STRENGTH IN NUMBERS

Exploring Service Sharing Opportunities for Middleton EMS and Waunakee Area EMS

WISCONSIN POLICY FORUM

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The Wisconsin Policy Forum was created on January 1, 2018, by the merger of the Milwaukee-based Public Policy Forum and the Madison-based Wisconsin Taxpayers Alliance. Throughout their lengthy histories, both organizations engaged in nonpartisan, independent research and civic education on fiscal and policy issues affecting state and local governments and school districts in Wisconsin. WPF is committed to those same activities and that spirit of nonpartisanship.

PREFACE AND ACKNOWLEDGMENTS

This report was undertaken to provide citizens and policymakers with information on the state of EMS service provision in the areas served by Waunakee Area Emergency Medical Services and Middleton EMS and options for collaboratively addressing the emerging and future challenges facing these agencies. The intent was to lay out programmatic data, illustrate key challenges, and discuss options for collaboration, but not to make recommendations on the future of EMS for individual communities.

Report authors would like to thank the agency chiefs for their assistance in providing information, helping us to develop and analyze options, and patiently answering our questions.

In addition, we wish to acknowledge and thank the two agencies for jointly commissioning and helping to support the cost of this research.

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INTRODUCTION

Over the past 12 years, the Wisconsin Policy Forum has published nearly 20 studies for municipal and county governments in all parts of Wisconsin on fire and emergency medical services (EMS) challenges and possible solutions. As we noted in our October 2021 study, *In Need of Resuscitation?*, those challenges are typically linked to "increasing service calls from an aging population and staff recruitment and retention difficulties." They are also compounded by the impacts of lagging state aid and state-imposed limits on local property taxes.

Waunakee Area Emergency Medical Services (WAEMS) and Middleton EMS have not been immune from such challenges. In the case of these agencies, however, the foremost problem comes from sharp rises in new development and population, which have caused call volumes to surge.

For Middleton EMS, that sharp rise in calls has prompted agency leaders to consider adding a third ambulance crew at a new station in the northeast corner of the city of Middleton. WAEMS also is beginning to consider a new station in the vicinity of the town of Westport in the southeast portion of its service area – not far from the area in which Middleton EMS is considering its additional station. For WAEMS, the most important improvement for now might be the ability to house its two ambulances in different geographic locations to improve response times throughout the district's large expanse, although current call volume trends suggest that officials there might soon need to consider a third ambulance, as well. Middleton EMS officials also have noted a desire for a second station location irrespective of whether a third ambulance is added.

Another distinction for the two communities has been their response to this problem thus far. While financial constraints have precluded many Wisconsin EMS agencies from taking the necessary step of converting from a part-time, paid-on-call staffing model to one employing at least some full-time responders, both WAEMS and Middleton EMS have already found ways to finance and implement a conversion to full-time staffing. Whether these moves have now tapped their financial capacity to pursue additional stations and ambulances has become perhaps the most pressing question.

In light of that question, and the fact that both agencies are considering the need for new stations in relatively close proximity to one another, officials from the two governments have discussed whether a collaborative approach should be considered to address their common EMS needs. Such an approach could involve sharing additional personnel, vehicles, and a new station or even merging the two departments into a single consolidated EMS agency. The goal would be to avoid or reduce future costs and meet common service challenges in a more effective and cost-efficient manner than if each agency acted independently.

In this report, we address the desire of both agencies to explore a collaborative approach by analyzing EMS service sharing or consolidation options for their combined service areas. Our programmatic and fiscal analysis has been aided by officials from the two agencies, who helped identify the options and provided both data and insights. The analysis is designed not to point local officials to specific conclusions, but rather to provide sufficient insights and modeling to allow them to conduct informed deliberation and reach consensus on a course of action that will ensure high-quality and efficient EMS service levels for citizens of the region for the foreseeable future.

CHARACTERISTICS OF THE PARTICIPATING MUNICIPALITIES

This section gives a brief overview of demographic characteristics of the communities that are included in the service areas of WAEMS and Middleton EMS. We focus on characteristics that are relevant to EMS and that may be germane to discussions about how service costs should be allocated under various sharing or consolidation alternatives.

General Demographic Characteristics

Waunakee Area EMS

WAEMS is an independent public agency that serves an EMS district that includes the village of Waunakee, the village and town of Dane, the town of Westport, the town of Vienna, and the town of Springfield. It is governed by a commission that includes one voting representative from each of the district's individual jurisdictions.

The communities served by WAEMS make up a contiguous border in Northern Dane County, north of Lake Mendota and the city of Madison, totaling 137 square miles and a population of 27,161. However, the agency only serves portions of the towns of Springfield, Dane, and Vienna (see **Map 1** on the next page),[1] so its total service population as of 2023 was 23,340, as shown in **Table 1**. Also, the total service area is about 94 square miles, as opposed to the 136.6 square miles shown in the table. Most of the service area's population (66.0%) is concentrated in the village of Waunakee, which also shows the greatest population density.

Table 1: 2023 population and density, WAEMS service area*

	Population	Square Miles	Population Density**
WAEMS	**23,340**	**136.6**	**198.8**
Village of Waunakee	15,426	6.4	2,533.7
Village of Dane	1,116	1.1	988.5
Town of Westport	4,302	22.2	196.3
Town of Vienna	470	35.6	46.9
Town of Springfield	1,556	36.2	80.6
Town of Dane	470	35.1	26.6

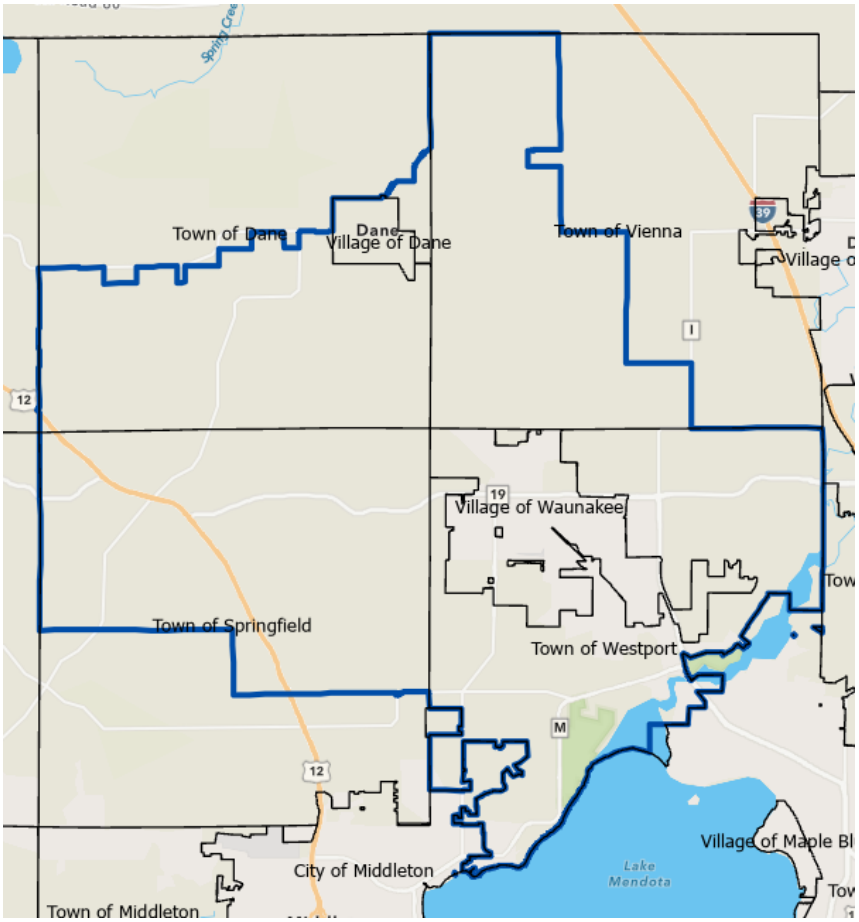
Sources: WAEMS 2023 budget and Wisconsin Department of Administration (DOA)

* Due to data limitations, square miles and population density are shown for the entire towns of Springfield, Dane, and Vienna, and not for their portions served by WAEMS. Population totals reflect only the number of residents in each town served by WAEMS and not the total population.

**Residents per square mile

[1] WAEMS covers about 53% of the population of the town of Springfield and less than half of the populations of the towns of Dane and Vienna. Middleton EMS and Cross Plains Area EMS cover the remainder of Springfield, while Lodi Area EMS covers the remaining portion of the town of Dane and DeForest Windsor Fire & EMS covers the remaining portion of Vienna. Coverage for the town of Springfield may change in light of negotiations currently underway between the three agencies and their elected representatives.

Map 1: WAEMS Service Area



Over the past decade, the WAEMS service area experienced an increase in population of 3,144 residents (15.6%), as shown in **Table 2**. The changes are attributed to population growth in most communities, but in the town of Dane the sizable drop mostly reflects a change in the portion of the town that is covered by WAEMS. The bulk of the service area's growth in population occurred in Waunakee, which saw an increase of 3,090 residents.

Table 2: Change in population, WAEMS Service Area, 2014-2023

	2014	2023	10 Yr % Change
WAEMS	**20,196**	**23,340**	**15.6%**
Village of Waunakee	12,336	15,426	25.0%
Town of Vienna	393	470	19.6%
Village of Dane	1,024	1,116	9.0%
Town of Westport	3,975	4,302	8.2%
Town of Springfield	1,478	1,556	5.3%
Town of Dane	990	470	-52.3%

Source: WAEMS budget documents

Because the most frequent users of EMS are older citizens, **Table 3** shows senior populations for each community.[2] The WAEMS service area's total population over age 65 nearly matches the state average of 17%. The town of Westport, known for its retirement communities, contains the largest senior population. Waunakee and the village of Dane have smaller senior populations but have high percentages of households with one or more person over age 65. This suggests these communities may have a larger percentage of younger residents who care for older relatives in their homes.

