

North East Dutchess EMS Services

Existing Services and Options for the Future

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Prepared for:
Dutchess County

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Summary

Emergency medical care for the sick and injured is an essential service to the residents and visitors of any community. The emergency medical service (EMS) system that exists to provide that care is unique to each community. In New York State, there are certain minimum requirements for training and equipment, but most details of the service are decided by local municipalities, not state or county officials.

This project was requested by the towns of Amenia, Dover and North East and the village of Millerton, which shall be referred to collectively throughout this report as the “community” or “communities”, to evaluate the existing EMS service in the communities and suggest options for change. This project is being funded by the Dutchess County Municipal Innovation Grant (MIG) program.

This summary highlights key aspects of the remainder of the report. The report begins with the Key Findings and the initial outline of the Opportunities for Change sections. Following these sections is the information that led to these findings and recommendations: the profiles of the communities, descriptions of the existing service providers, results of the survey and information related to the existing services in the communities.

Key Findings

The Key Findings are observations drawn from the qualitative interviews and the objective data. Their intent is to serve as a stepping off point for community discussions and as the basis for the Opportunities for Change.

- The existing EMS system, with three individual contracts for EMS service is functioning well, but is a new financial burden on the communities.
- The lack of EMS volunteers is a relatively recent phenomenon that has a substantial impact on the cost of public safety in the communities.
- Retention of existing volunteers EMTs is more difficult than in the past because of increased demands on their time and higher training requirements.
- Northern Dutchess Paramedics provides good clinical care and meets contract obligations within the communities.
- For each fire department, it was a very difficult decision for them to ask for outside help to perform a task they had done alone for decades. (Some of their neighboring departments seem to be struggling just as much, but have not yet sought similar assistance.)

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- The town governments are primary contractors and decision makers, but some have limited experience or knowledge in EMS. Dutchess County and the fire departments are providing technical expertise to assist in the transition.
 - All three towns are under agreement or negotiated renewals through 2019.
 - The lack of EMS resources in neighboring municipalities impacts the study communities with an increased demand for resources that occasionally effects service to those whom they are under contract to provide service.
 - NDP Ambulance locations in Amenia and Dover are not centrally located for call volume in those towns, potentially leading to a longer overall response time.
 - The call volume in the study area (Amenia, Dover, Millerton and North East), is on average, just over 4 calls per day.
 - All communities have similar rates of EMS calls by population.
 - The busiest times for calls is in the middle of the afternoon and the slowest times are in middle of the overnight. About 1 in 8 calls occur within 90 minutes of another call.
 - Community is “over resourced” by call volume, but it needs resources because of geography and dispersed population.
 - Existing EMS and fire volunteers remained interested in serving the community and could serve as a valuable resource if focused on key events.

Opportunities for Change

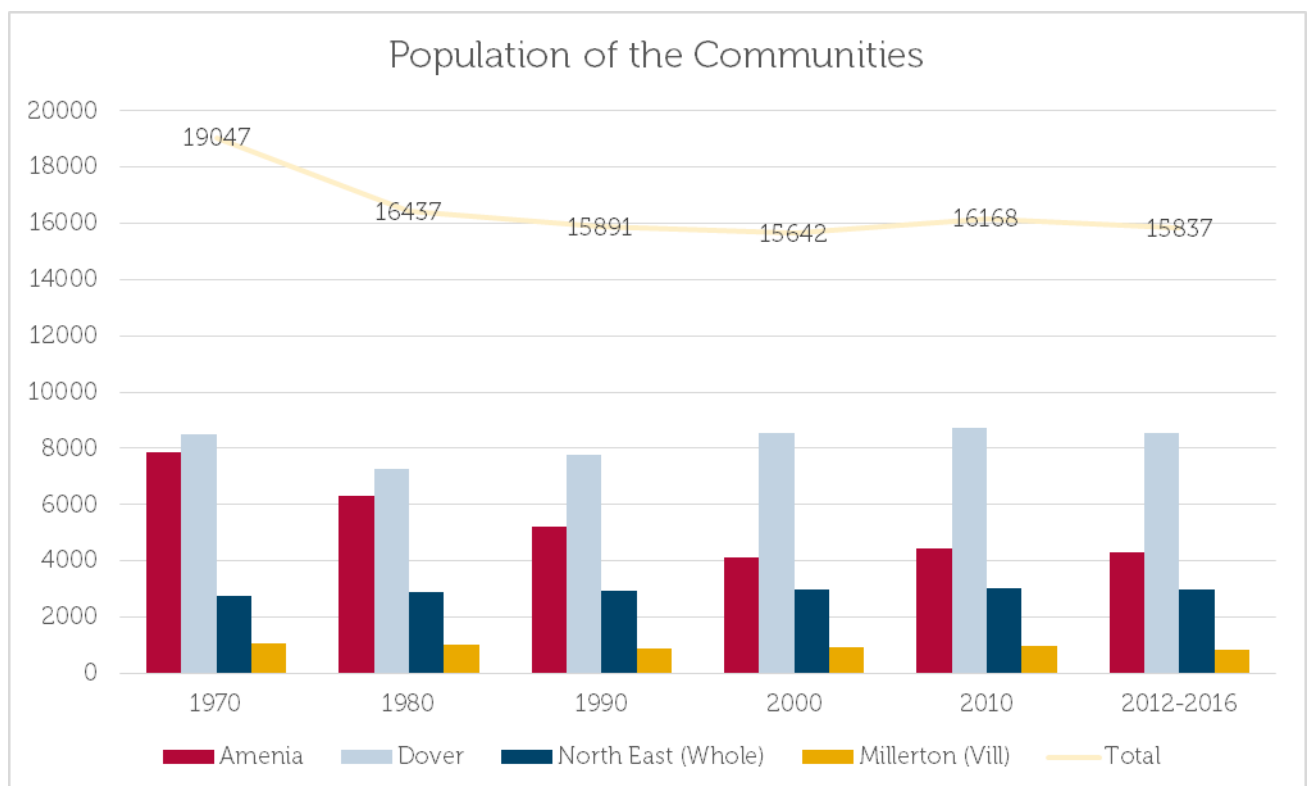
The following Opportunities for Change were developed based on the Key Findings and are intended to be the starting point of a community discussion. The changes fall into two distinct categories: Delivery Model Changes and Service Refinements. Delivery Model Changes are fundamental shifts in the current model or a decision to continue with the current situation. The Service Refinements can be implemented in the current situation or with any of the delivery models. More details for each opportunity appears in the body of the report.

- Service Model Changes
 - Maintain the Status Quo
 - Create a Single Service District
 - Have Two Towns Share a Service District
 - Creation of a Non-Profit EMS Ambulance Service
 - Paid EMS staff for fire districts and companies
 - Creation of Municipal Ambulance Service
 - Development of an EMS Authority

- Service Refinements
- Refine Current Contracts
 - Improve NDP Chute Time
 - Reduce Response Time Through Optimization of Ambulance Staging
 - Consider Dynamic Deployment
 - Consider Working with Neighboring Towns
 - Enhance First Response to Critical Calls
 - Evaluate Need for Swing Shift
 - Consider Adding BLS Units to Matrix

About the Communities

The Towns of Amenia, Dover and North East (including the Village of Millerton) occupy a rural area in the northeastern corner of Dutchess County along the border of New York and Connecticut. The population of these towns has changed little in the last 40 years, but the character of the community is beginning to shift from agrarian and rural roots with a few state medical facilities to a bedroom and weekend retreat community for the megalopolis centered in New York City.



EMS Service Contract Comparison

The three contracts have relatively common terms of service with a requirement for an ambulance to be posted in the communities, for the units to be dispatched by Dutchess County and for an ambulance to arrive on scene within 15 minutes of dispatch for call, although North East allows for 20 minutes on some lower priority calls. There is an exemption for adverse weather conditions.

Comparison of Town Ambulance Contracts			
	Amenia	Dover	North East
2018 Ambulance Contract	\$ 322,000	\$256,000	\$ 310,000
2018 Town Tax Levy	\$1,475,596	\$1,880,422	\$1,926,089
Estimated Share of Tax Levy	22%	14%	16%
Cost per Day	\$ 882	\$ 701	\$ 849
Per Capita Cost	\$ 75	\$ 30	\$ 104
Per Call Cost	\$ 698	\$ 304	\$ 1,131
Calls per 1,000 Residents (2017)	107	99	92

About the Agencies

There are five agencies that provide emergency medical services (EMS) in the communities. **Northern Dutchess Paramedics (NDP)** is a private, for profit company that has contracts with the three towns to provide service. They generally service the contracts with paramedic ambulances staffed at all times in each community.. Overall, the company has 130 employees and staffs 12 ambulances and 3 paramedic emergency ambulance service vehicles on a daily basis. In 2017, they responded to 1,626 calls for service in the study communities.

The Amenia Fire Department operates in the northern two-thirds of the town. They operated a single ambulance with an on call volunteer crew system and respond to calls from 6 pm to 6 am every day. They also provide a first response to calls at other times of the day. In 2017, their ambulance responded to 113 calls for service.

The J.H. Ketchum Hose Company covers the whole town of Dover. They operate a single ambulance with volunteers from 5 pm to 5 am. They also provide an EMS first response to calls at other times of the day. In 2017, their ambulance responded to 69 calls for service.

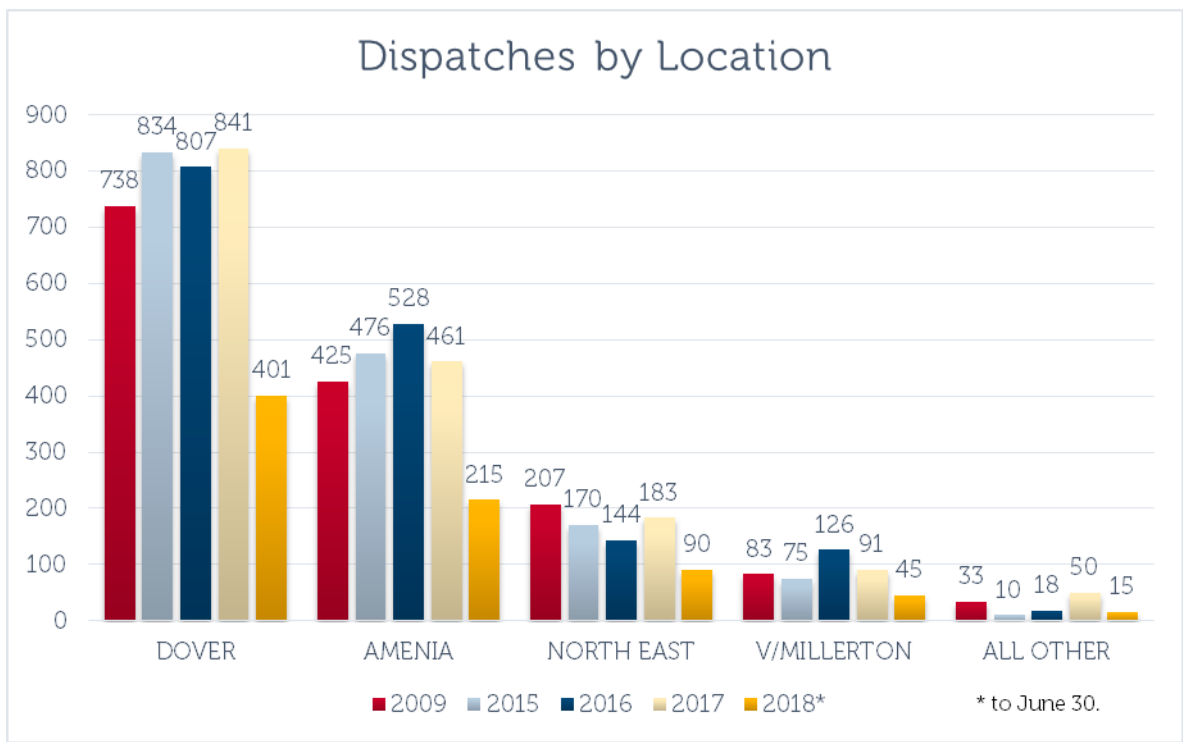
The Millerton Fire Department provides service in the Village of Millerton and the remainder of North East. Their ambulance generally responds only to calls where

there is also a fire department response, such as motor vehicle crashes and fires. The department does provide a first response to EMS calls in their district. In 2017, the ambulance responded to 27 calls in Millerton and 45 in the rest of the town.

