

SafeTechSolutions

Final Report

**ASSESSMENT
OF
EMERGENCY MEDICAL SERVICES
IN
PINE BLUFFS, WYOMING**

October 2020



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Executive Summary

As operating today, Pine Bluffs Ambulance Service (PBAS) is sustainable, reliable, and financially viable. However, this sustainability, reliability, and financial viability is highly fragile. This fragility is primarily due to four main factors: 1) they are highly dependent on a few individuals to respond to request for service, most notability during daytime hours — in most cases, the dependence is on one individual; 2) the sole reliance on partially compensated volunteers for staffing, resulting in a community likely unaware of the true cost of Emergency Medical Services (EMS); 3) a large gap between current revenues, potential revenues if rates were matched to expenses, and the revenues needed to sustain part-time or full-time personnel; and 4) the age and status of the service's two ambulances.

While the long-term sustainability is fragile, as operating today, the service is sustainable. It has prepared, competent, and dedicated leadership within the ambulance service, as well as within the city. There is a clear and compelling vision for the future. The organization's highly engaged volunteer workforce — while partially paid — provides a significant contribution to the organization through donated labor. PBAS organizational culture is fun, friendly, and family-like, coupled with accountability, responsibility, and always striving for clinical excellence. The use of an outside billing agency, through collaboration with the service's leaders, has led to the collection of 74% of allowable charges, maximizing the patient revenue financial resources to the organization.

PBAS, like many rural, volunteer EMS organizations across Wyoming, and across the nation, is experiencing a slowly evolving crisis, a crisis made up of many components, including a national change in people's willingness and availability to volunteer, the increasing demands of clinical care, regionalization of healthcare, ever-decreasing reimbursement paired with ever-increasing costs of readiness and operations, the decline of rural communities, the population shift to urban and suburban communities, and the transporting distances between Pine Bluffs and Cheyenne.

Recognizing these challenges, the leader of PBAS elected to apply for an agency assessment offered by the Wyoming Office of EMS. The focused assessment resulted in six major recommendations built from 11 key observations. These recommendations were:

1. **Stabilize the services sustainability:** Become less dependent on a few individuals for the services ability to respond. Consider what would be required to strength staffing.
2. **More deeply understand and accept the needs of the current EMS system:** What is desired by the community, what is financially sustainable, and how to govern the system and maintain strong partnerships,

3. **Create a community-wide shared vision for EMS:** All stakeholders, operational and clinical expectations, assess willingness to pay.
4. **Participate in creating a Laramie County EMS System for 2021 and beyond.**
5. **Ensure data is gathered and used to its full potential:** Document all responses, and clearly note of those responses who has transported.
6. **Expect the best, but plan for all possibilities:** Honor local pride, ownership, and investments while leveraging knowledge and expertise. Match new model with the reality of the current response model.

The 11 key observations were:

1. Pine Bluffs EMS, as operating today, is sustainable, but that sustainability is fragile and highly dependent on a single individual.
2. The service is in desperate need of replacement ambulances.
3. An EMS system already exists within Laramie County, though it is informal.
4. EMS is a vital and desirable element of healthcare and quality of life.
5. There is possible growth in the area due to Air Force upgrades.
6. Workforce recruitment and retention is, and will likely continue to be, a major challenge.
7. There is a lack of consensus around the specifics of EMS in Eastern Laramie County, including who funds it, who ensures the provision of service(s), who governs it, and who operates it.
8. AMR's current contract may be creating a disincentive for AMR to dual respond.
9. There is perceived lack of fairness in sharing the financial burden of providing EMS.
10. Some of the structures and practices of an integrated countywide EMS system are already in place.
11. There seems to be a variance between EMS responses and the percentage of non-transport. The percent is close to 50%; this is commonly 14%.

While sustainable today, the community should begin to consider what steps are needed now to reinforce this sustainability and address the areas of fragility. The path forward and needed actions may involve new models of delivery, partially paid or paid staff, or joining a countywide EMS system.

Of the many tools needed to aid a community through a transition, leadership and leaders will be critical. In this area, Pine Bluffs is truly blessed. Throughout the assessment process, it was clear that the community and its leaders were critically aware of the need for EMS in their community and the reality that as operating today, their ambulance service is highly fragile. Leaders were willing participants in embarking on the hard but essential path forward. As evidence of this, most, if not all, community leaders were present for the oral presentation of the draft results of the ambulance sustainability assessment.

I. Introduction & Methodology

SafeTech Solutions, LLP was contracted by the Wyoming Office of Emergency Medical Services (EMS) to conduct an assessment of the EMS service in Pine Bluffs, Wyoming. The service works in conjunction with three other ambulance services: Albin, Burns, and the ambulance contractor in Cheyenne, American Medical Response (AMR). These services make up an informal EMS system in Laramie County Wyoming. SafeTech Solutions is an EMS consulting firm with extensive expertise evaluating EMS organizations and assisting in the development of rural ambulance services and systems. SafeTech Solutions has worked with rural Wyoming EMS agencies for many years through its EMS Leadership Academy and previous assessments throughout the State of Wyoming.

The goals of the PBAS assessment were to:

- Evaluate the sustainability, reliability, and long-term survivability of EMS in Pine Bluffs, Wyoming;
- Look for organizational components that are working well; and
- Make recommendations for change and improvement that would aid in the long-term sustainability, reliability, and survivability of EMS in Pine Bluffs, Wyoming.

The scope of the assessment was limited and was not an audit of operations, finances, or clinical performance. Air medical service was not part of the assessment. All data was provided by the services themselves; SafeTech Solutions attempted to validate the information and, when needed, asked for supporting data to validate or invalidate the data provided.

Methodology

SafeTech Solutions' assessment team used a process of inquiry and investigation that capitalizes on the firm's extensive understanding of rural EMS systems. Its principal gathered quantitative and qualitative data through research, site visits, and interviews. One consultant, Partner Aarron Reinert, visited Pine Bluffs, Wyoming, to review documents and data, conduct interviews, and assess operations, in addition to broadly evaluating the ambulance organizations (organizational structure, leadership, clinical care, and operations).

Over two days of in-person and phone interviews we conducted, these interviews included:

- PBAS director;
- PBAS assistant director;
- PBAS training officer;
- PBAS volunteers;
- Pine Bluffs town mayor;
- Pine Bluffs town clerk;

- Two members of the town council;
- Fire District 5 chief;
- Local clinical leader;
- Police chief;
- Three county commissioners;
- Two medical directors;
- Representative from the Laramie County Sheriff's Department;
- Five members of the Laramie County EMS Joint Powers Board;
- AMR site leader;
- Cheyenne Regional Medical Center clinical leaders;
- Laramie County EMS Joint Powers Board contract administrator; and
- Laramie County Combined Communications Center (LQuadC) leadership.