Table 3: Median age and population age 65+

	Age 65 and Over	Households with one or more over 65	Median Age
WAEMS	**16.9%**	**14.0%**	**41.9**
Town of Westport	30.7%	35.3%	50.1
Town of Springfield	19.2%	4.5%	44.3
Town of Dane	17.2%	1.1%	40.7
Town of Vienna	14.6%	1.9%	43.3
Village of Waunakee	12.6%	24.6%	39.3
Village of Dane	6.9%	14.6%	34.2

Source: US Census Community Survey Five-Year estimates 2019 - 2023

The sizable population increase in the WAEMS service area over the past decade has been accompanied by a large increase in property values. Equalized property values more than doubled, as shown in **Table 4**. Most of the growth occurred in Waunakee and Westport.

Table 4: Change in equalized property values, WAEMS service area, 2015-2023

	2015	2023	10 yr % Change
WAEMS	**$2,910,163,100**	**$5,920,732,100**	**103%**
Village of Waunakee	$1,399,852,000	$3,066,940,300	119%
Town of Westport	$719,593,000	$1,441,668,300	100%
Village of Dane	$77,997,900	$146,555,600	88%
Town of Springfield	$386,199,400	$704,594,200	82%
Town of Vienna	$211,162,800	$367,354,700	74%
Town of Dane	$115,358,000	$193,619,000	68%

Source: Wisconsin Department of Revenue (DOR)

The growth in property values reflects not only the increase in values of existing properties, but also the impacts of new development. In fact, one third of the growth in equalized property value in the region between 2015 and 2023[3] was the result of new construction, as shown in in **Table 5** on the next page, with the most occurring in Waunakee.

[2] Because of data limitations, Tables 3,4, and 5 show demographic and economic data for the entire towns of Springfield, Dane, and Vienna, and not just for the portions covered by WAEMS.
[3] 2014 new construction values were not available.

Table 5: Change in equalized property values due to new construction, 2015-2023

	Total New Construction	Change in Equalized Value	% Change in EV Due to New Construction
Waunakee Area EMS	**$953,292,000**	**$2,871,060,800**	**33%**
Village of Waunakee	$633,419,700	$1,571,481,400	40%
Town of Westport	$179,170,900	$690,316,500	26%
Town of Vienna	$37,518,100	$150,330,900	25%
Town of Springfield	$74,324,400	$316,444,700	23%
Village of Dane	$13,783,400	$64,319,600	21%
Town of Dane	$15,075,500	$78,167,700	19%

Source: Wisconsin DOR

City of Middleton EMS

Middleton EMS is housed in the city of Middleton's government and is the sole 911 Advanced Life Support ambulance provider for the city, the town of Middleton, and a portion of the town of Springfield that comprises about 17% of its population (see **Map 2** on the next page).[4] The city is centrally located in Dane County just south of the Waunakee Area EMS Service Area and is within close proximity to the city of Madison, UW Madison, and UW Hospital. Its population of 23,476 lies within 8.98 square miles with similar density to the village of Waunakee at 2,614 residents per square mile (see **Table 6**). The town of Middleton is larger geographically than the city but has a much smaller population and lower density.

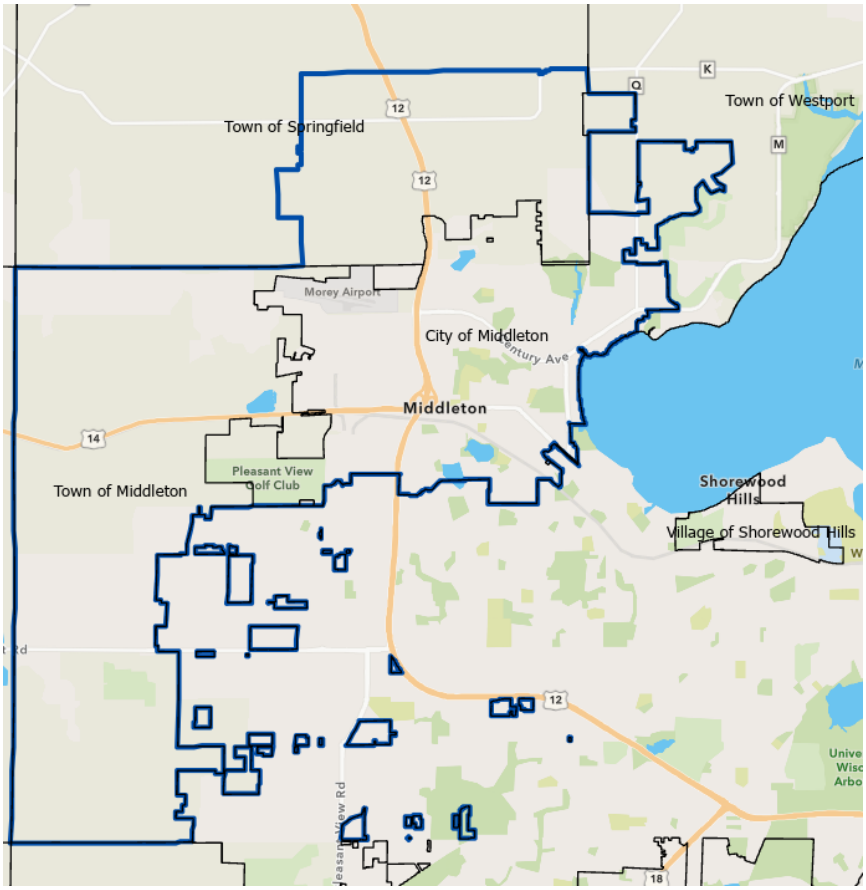
Table 6: 2023 population and density, Middleton EMS service area

	Population	Square Miles	Population Density*
Total Middleton EMS	**33,427**	**60.2**	**555.5**
City of Middleton	23,476	9.0	2,614.3
Town of Middleton	7,032	15.0	468.8
Town of Springfield	2,919	36.2	80.6

Source: Wisconsin DOA; *Residents per square mile.

[4] We were unable to break out demographic and economic data solely for the portion of Springfield covered by Middleton EMS (which comprises about 17% of the town's population) so our tables reflect the entire town.

Map 2: Middleton EMS Service Area



Both the city and town of Middleton have seen sizable population growth over the past decade, with the city's population increasing by a particularly notable 28%, as shown in **Table 7**. Meanwhile, equalized values also have shot up by more than 80%, as shown in **Table 8** on the next page. Between 2015 and 2023, a third of the increase in equalized value was driven by new construction (**Table 9**). These dramatic increases in population and new development have been seen as the major factors behind a large spike in demand for EMS in Middleton.

Table 7: Change in population, Middleton EMS Service Area, 2014-2023

	2014	2023	10 Yr % Change
Total Middleton EMS	**27,238**	**33,427**	**23%**
City of Middleton	18,323	23,476	28%
Town of Middleton	6,143	7,032	14%
Town of Springfield	2,772	2,919	5%

Source: Wisconsin DOA

Table 8: Change in equalized property values, Middleton EMS service area, 2014-2023

	2014	2023	10 Yr % Change
Total Middleton EMS	**4,303,405,700**	**7,841,508,500**	**82%**
City of Middleton	2,837,344,300	5,136,907,300	81%
Town of Middleton	1,079,862,000	2,000,007,000	85%
Town of Springfield	386,199,400	704,594,200	82%

Source: Wisconsin DOA

Table 9: Change in equalized property values due to new construction, 2015-2023

	Total New Construction	Change in Equalized Value	% Change in EV Due to New Construction
Total Middleton EMS	**$1,106,070,700**	**$3,401,504,300**	**33%**
City of Middleton	$744,110,300	$2,229,572,200	33%
Town of Middleton	$287,636,000	$855,487,400	34%
Town of Springfield	$74,324,400	$316,444,700	23%

Source: Wisconsin DOR

As shown in **Table 10**, the city of Middleton's percentage of residents age 65 or over is 17.0%, the same as the state average, while its 24% of households with one or more person over that age and its median age of 38.3 years are similar to those of the village of Waunakee. Also, like Waunakee, Middleton has a relatively young population but with many households that include a senior person. The town of Middleton has a somewhat older population than the city with a greater proportion of households including someone over age 65.

Table 10: Median age and population age 65+

	Age 65 and Over	Households with one or more over 65	Median Age
Total Middleton EMS	**18.2%**	**14.3%**	**41.1**
City of Middleton	17.0%	24.0%	38.3
Town of Middleton	18.4%	33.7%	40.7
Town of Springfield	19.2%	4.5%	44.3

Source: US Census Community Survey Five-Year estimates 2019 - 2023

Finally, we took a look at nursing homes and assisted living facilities[5] in both the Middleton EMS and WAEMS service areas, as those facilities can account for a large proportion of EMS calls. **Table 11** on the next page shows the number of senior housing facilities, including residential care facilities and

[5] Per DHS, we define nursing homes as facilities that offer 24-hour nursing services and assisted living facilities as adult family homes, community-based residential facilities, and residential care apartment complexes that offer some care but not 24-hour access to a caregiver for senior citizens and persons with disabilities. Both service areas also house several housing complexes and communities that are designed for seniors and contribute to higher call volumes, but we could not identify a data source to allow us to quantify those housing units.

apartment complexes, in each of the jurisdictions. The two services areas both have a nursing home along with several senior living facilities, with the Middleton EMS area containing somewhat more.

Table 11: Senior facilities by service area – WAEMS and Middleton EMS

	Nursing Homes	Assisted Living Facilities
WAEMS Service Area	1 (94 beds)	10
Middleton EMS Service Area	1 (97 beds)	18

Source: Wisconsin Department of Health Services

Summary

Both the WAEMS and Middleton EMS service areas have seen substantial population growth and new development over the past decade, thus creating a significantly enhanced demand for EMS. Their service areas do not contain significantly more senior citizens than the statewide average, but their senior populations likely will continue to grow as is the case statewide and nationally, further increasing existing demand.

SERVICE CHARACTERISTICS, EQUIPMENT, AND BUDGETS

In this section, we provide a more detailed look at services provided by the two agencies by examining their staffing, service demands, response times, capital assets, and budgets. This compilation of data highlights many similarities between the two agencies and illustrates the potential for service sharing and consolidation.