The Wassaic Fire Company responds to EMS calls in the southern third of the town of Amenia in the Wassaic Fire District. They do not operate an ambulance, but do send EMS first responders to call in their district.

Distribution of EMS Calls

Each of the communities has about 95 calls per year per 1000 residents. Amenia is slightly busier at 108 calls and North East is the slowest at 90. The volume of calls per population has remained relatively constant over the past 4 years and even back to 2009.



Acknowledgements

The following people were interviewed and share information as part of this project.

- Town of Amenia
 - Victoria Perotti, Town Supervisor, and Vicki Doyle, Deputy Supervisor
- Amenia Fire Department
 - Aaron Howard, Richard Howard, and Chris Klingler
- Town of Dover
 - Linda French, Town Supervisor, Katie House, Town Clerk, Councilwoman Jane Muenier and Councilman Andrew House
- J.H. Ketcham Hose/ Dover Fire Department
 - Joe Dingee, Ryan Sartori, Brian Kelly, Mary McGhee Alan Barto, Robert Sartori, and Howard Craft
- Dutchess County Emergency Response
 - Dana Smith, Commissioner and John Mahoney, EMS Coordinator
- Town of North East
 - John Merwin, Deputy Supervisor and John Midwood, Councilman
- Northern Dutchess Paramedics
 - Edward Murray and Mark Browne
- Millerton Fire Department/ North East Fire District
 - Lenny Morrison, Jason Watson and Joshua Shultz
- Sharon Hospital EMS Office
 - David Gearing
- Wassaic Fire Department
 - Mark Christiansen and Tim Shea

Staff Team

Katherine Bell created the maps for the project and maintains the project website. Mike Silva performed most of the data analysis for the project. Amelia Rickards assisted with project planning and also conducting the survey. Anthony Brito assisted with data analysis.

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Introduction

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The report is based on a series of interviews with municipal officials, fire and EMS leaders, and other relevant parties. A survey was conducted on the current fire and EMS volunteers in each of the communities to garner their opinions related to the existing system and potential options for the future. Data was also gathered from the municipalities, current service providers and Dutchess County.

The report begins with the Key Findings and the initial outline of the Opportunities for Change sections. Following these sections is the information that led to these findings and recommendations: the profiles of the communities, descriptions of the existing service providers, results of the survey and information related to the existing services in the communities.

Key Findings

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- For each fire department, it was a very difficult decision for them to ask for outside help to perform a task they had done alone for decades. (Some of their neighboring departments seem to be struggling just as much, but have not yet sought similar assistance)
 - The town governments are primary contractors and decision makers, but some have limited experience or knowledge in EMS. Dutchess County and the fire departments are providing technical expertise to assist in the transition.
 - All three towns are under agreement or negotiated renewals through 2019.
 - The lack of EMS resources in neighboring municipality impact these communities with an increased demand for resources that occasionally effects service to those whom they are under contract to provide service.
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Opportunities for Change

The following Opportunities for Change were developed based on the Key Findings and are intended to be the starting point of a community discussion. The changes fall into two distinct categories: Delivery Model Changes and Service Refinements. Delivery Model Changes are fundamental shifts in the current model or a decision to continue with the current situation. The Service Refinements can be implemented in the current situation or with any of the delivery models. At this stage in the process estimates for the cost impact of these changes can't be reasonably estimated. However, it is possible to estimate the degree of fiscal impact based on reasonable assumptions. The characteristics, benefits and drawbacks presented in the description are meant to be illustrative and not an exhaustive list.

Service Model Changes

Any of these changes will require substantial discussion among elected officials, public safety leaders and the general public. In some cases, there will need to be negotiation of legal documents between the towns as well as with vendors for services.

Additionally, the creation of new entities requires may require substantial investment of time and legal requirements.

Maintain Status Quo

Key Characteristics

Each town¹ retains control over their contract for EMS services. The contracts focus on the presence of a resource in each community and the responsiveness to the individual communities. Each town funds the service on a town wide basis using a property tax assessment. Existing volunteer EMS units are integrated into the system when they are available.

Benefits

- Local control of the service
- EMS unit “dedicated” to their town

Drawbacks

- Costs will continue to escalate for EMS services to point where they may become unsustainable
- Unlikely to have competitive bidding situation for agreement

Create a Single Service District for Three Towns

Key Characteristics

The three towns and village agree to jointly contract for EMS service inside their borders. This agreement would likely begin with a formal Inter-municipal agreement that would include key decisions such as cost sharing among the municipalities, composition of an advisory board/commission, and requirements for service. The consortium would develop an RFP that provides required response time, minimum service levels, reporting requirements and other specifications as outlined above.

¹ The Village of Millerton does not have a contract for service with NDP. They are covered by the Town of North East’s contract.

Benefits

- Potential lower costs for communities with more competitive bids
- Dynamic positioning of resources if one (or more) went out on a call
- Able to require additional performance measures
- Could work with vendor to optimize service levels

Drawbacks

- Loss of local control of service
- Balance of cost could be challenge to negotiate

Have Two Towns Share Services/Contract

Key Characteristics

Similar to the above option of all three towns getting together, but instead focusing on Amenia and either Dover or North East. This provides less density of calls than the three together, but might be more manageable to establish.

Benefits

- Still provides for increased service area with potential for more competitive bidding
- Would allow for dynamic positioning of resources if one went out on call

Drawbacks

- Smaller pool of calls would inhibit competitive bidding and potential economies of scale
- Eliminates exclusive local municipal contract
- Negotiation of cost sharing

Creation of Non-Profit EMS Agency to Serve Area

Key Characteristics

Numerous communities in New York have independent non-profit ambulance services that provide EMS service to a community. These agencies are separate organizations such as Community Rescue Squad in Copake. They have a board of directors responsible for their direction. They own and operate the EMS services either

with volunteers or career staff or often a combination of the two. The service they provide is no different from a commercial service or volunteer fire department.

Benefits

- Non-profit organizations provide service to specific areas
- They can operate at slightly lower costs due to tax exempt status and ability to apply for grants
- Governance is generally drawn from service area
- Able to bill for services

Drawbacks

- Substantial up-front costs to develop the agency and begin operations
- Requires investment of time from a variety of people to develop the service
- Will require subsidy to operate due to call volume and service expectations

Paid EMS staff for fire districts and companies

Key Characteristics

- The fire department ambulances could pay for staffing at either the EMT or paramedic level.
- The staff could be for 24 hours a day or fraction of the day or week
- Existing fire department infrastructure would be utilized for this service

Benefits

- Keeps service under local direction
- Allows for volunteers to remain engaged and work in coordination with paid staff
- Limited need for additional capital expense

Drawbacks

- Fire Districts and independent fire companies are unable to bill for service for EMS transport so the entire cost would be a municipal burden such as property taxes
- The management of this service would likely be a new burden to volunteer leadership of the fire companies
- The fire districts and companies would need to move to the paramedic level to continue the current level of care

Creation of Municipal Ambulances to directly provide services

Key Characteristics

- One or more of the municipalities establish an ambulance service including an operating certificate. Dover already has an ambulance operating certificate and contracts with NDP for the service, so its process would be shorter to implement.
- The full operations of the ambulance service including staffing, billing, responding to calls, capital investment, training and purchasing would become the responsibility of the municipality.
- There could be inter-municipal agreements for the services between the towns. For example, Dover could operationalize their ambulance certificate and contract with Amenia and North East to provide the service in those towns. The latter towns would need to establish operating certificates as part of the process. This also could be done by only one or two towns

Benefits

- Locally directed and focused service
- Staff might be available for other municipal tasks
- Resources remain controlled by community

Drawbacks

- Substantial upfront costs in capital and planning
- Municipalities would be responsible for full operations of agency including burden of billing and collecting revenue, human resource management, and capital planning
- The EMS service is unlikely to generate enough revenue to cover costs and would rely on a tax subsidy still

Development of EMS authority for all or a portion of county

Key Characteristics

- An independent government authority is created to provide EMS service in a designated area.
- The authority would be governed by a board of directors or commission

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- This would be a first of its kind entity in New York and would need substantial planning and legal work to implement

Benefits

- Organization focused on the delivery of EMS service
- As an independent service authority across municipal lines it could impose a service fee on all property owners, including tax exempt properties
- Could contract with one or more third parties to provide the service

Drawbacks

- As a first of its kind organization, there would be unforeseen challenges in its development
- There is a need for substantial political support to implement this option
- If the authority operated its own service, there would be substantial capital costs and it would compete with other service providers for personnel

Service Refinements

The following series of options can be implemented with any of the above Service Model changes and several of them could be undertaken under the existing contracts.

Refine Current Contracts

Key Characteristics

The current individual contracts each have opportunities for refinement that could lead to better service in the community. These refinements could be added and negotiated through a renewal of RFP process.

Potential refinements include:

1. Basics
 - a. Ambulance Rates – the appendices have verbiage that states “rates subject to change”, then the rates should be submitted, reviewed and approved by the governing board. Vendor shall maintain New York State certification of its ambulance service as defined in Article 30, Section 3005 of the Public Health Law of the State of New York and shall at all

times comply with the standards required for such certification during the term of this Agreement.

- b. Vendor shall comply at all times with both New York State Department of Health and Hudson Valley Regional Emergency Medical Services Council Standards of Care, as each may be amended from time to time during the period of this Agreement.
- c. Vendor agrees to comply with the requirements of Article 30, Section 3006 of the Public Health Law of New York State for Quality Improvement Programs.
- d. The parties agree that the published telephone number for all requests for emergency ambulance services shall be "911".
- e. All equipment used for treatment and transport of patients will be in accordance with Part 800 of the Emergency Medical Services Code of New York State.
- f. Copy of all insurance policies held by vendor or in which vendor is named as an additional insured. A Certificate of Insurance may be substituted for copies of actual policies.
- g. Copies of following authorizations:
 - NYS Ambulance Operating Certificate;
 - NYS Controlled Substance License;
 - Any regional requirements for providing service
- h. Public Hearings on the proposed contracts are a best practice and have been recommended by the state comptroller.

2. Operational

- a. Call Coverage –Monthly call coverage by the vendor at a minimum shall be at least 95%. Should call coverage for any two-consecutive month timeframe drop below 95%, the vendor will submit a plan of correction to the Town
- b. Response Time – Compliance with contractual response times of 15 minutes should be clarified to define the time frame² and differentiate between different call types.
- c. Key Clinical Performance – Demonstrate performance to key patient care metrics such as transportation of potential cardiac, stroke and trauma

² A common definition of response time is the difference between when the call is received by the 911 center and when the unit arrived on scene. An alternative, which is currently used, is the time period from when the unit was notified to when it arrived on scene. The time period that begins when the 911 call was received is a more accurate assessment of performance from the public perspective and is currently used by the National EMS Information System. The latter is a historic method that remains in common use.

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- patients to appropriate facility and utilization of care bundles³ for key diagnosis (infection, trauma, cardiac, stroke, diabetics, etc.).
- d. Value Added Services – The vendor should provide services to the public such as blood pressure checks or home safety inspections for geriatric or pediatric environments during their time in between calls. As the scope of paramedics expands in New York, those services should be considered as well.
 - e. Specify locations for staging – In both Dover and Amenia, the current ambulance staging locations provide a less than ideal response to certain areas of the town. Relocating the ambulance to a more central area would improve responses.
 - f. Use Independent Data Source – The 911 center can provide independent data related to response times to ensure objective measurement.
3. Financial
- a. The contractor should provide monthly reports of their expenses related to the performance of the contract and their revenues related to transportation and care of patients in the community.
 - b. A rate schedule for services should be provided to the municipalities and discussed at a public meeting.
 - c. Any contract with the provider should be discussed at a public hearing to allow for discussion.
 - d. Penalties for poor performance – either cash payments or withholding fees should be included in any contract.

