



# ***CHIEF'S FILE CABINET***

***Ronny J. Coleman***

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## There Is No Time Out in Tactics

Here is a question for you: how long does it take to play a one-hour football game? The answer is – it depends upon the number of time outs. Football games start and stop so many different times that it seems like it takes an eternity to play the last quarter.

In firefighting there are no time outs. Once a set of circumstances result in a threat for life and property the clock starts ticking and it doesn't stop ticking until someone, usually the member of a fire company intervenes through the use of technology or technique to make that situation "all better". We can't blow a whistle and ask the referee to stop things so we fan readjust our game plan.

Nowhere is this truer than in understanding and explaining the curious phenomenon called response time. Over the last couple of decades a lot of ink has been spilled on this particular topic. Yet, interestingly enough it still remains confused and to a certain degree ambiguous to members of the fire service and for that matter our elected officials and the public at large. The fire service can't seemingly come to any agreement on what to call things and how to measure them.

Unfortunately this continues to contribute to the lack of our credibility as being a "science". Moreover, the quality of the data that we often use to justify our policy decisions is lacking in both quantity and quality in a significant way.

Perhaps it is time to go back and revisit the basic concept. There are members of the fire service today that do not recall where the discussion of response time originally came from. To reset that clock most people need to go back to the 1970's and look at the work of a fire protection engineer named Rex Wilson. He authored a book called "The Nine Steps to Extinguishment". It is a classic little text that has been rewritten, regurgitated and reiterated by so many different people that it is often mistaken for being too old to recognize. Nothing could be further from the truth. Rex Wilson was on the right track.

Secondarily, there was a concept that came to the forefront in the creation of the paramedic program in the 70's that also bore on this process. It was called the Utstein Criteria. It was an examination of the time intervals that were integral to the handling of a cardiac arrest patient. There are large numbers of people in the paramedic business today that think that Utstein was a doctor instead of a place.

Then there was the role of the task force on accreditation in the fire service. In approximately 1985 they published a document called the Cascade of Events. This examination of the cascade of time intervals combined Rexford Wilson's work with the Utstein Criteria in an attempt to clearly identify what could or should be measured as part of the total handling of an emergency event. The creation of the Cascade of Events, Fire Chief Charlie Rule, and a member of his staff made contact with literally hundreds of fire



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departments to determine how they were keeping records and what kinds of time stamps were being kept and under what conditions. What he found was somewhat problematic. But it was the truth. The fact was that many fire departments were not keeping accurate time records and moreover nobody was looking at them.

Therefore, in the development of the Standards of Response Cover Methodology for the CFAI one of the most important aspects was to look at the total elapsed time of the handling of emergencies an attempt to put some degree of consistent and standardized terminology. That was the desired outcome.

Where are we today? Well, one might say we are better off because now people at least understand that the element of time is involved. But, on the other hand we still have fire departments that do not keep accurate records of response time. We still have fire departments that have not come up with their own "terms" for what they think they are measuring. We also have technology being utilized in the fire service that neither help nor hinder us in our desire to do a better job.

Let's be more specific. In order for everyone to really understand what the element of time is all about they have to recognize that there are two very specific definitions that need to be agreed upon. The first of these is a time stamp. A time stamp is a record of an actual time in which an event has occurred. A time stamp is not a guess. A time stamp is not an estimate. A time stamp is literally a documentation of the year, the month, the day, the hour, the minute and the second in which something occurs. A classic example would be if the phone rings at a dispatch center and that initiates a electronic record keeping device that it indicates exactly when the first ring occurred and there is another time stamp that occurs when the phone is picked up by the dispatcher you have an example of two time stamps that creates the next term that we are interested in. That term is called a time interval. A time interval is nothing more than the period of time between two time stamps.

This may seem like a simple concept. However, in the best fashion of the fire service we managed to obscure both of these by a variety of techniques. The first thing that causes a time stamp and time interval to be suspect is when they are not done using technology but rather are accomplished manually. That result is the fact that sometimes time stamps and time intervals are hard data, which means that there was no human intervention; it was done because a system created it. Or, it is soft data, which means that a human being did actually establish the two time stamps. The margin of human error, as we all know, can often be significant especially under the stress and strain of emergency operations.

Now if we take the concept of a time stamp we need to recognize that there are specific time stamps that need to be documented in the emergency response field. What is interesting to me is the fact that many of our highly expensive CAD providers do not understand this basic concept. They have failed to build into the computer assisted dispatch system appropriate time stamps so that this information could



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be analyzed later. I am not referring to any specific vendors as much as I am referring to the lack of standardization in the CAD world.

However, these time stamps are critical. Here is a list of the time stamps that could be of great significance in analyzing the efficiency and effectiveness of emergency response units:

1. Time of first ring to the dispatch center
2. Time the phone was picked up by the dispatch center
3. Time the dispatch center enters the event into the system
4. Time that the information is transmitted to a fire station or to a fire apparatus
5. The time that the piece of fire apparatus initiates its response, i.e., leaves the station or begins to role wheels towards the emergency
6. Time of arrival of the first due unit on the scene
7. Time of arrival of all subsequent units on the scene
8. Time of arrival of the chief officer on the scene if it is a multi-company operation
9. Time in which the emergency is declared under control and returned to a state of normalcy
10. Time the units leave scene and become available for additional dispatch
11. Time the last unit leaves the scene and returns the emergency scene back to ownership of occupant.