As we will lay out in this section, the significant growth in population and development in the areas served by both Middleton EMS and WAEMS have produced a significant increase in call volumes, requiring both agencies to evolve over the past decade from volunteer departments to agencies relying largely on full-time paramedics. This evolution has taken place at significant cost, but the result is capacity to allow both to staff and operate two ambulances 24 hours per day, seven days per week, thus providing better response times and a consistently high level of service.

Today, a primary challenge for both agencies is a continued increase in call volumes coupled with lengthy travel times to certain high-volume parts of their service areas. These circumstances are pressuring them to add and staff third ambulances and new station locations. Specifically, WAEMS is experiencing escalating response time challenges in the south while Middleton has seen a spike in calls in the northeast, where the two service areas meet.

The contiguous nature of those areas leads to significant potential for collaboration to meet their mutual needs. The fact that Dane County government plays a major role in providing countywide support for EMS (including medical priority dispatch) and that several other EMS agencies in the county use the same medical director (UW Health) may further promote opportunities for collaboration not only between these two agencies, but also with other nearby jurisdictions.

Staffing

WAEMS and Middleton EMS have similar staff frameworks and sizes and both operate out of a single station. **Map 3** on the next page shows the location of the two stations, as well as each agency's broader service area. As discussed in the previous section, WAEMS covers only portions of the towns of Dane, Springfield, and Vienna, while Middleton EMS covers a separate portion of the town of Springfield.

As shown in **Table 12**, each agency has at least a dozen full-time paramedic responders who allow them to staff two ambulances on a 24/7 basis at a

Table 12: Agency staffing, 2024 budget

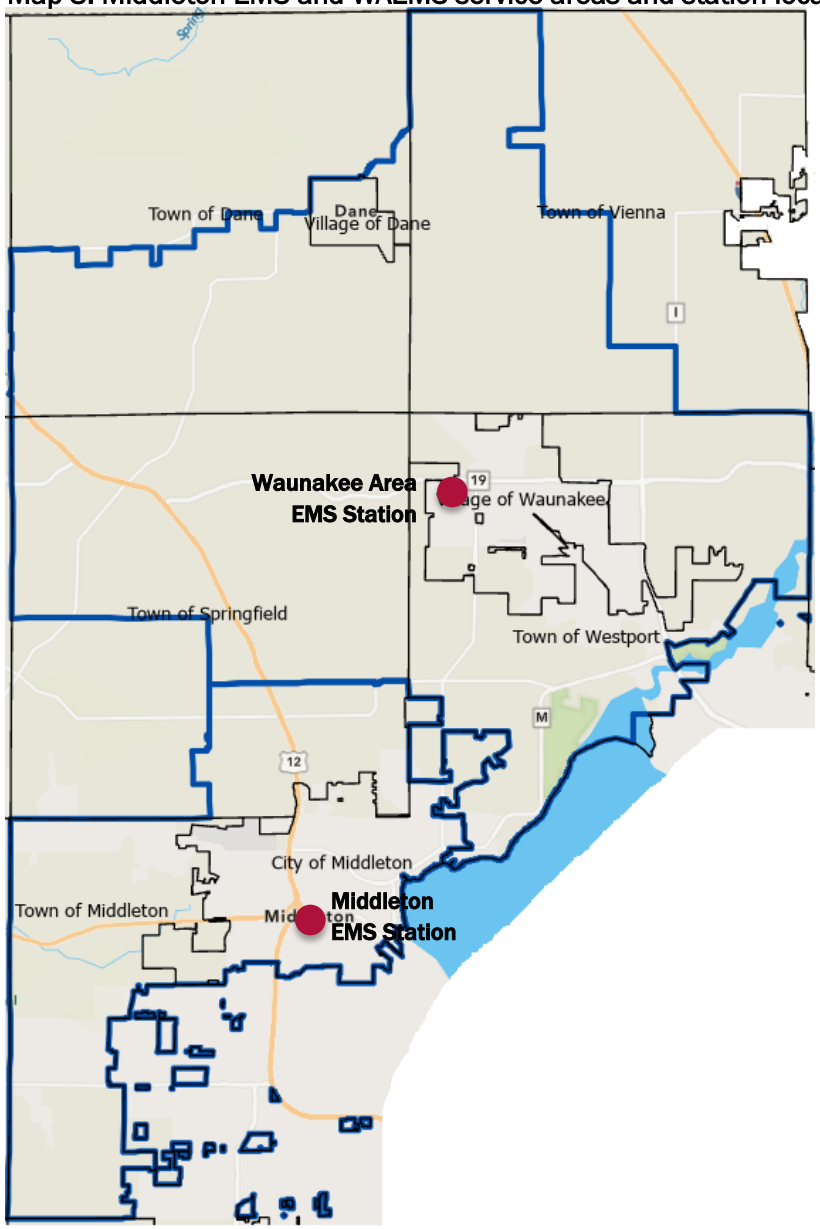
	Chief	Deputy Chief	FT Paramedic	Total FT Positions	PT Paramedic
Middleton EMS	1	0	15	**16**	10
WAEMS	1	1	12	**14**	8
Total	**2**	**1**	**27**	**30**	**18**

Source: Middleton EMS and WAEMS

paramedic level of care. Both departments also have pools of part-time, paid-on-call paramedics who can fill in when needed due to vacancies, vacation, medical leave, and other absences.

The two chiefs note that while their part-time rosters are relatively large, only a small number of part-time staff members are particularly active, with others only available under exceptional circumstances. This factor could create challenges in the future as the active part-timers reach retirement age. Also, WAEMS occasionally utilizes volunteers who are licensed as emergency medical technicians (EMTs) but not as paramedics.[6] These volunteers are paid a small hourly stipend and essentially function as interns/trainees who may aspire to rise to part-time or full-time positions.

Map 3: Middleton EMS and WAEMS service areas and station locations



Both agencies have seen major staff transformations in recent years after seeking and receiving authorization and funding from their elected officials. WAEMS added six paramedics in 2023 to allow for 24-hour staffing of its second ambulance and to reduce reliance on mutual aid, while Middleton EMS added a 15th paramedic to reduce overtime usage in 2022. Middleton actually began its conversion from volunteer to full-time staffing for its second ambulance in 2009 and continued to ramp up its full-time staffing in the 2010 to 2013 timeframe to enhance 24/7 staffing for its two ambulances. WAEMS plans to add a 13th full-

[6] EMTs are trained and licensed to provide basic emergency medical care and transportation of critical and emergent patients and to provide interventions with basic equipment typically found on ambulances. Paramedics are trained and licensed to provide advanced emergency medical care and possess complex knowledge and skills necessary for advanced response using more advanced equipment found on an ambulance.

time paramedic in 2025 and a 14th in 2026 to reduce the workweek for its existing paramedic workforce to more manageable levels.

WAEMS' 12 full-time paramedics are assigned to three main shifts at four apiece, allowing two to go out on each ambulance and ensuring that two ambulances are available to respond to calls at any given time. Twelve of Middleton EMS' 15 full-time paramedics are similarly assigned to three "platoons" consisting of four responders apiece to ensure that two two-person ambulance crews are always on duty. The remaining three responders are assigned to a fourth platoon; they substitute on regular shifts for responders who would otherwise exceed 48 hours in a given week or to fill in for time off, thus providing additional full-time capacity that reduces reliance on part-time staff.

Finally, it should be noted that both agencies rely, from time to time, on neighboring fire departments when particularly acute calls require additional support on the scene. Both chiefs say they would benefit from additional staffing to minimize the need to request such assistance.

Administrative Duties

As both WAEMS and Middleton EMS have expanded over time to meet their growing call volumes, they have not concurrently added to their administrative capacity. Currently, the WAEMS chief handles all administrative functions for his agency (with assistance from his deputy chief) – such as human resources, financial management, etc. Administrative duties for Middleton EMS are handled by both the chief and centralized administrative staff within Middleton's larger city government. There is no deputy chief in Middleton.

Calls for Service

In 2024, WAEMS responded to 1,918 calls or 5.25 calls per day. As shown in **Table 13**, the vast majority (86%) came from Waunakee and Westport. It should be noted that Waunakee contains several senior facilities and has a large percentage of households with one or more persons 65 or older. Further, Westport is a retirement community with almost a third of its residents over age 65.

Table13: 2024 calls for service, WAEMS

	2024	Percent of Calls	Avg Calls Per Day
WAEMS	**1,918**		**5.25**
Village of Waunakee	1,268	66%	3.47
Town of Westport	381	20%	1.04
Town of Springfield	63	3%	0.17
Village of Dane	52	3%	0.14
Town of Dane	35	2%	0.10
Town of Vienna	25	1%	0.07
Mutual Aid	94	5%	0.26

Source: WAEMS

Table 14 shows that WAEMS experienced a 44% increase in call volume from 2017 to 2024, with the largest percentage increases occurring in Waunakee and the town of Dane. WAEMS' mutual aid responses also grew substantially and now comprise 5% of the total call volume (references to mutual aid calls in this report may also include automatic aid and intercepts).

Table 14: Growth in WAEMS calls for service, 2017 to 2024

	2017	2024	2017-2024 % Change
WAEMS	**1,335**	**1,918**	**44%**
Village of Waunakee	686	1,268	85%
Town of Westport	398	381	-4%
Town of Springfield	99	63	-36%
Village of Dane	58	52	-10%
Town of Dane	13	35	169%
Town of Vienna	54	25	-54%
Mutual Aid	27	94	248%

Source: WAEMS

As shown in **Table 15**, Middleton EMS responded to 2,769 calls in 2024, which is more than 7.5 calls per day and amounted to 44.4% more calls than WAEMS received in the same year. The vast majority (84%) of calls for service emanated from the city of Middleton.

Table 15: 2024 calls for service, Middleton EMS

	2024	Percent of Calls	Avg Calls Per Day
Middleton EMS	**2,769**		**7.59**
City of Middleton	2,331	84%	6.39
Town of Middleton	227	8%	0.62
Town of Springfield	48	2%	0.13
Mutual Aid	163	6%	0.45

Source: Middleton EMS

Middleton EMS' calls increased at a faster pace (69%) over the past decade than WAEMS' calls (44%), as shown in **Table 16**, though both agencies have seen substantial increases. Calls from the city of Middleton increased by 76% over the period.