Benefits

- Improved service with tighter controls and reporting
- More transparent process for the public

Drawbacks

- Technical experts are needed to draft and monitor standards
- Ambulance providers might balk at contract requirements
- Higher performance standards might require additional resources and resulting higher costs

³ The EMS Compass initiative, supported by NHTSA and the National Association of State EMS Officials has developed multiple performance measurements for EMS care. The information can be found at www.EMSScompass.org

Improve NDP Chute Time

Key Characteristics

As currently operating, there is a delay in response from call processing by NDP. When Dutchess 911 assigns a call to a unit in one of the towns, the unit does not begin to respond until told to do so by the NDP dispatcher. An improved practice would be for the resource assigned to the town to be “controlled” by 911 and for them to respond immediately on dispatch instead of waiting for NDP to be involved. This change could improve response times by a minute on each call. Also, on critical calls (Echo by EMD coding) units should be alerted that a call is in process even before all information is gathered to further speed the response time. Also, the NDP units would only respond to another community based on an approved mutual aid plan and response.

Benefits

- Improved response time

Drawbacks

- NDP loses ability to use units for other communities, except through mutual aid
- This could increase NDP’s operational costs

Reduce Response Time through Optimization of Ambulance Staging Locations

Key Characteristics

NDP has leased space for its crews in Dover and Amenia, as well as owned space in North East. Based on a plot of calls and projected response times, the locations in Dover and Amenia could be relocated to improve response to calls in the town. The Dover station could be relocated south toward the area around the Dover Union Free School High School. An improved location for the Amenia unit would be close to the Wassiac Metro North Station.

The communities have mutual aid agreements with each other and other towns. Through an inter-municipal arrangement, although not necessarily a formal agreement since money will not be changing hands, the towns should work with NDP to arrange appropriate staging locations when units in a town go out on a call.

Benefits

- Improved response time to calls in Amenia and Dover

Drawbacks

- NDP would need to relocate their vehicles from the existing locations at a potential expense to them.
- Appropriate facilities may not be available at the desired locations

Consider Dynamic Deployment in Communities

Key Characteristics

About 4 times a day for periods up to two hours, one or more of the ambulances in the communities responds to a call for service. NDP contracts state that they will backfill if a unit is available, but anecdotes indicate that this is not a common practice. An alternative would be to work with NDP to dynamically relocate their resources inside the communities to ensure best possible coverage with the remaining resources. For example, if the Dover Unit responds to a call and starts a transport, the Amenia unit would shift to the southern end of their district (although they currently are already staged there) and the North East unit would also shift to a more southerly location in their town. This positioning could be implemented through an agreement between the municipalities and NDP apart from other changes.

Benefits

- Provides an improved response to the area whose ambulance is on a call
- No increase in costs to the community

Drawbacks

- The shifting of resources will pull away from some areas while the shift is being utilized
- EMS crews are taken away from their normal stations, temporarily.

Consider Working with Neighboring Towns in County

Key Characteristics

At nearly every meeting, CGR was told that these communities have developed a workable solution for their EMS problems but that their neighboring towns have not developed an effective solution and they draw resources through "mutual aid". The participating towns have expressed a willingness to develop work with neighbors, but have not had success at this time.

Benefits

- A larger demand for services from additional towns would likely draw a more competitive response from qualified vendors.
- Vendors would be able to spread their costs across additional call volume leading to a greater efficiency of operations and lower costs to community

Drawbacks

- Further dilution of local control of service
- Cost savings may not be substantial

Enhance First Response to Critical Calls

Key Characteristics

This is a service improvement outside of the ambulance transport contract. Critical calls in a community, such as cardiac arrest, obstructed airways and severe trauma merit as quick a response by a trained person as possible. The training does not need to be at the level of a paramedic or even an EMT, but enough to operate an AED, open a blocked airway or stop a severe bleed. In these cases, time intervals are truly life altering, the training needed is minimal and the equipment necessary is relatively inexpensive. If half of Priority 1 calls fell into this life-threatening category, it would be about one call per day.

The responders for this type of call already come from the fire service. If responses are focused on calls that are truly emergent in nature, existing volunteers might be more willing to respond to events and those agencies could recruit more people to get involved.

However, the pool could also be broadened to include law enforcement agencies, who already have the required training, and non-traditional responders such as public works employees, other municipal staff and school district employees. This could also be the motivation for the foundation of EMS first response squad in the community

Benefits

- Seconds count in certain emergencies.
- Using dispatch protocols, activations of this resource can be limited to true emergencies
- Reinvigorated response from existing volunteers
- Opportunity to recruit new volunteers

Drawbacks

- Cost for training of new members
- Costs related to equipping
- Overseeing this program would be an additional burden to the community
- Shift resources such as law enforcement and public works from existing tasks

Evaluate Need for “Swing Shift” for Peak Times

Key Characteristics

During interviews, the community public safety leaders expressed a desire for additional resources in the area. The data is mildly supportive of the addition of resources during the afternoon and evening hours when the majority of calls occur. An additional ambulance could assist with the higher call volume during this time. Most calls occur in Dover and Amenia, therefore it would make the most sense for this resource to be stationed in that area.

Benefits

- A single additional resource stationed in the community, that would move from one to the other would provide enough resources to ensure adequate response with existing call volumes.
- A resource positioned in a plan with the other three would allow for staging to reduce response times in all communities.

Drawbacks

- There is likely not enough call volume to derive adequate revenue to support this service and it would need to be funded wholly by community subsidy.

Consider Adding BLS Units to Matrix

Key Characteristics

Advanced Life Support (ALS) and paramedics have become the standard for contracted services in the communities. However, ALS transport was indicated on only about 35% of calls in a recent 18-month time block. ALS was indicated by dispatch on about 60% of all EMS calls in last 5 years. While it is reasonable to want the highest level of care by contract in a community, if the service area included all communities, NDP (or other vendor) could provide the service with a mix of BLS and ALS units to potentially lower costs and appropriately manage resources. In recent years, BLS providers have an expanded scope of care (when trained and approved) that allows

them to provide interventions that were previously seen as ALS only such as Continuous Positive Airway Pressure (CPAP) for respiratory emergencies, nebulized albuterol for asthma attacks and 12 Lead EKG testing for triage of cardiac patients.

Benefits

- Lower cost of service to community
- More targeted response of ALS resources
- Improves skills for BLS providers with more independent care

Drawbacks

- Needs active management and engagement to ensure appropriate resources are always available
- Requires cultural change away from perceived need for ALS on all calls

About the Community

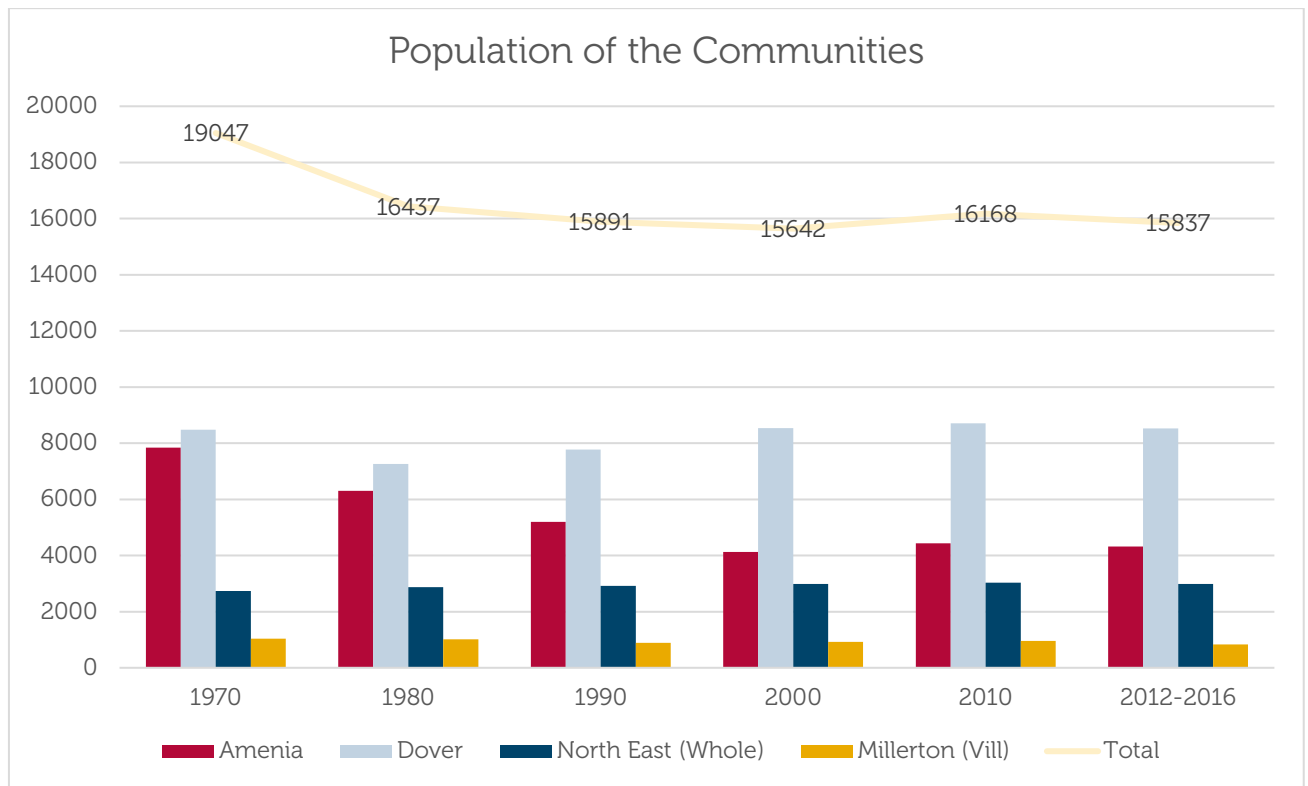
The Towns of Amenia, Dover and North East (including the Village of Millerton) occupy a rural area in the northeastern corner of Dutchess County along the border of New York and Connecticut. The population of these towns has changed little in the last 40 years, but the character of the community is beginning to shift from agrarian and rural roots with a few state medical facilities to a bedroom and weekend retreat community for the megalopolis centered in New York City. The shift is being facilitated by the expansion of the MetroNorth commuter rail route to two of the communities and the willingness of residents to commute for work by car.

This shift in character has had a deleterious effect on all the volunteer groups in the community, this has been particularly noticeable in EMS services that for decades had relied on volunteers to answer the community's needs. Although there is a paucity of firm data on the number of EMS volunteers over time, repeated interviews in the three towns have indicated that in the last decade the ability of volunteers to meet the needs of the community has declined substantially.

Population

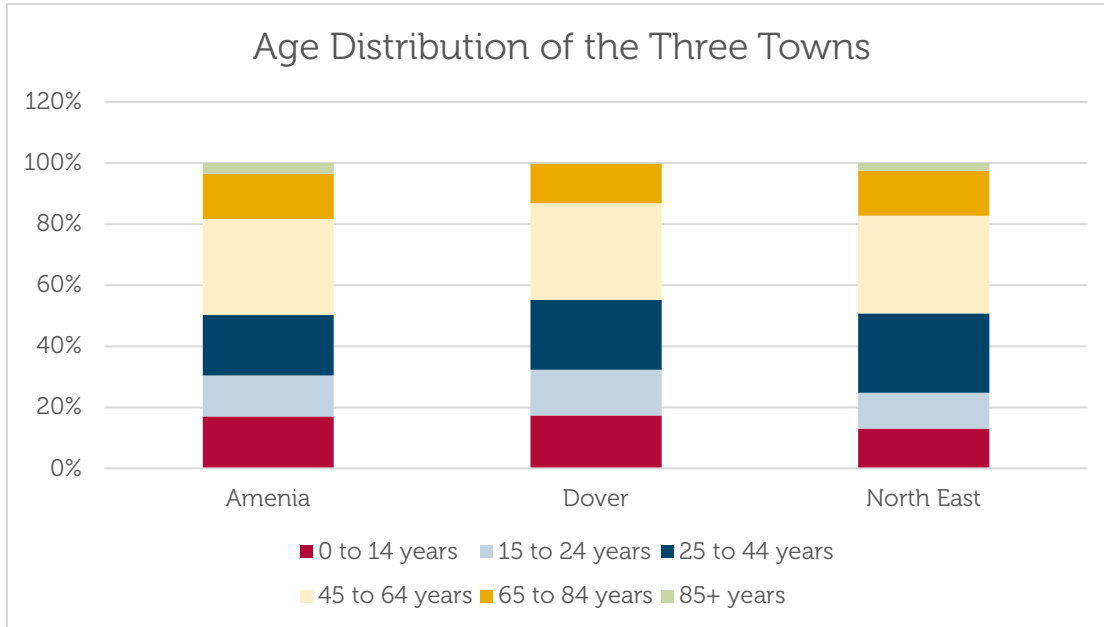
The population of the three towns has remained relatively constant over the last four decades, although Amenia's declined substantially from 1970 to 1990 as the state transitioned patients out of the large hospital in the town. Dover had a similar decline when its state hospital closed during the same time period, but the town had other

developments to maintain its population. The Village of Millerton's population has also had a substantial decline⁴ of nearly 20% since 1970.