SafeTech Solutions paid special attention to the social, economic, demographic, cultural, and political issues in the wider area, carefully analyzing data and making its recommendations based on industry best practices, as well as what is meaningful, measurable, and actionable. This report summarizes the key findings, observations, and recommendations for the EMS service in Burns, Wyoming.

To the best of SafeTech Solutions' abilities, the data has been verified and validated and believed to be materially correct, unless stated otherwise, as presented by the leaders of PBAS.

II. Overview of Pine Bluffs, Wyoming

A part of the Cheyenne, Wyoming, Metropolitan Statistical Area, along with Albin, Burns, and the unincorporated areas of Laramie County, Wyoming, Pine Bluffs was founded in 1909.¹ Located on Wyoming's southeastern border with Nebraska, Pine Bluffs started out with the name Rock Branch.² The name was changed to Pine Bluffs by railroad officials in honor of the pine trees on a nearby bluff. When first founded, the town consisted of no more than a grocery store, bakery, and saloon.³

Pine Bluffs gained the nickname "Frontier Crossroads" after it became the largest cattle shipping point on the Union Pacific Railroad. This was because the Texas Trail ran through the town on its way from Texas to Ogallala, Nebraska, to the east of Pine Bluffs.⁴ Before that, the area where Pine Bluffs is located was the home of numerous Native American tribes, including the Cheyenne and Arapahoe tribes, as well as the Shoshone, Pawnee, and Lakota tribes, who hunted Buffalo in the region.⁵

Phone service made its way to Laramie County, Wyoming, in 1882.⁶ Electric service followed in 1940 after the building of a substation in Carpenter to the west.⁷ Within the state of Wyoming, the schools in Pine Bluffs are currently ranked 40th.⁸

Medical services in Pine Bluffs can be found at the Pine Bluffs Health Clinic, though residents and visitors can travel to nearby Cheyenne, Wyoming, to the west, which has a larger selection of medical facilities.

Summary of Pine Bluffs, Wyoming

Being on the border of Nebraska, Pine Bluffs, Wyoming, sees many visitors from its nearby neighboring state, as well as travelers from all over the U.S. Most of these

¹ Wyoming Tales and Trails:

<http://www.wyomingtalesandtrails.com/lincolnpineb.html#:~:text=Pine%20Bluffs%2C%201909,the%20Union%20Pacific%20in%201868>.<http://www.wyomingtalesandtrails.com/lincolnpineb.html#:~:text=Pine%20Bluffs%2C%201909,the%20Union%20Pacific%20in%201868>.

² "Pine Bluffs, WY: History of Community": <https://www.pinebluffswy.gov/index.asp?SEC=C23C2465-B249-4514-8B22-E771FE5699B9&DE=B2AA23A8-DCD6-4EBE-A794-106B3C714DB0#:~:text=Pine%20Bluffs%20was%20then%20known.store%2C%20bakery%20and%20a%20saloon>.

³ Ibid.

⁴ "Oklahoma Historical Society: Texas Road": <https://www.okhistory.org/publications/enc/entry.php?entry=TE023>

⁵ Travelwyoming.com: <https://travelwyoming.com/cities/pine-bluffs#:~:text=The%20Cheyenne%20and%20Arapahoe%20tribes.for%20tools%20and%20hunting%20supplies>.

⁶ "Hello? Can You Hear Me? Laramie Gets Telephones—1882": <https://www.wyoachs.com/larmies-living-history-businesses/2018/4/17/hello-can-you-hear-me-laramie-gets-telephones1882#:~:text=On%20midnight%20December%2017%2C%201921,the%20most%20adverse%20weather%20conditions>.

⁷ WyoHistory.org: <https://www.wyohistory.org/encyclopedia/rural-electrification-changed-farm-life-forever-wyoming#:~:text=On%20May%2011%2C%201940%2C%20when.people%20showed%20up%20to%20celebrate>.

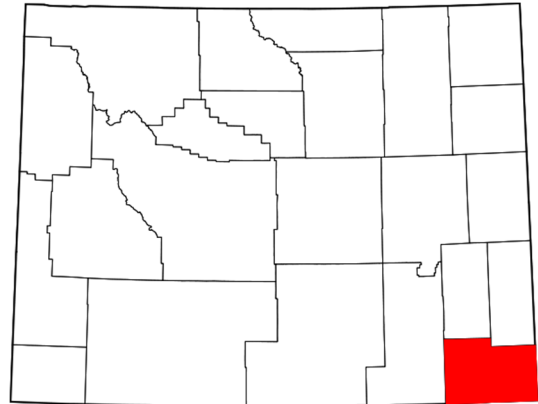
⁸ U.S. News: <https://www.usnews.com/education/best-high-schools/wyoming/districts/laramie-county-school-district-2/pine-bluffs-jr-and-sr-high-school-2043#:~:text=Pine%20Bluffs%20jr%20and%20Sr%20High%20School%20is%20ranked%20%2312%2C585,they%20prepara re%20students%20for%20college>.

tourists come to the town to visit the Texas Trail Museum, attend the local rodeo, or for the annual Trail Days celebration, which commemorates the town's history.⁹

The Land

The total land area of Pine Bluffs, Wyoming, is 3.22 square miles.¹⁰ The town is located in the southeast corner of Laramie County, Wyoming, on the border, with the nearby state of Nebraska to the east.

A semi-arid climate, the county in which the town sits is on a high plain between two mountain ranges, the Laramie Range and the Snowy Range. The town has two waterways nearby, Lodgepole Creek to the north, which runs beside the town to the west, and Muddy Creek, which also runs along the west side of the town.



Source: [Wikimedia Commons](#)

To the south of Pine Bluffs lies the Pawnee National Grassland in Colorado. And while there are no public lands in Pine Bluffs, it is home to various cattle ranches located in and around the town.

Transportation

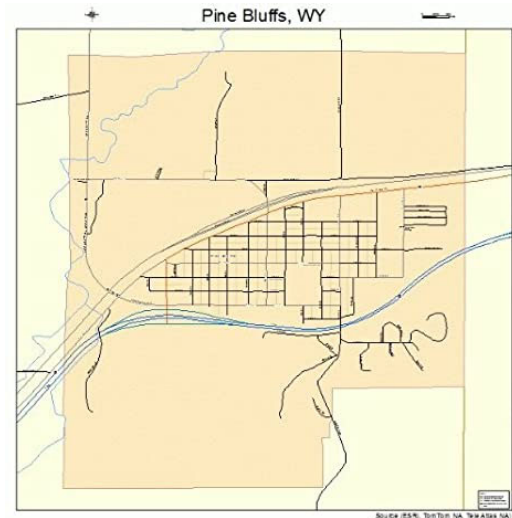
The main roadways in and around Pine Bluffs, Wyoming, include Interstate 80 and Highway 30, also known as the Lincoln Highway. The Lincoln Highway was dedicated in 1913 and is the first transcontinental highway, stretching from San Francisco to New York. At over 3,000 miles in length, the Lincoln Highway serves as one of the primary thoroughfares through the town, running alongside Interstate 80 as it enters from the west before branching off to head northeast and exiting Pine Bluffs at the Wyoming-Nebraska state line. Meanwhile, Interstate 80 winds around the south part of town, heading east toward the border between Wyoming and Nebraska.