Table 16: Growth in Middleton EMS calls for service, 2017 to 2024

	2017	2024	2017-2024 % Change
Middleton EMS	**1,638**	**2,769**	**69%**
City of Middleton	1,324	2,331	76%
Town of Middleton	184	227	23%
Town of Springfield	71	48	-32%
Mutual Aid	59	163	176%

Source: Middleton EMS

Middleton EMS and WAEMS have seen divergent recent trends when it comes to mutual aid responses. As shown in **Tables 17** and **18** on the next page,[7] WAEMS' need for mutual aid plummeted from 311 such instances in 2022 to 67 in 2023; the decline is linked to its increase in

[7] We asked WAEMS and Middleton EMS to provide us with mutual aid given and received totals independently. There are some minor discrepancies in the data supplied by each agency regarding the mutual aid each agency provided or received from the other that we have been unable to resolve but that we do not consider to be consequential. Also, at the time that data were collected for this report, 2024 mutual aid totals broken down by municipality were not available.

staffing that year, which gave it greater capacity to respond to its own calls with a second full-time ambulance. As noted above, WAEMS also has seen a sharp increase in the number of times it has provided mutual aid since 2017, which also is likely linked to its enhanced staffing.

WAEMS' overall drop in mutual aid received included a reduction in its reliance on mutual aid from Middleton EMS from 92 calls in 2022 to just 25 in 2023, which in turn contributed to a substantial decrease in Middleton EMS' mutual aid given totals in 2023. In fact, in 2023, the number of times each agency gave mutual aid was nearly identical. It is worth noting, however, that Middleton EMS' mutual aid given number jumped back up to 163 in 2024 (from 73 in 2023).

Table 17: WAEMS mutual aid given/received, 2021 to 2023

	2021	2022	2023
Mutual Aid Given	**55**	**82**	**71**
Cross Plains EMS	2	1	0
DeForest EMS	38	50	36
Lodi EMS	0	9	0
Madison Fire	2	2	1
Middleton EMS	9	14	32
Sun Prairie	3	5	0
Other	1	1	2
Mutual Aid Received	**202**	**311**	**67**
Cross Plains EMS	1	8	0
DeForest EMS	12	12	2
Lodi EMS	12	21	4
Madison Fire	110	168	31
Middleton EMS	64	92	25
Sun Prairie	3	10	0
Other	0	0	5

Source: WAEMS

Table 18: Middleton EMS mutual aid given/received, 2021 to 2023

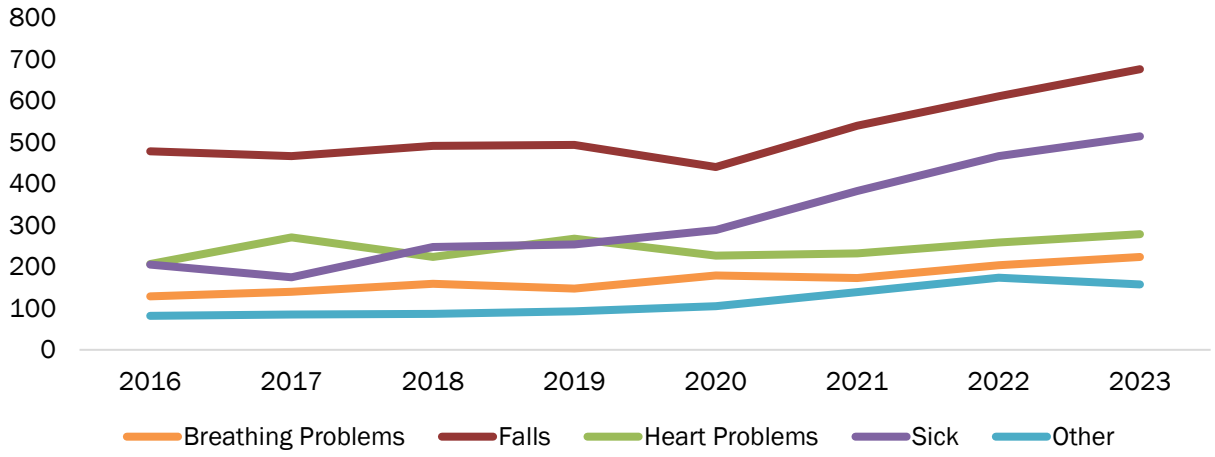
	2021	2022	2023
Mutual Aid Given	**124**	**151**	**73**
Cross Plains EMS	26	34	30
District One EMS	0	0	1
FitchRona EMS	3	2	1
MABAS (FitchRona, Verona Fire)	0	1	1
Madison Fire	18	13	6
Monona EMS	1	0	1
Mount Horeb FD/EMS	1	0	0
Waunakee EMS	75	101	33
Mutual Aid Received	**44**	**64**	**73**
Cross Plains EMS	5	5	6
District One EMS	0	1	0
FitchRona EMS	0	1	0
Lodi EMS	0	0	1
Madison Fire	29	45	43
Waunakee EMS	10	12	23

Source: Middleton EMS

Call Reasons

EMS officials typically point to a growing tendency among citizens to call 911 for minor injuries and to use hospital emergency rooms for basic health care as contributors to increasing call volumes. **Figure 1** tracks Middleton EMS' call volume trends by type of call and shows that calls for sickness and falls have shown the greatest growth. The increase in sick calls can be explained, in part, by the COVID-19 pandemic (which may also be linked to the rise in calls for breathing problems), although the numbers continued to grow as the pandemic subsided in 2022 and 2023. The rise in calls associated with falls may be attributed to an aging population.

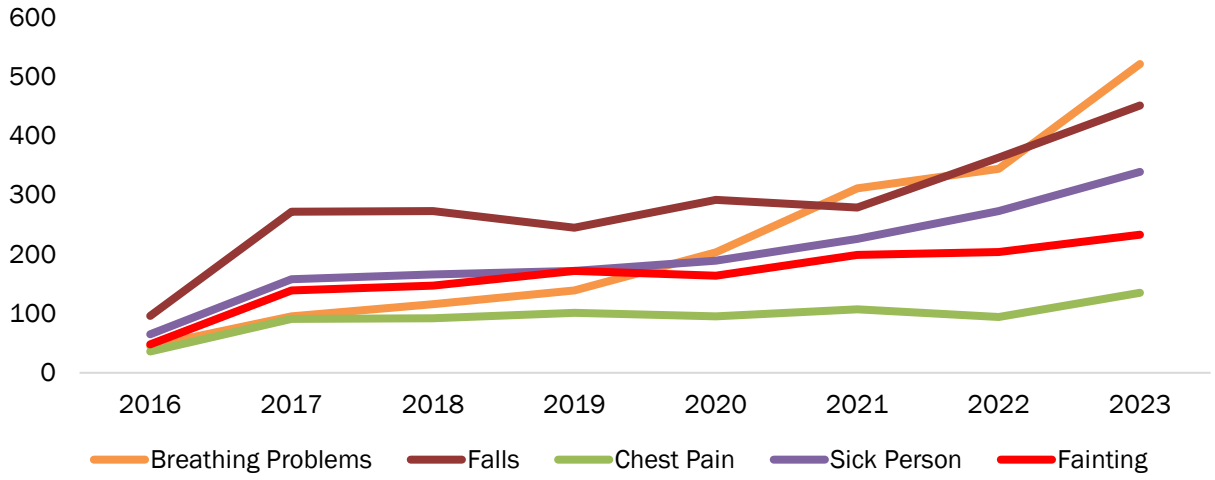
Figure 1: Middleton EMS reasons for calls, 2016 to 2022



Source: Middleton EMS

WAEMS categorizes its calls slightly differently, as shown in **Figure 2** on the next page. Calls for breathing problems have grown dramatically since 2016 and have skyrocketed since the beginning of the pandemic in 2020. Calls for falls and sickness also have increased in the past several years.

Figure 2: WAEMS reasons for calls, 2016-2023



Source: WAEMS

Response Times

Both WAEMS and Middleton EMS measure their response times in various ways, including average times and the percentage of time that certain response goals are met (these are known as "fractile" response times). We asked the two agency leaders to agree on an "apples to apples" methodology to share response time data with us and they decided to provide it by the percentage of responses in calendar years 2022, 2023, and 2024 that arrived within zero to one minute, one to two minutes, etc. The data only reflect responses by each agency within their respective districts – mutual aid responses are not included.

We then grouped the data by the percentages of responses that occurred within six minutes or less, within six to 10 minutes, and within 10 minutes or more. Response times are defined as the amount of time from notification of the call to arrival on the scene.

As shown in **Table 19**, WAEMS' response times showed improvement from 2022 to 2023, which can be at least partially explained by the addition of six paramedics that year to ensure full-time staffing of the agency's second ambulance. However, the data then show a marked reversal in 2024, with only 34.9% of calls receiving a response in six minutes or less (compared to 50.9% in 2023) and 30.3% receiving a response in 10 minutes or more (up from 20.0% in 2023).

Table 19: WAEMS average EMS response times, 2022 to 2024

	2022	2023	2024
6 minutes or less	42.7%	50.9%	34.9%
6 to 10 minutes	30.3%	29.1%	34.9%
10 minutes or more	27.0%	20.0%	30.3%

Source: WAEMS and Dane County dispatch center

According to the WAEMS chief, an extenuating factor that skews the response time data was an extremely high utilizer of 911 calls for EMS who lived a short distance from the station and was responsible for several hundred calls in 2022 and 2023. The response times for those calls were very short because of the proximity of the caller to the station, which brought down overall response times. In 2024, that high utilizer no longer resided in the service area, which eliminated several hundred short-distance responses and contributed to lengthier overall response times.

One other potential contributor to lengthier response times, according to the chief, is a relatively new policy to discourage the use of lights and sirens by ambulances for low-acuity calls that do not necessitate an urgent response. This policy reflects a concern that unnecessary use of lights and sirens can be dangerous and disruptive to the general public but it also can lengthen ambulance travel times to the scene of the medical incident.

