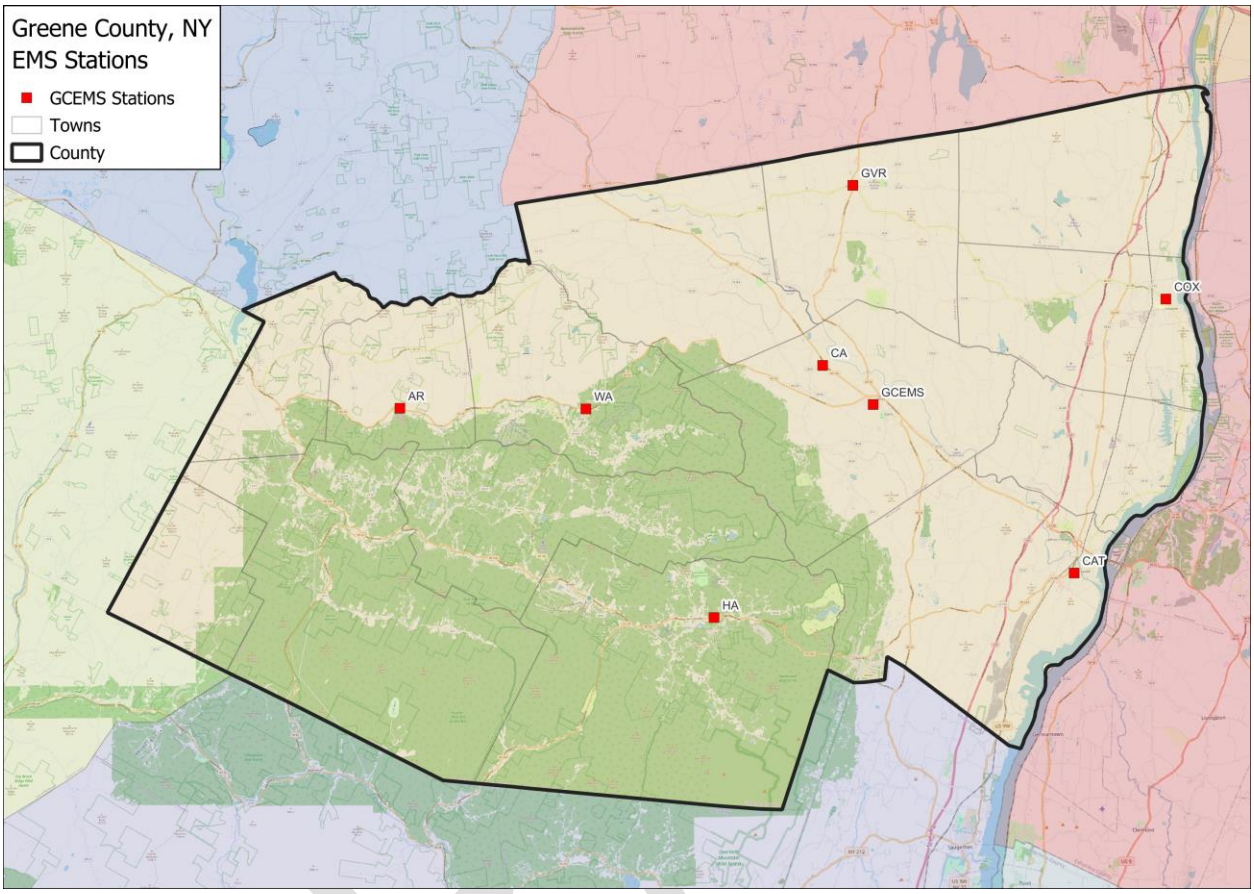
All services participate in a countywide mutual aid and posting plan. This plan is enacted according to GCEMS Dispatch policy 81, “Dispatcher Discretion.” This policy empowers dispatchers to utilize and move EMS resources throughout the county to allow for better coverage and reduce response times in the event of high call volumes. This limited coordination has been reported to be effective but sometimes depletes areas of resources.

The figure below lists the current agencies in Greene County, their organizational structure, service level certifications, and number of licensed ambulances according to the State of New York Department of Health.

**Figure 1: Greene County EMS Agencies**

| EMS Agency | Organization | Certified Service Level | Num. Ambulances |
|---|---|---|---|
| Ashland Ambulance, Town of<br>P.O. Box 129<br>Ashland, NY 12407 | Municipal | EMT | 3 |
| Cairo Ambulance Service, Town of<br>P.O. Box 728<br>Cairo, NY 12413 | Municipal | AEMT | 2 |
| Catskill Ambulance Service, Town of<br>439 Main Street<br>Catskill, NY 12414 | Municipal | Paramedic | 5 |
| Coxsackie Ambulance Service, Town of<br>56 Bailey Street<br>Coxsackie, NY 12051 | Municipal | AEMT | 3 |
| Durham Ambulance, Inc.<br>P.O. Box 99<br>East Durham, NY 12423 | Independent | AEMT | 3 |
| Greene County Emergency Medical Services, Inc.<br>P.O. Box 655<br>Cairo, NY 12413 | Independent | Paramedic | 0 |
| Greenville Rescue Squad, Inc.<br>P.O. Box 332<br>Greenville, NY 12083 | Independent | EMT | 3 |
| Hunter Area Ambulance Service<br>P.O. Box 70<br>Tannersville, NY 12485 | Municipal | EMT | 2 |
| Ski Windham Operating Corporation<br>19 Resort Drive<br>Windham, NY 12496 | Commercial | Paramedic | 0 |
| Windham Ambulance Service, Town of<br>P.O. Box 96<br>Hensonville, NY 12439 | Municipal | Paramedic | 3 |

**Figure 2: Greene County EMS Agency Locations**




As of now, there are no hospitals in Greene County. Columbia Memorial Health (CMH), Albany Medical Center, and St. Peter's Hospital are leading transport hospitals. CMH is in Columbia County and is part of the Albany Med Health System. Albany Medical Center and St. Peter's Hospital are both located in Albany, NY, and are tertiary care centers. CMH provides a limited range of services, so patients often need to be transported to facilities in Albany for services not available on-site. The majority of these transports are from CMH to Albany Medical Center.

The distance to destination hospitals has been an issue for the system. Long transport times mean that ambulances have an extended time on task. Ultimately, this drives down the availability of resources. In addition to the extended time on task, increased wait times to transfer care to the receiving hospital successfully have been an intermittent issue. Unfortunately, these times have not been historically tracked and cannot be measured or trended.

# Community Demand for Service

To evaluate the demand for service, FITCH reviews both the trending population census and the current demand for service. This allows for a granular look into future demands for service, both for total volume and hour-of-day requests. By understanding these facets, FITCH estimates the future system requests for service.

Greene County covers approximately 658 square miles, of which approximately 647 square miles is land area. The Census Bureau measured the county's population to be 47,931 in 2020 Decennial Census. The population had declined approximately 2.6% from 49,221 in 2010. Despite the trending decline in population, the average number of calls per day across all jurisdictions increased from 19.7 in 2019 to 21.7 in 2023. The average transports per day remained level during this same period. In 2019, there was 14.6 transport per day, whereas in 2023, it was 14.7 per day.

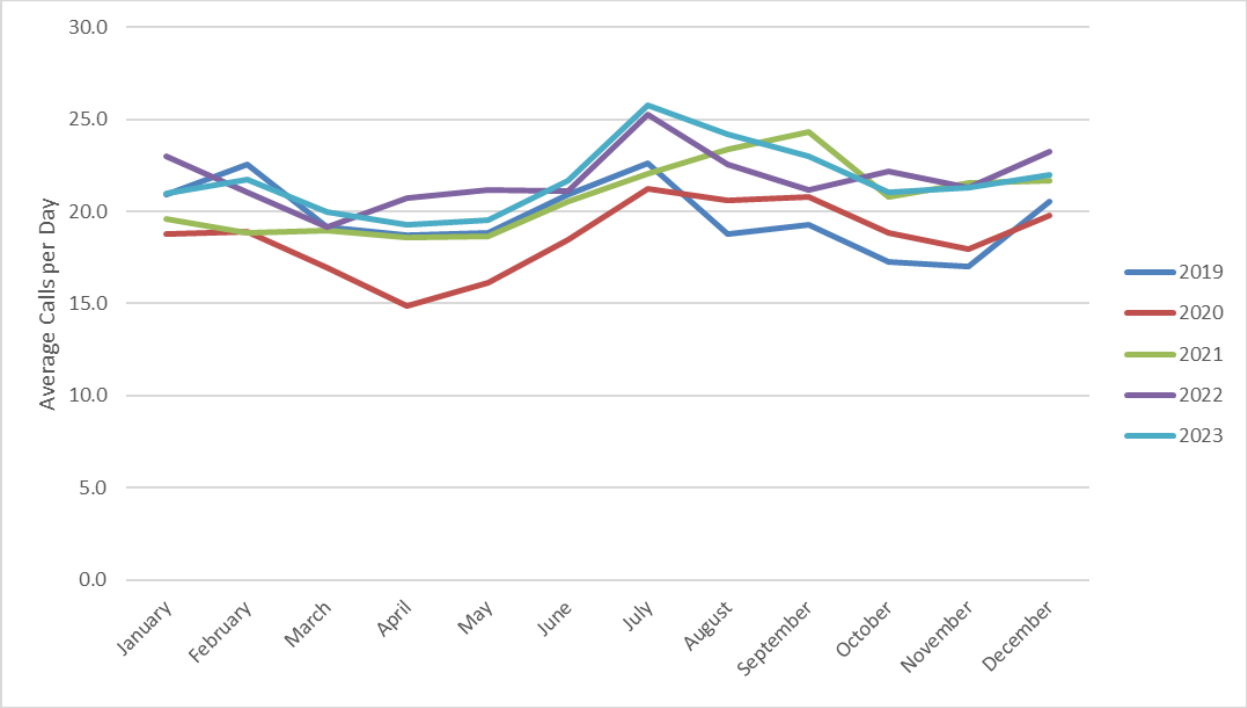
**Figure 3: Community Demand for Service 2019-2023**

| YEAR | # Events | Event YoY Growth | # Transports | Transport % | Transport YoY Growth | Average Calls per Day | Average Transport per Day |
|---|---|---|---|---|---|---|---|
| 2019 | 7194 | - | 5312 | 73.8% | - | 19.7 | 14.6 |
| 2020 | 6812 | -5.3% | 4678 | 68.7% | -11.9% | 18.6 | 12.8 |
| 2021 | 7578 | 11.2% | 5244 | 69.2% | 12.1% | 20.8 | 14.4 |
| 2022 | 7971 | 5.2% | 5355 | 67.2% | 2.1% | 21.8 | 14.7 |
| 2023 | 7945 | -0.3% | 5368 | 67.6% | 0.2% | 21.7 | 14.7 |
| **Grand Total** | **37500** | | **25957** | **69.2%** | | **20.5** | **14.2** |

Temporal analyses were conducted to evaluate patterns in community demand for EMS-related services. These analyses are based on the total EMS-related requests for service received from the community across all jurisdictions for years 2019 through 2023 and examined the frequency of requests for service by month, day of the week, and hour of the day.

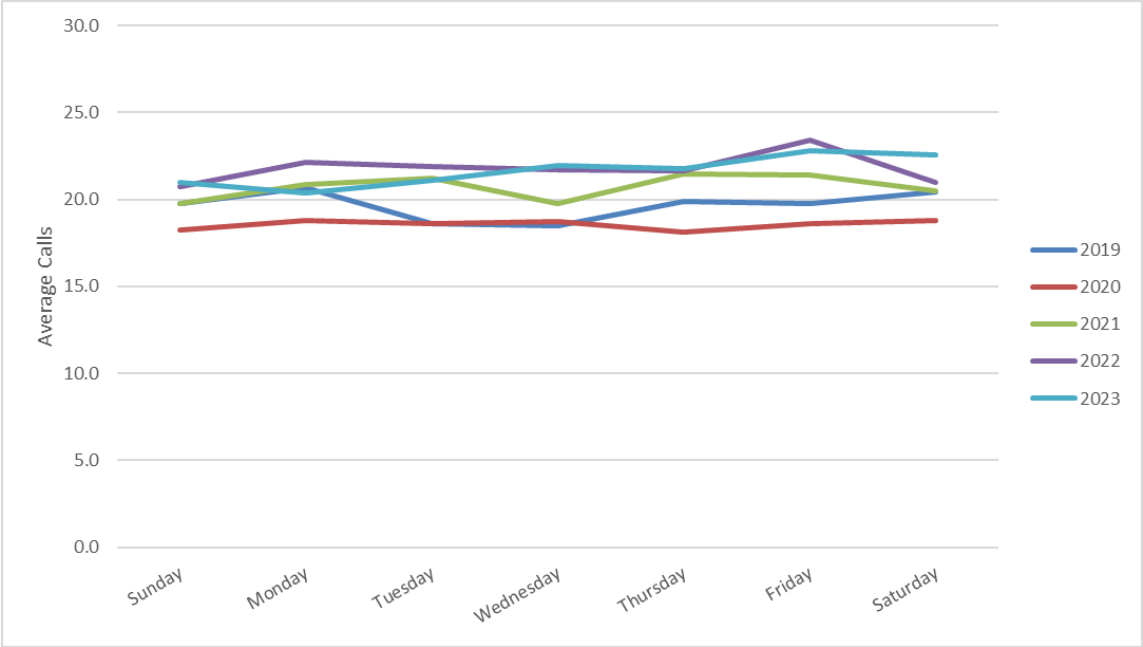
The figures below illustrate the average unique EMS incidents by month, day of the week, and hour of the day. As noted for overall community demand, EMS incidents were most frequent during the summer and winter, corresponding to the seasonal recreational traveler influx.

**Figure 4: Average Daily EMS Incidents by Month 2019-2023**



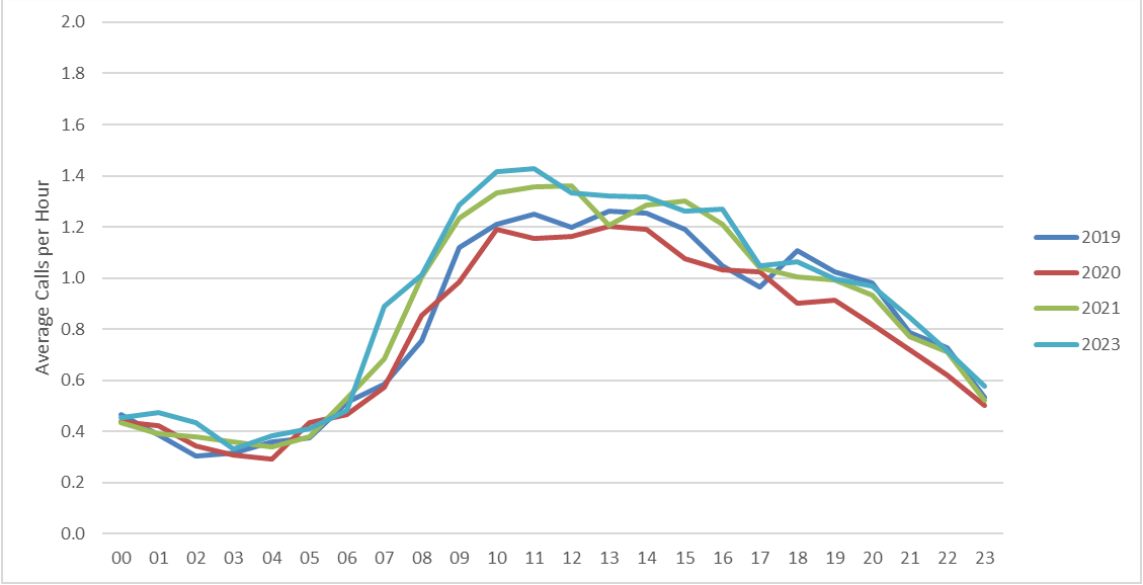
The number of incidents deviated very little by day of the week, as illustrated in Figure 5 below. This is typical of 911 systems.

**Figure 5: Average Daily EMS Incidents by Day of Week 2019-2023**




On average, EMS calls peaked in the afternoon and were least during early morning hours. This is typical of most EMS systems.

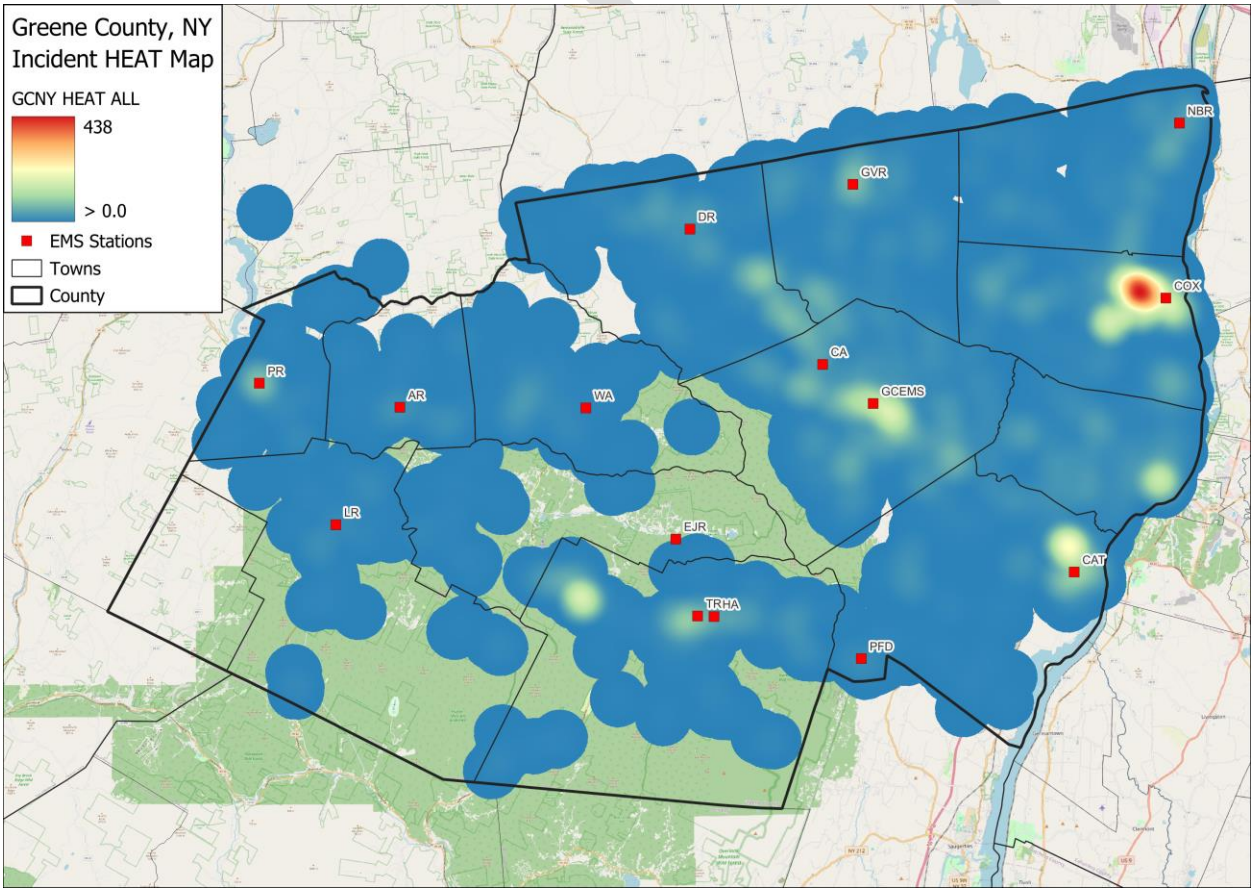
**Figure 6: Average Daily EMS Incidents by Hour of Day 2019-2023**



To determine the current density levels for responses, FITCH utilized heat mapping to evaluate all emergency 911 calls for service. To ensure proper unit deployment, an understanding of where the highest level of risks or volume is required. This model allows for informed decisions on performance levels of response.

