Response to Initial Data Request (IDR)

I. DESCRIPTION OF PRE-HOSPITAL MEDICAL TRANSPORTATION SYSTEM

A. SERVICE AREA DESCRIPTION

1. How many square miles is the primary service area?
   Anderson County is 345 square miles.
   Per Wikipedia: "According to the U.S. Census Bureau, the county has a total area of 345 square miles (890 km²), of which 337 square miles (870 km²) is land and 7.6 square miles (20 km²) (2.2%) is water."

2. What is the population of the primary service area?
   Anderson County has a population of 75,936 according to the latest census data

Geography	April 1, 2010 Census	Population Estimate (as of July 1) Estimates Base	2010	2011	2012	2013	2014	2015	2016
Anderson County, Tennessee	75,129	75,094	75,126	75,179	75,326	75,420	75,347	75,698	75,936

3. Describe the make-up of your service area (e.g. rural, suburban, metropolitan, urban, or a combination).
   Anderson County has a make up of urban and rural. According to CMS though we are all urban.
   RW: Approximately 60% (45,000) in 5 municipalities ranging in size from 1,500 to 29,000. Clinton and Oak Ridge have the largest municipal populations at 9,800 and 29,000, respectively.

4. Attach a highway map of the area that clearly shows the base of operations, ambulance posts, and ambulance districts (if utilized), hospitals, primary nursing homes or other clients and the boundaries of the primary service area.
   Attachment I.A.4 is a map I made from google earth, I added in spots for our stations, our local hospital plus neighboring county hospitals, as well as nursing homes in our county. I made a generic border for the area of Roane County that we are contracted to provide services to.

5. Please describe any significant changes to the local economy over the past three years, including employers, contractors, layoffs, etc.
   Nothing of note as "significant"

B. GOVERNMENTAL RELATIONS

1. Provide a copy or references to any local ordinances and regulations governing or licensing ambulance services.
   Attached: County Resolution

2. Provide a copy of or references to the state legislation, rules, and regulations governing ambulance services.
   Attached: State EMS Rules and T.C.A.

3. Describe the service's relationships with local governments.
   Anderson County EMS provides EMS service to all of Anderson County, to include all municipalities within Anderson County. Anderson County EMS has a first responder agreement with all municipal fire departments and volunteer departments.

4. Describe the process by which the rates or increases are approved.
   When changes are being asked for by EMS, EMS presents those proposed rates to the County Operations Committee. Rates are discussed and voted on at this committee, then passed on to full County Commission for vote of approval.

C. ACCREDITATION

If accredited by the Commission on Accreditation of Ambulance Services (CAAS) or other accrediting body, please include;

1. Program Application or Program Information Form (PIF).
   N/A

2. All correspondence from the accrediting body.
   N/A

II. OPERATIONS

A. ACTIVITY LEVEL

1. How does your service primarily classify ambulance assignments? (e.g. emergency, and non-emergency, ALS and BLS, etc.) In what configuration do you staff each? (e.g. EMT/EMT, EMT/EMT-P)
   We switched to an all ALS service a few years ago. Due to staffing issues we have one ambulance that is currently BLS.
   Ideal staffing minimums is AEMT/EMTP for ALS, EMTB/EMTB for BLS. We do have EMTB fill in at times on ALS, and we do currently have EMTP/EMTP on some ALS units.
   We also will eventually convert the BLS ambulance back to ALS when staffing allows.

2. Please complete the following information about call volumes. (If year is other than calendar, please indicate.) Data is FY 7/01 – 6/30

Table 1 – Five Years Call Volume Data

REQUEST	2013	2014	2015	2016	2017
Total Number of Responses	20,903	20,204	19,249	20,717	**20,514**
Total Number of Transports	17,404	16,679	15,733	16,321	**17,036**
Number of Emergency ALS-1 Transports	9,016	8,015	4,698	5,642	**5,854**
Number of Emergency BLS Transports	204	531	4,122	3,502	**3,559**
Number of Emergency ALS-2 Transports	64	114	128	129	**177**
Total Number of Non-emergency Transports	8,036	8,014	6,610	6,975	**6,817**

Number of Non-emergency BLS Transports	7,968	7,882	6,503	6,881	**6,680**
Number of Non-emergency ALS-1 Transports	68	132	107	94	**127**
Number of Specialty Care Transports	84	5	27	0	**14**
Other Coroner / TNT / MMC	**0/0/292**	**0/0/464**	**105/43/ 422**	**3/67/494**	**148/183/ 292**

If any calls are entered into the "other" column, please describe.
First is Coroner transports, then treat no transport, lastly MMC contract transports

3. Is detailed response transport data available by district/zone, unit, and time of day? If yes, attach a sample report or describe briefly.