Notwithstanding these explanations, it is notable that in 2024, nearly a third of WAEMS' responses took 10 minutes or more. A particular challenge cited by the WAEMS chief is responding to calls that emanate from the town of Westport, which is located in the far southeast part of WAEMS' service area. In fact, he says response times for that community often can range from 12 to 14 minutes, and that there are frequent occasions when responders from the city of Madison are asked to respond

due to the closer proximity of one of that city's fire stations. As shown in **Table 20**, response times to calls from Westport grew longer in each year of the 2022-2024 period, with the percentage of responses taking 10 minutes or more increasing from 46.3% of calls in 2022 to 74.1% in 2024.

Table 20: WAEMS average EMS response times for town of Westport, 2022 to 2024

	2022	2023	2024
6 minutes or less	9.9%	4.8%	1.8%
6 to 10 minutes	43.9%	37.9%	24.1%
10 minutes or more	46.3%	57.4%	74.1%

Source: WAEMS and Dane County dispatch center

As shown in **Table 21**, Middleton EMS' response time showed greater consistency over the three-year period, although the 2024 data did show some slippage for response times of six minutes or less and an increase in the percentage of responses that took 10 minutes or more. The Middleton chief indicated to us that timely responses are a particular challenge in the northeast portion of the city of Middleton, where call volumes are growing. As mentioned earlier, that area is contiguous to the part of WAEMS' service area in and around the town of Westport that represents its biggest response time challenge.

Table 21: Middleton EMS average EMS response times, 2022 to 2024

	2022	2023	2024
6 minutes or less	30.2%	31.5%	27.8%
6 to 10 minutes	53.8%	53.5%	53.7%
10 minutes or more	16.0%	15.0%	18.6%

Source: Middleton EMS and Dane County dispatch center

Vehicles and Stations

Both agencies are fortunate to have relatively new or recently remodeled stations, but their facilities also face notable challenges. The Middleton EMS station is 17 years old and will require major repair and renovation costs in the future for items such as HVAC system controls and mechanicals, major appliances, and roof replacements, according to the chief. The WAEMS station was built in 1981 and received remodeling in 2010 but, according to its chief, lacks the physical space and amenities required for a full-time career department. As more staff is needed in the future, WAEMS will need to make enhancements to the existing station or explore other options to ensure its facilities are equipped to meet staffing needs.

With regard to vehicles, WAEMS has two active ambulances and a backup ambulance. The two active ambulances were purchased in 2020 – one is scheduled to be replaced in 2028 and the other in 2031. The backup ambulance will be replaced in the summer of 2025 and will move into active status, with one of the active ambulances then moving to backup status. WAEMS utilizes a sinking fund for ambulance purchases; this type of fund receives steady appropriations over time to

build up reserves that can be used to purchase ambulances when the need arises and ensure there is not a shock to the budget when ambulances need to be replaced. The 2024 and 2025 budgets allocate $105,000 into that fund.

Middleton EMS also owns three ambulances – two that were purchased in 2019 and that are in active service and one purchased in 2009 that is used as a reserve unit. According to the chief, the front-line vehicles are replaced simultaneously every eight to 10 years, with one of the replaced vehicles then shifting to reserve status (the other two vehicles are then sold). Similar to WAEMS, the city sets aside $80,000 per year in an ambulance replacement fund. According to the chief, that fund currently has a balance of about $480,000 and the hope is that $800,000 will be available when the next two ambulance purchases are anticipated in 2028.

Agency Budgets

Tables 22 and **23** show budgeted expenses for the two agencies since 2019. Wages and benefits for agency staff comprise the bulk of both agencies' budgets, and the greater number of full-time staff for Middleton (16 versus 14 for WAEMS) helps explain its larger budget in 2024. Other expenses include items like uniforms, equipment, supplies, fuel, utilities, information technology, and vehicle maintenance.

Perhaps most striking is the extent to which both budgets have grown since 2019. WAEMS saw a sharp rise in costs, with budgeted expenditures more than doubling from $933,000 to $2.1 million as the agency accomplished its conversion from a part-time to a full-time staffing model. Middleton experienced that conversion prior to 2019 but still saw a $591,000 (30.0%) increase over the six budgets due to a continued increase in staff and the impacts of inflation.

Table 22: Middleton EMS Budgeted Operating Expenditures, 2019 to 2024

	2019 Budget	2020 Budget	2021 Budget	2022 Budget	2023 Budget	2024 Budget
Wages and Benefits	$1,674,481	$1,772,024	$1,794,813	$1,816,148	$1,951,884	$2,181,001
Other	$310,580	$320,616	$324,120	$337,500	$367,290	$395,280
Total Expenses	**$1,985,061**	**$2,092,640**	**$2,118,933**	**$2,153,648**	**$2,319,174**	**$2,576,281**

Source: Middleton EMS

Table 23: WAEMS Budgeted Operating Expenditures, 2019 to 2024

	2019 Budget	2020 Budget	2021 Budget	2022 Budget	2023 Budget	2024 Budget
Wages and Benefits	$596,454	$843,331	$1,007,280	$1,049,524	$1,676,634	$1,705,442
Other	$336,582	$348,306	$350,838	$393,473	$390,022	$439,807
Total Expenses	**$933,036**	**$1,191,637**	**$1,358,118**	**$1,442,997**	**$2,066,656**	**$2,145,249**

Source: WAEMS

Both Middleton EMS and WAEMS are supported largely by a combination of reimbursement revenues from individuals and insurers for ambulance transports and other billable services and support from municipal property taxpayers, as shown in **Tables 24** and **25** on the next page.

Table 24: Middleton EMS Budgeted Revenues, 2019 to 2024

	2019 Budget	2020 Budget	2021 Budget	2022 Budget	2023 Budget	2024 Budget
Ambulance Billing Revenue	$959,245	$1,013,747	$1,138,359	$1,159,981	$1,436,095	$1,484,836
Payments from Towns of Middleton and Springfield	$211,429	$218,395	$227,616	$232,984	$239,232	$263,480
Total Revenue	**$1,170,674**	**$1,232,142**	**$1,365,975**	**$1,392,965**	**$1,675,327**	**$1,748,316**
City of Middleton Levy Contribution	**$814,387**	**$860,498**	**$752,958**	**$760,683**	**$643,847**	**$827,965**

Source: Middleton EMS

Table 25: WAEMS Budgeted Revenues, 2019 to 2024

	2019 Budget	2020 Budget	2021 Budget	2022 Budget	2023 Budget	2024 Budget
Assessed to Municipalities	$380,362	$429,360	$559,675	$559,675	$783,545	$1,029,981
Generated by Operations	$557,043	$557,043	$675,000	$924,206	$924,206	$1,115,438
Total Revenue	**$937,405**	**$986,403**	**$1,234,675**	**$1,483,881**	**$1,707,751**	**$2,145,419**

Source: WAEMS

The city of Middleton assesses a per capita charge to the towns of Middleton and Springfield and provides property tax revenue from the city to account for its own per capita share. WAEMS – as an independent agency outside of any municipal government -- assesses each participating municipality an annual charge based on population to fill the gap between annual expenditures and reimbursement revenues.

It is important to note that WAEMS used close to $1 million in reserves as it transformed over the past several years to a full-time paramedic agency (this explains the gap in expenditures versus revenues seen in the two WAEMS financial tables). In 2024, for the first time in years, the agency did not rely on reserves to balance its budget. Reserve funds are mostly depleted, but the department maintains a contingency fund of around $200,000 to cover emergencies.

Countywide Support

Both agencies receive dispatching services from Dane County, which has a centralized dispatch center that handles 911 calls throughout the entire county and provides an advanced level of EMS dispatching known as medical priority dispatch. This approach entails extensive training for dispatchers who are charged with determining the severity of EMS calls and the need for different levels of EMS response. Calls are strategically assigned to the closest available resource and ambulances are regularly sent across municipal lines when acuity merits it.

Both entities also receive centralized medical direction through UW Health, although they are assigned different physicians to work with. Protocols and training are done in a collaborative nature

across EMS agencies in Dane County, which lends itself to stronger and more cohesive mutual aid and other forms of collaboration among different agencies and jurisdictions.

Summary

Middleton EMS and WAEMS have both experienced significant increases in call volumes over the past several years, and both agencies have attempted to keep pace by converting to full-time staffing models and continuing to add staff, at an understandable but substantial cost to property taxpayers. Nevertheless, both agencies continue to experience challenges with call volumes and response times in parts of the region they serve (which happen to largely be adjacent to one another), and both perceive the need to continue to add full-time staff to their current operating frameworks and ultimately build a new station or purchase and staff a third ambulance. Whether it makes sense to collaborate on those endeavors is the subject of the next section of this report.

OPTIONS FOR SERVICE SHARING AND CONSOLIDATION

Our analysis of Middleton EMS and WAEMS service area demographics and call volumes as well as the agencies' budgets, staffing, and operational frameworks informs our consideration of potential options for service sharing or consolidation. One of our key insights is that some of the more basic service sharing options we typically explore – such as sharing medical directors or dispatchers, conducting joint training or recruitment, or sharing back-up vehicles – either are not relevant because the services already are shared, or would not address the fundamental challenge facing both agencies: the need for an additional station and, ultimately, additional ambulance capacity.

Consequently, in this section, we focus exclusively on that fundamental challenge and how various shared or consolidated approaches might address it. As we set out to do so, we not only considered the wealth of quantitative and qualitative data we collected, but also some of the potential advantages associated with consolidation options we have observed in the several previous studies we have conducted for fire and EMS agencies.

In the pages that follow, we lay out and model five hypothetical approaches that Middleton EMS and WAEMS officials and municipal leaders might consider to address their common capacity and response time challenges. Our modeling is based on actual salary and benefit information provided by both agencies as well as estimates we were able to glean from their recent purchasing experience and purchasing assumptions. We also considered the experience of other jurisdictions.

It is critical for readers to recognize that while we consider our fiscal modeling to be useful in providing insights on the potential comparative costs of the various options, our models are based mainly on assumptions and estimates that are rudimentary and will change with deeper analysis. Consequently, any financial figures we present should be viewed only as rough estimates, and not as definitive calculations that could be used for budgetary and planning purposes.