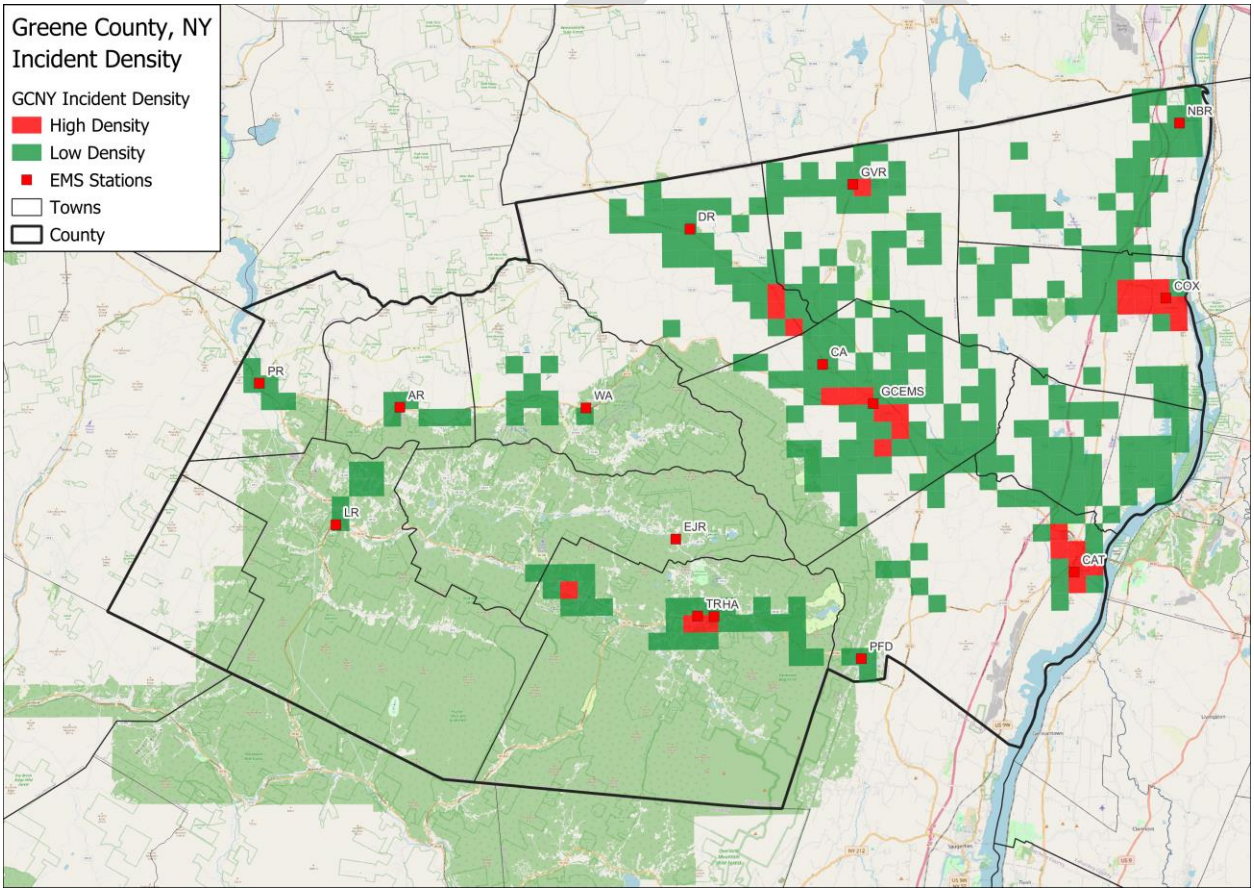
Color coding indicates various levels of responses within the County. In Figure 7 below, the areas in red indicate a "hot spot" of greater than 438 responses in that year. Blue regions are predominately rural and indicate a mostly rural response of more than one call and less than 438 calls that year. Areas absent of color received no calls or requests for service in that year. See Figure 7 below.

**Figure 7: Urban/Rural Heat Map**



To determine high/low-density levels for response zones, FITCH utilized a commensurate risk mapping to evaluate call activity. This model allows for informed decisions on performance levels of response. Areas designated with a commensurate risk mapping as high-density response density (in red) represent two calls per month within the one-kilometer cell and greater than or equal to four calls per month in the eight adjoining cells. Low-density designated areas are coded in green and represent .25 calls within the one-kilometer cell and one call greater or equal per month total in the eight adjoining cells. Where no color exists, these areas do not meet the above criteria and would be considered wilderness response density zones. Figure 8 below represents the commensurate mapping results.

**Figure 8: Urban/Rural Analysis Based on Call Volume**



The EMS Incident Heat Map and Commensurate Risk Mapping are validated by the regional incident and transport data provided below in Figure 9. For geographic considerations, the system has been separated into three regions: Mountain, Valley, and River. The system, region, and individual agency transport rates are highlighted below. Data for 2019-2021 can be found in the accompanying data report.

**Figure 9: Regional Incidents and Transports 2022-2023**

| REGION | 2022 | | | 2023 | | |
|---|---|---|---|---|---|---|
| | EVENTS | TRANSPORTS | TRANSPORT % | EVENTS | TRANSPORTS | TRANSPORT % |
| **Mountain** | **1198** | **745** | **62.2%** | **1129** | **698** | **61.8%** |
| Margretville Rescue | 1 | 0 | 0.0% | 2 | 0 | 0.0% |
| Town of Ashland | 297 | 182 | 61.3% | 282 | 177 | 62.8% |
| Town of Hunter | 471 | 312 | 66.2% | 488 | 320 | 65.6% |
| Town of Windham | 429 | 251 | 58.5% | 357 | 201 | 56.3% |
| **River** | **4857** | **3330** | **68.6%** | **4846** | **3382** | **69.8%** |
| Athens/Catskill EMS | 441 | 283 | 64.2% | 502 | 317 | 63.1% |
| Ravena Rescue | 247 | 166 | 67.2% | 211 | 146 | 69.2% |
| Town of Catskill | 2813 | 1874 | 66.6% | 2772 | 1908 | 68.8% |
| Town of Coxsackie | 1356 | 1007 | 74.3% | 1361 | 1011 | 74.3% |
| **Valley** | **1880** | **1265** | **67.3%** | **1956** | **1282** | **65.5%** |
| Town of Cairo | 1068 | 723 | 67.7% | 1151 | 765 | 66.5% |
| Town of Durham | 444 | 292 | 65.8% | 428 | 273 | 63.8% |
| Town of Greenville | 368 | 250 | 67.9% | 377 | 244 | 64.7% |
| **#N/A** | **36** | **15** | **41.7%** | **14** | **6** | **42.9%** |
| | 36 | 15 | 41.7% | 14 | 6 | 42.9% |
| Town of Shandaken | | | | | | |
| Woodstock #5 | | | | | | |
| **Grand Total** | **7971** | **5355** | **67.2%** | **7945** | **5368** | **67.6%** |

Analyzing the acuity of calls, we find that Alpha-level incidents (per MPDS) were the most frequent, followed by Delta-level and Charlie-level calls for 2022 and 2023. System transport rates have remained steady for 2022 and 2023 at 67%.

**Figure 10 - EMS Incidents Severity and Transport Rate 2022-2023**

| Year | Response Determinates | # Events | # Dispatched Units | # Enroute Units | # Transports | Transport Percentage |
|---|---|---|---|---|---|---|
| 2022 | N/A | 93 | 161 | 165 | 63 | 67.7% |
| | ALPHA | 2400 | 2998 | 3030 | 1547 | 64.5% |
| | BRAVO | 1535 | 2420 | 2457 | 757 | 49.3% |
| | CHARLIE | 1784 | 3161 | 3174 | 1408 | 78.9% |
| | DELTA | 1927 | 3682 | 3722 | 1472 | 76.4% |
| | ECHO | 95 | 222 | 231 | 24 | 25.3% |
| | OMEGA | 137 | 171 | 171 | 84 | 61.3% |
| | **TOTAL** | **7971** | **12815** | **12950** | **5355** | **67.2%** |
| 2023 | N/A | 71 | 87 | 89 | 29 | 40.8% |
| | ALPHA | 2298 | 2934 | 2968 | 1467 | 63.8% |
| | BRAVO | 1544 | 2556 | 2590 | 756 | 49.0% |
| | CHARLIE | 1737 | 3043 | 3089 | 1349 | 77.7% |
| | DELTA | 2073 | 3822 | 3872 | 1652 | 79.7% |
| | ECHO | 89 | 214 | 221 | 30 | 33.7% |
| | OMEGA | 133 | 163 | 163 | 85 | 63.9% |
| | **TOTAL** | **7945** | **12819** | **12992** | **5368** | **67.6%** |

# System Performance, Resource Allocation, and Utilization

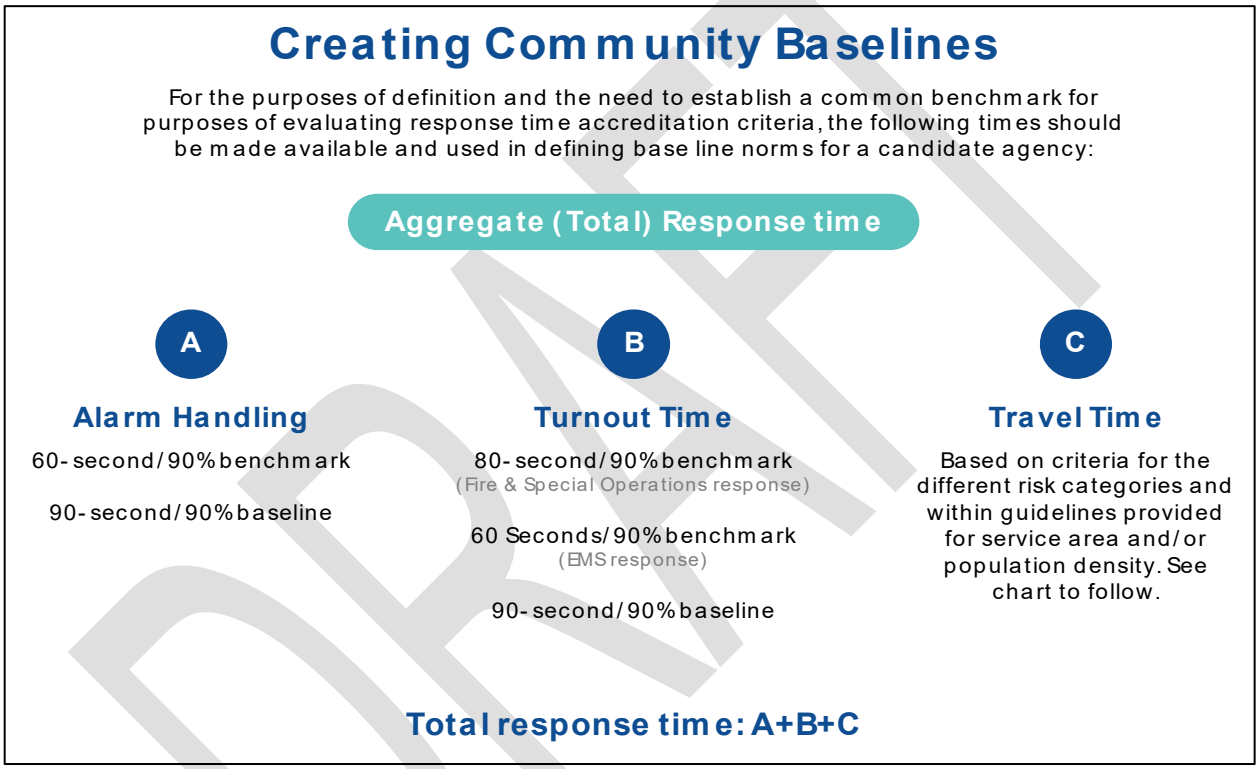
The Commission on Fire Accreditation International (CFAI) 9th edition standards guide emergency service agencies regarding performance measurements and establishing a benchmark for evaluating response times. The standards are determined in two parts: 1) determining the population density zones in the City/Township and 2) determining the right level of response times for the community.

The components of response that are typically measured are as follows:

- **Dispatch Time** — the time interval from the initial call from the requestor until the first dispatch notification for a unit to respond.
- **Turnout Time** — the time interval from when response personnel receive the dispatch notification until a staffed ambulance responds.
- **Travel Time** — the time interval from the staffed ambulance initiates response until it arrives at the scene of the incident.
- **Dispatch to First Unit Arrival** – is a cumulative time for the time components of Turnout and Travel times. This time is controlled only by the responding resources, not the Communications Center.
- **Hello-to-Hello Time** — the cumulative time for the components above that represents a call received in the Communications Center until response personnel arrive on the scene with the patient. This is the most important time interval from the caller/patient's perspective.
- **Time-on-Task** – the interval from the initial dispatch of a response to the time the unit becomes available for another response. A unit may become available following transport to the hospital, treatment and release on-scene, cancellation, etc.

The EMS agency's response time begins when they receive a request for a response from the GCEMS Dispatch, where both a full address and call type have been determined. Then, the "clock begins" for the EMS agency. The clock stops when the unit arrives on the scene of an incident or is in staging awaiting another public safety official due to an unsafe scene. Figure 11 below indicates the CFAI response time baseline times for alarm handling, turnout time, and travel time.

**Figure 11 - CFAI Aggregate Response Time**



The EMS agency will be responsible for the Turnout and Travel times. Turnout times have a baseline performance of 90 seconds 90% of the time.

**Figure 12: 2023 Turnout Time Performance by Agency**

| Agency | Average | Turnout Interval 90th Percentile | Count |
|---|---|---|---|
| AIR METHODS | 00:00:09 | 00:00:35 | 13 |
| GREENE COUNTY PARAMEDICS | 00:00:32 | 00:00:48 | 152 |
| GREENPORT RESCUE | 00:00:17 | 00:00:17 | 1 |
| GREENVILLE RESCUE SQUAD INC | 00:00:12 | 00:00:29 | 4 |
| HUNTER AREA AMBULANCE | 00:01:11 | 00:08:23 | 17 |
| RAVENA RESCUE SQUAD INC | 00:01:32 | 00:05:24 | 4 |
| TOWN OF ASHLAND AMBULANCE SERVICE | 00:00:09 | 00:00:14 | 2 |
| TOWN OF CAIRO AMBULANCE | 00:01:37 | 00:05:24 | 11 |
| TOWN OF CATSKILL AMBULANCE SERVICE | 00:01:36 | 00:06:32 | 43 |
| TOWN OF COXSACKIE AMBULANCE | 00:02:11 | 00:08:49 | 10 |
| TOWN OF DURHAM AMBULANCE INC | 00:00:58 | 00:04:26 | 5 |
| TOWN OF WINDHAM AMBULANCE | 00:01:39 | 00:06:59 | 5 |
| TOTAL | 00:00:52 | 00:04:26 | 267 |

For travel time, the methodology in Figure 11 is used. Figure 13 shows the Travel time performance for 2023.

**Figure 13: 2023 Travel Time Performance by Agency**

| Agency | Travel Interval Average | Travel Interval 90th Percentile | Count |
|---|---|---|---|
| AIR METHODS | 00:06:46 | 00:12:17 | 276 |
| GREENE COUNTY PARAMEDICS | 00:07:30 | 00:12:36 | 2,687 |
| GREENPORT RESCUE | 00:06:53 | 00:16:21 | 9 |
| GREENVILLE RESCUE SQUAD INC | 00:07:52 | 00:13:15 | 132 |
| HUNTER AREA AMBULANCE | 00:08:03 | 00:16:30 | 408 |
| RAVENA RESCUE SQUAD INC | 00:10:23 | 00:18:09 | 77 |
| TOWN OF ASHLAND AMBULANCE SERVICE | 00:09:41 | 00:18:13 | 84 |
| TOWN OF CAIRO AMBULANCE | 00:10:28 | 00:18:02 | 382 |
| TOWN OF CATSKILL AMBULANCE SERVICE | 00:07:50 | 00:14:50 | 2,721 |
| TOWN OF COXSACKIE AMBULANCE | 00:08:23 | 00:15:08 | 352 |
| TOWN OF DURHAM AMBULANCE INC | 00:09:30 | 00:15:36 | 151 |
| TOWN OF WINDHAM AMBULANCE | 00:11:56 | 00:20:43 | 316 |
| TOTAL | 00:08:06 | 00:14:33 | 7,595 |

Figure 14 below shows the Total Response Interval by agency for 2023.

**Figure 14: Total Response Interval by Agency**

| Agency | Total Response Interval Average | Total Response Interval 90th Percentile | Count |
|---|---|---|---|
| AIR METHODS | 00:11:53 | 00:18:12 | 277 |
| GREENE COUNTY PARAMEDICS | 00:12:26 | 00:18:21 | 2,687 |
| GREENPORT RESCUE | 00:13:58 | 00:29:44 | 9 |
| GREENVILLE RESCUE SQUAD INC | 00:14:04 | 00:21:54 | 133 |
| HUNTER AREA AMBULANCE | 00:14:05 | 00:26:17 | 408 |
| RAVENA RESCUE SQUAD INC | 00:19:50 | 00:34:06 | 76 |
| TOWN OF ASHLAND AMBULANCE SERVICE | 00:20:01 | 00:30:07 | 83 |
| TOWN OF CAIRO AMBULANCE | 00:16:35 | 00:26:19 | 384 |
| TOWN OF CATSKILL AMBULANCE SERVICE | 00:12:44 | 00:20:33 | 2,742 |
| TOWN OF COXSACKIE AMBULANCE | 00:14:52 | 00:23:22 | 357 |
| TOWN OF DURHAM AMBULANCE INC | 00:16:27 | 00:28:03 | 151 |
| TOWN OF WINDHAM AMBULANCE | 00:17:08 | 00:26:49 | 321 |
| TOTAL | 00:13:24 | 00:20:59 | 7,628 |

Reviewing the commensurate risk mapping and the CFAI standards below in Figure 15 allowed FITCH to determine that Greene County is classified as Rural. This is based on Greene County having 658 square miles and a population of 47,931, equating to 73 people per square mile. The only area that falls in the Suburban designation is the Town of Catskill as its population exceeds ten thousand. This helps determine appropriate response time expectations for each area of the County.

**Figure 15 - CFAI Response Times Baseline**

| | | | |
|---|---|---|---|
| **Metropolitan** — an incorporated or unincorporated area with a population of over 200,000 people and/or a population density of over 3,000 people per square mile. | | | |
| **Metropolitan** | **1st Unit** | **2nd Unit** | **Effective Response Force** |
| **Benchmark** | 4 minutes | 8 minutes | 8 minutes |
| **Baseline** | 5:12 minutes | 10:24 minutes | 10:24 minutes |
| **Urban** — an incorporated or unincorporated area with a population of over 30,000 people and/or a population density of over 2,000 people per square mile. | | | |
| **Urban** | **1st Unit** | **2nd Unit** | **Effective Response Force** |
| **Benchmark** | 4 minutes | 8 minutes | 8 minutes |
| **Baseline** | 5:12 minutes | 10:24 minutes | 10:24 minutes |
| **Suburban** — an incorporated or unincorporated area with a population of 10,000 to 29,999 and/or any area with a population density of 1,000 to 2,000 people per square mile. | | | |
| **Suburban** | **1st Unit** | **2nd Unit** | **Effective Response Force** |
| **Benchmark** | 4 minutes | 8 minutes | 10 minutes |
| **Baseline** | 5:12 minutes | 10:24 minutes | 13 minutes |
| **Rural** — an incorporated or unincorporated area with a total population of fewer than 10,000 people or with a population density of fewer than 1,000 people per square mile. | | | |
| **Rural** | **1st Unit** | **2nd Unit** | **Effective Response Force** |
| **Benchmark** | 10 minutes | 14 minutes | 14 minutes |
| **Baseline** | 13 minutes | 18:12 minutes | 18:12 minutes |
| **Wilderness** — any rural area not readily accessible by public or private maintained road. Due to the large disparity between communities that protect wilderness areas, recommended travel times are not provided for this level of service. | | | |

None of the EMS agencies located in Greene County meet the baseline CFAI performance standard of 18:12 minutes at the 90th percentile for rural population areas. The data also does not account for additional call processing time for the Village of Catskill, as all 911 EMS calls must be transferred by that village PSAP to GCEMS dispatch. FITCH recommends that all EMS agencies evaluate their turnout time and determine methods to improve on these times.