Attach: UHU, heat map and Demand Analysis

4. Describe any special geographic, environmental, population centers, or special events, which make providing emergency responses difficult.
   We have multiple rural areas that consist of timely response, New River, Briceville, Windrock ATV park and Andersonville are some of these communities. Oak Ridge National Laboratory (ORNL) and Y-12 are DOE sites that have about eight thousand employees. These sites do have their own EMS, but can become low in major situations. These sites are part of the nuclear production for the US. Oak Ridge city has a "Secret City" festival each summer that brings thousands of people together at one time, also in the same month the city of Clinton has a County Fair. There are many Regatta rowing tournaments in Oak Ridge during the year, this increases driving congestion on one of the main roads to get to Claxton from Oak Ridge.

5. What factors affect service demand levels?
   We handle all hospital discharges, and these are an unknown on the number we may encounter. Highest days are Monday and Friday. Some convalescent calls demand longer time on task. There are many out of county transports done, including some ling distance transports to Nashville. We experience long destination times at many hospitals.

6. Are there seasonal patterns and shifts in established patterns? Our highest average months over the past five years for 911 calls are July, August, January and May. For convalescent it is December, January, April and May. Those two combined January, March, April and May are our highest by average over five years.

7. Describe the service's increase or decrease in annual volume over the past five years. What factors impacted these volume changes? Over the past five years we have increased 6% on 911 calls for service. I do not know what factors have caused this, we had an older age population to start with, that could be a contributing factor. We have seen a 15% decrease on convalescent transports, primary driving factor is improvement on compliance, pre-screening Medicare frequent trip patients before transport occurs, and greater education of hospital on what is medically necessary by CMS rules.

B. RESPONSE TIMES

1. When measuring response times, when does the clock start and stop?

START

Call assigned to an ambulance

STOP

An ALS transport unit arrives on scene

2. Do you measure averages or fractiles? Both

3. What is the schedule or frequency of the reviewing of response time performance? Monthly, as reports are done

4. Provide copies of any reports, which are prepared to monitor response times.
   Attached:
   Response time FY 17

5. What were your service's response times last month for:

   a) Life-threatening emergencies? Not separately tracked, only look at the emergency response calls

   b) Non-life threatening emergencies? Not separately tracked, only look at the emergency response calls

   c) Non-emergencies? Not tracked

   d) Scheduled transports? Not tracked

6. Are there penalties for failing to meet response time compliance (please explain)?

There are not any penalties for failing to meet response time compliance, because there are no set response time requirements.

7. Has there been a trend toward improvement or worsening of response times (please describe)? Response times have been more "stable" then improving or worsening. We may see some movement up or down from month to month but baseline seems to be the same over a longer period of time.

8. What are the most common causes for delays in response times? No units being available to respond, ambulance breakdowns, distance of response

9. What process does the organization utilize to improve response time performance? We have used reporting to the crews their time on task for a period of time. We have seen this decrease the time on task, but have not found that to directly impact response times. This has not been consistent due to the method to run this report and time it takes.

C. DISPATCH

1. Does the entire service area have access through a single designated emergency number (e.g., 911 or 7-digit)?
   The entire service area has access to both Enhanced 9-1-1 and 7 digit numbers for reporting emergencies.

2. Who provides 911 and non-emergent (i.e., non-911/7-digit) call taking and dispatch?

Anderson County 9-1-1 provides services for unincorporated areas of the county and is the dispatching agency for Anderson County EMS countywide. All city agencies provide their own dispatch for fire and law enforcement at their own PSAPs.
Convalescent transport is coordinated by Anderson County EMS by calling the EMS office directly.

3. If there is a primary and secondary PSAP(s), how would you describe coordination between PSAPs?
   In the event that EMS calls are received by a PSAP other than Anderson County 9-1-1, that agency conducts its own caller interrogation, determines its own need for first responder services and then notifies Anderson County 9-1-1 of the request either via radio or telephone. Anderson County 9-1-1 is the sole provider of EMD services in the county, so callers who reach the other PSAPs do not receive EMD services.

4. Do trained and certified emergency medical dispatchers answer emergency medical calls?
   Yes, all dispatch personnel are EMD certified. Personnel in training are not allowed to answer 9-1-1 calls until EMD trained.

5. Do communications personnel perform protocol-based dispatching through a structured interrogation process?
   Yes, call priorities are listed on the EMD cards

6. Do communications personnel provide pre-arrival instructions through a structured process?
   Yes, via APCO EMD cards customized for the agency.

