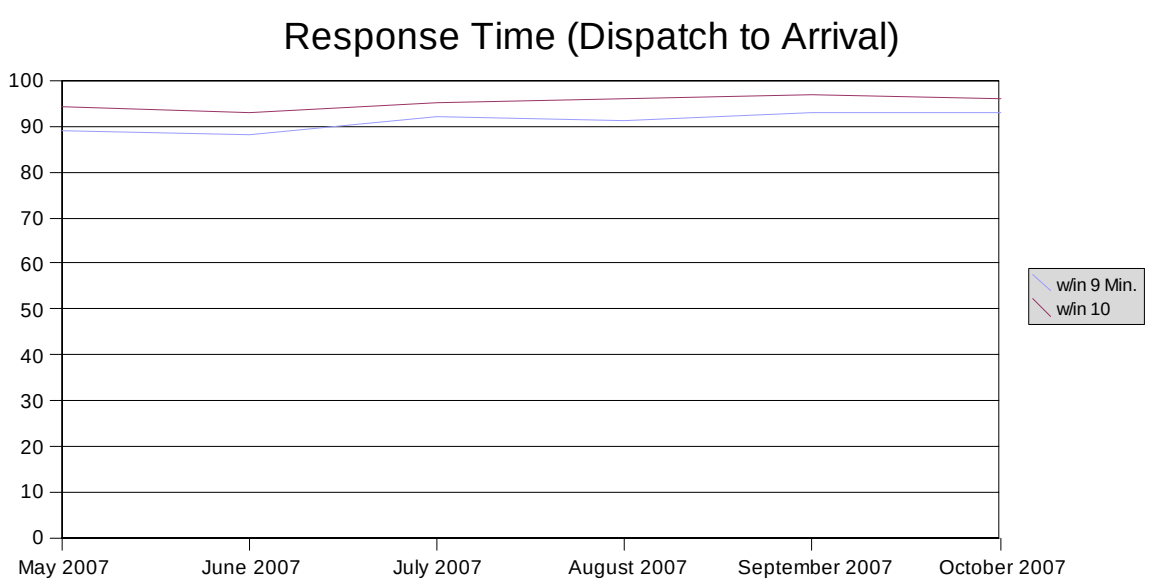
Performance Metrics - Response Time – C-ARS City




| C-ARS – City Calls | **May 2007** | **June 2007** | **July 2007** | **August 2007** | **September 2007** | **October 2007** |
|---|---|---|---|---|---|---|
| **Percent Within 9 Minutes of Dispatch** | 89% | 88% | 92% | 91% | 93% | 93% |
| **90% Response Time** | 9.13333 Min. | 9.23333 Min. | 8.4 Min. | 8.45 Min. | 8.47 Min. | 8.53 Min. |
| **Percent Within 10 Minutes of Dispatch** | 94% | 93% | 95% | 96% | 97% | 96% |

## What is a “response time”?

The full response time is made up of the following elements:

1. processing Time at 9-1-1 Center
2. time dispatched to unit responding
3. travel time to scene of emergency for the first responder (may be a fire engine, ambulance or other vehicle)
4. travel time to scene of emergency for the advanced life support personnel (may be a fire engine, ambulance or other vehicle)
5. travel time for the transport unit (ambulance)

The 9 minute time used in the chart above includes 1 minute to respond and 8 minutes travel time.

What are the local response time standards?

City: No defined EMS standard. Charlottesville Fire Department standard for all calls 80% in 6 minutes.

County: Growth Area: Average 4 minutes from dispatch
Rural Area: Average 13 minutes from dispatch

**Are there any "National" Standards?**

The National Fire Protection Association [NFPA] Standard 1710, *Standard For Career Fire Departments*, and MATRIX Fire Consolidation Study suggest the following:

Arrival of Basic Life Support [BLS] Personnel and Equipment ("the First Responders"):

- 90% within 5 minutes of dispatch (1 minute to respond, 4 minute travel time) (may be a fire engine, ambulance or other vehicle, and may be an ALS provider)

Arrival of Advanced Life Support [ALS] Personnel and Equipment:

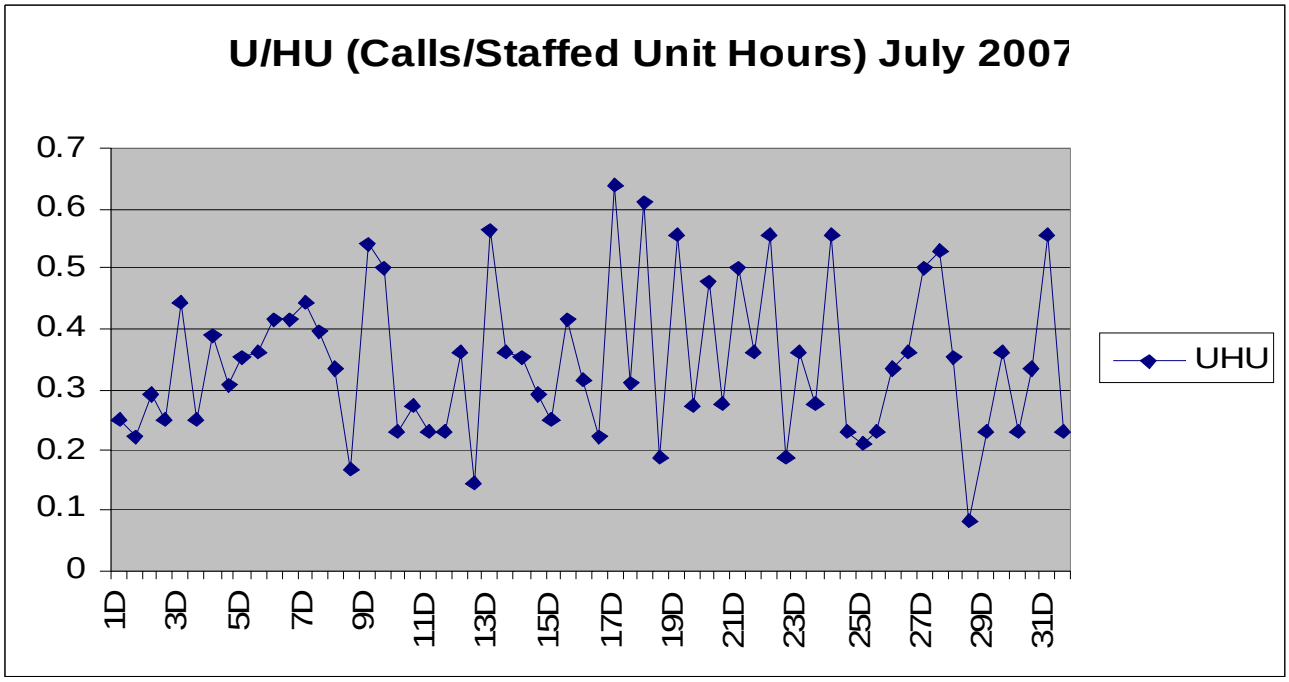
- 90% within 9 minutes of Dispatch (1 minute to respond, 8 minute travel time) (may be a fire engine, ambulance or other vehicle)

Arrival of a Transport Unit:

- No Response Time Standard for the ambulance is suggested

U/HU – C-ARS Unit Hour Utilization Ratio – City and County

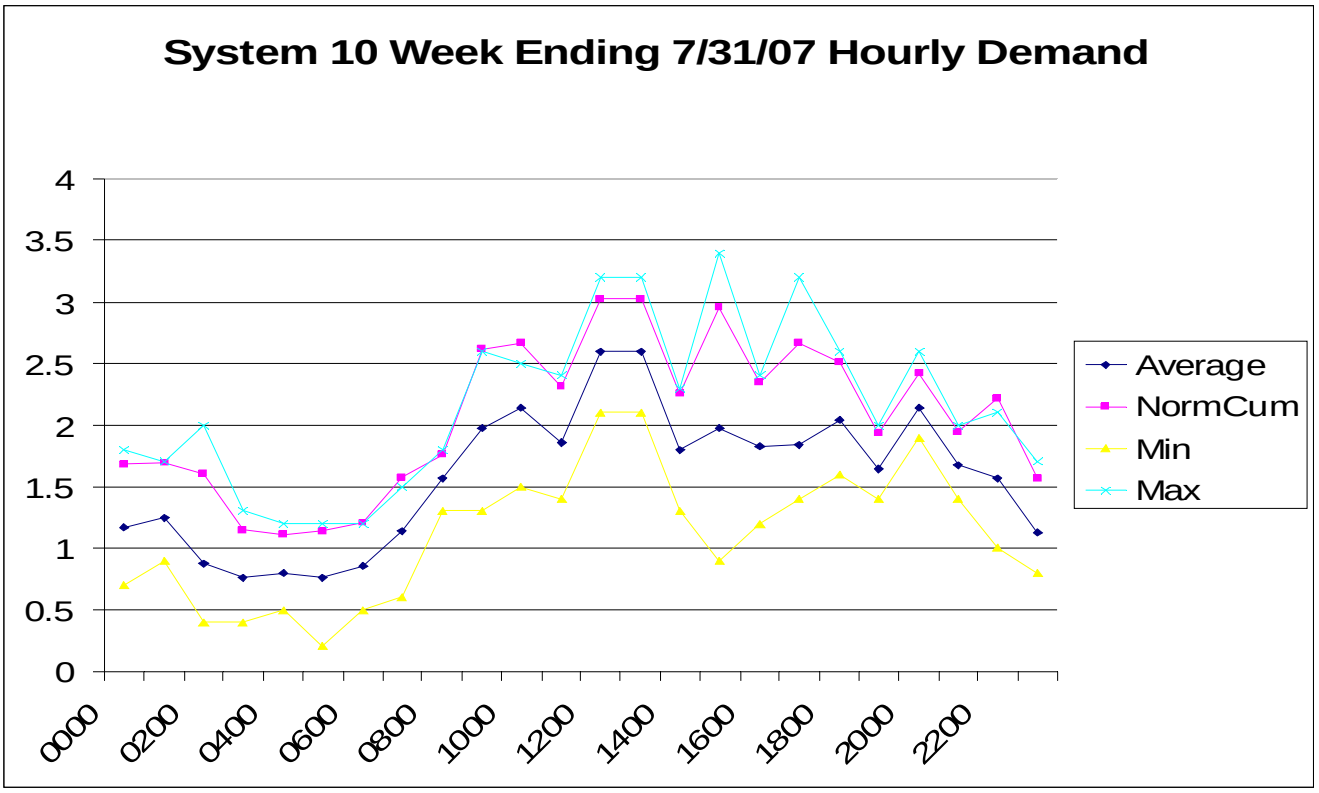
The “U/Hu” is used by service managers to determine system efficiency. A “Unit Hour” is one ambulance staffed for one hour. An ambulance staffed for a 12 hour shift is 12 unit hours. To determine the U/Hu the manager divides the number of patient transports by the number of unit hours invested. A 1.0 U/Hu is one transport per hour. A 0.5 U/Hu is 1 transport every two hours. For our purposes the calculation is the number of *calls* divided by unit hours invested.




Unit hour utilization is used by high performance EMS systems to determine productivity and workload of employees on a single unit. The above calculates total CARS U/Hu. Being very busy for an 8 hour shift is very different than being very busy for a 24 hour shift. One such system has a U/Hu goal of 0.48 and believes that anything over 0.55 is too high because it stresses the crew. Another has a goal of 0.34.

Demand Graphs

System – 10 Week total by Hour of Day




Notes in the interest of full disclosure:

- The demand maps were prepared by Albemarle County Fire Rescue Department personnel from map data points provided them and taken from the Computer Aided Dispatch [CAD] data manually. They are generally correct but each has a few points in error.

- Time calculations were carefully prepared using raw CAD data provided by the Emergency Communications Center [ECC], and in some cases ECC researched the call to confirm or correct times. Some calls without on-scene times, those found inaccurate by ECC, and those where the transport time and on-scene time were so similar that there was clearly a data entry error were not used. For July, even when the only data sort filter was “city” the 9 minute arrival time percentage was 90%, and the data included known duplications and errors. County times are more problematic to calculate because in some areas a call 20 miles outside the city is categorized the same a call just over the county line at the foot of Pantops Mountain.