In addition, Pine Bluffs Albin Road connects to the Lincoln Highway in the western part of town. A state highway, the roadway connects Pine Bluffs with Albin to the north. Other roads in Pine Bluffs include Beech Avenue, which eventually turns into State Road 164 and runs from Pine Bluffs to the Colorado state border to the south; Main Street, which heads from Pine Bluffs Albin Road, heading east before heading south into town; and State Road 13, which branches off from Main Street at its southern turn and parallels the Lincoln Highway on its journey into Nebraska.

⁹ Travelwyoming.com: <https://travelwyoming.com/cities/pine-bluffs#:~:text=The%20annual%20Pine%20Bluffs%20Trail,mud%20volleyball%20tournament%2C%20softball%20tournament>

¹⁰ Census.gov: https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2019_Gazetteer/2019_gaz_place_56.txt

The closest airports to Pine Bluffs include Cheyenne Regional Airport in Cheyenne, Wyoming, to the west; Western Nebraska Regional Airport, also known as William B Heilig Airport, to the east in Scottsbluff, Nebraska; and Laramie Regional Airport, located in Albany County, Wyoming, to the west. Cheyenne Regional Airport sees, on average, around 124 operations per day, many of these military aircraft, with some multi-engine and jet airplanes mixed in.¹¹ Western Nebraska Regional Airport sees about 83 aircraft operations per day, with most of that transient or general aviation traffic.¹² A smaller airport, Laramie Regional Airport only has about 29 aircraft operations per day, many of those either general aviation or transient flights.¹³



Source: [Amazon.com](https://www.amazon.com)

Land Use, Tourism & Industry

Livestock grazing is one of the main uses for land in Pine Bluffs, Wyoming. There are many family-owned cattle ranches in the area, which harken back to the days when the town was a major stopover for cattle drives that moved between Texas and Nebraska along the historic Texas Trail. Pine Bluffs also has a proportionately high number of residents working in other farming, fishing, and forestry occupations in comparison to other areas of the Wyoming.¹⁴

Pine Bluffs receives some tourist traffic, especially for the annual Pioneer Days celebration and small-town rodeo sponsored by the Wyoming Rodeo Association. Other locations that draw tourists from out of town include the Texas Trail Museum and the Our Lady of Peace Shrine.

In addition to the many cattle ranchers in the region, other industries and businesses in the area are found mainly in the fields of office and administrative support, management, construction, and various repair services, among other career fields.

The People

The population in Pine Bluffs, Wyoming, was 1,129 people as of 2020.¹⁵ This is a decrease of 3.1% from a population of 1,165 in 2010.¹⁶

¹¹ Airnav.com: <https://www.airnav.com/airport/KCYS>

¹² Airnav.com: <https://www.airnav.com/airport/KBFF>

¹³ Airnav: <https://www.airnav.com/airport/KLAR>

¹⁴ Data USA: [https://datausa.io/profile/geo/pine-bluffs-wy#:~:text=The%20largest%20industries%20in%20Pine.and%20Retail%20Trade%20\(%2444%2C091\).](https://datausa.io/profile/geo/pine-bluffs-wy#:~:text=The%20largest%20industries%20in%20Pine.and%20Retail%20Trade%20(%2444%2C091).)

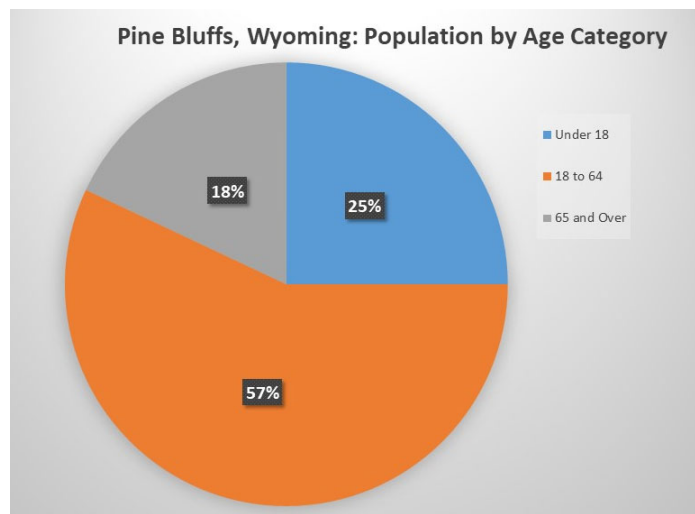
¹⁵ Suburban Stats: <https://suburbanstats.org/population/wyoming/how-many-people-live-in-pine-bluffs>

¹⁶ U.S. Census Bureau: <https://www.census.gov/>

A majority of the residents of Pine Bluffs, 70%, live in traditional family homes.¹⁷ Another 30% of the population live alone.¹⁸

The two dominant ethnic groups in Pine Bluffs are White and Hispanic/Latino. People identifying as White make up 94% of the total population, while Hispanics/Latinos make up the other 6%. In addition, 5% of people who identify as White also identify as Hispanic/Latino.¹⁹

Over half, 57%, of the residents in Pine Bluffs are working-age adults between the ages of 18 and 64. The population also has around 285 children below the age of 18, who make up about 25% of the population, while the rest, 18%, is comprised of people of retirement age, which is 65 and older.²⁰



Source: suburbanstats.org

With around 1 million overnight visitors traveling to the Laramie County, Wyoming, area each year,²¹ some of those tourists make their way to Pine Bluffs. Upon arriving, many of those visitors attend the annual Trail Days celebration, visit the Our Lady of Peace Shrine, and travel to the small-town rodeo hosted by the Wyoming Rodeo Association.

And while we were unable to determine the actual number of visitors to the town each year, the additional visitors to the area must be accounted for when trying to allocate emergency medical resources. Tourists to the area frequently use these resources while in the area, as opposed to their personal physician, especially when dealing with any type of emergency medical situation or if they get injured in an accident.

The population in Pine Bluffs is expected to grow to 1,263 by 2025,²² an increase of around 12%. This population increase must be taken into account, as it will also raise the demands on the area's emergency medical services. This based on the fact that even with the increase in demand, these services are still expected to offer the same level of performance.

¹⁷ Suburban Stats: <https://suburbanstats.org/population/wyoming/how-many-people-live-in-pine-bluffs>

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ Ibid.