The population density ranges from 70 per square mile in North East to 155 in Dover. This figure is a little deceiving as there are several areas in the towns (the village of Millerton, hamlets of Amenia, Dover Plains, Wassiac and Wingdale) that are substantially denser in population than the pastoral landscape and woodlands that surround them.

⁴ Much of the decline is in the 2012-2016 census estimated population that has a wide margin of error in small communities.



The median age is 44 in Amenia and North East. In Dover, it is 42, which is also the median age for the county. The state's median age is 38, just a year younger than the Village of Millerton. A little over 15 percent of the residents of the three towns are 65 or over. The median income for the three towns is similar.

Town	Pop	Median Age	Median Household Income	Housing Units
Amenia	4,316	44.9	\$ 58,000	1,900
Dover	8,530	42	\$ 54,600	3,511
North East	2,991	44.2	\$ 62,738	1,571
Millerton (subset of North East)	830	39	\$ 51,250	436

Source: US Census 2012-16 ACS

Town of Amenia

The Town of Amenia has two hamlets, Amenia and Wassaic. While much of the town has had only incremental changes over the last few decades, there are some substantial shifts on the horizon. The Taconic Developmental Disabilities Services Organization (DDSO) campus in Wassaic was once a major employer. However, it effectively closed in 2014 and is no longer a residential facility, but the site has a substantial footprint in the community and the state is seeking redevelopment of the area. There is a major development of luxury homes underway at Silo Ridge in the center third of the town.

Amenia sought a contract for EMS services in 2017 after the Wassaic Fire District had entered into a contract for its area in 2016 after its volunteer ambulance went out of service. Amenia issued an RFQ and entered into a contract with Northern Dutchess Paramedics for paramedic level ambulance service in the town. The contract is for 2017, 2018 and 2019. The contract is funded out of the town's general fund. The amount in 2018 will be \$322,000 and in 2019 it will increase 4% to \$335,000.

Town of Dover

The Town of Dover has two hamlets, Dover Plains and Wingdale. The town is shifting toward a more bedroom community feel after major local employers in Wingdale, including a state hospital, and adjoining towns closed. The number of housing units in the town has slowly increased about 8% in the last decade. Anecdotally, many of these new houses are being occupied by residents that choose to commute toward the megalopolis to the south. In the center of the town, there is a major industrial development in the form of the Cricket Valley Energy Center. This facility has a PILOT agreement with the town for \$157 million over its first 30 years of operations and will employ about 30 permanent employees after construction.

Dover has been contracting with NDP for ambulance services for over a decade. Initially, the arrangement called for an ambulance 12 hours a day, but since at least 2015, the agreement has called for the service 24 hours a day. The agreement calls for a basic life support (BLS) ambulance service, but NDP has chosen to fulfill the contract with a paramedic unit for the last few years. The alternative would be for NDP to dispatch a paramedic emergency ambulance service vehicles (EASV) for calls that require advanced life support. The cost for the contract in 2018 is \$256,000 and in 2019 it will increase 2.3% to \$262,000. The contract is paid for out of the town's general funds.

Dover holds an ambulance operating certificate⁵ for a basic life support ambulance. This certificate was obtained at the time of the initial contract with NDP because NDP lacked state authorization to operate an ambulance in the town. NDP's operating certificate has now expanded and includes the town of Dover, so this certificate is not needed for them to operate. However, by maintaining ownership of this operating certificate, the town could choose to contract with an ambulance organization other than NDP that lacked an operating certificate or they could choose to establish and operate their own ambulance service.

⁵ In New York State, all ambulance services are required to have an operating certificate that is authorized by the regional EMS council and the state of New York. The process of obtaining an operating certificate is governed by Public Health Law Article 30 and various regulations and policies.

Town of North East

The Town of North East contains the Village of Millerton, which has about 30% of the population in the town. The town is heavily agrarian while the village is regional tourist destination and commercial center. The population in the town has remained virtually unchanged since the 1980 census with only 4% growth. North East is the only town of the three without a MetroNorth station or any pending major developments.

The town began contracting with NDP for ambulance service in 2015 after the Millerton Fire Department notified the town that it could no longer adequately provide the service to the community on a volunteer basis. The contract is a part of the general tax bill in the town. The increases in the contract have influenced the town needing to vote to exceed the property tax cap for the last two years and potentially in 2019. The contract in 2018 is for \$310,000 and it will be for \$340,000 in 2019.

Village of Millerton

The Village of Millerton is in the geographic center of the Town of North East. The village has seen its population decline about 20% since the 1970 census and the 2012-16 ACS estimates. While a portion of the decline could be in the margin of error of the estimate, there is still a noticeable drop of population in the village.

The village has much of the commercial activity in the town along its primary thoroughfare and along the highways that intersect in the village. About 16% of the taxable assessed value of North East is in the Village of Millerton.

The village falls under the North East contract for EMS services.

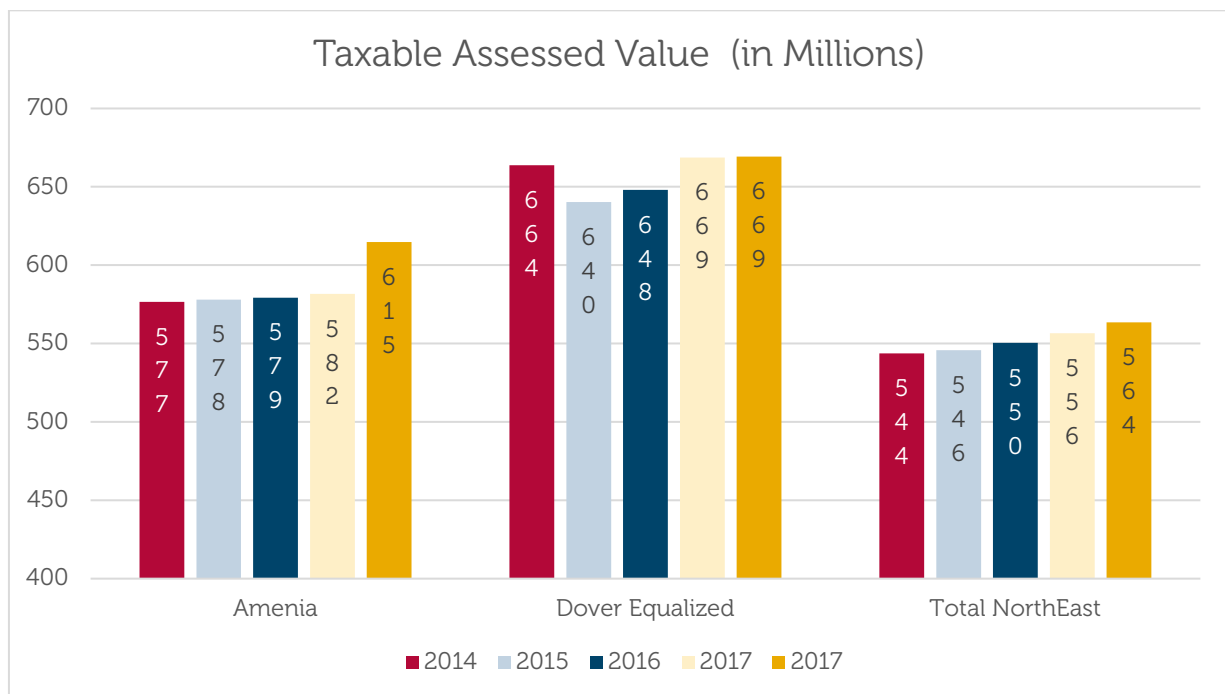
Comparison of Property Tax Rates and Taxable Assessed Value

The cost of service to tax payers in these communities is based primarily on the amount the Town Board needs to raise in taxes (tax levy) and the assessed value of the property. The latter is determined by the local assessor based on combined value of the property in the community. In Amenia and North East, properties are assessed at full market value. However, in Dover, property is assessed at a substantially lower value, estimated by New York Office of Real Property Tax Services to be 56% of the actual value in 2018. Therefore, in order to compare the assessed value and the tax

rates in the communities, the Dover values have been equalized.⁶ All figures were taken from Dutchess County Real Property Tax Services documents.

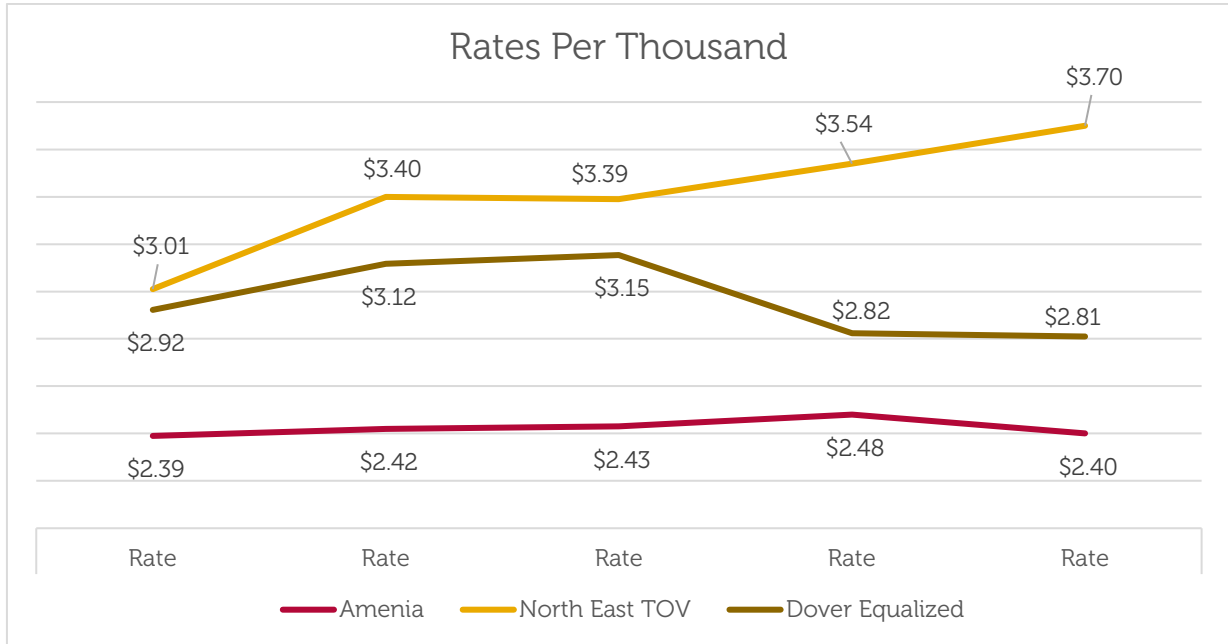
In the charts below, for North East, only the Town Outside Village tax rates have been considered. The rates for residents inside the village are about \$2.00 per thousand lower, but they also have to pay taxes to the village for certain services. In 2018, the tax rate for the village was \$4.48 per thousand. The village makes up about 15% of the TAV in North East.