7. Does a trained medical director supervise the communication center?
   The agency does have a medical director who provides indirect supervision of the EMD program.

8. Do you conduct regular case review? If so, how often?
   Dispatch QA / QI policy is currently under revision – answers reflect coming standards

9. If you conduct case review,

   a) How are cases selected?
      Random selection

   b) What is the minimum number per month?
      4 runs per shift, 5 days per week on each of the three shifts = approx 260 reviews per month.

   c) What special case review practices exist (e.g., customer complaint)
      Complaints, cardiac arrests are reviewed as are several law enforcement specific issues

10. Include copies of the standard case review protocol or form and most recent report on case evaluation compliance?
    Current form is attached. New forms under development.

11. How are units dispatched for 9-1-1 calls (e.g., direct dispatch of unit by 9-1-1 dispatchers, the service is notified to dispatch its own units, or other means)?
    Units are dispatched via direct dispatch when the call is received by the county 9-1-1 center. In the event that calls are received by one of the city 9-1-1 centers, information may be relayed via telephone or radio to the county 9-1-1 center where the call will then be direct dispatched.

12. Does the service have access to enhanced 9-1-1 information (i.e., direct display of call back number and address)? Please describe.
    Crews are notified via tone pager from 0800-2000 and called via telephone from 2000-0800.

13. How are crews alerted for calls (i.e. individual pagers, telephone, etc.)?
    Crews are notified via tone pager from 0800-2000 and called via telephone from 2000-0800.

14. How is the need for first response determined and how are they notified and dispatched?
    For calls received by Anderson County 9-1-1, first response is determined by objective criteria on the EMD cards. First response agencies are dispatched via radio for all county agencies and by calling a secondary PSAP via telephone for all city agencies.

    If a call is received by a city PSAP, that agency makes its own determination of whether or not to dispatch first responder agencies. Those determinations are made at the agency level and are not directed by EMD.

15. How is the dispatch center staffed (i.e., number of people by hour of day)?
    Minimum staffing is 3 total dispatchers handling all calls between 0700-2300, minimum staffing is 2 dispatchers between 2300-0700. Typical staffing is 4-5 dispatchers 0700-2300 and 3-4 dispatchers between 2300-0700.

16. What level of certification is required of the dispatch staff (e.g. paramedic, EMT, EMD, other)?
    All dispatch personnel are minimum EMD certified. The center has EMTs and Paramedics on staff, but all must follow EMD guidelines regardless of certification level.

17. Does the 9-1-1 center have computer aided dispatch capability? If so, describe.
    EMS and one for law enforcement. These CAD systems are not integrated and information can not be shared between them.

18. Does the EMS radio system allow for interoperability between system responders (e.g., EMS, fire, law enforcement)? Please describe.
    Yes, agencies may communicate via mutual aid channels on mobile or portable radios available to all personnel.

19. Attach a complete description of dispatch center equipment and communications equipment carried on the ambulances.
    Dispatch equipment includes:
    WinSOMS CAD system for law enforcement use
    CDS CAD system for fire / rescue / EMS use
    GeoConnex GIS mapping system
    West Communications telephone system

VIPER 911 controller
Motorola *** radio system interface

20. In the past three years have there been any instances/time periods where 911 service (being available) experienced an interruption? (If so, please detail). We are not aware of any 911 service interruptions within that time frame with our agency. We have had an instance where another PSAP's 911 calls were routed to us for several hours when their center experienced an outage and we have experienced short duration seven digit outages, but nothing affecting 911 trunks.

D. DEPLOYMENT AND PRODUCTION CAPACITY

1. Are your personnel assigned regular shifts to cover? Yes

2. How is shift scheduling determined (e.g., seniority shift bid)? There is an annual shift bid for the 24 hour ambulances. Day trucks are assigned based on seniority as positions come available. Overtime requests has a procedure that is attached.

3. Attach current schedule and describe patterns and average hours worked per employee per week.
   Six ambulances are on a 24/48 schedule 8am-8am. All are ALS and work 56 hours on average a week.
   One ambulance is on a 12 hour schedule 7am-7pm, 2 on / 2 off, 3 on / 2 off, 2 on / 3 off. This ambulance is ALS and works 42 hours on average a week.
   One ambulance is on a 14 hour schedule 6am-8pm Monday through Saturday, one crew works Monday, Tuesday and Wednesday, the other works Thursday, Friday, Saturday. This ambulance is ALS and works 42 hours a week.
   Two ambulances work 12 hour schedule 8am-8pm, Monday, Wednesday and Friday. One is ALS the other is BLS, they work 36 hours a week.