Modeling Considerations

Our models incorporate only the relatively major cost centers for EMS agency budgets that we could reliably estimate for our various models. The following are key assumptions used in our models:

1. **Salaries and fringe benefits** – we used budgeted salary and fringe benefit information from Middleton EMS to calculate the cost of adding an ambulance crew to that agency (an average cost of $112,684 in salary and fringe benefits per paramedic position, which is the current cost for an EMS responder at the lowest end of the pay range). For options involving consolidation, we also used Middleton's current salary and benefit costs, as those are slightly higher than WAEMS' corresponding costs and we opted to be conservative by using the highest of the two in calculating the cost of hiring shared staff. We also developed our own estimate of $153,600 for combined salaries and fringe benefits for a deputy chief, $128,000 for a new Finance/HR Director, and $80,000 for an administrative assistant.

2. **Overtime** – we used budgeted overtime costs per position from Middleton EMS to determine an added overtime cost for each new responder position for the non-consolidation options ($12,598 per position). For consolidation options, we calculated a 15% decrease in 2025 budgeted combined overtime costs for the two departments ($43,500) because a consolidated department should be able to reduce overtime costs with its enhanced ability to fill vacation, sick leave, etc. with a larger roster of personnel. For the consolidation option that adds an ambulance crew, we added $7,676 in overtime costs per each new position, which is the average overtime cost per responder position for the two departments.

3. **Uniforms, training, etc.** – we used budgeted costs per position for Middleton EMS to calculate costs for items like uniforms and training for new positions added in the various options ($2,600 per position).

4. **Building operations** – we calculated an annual cost estimate of $87,000 for building operations costs for new stations. Our cost estimate – which includes maintenance, supplies, utilities, and office equipment – is based on average budgeted costs for these items from the two agencies for their existing stations. We used the same $87,000 estimate for both a two-ambulance and a one-ambulance station; while a smaller station might have slightly lower operations costs, any difference would not be material in the context of our overall cost analysis.

5. **Ambulance purchases** -- we used a cost of $420,000 per new ambulance (including ambulance equipment like cots) per estimates provided by the two chiefs.

6. **Station construction** – we estimated a total construction and land acquisition cost for two different station types (one for a station housing a single ambulance and one for a station housing two ambulances) based on information provided by the two chiefs and discussions with other fire and EMS officials and consultants who have knowledge and experience on this matter. Precise land acquisition costs cannot be accurately estimated, however, without knowledge of precise station locations, and construction costs also could vary widely based on various unknown factors. Consequently, these estimates -- $9 million for a two-ambulance station and $6 million for a one-ambulance station -- are only basic placeholders.

7. **Annualized capital costs** – for cost comparison purposes we wanted to annualize costs associated with ambulance purchases as well as land acquisition and construction for new stations. We annualized the cost of ambulance purchases based on an assumed 10-year lifespan of ambulances and a 2.15% annual interest/discount rate that we applied to our estimated purchase cost. We annualized the cost of station construction based on an assumption that 15-year general obligation bonds would be issued to finance construction and acquisition at an annual interest rate of 5%.

8. **Inflation** – for the purposes of our modeling, we calculate costs based on 2024 budgets when relevant and we use present day costs for estimates for other items. No allowances are made for inflation and any costs cited in this section inevitably would grow in subsequent years.

Option 1: Each Agency Builds Its Own New Station

The first option we consider assumes the two agencies conduct their own planning, assess their own needs, and act as they see fit regardless of the plans of the other agency. While we would consider this to be the least desirable of all the options we present here, it is important to consider it to allow for appropriate comparison with collaborative options. Also, given the barriers to collaboration that may emerge – including different views between the agencies' stakeholders on the level of additional capacity that is needed and how costs would be equitably apportioned under sharing or consolidation approaches – it is important for those stakeholders to understand the fiscal and programmatic impacts of a scenario in which each agency pursues a future course on its own.

For this status quo scenario, we assume that in light of Middleton EMS' continued rapid growth in call volumes, it will need to soon staff a third ambulance and house that ambulance in a new station in the northern part of its service area. We assume further that while WAEMS may need a third ambulance within the next five years or so, its more pressing need is to house an ambulance in the southeast part of its service area as a means of improving response times in that area. That could be accomplished by developing a new station and moving one of its two existing ambulances to that location.

Consequently, for this scenario we assume that both agencies construct new stations, but only Middleton EMS purchases and staffs a third 24/7 ambulance. To calculate the annual cost of the new ambulance crew, we assume that eight full-time equivalent (FTE) paramedics would need to be hired (including one extra position to cover for time off). These assumptions may be conservative, but we assume that with a total of 23 FTE paramedics to cover three 24/7 ambulances plus the existing part-time roster, Middleton EMS would be sufficiently staffed. Using the assumptions discussed above, we came up with an estimated annual personnel cost for a third ambulance of $1,024,496.

With a substantial increase in staff, Middleton EMS likely would need additional administrative and management capacity. For modeling purposes, we assume that a new deputy chief position would be created at an annual cost of $153,600 (based on $96,000 in salary plus a 60% add-on for fringe benefits). The full estimated annual personnel-related cost of this option, therefore, is $1,178,096, as shown in **Table 26**.

Table 26: Option 1 estimated annual personnel cost for Middleton EMS

	Estimated Cost
Paramedics salary and benefits (8)	$902,912
Paramedics overtime (8)	$100,784
Deputy Chief	$153,600
Uniforms, Training, etc. (8)	$20,800
Total	**$1,178,096**

Per our assumptions above, we also estimate that the annualized cost for the purchase and equipping of a new ambulance would come out to $47,125 over 10 years. Our estimated annualized cost for the new $6 million single-ambulance station is $578,000, and we add $87,000 annually for station maintenance, supplies, utilities, etc.

For WAEMS, we assume the cost of the new station will be identical to the estimate used for Middleton. Again, without knowing the precise site, we cannot estimate whether there would be any

land acquisition costs, or whether the station would be constructed on vacant land or perhaps involve renovation of an existing building or require demolition of an existing structure.

The total estimated annual cost of this option for both Middleton EMS and WAEMS is more than $2.5 million, as shown in **Table 27**. Middleton EMS' annual cost would approach $1.9 million, including about $1.2 million for operations. The rise in operating expenditures would amount to about a 46% increase above Middleton EMS' 2024 operating budget of $2.6 million.

Table 27: Option 1 total estimated annual cost of new ambulance crew and stations (2024 dollars)

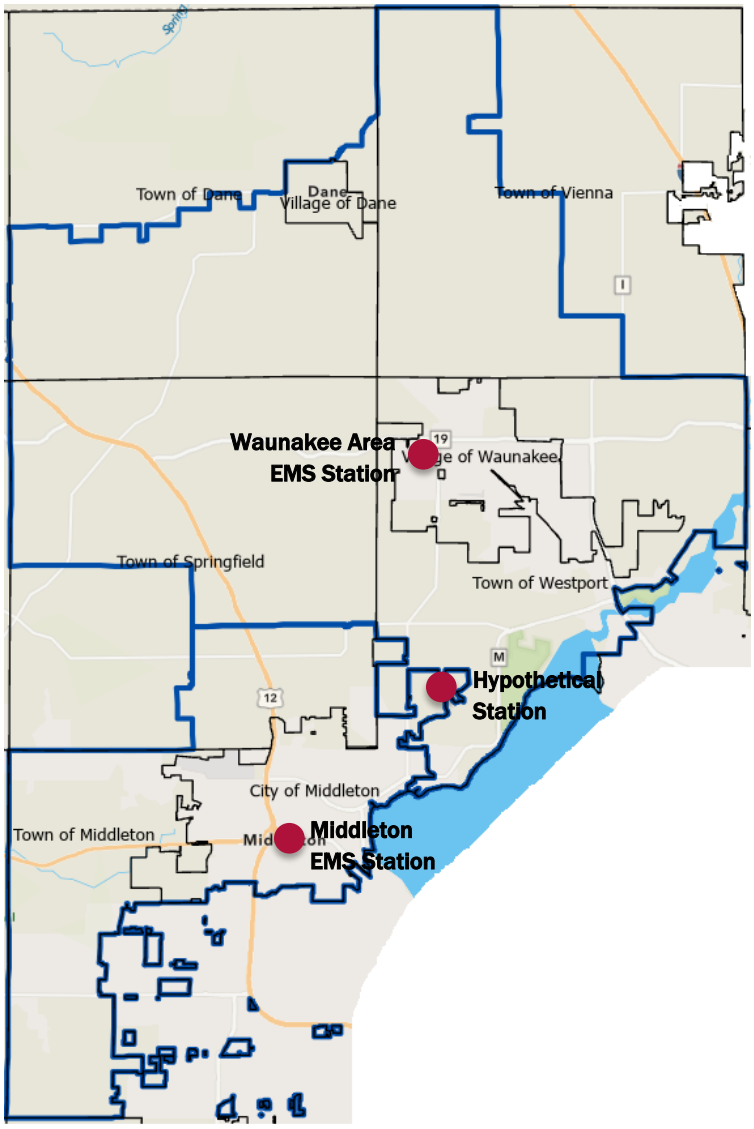
	Personnel	Station Operating	Station Construction	Ambulance	Total
Middleton EMS	$1,178,096	$87,000	$578,000	$47,125	$1,890,221
WAEMS	$0	$87,000	$578,000	$0	$665,000
Total	**$1,178,096**	**$174,000**	**$1,156,000**	**$47,125**	**$2,555,221**

The benefit of this approach is that each agency would be able to pursue a solution that would meet its own immediate needs. The obvious downside is that two new stations would be built in relatively close proximity to one another when it is possible that a single, shared station could just as effectively accommodate the needs of both at a much lower cost.

Option 2: Build and Share One New Station with Independent Ambulance Crews

Our second option assumes that Middleton EMS and WAEMS and their leaders decide to build a single new station in a jointly selected location in or near Westport that could serve the southeast portion of the WAEMS service area and the northeast section of the Middleton EMS service area. **Map 4** shows the approximate area in which such a hypothetical station might be located. They would decide, further, to each house their own 24/7

Map 4: Hypothetical New Shared Station Location



two-person ambulance crew in that station and to each purchase and equip their own new ambulance. Middleton EMS' crew at the new station would be a third crew, while WAEMS' would be a transferred crew from its existing station.