The taxable assessed values for the three towns have remained relatively level for the last five years. Amenia is up about 7% over that time, North East is up 3.6% and Dover grew just less than a percent.



The tax rates for the town property taxes are all under \$4.00 per thousand. Amenia's has been level for the last five years, Dover's has actually dipped 4%, while North East's rate has climbed 23% since 2014.

⁶ The town tax rate in 2018 is \$5.02 per thousand of assessed value. The equalized rate is \$2.81. A home with a local assessment rate of \$56,000 has a full assessment value (market value) of \$100,000. The tax is \$281.00 for the property.



EMS Service Contract Comparison

The three contracts have relatively common terms of service with a requirement for an ambulance to be posted in the communities, for the units to be dispatched by Dutchess County and for an ambulance to arrive on scene within 15 minutes of dispatch for call, although North East allows for 20 minutes on some lower priority calls. There is an exemption for adverse weather conditions. None of the contracts have a requirement for a backfill other than to state one will be provided when available. The contracts all have requirements for reporting to the municipality, but the terms of the reporting vary from monthly to annually.

Amenia's contract goes into detail about how NDP will bill for service and that if the revenue exceeds expectations, the town will be able to reduce its compensation to NDP. North East's contract has a penalty clause that charges NDP a fee of \$100 per minute for every minute beyond the specified timeline – there are ten "grace minutes" per month.

The table below compares some features of the three contracts, based on the 2018 contract year. The three towns have similar rates of calls per 1,000 residents, ranging only from 92 to 107. The costs per call and per capita costs range widely because of the different sizes of the communities.

Comparison of Town Ambulance Contracts			
	Amenia	Dover	North East
2018 Ambulance Contract	\$ 322,000	\$256,000	\$ 310,000
2018 Town Tax Levy	\$1,475,596	\$1,880,422	\$1,926,089
Estimated Share of Tax Levy	22%	14%	16%
Cost per Day	\$ 882	\$ 701	\$ 849
Per Capita Cost	\$ 75	\$ 30	\$ 104
Per Call Cost	\$ 698	\$ 304	\$ 1,131
Calls per 1,000 Residents (2017)	107	99	92

While the towns each have different sources of income beyond the property tax, that is their largest single source of revenue and is influenced heavily by changes in town expenditures. Amenia has the largest ratio of ambulance contract to property tax levy at 22%, while North East and Dover are 16% and 14% respectively. Any increases in the cost of the ambulance contracts will likely be added to the tax levy.

For each of the contracts, NDP also bills the patient's for the services that are provided. The contracts are established in an effort to guarantee that an ambulance will be in the town to serve residents when the need arises.

About the Agencies

The profiles below focus on the five organizations that are actively providing EMS in the three communities. The intent is provide a brief overview of key characteristics, but not a detailed profile. Also, the focus on the four volunteer fire departments is just on the EMS services, not the fire department operations.

Northern Dutchess Paramedics

Northern Dutchess Paramedics (NDP) is a private ambulance and EMS first response company headquartered in Rhinebeck, NY. It was founded in 1994 and has been providing service to the communities in this study since 1996. The agency operates 15 ambulances and 3 paramedic emergency ambulance service vehicles (EASVs). The usual daily staffing has 12 ambulances and 3 EASVs in service. They provide service to 33 municipalities in New York and Connecticut in an area of over 1,200 square miles.

NDP has about 130 employees with about 60% working full time. Recruitment and retention is a continuous challenge for the company with employees leaving for education and other jobs in the healthcare field. NDP works to combat this issue by offering EMT certification and EMT renewal courses to their employees and the community. NDP pays wages that are competitive with other EMS agencies in the area and also offers a benefit package including 401k, health insurance and paid time off.

NDP currently has contracts for ambulance service with all three towns⁷. As discussed above, each contract has distinct terms and time periods. NDP has a base in each of the towns where their ambulances are stationed when not on calls. The crews change shifts at those bases and the vehicles and crews do not need to travel to headquarters for anything, except when a vehicle needs to go for repairs.

All three units are staffed by a paramedic and EMT to provide advanced life support to the patients that call. The units are dispatched to calls in their service area directly by the 911 center. The base in Millerton also supports another ambulance that is used to handle non-emergency transports out of the Sharon Hospital and to backfill when available.

Amenia Fire Department

The Amenia Fire Department (AFD) is supported by the Amenia Fire District in the northern two thirds of the town. AFD operates a single ambulance using an on call crew system. The ambulance is available to respond from 6 pm to 6 am every day of the week. The volunteers maintain a schedule for Sunday through Thursday evenings, and rely on anyone who is available to respond on Friday and Saturday.

The role of the ambulance is to respond in conjunction with NDP on calls that occur on the evening and overnights. They do not take patients from NDP, but rather assist on scenes and may transport if there are multiple patients. They also are able to back fill to provide service in the community if the NDP ambulance has transported to a hospital. The ambulance also provides support to members of the fire department on their incidents. In 2015 and 2016, they responded to about 250 calls. In 2017, that number dropped to 113 and the pace for 2018 will be below 100.

AFD has an operating certificate from the state to provide service in the Amenia Fire District and the Wassaic Fire District. The EMS specific staff includes 8 certified EMTs, who are all authorized to function as the medic in charge on an EMS transport. The

⁷ The Village of Millerton is encompassed in the Town of North East's contract.

ambulance is equipped with an AED, narcan, albuterol and Epi-Pens. Two of the fire apparatus are equipped with AEDs for use if needed.

The AFD ambulance is from 2003 and has about 30,000 miles on it. The ambulance is owned by the fire company and is not funded by the fire district's tax levy. There are no current mechanical problems with the ambulance and no current plans to replace it.

The number of EMS providers has been flat for the last few years, although there are a few members who have expressed interest in taking an EMT class in the near future. The overall fire department rolls have been level as well, with most people who leave doing so because of aging or moving away from the community.

J.H. Ketcham Hose Company (Dover)

The J.H. Ketcham Hose Company began their ambulance service in 1969. It was the exclusive EMS provider in the community until about 2003, when the town began to contract with NDP to provide ambulance service from 5:00 am to 5:00pm. In 2014, the contract with NDP switched to a 24 hour per day contract. Volunteers still answer calls as a second unit in the community from 5:00 pm to 5:00 am. They also work to staff the ambulance for all active fires and any motor vehicle crashes. The department reports that they are able to muster a crew almost always when requested over the last 4 to 5 years.

The department relies on 8 certified EMTs to care for patients on the ambulance. This is down from about 40 EMTs a decade ago. There is a great deal of difficulty finding new volunteers for EMS as the training requirements have increased and the character of the community has transitioned to a bedroom community for workers to the south. The ambulance has responded to about 75 calls in each of the last three years and is on a similar pace for 2018. These are primarily calls at times when the NDP ambulance is not available. In 2009, they were dispatched to 859 calls as the primary ambulance in the town.

The department responds with a 2013 ambulance with about 15,000 miles on it. The ambulance is equipped with all state mandated materials. It also carries nebulized albuterol and narcan. They also carry a vital signs machine that is capable of functioning as heart monitor and 12 lead EKG unit.

All fire/ems calls are received and dispatched through the Dutchess County 911 Communications Center and the fire department/rescue squad has a third party vendor which allows the fire department/rescue squad to receive a text page when

dispatched. It is also designed with an app so members can sign on and advise who is responding to the incident scene/station.

The drivers for the ambulance are drawn from the ranks of the fire department. They must complete an emergency vehicle operations class and receive clearance from the chief before operating the vehicles. All firefighters maintain CPR and AED certification.

Millerton Fire Department

The Millerton Fire Department (MFD) is supported by the North East Fire District. Its ambulance is owned by the fire district. In 2015, MFD began a conversation with the town of North East that it would no longer be able to answer EMS calls on a regular basis during the day. Since that time, the town has contracted with NDP for service.

MFD still maintains an ambulance that is staffed by 4 EMTs on an on-call basis. The department is notified of all EMS calls in its district and typically has volunteers that will respond to assist NDP on the calls. The department maintains AEDs and other medical equipment for each chief officer, the EMS captain and on every response apparatus. The MFD ambulance only responds a few times every month, and usually focused on fire related events or motor vehicle crashes. There has been a decline in recent years from 124 response in 2016 to 76 in 2017 and only 18 in the first six months of 2018.

MFD does not maintain a regular call schedule for its ambulance. All staffing is handled on a scramble basis to support either NDP or the fire department. The current plan is to operate the ambulance in its current method for the foreseeable future. The ambulance (and some of the other response vehicles are equipped with narcan. MFD also maintains a public access AED at a local sports field.

The MFD has been able to maintain its overall volunteer ranks, but has not been able to keep enough EMT certified volunteers to adequately staff the ambulance service.

Wassaic Fire Company

The Wassaic Fire Company (WFC) is supported by the Wassaic Fire District in the southern third of the town of Amenia. WFC does not operate an ambulance, but does send first responders to medical calls in its district. WFC did operate an ambulance until 2016, but it ceased operation. The district chose to contract with NDP to provide service to the district in 2016, but in 2017 they joined with the rest of the town in a single agreement.

WFC has 5 EMTs that are currently certified and responding to calls in the district. Each EMT is issued a medical kit by the department and they respond directly to calls

in the district. The department has 5 AEDs that are shared among operational staff, on the first due engine and also with two members that live near the edges of the district. The agency is also equipped with epi-pens, and nebulized albuterol. Most members of the fire department are certified with CPR and first aid. They will assist on calls in addition to the certified EMTs.

The fire department reported that it responded to 373 calls in 2016 and that more than half were EMS responses.

Current Service Experience

The source of call data is the Dutchess County Emergency Communications Center (911 Center). The data pulled was for events involving EMS units in the Towns of Amenia, Dover, North East and the Village of Millerton. The data pull also included the units for NDP assigned to those towns, AFD, DFD, MFD and WFC. The primary analysis was done on calls from January 1, 2015 to June 30, 2018. As a benchmark for prior activity in the area, we also looked at calls from 2009.

Types of Calls

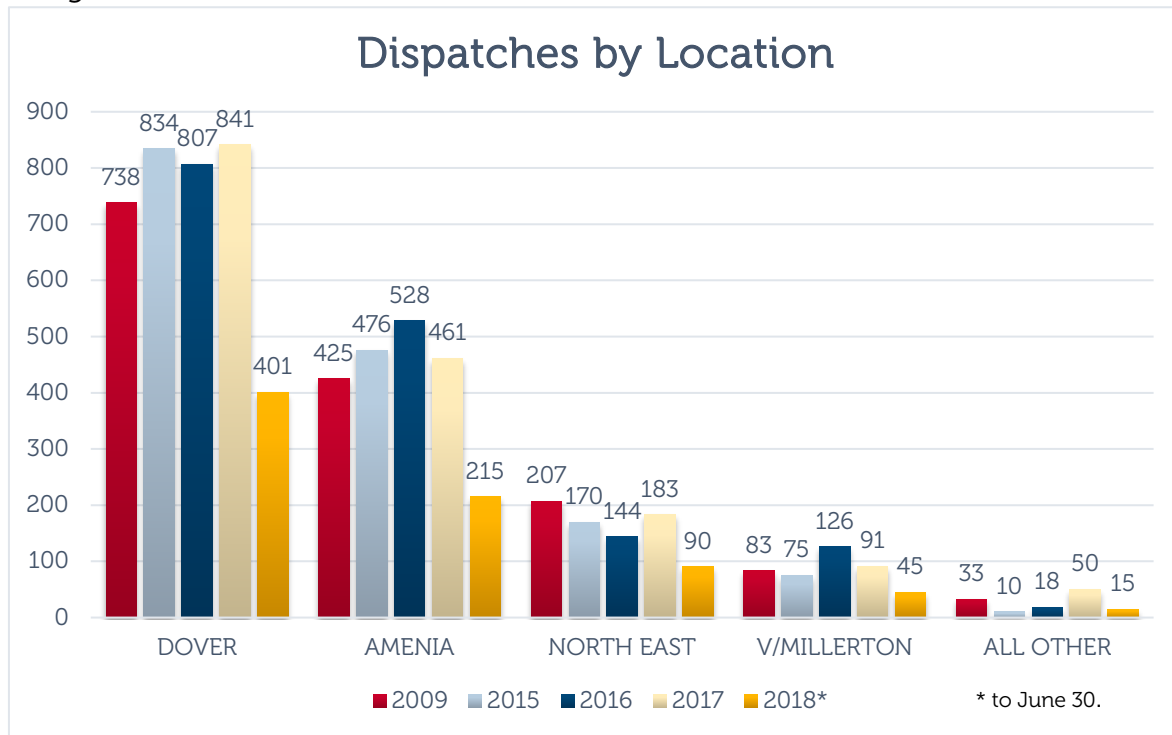
Ambulances are requested for a variety of reasons by residents. The 911 Center categorizes the calls using a series of extensively validated questions to determine the nature of the request and the appropriate resources to send to the scene. In some situations, the 911 dispatcher begins to offer direction to the caller to provide assistance. A little over 40 percent of calls are identified as Priority 1 calls. These would include such cases as chest pains, trouble breathing, unconscious person or severe bleeding. Car accidents (Personal Injury Auto Accident, or PIAA) of all priorities account for about 1 in 12 calls. About 1 in 5 calls are considered Priority 4. Unless otherwise noted, all tables and response date refers to the number of unique events. There may have more than one unit or agency on these events.