4. How often are schedules changed? Either at annual shift bid, or as positions become vacant. Crew members are able to "swap" their positions during the year.
   The schedule changes for ambulance start/end times happens seldom. Over the last seven years we have progressed from six 24/48 ALS ambulances and five Monday-Friday BLS ambulances to the schedule listed above. Start times do not have a typical or projected change time and do not respond/react to changes in schedules of transport needs.

5. Do you have an on call schedule for your personnel? No

6. What functions do the on call personnel fulfill? N/A

7. Describe the process in place to manage unscheduled sick call or injury?
   Employee calls in to on duty supervisor. An alert is sent out by an all text to employees to fill the vacancy, at times the supervisor will call individual employees who are not on the all text to offer the opening. If unable to fill one of two things will occur, either the truck is shut down or a current on duty employee may be placed on mandatory overtime for the shift.

8. Are crews based at a specific location or do they "cruise" specified areas? (Enclose a copy of any deployment plan that you utilize.) They are based at a specific location

9. Are vehicles dedicated to one location or are they moved throughout the day? Dedicated to a location, but in periods of low volume they may be moved to "post"

10. Does your service utilize fixed posts or stations? How many? (If so, note on the map the location of posts.) We have six stations for ambulance deployment. When an ambulance goes to post they are sent to a station, unless it is when we are down to one ambulance, then they go to a fixed post.

11. Are there non-transport (quick response) hours? If so, how many per week? On duty supervisor is on 24/7 and is not assigned to a truck. They do provide quick response, additional response at times.

12. How many unit hours are utilized each week? (1 unit hour = 1 unit staffed for one hour) 1,248 are schedule for the week

13. How are the unit hours distributed throughout the day? Please complete the graphs in Attachment 1 for each day of a typical week.

14. What is the average cost per unit hour? (See worksheet - Attachment 2)

15. Do you feel that your service has excess unit hour capacity? Why? We do not feel that there are excess unit hours. Our demand analysis shows we are understaffed to meet the need of current call volume and readiness. Additionally, one of our 24 hour ambulances has consistently exceeded UHU volumes over the past 12 months.

16. Who responds to calls if the service's units are unavailable? How frequently does this occur? Mutual aid may be used if we cannot get an ambulance in service. If supervisor, Deputy Director of Operations or Director are available they may respond. This occurs about 2-3 times a week.

17. Do written mutual aid agreements exist? (Attach copy of all mutual aid agreement(s).) Attach: Roane County contract, first responder agreement, DOE 2001 agreement, 16 county mutual aid agreement , Union County MOA

18. Is there a process to resolve EMS crew delays caused by the receiving facility or unit? (e.g. Emergency Department patient handover delays). There is a process in place to try and relieve an ambulance crew, but it does not always free up an ambulance when used. Attach Call Tree

19. Is hospital diversion an issue? If so, please provide details including any relevant policies or procedures for diversion. It is not an issue.

E. MEDICAL CONTROL

1. Is there a designated Medical Director/Advisor for the service?
   Provide name, affiliations, address, and telephone numbers.
   Meredith Reddington, DO
   Emergency Medicine Physician at Methodist Medical Center – Oak Ridge, TN

Emergency Medicine Physician at Methodist Medical Center – Oak Ridge, TN

2. Provide a copy of the medical director's job description (contract) and salary or describe his or her duties and responsibilities including number of hours per week dedicated to your EMS service. Attach MD contract
   1-2 hours per week reviewing daily "Pass On" reports, and addressing concerns regarding specific calls with local physicians/nurses.

3. Please indicate the qualifications possessed by your service's medical director:

   a) Licensed to Practice Medicine:
      YES

   b) Familiar with local/regional EMS Activity:
      YES

   c) Board certified in Emergency Medicine:
      YES

   d) Actively clinically practicing in Emergency Medicine:
      YES

   e) Completed an EMS fellowship (post-residency):
      NO

   f) Training or significant experience in the practice of out-of-hospital medicine:
      YES

   g) Training or significant experience in the provision of direct (on-line) and indirect (off-line) medical direction:
      NO

h) Training or significant out-of-hospital experience in utilization of emergency patient care equipment, the spectrum of out-of-hospital skills (BLS & ALS), and communication Systems:
YES

i) Completed National Association of EMS Physicians Medical Director's Course or its equivalent:
NO

4. Is the service's medical director the medical director for all communications, first response, and transport providers in the EMS system? Please describe. Our Medical Director is also contracted to be the E911 Medical Director. The first responders fall under EMS and therefore she is their Medical Director as well.

