

**PAMLICO COUNTY**  
**EMERGENCY MEDICAL SERVICES**

*2009 Strategic Plan*

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## **EMS STRATEGIC PLAN**

# **INTRODUCTION**

### **Purpose of Plan**

The Emergency Medical Services (EMS) Plan for Pamlico County is a description of the current capabilities and future goals of the EMS system in the County. The purpose of this plan and its authority derives from the County EMS Advisory Committee. As a strategic planning document, it is intended to provide an organized and logical guide towards assuring the highest quality of emergency care to all in Pamlico County. This plan recognizes that a vast partnership of organizations, institutions and individuals form the nucleus of a quality EMS system. It is only through this partnership and adherence to the highest standards of care that the goals of this plan will be achieved.

### **Goal of Plan**

The Pamlico County EMS system has undergone significant development since it's inception. As of late, there has been much discussion in reference to further growth. The addition of substations and upgrading the level of care to paramedic are the primary items of discussion. The goal of this document is to develop a logical methodology to assist with the ongoing development and additions to the EMS system. The primary mission of this EMS Plan is the establishment of a quality, integrated EMS system. It is the intent of this plan to provide a clear, and orderly framework for implementing a comprehensive EMS system for Pamlico County.

### **Vision of Plan**

The Emergency Medical Services (EMS) Plan for Pamlico County will not only look at the current capabilities of the EMS system but a vision of what the EMS system will look like in the next one-two, and five year increments. The plan will try outline benefits and costs associated with making the next step.

# One Year Goals

## GOAL: 1.0 Reduce Response Times

1.1

### Background

Response time within the scope of EMS is defined as the interval of time beginning with the time that a 911 call rings and ending with the time that an EMS unit arrives at the scene of an event. For analysis, the response time for a call is broken down to three components: 1) Dispatch Center Time 2) Wheels Rolling Time and 3) Travel Time. The attached sheet labeled "Response Time to a Scene" illustrates the different components associated with response time.

Travel time is the response time component in which the greatest time reduction can be realized; therefore, this discussion will focus primarily on reducing travel time. Several approaches exist for reducing travel time. The primary methods feasible for local implementation include the following: stage rescue units in key locations, establish QRV units, establish a new EMS agency, or create a satellite station of Pamlico Rescue. The EMS Advisory Group discussed most of these alternatives and believes that the best approach for at least short term is to establish a satellite station of Pamlico Rescue.

### Recommendation

The EMS Advisory Group recommends establishing a satellite station of Pamlico Rescue in a strategic location of Pamlico County. In order to recommend a location for a satellite, the committee reviewed call and population statistics to support the recommendation. Discussion of the statistics follows.

Pamlico County is currently served by one Rescue Base located in Bayboro. Although the average response time for the County is approximately twelve (12) minutes, it is estimated that sixty (60 %) of the population cannot be reached within twelve minutes. The purpose of adding substation(s) is to reduce response times in areas that cannot currently be reached within twelve (12) minutes of the Pamlico Rescue Base in Bayboro.

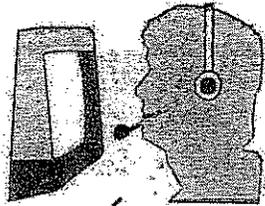
Fire department districts were utilized to identify the call volume within different areas of the County. Analyzing calls from July of 2006 to January of 2008, call volume was distributed as follows:

## RESPONSE TIME TO A SCENE



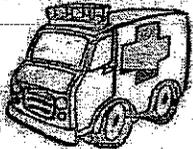
### CALLER

- Makes "911" call to dispatcher



### DISPATCHER (avg. 2 min)

- Answers "911" call
- Establishes location
- Establishes type event/problem
- Confirms legitimacy of call
- Sends out radio message to Pamlico Rescue
- Resends message as required
- Follows-up with receivers questions



### PAMLICO RESCUE (Prior enroute time avg. 2 min)

- Receives Message
- Confirms understanding of scene location and type of problem
- Starts vehicle and wheels are rolling enroute to the scene
- Travel to scene (average 50 mph)
- Locate scene/troubled area (avg. 15 mph)