Types of EMS Calls, All Towns							
	2009	2015	2016	2017	2018*	Total	Share
EMS Priority 1	613	659	659	696	313	2940	42%
EMS Priority 4	199	301	350	338	161	1349	19%
EMS Priority 2	201	236	212	209	106	964	14%
EMS Priority 3	92	80	103	118	32	425	6%
PIAA Priority 3	98	61	56	68	37	320	5%
Structure Fire	64	53	47	67	43	274	4%
PIAA Priority 1	41	33	38	32	15	159	2%
Alarm EMS Priority 3	13	33	48	21	16	131	2%

Types of EMS Calls, All Towns							
	2009	2015	2016	2017	2018*	Total	Share
Alarm Carbon Monoxide	15	25	29	17	10	96	1%
PIAA Priority 1 Pedestrian/Bike	13	13	16	11	6	59	1%
All Other Types	137	71	65	49	34	356	5%
Total	1486	1565	1623	1626	773	7073	

Distribution of Calls

EMS calls are a function of the people living in, working in and visiting a community. Communities with larger populations have a greater volume of calls. Unless otherwise noted, data for the Village of Millerton is included with data related to the Town of North East. The graph below shows the distribution between the three towns and village.



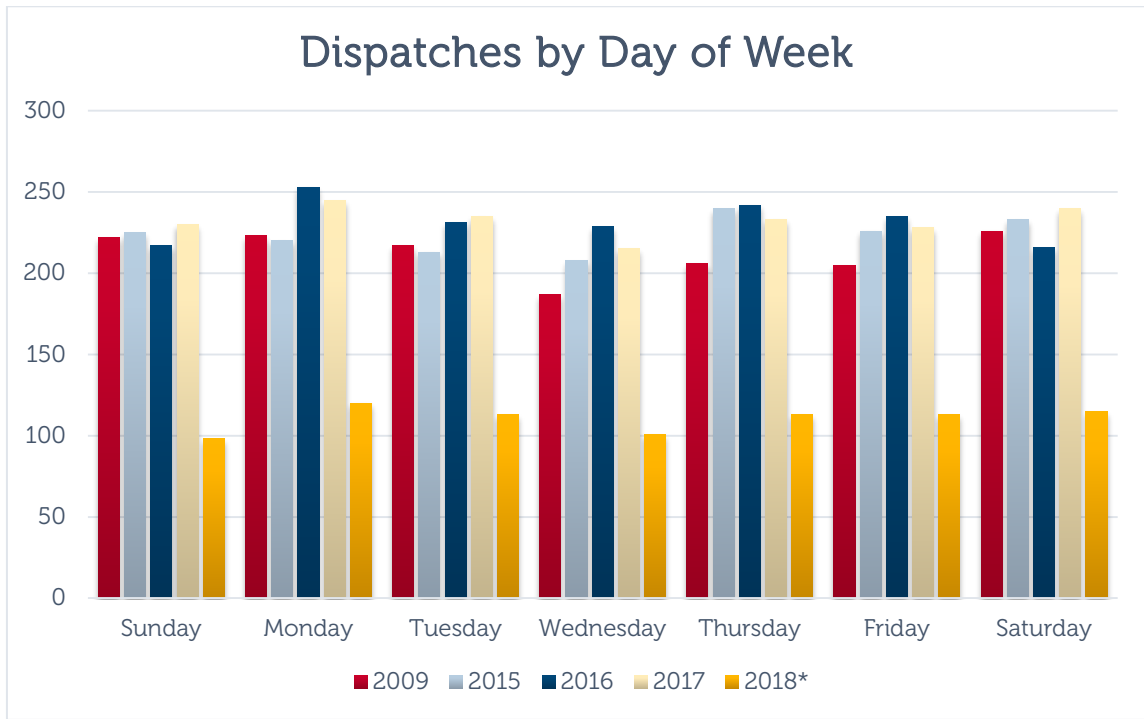
Each of the communities has about 95 calls per year per 1000 residents. Amenia is slightly busier at 108 calls and North East is the slowest at 90. The volume of calls per population has remained relatively constant over the past 4 years and even back to 2009.

Calls per Year Per 1,000 Residents						
	2009	2015	2016	2017	2018	Avg.
Amenia	98	110	122	107	100	108
Dover	87	98	95	99	94	94
North East	97	82	90	92	90	90

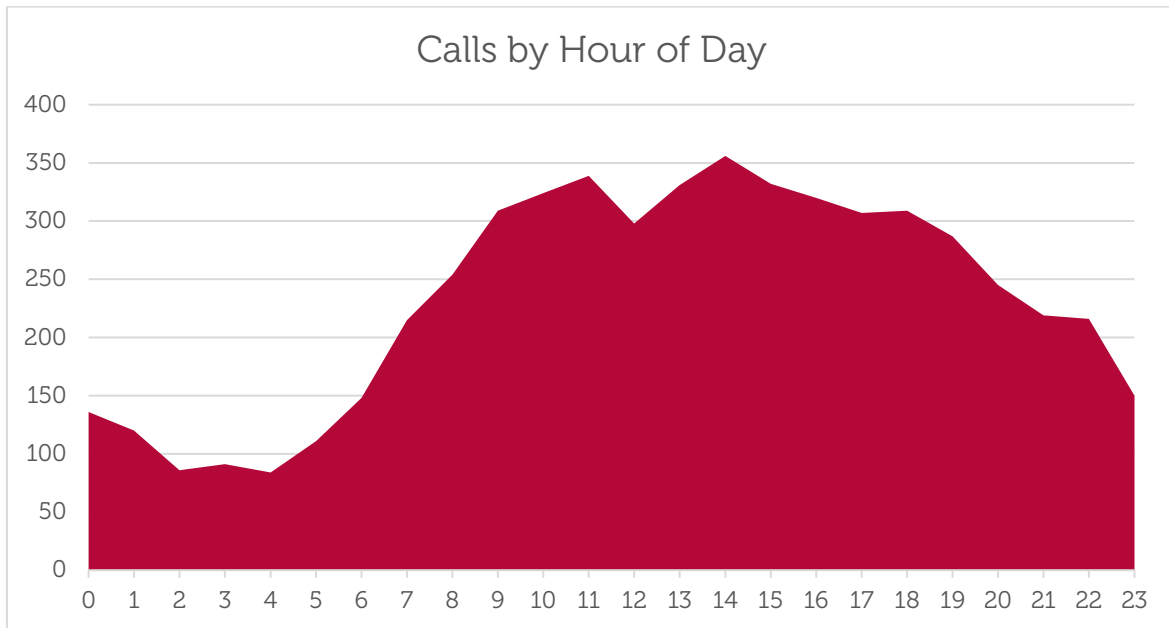
The number of calls per day in the communities varies from 0.7 calls per day in North East to 2.2 per day in Dover. Again, there has been little variation year to year in the three towns.

Calls per Day by Town						
Calls per Day	2009	2015	2016	2017	2018	Avg.
Amenia	1.2	1.3	1.4	1.3	1.2	1.3
Dover	2.0	2.3	2.2	2.3	2.2	2.2
North East	0.8	0.7	0.7	0.8	0.7	0.7
All Three Towns	4.0	4.3	4.4	4.3	4.1	4.2

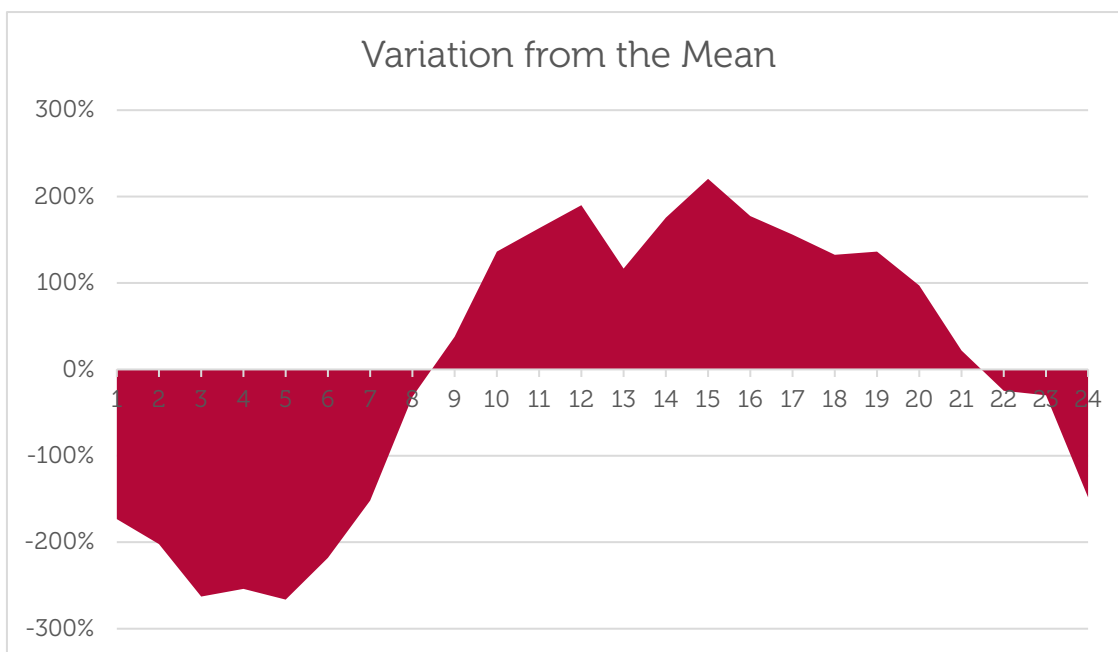
The number of dispatches by day of the week is relatively even with each day getting between 13% and 15% of the call volume.



There was substantial variability in the calls by time of day. The hours between 8 am and 8 pm had two-thirds of the calls, while the other hours had a third. The busiest hour of the day is 2 pm and the slowest is 4 am.



The slowest times, in the early morning hours, are 2.5 times below the average call volume throughout the day. The busiest times, from the late morning through the afternoon run close to twice the average. The hours of 7 am, 8 am, 8 pm, 9 pm and 10 pm are the only hours that fall close to average.



The table below shows the units that responded to the 1,626 unique events that occurred in 2017. There were 2,020 responses, meaning that some responses may have had more than one unit. That might mean that there were multiple patients, or that both an NDP unit and a volunteer unit responded to an event. The NDP units assigned to each town are dispatched by the 911 center and have unique unit identifiers based on the town. AMEMS for Amenia, DOVER for Dover and NEEMS for North East. Other NDP units that are assigned are shown as NDPARAMED. NDP units responded 1,701 in 2017. That accounted for 84% of responses and exceeded the number of events in the community. We could not analyze the number of times NDP did not respond to an event, however anecdotally we were told that the majority of DOFD calls were for events when NDP was not available.