5. Circle the letter indicating each function he or she performs. Using a 1-5 scale (5 high) rate his/her involvement in each area.

a) Administrative consultation 2

b) Training Advisor/Coordinator 1

c) Primary Trainer/Instructor 1

d) Routine incident report 2

e) Regularly reviews tapes/conducts critiques 2

f) Counsels crew members on poor judgment 2

g) Has authority to discipline/suspend personnel 3

h) Reviews system performance data 2

6. Are there written guidelines or protocols for field personnel in ALS situations? Please attach. Attached Clinical Operating Guidelines

7. Are there written guidelines or protocols for field personnel in BLS situations? Please attach. Attached Clinical Operating Guidelines

8. Are there written guidelines or protocols for physicians and/or nurses at the radio control point (base hospital or medical control hospital)? Please attach. None that we are aware of

9. Are regular meetings held between service management and the officials of the receiving institutions? Please describe. No, held as needed.

10. Typically, how does a nurse or physician at a receiving institution deal with what they feel is an inappropriate judgment by a crew?
    At MMC where Dr. Reddington works it has been communicated by her that any physician staff or nurses who have questions or concerns on any patient care provided by Anderson County EMS caregivers can approach her and she will review the chart. Additionally nurses and physicians will question the caregivers directly ideally after completely handing over patient care to the facility and not in front of the patient. Facilities have also contacted management via email or phone call, which causes a QA check, and discussion with the caregiver.

11. Attach a completed sample of the written patient care or trip report (delete patient identification).

12. Who is in charge of the service's internal clinical quality assurance functions?
    Deputy Director of Education oversees clinical quality assurance program

13. Describe in detail the quality assurance activities and provide any written policies or procedures. Please address both internal and external quality assurance programs.
    Anderson County EMS has a CQI team comprised of eight providers that audit tickets that the ePCR system pulls based on set criteria. Anderson County EMS audits the ePCRs internally. All members sign a release/acknowledgement of their duties. The QA system is in our ePCR (ImageTrends). Once an ePCR is selected by a team member to audit they are required to complete the audit of the required elements based on call type and send an internal message to the author of the ePCR should any discussion need to be made. If there is any offenses (poor documentation, protocol deviations, or questionable practices) that message is to include Deputy Director of Education. At any time the ePCR warrants Medical Director review, she is contacted, and she too has access to the program. The Medical Director also reviews all narcotic administrations. Should another Physician contact our Medical Director about a patient care issue/question she will contact the Deputy Director of Education to make them aware, and both will review the report.

14. What events or call types receive 100% or mandatory quality assurance review (e.g. pharmaceutical assisted intubation)?
    Emergency Transports
    Narcotic Administration
    CPAP Usage
    Initial DOA report
    IO Usage
    Mandated Blood Draws

15. Please list all of the regularly monitored clinical performance measures.
    STEMI activation to Methodist Medical Center
    Intubations

Use of Air Transport

16. Please indicate if you track any of the following clinical measures: (If "yes" please list numerical index)

a) In cases were defibrillation is indicated, average time from system contact to first shock.
NO

b) Percentage of patients meeting trauma criteria are transported to a trauma center.
NO

c) Percentage of patients complaining of pain report decrease in the level of pain upon delivery to the emergency department.
NO

d) Percentage of suspected acute coronary syndrome patients received a 12-lead ECG.
NO

e) Percentage of suspected acute coronary syndrome patients received aspirin.
NO

f) Percentage of patients with suspected ST elevation myocardial infarctions that were transported to a hospital with emergency cardiac catheterization capabilities.
NO

g) Percentage of eligible patients who received oxygen.
NO

h) Percentage of unintended esophageal intubations.
NO

i) Utstein Cardiac Arrest Survival Rates.
NO

17. Attach copies of clinical performance measure definitions and the most recent reports.

18. Attach copies of reports from the Cardiac Arrest Registry to Enhance Survival (CARES) for the last three years. Currently not reporting to CARES

F. EQUIPMENT

1. How many ambulances does your service have? 15

2. Attach a list of vehicles and major equipment showing cost, age, mileage, condition, use, and scheduled replacement.

3. Does the service have a preventative maintenance program? Describe. Attach state unit inspection form. Frontline ambulances (Units 1-8) go through an extensive inspection and receive a complete service once per month, frontline units (Units 9 and 10) receive this every other month and Back up units (Units 12-17) are serviced as needed which is every 5000 miles of use.

4. Does the service have in-house mechanical support? Describe. The ambulance service has an employee who is the fleet manager. He coordinates with the county shop on maintenance that is needed to be done; additionally he performs some fixes himself that the county shop does not do. The county motor pool is staffed with mechanics that has multiple ASE certifications.