To estimate the cost of Option 2, we only need to subtract the capital and operating costs of the two new independent stations shown for Option 1 and replace them with the costs associated with a single new but larger joint station. Our cost of that station is adjusted from $6 million to $9 million, which increases the annualized cost from $578,000 to $867,000. We do not adjust station operating costs, as our $87,000 estimate was based on budgeted costs for existing stations, which house two ambulance crews.

We assume the station's construction and operating costs would be split equally, although other approaches could be used, such as basing each agency's share on their proportion of prior year calls for service, population within their respective services areas, or some combination of these or other approaches. All other facets of Option 1 would remain the same (see **Table 28**).

Table 28: Option 2 total estimated cost of new ambulance crew and station (2024 dollars)

	Personnel	Station Operating	Station Construction	Ambulance	Total
Middleton EMS	$1,178,096	$43,500	$433,500	$47,125	$1,702,221
WAEMS	$0	$43,500	$433,500	$0	$477,000
Total	**$1,178,096**	**$87,000**	**$867,000**	**$47,125**	**$2,179,221**

We see that this option would reduce Middleton EMS' annual expenditures by $188,000 (9.9%) and WAEMS' by $188,000 (28.3%) when compared to Option 1. There should be little difference in terms of service levels from Option 1 given that both agencies still would benefit from a new station location in the geographic area that demands such action to respond to rising call volumes and lengthy response times.

Also, **while our estimate of annual cost savings is relatively modest, additional efficiencies could be gained when compared to Option 1 if the two agencies agreed to collaborate at the shared station** in areas like supply purchasing, vehicle maintenance, and even the temporary sharing of staff on occasions when unexpected staffing shortages arise. There also could be agreement to back up one another when one of the ambulances is out on a call instead of having to rely on an additional ambulance from a different station location to do so.

Option 3: Build and Share One New Station with Single Shared Ambulance Crew

Our next option is identical to Option 2 except we assume the two agencies will share a single ambulance and ambulance crew at the new station shown in **Map 4**. The new ambulance would be dispatched without regard for municipal boundaries when it is the closest unit available to respond to a call in either jurisdiction. In other words, the ambulance would serve both the Middleton EMS and WAEMS service areas, providing extra capacity and improved response times to both.

Among the important logistical questions is whether the new station and ambulance would be owned by WAEMS or Middleton EMS and which agency would employ the personnel housed at the station. In addition, the movement of full-time or part-time staff from other stations to fill shifts at the new station when absences occur would need to be worked out. Finally, how the agency that is purchasing ambulance coverage from the new station as a non-owner would compensate the owner agency would need to be settled.

Because Middleton EMS currently has a higher call volume and is most immediately in need of a third ambulance, we assume hypothetically that it would own the station and ambulance and employ the staff at the new station. WAEMS would presumably enter into a contractual agreement with Middleton EMS to share station and ambulance costs (both capital and operating) and to pay for its share of the net cost of staffing and equipping the new ambulance. Our modeling assumes that any patient or insurance company reimbursement revenues received from use of the new ambulance would be retained by Middleton and subtracted from annual operating costs to determine the net cost that would be shared.

To estimate respective payments for this option, we apportion the costs based on each agency's prior year share of total combined calls for service. Based on 2023 call volumes of 2,611 for Middleton EMS and 2,334 for WAEMS,[8] that means WAEMS would pay for 47% of station construction and ambulance purchase costs and the same percentage of personnel and other operating expenses associated with those new assets. The total estimated cost breakdown for this option for both annual operations and capital expenditures is shown in **Table 29**.

Table 29: Option 3 total estimated cost of new ambulance crew and station (2024 dollars)

	Personnel	Station Operating	Station Construction	Ambulance	Total
Middleton EMS	$624,391	$46,110	$306,340	$24,976	$1,001,817
WAEMS	$553,705	$40,890	$271,660	$22,149	$888,404
Total	**$1,178,096**	**$87,000**	**$578,000**	**$47,125**	**$1,890,221**

Because there would be only one ambulance and one ambulance crew operating out of the station and the cost would be shared by the two agencies, Middleton EMS would see a cost savings from Option 2 of more than $700,000, and a savings from Option 1 of nearly $900,000, as it would pay for only a little more than half of the cost of staffing, purchasing, and housing a third ambulance at a newly constructed shared station.

Conversely, WAEMS would see an increased cost of more than $300,000 from Option 2 and $100,000 from Option 1 as it would be paying for part of the cost of a third ambulance to serve its current service area. Of course, it also would benefit from increased service capacity from that shared ambulance and possible avoidance of the need to pay for its own third ambulance in the not-too-distant future.

Indeed, **whether this option makes sense for both Middleton EMS and WAEMS would depend on how each agency defines its capacity needs**. Middleton EMS officials would need to determine whether a

[8] At the time we conducted our modeling, the most recent full year for which we had call volume data was 2023.

third ambulance shared with WAEMS – as opposed to one that just serves the Middleton EMS service area – would provide sufficient additional capacity to meet its increasing call volumes. WAEMS, on the other hand, would need to determine whether it makes sense to pay for the extra capacity of a shared third ambulance at this time, or whether its service-level challenges could be appropriately met for the foreseeable future by creating a new station location to house one of its two existing ambulance crews.

Option 4: Consolidate and Build Two New Stations with Four Total Ambulance Crews

Option 4 takes a different approach (as well as Option 5 to follow) by modeling a single consolidated EMS agency to serve the combined service areas of Middleton EMS and WAEMS. If these two agencies took such a step, then it also may be appropriate to solicit Cross Plains Area EMS' interest in joining the consolidation effort (or perhaps other nearby agencies). However, for the sake of this analysis, we assume only that Middleton EMS and WAEMS would consolidate.

The consolidation of functional areas like EMS between two or more local agencies requires extensive analysis (which is not in the scope of this report). It also requires delicate negotiation and may not always be the optimal solution. Among the most difficult challenges are determining a governance structure for the consolidated agency that is equitable to each of the participating jurisdictions and ensures they have appropriate input into budget and policymaking decisions; deciding how to handle ownership of vehicles, stations, and equipment used by the consolidated agency; and negotiating an equitable methodology for allocating the costs associated with equipping and running the consolidated agency to each participating jurisdiction.

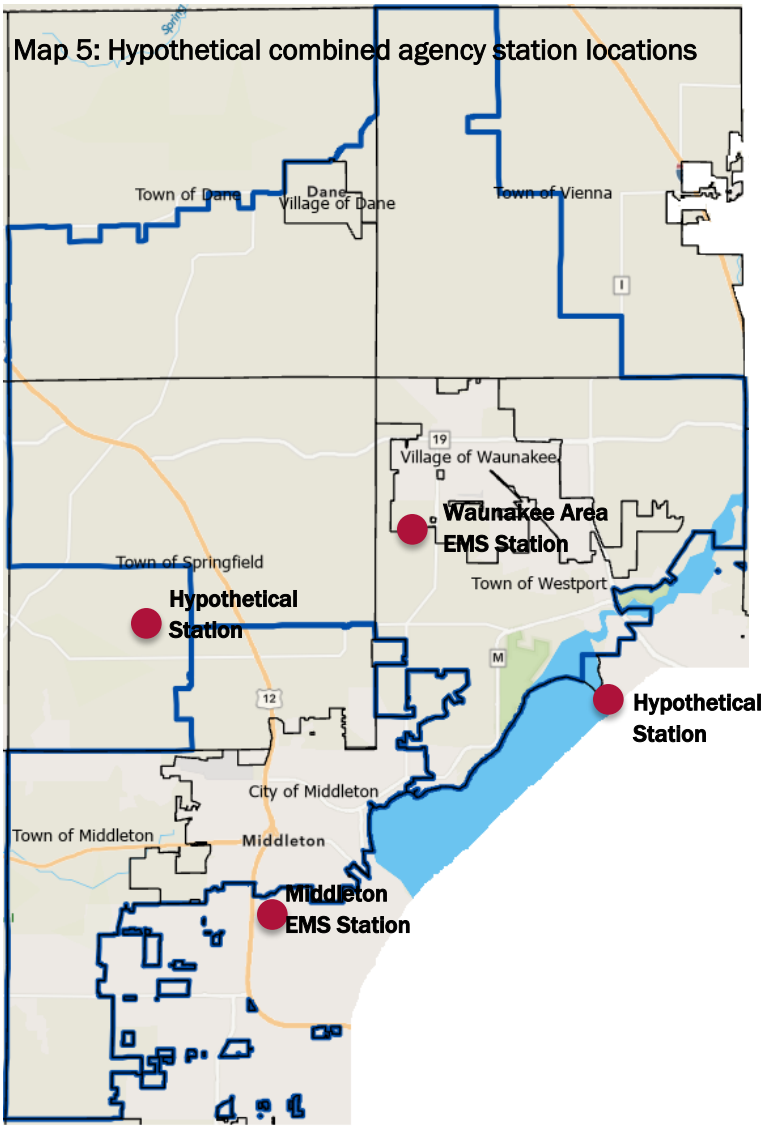
We have also found in several previous studies that consolidation can yield significant advantages, including:

- The opportunity to strategically deploy a larger set of resources over a larger region based on actual call volumes as opposed to municipal boundaries.
- The ability to achieve greater cost efficiency by consolidating non-response tasks such as planning, training, and special operations.
- Improved staff recruitment and retention resulting from more extensive career ladders in a larger agency that produce greater opportunities for advancement.
- The opportunity to reduce leadership positions while enhancing the effectiveness of command by allowing leaders to strategically manage and deploy command staff and vehicles on a regional level.
- Greater capacity to employ specialized positions for specialized tasks. For example, a merged agency may be better equipped to implement a Mobile Integrated Healthcare (MIH) program, which entails using paramedics to proactively work with frequent 911 callers to address their healthcare needs and curb their use of EMS personnel.