### Reference:

- 7 miles in 12 minutes - average. 3 min. dispatch and prior enroute time  
(6.7 miles) - average 8 min. to scene @ 50 mph average  
(.25 miles) - average 1 min. to locate scene @ 15 mph average  
7 miles 12 minutes
- 14 miles in 20 minutes
- 18 miles in 25 minutes

**PAMLICO RESCUE ACTIVITY - WITHIN FIRE DISTRICT**

<u>Department</u>	<u>911 % of Calls</u>	<u>To Scene % Miles</u>	<u>Fire District Scene Area % Population</u>
Arapahoe VFD	8%	11%	21%
Florence/Whortonsville VFD	3%	17%	9%
Goose Creek VFD	2%	22%	6%
Grantsboro/Silverhill VFD	29%	1%	8%
Olympia VFD	4%	10%	3%
Reelsboro VFD	7%	5%	11%
South East Pamlico VFD	11%	17%	22%
Triangle VFD	28%	4%	9%
Vandemere VFD	7%	13%	10%

(See attached graphs)

The table above indicates that the majority of calls (57%) are in the Triangle and Grantsboro Fire Districts with most of the residences within these districts being in a twelve minute response area from the Alliance Rescue Base. With a little over 11% of the calls, Southeast Pamlico Fire District has the third highest percent of calls and the highest percent of population. Residents in this area are primarily outside of the twelve minute response zone from the Alliance Rescue Base. Therefore, this area can be considered a primary location for a satellite station.

Establishing a satellite station in the Southeast Pamlico area will reduce response times to the Southeast portion of the County. GIS analysis of the area indicates that response times in areas surrounding the Fire Station will be reduced to a ten to twelve minute average. The attached figure titled "Pamlico County EMS Response" illustrates a ten minute response area.

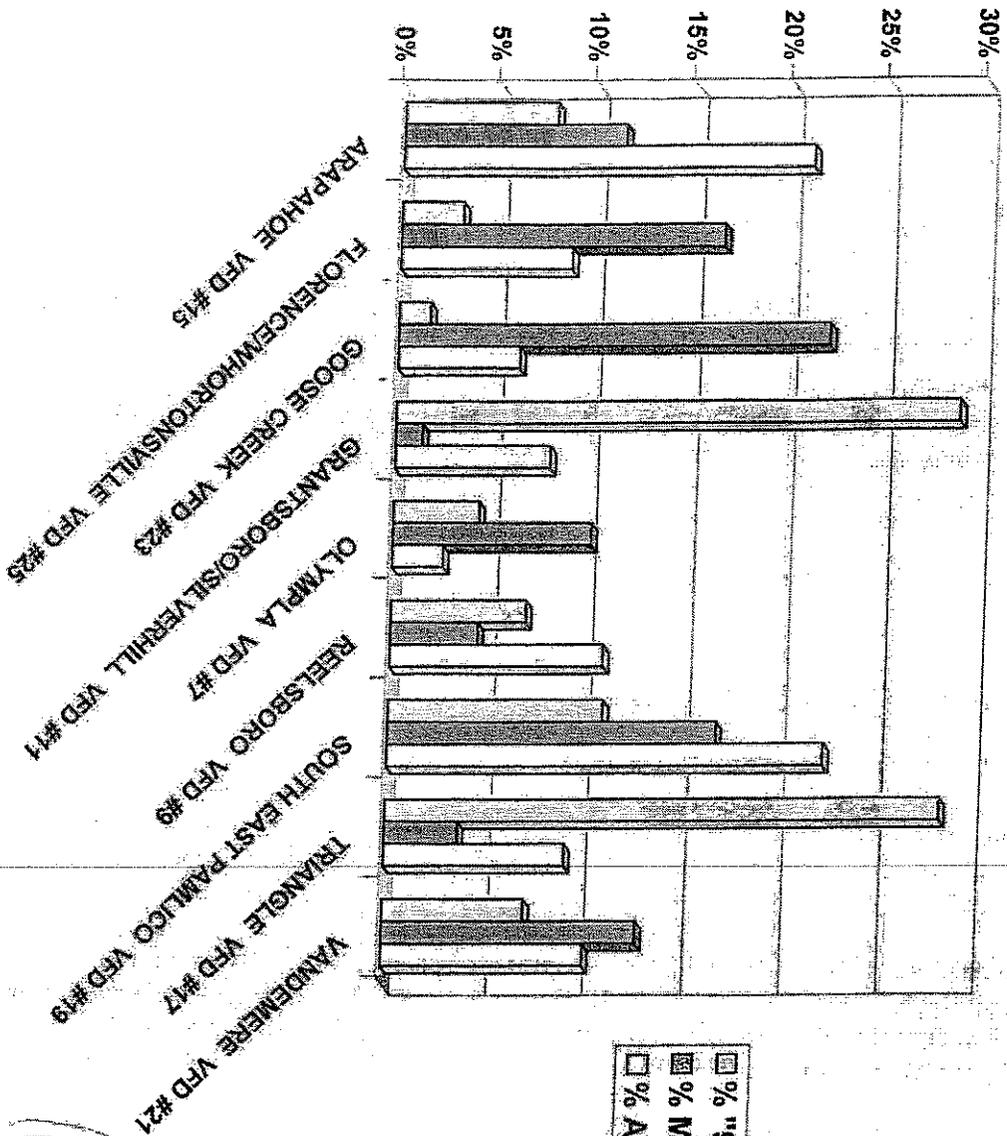
Final recommendation of the EMS Advisory Committee is to establish a satellite substation in the South East Pamlico Fire District.