## STAFFING TO DEMAND

To create response times that will better serve Greene County, FITCH created a community baseline response for which all EMS agencies should be held accountable. The response times are based on standards from the 9th edition of *The Commission on Fire Accreditation*

*International (CFAI) Guidelines* and a review of historical risk. Response time standards are for the 90th percentile.

Figure 16 illustrates the current budgeted system deployment by Region and EMS agency. This deployment allows for nine transport ambulances 24/7. One additional ambulance is staffed during peak day hours by Catskill. In addition to ambulance deployment, the County contracts with Greene County Emergency Medical Services Inc. to deploy five Paramedic fly cars 24/7 to provide Paramedic ALS services when requested.

**Figure 16: Budgeted System Deployment by Agency**

| REGION | 24 Hour BLS | 24 Hour ALS | POD BLS | POD ALS |
|---|---|---|---|---|
| **MOUNTAIN** | **2** | **1** | **0** | **0** |
| Town of Ashland | 1 | | | |
| Town of Hunter | 1 | | | |
| Town of Windham | | 1 | | |
| **RIVER** | **1** | **2** | **0** | **1** |
| Town of Catskill | | 2 | | 1 |
| Town of Coxsackie | 1 | | | |
| **VALLEY** | **3** | **0** | **0** | **0** |
| Town of Cairo | 1 | | | |
| Town of Durham | 1 | | | |
| Town of Greenville | 1 | | | |
| **TOTAL DEPLOYMENT** | **6** | **3** | **0** | **1** |

To service 911 emergency volume, geographic coverage plus normalized hourly demand provides the total number of staffed ambulances required per hour. The following figures indicate the predicted staffing demand for all EMS units in Greene County. The figures read left to right, Sunday to Saturday, reviewing each hour's average demand and then normalized for the estimated time on task for the County.

Volume was determined using the most recent 52 weeks. The light blue area indicates how many units are required per the marginal resources necessary to capture the prescribed geographic response time. The bar lines indicate the average hourly demand and change colors depending on whether the current staffing line (red) is above or below the dark blue geographic plus the average demand line. If the staffing line is above the dark blue line and there is "space"

between the lines, it indicates capacity within the system. If the staffing line falls below the geographic plus demand line (dark blue), this suggests that there are not enough resources during that hour, and the bar lines will change colors.

Though the County is classified as rural according to CFAI standards, FITCH utilized a range of drive time models to evaluate possible future system designs. FITCH developed four separate models for comparison:

1. Regional deployment is optimized for station-based deployment for a 10-minute drive time in the River Region and a 15-minute drive time in the Valley and Mountain Regions.

2. Complete system deployment optimized for station-based deployment for 10-minute drive time in the River Region and 15-minute drive time in the Valley and Mountain Regions.

3. Regional deployment is optimized for station-based deployment for a 10-minute drive time in the River Region and a 20-minute drive time in the Valley and Mountain Regions.

4. Complete system deployment optimized for station-based deployment for a 10-minute drive time in the River Region and a 20-minute drive time in the Valley and Mountain Regions.

The models presented are specifically designed for deployment at fixed stations and rely on the correct application of system status management strategies. They aim to identify the best deployment strategies to meet targeted travel times, but they may not align with the existing locations of resources. Each model includes a marginal utility analysis that illustrates the percentage of historical volume each station can cover and the increase in coverage percentage for each additional deployment location added.

In many cases, it's advisable to leverage some currently available facilities instead of relocating resources entirely, even though this may result in longer travel times. FITCH can model such scenarios and options as needed to ensure that balance is achieved. Furthermore, these models aim for performance at the 90th percentile in all responses, ensuring predictability and fairness.

Once the historical incident locations are adequately covered, we consider the resources needed to manage the actual number of responses for those areas. In less dense regions, this

may only be one ambulance, while in more dense areas, multiple resources are typically needed, often including peak-of-day units for especially busy times. Illustrative Staffing vs. Demand graphs have been provided for each model.

**REGIONAL DEPLOYMENT OPTIMIZED FOR A 10-MINUTE DRIVE TIME IN THE RIVER REGION 15-MINUTE DRIVE TIME IN THE VALLEY AND MOUNTAIN REGIONS**

The FITCH-optimized model, shown in the Figures below, achieved a 98.01% total historical volume capture for the Catskill area within a 10-minute drive from 3 geographic locations. Adding a third geographic location, this model also captured 95.48% of the remaining historical volume with a 15-minute drive time in the River Region. Three ambulances would be needed for 24/7 coverage to meet the temporal volume demand, with an additional 12-hour ambulance for four during peak times.

**Figure 17: River Region – 10-Minute Catskill / 15-Minute Other Drive Time**

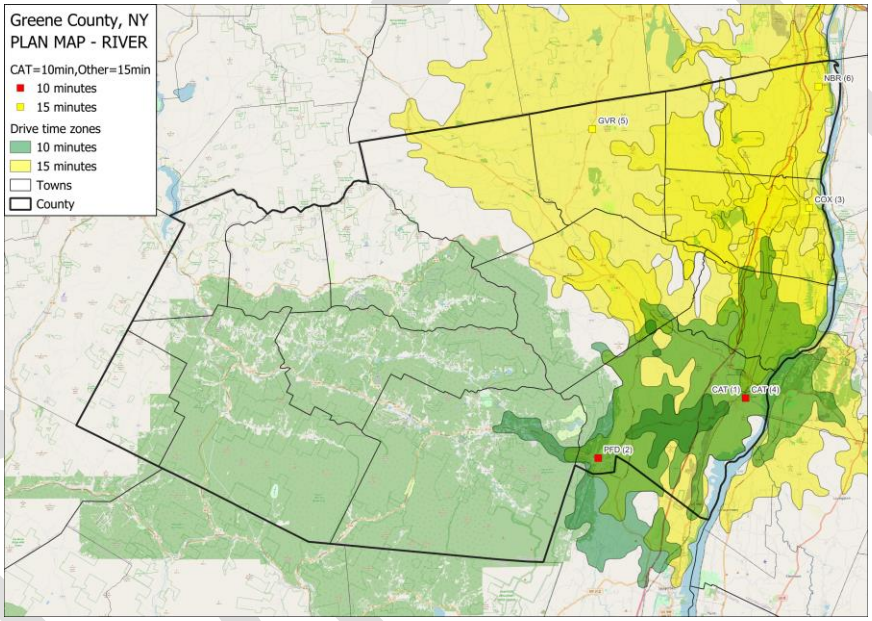



**Figure 18: River Region – Temporal Staffing to Demand**

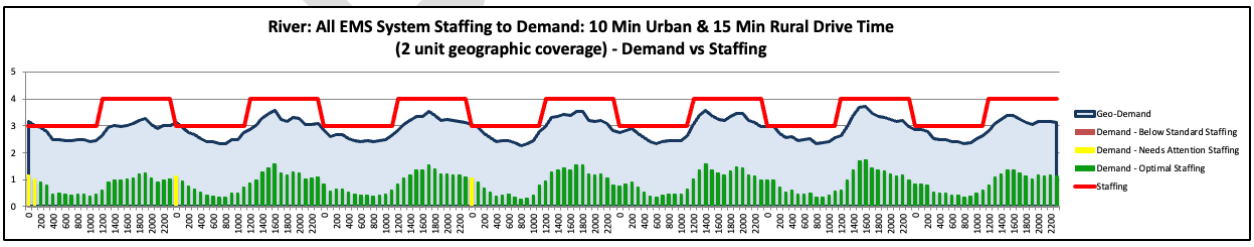


**Figure 19: River Region – Marginal Utility Analysis**

| Rank | Post Number | Drive Time | Latitude | Longitude | Post Capture | Total Capture | Percent Capture |
|---|---|---|---|---|---|---|---|
| 1 | CAT | 10 | 42.216708 | -73.872253 | 558 | 558 | 85.32% |
| 2 | PFD | 10 | 42.173855 | -74.019352 | 83 | 641 | 98.01% |
| 3 | COX | 15 | 42.355911 | -73.806547 | 2196 | 2196 | 95.48% |

The FITCH-optimized model, shown in the Figures below, achieved a 94.80% total historical volume capture for the Valley Region within a 15-minute drive from 1 geographic location. Two ambulances would be needed for 24/7 coverage to meet the demand for temporal volume.

**Figure 20: Valley Region - 15 Minute Drive Time**

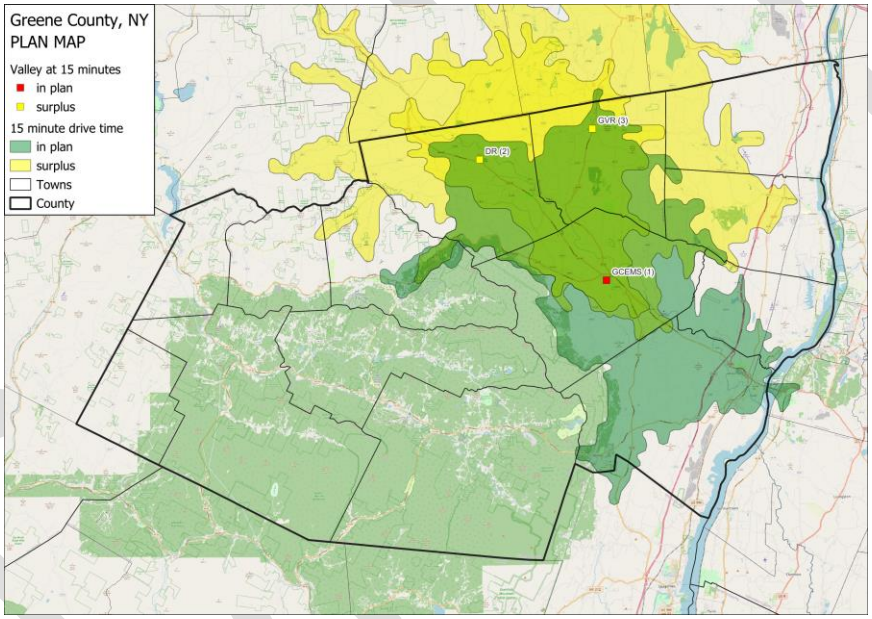



**Figure 21: Valley Region – Temporal Staffing to Demand**

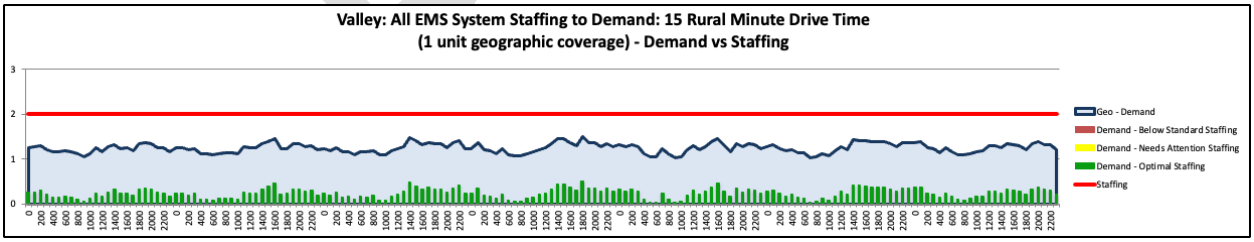


**Figure 22: Valley Region – Marginal Utility Analysis**

| Rank | Post Number | Drive Time | Latitude | Longitude | Post Capture | Total Capture | Percent Capture |
|---|---|---|---|---|---|---|---|
| 1 | GCEMS | 15 | 42.304001 | -74.009186 | 2060 | 2060 | 94.80% |

The FITCH-optimized model, shown in the Figures below, achieved a 92.79% total historical volume capture for the Mountain Region within a 15-minute drive from 2 geographic locations. Three ambulances would be needed for 24/7 coverage to meet the temporal volume demand

**Figure 23: Mountain Region - 15 Minute Drive Time**

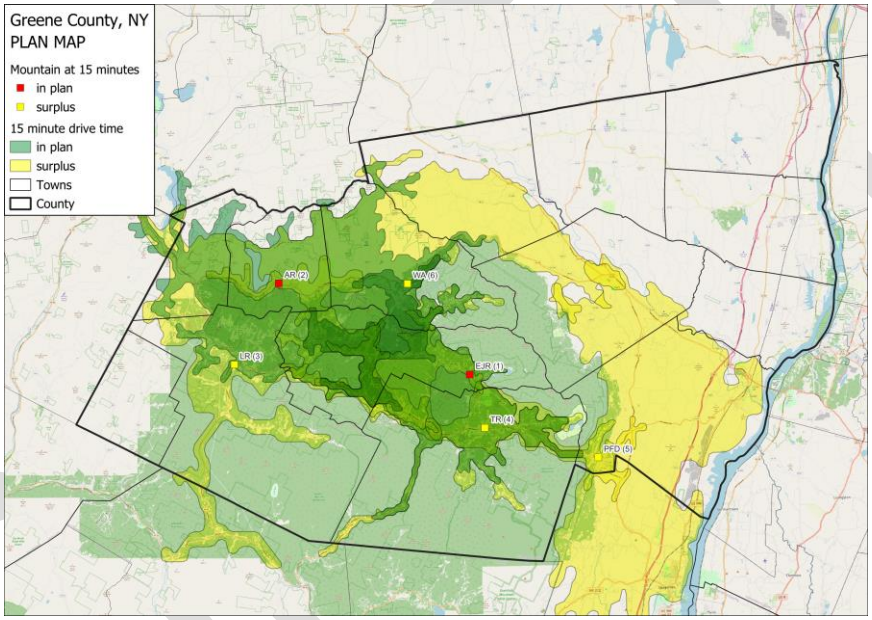



**Figure 24: Mountain Region – Temporal Staffing to Demand**

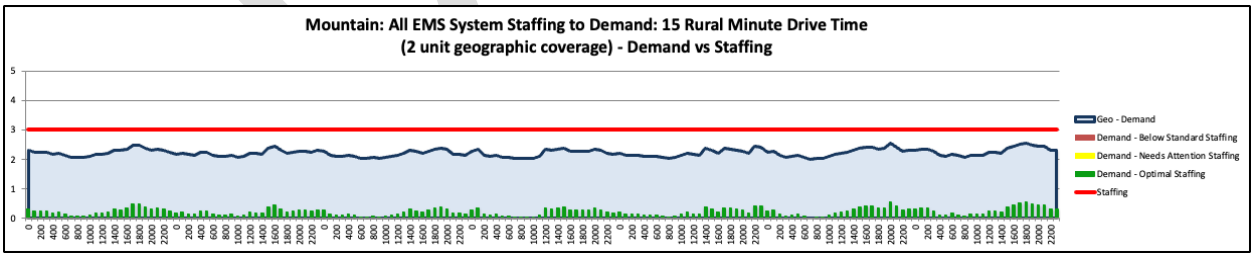


**Figure 25: Maintain Region – Marginal Utility Analysis**

| Rank | Post Number | Drive Time | Latitude | Longitude | Post Capture | Total Capture | Percent Capture |
|---|---|---|---|---|---|---|---|
| 1 | EJR | 15 | 42.235883 | -74.146064 | 614 | 614 | 57.49% |
| 2 | AR | 15 | 42.304429 | -74.335193 | 377 | 991 | 92.79% |

**COMPLETE SYSTEM DEPLOYMENT OPTIMIZED FOR 10-MINUTE DRIVE TIME IN THE RIVER REGION, 15-MINUTE DRIVE TIME IN THE VALLEY AND MOUNTAIN REGIONS**

The FITCH-optimized model, shown in the Figures below, achieved a 98.01% total historical volume capture for the Catskill area within a 10-minute drive from 2 geographic locations. Adding four additional geographic locations, this model also captured 93.21% of the remaining historical volume with a 15-minute drive time in the Valley and Mountain Regions. Eight ambulances would be needed for 24/7 coverage to meet the temporal volume demand, with an additional 12-hour ambulance for nine during peak times.

**Figure 26: 10-Minute River / 15-Minute Valley and Mountain Drive Time**

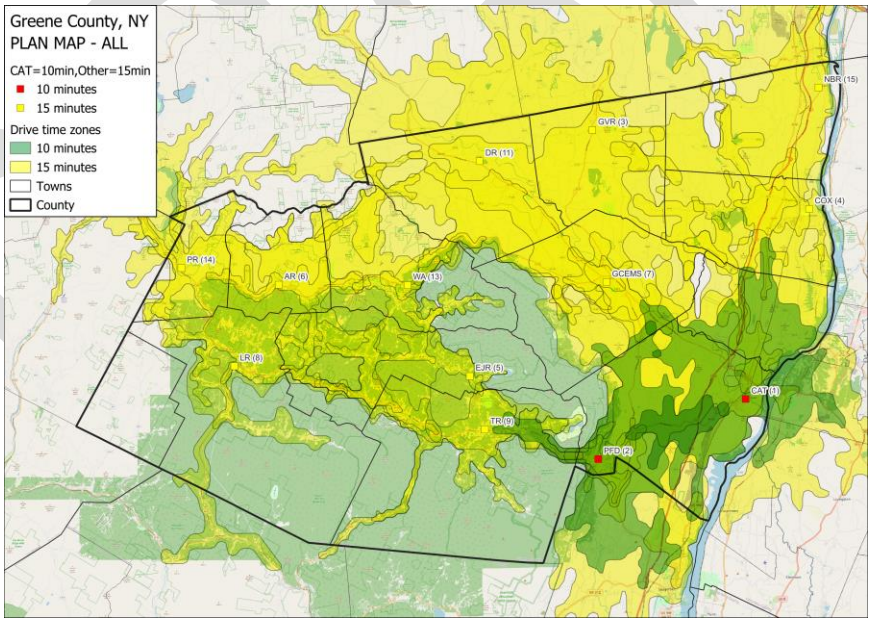


**Figure 27 System – Temporal Staffing to Demand**

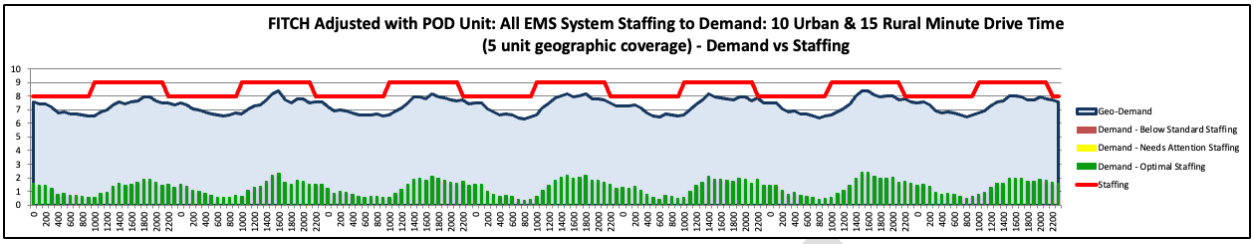



**Figure 28: System – Marginal Utility Analysis**

| Rank | Post Number | Drive Time | Latitude | Longitude | Post Capture | Total Capture | Percent Capture |
|---|---|---|---|---|---|---|---|
| 1 | CAT | 10 | 42.216708 | -73.872253 | 558 | 558 | 85.32% |
| 2 | PFD | 10 | 42.173855 | -74.019352 | 83 | 641 | 98.01% |
| 3 | GVR | 15 | 42.415991 | -74.021428 | 2823 | 2823 | 51.22% |
| 4 | COX | 15 | 42.355911 | -73.806547 | 1315 | 4138 | 75.09% |
| 5 | EJR | 15 | 42.235883 | -74.146064 | 614 | 4752 | 86.23% |
| 6 | AR | 15 | 42.304429 | -74.335193 | 385 | 5137 | 93.21% |

**REGIONAL DEPLOYMENT OPTIMIZED FOR A 10-MINUTE DRIVE TIME IN THE RIVER REGION AND A 20-MINUTE DRIVE TIME IN THE VALLEY AND MOUNTAIN REGIONS.**

The FITCH-optimized model, shown in the Figures below, achieved a 98.01% total historical volume capture for the Catskill area within a 10-minute drive from 2 geographic locations. Adding a third geographic location, this model also captured 100% of the remaining historical volume with a 20-minute drive time in the River Region. Three ambulances would be needed for 24/7 coverage to meet the temporal volume demand, with an additional 12-hour ambulance for four during peak times.