²¹ Cheyenne.org: <https://www.cheyenne.org/info/about-the-cyb/#:~:text=In%202019%2C%20Cheyenne%20and%20Laramie.2019%2C%20providing%203100%20local%20jobs,>

²² "Population for Wyoming, Counties, Cities, and Towns: 2010 to 2040": <http://eadiv.state.wy.us/pop/wyc&sc40.htm>

The Economy

The median household income in Pine Bluffs, Wyoming, was \$46,950.²³ This is down from a median household income of \$56,838 in 2016, or a decrease of roughly 17%.²⁴ This is lower than the median household income of \$64,306 for the Wyoming Metropolitan Statistical Area as a whole.²⁵ Roughly 12% of households in Pine Bluffs have an income between \$70,000 and \$100,000, and 19% have an income above \$100,000.²⁶

The poverty level in Pine Bluffs sits at about 9.5%, which is below the national average of 13.1%²⁷ and the 11.1% poverty rate for Wyoming as a whole.²⁸ Unemployment in Laramie County, Wyoming, where Pine Bluffs is located, is around 6.6%²⁹, which is slightly lower than the 7.1% for the state of Wyoming.³⁰

Around 90% of residents in Laramie County, Wyoming, have health insurance.³¹ Of that number, 62% have private insurance and 38% have public health insurance.³²

²³ U.S. Census Bureau: <https://www.census.gov/programs-surveys/acs/>

²⁴ Data USA: <https://datausa.io/profile/geo/pine-bluffs-wy#:~:text=Median%20household%20income%20in%20Pine%20Bluffs%2C%20WY%20is%20%2446%2C950.>

²⁵ Department of Numbers: <https://www.deptofnumbers.com/income/wyoming/cheyenne/>

²⁶ Data USA: <https://www.deptofnumbers.com/income/wyoming/cheyenne/>

²⁷ Data USA: <https://datausa.io/profile/geo/pine-bluffs-wy#:~:text=9.57%25%20of%20the%20population%20for.and%20then%20Females%2065%20%2D%2074.>

²⁸ Data USA: <https://datausa.io/profile/geo/wyoming>

²⁹ "Unemployment Rate in Laramie County, WY": <https://fred.stlouisfed.org/series/WYLARA0URN>

³⁰ Pine Bluffs Post: <https://www.pinebluffspost.com/story/2020/08/27/news/wyoming-unemployment-falls-to-7.1-in-july-2020/8204.html>

³¹ "Laramie County Health Matters":

<http://www.laramiecountyhealthmatters.org/indicators/index/view?indicatorId=2254&localeId=3182>

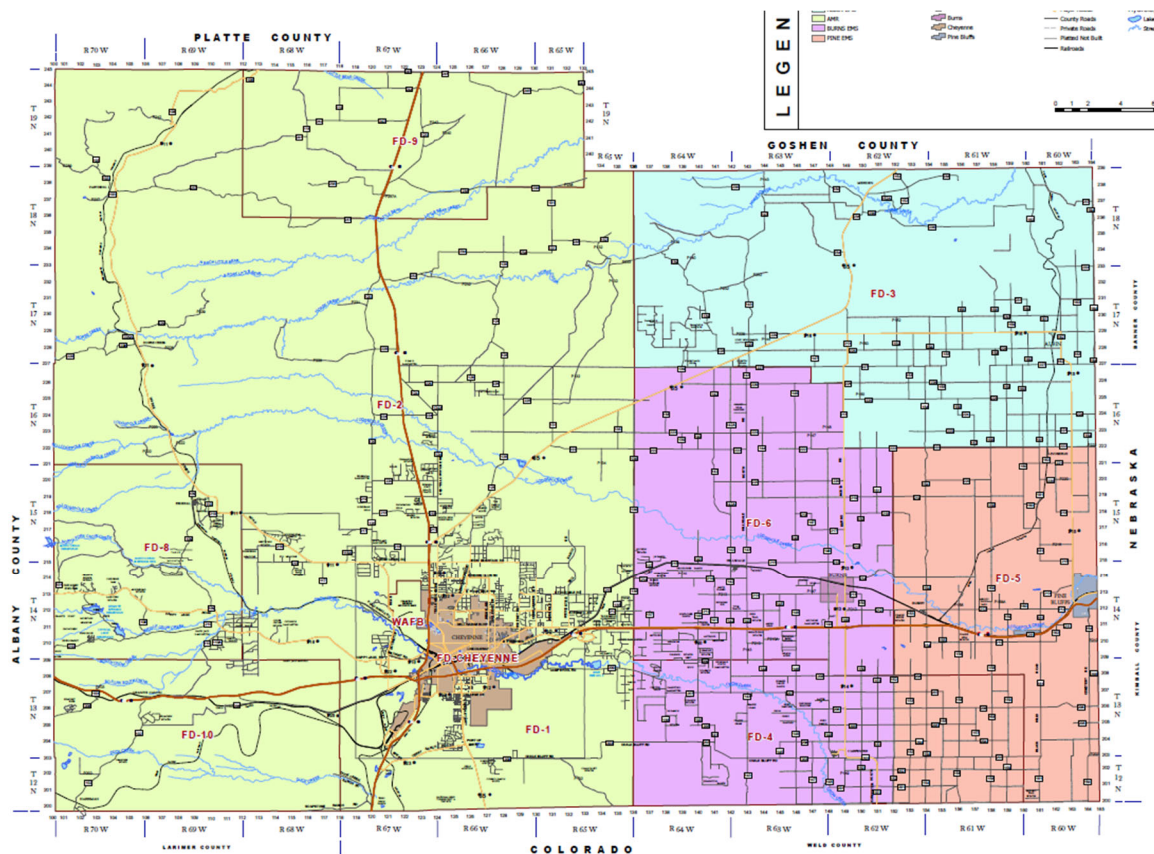
³² "Laramie County Health Matters":

<http://www.laramiecountyhealthmatters.org/indicators/index/view?indicatorId=362&localeId=3182>

III. Overview of Pine Bluffs, Wyoming, EMS System

PBAS is an Advanced Life Support (ALS), using Advanced EMTs (AEMT), licensed volunteer EMS organization that serves the Southeast area of Laramie County (see section below in orange). The service is owned by the city of Pine Bluffs and governed by and reports to the Town Council. It has an engaged and prepared leader who has an active leadership team. The culture was light, engaging, and contagious.

The service has two ambulances located in the Town of Pine Bluffs co-located with the Fire District. Their building also has a combination training room/office/crew space.