Costs

Costs associated with the addition of the substation include personnel, rent, equipment and fuel. Pamlico Rescue has submitted an estimate of \$115,000 to expand coverage into the Southeast Pamlico area as detailed (see attachment titled "Pamlico Rescue Satellite Unit Work Sheet).

In addition to the costs identified above, the Rescue Squad will have to fund a facility rental fee of approximately \$450 per month. The Dottie Gray Ambulance Fund has previously awarded

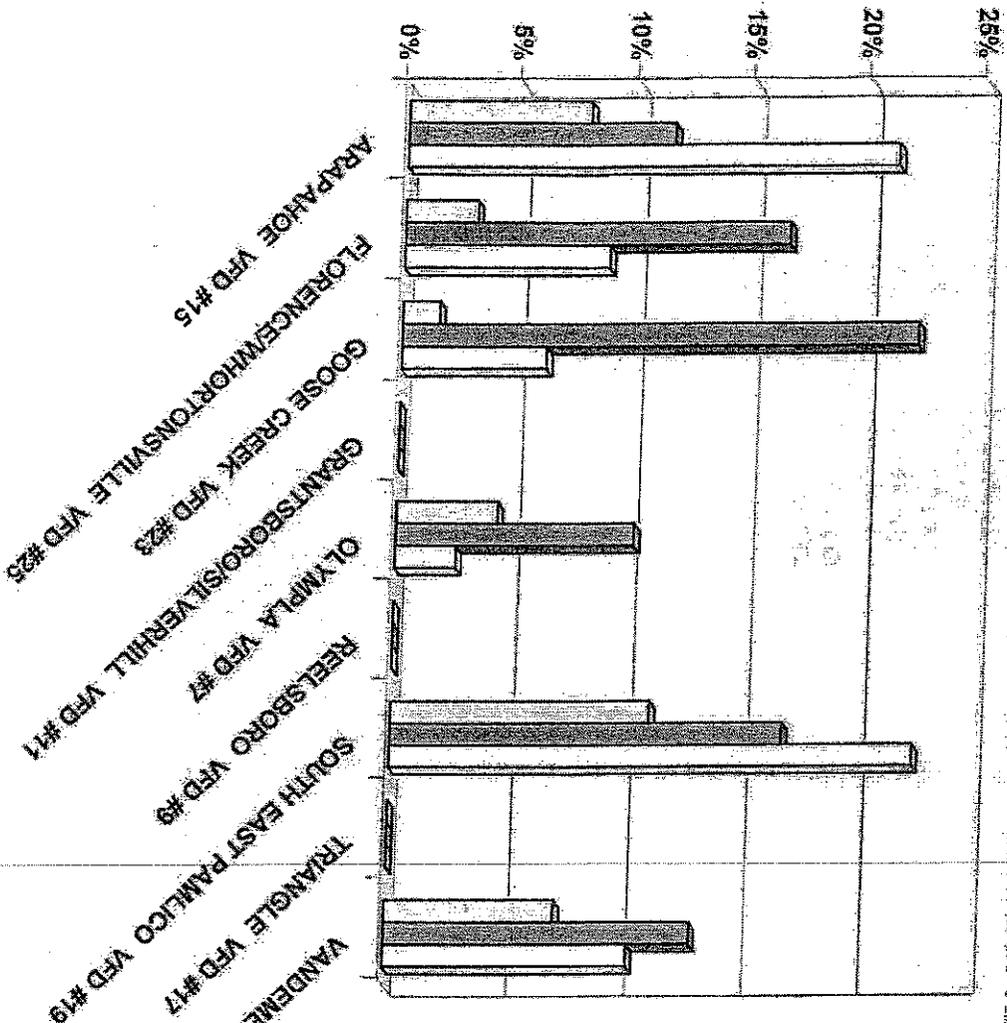
# PAMLICO RESCUE ACTIVITY VIA FIRE DISTRICT



% '911' CALLS  
 % MILES TO SCENE  
 % AREA POPULATION

NOTE:  
 SOUTHEAST PAMLICO HAS THE LARGEST  
 POPULATION COMPARED TO ALL 8 AREAS  
 & FOR THOSE OUTSIDE THE 7 MILE DISTANCE  
 IT HAS THE LARGEST AMOUNT EMS CALLS

**PAMLICO RESCUE ACTIVITY VIA FIRE DISTRICT  
NOT TO INCLUDE AREAS LESS THAN 7 MILES/12 MINUTES**



% '911' CALLS  
 % MILES TO SCENE  