**Figure 29: River Region – 10-Minute Catskill / 20-Minute Other Drive Time**

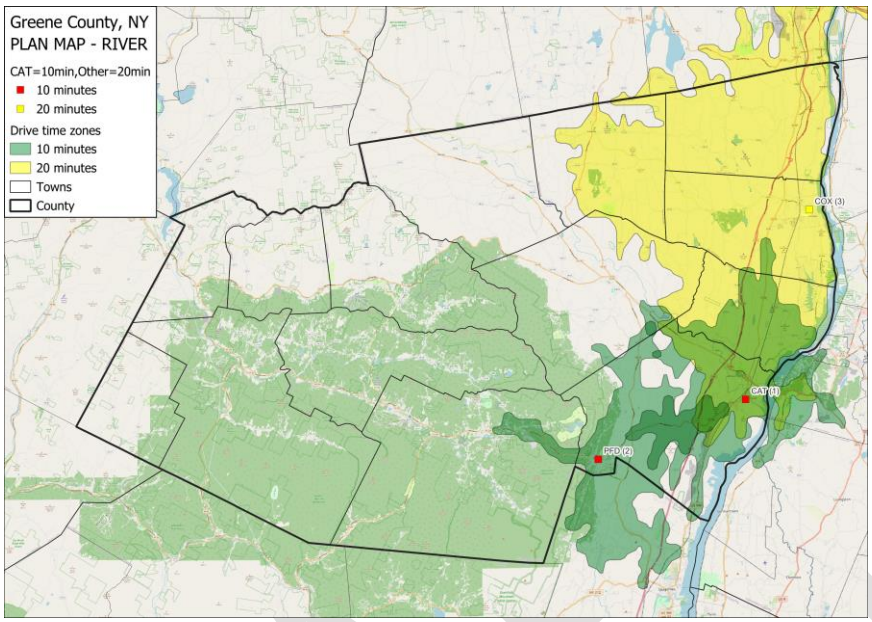



**Figure 30: River Region – Temporal Staffing to Demand**

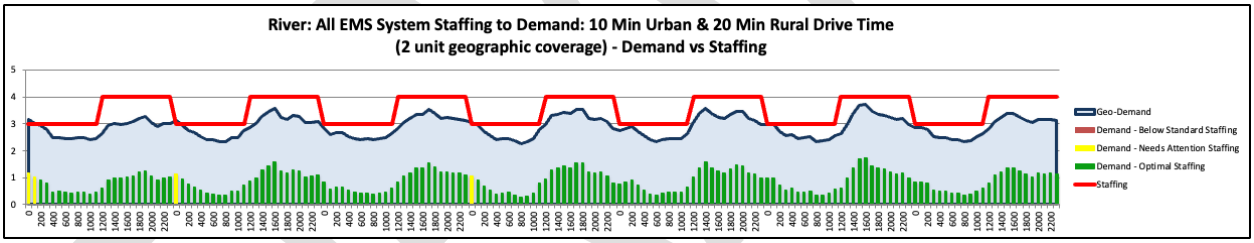



**Figure 31: River Region – Marginal Utility Analysis**

| Rank | Post Number | Drive Time | Latitude | Longitude | Post Capture | Total Capture | Percent Capture |
|---|---|---|---|---|---|---|---|
| 1 | CAT | 10 | 42.216708 | -73.872253 | 558 | 558 | 85.32% |
| 2 | PFD | 10 | 42.173855 | -74.019352 | 83 | 641 | 98.01% |
| 3 | COX | 20 | 42.355911 | -73.806547 | 2300 | 2300 | 100.00% |

The FITCH-optimized model, shown in the Figures below, achieved a 99.86% total historical volume capture for the Valley Region within a 20-minute drive from 1 geographic location. Two ambulances would be needed for 24/7 coverage to meet the demand for temporal volume.

**Figure 32: Valley Region - 20 Minute Drive Time**

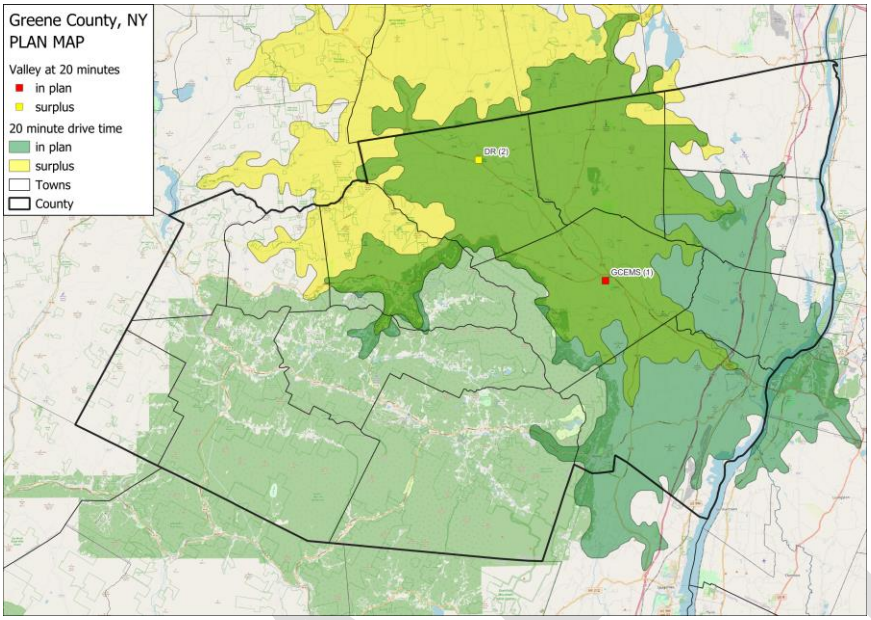



**Figure 33: Valley Region – Temporal Staffing to Demand**

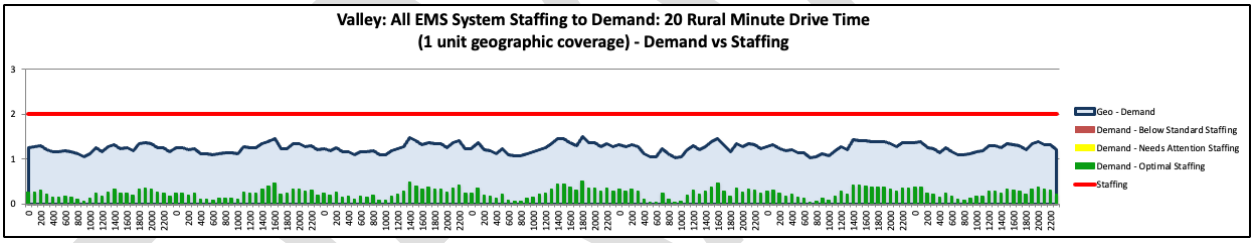



**Figure 34: Valley Region – Marginal Utility Analysis**

| Rank | Post Number | Drive Time | Latitude | Longitude | Post Capture | Total Capture | Percent Capture |
|---|---|---|---|---|---|---|---|
| 1 | GCEMS | 20 | 42.304001 | -74.009186 | 2170 | 2170 | 99.86% |

The FITCH-optimized model, shown in the Figures below, achieved a 99.06% total historical volume capture for the Mountain Region within a 20-minute drive from 2 geographic locations. Three ambulances would be needed for 24/7 coverage to meet the demand for temporal volume.

**Figure 35: Mountain Region - 20 Minute Drive Time**

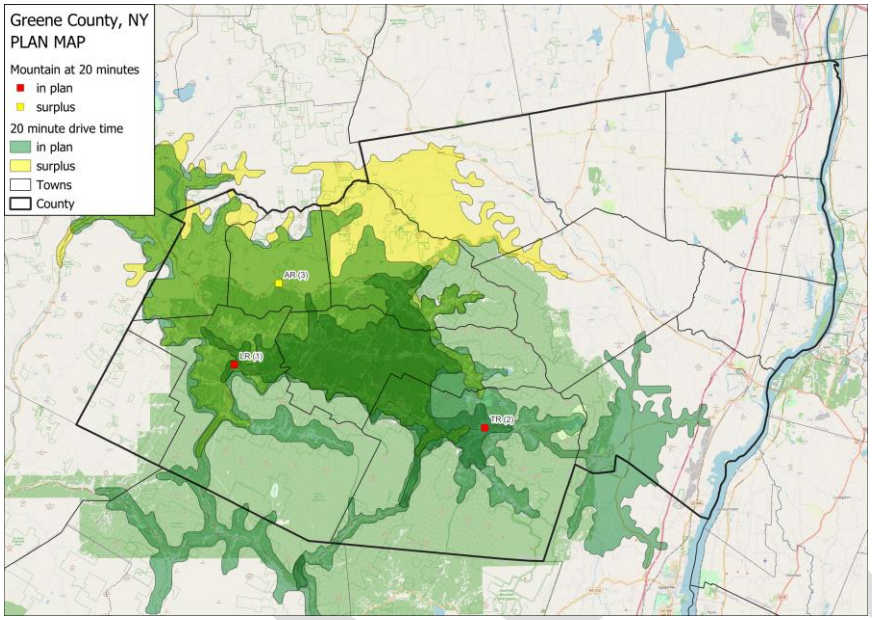



**Figure 36: Mountain Region – Temporal Staffing to Demand**

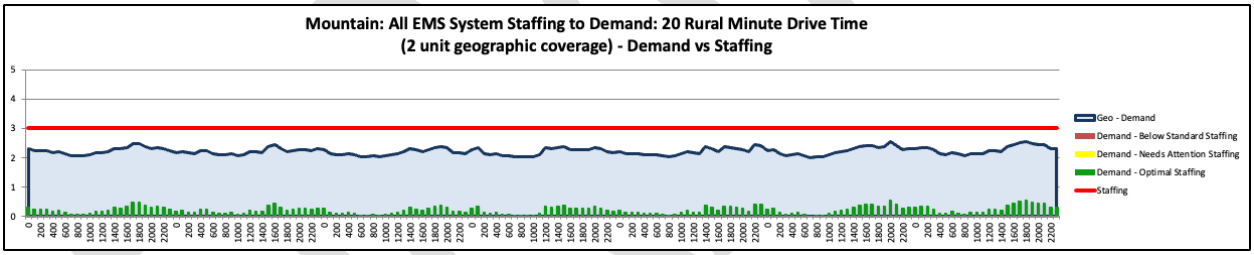



**Figure 37: Mountain Region – Marginal Utility Analysis**

| Rank | Post Number | Drive Time | Latitude | Longitude | Post Capture | Total Capture | Percent Capture |
|---|---|---|---|---|---|---|---|
| 1 | LR | 20 | 42.244689 | -74.379925 | 898 | 898 | 84.08% |
| 2 | TR | 20 | 42.1965 | -74.13159 | 160 | 1058 | 99.06% |

**COMPLETE SYSTEM DEPLOYMENT OPTIMIZED FOR 10-MINUTE DRIVE TIME RIVER REGION, 20-MINUTE DRIVE TIME IN THE VALLEY AND MOUNTAIN REGIONS**

The FITCH-optimized model, shown in the Figures below, achieved a 98.01% total historical volume capture for the Catskill area within a 10-minute drive from 2 geographic locations. Adding three additional geographic locations, this model also captured 96.57% of the remaining historical volume with a 20-minute drive time in the Valley and Mountain Regions. Seven ambulances would be needed for 24/7 coverage to meet the temporal volume demand, with an additional 12-hour ambulance for eight during peak times.

**Figure 38: 10-Minute River / 20-Minute Valley and Mountain Drive Time**

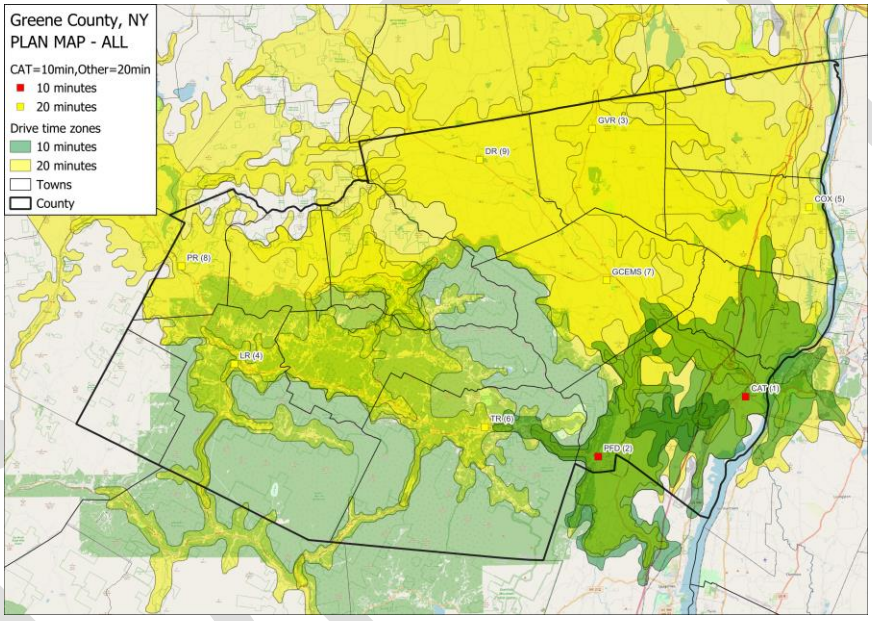



**Figure 39: System – Temporal Staffing to Demand**

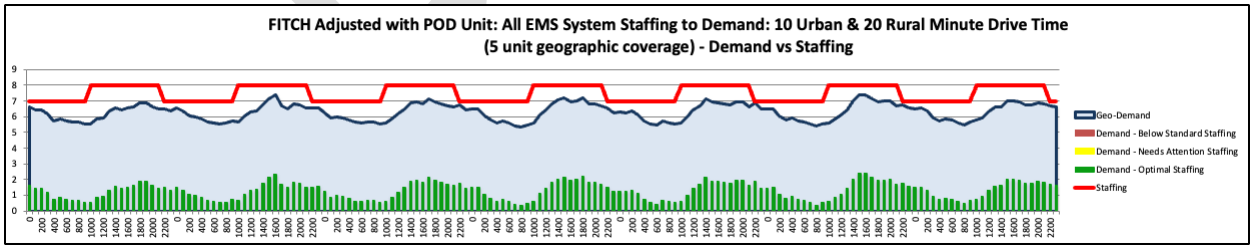


**Figure 40: System – Marginal Utility Analysis**

| Rank | Post Number | Drive Time | Latitude | Longitude | Post Capture | Total Capture | Percent Capture |
|---|---|---|---|---|---|---|---|
| 1 | CAT | 10 | 42.216708 | -73.872253 | 558 | 558 | 85.32% |
| 2 | PFD | 10 | 42.173855 | -74.019352 | 83 | 641 | 98.01% |
| 3 | GVR | 20 | 42.415991 | -74.021428 | 3888 | 3888 | 70.16% |
| 4 | LR | 20 | 42.244689 | -74.379925 | 898 | 4786 | 86.36% |
| 5 | COX | 20 | 42.355911 | -73.806547 | 566 | 5352 | 96.57% |

**MEDICAL FIRST RESPONSE**

It's important to have a plan for providing immediate medical attention to the most urgent cases. The best practice is to ensure that well-trained first responders are deployed to calls, at least at the Echo level. These calls are the most critical because they often require life-saving intervention. However, it's essential to recognize that providing this level of training and response will come with associated costs and increased workload for first responder agencies.

# Pathway Forward

FITCH aims to present Greene County and the EMS organizations within it, options for increased sustainability and longevity. FITCH has developed four options that can be selected singularly, organically, or in total to provide a pathway for the future of EMS in Greene County.

**OPTION ZERO – SUPPORT STATUS QUO**

In this Option, EMS agencies would continue operating as they currently do. Response efforts will remain semi-coordinated and suboptimal. At any given time, sick or injured persons may not receive the needed or deserved emergency medical care in a clinically timely manner. There are concerns that local EMS agencies may fail due to economic pressures.

Actions that the County can take to further support the status quo are outlined below.

1. Create a purchasing consortium for all medical supplies and a universal ambulance and responder vehicle specification to create economies of scale for purchasing.
2. All "status" changes and unit "mark-ups" with the 911 dispatch center must be accurately documented 100% of the time. This practice will provide accurate data for performance reporting and cost control metrics.
3. Expand the medical first response program by having Fire Departments dispatched, at a minimum, on all Echo level calls.
4. Continue to fund Paramedic Fly Car services.

**OPTION 1 – STRONGER SYSTEM COORDINATION**

In this option, Greene County would take steps to increase and strengthen overall system coordination. Under this model, individual EMS agencies would continue to exist and provide services.

In addition to the recommendations in Option Zero, further actions that the County can take to ensure stronger system coordination include:

5. Execute a dispatch agreement with all EMS agencies receiving services through GCEMS Dispatch. This agreement should outline what EMS agencies are required to provide in exchange for dispatching services.

6. Require all ambulances to provide real-time AVL data to GCEMS dispatch. This would allow the dispatcher to monitor ambulance locations in real-time. The dispatcher can then coordinate unit locations and responses to optimize the current system on a minute-to-minute basis.

7. Purchase a software system for performance monitoring in dispatch, such as FirstWatch our use Microsoft Power BI like tool.[2]

8. Require all EMS agencies to utilize a common ePCR platform. Using a common ePCR, clinical and quality assurance data can be tracked and trended to ensure minimum standards of care are achieved. This service could be provided by the County or obtained through the established group purchasing consortium.

9. Hire a System Medical Director and require all agencies to utilize their services.

10. Establish a County EMS Education Committee to develop continuing education and initial education solutions for all county EMS agencies. Ideally, this should be led by the County EMS Coordinator.

11. Contractually ensure that each agency reports financial performance annually to the County, including billing charge master, salary and hourly rates by position, and expenses. This could be tied to the agreement to provide dispatching services through GCEMS Dispatch.

**OPTION 2 – ESTABLISH A SINGLE PROVIDER SYSTEM WITH COORDINATED DISTRICTS**

This proposed strategy outlines a significant improvement opportunity considering geographical constraints and local expectations. It involves the establishment of separate EMS districts. Each district would concentrate on improving services within its area while enabling cost savings through efficient staffing and collective purchasing. This approach promotes

[2] https://firstwatch.net/

system-wide improvement with increased levels of coordination while providing system support through a single provider.