An additional potential benefit of consolidation is the opportunity to bolster administrative staff while sharing the cost among several jurisdictions or even offsetting it with other personnel reductions. This could be of particular benefit to WAEMS and Middleton EMS, as both chiefs note that they currently spend considerable time handling basic administrative duties under their current structures, which takes time away from strategic management of staff and other higher-level administrative duties.

Based on discussions with the two chiefs, for this option we model an approach that assumes four 24/7 ambulances and crews could effectively serve the combined region and even improve response times if municipal boundaries were not a factor in determining their location and coverage areas. We assume the two existing stations would be used, and one would be added in Westport while a fourth would be added in Springfield, as shown in **Map 5.**

Our hypothetical combined agency would be staffed as follows:



Map 5: Hypothetical combined agency station locations

- There would be no increase in full-time paramedics from the current combined 27 plus the two that WAEMS plans to add in 2025 and 2026. We also assume the same usage of part-time staff to fill gaps related to vacation, sick leave, etc. We considered adding a 30th paramedic to replicate Middleton EMS' approach of having an extra paramedic (above the seven needed for each of its two crews) as a means of reducing overtime and reliance on part-time staff to cover gaps, and we would recommend such consideration for similar purposes if a consolidation plan moves forward. However, we stick with the current combined paramedic staffing for this model given that no ambulance capacity is added.

- A consolidated department would have to come up with a new compensation structure that reconciles differences between salary and fringe benefit rates currently used by the two existing agencies, but we believe the difference would be marginal and our model therefore assumes no change in combined salary and benefit expenditures related to responders.

- We eliminate one of the chief positions, as the combined department could function with one chief and one assistant chief, for an estimated savings of $172,800 in salaries and benefits.

- We assume dedicated full-time support staff would be needed to take some of the administrative burden off the two-person command staff for a larger agency. We assume two positions -- an administrative assistant and a business services specialist – at a combined cost of $208,000.

Table 30 summarizes the staffing for the new agency.

Table 30: Option 4 staffing for consolidated department

	Chief	Deputy Chief	Admin Staff	FT Paramedic	Total FT Staff	PT Paramedic
New Agency	1	1	2	29	**33**	18

It should be noted that the addition of these administrative positions would free up time for administrative staff at the city of Middleton who currently provide administrative support for Middleton EMS at no charge to the agency. That reduction, however, likely would not allow the city to eliminate a position, so we do not quantify any dollar savings. Also, it is possible that the new agency would contract with the city of Middleton for business and administrative support, which would eliminate the need for new administrative positions and likely lower our administrative cost estimate.

The development of two new stations would obviously entail substantial upfront capital costs as well as increased annual station maintenance and repair costs, which we estimate per previous options. While it is possible that one of the two current backup ambulances could be eliminated in a consolidated department, we conservatively estimate that two backups still would be needed to support the four active ambulances.

Table 31 provides a snapshot of the estimated fiscal impact when we compare the consolidated agency with the two separate agencies. We estimate $35,200 of annual additional personnel costs as well as annualized expenditure increases of about $1.3 million for station development and operating costs.

Table 31: Option 4 costs compared to combined current WAEMS and Middleton EMS costs

	Personnel	Station Operating	Station Construction	Ambulance	Total
New Agency	$35,200	$174,000	$1,156,000	0	$1,365,200

With regard to service-level impacts, the addition of two strategically located stations would almost certainly improve response times in the region as a whole. In addition, the consolidated agency could produce better coverage when multiple calls within the new region must be fielded at once, as a second ambulance might be geographically closer and would come from the same agency, as opposed to necessitating a mutual aid call. The fact that paramedics from the new, larger agency also would be trained on identical policies and protocols and use the same equipment also could improve the quality of responses involving multiple crews from those stations.

While there would be a substantial cost related to development of the two new stations, this option produces only about $200,000 of increased annual operating costs that arguably would be justified

by the improved level of service. Also, it is worth noting that our estimated combined cost increase for Option 4 of about $1.4 million is considerably lower than the other three options considered thus far, as the region would continue to operate with a total of four ambulance crews, instead of increasing to five or six.

Perhaps the key question surrounding this option is whether the larger region could indeed be effectively served by the same four ambulance crews that currently exist as call volumes continue to grow. The geographical separation of ambulance crews, elimination of municipal boundaries, and regional deployment of resources may make this possible, but additional analysis would be necessary to determine if the call volume in the larger region still would require at least a fifth ambulance. If not, then this might be the most cost effective approach to resolving the capacity challenges facing the two agencies, particularly if station construction costs could be minimized by renovating two existing facilities instead of building new stations from scratch.

Option 5: Consolidate and Build One New Station With Five Total Ambulance Crews

Our final option envisions a consolidated department that keeps the two existing stations but adds a third station and a fifth ambulance crew at the location envisioned for Options 2 and 3. We add eight new paramedics – seven for the new crew and one extra so there would be two extra paramedics above the 35 specifically assigned to the five ambulances who could fill in as needed for vacation and other time off coverage. We estimate that this additional unassigned paramedic – combined with the flexibility afforded by a larger roster of full-time and part-time staff – would produce a 25% reduction in current combined overtime costs for an annual estimated savings of $72,500.

Otherwise, the org chart for Option 5 would be identical to that envisioned for Option 4. With one new station instead of two, upfront capital costs for station construction and ongoing costs for station maintenance would be reduced when compared to Option 4, but an additional ambulance would need to be purchased. Table 32 shows fiscal impacts of this option when compared to the current state – the added annual cost would be about $1.7 million.

Table 32: Option 5 costs compared to combined current WAEMS and Middleton EMS costs

	Personnel	Station Operating	Station Construction	Ambulance	Total
New Agency	$987,196	$87,000	$578,000	$47,125	$1,699,321

The largest service-level benefit would be the addition of a third strategically located station and a fifth ambulance to serve the combined service area. Under this option, as with Option 4, the new consolidated agency would be able to deploy resources without regard for municipal boundaries, it would be less reliant on mutual aid from neighboring departments, it would have needed additional administrative capacity, and it would enjoy efficiency benefits from consolidation of command and areas like training and supply purchases, etc. Paramedic recruitment and retention also might improve under the consolidation options given the enhanced opportunities in a larger agency for promotion and specialization.

Summary

Our high-level modeling of collaborative options to address the capacity challenges of WAEMS and Middleton EMS provides important food for thought for leaders in the region.

First, those leaders should not be surprised that an effective response to current challenges will be expensive. Indeed, they have seen that first-hand as they have already shifted to full-time staffing models. Further growth in expenses appears largely unavoidable for both agencies in light of the growth in development and the challenges implicit in over-reliance on part-time staff.

This exercise also demonstrates, however, that collaboration can reduce those added costs. As shown in **Table 33**, the most expensive option (combined) for the two agencies would be to largely go it alone and each build a new station (Option 1). Sharing a new station and possibly an ambulance crew (Options 2 and 3) would reduce the combined cost, while fully consolidating would reduce it further.[9]

Table 33: Added estimated annualized costs of each option

	Option 1	Option 2	Option 3	Option 4	Option 5
Middleton EMS	$1,890,221	$1,702,221	$1,001,817	$723,556	$900,640
WAEMS	$665,000	$477,000	$888,404	$641,644	$798,681
Total	**$2,555,221**	**$2,179,221**	**$1,890,221**	**$1,365,200**	**$1,699,321**
Stations	4	3	3	4	3
Ambulance Crews	5	5	5	4	5
Ambulances	5	5	5	4	5
FT Staff	40	40	40	33	41

Whether a full merger is the best approach will be determined, at least in part, by whether local elected officials conclude that the efficiency gains that would be produced by consolidating into a single agency would outweigh any perceived disadvantages related to relinquishing some degree of local control over EMS staffing and budgeting. That consideration, in turn, will require further analysis and discussion regarding the true cost of station construction, how costs for both construction and operations would be shared, and what type of governance structure would be used for a consolidated agency.

[9] The table assumes that for the two consolidation options, the 53%/47% split between the Middleton EMS service area and the WAEMS service area based on proportional share of calls for service that was used in Option 3 would be applied.

CONCLUSION

Our analysis of the service-level challenges facing Middleton EMS and WAEMS reinforces the extent to which those challenges are similar both in their nature and in the strategies and expenditures needed to address them. As the two agencies seek solutions, it is clear to us that a collaborative approach would be both less expensive and potentially more effective than responding independently.

A key question is how soon each agency will need to add a new station and ambulance crew, as the answer to that question could determine the willingness of each to collaborate. For example, if WAEMS still perceives the need to add a third crew as distant, then it may have less incentive to consider collaborative options that would require it to pay more for added capacity in the near term. Conversely, Middleton EMS needs to consider whether sharing a station and new ambulance crew with WAEMS would sufficiently resolve its capacity challenges for an extended period or provide only a stopgap solution.

If they do agree that collaboration is the best course of action, then stakeholders from the two agencies also will face a set of important questions about what form of collaboration would be best. The options we discuss that would involve sharing a station and perhaps a new ambulance crew would preserve the independence of both agencies while offering solutions that would build upon a strong spirit of cooperation that already exists. As we have shown, sharing a station and new staff also would be less expensive than having each agency locate and build new stations and recruit and pay their own new staff.

Yet, it also could be asked whether the two parties would be best served by immediately moving to full consolidation, which arguably could offer the most effective and efficient long-term solution. Such an approach – by completely erasing municipal boundaries and allowing for deployment of the two agencies' combined resources in an even more strategic manner – would better maximize existing capacity and could yield a reduction in cost when compared to station sharing options.

A phased approach might represent a sensible middle ground option. A scenario in which the two agencies begin by sharing a new station and ambulance crew would provide both service areas with at least some of the extra capacity and response time improvement they need at a lower cost than adding a new ambulance crew or station individually. After that plan is negotiated and implemented, stakeholders from the two agencies could further assess whether or how soon more additional capacity will be required and whether a full-fledged merger of the two agencies would be the best option to secure it.

Overall, while this analysis leaves many questions unanswered, it does point to a collaborative path forward that could provide enhanced services to the jurisdictions currently served by Middleton EMS and WAEMS at a reduced cost. We hope policymakers use it as a springboard for further discussion and action to address the pressing challenges faced by their EMS responders.