 % AREA POPULATION

NOTE: SOUTHEAST PAMLICO HAS THE LARGEST POPULATION COMPARED TO ALL 6 AREAS & FOR THOSE OUTSIDE THE 7 MILE DISTANCE IT HAS THE LARGEST AMOUNT EMS CALLS

Feb-09

*SEE DATA USED TO  
CREATE CHARTS*

**PAMLICO RESCUE ACTIVITY - WITHIN FIRE DISTRICT**

FIRE DISTRICT POPULATION	FROM ALLIANCE MILES TO SCENE	"911" TO SCENE MILES	FIRE DISTRICT SCENE AREA POPULATION
2737	9.4	8%	21%
1146	13.6	3%	9%
814	18.2	2%	6%
1034	1.1	29%	8%
336	8.4	4%	3%
1424	3.7	7%	11%
2894	13.8	11%	22%
1206	3.1	28%	9%
1349	10.7	7%	10%
12940	82		

ARAPAHOE VFD #15  
 FLORENCE/HORTONSMILLE VFD #25  
 GOOSE CREEK VFD #23  
 GRANTSBORO/SILVERHILL VFD #11  
 OLYMPIA VFD #7  
 REELSBORO VFD #9  
 SOUTH EAST PAMLICO VFD #19  
 TRIANGLE VFD #17  
 VANDEMERE VFD #21

LESS THAN  
4 MILES TO  
SCENE

9.4	ARAPAHOE
13.6	FLORENCE
18.2	GOOSE CREEK
1.1	GRANTSBORO
8.4	OLYMPIA
3.7	REELSBORO
13.8	SOUTH EAST
3.1	TRIANGLE
10.7	VANDEMERE
82	