Under this plan, the County would create a unified EMS agency, either managed by the County itself or a private organization governed by a board that reports to the County. This agency would provide EMS services to any municipalities within the County as needed and create a minimum staffing and response time level for the County. The goal is to establish a centralized entity responsible for overseeing operations, clinical performance, and medical directives, ensuring a minimum level of performance across the county. This approach would require the County to either obtain a countywide municipal CON or contract with a private entity with such a CON. The single entity would work with any agency that continues to operate its CON independently and would be a safety net to ensure citizens have a minimum and equitable response time based on population density, road networks, and funding.

Considering the geographic and demographic makeup of Greene County, it is recommended that three distinct EMS districts be established: Mountain, Valley, and River districts. While these districts will operate independently, they will coordinate and provide mutual aid to each other as required. The single provider will then strategically position resources to provide coverage in the areas of need and also maintain minimum performance thresholds. While offering several benefits of a unified system, this model will result in higher costs.

Additional near-term actions the County should take to support Option Two include:

1. Execute a dispatch agreement with all EMS agencies receiving services through GCEMS Dispatch. This agreement should outline what EMS agencies are required to provide in exchange for dispatching services.

2. Require all ambulances to provide real-time AVL data to GCEMS dispatch. This would allow the dispatcher to monitor ambulance locations in real-time. The dispatcher can then coordinate unit locations and responses to optimize the current system on a minute-to-minute basis.

3. All “status” changes and unit “mark-ups” with the 911 dispatch center must be accurately documented 100% of the time. This practice will provide accurate data for performance reporting and cost control metrics.

4. Purchase a software system for performance monitoring in dispatch, such as FirstWatch our use Microsoft Power BI like tool.[3]

5. Expand the medical first response program by having Fire Departments dispatched, at a minimum, to all Echo level calls.

6. Continue to fund Paramedic Fly Car services as needed.

**OPTION 3 – ESTABLISH A SINGLE PROVIDER UNIFIED COUNTY SYSTEM**

Over time, a single-provider system may evolve out of necessity. The County should think strategically about ensuring a safety net before this occurs. The EMS landscape is dramatically changing as reimbursement is not rising at the same rates as the Consumer Price Index (CPI). Furthermore, and rightfully so, frontline provider salaries have been increasing. In the case of Greene County, without an increase in volume to improve the system's financials, taxpayers will need to provide funding. Any economic downturn could affect the ability of communities in the County to sustain EMS without significant financial assistance.

As is evident, there is concern for the future of Greene County's EMS system. Without active intervention, a natural progression will likely occur whereby either one or more agencies cannot meet the demand for service. The collapse of just one EMS unit can dramatically change the already strained EMS system and negatively alter coverage. The loss of volunteer entities is a natural progression occurring around the country, and a single provider system will become the likely option for implementation.

The current economic landscape also causes concern for the future of the system. The shortage of EMS providers is expected to persist for many years. The economics of supply and demand are driving up provider wages. This, combined with increased pressure on revenues, is causing once robust, profitable systems to fail. The cost to maintain the status quo will be enormous without deliberate and aggressive innovation and change.

To guarantee the proper utilization of taxpayer funds and the provision of a safety net, the County should explore establishing its own ambulance resources or collaborating with an

[3] https://firstwatch.net/

existing agency or private entity to develop a County EMS system. For this to occur, the County would need to obtain a countywide municipal CON or collaborate with an agency already having one. In the long term, a single-provider system provides the alternative to reduce costs, maintain high clinical standards, economies of scale, and achieve sustainability.

As in Option 2, it is recommended that three distinct EMS districts be established: Mountain, Valley, and River districts. While these districts will operate independently, they will coordinate and provide mutual aid to each other as required. The single provider will strategically position resources to cover all county areas to maintain minimum performance thresholds. Municipalities can choose to have their existing EMS agencies continue to provide service or have the new County provider assume service responsibilities. Ultimately, a single-provider system offers the most affordable and sustainable option for maintaining acceptable system performance.

**Near-term actions required for Option 3:**

1. Obtain a countywide municipal CON or contract with a private agency to provide countywide ALS Ambulance services instead of ALS Fly Car Services.

2. Provide ALS ambulance services to those municipalities that desire them at no cost, allowing them to reallocate local subsidies back to the taxpayer or other needed initiatives.

3. Execute a dispatch agreement with all EMS agencies receiving services through GCEMS Dispatch. This agreement should outline what EMS agencies are required to provide in exchange for dispatching services.

4. Ensure all ambulances provide real-time AVL data to GCEMS dispatch. This would allow the dispatcher to monitor ambulance locations in real-time. The dispatcher can then coordinate unit locations and responses to optimize the current system on a minute-to-minute basis.

5. All “status” changes and unit “mark-ups” with the 911 dispatch center must be accurately documented 100% of the time. This practice will provide accurate data for performance reporting and cost control metrics.

6. Purchase a software system for performance monitoring in dispatch, such as FirstWatch our use Microsoft Power BI like tool.[4]

7. Expand the medical first response program by having Fire Departments dispatched, at a minimum, to all Echo level calls.

Long-term considerations:

Transitioning to a unified county system with a single provider comes with several important long-term considerations:

8. Contract Negotiations: It's crucial to negotiate contracts with areas as they join the system, setting clear expectations from the outset.

9. Asset and Facility Transfer: There will be a need to transfer and finance assets and facilities that the new agency will assume.

10. Staff Integration: Providers and other staff members will need to be transitioned into the new agency.

11. Capital Replacement Plan: An actively funded and managed capital replacement plan is necessary to maintain and upgrade infrastructure.



[4] https://firstwatch.net/

# System Finances

**BACKGROUND AND METHODOLOGY**

FITCH completed a financial review of the 911 emergency transport system. The firm's strategy was to understand the system's value. Estimating the potential value will allow the County to evaluate the following:

- Financial health and system sustainability.
- Taxpayer burdens for now or in the future.
- How can the County alter response expectations and system structure to limit potential taxpayer burdens and improve sustainability.

As part of the Information Data Report (IDR), FITCH requested data from the County's current EMS providers. Seven agencies provided varying degrees of Income Statements and Revenue Cycle Reports. FITCH obtained some information through publicly available reports. The most accurate and reliable financial reports for 2024 were provided by the Greene County Real Property Tax Service. The County provided Computer-Aided Dispatch (CAD) data. Once the data was received, the FITCH team evaluated the information. With the data provided, FITCH used a blend of the provided EMS data and FITCH's experience in system design to develop a system finance model to project the system's financial health.

**REVENUE COLLECTIONS**

Revenue performance predictions were based on several factors, including the agencies that provided their financials, agencies' online 990's, and FITCH's experience operating similar-sized systems. The predictive information is an estimation based on a 12-month annualization of the data. The data analysis and revenue estimates are based on the following:

- Estimate of the current system service level mix extrapolated from fly car response volume and MDPS dispatch priority volumes.

- Estimate of average mileage extrapolated from average heat map densities to known destinations.
- The payor mix was calculated from agencies that provided data and FITCH's experience in similar systems.
- Medicare and Medicaid Fee Schedule rates for the service area.
- Payor performance was surmised from the information provided.
- FITCH recommended charge master of 300% of the current Medicare Fee Schedule rates.

**TRANSPORT VOLUME & PERCENTAGE**

FITCH reviewed the total responses for the entire County to determine the future income for the provided deployment models presented. We evaluated 2019-2023 for the County as a whole from the CAD data provided. This was the most complete data set available. We assumed a 2% increase in 911 responses.

**PAYOR & SERVICE MIX AND TRENDS**

Payor mix and service mix are essential elements in the evaluation of future opportunities, as well as challenges. FITCH could not validate this data in its entirety since not all the EMS entities provided complete financial information.

Based on the information that FITCH received, we could extrapolate an average payor mix. We then made some adjustments based on our prior experience with similar systems. Similarly, we had very limited billed service level data for the EMS agencies in the county. Service levels were extrapolated from Paramedic Fly Car response rates and MPDS dispatch determinate codes. Again, we made adjustments based on our prior experience with similar systems. This provided a clearer understanding of the level of service provided, ultimately offering a guide for financial modeling and estimating the total revenue available within the system.

**ESTIMATED REVENUE PER TRANSPORT**

FITCH's review of the data provided determined that the estimated revenue per transport rate for 911 transports was approximately $664.49. FITCH then estimated the total income that would be collected for all deployment models discussed.

**BILLING FOR SERVICE**

Currently, each EMS agency is either billing for the services it provides in-house or utilizing an outside professional billing service. Future system models include utilizing one outside professional billing service for the system as a whole. This will allow for some economies of scale and cost savings. It will also allow for better financial reporting and standardization.

**SYSTEM SUBSIDIES**

Currently, the EMS system for Greene County is subsidized by taxpayers in two primary ways. EMS agencies receive subsidies directly from the municipalities they serve, and services are subsidized by the County.

Greene County subsidizes the system in some very significant ways. First, the County contracts with Greene County Emergency Medical Services Inc. to provide Paramedic fly car services. In 2023, Greene County paid $1.925 million for these services. This subsidy is expected to grow to $2.182 million in 2024. Secondly, Greene County provides dispatching services through the GCEMS dispatch center at no cost to the agency. The county also supports the system through scholarships for EMT students and employing a County EMS Coordinator.

The municipal subsidies are expected to continue to rise, given the current economic pressures and realities facing EMS systems everywhere. Without this financial support, the system would crumble, and none of the EMS agencies would be able to function today.

**FINANCIAL SUSTAINABILITY**

To determine the system's sustainability, FITCH modeled out four options, including:

- Option 0 – Maintain the status quo.

- Option 1 – Stronger coordination of the current system.
- Option 2 – Establish a single provider system with coordinated districts.
- Option 3 – Establish a single provider unified county system.

The figure below provides a financial roll-up of all four options. As can be seen, the system will continue to require significant subsidies to achieve the desired response time levels. Options 2 and 3 were subdivided to estimate the impact of the single provider agency being the County or a privately contracted entity. It should be noted that models 2 and 3 consider that the agency will obtain new vehicles, equipment, and significantly increased salaries for personnel. Accurate depreciation data was not provided for the current system, requiring a comparison at the EBIDA[5]. Estimated depreciation for Options 2 and 3 are provided in the full financial report in Appendix B. Option 3 is the most cost-efficient and effective system design, as illustrated below.

**Figure 41: Financial Summary for Future Options**

| | Option 0 2024 Bugeted | Option 1 | Option 2A County | Option 2b Contracted | Option 3a County | Option 3b Contracted |
|---|---|---|---|---|---|---|
| Transport Revenues | $ 3,484,312 | $ 3,666,845 | $ 3,666,845 | $ 3,666,845 | $ 3,666,845 | $ 3,666,845 |
| Other Revenues | $ 363,100 | $ - | $ - | $ - | $ - | $ - |
| **Total Revenue** | **$ 3,847,412** | **$ 3,666,845** | **$ 3,666,845** | **$ 3,666,845** | **$ 3,666,845** | **$ 3,666,845** |
| | | | | | | |
| Direct Labor | | $ - | $ 10,183,548 | $ 9,115,193 | $ 8,850,843 | $ 7,933,758 |
| Direct Material | | $ 140,000 | $ 757,883 | $ 757,883 | $ 715,383 | $ 715,383 |
| Overhead | | $ 35,000 | $ 1,489,061 | $ 1,476,101 | $ 1,300,561 | $ 1,300,561 |
| | | | | | | |
| **Total Operating Expense** | **$ 10,192,800** | **$ 10,693,970** | **$ 12,430,491** | **$ 11,349,177** | **$ 10,866,786** | **$ 9,949,702** |
| | | | | | | |
| ***EBIDA*** | ***$ (6,345,388)*** | ***$ (7,027,125)*** | ***$ (8,763,647)*** | ***$ (7,682,332)*** | ***$ (7,199,941)*** | ***$ (6,282,857)*** |

## FUTURE COST CONTROLS

Regardless of which deployment model is used, cost controls should be put in place to closely monitor the system's financial health. It is essential for the EMS agencies operating in the county to clearly understand their service costs and revenues, including the net revenue per transport. All EMS agencies need a fair and consistent method for receiving subsidies from their respective municipalities. To ensure transparency in the use of taxpayer dollars, FITCH recommends all agencies submit their annual finances to the County. As County funds support the system, this

[5] EBIDA, which stands for Earnings Before Interest, Depreciation, and Amortization, is a metric that assesses a company's operating performance. It gauges core business earnings by excluding interest, depreciation, and amortization expenses, offering insight into operational efficiency and profitability.

requirement is vital. The agencies would eventually collapse without Greene County and the municipalities subsidizing the system.

**CONCLUSION**

Without active intervention, the cost of the EMS system in Greene County will continue to rise to unsustainable rates. Implementing the suggested cost controls is a fundamental and essential initial measure toward enhancing the system's financial well-being. Furthermore, if the system agencies are aligned, there will be an increase in economies of scale. This, in turn, will lead to an improvement in the financial situation. To minimize the burden on taxpayers and provide high-quality service at the best value, the optimal solution is to establish a single provider unified system.

# Conclusion

Greene County officials recognize that establishing reliable emergency medical services across the County is vital for public safety and welfare and to support future economic development. Officials have had the foresight to recognize the need to evolve due to the current financial pressures all emergency services face across the Country.

The options recommended provide the County with the strategic ability to decide the level of commitment needed from the County, local officials, and the current EMS agencies. Ultimately, the County and the local municipalities must determine what they can afford to ensure an equitable response and baseline level of service for the provision of EMS in the future.

# ATTACHMENT A

## SYSTEM BENCHMARKS

FITCH
& ASSOCIATES

# Summary of System Benchmarks

FITCH reviewed the County's EMS system to its 51 benchmarks to show how it compares to an optimal system design. The benchmarks have been developed over our almost 40-year history of reviewing more than 1,000 EMS systems. The goal of these benchmarks is twofold: 1) to help determine recommendations for future design and 2) to provide feedback for the County to develop strategies for addressing deficiencies. FITCH's 51 benchmarks are summarized in eight (8) categories with an explanation of their best practices, outlined below. The full review of benchmarks is outlined in Appendix A.

- 911/Medical Communications
- Medical Volunteers and First Response
- Operations and Medical Transportation
- Medical Accountability
- Community and Customer Accountability (Legislation and Regulation)
- Prevention and Community Education
- Organizational Structure, Culture, Leadership, and Human Resources
- Ensuring Optimal System Value

FITCH evaluated each of the 51 benchmarks and rated them to determine if a benchmark was Documented and satisfactory, Partially Documented and had specific areas of needed improvement, Not Documented and was an area that is not fully operational or even in operation, and Not Applicable, which would not apply to your EMS system. Agencies can use these benchmarks to continuously reevaluate their system.

| Benchmark Summary |
|---|
| Documented – 7 / 14% |
| Partially Documented – 25 / 49% |
| Not Documented- 19 / 37% |
| N/A- Not Applicable - 0 |

# System Benchmarks

## Overview

An optimal EMS system is best designed from the patient's perspective. There are multiple models for delivering these services throughout the world. Most have several common elements that are noted here as optimal. In short, patients should expect that the system will be engaged in illness and injury prevention, health education, and early symptom recognition, in addition to responding to emergency and non-emergency transportation requests. The EMS system should provide a rapid and appropriate response when a caller dials 911 and routinely provide scripted medical instructions until help arrives. Community volunteers and other first responders should be able to provide medically approved first-aid/self-help measures before the ambulance's arrival.

A patient's needs should be evaluated beginning with the 911 call intake. Procedures for immediate interrogation of the caller to determine the level of acuity should be evaluated. High-acuity patients determined through interrogation (Echo and Delta calls) should have an ambulance dispatched immediately. Lower acuity patients (Charlie, Bravo, Alpha, and Omega calls) should be further evaluated by the call-taker to determine that the right resource is dispatched, whether the patient needs to be transported, or if transport can be by means other than an ambulance. Response times should be based on historical call density and the level of acuity. All response times should be at a fractal measurement and reported monthly.

The system should be externally and independently monitored with the system's participating agencies and personnel held accountable for their responsibilities. Sophisticated systems should be developed to provide specific metrics for each underlying component. Metrics should include both operations and clinical/outcomes for process, and systems metrics. Finally, the system must deliver solid value for the resources invested.

System outcomes are defined as the link between hospital outcomes and EMS treatments with measurable performance. Process outcomes are defined as the link between EMS protocols and appropriate treatment methods with measurable performance.

This review focuses on how the EMS system in Greene County performs against certain benchmarks using the framework for an optimal EMS System. There is no single source for international standards of practice. Governmental EMS regulations reflect minimum performance requirements. Other commonly accepted "standards" are drawn from a variety of sources including research references outlined in the US National Academies of Science: Institute of Medicine's EMS at the Crossroads; the United Kingdom's NHS Taking Healthcare to the Patient: Transforming the NHS Ambulance Service; the Ontario, Canada, Pre-hospital Advanced Life Support Study; 10 EMS Standards currently used to evaluate EMS systems and the EMS Agenda for the Future developed by the US Department of Transportation; the Community Guide to Ensure High-Performance Emergency Ambulance Services, published by the American Ambulance Association, and the standards developed by the International Academies of Emergency Dispatch, the Commission on the Accreditation of Ambulance Services, and the US National Fire Protection Association.

Specific benchmarks and the performance of the EMS system for Greene County are described in each of the following report sections:

- 911/Medical Communications
- Medical Volunteers and First Response
- Operations and Medical Transportation
- Medical Accountability
- Community and Customer Accountability (Legislation and Regulation)
- Prevention and Community Education
- Organizational Structure, Culture, Leadership, and Human Resources
- Ensuring Optimal System Value

After examining your EMS system, FITCH assessed each benchmark to determine its status. A benchmark was considered Documented and satisfactory if it met all requirements, Partially Documented if it needed improvement in specific areas, Not Documented if it was not fully operational or not in operation at all, and Not Applicable if it did not apply to your EMS system. These benchmarks can serve as a tool for agencies to consistently assess and improve their EMS system.

# 911/Medical Communications

## DESCRIPTION OF BEST PRACTICES

Best practice EMS systems are organized to facilitate wireline, cellular, voice over internet protocol (VoIP)[6], automatic crash notification, patient alerting system devices, and other public 911 access to the Emergency Medical Services System. Voice, video, telemetry, and other data communications conduits are employed, as necessary, to best enhance real-time information management for patient care.

A medically directed system of protocol-based Emergency Medical Dispatch (EMD)[7] and communications is in place. The call reception and EMS call processes are designed logically and do not delay the activation of medical resources. Technology supports the caller being directed to the appropriate Public Safety Answering Point (PSAP)[8] for the geographic location of the call. All 911 callers should receive call prioritization and pre-arrival instructions in accordance with the International Academies of Emergency Dispatch (IAED) or a similar process. Automated quality improvement (QI) processes are used for facilitating results being reported to clinical and operations executives concisely.

CAD links and Application Programming Interfaces (API) are used to send data to EMS agency and medical first responder (MFR) agency ePCR systems to eliminate redundant data capture and create error-free, streamlined workflows. Capturing complete requests for service, timed events, and patient demographic information in ePCR records establishes the framework for accurate documentation. Data collection facilitates the analysis of key service elements, and this data is routinely benchmarked and reported. Technology supports the interface between 911, medical dispatch functions, and administrative processes. Radio/cellular linkages between

[6] Voice over Internet Protocol (VoIP) is a type of IP-enabled service that allows for the two-way real time transmission of voice communications and has access to the public switched network.