Units Responding to Events (2017)					
	AMENIA	DOVER	NORTH EAST	V/MILLERTON	Out of Area
<u>AMEMS</u>	432	34	0	0	20
<u>DOVER</u>	7	710	0	0	14
<u>NDPARAMED</u>	24	149	81	47	0
<u>NEEMS</u>	1	0	121	55	6
AMFD	103	3	0	0	7
DOFD	1	68	0	0	0
MNFD	0	1	45	27	3
Other Units	14	41	3	3	0
Total	582	1006	250	132	50

Response Times

The project evaluated the response times for the 18 months running from January 1, 2017 to June 30, 2018. The times were calculated from when the 911 center call taker began to input information about to the time the first responding unit was noted as arriving on a call. This response time interval (Patient Response Time, PRT) evaluates the responsiveness of the system based on the public's perspective. This response

time includes the time it takes to gather information from the caller⁸, the time necessary to assign and broadcast the alarm to the responding unit, the time for the unit to muster the crew and the time to respond to the call. The response time considered by the contracts between the towns and NDP is the time from dispatch to the unit on scene (Unit Response Time, URT). The URT is typically 90 to 120 seconds shorter than the PRT. All times below are the PRT. The EMS industry is moving toward using the PRT as the standard for evaluating performance.

The tables indicate the distribution of calls responses in minutes. For example, in Amenia 25% of calls were responded in less than 9 minutes, 50% in less than 11.1 minutes, 75% in less than 13.7 minutes and 95% in less than 21.4 minutes. Using this information, Dover had the slowest median (50%) response time and the slowest 95th percentile time. Calls in the village of Millerton were the fastest for all categories. This information is the first responding unit on scene, regardless of agency.

Response Times Percentiles (in Minutes) by Location					
	25%	50%	75%	95%	Number
AMENIA	9.0	11.1	13.7	21.4	676
DOVER	9.9	14.1	17.5	27.2	1242
NORTH EAST	10.2	12.2	15.2	26.9	273
V/MILLERTON	8.6	10.5	13.1	19.5	136

The table below shows the response times for the individual units that responded to the calls in 2017 and the first half of 2018. These do include responses outside of the communities and mutual aid between the communities. This also includes events where a volunteer fire department and NDP also responded. Looking at the median (50%) response time, the NDP units assigned to the community had the quickest response times along with Millerton Fire Department – all being less than 12 minutes, except in Dover. This challenge for the NDP unit in Dover is likely associated with the ambulance being stationed in the northern third of the town, and a significant share of calls occurring in the southern third (see maps below). The slowest median response was for Dover FD.

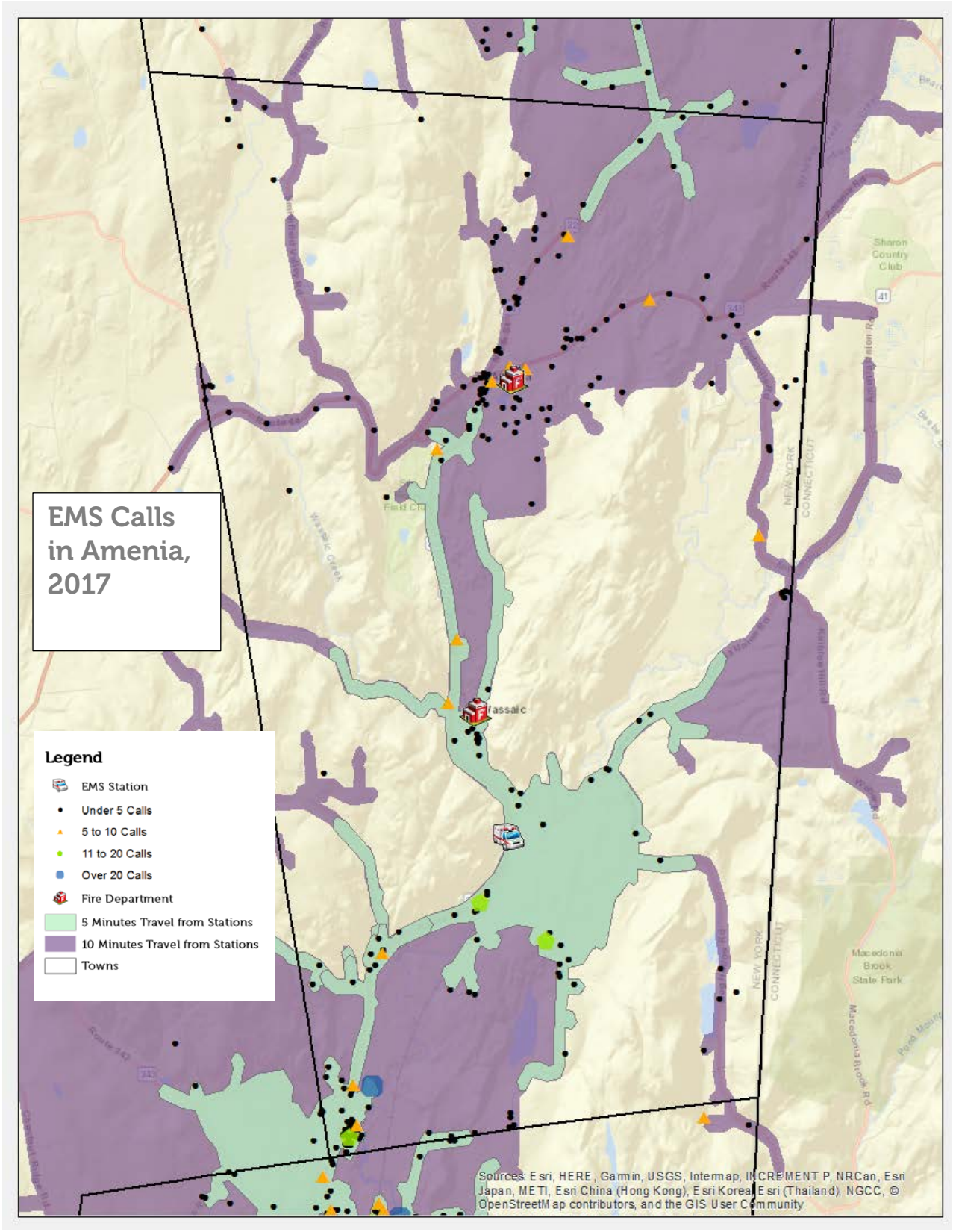
⁸ A recent evaluation of the Dutchess County 911 center puts the call processing interval at an average of 89 seconds. This time mark is similar to industry standards.

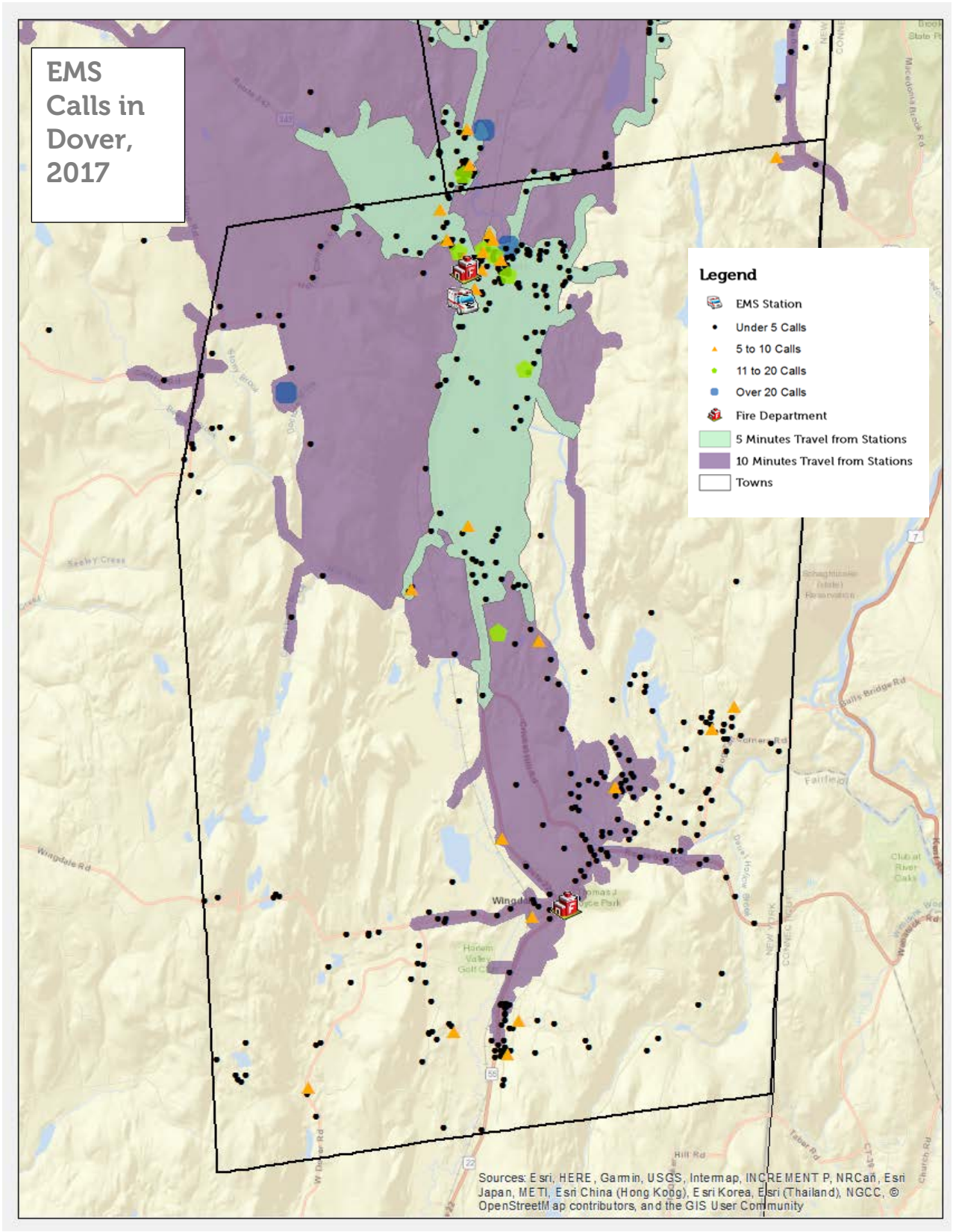
Response Times Percentiles (in Minutes) by Unit					
	25%	50%	75%	95%	Number
AMEMS	9.3	11.3	13.9	23.0	805
AMFD	8.9	11.3	15.0	25.2	186
DOFD	13.8	18.7	24.8	28.5	270
DOVER	9.6	13.5	16.9	25.2	1251
MNFD	7.8	11.7	16.6	25.7	94
NDPARAMED	11.3	15.6	20.0	31.6	383
NEEMS	9.5	11.5	14.5	26.0	382