A general overview of the organization is provided below:

System Overview

Operational Resources

Calls

Calendar 2019	123
Calendar 2020	173*
*Projected	

Nearly a 100% response rate
 Nearly a 100% transport rate

Employees* 10

*Generally, 1 responds
 to the majority of the calls during
 daytime hours
 ** Generally, no call
 schedule

Vehicles 2

Locations 1

Financial Resources (fiscal 2020)

Gross Revenue	\$ 39,068
Total Expenses	\$41,397
Net Revenue	(\$2,329)
Salary Cost	\$17,642.00

Donated labor costs \$447,285.60
 In kind services from City

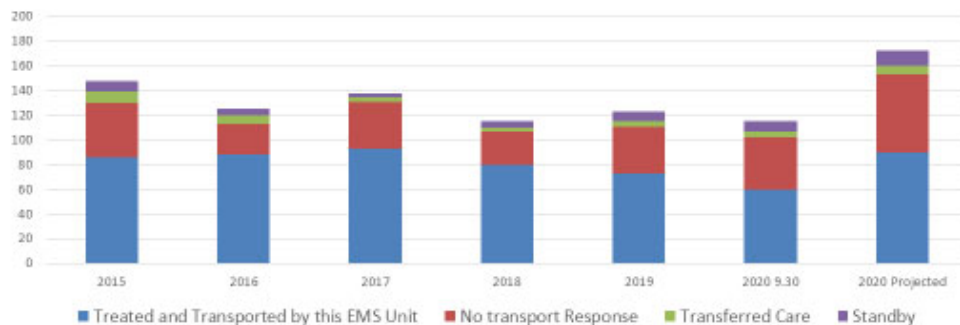
Organizational Governance

- Owned by city of Pine Bluffs
- Service leader reports to city council
- Staff reports to service leader
- Service has a designated leader/manager
- Uses an external billing agency

The service received 123 requests for services in 2019, as reported by PBAS through the Wyoming Ambulance Transport Reporting System (WATRS) and is projected to respond to 173 requests for service in 2020, as reported by PBAS through WATRS. The PBAS treat and no transport rate is notable at approximately 50% (see chart below and data highlighted in yellow). Nationally, the rate is closer to 14%. This variance could be valid for PBAS, but it also could be an error in documentation or ambulance calls where AMR, who co-responds with PBAS, transported the patient. It's important to understand the treat and no transport rate, and specifically if it is valid or a data error. If it is valid, it helps PBAS to know what costs are inherit in their system, including ambulance responses where no revenue is generated. If it is a data error, PBAS may be underreporting their responses and not truly accounting for all expenses and revenues in the system. If they are responses where AMR transports the patient, then PBAS might not be sustainable because there could be as many as 50% of their requests for service where they were unable to transport.

While PBAS and AMR co-respond on all calls for service in the area served by PBAS, PBAS reports that they transport nearly 100% of all patients in need of transport. Rarely, according to PBAS, is AMR needed for transportation.

Call Volume Trends



	2015	2016	2017	2018	2019	2020 9.30	2020 Projected
Treated and Transported by this EMS Unit	86	88	93	80	73	60	90
No transport Response	44	25	38	27	38	42	63
Transferred Care	9	7	4	3	4	5	8
Standby	9	5	3	5	8	8	12
Total	148	125	138	115	123	115	173

Finances and Financial Resources

PBAS is funded by a combination of revenues from transport and an expense budget from the Town of Pine Bluffs. Volunteers on the service receive a per diem per call for compensation for their time when responding on ambulance calls. An overview of PBAS financial resources follows:

System Finances

Fiscal 2019

- Total cash resources \$39,068.00*
- Total Expenses \$41,397
- Net Revenue (\$2,329)

	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Gross Revenue	\$35,815.00		\$62,745.00	\$50,299.00	\$39,068.00
Total Expenses	\$40,217.00		\$42,461.00	\$48,888.00	\$41,397.00
Net Revenue	(\$4,402)		\$20,284	\$1,411	(\$2,329)

Two significant items to note when considering PBAS financial resources are: 1) the expenses as shown above do not reflect the true cost of operating the PBAS;

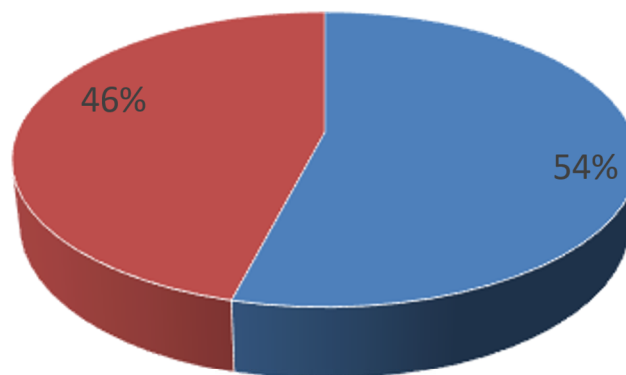
specifically, they do not account for the volunteer labor; and 2) revenues may not be maximized as the rates charged for service do not reflect the real costs of providing EMS in Pine Bluffs.

Note: Data was not available for the fiscal year 2016–2017

The service operates on a governmental fiscal year of July through June. The 2019–2020 fiscal year began with a balance of \$39,068; expenses were \$41,397, resulting in a loss for the year of \$2,329.

The service uses an external billing agency that reports a payer mix of 54% commercial payers, largely commercial insurances, and 46% governmental payers, largely Medicare and Medicaid. This mix results in a percent collected per call, on average, being 74%. This payer mix and percent collected is quite unusual for a rural and remote community. It is more common to see a payer mix of 70% or more governmental and 30% or less private insurance, resulting in a percent collected of 30% or less. The billing agency and service leaders report a high percentage of ranches and ranch hands in their service area, as well as a large presence of military personnel due to the ICBM fields.

Payer Mix



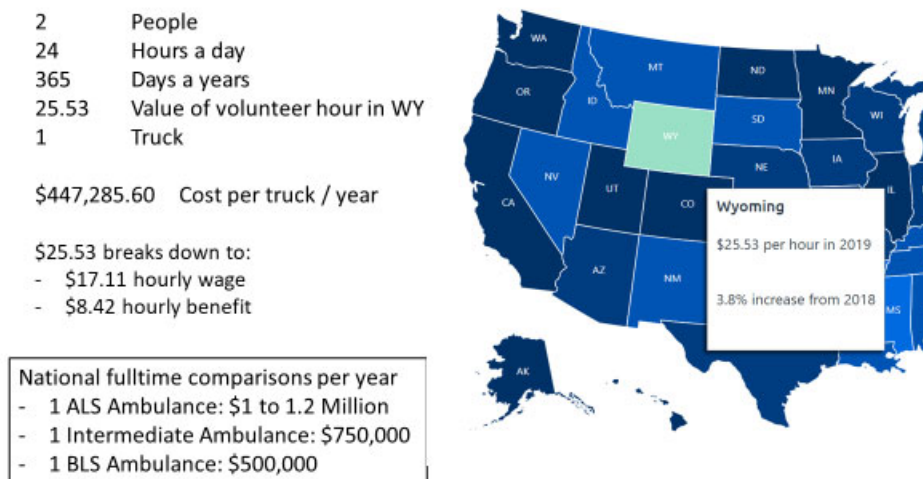
■ Commercial ■ Governmental

74% Averaged reimbursed

To fully understand the finances and financial resources of PBAS, one must account for the volunteer labor or, said differently, the subsidy provided to the community by the individuals willing to provide EMS labor for nearly free. While PBAS does provide a small per diem per call, there is still a large gap between the current salary