[7] Emergency Medical Dispatch is a systematic program of handling medical calls. Trained telecommunicators, using locally approved protocols quickly and properly determine the nature and priority of the call, dispatch the appropriate resource, and provide caller instructions until the responding EMS unit arrives.

[8] Public Safety Answering Point (PSAP): A facility equipped and staffed to receive 9-1-1 calls. A Primary PSAP receives the calls directly. If the call is relayed or transferred, the next receiving PSAP is designated a Secondary PSAP.

dispatch, field units, and medical facilities provide adequate coverage and facilitate both voice and data communications. There is interoperability between allied public safety agencies.

**BENCHMARK COMPARISONS**

The figure below summarizes best practice benchmarks and notes whether the benchmarks are documented (D), partially documented (PD), or not documented (ND) in the Greene County service.

| Comparison to Benchmarks | Status | Comments |
|---|---|---|
| Public access through a single number, preferably enhanced 911. | D | Countywide 911 public access with enhanced 911 capabilities is available through Greene County. |
| Single PSAP exists for the system. | ND | There are multiple PSAPs in Greene County. |
| Effective connection between PSAP and dispatch points, with minimal handoffs required for callers. | D | Greene County EMS units are dispatched via radio directly by the County PSAP. |
| Certified personnel provide pre-arrival instructions and priority dispatching (EMD); this function is fully medically supervised. | D | Currently, Greene County meets this benchmark. |
| Data collection allows for key service elements to be analyzed. | PD | The County CAD system is older and has difficulty managing its data. They have reports that can be produced but need manual manipulation. The County should employ a singular data repository system that would allow all EMS data to be synthesized and monitored. |
| Technology supports an interface between 911, dispatching & administrative processes. | PD | There is some interface abilities but it is very limited and not used effectively. |
| Radio linkages between dispatch, field units & medical facilities provide adequate coverage and facilitate communications. | PD | There are some linkages between the EMS units and the County 911 center. This should be expanded to include AVL for all EMS units. |

| Comparison to Benchmarks | Status | Comments |
|---|---|---|
| The system has a coordinated method to screen low-acuity patients either via the 911 call, unit on the scene via phone conference, or telecommunication, for purposes of screening and approval of alternative transport location and/or means. | ND | Currently, Greene County does not meet this benchmark. |

**FINDINGS:**

Greene County operates the 911 PSAP (public safety answering point) and County Communications Center (GCEMS dispatch). This PSAP is responsible for EMS resource deployment for the County. Not all 911 calls are received by GCEMS dispatch. The Village of Catskill also operates a PSAP and must transfer 911 EMS requests to GCEMS Dispatch for processing. Currently, Greene County does not track real-time GPS or AVL for the ambulance services in the County. Real-time tracking is performed for Paramedic fly cars. Central Dispatch does have direct communications with Greene County ambulances via VHF radio. This is how the ambulances are dispatched for 911 emergency responses.

## Medical Volunteers and First Response

**DESCRIPTION OF BEST PRACTICES**

Medical first responders have an essential role in mitigating life-threatening emergencies and supporting EMS efforts as part of the public safety mission. In most North American cities, this role is generally funded by tax dollars as part of the public safety budget rather than from user fees. Medical first responders in best practice systems are organized appropriately for the communities in which they serve. They function as part of an integrated response system that is guided by state and local legislative authority, and which reflects accepted medical practice. First responders (paid or volunteer) are certified at a minimum to the Medical First Responder (MFR) level. They are medically supervised by the system medical director, including participation in performance improvement and quality assurance activities.

Defined response time standards exist for formal first responders and those response times are reported with those of the system. The National Fire Protection Association Standard 1720: "standard for effective organization and deployment of fire suppression operations, emergency medical operations, and special operations to the public by volunteer and combination fire departments to protect citizens and the occupational safety and health of fire department employees" classifies areas with a population density less than 500 people per square mile as "Rural" and recommends a response time standard of 14 minutes with 80% reliability. This period begins at the time of dispatch and ends on the arrival of the resource at the incident.[9] Early defibrillation capabilities are available for EMS first responders and placed in high-density response areas such as airports and hotel complexes. When community or first response personnel participate in patient care, a smooth transition of care is achieved.

**BENCHMARK COMPARISONS:**

The figure below summarizes best practice benchmarks and notes whether the benchmarks are documented (D), partially documented (PD), or not documented (ND) in Greene County.

| Comparison to Benchmarks | Status | Comments |
|---|---|---|
| First responders are part of a coordinated response system and are medically supervised by a single System Medical Director. | PD | Currently, there is limited system-wide use of Medical First Response within Greene County. |
| Defined response time standards exist for first responders. | ND | There are no defined response time standards for Medical First Responders. |
| First response agencies report/meet fractile response times. | ND | |
| AED capabilities on all first-line apparatus. | PD | Many of the fire units are equipped with AEDs. |
| A smooth transition of care is achieved. | D | A smooth transition of care was reported. |

[9] National Fire Protection Association Standard 1720: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments: 2014 Edition

**FINDINGS:**

Medical First Response is not consistently utilized within Greene County. To improve patient access to prompt medical care, the county should consider utilizing Medical First Response solely for the most critical calls within its jurisdiction. This will require buy-in from all organizations and will be an operational change that may be challenging to navigate.

## Operations and Medical Transportation

**DESCRIPTION OF BEST PRACTICES**

EMS Systems once operational and routinely validated from a clinical perspective, establish density-based response times with varying levels of response based on the prospective priority assigned at dispatch such as life-threatening responses, non-life-threatening responses, and non-life threatening/non-urgent responses. Response times are measured on a fractile basis with 90% reliability.[10] Commonly measured EMS timed performance benchmarks such as chute time[11], hospital turnaround time,[12] and time on task[13] are measured and routinely reported.

A mechanism exists to identify and assure adequate deployment of ground, air, and other transportation resources meeting specific standards of quality to assure a timely response, scaled to the nature of the event. Primary factors that influence the design of EMS agency resource deployment are desired travel time performance and the level of demand for services. Travel time performance is addressed by appropriately distributing resources throughout the service area, and the level of demand is addressed by appropriately concentrating resources at each point of distribution. Routine reviews of staffing to service demand are completed by strategically matching staffing to potential future demand by analyzing historical patterns of

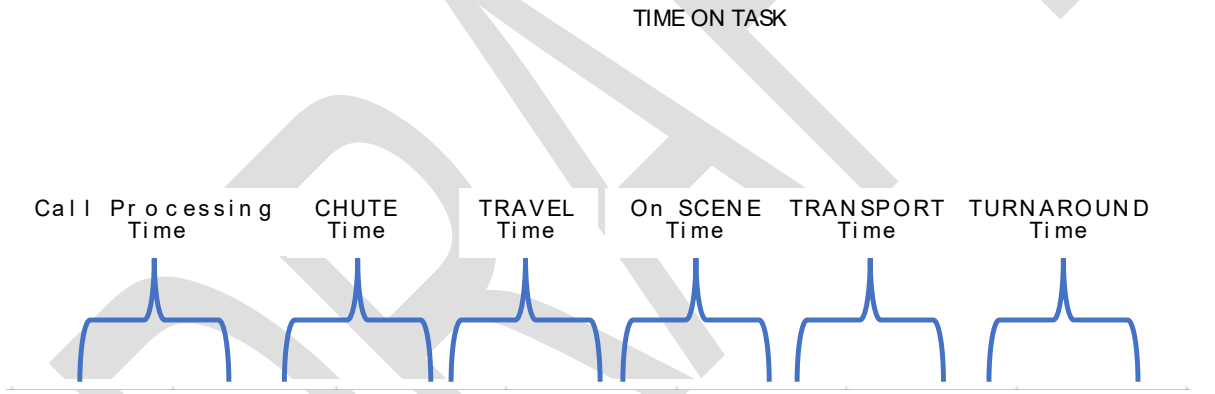
[10] The fractile method reports the compliance percentage to a defined response time standard. Industry standard is 90% compliance.
[11] Chute time is measured from the time the ambulance is notified of a call until the ambulance establishes a continuous state of travel to the call location.
[12] Hospital turnaround time is measured from the time of the ambulance arrives at the hospital emergency department to transfer patient care until the ambulance is available for another assignment. An industry standard is 20 minutes.
[13] Time on task is measured from the time an ambulance is assigned a call until the ambulance is available for another assignment. An industry standard is 60 minutes.

demand for service, both by day of week and hour of the day and geographically on a routine basis.

Ambulances are staffed and equipped to meet the identified service requirements. Procurement, maintenance, and logistics processes function to optimize unit availability. Vehicles are serviced according to a scheduled maintenance plan and placed on a replacement schedule, maximizing patient experience, employee engagement, and personnel safety, while minimizing operating costs.

When multiple agencies are involved, a smooth integration and transition of care is achieved. The system can scale up day-to-day operations to meet the needs of larger, all-hazards events, based on threat and capabilities assessments of the likeliest events to occur in the area.

**Figure 42: Anatomy of an EMS Call**




| Call Time | Dispatched | Enroute | At Scene | Transporting | At Hospital | Available |
|---|---|---|---|---|---|---|
| 12:08:53 | 12:10:43 | 12:10:46 | 12:18:32 | 12:34:15 | 12:46:17 | 12:58:25 |

**BENCHMARK COMPARISONS:**

The figure below summarizes best practice benchmarks and notes whether the benchmarks are documented (D), partially documented (PD), or not documented (ND) for Greene County.

| Comparison to Benchmarks | Status | Comments |
|---|---|---|
| Defined response time standards exist. | ND | Currently, there are no established response times within Greene County. |

| Comparison to Benchmarks | Status | Comments |
|---|---|---|
| Agency reports/meets fractile response times. | ND | Fractile times are not reported. |
| Units meet staffing and equipment requirements. | D | All of the units evaluated are appropriately licensed and equipped properly. |
| Resources are efficiently and effectively deployed. | PD | The units are deployed from stations that may not be the most efficient. The Greene County EMS entity employs a system status management plan which allows for more strategic geographic coverage. |
| Fleet maintenance and supply distribution function to optimize unit availability and maximize safety and patient experience while minimizing costs. | PD | Each agency has a different plan that is not contiguous amongst the agencies within the county. |
| Planning is in place for asset replacement and provides an adequate number of assets. | PD | Not all agencies have a plan established for the replacement of capital assets or have the funds to consistently replace capital assets. |
| There is a smooth integration of first responders, air, ground, and hospital services. | D | Overall, the transition of patient care is integrated. |
| Coordinated disaster plans are developed and maintained. | D | The county works to ensure that disaster plans are in place. |

**FINDINGS:**

Greene County should establish response time standards for all levels of 911 calls. This will allow each agency to be able to understand the expectation and be held accountable to the standard. There is some coordinated effort when it comes to EMS agency unit deployment, but it is at the dispatcher's discretion. It would be beneficial for EMS agencies to collaborate on fleet and equipment maintenance and establish a standardized approach across the county. This can lead to cost efficiencies and better implementation of resources within the county.

# Medical Accountability

## DESCRIPTION OF BEST PRACTICES

The role of the medical director in a modern EMS system is defined by the American Board of Emergency Medicine as follows:

*"As part of their clinical practice, EMS physicians are responsible for medical oversight of the whole EMS team. EMS physician practice combines direct patient care in the field with supervisory and other functions that ensure an effectively functioning response system. This includes daily direct medical decision-making and control of care provided by EMS personnel. Some examples of this include verbal medical treatment orders based on clinical information provided by allied health personnel, transport modality and destination-appropriate patient care decisions, developing and deploying written patient treatment guidelines for the EMS team, and ensuring procedural competency training of allied health personnel. EMS physicians also lead quality management activities relating to medical care delivered by the entire EMS system."*[14]

The American College of Emergency Physicians (ACEP) considers Emergency Medical Services (EMS) a practice of medicine requiring physician oversight, and the medical director an integral position. ACEP details those roles fulfilled by EMS physician medical directors, including responsibilities, authority, and reporting hierarchies, are to be formally established in writing in contractual agreements between EMS physician medical directors and EMS systems and/or applicable legal parties. EMS systems have ethical responsibilities to provide EMS physician medical directors with tangible resources and remuneration commensurate with the responsibilities and authorities fulfilled by EMS physician medical directors.



[14] American Board of Emergency Medicine
http://www.naemsp.org/Documents/EMSEligCriteriaFINALApril2011.pdf

The Medical Director should be effective in establishing local care standards that reflect national standards.[15] ACEP weighs in on the importance of frequent and active clinical review, stating: "each EMS system should ensure that the medical director has authority over patient care, authority to limit immediately the patient care activities of those who deviate from established standards or do not meet training standards and the responsibility and authority to develop and implement medical policies and procedures.

An electronic patient care reporting (ePCR) system is a documentation and database management software that should be used by all EMS agencies. These systems establish a standardized approach to document response and treatment information, specialize in storing, reviewing, and retrieving information, and serve as the repository for an agency's clinical and operational data. Manual data entry is time-consuming, creates opportunities for errors, and in some cases is impractical in the field. The ePCR system should automatically import patient vitals, EKGs, and ETCO2 waveforms directly from the most commonly used medical devices.

EMS agencies must have the ability to fully utilize clinical performance data from technology and information systems to improve prehospital care and patient outcomes. Improvements can only be made if data such as that outlined below are available in a timely and reliable manner.

Best practice EMS systems provide the following data that is regularly reviewed and reported to the community:

- Response times to emergency calls
- Time from 911 call to "balloon inflation" at the cardiac percutaneous coronary intervention (PCI or "cardiac cath lab") laboratory
- Scene intervals for patients meeting the American College of Surgeons criteria for transport to a trauma center
- Airway management success rates
- Critical vehicle and equipment failures
- Response vehicle crash rates per 100,000 miles

[15] National Association of State EMS Officials (NAEMSO) National Model EMS Clinical Guidelines - Model guidelines and protocols developed by the NASEMSO Medical Directors Council with representation from national EMS physician organizations.
https://nasemso.org/wp-content/uploads/National-Model-EMS-Clinical-Guidelines-2017-PDF-Version-2.2.pdf

- Rapid Sequence Induction (RSI) utilization or other advanced airway application
- Stroke center – the time from onset to therapy
- Appropriate use of air-medical services

The EMS Agenda 2050 stresses that education and training for EMS professionals cover all aspects of clinician and patient safety with a focus on evidence-based methods of harm reduction. The goal is for paramedics to receive a comprehensive orientation to public health, social services, mental health, and social determinants of health in a way that empowers them to provide integrated care. It is essential to require that all personnel have the highest standard of education, training, and medical knowledge. This is accomplished via a comprehensive continuing medical education program. Because prehospital medicine is continually evolving, ambulance transport services should provide timely, challenging, EMS-specific continuing education to enhance and improve the knowledge and skills of staff and meet their recertification needs for licensure.

**BENCHMARK COMPARISONS:**

The figure below summarizes best practice benchmarks and notes whether the benchmarks are documented (D), partially documented (PD), or not documented (ND) for Greene County.

| Comparison to Benchmarks | Status | Comments |
|---|---|---|
| Single point of physician medical direction for the entire system. | ND | There is not a singular source of medical direction within the County for each EMS agency. |
| A written agreement (job description) for medical direction exists. | ND | |
| Specialized Medical Director training/certification. | PD | The primary medical director for most agencies is board certified in emergency medicine and/or emergency medical services. |
| A physician is involved in establishing local care standards that reflect current national standards of practice. | PD | The primary medical director for most agencies is actively engaged. |

| Comparison to Benchmarks | Status | Comments |
|---|---|---|
| Proactive, interactive, and retroactive medical direction is facilitated by the activities of the Medical Director. | PD | The primary medical director for most agencies is actively engaged. |
| PCR/QI data transparency facilitates MD review. | PD | The primary medical director for most agencies is actively engaged. Most agencies are using ESO for transparency. |
| Clinical Education/Development effectiveness efficiency. | PD | The primary medical director for most agencies is actively engaged. |
| Quality assurance and other clinical performance data are shared and transparent. | PD | The primary medical director for most agencies is actively engaged. |

**FINDINGS:**

There is a lack of coordinated medical direction throughout the EMS agencies within the county. Most agencies do use the same Medical Director. There is an opportunity for this to be an effort to work cohesively and ensure that there is a commonality amongst medical direction within the County. The Medical Director should be board certified, and it is now becoming common practice that EMS medical directors should be dually certified in emergency medicine and emergency medical services. The medical director(s) should be extremely engaged within their agencies to ensure emergency medical care out of the hospital is being performed to a standard and protocol. They should also be actively engaged in reviewing charting and QA/QI procedures to ensure that the best possible care is being rendered under their license.

## Customer/Community Accountability, Legislation, and Regulation

**DESCRIPTION OF BEST PRACTICES**

Contracts between the municipality and the EMS agency meet the needs of the community. Units are clean to ensure a safe environment for employees and patients. A professional image is presented to patients, family members, and the community while also providing security

through an employee identification system and protecting the employee by requiring work attire in accordance with safety and infection control considerations.

The EMS agency uses a central depository or formal process for patients to register complaints and provide compliments or suggestions. Complaints should be logged, with timelines formalized for acknowledgment, further response, and resolution. A third-party organization is used to measure, validate, and report EMS system performance.

**BENCHMARK COMPARISONS:**

The figure below summarizes best practice benchmarks and notes whether the benchmarks are documented (D), partially documented (PD), or not documented (ND) for Greene County.

| Comparison to Benchmarks | Status | Comments |
|---|---|---|
| Legislative/policy authority to provide service and written service agreements are in place. | ND | Greene County does not hold a CON for the entirety of the County. |
| Units and crews have a professional appearance. | PD | Some of the crew that were observed were not in full uniforms and were not professional in appearance. |
| Formal mechanisms exist to address patient and community concerns. | ND | No clear evidence a formal mechanism actually exists and is acted upon. |
| Independent measurement and reporting of system performance are utilized. | ND | The agencies do not openly have reporting or measuring tools that show system performance. |
| Internal customer issues are routinely addressed. | ND | Many of the agencies share personnel and some report leaving agencies and going to others because of a lack of concern for their needs. |

**FINDINGS:**

Greene County does not hold a municipal CON for the entirety of the county. It was reported that there are no written agreements between Greene County and system agencies for any type of County services that are provided.

Each agency should hold its personnel accountable to a uniform standard that presents them as well-dressed professionals when in the community. This not only allows for a professional appearance for the patients treated but for the public that observes the EMS crews.

It is crucial for EMS agency leaders, personnel, and the public to have access to benchmarking, system performance metrics, and dashboards. These measures help ensure that standards are met, and that the EMS agency provides the expected level of service. Many programs allow for performance metrics and dashboarding like FirstWatch.

## Prevention and Community Education

### DESCRIPTION OF BEST PRACTICES

High-performing EMS agencies recognize that members of the public play a crucial role in the success of the community's EMS system. A best practice is to offer local health system access to information and EMS education that builds awareness about the role of EMS in our health care system as well as information regarding out-of-hospital care, injury prevention, health promotion, EMS system clinical and operational performance, and the services available to the public. These efforts are monitored and recorded.

Expanding the capabilities of community members through community education has a positive impact on patient outcomes. School and community CPR training, publication of public access automated external defibrillator (AED) locations, citizen-bystander 9-1-1 activation, and community education on prevention and recognition of cardiac emergencies are low cost, high return leverage points that demonstrate improved outcomes, especially in Sudden Cardiac Arrest (SCA).