8%	11%
3%	17%
2%	22%
4%	10%
11%	17%
7%	13%



Pamlico Rescue Satellite Unit Work Sheet

	Annual/Startup	Start up Cost	Monthly
Repairs/Maintenance			\$ -
3 trips/day x 260 x 60miles x 2.00/mile	\$ 31,200.00		\$ 2,600.00
Staff 2 employees	\$ 2.00		
Salary 2 x 13.50/hr x 40hour x 52weeks	\$ 56,160.00		\$ 4,680.00
Payroll Taxes			\$ 330.00
Work Comp	\$ 820.00		\$ 68.33
Health Insurance	\$ 9,600.00		\$ 800.00
Dental	\$ 720.00		\$ 60.00
Vacation 2 staff x 160(2 weeks) hours per year covered with overtime @ \$20.25/hr	\$ 6,480.00		\$ 540.00
Sick Time 2 staff x 12 days per year covered with overtime	\$ 3,888.00		\$ 324.00
Uniforms	\$ 500.00		\$ 41.67
Laptops	\$ 3,500.00	\$ 3,500.00	\$ 145.83
Cost per month			\$ 9,589.83
Annual Cost			\$ 115,078.00

a grant to cover this expense and therefore there should be no net expense to the Rescue Squad or the County.

### Challenges

- Receive support of County Commissioners
- Identify funding/budget to support the recommendation
- Establish agreements for housing rescue unit
- Create dispatch response zone and protocols
- Coordinate calls between Alliance Base and Satellite
- Track Results

### Summary

**Establish a satellite rescue base in the SouthEast Pamlico area in order to reduce response time. Cost of this recommendation is approximately \$120,000 which includes rental of space. Grant funding may be available to cover facility rental.**

## Strategic Plan

This section of the strategic plan will outline a recommended plan approved by the EMS advisory council and also give two alternative plans for the implementation of paramedic service to Pamlico County.

### Purpose for upgrade to Paramedic

The paramedic level of care has been adopted across the nation as the standard of care for urban, suburban, and rural ems systems. The paramedic can provide most of the adjuncts, medications, and skills that the emergency department can provide for initial resuscitation. Pamlico County is a large rural county with transport times exceeding 30 minutes. The longer the transport time the more valuable an asset a paramedic is to the critically ill patient. The paramedic has an extensive repertoire in respects to skills and the amount of medications that can be administered. This is crucial in treating and stabilizing a critical patient till they arrive at definitive care.

### Paramedic Service

Pamlico County is a unique situation.

By the time, paramedic service will be offered the county should have 2 stations. One in Bayboro and the other in Oriental. The best model to provide paramedic coverage with a QRV. (Quick Response Vehicle) A QRV can float to each area and either transport with the ambulance or release to the intermediate crew so the paramedic can remain in service for additional calls.

### Strategies with Alternatives

1. Pamlico County and Pamlico Rescue Squad partner together to implement paramedic service.
  - a. This option makes the most sense. The Rescue squad already receives financial supplements from the county. The Rescue squad already has most of the equipment needed to upgrade to Paramedic service. The Rescue squad is manned by individuals from and living within the county.
2. Subcontracting Paramedic Services.
  - a. Open bids to private services – JAS, TransCare, AMR, Rural Metro, Eastcare, and more to provided paramedic service to the county. A contract for a flat rate for a set period of time is customary.
  - b. Pro's – No headache flat rate.
  - c. Cons – Competition for business with county supplemented Pamlico Rescue Squad (May only contract to paramedic assist which may eliminate this). Quality may be a question, outsiders not invested in the community.
3. County Operated Paramedic Service
  - a. Large start up costs – Must buy vehicle and all equipment.

- b. Pro's – Complete control and billing of services
- c. Cons – County must hire and fire and manage paramedics. Large costs to start.

### Partnership Plan – Pamlico County and Pamlico Rescue Squad

This plan makes the most sense with the lowest costs to the taxpayers. The county and rescue squad are invested in the community and already work closely together. The plan below is the partnership plan. No further mention of the two alternative plans will be made unless requested by the county commissioners, EMS Advisory Council, or Pamlico Rescue Squad.