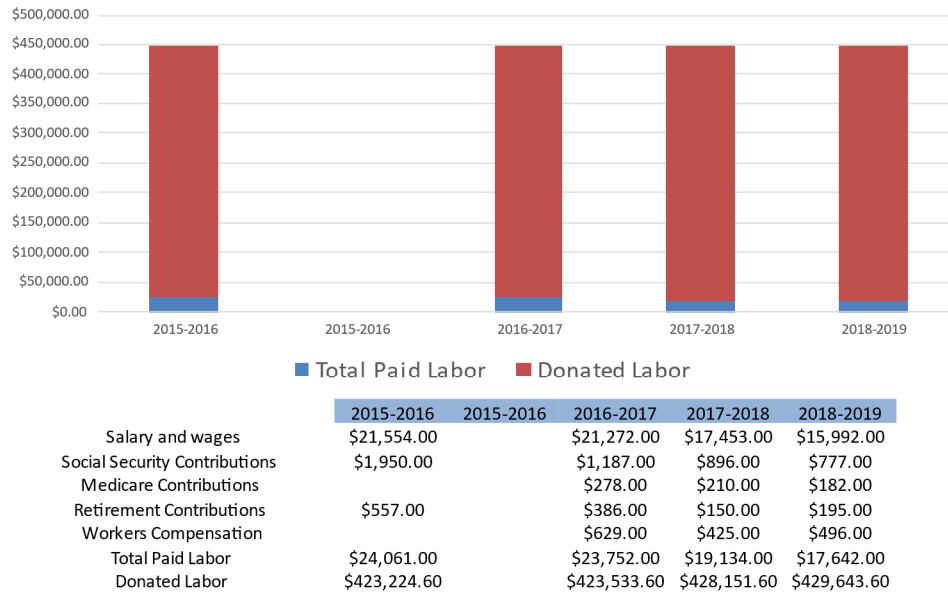
costs and the true salary dollars needed if the current volunteer staffing model was unable to provide the personnel needed to respond to all requests for service. An ambulance service in Wyoming is required by law to have at least two personnel on every ambulance transport. One of the two must be at least an EMT-Basic. To account for volunteer labor, a calculation is used that references the value of a volunteer hour in Wyoming as determined by the Bureau of Labor Statistics, Volunteer Sector. This number represents the cost; in this case, what PBAS would need to pay one employee with benefits.

Determining True Labor Costs



The value is multiplied by two individuals, 24 hours a day, 365 days a year and results in a total labor cost of \$447,285.60. Today, PBAS and the town of Pine Bluffs does pay a per diem per call to their volunteers, yet a gap still exists.

Labor Costs Accounting for Donated Labor



As illustrated in the above chart, there is a large gap between the current salary expenses (illustrated in blue) paid by the current system and what would be required if the system was not reliant on volunteer labor (illustrated in red). The gap is roughly \$400,000. As finding and keeping volunteers becomes more and more difficult, the town of Pine Bluffs will need to consider how to close this gap in order to ensure its service is sustainable, reliable, and viable.

Also of note when considering PBAS finances and financial resources is its current rate structure. With the primary revenue source for the organization being fee for service, specifically billing for treatment and transportation, it is critical PBAS ensure its rates match its true expenses. Today, PBAS rates do not appear to match its true expenses. For consideration are the current rates charged by PBAS compared to national averages:

Current Rates vs. National Averages

Billing Levels	Current Rates	National Averages
Mileage	\$17	\$30 - \$40
ALS non-emergency	\$650	
ALS emergency	\$700	\$2,500 - \$3,500
BLS non-emergency	\$450	
BLS emergency	\$500	\$1,000 - \$2,000
ALS2 emergency	\$750	\$3,000 - \$4,000
Specialized Critical Transport (SCT)		\$3,500 - \$4,500
ALS Assessment Fee	\$100	

In order to determine appropriate rates, one divides the true expenses for PBAS by the total number of transports. A national average for total operating expenses for an ALS ambulance services using AEMTs is approximately \$750,000 a year. In the 2020 calendar year, it is projected that PBAS will transport 90 patients. \$750,000 divided by 90 transports means an average reimbursed amount of \$8,333 is needed to have a balanced budget. It is not recommended that PBAS charge more than national, regional, or local averages; this simple math calculation demonstrates the reasonableness of the national averages. The calculation also illustrates that revenues from transports would not be enough to ensure a full-time ALS ambulance service had enough revenues to be sustainable.

A basic pro forma using national averages and current PBAS data show a potential revenue gain of \$160,000 or more. See below:

Rate Increases

	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Gross Revenue	\$35,815.00		\$62,745.00	\$50,299.00	\$39,068.00
Total Expenses	\$40,217.00		\$42,461.00	\$48,888.00	\$41,397.00
Net Revenue	(\$4,402)		\$20,284	\$1,411	(\$2,329)

	2015	2016	2017	2018	2019	2020 9.30	2020 Projected
Treated and Transported by this							
EMS Unit	86	88	93	80	73	60	90
No transport Response	44	25	38	27	38	42	63
Transferred Care	9	7	4	3	4	5	8
Standby	9	5	3	5	8	8	12
Total	148	125	138	115	123	115	173

2019		Rates	Extended
Transports	73	\$1,500.00	\$109,500.00
Miles	3650	\$30.00	\$109,500.00
Gross Revenue			\$219,000
Net Revenue		50% discount	\$109,500
Net Revenue		26% discount	\$164,250

Personnel

There are 10 employees/volunteers on the PBAS. Of those 10, seven are active, while generally one is able to respond when calls for service are received. PBAS relies on an “all call” system for scheduling personnel to be available to respond to requests for service.

Call Taking, Dispatch & Communications

PBAS is dispatched by LQuadC. 911 is used throughout the PBAS service area, as well as all of Laramie County. LQuadC is a combined communication center for all of public safety in Laramie County. Emergency Medical Dispatching (EMD) is used, as well as Medical Priority Dispatching Services (MPDS) where applicable. Both VHF and Wyolink are used for communication between PBAS and LQuadC and other public safety agencies. Cellular service is limited due to signal strength and density of cellular towers. Users provide excellent reviews of LQuadC, its technology, reliability, and expert staff.