Community paramedicine, also known as mobile integrated health (MIH-CP), seeks to improve the effectiveness and efficiency of healthcare delivery by implementing programs with specially trained paramedics and other healthcare providers to meet local healthcare needs. Community Paramedics typically receive specific training beyond what is required for paramedic licensure to be able to provide care outside of their traditional role. The goal of community paramedicine is to help address an overloaded system of emergency care by taking advantage of the skills and

abilities of paramedics and EMS agencies to provide alternatives to ambulance transports and ED visits. Community paramedicine aligns with the EMS Agenda 2050 and the IHI triple aim: to improve patient experience, improve the health of populations, and decrease the cost of care.

**BENCHMARK COMPARISONS:**

The figure below summarizes best practice benchmarks and notes whether the benchmarks are documented (D), partially documented (PD), or not documented (ND) for Greene County.

| Comparison to Benchmarks | Status | Comments |
|---|---|---|
| System personnel provide positive role models. | PD | Some of the agencies are clearly perceived as positive within their communities. |
| Programs are targeted to "at-risk" populations. | ND | No specific programs are targeting any "at-risk" populations. |
| Formal and effective programs with defined goals exist. | ND | There are no formal community education programs. Each agency handles differently or not at all. |
| Targeted objectives are measured and met. | ND | There are no formal community education programs. Some agencies have internal metrics and others do not. |

**FINDINGS:**

The opportunity for the EMS agencies to come together and build a Mobile Integrated Health (MIH) program or Community Paramedic program is something that would benefit every resident within the county. Additionally, these programs can work to decrease over-utilization of the 911 EMS system, can help to reduce emergency department overcrowding, and decrease unnecessary hospital readmissions. There can also be a target or goal to reach specific "at-risk" populations that can be identified by evaluating 911 call data.

# Organizational Structure, Culture, Leadership, and Human Resources

## DESCRIPTION OF BEST PRACTICES

A local agency serves as the lead agency for the provision of Emergency Medical Services and is responsible for system coordination.

Management of human capital is essential to organizational and operational success. This includes hiring individuals that share the same values as those of the organization, providing fair market-based compensation, and ensuring staff have what they need to provide high-quality care. Once basic needs are met, there should be a continuous effort to create and maintain an attractive work culture.

Provider competency and a system that supports such ultimately drives the delivery of high-quality patient care. EMS agencies should have a comprehensive Quality Assurance and Quality Improvement process. This process establishes specific, measurable, and achievable clinical performance goals and ensures a strict process will be maintained with appropriate medical direction. Typically, the process is managed by the individual responsible for education with agency leadership and the medical director providing insight, approval, and assistance as needed. Several organizations provide suggested quality metrics for EMS agencies including:

- GAMUT QI Collaborative Consensus Quality Metrics – A resource for transport teams to track, report and analyze their performance on transport-specific quality metrics.[16]
- National EMS Quality Alliance (NEMSQA) – An initiative supported by the National Highway Traffic Safety Administration (NHTSA) and the American College of Emergency Physicians (ACEP) to develop EMS quality measures.[17]

[16] GAMUT QI Collaborative Consensus Quality Metrics Home: GAMUT Ground & Air Medical Quality in Transport (gamutqi.org)
[17] National EMS Quality Alliance (NEMSQA) http://www.nemsqa.org/

- American College of Cardiology established goals for STEMI systems that examine both EMS and hospital performance.[18]
- American Heart Association Mission: Lifeline Program recognizes Systems of Care that meet defined performance measures.[19]

Software to facilitate 100% review of call taker, dispatcher, first responder, and transport caregivers' actions is commonly utilized by sophisticated systems to guide medical quality improvement efforts. These include commercially available products such as Academy Analytics, FirstWatch/FirstPass, and ESO. Brief descriptions of each product are provided in Attachment "D."[20]

EMS agencies should develop annual strategic plans. The plan should prioritize activities, guide decisions, align goals and communicate a clear organizational message.

**BENCHMARK COMPARISONS:**

The figure below summarizes best practice benchmarks and notes whether the benchmarks are documented (D), partially documented (PD), or not documented (ND) for Greene County.

| Comparison to Benchmarks | Status | Comments |
|---|---|---|
| A lead agency is identified and coordinates system activities. | ND | There is not lead agency that coordinates system activities. |
| Organizational governance, structure, and relationships are well-defined. | PD | This varies across agencies. |
| Human resources are developed and otherwise valued. | PD | Most agencies do not have robust human resource departments. |
| Business planning and measurement processes are defined and utilized. | PD | Many of the EMS agencies do not have short and long-term plans in place. |

[18] Spertus JA, Eagle KA, Krumholz HM, et al. American College of Cardiology and American Heart Association methodology for the selection and creation of performance measures for quantifying the quality of cardiovascular care. Circulation. 2005; 111:1703–12

[19] American Heart Association Mission: Lifeline https://www.heart.org/en/professional/quality-improvement/mission-lifeline/mission-lifeline-ems-recognition

[20] Software products listed are for illustration only. FITCH owns no stock in any software entities nor endorses any specific products.

| Comparison to Benchmarks | Status | Comments |
|---|---|---|
| Operational and clinical data informs/guides the decision process. | PD | Many of the EMS agencies are not utilizing operational and clinical data to make decisions. |
| A structured and effective performance-based quality improvement (QI) system exists. | PD | Many of the EMS agencies do not have structured QI processes or systems in place to ensure personnel and patient safety. |

**FINDINGS:**

The EMS agencies within the county can unify to decrease overhead and create common use of human resources and other business-oriented plans and ideas. Agencies coming together would support a sustainable model for the future of EMS in the county. The agencies currently all function independently of each other and are completely disconnected. This along with other economies of scale can easily be created to share resources amongst the EMS agencies.

## Ensuring Optimal System Value

**DESCRIPTION OF BEST PRACTICES**

Best practice techniques produce and sustain customer loyalty and serve as the expectation of conduct for EMS Agency staff. Leading EMS agencies provide staff with evidence-based tools such as patient experience surveying and feedback.

Quality management practices that measure and report critical aspects of the organization provide the EMS leadership team with insight and the ability to address challenges timely. Key Performance Indicators (KPIs) are used to track performance, monitor compliance, and evaluate workload. The EMS agency can see in real-time the amount of time every crew member has spent on shift; responding to calls, rendering care, or transporting a patient, as well as time waiting to transfer patient care to receiving facilities.

Best practice systems monitor Unit Hour Utilization (UHU)[21] daily. Simply stated, UHU is the amount of time during a unit's deployed shift that it spends on mission, or on calls. In addition to Response UHU, Transport UHU[22] is also monitored. Transport UHU is the amount of time during a unit's deployed shift that it spends on calls resulting in a transport. Once unit hour costs are determined, organizations can determine how many transports each unit would need to perform to cover its costs as well as support the organization's operating margin.

The EMS agency is committed to compliance with all federal and state healthcare program requirements for billing and claims reimbursement, including the preparation and submission of accurate claims consistent with such requirements.

**BENCHMARK COMPARISONS:**

The figure below summarizes best practice benchmarks and notes whether the benchmarks are documented (D), partially documented (PD), or not documented (ND) for Greene County.

| Comparison to Benchmarks | Status | Comments |
|---|---|---|
| Clinical and customer satisfaction outcomes are enhanced by the EMS system. | ND | None of the EMS agencies are utilizing customer surveys to drive outcomes or to improve their organization. |
| Unit Hour Utilization (UHU) is measured, and hours are deployed in a manner to achieve efficiency and effectiveness. | PD | Most of the EMS agencies are not utilizing UHU to achieve effectiveness within their organization or the county. |
| Cost per unit hour and transport document good value. | ND | Overall, the cost per unit hour is not tracked. Furthermore, with cost subsidies increasing to provide service, the cost per unit hour has to be increasing rapidly for sustainment. |
| Service agreements represent good value. | PD | There are limited-service agreements. |

[21] Unit Hour Utilization (UHU) values represent the proportion of the work period that is utilized responding to requests for service. This is calculated by dividing the number of hours a unit is deployed by the number of responses it completed.

[22] Transport UHU is the amount of time during a unit's deployed shift that it spends on calls resulting in a transport. This is calculated by dividing the number of hours a unit is deployed by the number of transports it completed.

| Comparison to Benchmarks | Status | Comments |
|---|---|---|
| Financial systems accurately reflect system revenues and both direct and indirect costs. | PD | Each agency has its struggles financially and the total cost for the system is not realized as all agencies do not share their finances transparently with the county, even though they are receiving county services and assistance. |
| Revenues are collected professionally and in compliance with federal and state regulations. | PD | There is not a common theme for billing practice throughout the County. |
| Subsidies when required are minimized. | ND | There is no evidence of efforts to support this benchmark. |

**FINDINGS:**

The EMS agencies within the county must begin to understand their costs for service to include net revenue per transport. Understanding how to calculate UHU and how to apply that is equally imperative. All EMS agencies should have equal formulas for obtaining and requesting subsidies from their municipalities. Without Greene County subsidizing the system through providing for dispatch and ALS fly car service, many of the agencies would collapse. With County funds being used to support the system, all agencies should be required to submit their annual finances to the county to maintain transparency on the use of taxpayer dollars.

# ATTACHMENT B

# FINANCIAL PROJECTIONS

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| | Option 0 2024 Bugeted | Option 1 | Option 2A County | Option 2b Contracted | Option 3a County | Option 3b Contracted |
|---|---|---|---|---|---|---|
| Transport Revenues | $ 3,484,312 | $ 3,666,845 | $ 3,666,845 | $ 3,666,845 | $ 3,666,845 | $ 3,666,845 |
| Other Revenues | $ 363,100 | $ - | $ - | $ - | $ - | $ - |
| **Total Revenue** | **$ 3,847,412** | **$ 3,666,845** | **$ 3,666,845** | **$ 3,666,845** | **$ 3,666,845** | **$ 3,666,845** |
| | | | | | | |
| Direct Labor | | $ - | $ 10,183,548 | $ 9,115,193 | $ 8,850,843 | $ 7,933,758 |
| Direct Material | | $ 140,000 | $ 757,883 | $ 757,883 | $ 715,383 | $ 715,383 |
| Overhead | | $ 35,000 | $ 1,489,061 | $ 1,476,101 | $ 1,300,561 | $ 1,300,561 |
| | | | | | | |
| **Total Operating Expense** | **$ 10,192,800** | **$ 10,693,970** | **$ 12,430,491** | **$ 11,349,177** | **$ 10,866,786** | **$ 9,949,702** |
| | | | | | | |
| ***EBIDA*** | ***$ (6,345,388)*** | ***$ (7,027,125)*** | ***$ (8,763,647)*** | ***$ (7,682,332)*** | ***$ (7,199,941)*** | ***$ (6,282,857)*** |

| RECOMMENDED CHARGE MASTER | | |
|---|---|---|
| A0425* | MILEAGE | $ 27.00 |
| A0426 | ALS N/E ALS1 | $ 1,085.00 |
| A0427 | ALS1 EMERGENCY | $ 1,720.00 |
| A0428 | BLS N/E | $ 905.00 |
| A0429 | BLS EMER BASE | $ 1,450.00 |
| A0433 | ALS LEV 2 BASE | $ 2,490.00 |
| A0434 | SCT | $ 2,940.00 |
| | | |
| | | |
| A0998 | TRT NO TXPT | $0 |

| | Type | 2024 MEDICARE RATES Rural 1-17 | Rural |
|---|---|---|---|
| A0425* | MILEAGE | $13.53 | $9.02 |
| A0426 | ALS N/E ALS1 | $361.72 | |
| A0427 | ALS1 EMERGENCY | $572.73 | |
| A0428 | BLS N/E | $301.43 | |
| A0429 | BLS EMER BASE | $482.30 | |
| A0433 | ALS LEV 2 BASE | $828.95 | |
| A0434 | SCT | $979.66 | |
| A0998 | TRT NO TXPT | $0.00 | |

| | 2025 OPTION 1 | Option 2A - County 10/15 Min. Response | Option 2b - Contracted 10/15 Min. Response | Option 3A - County 10 /15 Min. Response | Option 3 - Contracted 10/15 Min. Response |
|---|---|---|---|---|---|
| **Income** | | | | | |
| EMS - 911 Response Total | 8110 | 8110 | 8110 | 8110 | 8110 |
| Ambulance Transports | 5515 | 5515 | 5515 | 5515 | 5515 |
| **Total Patient Service** | $ 3,666,844.76 | $ 3,666,844.76 | $ 3,666,844.76 | $ 3,666,844.76 | $ 3,666,844.76 |
| | **$ 3,666,844.76** | **$ 3,666,844.76** | **$ 3,666,844.76** | **$ 3,666,844.76** | **$ 3,666,844.76** |
| County Subsidy | | | | | |
| Other Municipal Subsidy | | | | | |
| Income - Other | | | | | |
| **Total Income - Other** | $ - | $ - | $ - | $ - | $ - |
| **Total Income** | **$ 3,666,844.76** | **$ 3,666,844.76** | **$ 3,666,844.76** | **$ 3,666,844.76** | **$ 3,666,844.76** |
| **Expenses** | | | | | |
| Payroll Expenses - Field | | | | | |
| Paramedics | | $ 2,783,397.76 | $ 2,783,397.76 | $ 2,783,397.76 | $ 2,783,397.76 |
| Basics | | $ 2,100,384.00 | $ 2,100,384.00 | $ 2,100,384.00 | $ 2,100,384.00 |
| Supervisors | | $ 1,129,732.03 | $ 1,129,732.03 | $ 376,577.34 | $ 376,577.34 |
| Drivers | | | | $ - | $ - |
| Mechanic | | $ 75,000.00 | $ 75,000.00 | $ 75,000.00 | $ 75,000.00 |
| Admin. Assistant | | $ - | $ - | $ - | $ - |
| **Total Payroll - Field** | $ - | $ 6,088,513.79 | $ 6,088,513.79 | $ 5,335,359.10 | $ 5,335,359.10 |
| Payroll Expenses - Admin | | | | | |
| Director | | $ 100,000.00 | $ 100,000.00 | $ 100,000.00 | $ 100,000.00 |
| Ops Manager | | $ 270,000.00 | $ 270,000.00 | $ 90,000.00 | $ 90,000.00 |
| Admin. Executives | | $ 55,000.00 | $ 55,000.00 | $ 55,000.00 | $ 55,000.00 |
| **Total Payroll - Administrative** | $ - | $ 425,000.00 | $ 425,000.00 | $ 245,000.00 | $ 245,000.00 |
| Payroll Expenses - Other | | $ 608,851.38 | $ 608,851.38 | $ 533,535.91 | $ 533,535.91 |
| **Total Payroll Expenses** | $ - | $ 7,122,365.17 | $ 7,122,365.17 | $ 6,113,895.01 | $ 6,113,895.01 |
| Fringe Benefits 50% / 35% | | $ 3,561,182.59 | $ 2,492,827.81 | $ 3,056,947.51 | $ 2,139,863.26 |
| **Total Payroll + Fringe Benefits** | $ - | $ 10,683,547.76 | $ 9,615,192.98 | $ 9,170,842.52 | $ 8,253,758.27 |
| Billing Service - 6% | | $ 220,010.69 | $ 220,010.69 | $ 220,010.69 | $ 220,010.69 |
| Equipment - Vehicles | | $ 85,000.00 | $ 85,000.00 | $ 75,000.00 | $ 75,000.00 |
| Fuel | | $ 104,938.63 | $ 104,938.63 | $ 104,938.63 | $ 104,938.63 |
| Insurance -Vehicle | | $ 59,500.00 | $ 59,500.00 | $ 52,500.00 | $ 52,500.00 |
| Maint. & Repairs - Equipment | | $ 34,000.00 | $ 34,000.00 | $ 30,000.00 | $ 30,000.00 |
| Maint. & Repairs - Vehicles | | $ 144,500.00 | $ 144,500.00 | $ 127,500.00 | $ 127,500.00 |
| Registration & Fees | | $ 4,250.00 | $ 4,250.00 | $ 3,750.00 | $ 3,750.00 |
| Supplies - Medical/Oxygen | | $ 165,444.41 | $ 165,444.41 | $ 165,444.41 | $ 165,444.41 |
| Telephone/Cell/Long Distance | | $ 14,400.00 | $ 14,400.00 | $ 14,400.00 | $ 14,400.00 |
| Uniforms | | $ 50,000.00 | $ 50,000.00 | $ 42,500.00 | $ 42,500.00 |
| IT / Radio Costs | $ 140,000.00 | $ 174,000.00 | $ 174,000.00 | $ 170,000.00 | $ 170,000.00 |
| Misc | | $ 24,000.00 | $ 24,000.00 | $ 24,000.00 | $ 24,000.00 |
| **Total Operating Expenses** | $ 140,000.00 | $ 1,080,043.72 | $ 1,080,043.72 | $ 1,030,043.72 | $ 1,030,043.72 |
| Medical Director | $ 35,000.00 | $ 35,000.00 | $ 35,000.00 | $ 35,000.00 | $ 35,000.00 |
| Accounting | | $ 12,000.00 | $ 12,000.00 | $ 12,000.00 | $ 12,000.00 |
| Cable/Internet | | $ 36,000.00 | $ 36,000.00 | $ 36,000.00 | $ 36,000.00 |
| Electricity/Station Fuel | | $ 90,000.00 | $ 90,000.00 | $ 90,000.00 | $ 90,000.00 |
| Licenses & Fees | | $ 8,500.00 | $ 8,500.00 | $ 7,500.00 | $ 7,500.00 |
| Facility Lease | | $ 360,000.00 | $ 360,000.00 | $ 360,000.00 | $ 360,000.00 |
| Maint. & Repairs - Building | | $ 90,000.00 | $ 90,000.00 | $ 90,000.00 | $ 90,000.00 |
| Memberships | | $ 2,000.00 | $ 2,000.00 | $ 2,000.00 | $ 2,000.00 |
| Office Expense | | $ 10,000.00 | $ 10,000.00 | $ 10,000.00 | $ 10,000.00 |
| Water & Sewer | | $ 9,000.00 | $ 9,000.00 | $ 9,000.00 | $ 9,000.00 |
| Trash / Waste Service | | $ 14,400.00 | $ 1,440.00 | $ 14,400.00 | $ 14,400.00 |
| **Total G&A Expenses** | $ 35,000.00 | $ 666,900.00 | $ 653,940.00 | $ 665,900.00 | $ 665,900.00 |
| **Unclassifed Expenses** | $ 10,518,969.60 | | | $ - | |
| **Total Expense** | $ 10,693,969.60 | $ 12,430,491.48 | $ 11,349,176.70 | $ 10,866,786.24 | $ 9,949,701.99 |
| **EBIDA** | $ (7,027,124.84) | $ (8,763,646.72) | $ (7,682,331.94) | $ (7,199,941.48) | $ (6,282,857.23) |
| Depr - Facilities | | $ - | $ - | $ - | $ - |
| Depr - Vehicles | | $ 857,142.86 | $ 857,142.86 | $ 800,000.00 | $ 800,000.00 |
| Depr - Other | | $ - | $ - | $ - | $ - |
| **Total Depreciation** | | $ 857,142.86 | $ 857,142.86 | $ 800,000.00 | $ 800,000.00 |
| **Net Income (Loss)** | **$ (7,027,124.84)** | **$ (9,620,789.57)** | **$ (8,539,474.80)** | **$ (7,999,941.48)** | **$ (7,082,857.23)** |