#### Cost Estimates:

The QRV will be staffed with one paramedic 24 hours a day 7 days a week. The shift may be 12 hour or 24 hours shifts. The recommended pay is \$15 an hour plus benefits. It is also recommended since there is a paramedic shortage to offer a higher part time rate since they are not being paid benefits. This will hopefully attract part time assistance. The average work week is 168 hours. This will total \$2520 per week plus benefits. Monthly amount is \$10,080 and the yearly amount \$120,960 plus benefits. An additional 15% should be budgeted for overtime and call off's. These numbers does not included benefits, FICA, or Retirement. More precise numbers will be calculated before implementation.

#### Estimates:

##### Phase One:

- The paramedic supervisor should make approximately \$16 an hour plus benefits.
- Yearly Salary \$32,000
- Optional - Paid Vacation 2 weeks \$1280.00
- Plus health benefits + FICA (7.65%) + 401K (5%)
- Plus 10% unforeseen overtime.

Rough Estimate \$45,000

##### Phase Two Cost Estimates

- Budget 4 full time paramedics (one of which is paramedic supervisor) and four part time paramedics
- 168 hours weekly at \$15 per hour = \$120,960 – adjust for supervisor wage = \$122,960 plus health benefits + retirement + Fica.
- Adjust 15% Call off's and unforeseen overtime

Rough Estimate = \$142,000 plus benefits

#### Steps for Paramedic Service Implementation:

1. A basic cost analysis should be performed by the county manager and Pamlico Rescue Squad. This analysis should outline the funds that will be needed for the paramedic transition.
2. Approval by County Commissioners. The plan shall be taken to the county commissioners for discussion and approval.
3. Once plan approved by commissioners, the county manager shall budget for Phase One of the paramedic service implementation plan in the next years budgetary meetings.
4. Pamlico Rescue Squad Board of directors and membership must vote to accept the change and allow alteration of their charter.

#### Phase One Paramedic Service Implementation:

A paramedic supervisor must be hired one year before the implementation of Paramedic Services. This individual must be a paramedic in good standing with full privileges (Or eligible) to operate in Craven, Jones, and Pamlico Counties.

Pamlico Rescue must alter their charter to allow this individual to act as a supervisor to all paid and volunteer members. This individual shall only answer to the board of directors and shall be on equal ground as the captain of the squad.

The paramedic supervisor will work no greater than 50% clinical (truck) time for the first year. This individual will only be permitted to function at the intermediate level till full paramedic service is begun.

The paramedic Supervisor will spend his office time preparing below;

1. Application to OEMS for paramedic upgrade
2. Work with OEMS to comply with all rules and statues.
3. Assure all equipment is ready for paramedic upgrade.
4. Assure physical plant is ready for upgrade – Narcotic storage etc..
5. Advertise and secure commitments for paramedic staffing
  - a. Minimum four full time and four part time.
6. Prepare application for State and Federal DEA Certificates.
7. Work with Pamlico Community College to set up Paramedic Continuing Education Plan.
8. Submit budget along with Pamlico Rescue to Phase Two Paramedic Service Implementation.

Phase Two Paramedic Service Implementation:

1. Paramedic Supervisor and County Manager finalize budget for phase Two.
2. Submit Phase Two budget to County Commissioners for Approval.
3. County manager to work with commissioners during budgetary meetings for funds.
4. A go live date to be set by Paramedic Supervisor County Manager, and NC OEMS.
5. Notification of all paramedics who signed letter of intent of go live date.
6. Final Inspection by NC OEMS. Approval of paramedic service upgrade.
7. Implementation of 24/7 paramedic schedule and paramedic service.
8. Paramedic Supervisor to work with NC State and Federal DEA to secure final DEA certification to carry and store narcotics. (The new established paramedic service will be without narcotics for about 2 months till this is done)
9. Paramedic Supervisor along with Captain/board member will be responsible for yearly meetings for budget plans with County Manager. This will include changes in staffing, apparatus, and medical equipment upgrades.