PBAS does pay a fee for the communication services, roughly \$75,000 annually. There is some disagreement about this fee. This disagreement has two parts. Part one is whether or not Pine Bluffs should have to pay a fee. Other communities, such as Albin and Burns, do not pay a fee. However, these communities do not have their own police department, but rather contract with Laramie County Sheriff Department for local law enforcement. LQuadC feels these communities pay a communication fee through their contract for law enforcement. Pine Bluffs has its own police department that is dispatched by LQuadC, which, according to LQuadC, is

why they are charged a fee. The second disagreement centers around how the fee is allocated within the city. Today, the fee is primarily charged to the police department's budget. Should a portion be charged to EMS? Making a determination and deciding on the allocation will be necessary in order to understand the total expense of providing EMS in Pine Bluffs.

First Response

Today, PBAS does not have any medical first responders in their service area. Fire District 5 will respond to provide services such as manpower, rescue, and extrication. Laramie County Sheriff's Department may also respond if they are in the area and available.

Receiving Facilities & Other County Healthcare Resources

The primary receiving facility for patients from PBAS is Cheyenne Regional Medical Center. Occasionally, PBAS will transport a patient to a facility in Nebraska.

Mobile Integrated Health

To date there are no mobile integrated healthcare/community EMT/paramedic programs in place.

EMS Education

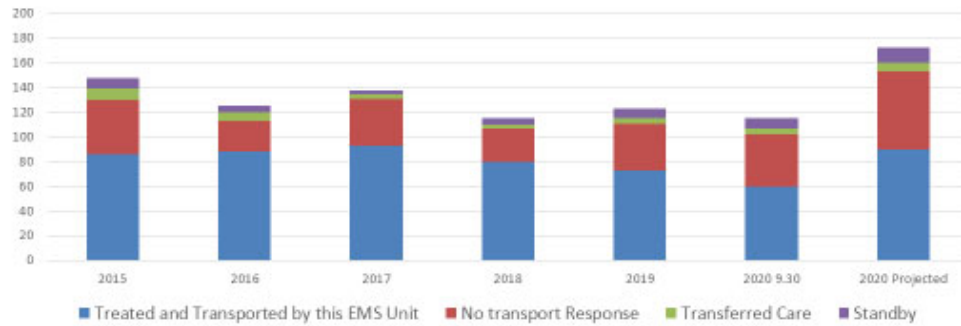
Initial and continuation education is provided by PBAS staff and leaders. The services medical director is also highly engaged and often provides continuing clinical education.

EMS System Oversight

EMS in Laramie County is governed through an EMS Joint Powers Board (EMSJPB). Today, the EMSJPB primarily focuses on management and leadership of the ambulance contract for Western Laramie County. The EMSJPB has created many components of an EMS system for all of Laramie County. For example, all services in Laramie County use medical guidelines developed through the EMSJPB. All services share the same medical directors, contracted through the EMSJPB. The EMSJPB also facilitates conversations on mutual aid, dual response, equipment purchases, and disaster coordination.

Call Volume

Call Volume Trends



	2015	2016	2017	2018	2019	2020 9.30	2020 Projected
Treated and Transported by this EMS Unit	86	88	93	80	73	60	90
No transport Response	44	25	38	27	38	42	63
Transferred Care	9	7	4	3	4	5	8
Standby	9	5	3	5	8	8	12
Total	148	125	138	115	123	115	173

V. Key Findings

Finding 1: Pine Bluffs EMS, as operating today, is sustainable, but that sustainability is fragile and highly dependent on a single individual.

While sustainable today, whether or not PBAS will be sustainable in the future is in question. The high dependency on one individual for their ability to respond to a request for service is not sustainable long-term. This dependency occurs during the busiest times and most vulnerable times, the daytime hours. During the day, most volunteers are outside the community at their full-time employment. This is also when the greatest peak occurs in run volume. A single change in this one individual's ability to respond could result in the service being unable to respond to a majority of its calls for service.

Finding 2: The service is in desperate need of replacement ambulances.

PBAS has two operational ambulances; one, a 2007 Ford 6.0L ambulance with roughly 48,000 miles and the second, a 2000 Ford 7.3L ambulance with roughly 99,000 miles. While the 2007 has the least miles and is the newest, this vehicle is the most unreliable. Ford introduced the 6.0L engine in their ambulance chassis to meet the new EPA clean air standards. The 6.0L engine has been shown by ambulance services across the nation to be unreliable and subject to multiple failures, including the most common failure, which destroys the engine. While it may sound overly dramatic, based on national experiences, the engine will likely fail around the 60,000 mile mark. Ford was the subject of a successful class action lawsuit due to the 6.0L engine.

The Ford 7.3L engine was the tried and tested engine of the ambulance industry for many years, often thought of within the trade as "bullet proof." However, the vehicle is over 20 years old, and based on industry benchmarking data, is in need of replacement to ensure reliability for an emergency vehicle. Industry benchmarking data shows ambulances should be replaced at either 150,000 miles or every 10 years. Replacement can take many forms, such as a completely new vehicle, a remount, engine and drivetrain replacement, or overhaul.

Finding 3: An EMS system already exists within Laramie County, though it is informal.

Today, EMS medical direction is shared by all four EMS organizations in Laramie County. There is a dual response system in place, ensuring an

ambulance response to 100% of the calls for service. Countywide EMS issues are considered and discussed at an EMSJPB, and mutual aid happens frequently. However, today there are four separate EMS organizations often vying for the same resources of finances, personnel, time, and attention. Similarly, there is duplication in areas of management, leadership, and administration.

Finding 4. EMS is a vital and desirable element of healthcare and quality of life.

In all interviews conducted as part of this assessment, it was clear that EMS is a desired and expected component of life in all parts of Laramie County. Respondents especially cited the critical need for EMS in Eastern Laramie County due to the distances from healthcare facilities and the lack of clinic or urgent care facilities in local communities. The interviews reflected a true appreciation not only for the service, but for the people providing this care — both volunteers and paid employees.

Finding 5. There is possible growth in the area due to Air Force upgrades.

Multiple sources reported a possible growth in the community and area served by PBAS due to a multi-year project to modernize the command-and-control system for the Air Force's ICBM force. Additional population could be both a blessing and curse for the PBAS. The additional run volume could bring much-needed revenue to the service, allowing for additional compensation for current personnel or resources for part-time or full-time staff. The additional volume could stress the already fragile system, pushing it to near collapse or collapse.

Finding 6: Workforce recruitment and retention is, and will likely continue to be, a major challenge.

Finding and keeping more of the right people is likely to be one of the greatest challenges to face EMS in Laramie County. This challenge is shared by EMS organizations across Wyoming and the nation. EMS recruitment and retention is facing a perfect storm of factors; these factors are shared by both full-time and volunteer organizations. Initial and ongoing training requirements are increasing for all levels of EMS practitioners. Interest in vocational careers such as EMS is decreasing, now especially in light of Covid-19. Rural communities are seeing their populations decrease as young people move away for higher-paying career opportunities, while at the same time rural community healthcare needs grow due to an aging population and the lack of basic services. Compounding all of these factors is the regionalization of healthcare.