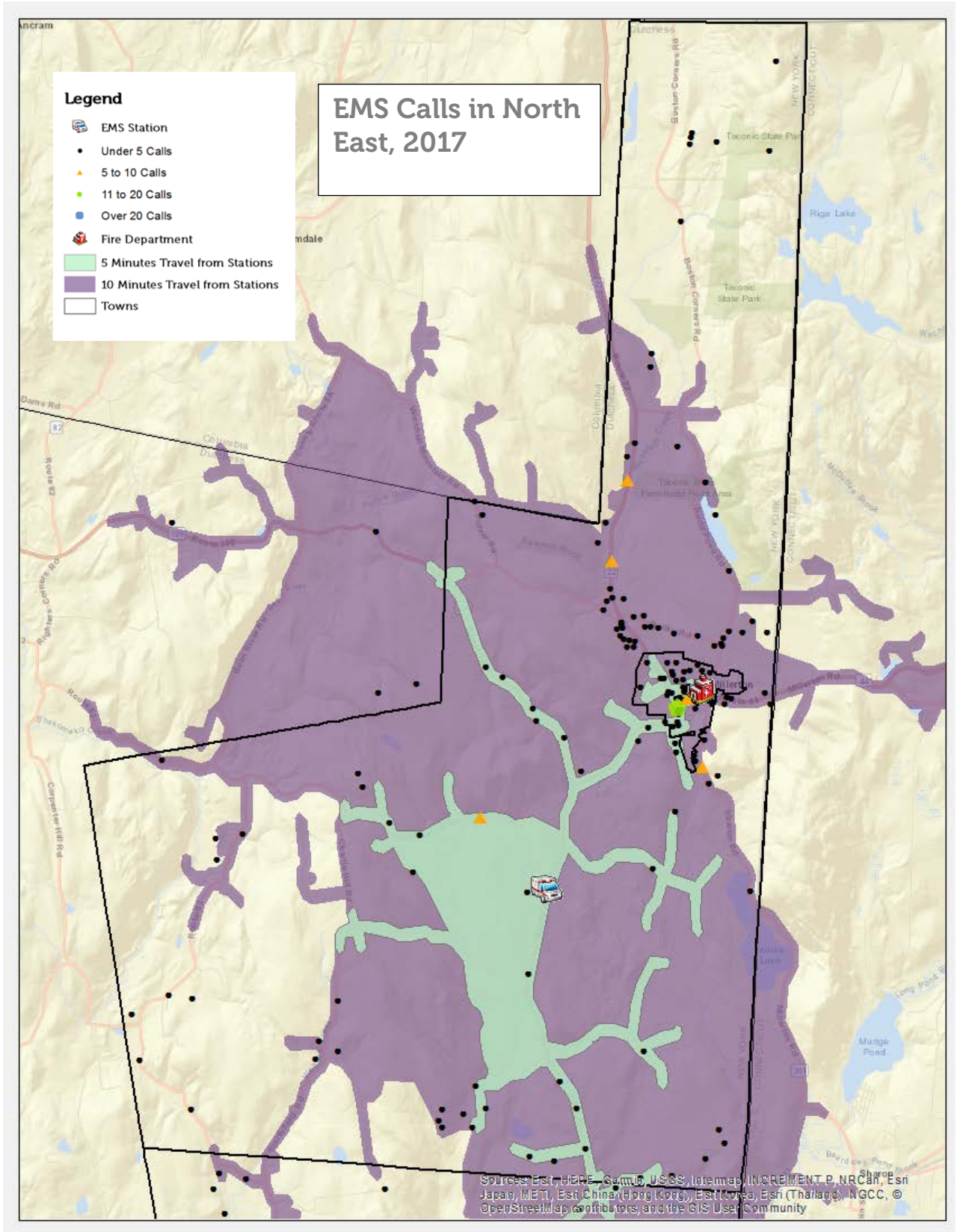
Call Locations

The following series of maps identifies the locations of calls in each of the communities in 2017. Included on the maps are the locations of the NDP stations, the fire stations and the estimated drive times from the three NDP stations. The drive times are shown at 5 and 10 minute intervals and are based on an algorithm developed by ArcGIS software. They are based on average road conditions and traveling at the speed limits. The green areas are in a 5 minute drive time and the purple indicate a 10 minute drive time.

Based on these maps, the positions of the NDP ambulances in Amenia and Dover could both be shifted to improve the response times to a number of calls in the community. For example, in Dover, the ambulance is stationed in the northern third of the town making timely responses to the Wingdale area difficult. In Amenia, the ambulance is stationed in the southern third, making responses to the central hamlet of Amenia slower. Also, using the current ambulance location, there are events that might be better served from neighboring towns.







Patient Transport Destinations

Sixty-one percent of patient calls led to a hospital transport in the 18 months from 1/1/17 to 6/30/18. Patients went to 11 different hospitals, but 55% went to Sharon Hospital in Sharon, Connecticut. 15% went to Vassar Brothers and 12% to Mid-Hudson Regional both in Poughkeepsie. Overall, 56% of patients were transported with an indication of advanced life support care. The share of patient's going ALS varied widely by hospital ranging from 76% of patients going to Vassar Brothers to only 33% going to Mid-Hudson Regional. 35% of all calls to 911 had ALS transports.

Transport Destinations (1/1/17 to 6/30/18)						
	AMENIA	DOVER	NORTH EAST	Other	Total	ALS %
Sharon Hospital	342	311	151	10	814	54%
Vassar Brothers Medical Center	54	134	31	4	223	76%
Mid-Hudson Regional Hospital	38	108	26	3	175	33%
New Milford Hospital	2	128	0	0	130	71%
Putnam Hospital Center	5	77	0	2	84	46%
Danbury Hospital	0	27	2	1	30	70%
Other	3	6	6	2	17	35%
Total Transports	444	791	216	22	1473	
Total Calls	676	1242	409	65	2,399	

Call Overlap

One of the concerns presented during the interviews was the frequency of multiple calls occurring in the communities and resources not being immediately available to respond leading to a longer response time for the second calls. The unique event data was analyzed to identify the number of times that calls occurred within 90 minutes of each other in the same geography. During the time period, there were 6,940 calls in the communities. On 787 occasions, two calls occurred within 90 minutes of each other. 70% of these events occurred in Dover and another 24% occurred in Amenia.

Number of Calls Occurring within 90 minutes of another call						
	2009	2015	2016	2017	2018*	Total
AMENIA	38	36	53	36	22	185
DOVER	102	138	121	136	67	564
NORTH EAST	13	7	4	6	1	31
V/MILLERTON	2	0	2	3	0	7

Number of Calls Occurring within 90 minutes of another call						
	2009	2015	2016	2017	2018*	Total
Total	155	181	180	181	90	787

As expected by overall call distribution, the majority of the events (73%) occurred between the hours of 8 am and 8 pm. The most likely time for this to occur is during the busiest 4 hours of the day, noon to 4 pm. This occurs infrequently on the overnight with it occurring less than 100 times in 4.5 years between midnight and 8:00 am.

Calls within 90 minutes of Another, by Time of Day						
Hours	00:00 to 03:59	04:00- 07:59:	08:00: 11:59:	12:00- 15:59	16:00- 19:59	20:00: 23:59:
AMENIA	13	12	50	45	36	29
DOVER	26	42	123	150	137	86
NORTH EAST	1	0	5	10	10	5
V/MILLERTON	0	0	1	2	2	2
	40	54	179	207	185	122

Existing Staff Perspectives

A survey was conducted using an internet based tool among the four fire and EMS services in the communities in an attempt to identify some of the common characteristics of the membership and their opinions related to the EMS service in the community. 34 volunteers responded during the two weeks the survey was available. Those that responded had an average of 20 years of service.

Survey Responses by Fire/EMS Affiliation	Count	Avg. Years of Svc
J.H. Ketcham Hose/ Dover EMS	14	19
Amenia Fire Company	9	32
Millerton Fire Company	6	22
Wassaic Fire Company	5	13
Grand Total	34	20

26% of the respondents were female. 30% of the respondents had been involved for less than 10 years. Two-thirds of the respondents are or were certified EMS providers. The respondents reported that they averaged about 15 hours per week of service to the community between taking calls, training and administrative duties. 10% identified

that they work as an EMS provider and another 20% indicated they had other jobs in public safety such as corrections or 911 center dispatcher.

When asked about strengths of the current EMS system, common themes included dedication of the volunteers, cooperation between agencies and the compassion shown to residents. Several commented that the addition of a paid ambulance service was an improvement for the community. The overwhelming weakness identified in the survey was the low or declining membership among the agencies. Other areas of concern were lack of training, the negative impact of paid services on volunteers, and the lack of back up resources in the community.

Opportunities for improvement include expanding the number and capacity of volunteers, enhance leadership skills in the existing departments, use geographic coverage for positioning (not municipal boundaries), switch to a municipal operated service, and look at a regional or countywide service. The threats and barriers that were identified included, NDP shifting resources to cover calls outside of the communities, over reliance on paid staff, elected officials lacking experience in EMS matters, and territorialism.

Appendix 1 - Call Detail

Types of EMS Calls

Dispatches by Type					
	2009	2015	2016	2017	2018*
Alarm Carbon Monoxide	15	25	29	17	10
Alarm EMS P3	13	33	48	21	16
Alarm Fire	68	10	3	6	2
Assault	2	0	0	0	0
Bad Check	0	0	0	1	0
Brush Fire	14	22	33	16	9
Cancelled Call	0	0	0	0	1
Chimney Fire	4	4	2	3	4
Disturbance	1	0	0	0	0
Domestic	4	0	1	0	2
EDP/Psychiatric	3	0	0	1	1
Electrical Outdoor	0	0	0	1	0
EMS P1	613	659	659	696	313
EMS P2	201	236	212	209	106
EMS P3	92	80	103	118	32
EMS P4	199	301	350	338	161
Flooding	0	1	0	0	1

Dispatches by Type					
	2009	2015	2016	2017	2018*
Harassment	0	1	0	0	0
Haz Mat	14	8	8	6	2
MCI	1	1	0	0	0
Miscellaneous	5	4	1	3	1
Mutual Aid	8	8	6	6	3
Overdose	0	0	0	0	2
PDAA	4	3	1	0	0
PIAA P1	41	33	38	32	15
PIAA P1 Pedestrian/Bike	13	13	16	11	6
PIAA P3	98	61	56	68	37
Public Service Notification	0	0	1	0	0
Stabbing	1	0	0	0	0
Structure Fire	64	53	47	67	43
Unattended Death/DOA	1	0	0	0	0
Vehicle Fire	7	8	7	6	3
Water Emergency P1	0	0	2	0	1
Water Related	0	0	0	0	1
Welfare Check	0	1	0	0	1

Dispatches by Type					
	2009	2015	2016	2017	2018*
Total	1,486	1,565	1,623	1,626	773
* To June 30,2018					

Dispatches by Location

Dispatches by Location					
	2009	2015	2016	2017	2018*
AMENIA	425	476	528	461	215
BEEKMAN	0	0	1	0	0
DOVER	738	834	807	841	401
EAST FISHKILL	0	0	0	1	0
FISHKILL	1	0	1	0	0
HYDE PARK	0	0	0	1	0
NORTH EAST	207	170	144	183	90
PAWLING	6	0	0	1	4
PINE PLAINS	6	0	1	8	1
UNION VALE	4	1	3	3	2
V/MILLBROOK	0	0	0	10	4
V/MILLERTON	83	75	126	91	45
V/PAWLING	1	0	1	1	0
V/RHINEBECK	0	1	0	0	0
WASHINGTON	3	0	3	16	4
NULL	12	8	8	9	0
UNKNOWN	0	0	0	0	7
Total	1,486	1,565	1,623	1,626	773
*To June 30					

Calls by Time of Day by Municipality

AMENIA							
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Overnight, 00:00:00- 03:59:59	28	18	17	15	19	11	13
Early Morning, 04:00-07:59:59	15	34	31	26	23	31	20
Morning, 08:00:00-11:59:59	58	64	70	43	56	60	46
Afternoon, 12:00:00-15:59:59	46	60	46	61	64	57	57
Evening, 16:00:00-19:59:59	44	49	54	41	50	61	54
Night, 20:00:00- 23:59:59	43	22	23	28	45	37	40
Total	234	247	241	214	257	257	230

DOVER							
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Overnight, 00:00:00-03:59:59	40	39	31	31	29	31	40
Early Morning, 04:00-07:59:59	30	57	48	37	43	43	31
Morning, 08:00:00- 11:59:59	87	113	85	88	82	86	61
Afternoon, 12:00:00-15:59:59	92	105	98	89	106	80	105
Evening, 16:00:00- 19:59:59	78	102	93	84	107	81	94
Night, 20:00:00- 23:59:59	54	56	54	62	51	78	82
Total	381	472	409	391	418	399	413

NORTH EAST + V/MILLERTON							
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Overnight, 00:00:00-03:59:59	14	3	9	12	4	9	13
Early Morning, 04:00-07:59:59	8	9	12	12	15	15	12
Morning, 08:00:00-11:59:59	25	28	39	28	27	32	28
Afternoon, 12:00:00-15:59:59	30	27	30	47	38	22	34
Evening, 16:00:00-19:59:59	34	27	27	21	30	31	36
Night, 20:00:00-23:59:59	25	13	15	16	24	18	25
Total	136	107	132	136	138	127	148