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# Greene County Ambulance Tax Analysis

| | Ashland | Athens | Cairo | Catskill | Coxsackie | Durham | Greenville | Halcott | Hunter | Jewett | Lexington | New Baltimore | Prattsville | Windham | Greene County |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2024 Equalization Rate** | 40.50% | 93.00% | 38.20% | 32.50% | 41.25% | 41.50% | 47.00% | 64.40% | 29.10% | 60.50% | 59.25% | 41.00% | 64.00% | 61.00% | |
| **2025 County Levy (Preliminary)** | $726,654 | $2,231,709 | $2,849,947 | $4,452,320 | $2,380,473 | $1,559,759 | $1,445,504 | $269,038 | $3,433,802 | $1,599,993 | $1,135,153 | $1,336,032 | $342,060 | $3,546,926 | $27,309,370 |
| **County FMV Tax Rate / $1,000** | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 |
| **County AV Tax Rate / $1,000** | 6.23 | 2.71 | 6.60 | 7.76 | 6.11 | 6.08 | 5.36 | 3.91 | 8.66 | 4.17 | 4.26 | 6.15 | 3.94 | 4.13 | |
| **2024 Town Levy** | $712,874 | $1,199,079 | $3,906,292 | $3,617,017 | $1,570,465 | $2,295,296 | $1,849,999 | $301,874 | $2,767,781 | $1,196,361 | $1,215,706 | $1,052,652 | $663,265 | $2,213,483 | $24,562,144 |
| **2024 Town Ambulance District Levy** | $157,898 | $0 | $0 | $0 | $345,161 | $365,000 | $595,453 | $0 | $0 | $0 | $163,343 | $74,850 | $200,000 | $527,900 | $2,429,605 |
| **2024 Town & Ambulance District Levy (Total)** | $870,772 | $1,199,079 | $3,906,292 | $3,617,017 | $1,915,626 | $2,660,296 | $2,445,452 | $301,874 | $2,767,781 | $1,196,361 | $1,379,049 | $1,127,502 | $863,265 | $2,741,383 | $26,991,749 |
| **2024 Town & Ambulance AV Tax Rate / $1,000** | 7.18 | 1.46 | 8.99 | 6.29 | 4.32 | 9.93 | 8.68 | 4.30 | 6.98 | 3.12 | 5.03 | 4.75 | 8.94 | 3.19 | |
| **2024 Town & Ambulance FMV Tax Rate / $1,000** | 2.91 | 1.36 | 3.43 | 2.04 | 1.78 | 4.12 | 4.08 | 2.77 | 2.03 | 1.89 | 2.98 | 1.95 | 5.72 | 1.94 | |
| **Greene EMS Levy (Greene EMS + Halcott)** | $60,646 | $186,258 | $237,856 | $371,590 | $198,674 | $130,177 | $120,642 | $22,454 | $286,584 | $133,535 | $94,740 | $111,505 | $28,548 | $296,026 | $2,279,235 |
| **Greene EMS FMV Tax Rate / $1,000** | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 |
| **Greene EMS AV Tax Rate / $1,000** | 0.52 | 0.23 | 0.55 | 0.65 | 0.51 | 0.51 | 0.45 | 0.33 | 0.72 | 0.35 | 0.36 | 0.51 | 0.33 | 0.34 | |
| **Town/Special District Ambulance Levy** | $157,898 | $159,500 | $329,614 | $1,049,543 | $345,161 | $365,000 | $595,453 | | $345,009 | $105,000 | $163,343 | $74,850 | $200,000 | $527,900 | $4,418,271 |
| **Town/Special District Ambulance AV Tax Rate / $1,000** | 1.30 | 0.19 | 0.76 | 1.82 | 0.78 | 1.36 | 2.11 | 0.08 | 0.87 | 0.27 | 0.60 | 0.32 | 2.07 | 0.61 | |
| **Town Ambulance FMV Tax Rate / $1,000** | 0.53 | 0.18 | 0.29 | 0.59 | 0.32 | 0.57 | 0.99 | 0.05 | 0.25 | 0.17 | 0.35 | 0.13 | 1.33 | 0.37 | |
| **Average Single Family Residence FMV** | $354,948 | $362,643 | $309,671 | $274,195 | $304,633 | $279,484 | $272,184 | $267,771 | $348,295 | $441,388 | $338,028 | $309,107 | $237,107 | $528,630 | $330,577 |
| **Average Single Family Residence AV** | $143,754 | $337,258 | $118,294 | $89,113 | $125,661 | $115,986 | $127,927 | $172,444 | $101,354 | $267,040 | $200,282 | $126,734 | $151,748 | $322,464 | $171,433 |
| | | | | | | | | | | | | | | | |
| **Current Taxes (Based on Average Single Family Residence)** | | | | | | | | | | | | | | | |
| **2025 County Taxes (Preliminary)** | $894.91 | $914.31 | $780.76 | $691.31 | $768.05 | $704.65 | $686.24 | $675.12 | $878.14 | $1,112.85 | $852.25 | $779.33 | $597.80 | $1,332.81 | $833.47 |
| **Greene EMS Taxes (includes Halcott)** | $74.69 | $76.31 | $65.16 | $57.70 | $64.10 | $58.81 | $57.27 | $56.35 | $73.29 | $92.88 | $71.13 | $65.04 | $49.89 | $111.24 | $69.56 |
| **Town/Special District Ambulance Taxes (2024)** | $187.10 | $65.41 | $89.75 | $162.61 | $97.79 | $157.96 | $270.30 | $13.01 | $88.19 | $73.19 | $119.36 | $39.92 | $314.42 | $197.83 | $134.06 |
| **Total Greene EMS & Ambulance Taxes** | $261.79 | $141.72 | $154.91 | $220.31 | $161.89 | $216.77 | $327.57 | $69.35 | $161.48 | $166.07 | $190.49 | $104.97 | $364.31 | $309.06 | $203.62 |
| **2024 Town & Ambulance Taxes** | $1,031.81 | $491.72 | $1,063.65 | $560.41 | $542.73 | $1,151.26 | $1,110.08 | $740.84 | $707.47 | $833.94 | $1,007.69 | $601.38 | $1,357.15 | $1,027.32 | $873.39 |
| | | | | | | | | | | | | | | | |
| **Option 1** | | | | | | | | | | | | | | | |
| **FMV Tax Rate / $1,000** | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | |
| **Greene EMS + County Enhanced Services** | $97.03 | $99.13 | $84.65 | $74.95 | $83.27 | $76.40 | $74.40 | $73.20 | $95.21 | $120.66 | $92.40 | $84.50 | $64.82 | $144.51 | $90.37 |
| **Increase in County Tax** | $22.34 | $22.82 | $19.49 | $17.26 | $19.17 | $17.59 | $17.13 | $16.85 | $21.92 | $27.78 | $21.28 | $19.45 | $14.92 | $33.27 | $20.81 |
| **County Tax + Enhanced Srvices** | $917.25 | $937.14 | $800.25 | $708.57 | $787.23 | $722.24 | $703.37 | $691.97 | $900.06 | $1,140.63 | $873.53 | $798.79 | $612.73 | $1,366.08 | $854.27 |
| **Net Change in County Tax Percentage** | 2.50% | 2.50% | 2.50% | 2.50% | 2.50% | 2.50% | 2.50% | 2.50% | 2.50% | 2.50% | 2.50% | 2.50% | 2.50% | 2.50% | 2.50% |
| | | | | | | | | | | | | | | | |
| **Option 2A** | | | | | | | | | | | | | | | |
| **FMV Tax Rate / $1,000 (Mountain District)** | 0.91 | | | | | | | | 0.91 | 0.91 | 0.91 | | 0.91 | 0.91 | |
| **FMV Tax Rate / $1,000 (River District)** | | 0.69 | | 0.69 | 0.69 | | | | | | | 0.69 | | | |
| **FMV Tax Rate / $1,000 (Valley District)** | | | 0.88 | | | 0.88 | 0.88 | | | | | | | | |
| **Greene County Ambulance Tax** | $321.46 | $250.12 | $272.62 | $189.11 | $210.11 | $246.04 | $239.62 | | $315.43 | $399.74 | $306.13 | $213.19 | $214.73 | $478.75 | $281.31 |
| **Net Change in Ambulance Taxes** | $59.67 | $108.40 | $117.71 | ($31.20) | $48.21 | $29.28 | ($87.95) | | $153.96 | $233.67 | $115.65 | $108.23 | ($149.58) | $169.69 | $77.69 |
| **Net Change in Ambulance Tax Percentage** | 22.79% | 76.49% | 75.98% | -14.16% | 29.78% | 13.51% | -26.85% | | 95.34% | 140.71% | 60.71% | 103.11% | -41.06% | 54.90% | 38.16% |
| **County Levy with Option 2A** | $927,618 | $2,657,767 | $3,609,535 | $5,302,317 | $2,834,932 | $1,975,477 | $1,830,770 | $269,257 | $4,383,456 | $2,042,488 | $1,449,091 | $1,591,096 | $436,661 | $4,527,866 | $33,838,331 |
| **County FMV Tax Rate wth Option 2A** | 3.22 | 3.00 | 3.19 | 3.00 | 3.00 | 3.19 | 3.19 | | 3.22 | 3.22 | 3.22 | 3.00 | 3.22 | 3.22 | 3.15 |
| **County Taxes with Option 2A** | $1,142.41 | $1,088.86 | $988.85 | $823.29 | $914.68 | $892.46 | $869.15 | | $1,121.00 | $1,420.62 | $1,087.95 | $928.12 | $763.13 | $1,701.41 | $1,040.08 |
| **Net Change in County Taxes** | $247.50 | $174.55 | $208.09 | $131.98 | $146.63 | $187.81 | $182.90 | | $242.86 | $307.77 | $235.70 | $148.78 | $165.33 | $368.60 | $206.61 |
| **Net Change in County Tax Percentage** | 27.66% | 19.09% | 26.65% | 19.09% | 19.09% | 26.65% | 26.65% | | 27.66% | 27.66% | 27.66% | 19.09% | 27.66% | 27.66% | 24.79% |
| **Net Change in Town & Ambulance Tax Percentage** | -18.13% | -13.30% | -8.44% | -29.02% | -18.02% | -13.72% | -24.35% | | -12.47% | -8.78% | -11.84% | -6.64% | -23.17% | -19.26% | -15.35% |
| **Overall Net Change in Tax Percentage** | 9.52% | 5.79% | 18.21% | -9.93% | 1.07% | 12.93% | 2.30% | | 15.19% | 18.88% | 15.81% | 12.45% | 4.49% | 8.40% | 9.44% |
| | | | | | | | | | | | | | | | |
| **Option 2B** | | | | | | | | | | | | | | | |
| **FMV Tax Rate / $1,000 (Mountain District)** | 0.82 | | | | | | | | 0.82 | 0.82 | 0.82 | | 0.82 | 0.82 | |
| **FMV Tax Rate / $1,000 (River District)** | | 0.58 | | 0.58 | 0.58 | | | | | | | 0.58 | | | |
| **FMV Tax Rate / $1,000 (Valley District)** | | | 0.77 | | | 0.77 | 0.77 | | | | | | | | |
| **Greene County Ambulance Tax** | $289.79 | $210.98 | $238.70 | $159.52 | $177.23 | $215.43 | $209.80 | | $284.36 | $360.37 | $275.98 | $179.83 | $193.58 | $431.59 | $248.24 |
| **Net Change in Ambulance Taxes** | $28.01 | $69.26 | $83.78 | ($60.79) | $15.34 | ($1.34) | ($117.77) | | $122.89 | $194.30 | $85.49 | $74.87 | ($170.73) | $122.53 | $44.62 |
| **Net Change in Ambulance Tax Percentage** | 10.70% | 48.88% | 54.08% | -27.59% | 9.47% | -0.62% | -35.95% | | 76.10% | 117.00% | 44.88% | 71.33% | -46.86% | 39.65% | 21.92% |
| **County Levy with Option 2B** | 901,907 | 2,562,241 | 3,485,714 | 5,111,741 | 2,733,039 | 1,907,710 | 1,767,968 | 269,257 | 4,261,960 | 1,985,877 | 1,408,926 | 1,533,908 | 424,558 | 4,402,367 | 32,757,172 |
| **County FMV Tax Rate wth Option 2B** | 3.13 | 2.89 | 3.08 | 2.89 | 2.89 | 3.08 | 3.08 | | 3.13 | 3.13 | 3.13 | 2.89 | 3.13 | 3.13 | 3.05 |
| **County Taxes with Option 2B** | $1,110.74 | $1,049.73 | $954.93 | $793.70 | $881.81 | $861.84 | $839.33 | | $1,089.93 | $1,381.24 | $1,057.80 | $894.76 | $741.98 | $1,654.25 | $1,007.13 |
| **Net Change in County Taxes** | $215.83 | $135.42 | $174.17 | $102.39 | $113.75 | $157.19 | $153.09 | | $211.79 | $268.39 | $205.54 | $115.42 | $144.18 | $321.44 | $173.66 |
| **Net Change in County Tax Percentage** | 24.12% | 14.81% | 22.31% | 14.81% | 14.81% | 22.31% | 22.31% | | 24.12% | 24.12% | 24.12% | 14.81% | 24.12% | 24.12% | 20.84% |
| **Net Change in Town & Ambulance Tax Percentage** | -18.13% | -13.30% | -8.44% | -29.02% | -18.02% | -13.72% | -24.35% | | -12.47% | -8.78% | -11.84% | -6.64% | -23.17% | -19.26% | -15.35% |
| **Overall Net Change in Tax Percentage** | 5.98% | 1.51% | 13.87% | -14.21% | -3.21% | 8.59% | -2.04% | | 11.65% | 15.34% | 12.27% | 8.17% | 0.95% | 4.86% | 5.49% |
| | | | | | | | | | | | | | | | |

# Greene County Ambulance Tax Analysis

| | Ashland | Athens | Cairo | Catskill | Coxsackie | Durham | Greenville | Halcott | Hunter | Jewett | Lexington | New Baltimore | Prattsville | Windham | Greene County |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Option 3A** | | | | | | | | | | | | | | | |
| **FMV Tax Rate / $1,000 (Ambulance)** | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 |
| **Greene County Ambulance Tax** | $264.76 | $270.50 | $230.99 | $204.53 | $227.23 | $208.47 | $203.03 | | $259.80 | $329.24 | $252.14 | $230.57 | $176.86 | $394.31 | $246.58 |
| **Net Change in Ambulance Taxes** | $2.97 | $128.79 | $76.08 | ($15.78) | $65.34 | ($8.29) | ($124.54) | | $98.32 | $163.17 | $61.65 | $125.60 | ($187.45) | $85.25 | $42.96 |
| **Net Change in Ambulance Tax Percentage** | 1.14% | 90.88% | 49.11% | -7.16% | 40.36% | -3.83% | -38.02% | | 60.89% | 98.25% | 32.37% | 119.66% | -51.45% | 27.58% | 21.10% |
| **County Levy with Option 3A** | $881,581 | $2,707,524 | $3,457,574 | $5,401,584 | $2,888,006 | $1,892,310 | $1,753,695 | $269,257 | $4,165,911 | $1,941,122 | $1,377,174 | $1,620,883 | $414,990 | $4,303,154 | $33,074,765 |
| **County FMV Tax Rate wth Option 3A** | 3.06 | 3.06 | 3.06 | 3.06 | 3.06 | 3.06 | 3.06 | | 3.06 | 3.06 | 3.06 | 3.06 | 3.06 | 3.06 | 3.06 |
| **County Taxes with Option 3A** | $1,085.71 | $1,109.25 | $947.22 | $838.70 | $931.81 | $854.88 | $832.56 | | $1,065.36 | $1,350.11 | $1,033.96 | $945.49 | $725.26 | $1,616.97 | $1,011.17 |
| **Net Change in County Taxes** | $190.80 | $194.94 | $166.46 | $147.39 | $163.75 | $150.24 | $146.31 | | $187.22 | $237.27 | $181.71 | $166.16 | $127.46 | $284.16 | $177.70 |
| **Net Change in County Tax Percentage** | 21.32% | 21.32% | 21.32% | 21.32% | 21.32% | 21.32% | 21.32% | | 21.32% | 21.32% | 21.32% | 21.32% | 21.32% | 21.32% | 21.32% |
| **Net Change in Town & Ambulance Tax Percentage** | -18.13% | -13.30% | -8.44% | -29.02% | -18.02% | -13.72% | -24.35% | | -12.47% | -8.78% | -11.84% | -6.64% | -23.17% | -19.26% | -15.35% |
| **Overall Net Change in Tax Percentage** | 3.19% | 8.02% | 12.88% | -7.70% | 3.30% | 7.60% | -3.03% | | 8.86% | 12.54% | 9.48% | 14.68% | -1.85% | 2.06% | 5.97% |
| | | | | | | | | | | | | | | | |
| **Option 3B** | | | | | | | | | | | | | | | |
| **FMV Tax Rate / $1,000 (Ambulance)** | 0.66 | 0.66 | 0.66 | 0.66 | 0.66 | 0.66 | 0.66 | | 0.66 | 0.66 | 0.66 | 0.66 | 0.66 | 0.66 | |
| **Greene County Ambulance Tax** | $234.41 | $239.49 | $204.51 | $181.08 | $201.18 | $184.57 | $179.75 | | $230.02 | $291.50 | $223.24 | $204.14 | $156.59 | $349.11 | $221.51 |
| **Net Change in Ambulance Taxes** | ($27.38) | $97.78 | $49.60 | ($39.23) | $39.29 | ($32.19) | ($147.82) | | $68.54 | $125.43 | $32.75 | $99.17 | ($207.73) | $40.05 | $17.89 |
| **Net Change in Ambulance Tax Percentage** | -10.46% | 68.99% | 32.02% | -17.81% | 24.27% | -14.85% | -45.13% | | 42.45% | 75.53% | 17.19% | 94.48% | -57.02% | 12.96% | 8.78% |
| **County Levy with Option 3B** | $856,936 | $2,631,835 | $3,360,917 | $5,250,581 | $2,807,271 | $1,839,410 | $1,704,670 | $269,257 | $4,049,452 | $1,886,858 | $1,338,675 | $1,575,571 | $403,389 | $4,182,859 | $32,157,681 |
| **County FMV Tax Rate wth Option 3B** | 2.97 | 2.97 | 2.97 | 2.97 | 2.97 | 2.97 | 2.97 | | 2.97 | 2.97 | 2.97 | 2.97 | 2.97 | 2.97 | 2.97 |
| **County Taxes with Option 3B** | $1,055.36 | $1,078.24 | $920.74 | $815.26 | $905.76 | $830.99 | $809.28 | | $1,035.58 | $1,312.37 | $1,005.05 | $919.06 | $704.99 | $1,571.77 | $982.90 |
| **Net Change in County Taxes** | $160.45 | $163.93 | $139.98 | $123.95 | $137.71 | $126.34 | $123.04 | | $157.44 | $199.52 | $152.80 | $139.73 | $107.18 | $238.96 | $149.43 |
| **Net Change in County Tax Percentage** | 17.93% | 17.93% | 17.93% | 17.93% | 17.93% | 17.93% | 17.93% | | 17.93% | 17.93% | 17.93% | 17.93% | 17.93% | 17.93% | 17.93% |
| **Net Change in Town & Ambulance Tax Percentage** | -18.13% | -13.30% | -8.44% | -29.02% | -18.02% | -13.72% | -24.35% | | -12.47% | -8.78% | -11.84% | -6.64% | -23.17% | -19.26% | -15.35% |
| **Overall Net Change in Tax Percentage** | -0.20% | 4.63% | 9.49% | -11.09% | -0.09% | 4.21% | -6.42% | | 5.46% | 9.15% | 6.08% | 11.29% | -5.24% | -1.33% | 2.58% |
| | | | | | | | | | | | | | | | |

**Notes:**

**FMV = Full Market Value**

**AV = Assessed Value**

**Current New Baltimore Ambulance is a blended rate**

**Option 2A & 2B does not include $857,142.88 for Vehicle Depreciation**