Finding 7: There is a lack of consensus around the specifics of EMS in Eastern Laramie County: who funds it, who ensures the provision of service(s), who governs it, and who operates it.

When asked, all interviewees could agree on the need for EMS in Eastern Laramie County. Most agreed that in order for EMS in Eastern Laramie County to be long-term sustainable, it would require full-time EMS personnel at considerable expense. Some agreed on the likely staging and deployment of possible future full-time resources. Where there was marked lack of agreement was around who would fund the resources and how they would be managed and operated. Some saw it as the legal responsibility of county leaders, or as the responsibility of local communities and their citizens, or as the responsibility of already-in-place collaborative services, such as the fire districts.

Finding 8: AMR's current contract may be creating a disincentive for AMR to dual respond.

Like many performance-based contracts, the contract between the EMSJPB and AMR has specific performance requirements, such as level of effort and response times based on severity of the call. Contractors, such as AMR, match their operational deployment to the contract expectations and financial resources. The contract also has substantial penalties for performances failures.

This creates an interesting paradox for the contractor, AMR. While it is not penalized for sending an ambulance outside its contracted area for a dual response with PBAS service area, it does create a scenario where AMR could then be penalized within Cheyenne, as it now has fewer ambulances in Cheyenne for the same volume of work. This scenario could create a disincentive for the current or future contractor to provide a dual response service for fear of operational, clinical, and financial penalties.

Finding 9: There is perceived lack of fairness in how the financial burden of providing EMS is shared.

Communities across Wyoming and the nation are struggling with the expectation to provide more services and infrastructure with fewer resources. As they consider what services to fund with these limited resources, they have begun to ask if it is appropriate for the citizens of their tax base to pay for a service that are outside of their geographic boundaries. In the case of PBAS, the town of Pine Bluffs is made up of many square miles.

However, PBAS provides services to approximately 250 square miles in Eastern Laramie County. The question being asked is: Should everyone within the service area contribute to the cost of providing the service?

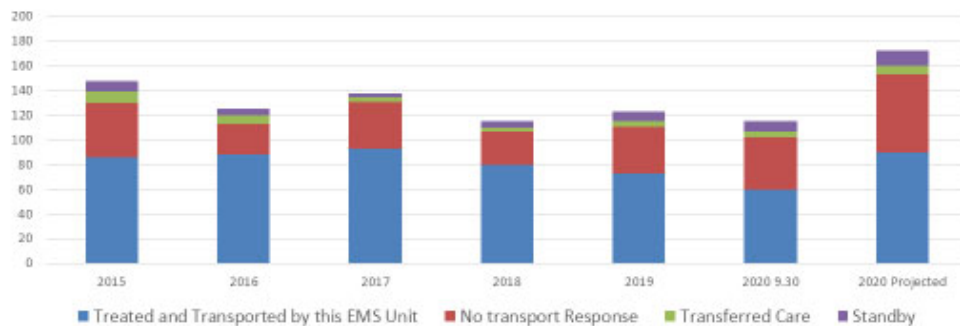
Finding 10: Some of the structures and practices of an integrated countywide EMS system are already in place.

Structures and practices such as dual response, mutual aid, shared medical direction, joint equipment purchased, shared medical guidelines, and an EMSJPB are already in place and functioning well.

Finding 11: There seems to be a variance between EMS responses and the percentage of non-transports. The percent is close to 50%; this is commonly 14%.

The percentage of treat and transport requests for service and treat and no transport appears unusual. While every EMS organization and community is unique, national averages are common. A national average for treat and no transport is 14%. Based on the WATRS data, it appears that the average for PBAS is 50%.

Call Volume Trends



	2015	2016	2017	2018	2019	2020 9.30	2020 Projected
Treated and Transported by this EMS Unit	86	88	93	80	73	60	90
No transport Response	44	25	38	27	38	42	63
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VI. Recommendations

Recommendation 1: Stabilize the services sustainability

Immediate action should be taken to stabilize and strengthen the service's long-term sustainability. The fragility is due to four main factors: 1) the high dependency on one individual for daytime response to requests for service; 2) the sole reliance on partially compensated volunteers for staffing; 3) the large gap between current revenues and potential revenues needed to sustain part-time or full-time personnel; and 4) the age and status of the service's two ambulances.

Rates could be raised to match national averages, still well under the true rates needed based on expenses. This additional revenue could be used to increase the financial resources of the service to pay for new ambulances, increase compensation to the volunteers, or consider part-time, Monday–Friday personnel during the daytime hours.

Recommendation 2: More deeply understand and accept the needs of the current EMS system.

Convene a process to more deeply understand what is desired by the community, what is financially sustainable, how to fund the system, and how to govern the system while maintaining strong partnerships. Use this listening and learning to imagine what is possible and what is desired. This process must also hold a mirror up to what is desired and what those who might use the system are willing to pay for; without this balance and acceptance, the system will fail.

Recommendation 3: Create a community-wide shared vision for EMS.

With the knowledge and education gained in recommendation 2, gather community stakeholders to create a shared vision for the future. This new vision should have a clear statement of clinical, operational, governance, and financial structures. One must only look at success and failures of area-wide or countywide school consolidations to understand how strong or fragile a system can be without the proper transparency and upfront agreements.

Recommendation 4: Participate in creating a Laramie County EMS system for 2021 and beyond.

Using the work from recommendation 2 and 3, bring stakeholders together from both Eastern and Western Laramie County to create a roadmap for a

sustainable EMS for 2021 and beyond. Engage all voices and balance needs and wants with what everyone is willing to pay for now and into the future. Account for all costs, including volunteer labor.

Recommendation 5: Ensure data is gathered and used to its full potential.

Document all responses, and clearly note those responses when PBAS was unable to respond, when it was able to respond but did not transport, and when it did transport. Leverage the data to understand the current system and the needs of a future countywide EMS system.

Recommendation 6: Expect the best, but plan for all possibilities.

Pine Bluffs should consider a two-path approach to EMS in its community. The first path recognizes it is blessed with a group of volunteers who give of themselves, far beyond the compensation they receive, to staff the PBAS. The organization's sacrifice, dedication, loyalty, and commitment is shown in its ability to staff a relatively busy small rural ambulance service. As a community, it should consider resources, structures, and compensation to recognize and reward the volunteers to support their participation into the future. The community should also plan for the day when staffing its ambulance service with volunteers is no longer viable. This path should honor local pride, engage all voices, and work in parallel to the current process. Planning for the future does not mean, and should not mean, the community expects the volunteer system to fail; rather, it's an acknowledgement of its responsibility to ensure the provision of EMS in the community.