Those are a lot of time stamps aren't they? If you will look at the schematic of the cascade of events in the Fire Accreditation Manual you will quickly discover that all of those time stamps make up the beginning and ending of all the intervals that become critical to understanding the fire departments performance. They start with the concept that it takes time to process an alarm. Moreover, it needs to be recognized that depending on how the alarm processing system is configured there can be all sorts of reasons why the fire department is sitting in the station totally unaware that an emergency is in progress until that alarm processing time has been either initiated or executed. Let me see if I can give you a real good example.

Imagine that you have a fire alarm system in a building in a hotel. There is a fire in one of the rooms. An individual runs out of the room into the corridor and pulls the fire alarm box. How long did that take? Then if the fire alarm box is hooked up to the office down stairs, someone has to acknowledge the fact that the alarm is ringing. Then they have to identify whether or not they are going to take appropriate action. I have personally witnessed the time when hotel management has told their personnel not to report an alarm to the fire department until it has been checked out by security. People have died as a result of that kind of policy, by the way. On the other hand it could be connected directly to a fire department alarm panel, which means that a light might go on in a dispatch center. Both of these are different configurations and both of them are part of alarm processing times.



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It is not good enough to just understand that there is a concept called alarm processing. If a department really wants to clearly understand its performance then it has to examine those elements and understand how simple or how complex this situation is for them.

There are a wide variety of conditions in which alarm-processing time can be very complicated. Imagine multi-jurisdictions without an adequate communications system in place. Imagine regional dispatch centers as opposed to individual dispatch centers. Imagine what happens with voice over IP. Imagine what happens with cell phones.

In the examination of alarm processing time two factors should be considered. What time stamps are available and exactly how long does it take before a fire department dispatcher notifies a fire company that they have the responsibility to respond? To me that is fairly straightforward yet, it has been complicated by sometimes accepting the simplest time stamp configurations and not exploring the entire chain of events.

Now let's turn to turnout time. There are two time stamps involved in this and one interval. And that is what time did the bells start ringing or did the pager go off and what time did the wheels start turning? Again, that sounds pretty simple, again, it's not. When Chief Rule started examining turnout time during the CFAI research he found out that there were significant differences in such things as whether it was a full time department or a volunteer department that had to recall personnel to the scene. He also found significant differences in the design of fire stations. Those departments that were heavily involved in physical fitness programs and/or other types of activities also had some differences. The reason that these two time stamps are important is the fact for the citizen to feel they can care less what you are doing when you have been told to respond. But the clock is still ticking. Remember; no time outs!

The examination of turnout time has been underestimated by the fire community for many years. Moreover, people call it a lot of different things. I have seen probably at least a half a dozen slang terms used for this time interval. I know one group calls it getaway time. Another calls it out of the shoot. A rose by any other name is still a rose. It is the time interval between you finding out you have got an alarm and those lug nuts on the front wheels of your apparatus starting to revolve in the general direction moving towards the emergency. Regardless of what you call it, that is what it is.

The next component is called travel time. This is the part that the fire service has placed a lot of emphasis on. It is a difference between the time those lug nuts start spinning and the time those lug nuts stop spinning. It is not the time that you see the smoke on the horizon. It is not the time you push a MODAT button when you are two blocks away from the scene. It is the time interval between starting and stopping of the first due unit. Anything less than that is a provision of what travel time is all about.



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Of course there are a million variables of that can affect travel time. I don't think anybody reading this article is under the assumption that driving the same piece of road under different traffic conditions will always result in the same travel time. Try going down your main drag at 4 o'clock in the morning or 4 o'clock in the afternoon and see if there is a difference regardless of whether you are going Code 1 or Code 3.

Travel time is a multi-dimensional variability that is extremely important to understanding a very simple concept. That concept is that time and distance are the enemy or the ally of a fire department. That is what Rexford Wilson called it 30 years ago and it is what still is today. Fire station locations are important. But fire station locations are not nearly as important as a fire company's performance on travel time.

Now comes the big rub. There are fire departments that only report travel time and call it response time. There are fire departments that only report travel time and turnout time and call that response time. There are some fire departments that are recording alarm processing, turnout and travel time and call that response time. Which one is right? Which one is a true reflection of the arts and science for fire protection?

I would submit that the only legitimate science in response time is an inclusion of all three.

I base this conclusion on the simple fact that the person who is experiencing the emergency doesn't give a hoot about theoretical definitions. When they dial that emergency number and hang up the phone there are no time outs. Whatever that emergency is, is in progress. And it will remain in progress unless one of two things happens. One is whether the event terminates itself. The second is whether or not a civilian or another person on the scene terminates it by the arrival of the fire department. In both of these conditions happens more often in the field than we would like to acknowledge.

To repeat my contention the only legitimate definition that belongs in the evaluation of a response standard is the combination of those three time intervals based upon accurate, credible and constant time stamps. The appropriate term for that in the Cascade of Events represents the true sequence of an emergency.

Moreover, there is a growing recognition that the fourth aspect of the time interval that is becoming increasingly important and that is the intervention period. In the SOC methodology there is a term called critical tasking. This is when the fire department was requested to validate its ability to perform in a certain time frame so that a more routine emergency would be mitigated in a more reasonable time frame.

Isn't this what a fire department is really there for? We are not there to burn down buildings



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systematically by taking a long time to put out fires. Contrary to the fact that most of the moral in the fire department emerges when we do have a barn burner the reality is that the citizens want us to put that fire out in the smallest area possible.

The initiation and completion of an emergency event also has another dimension. I have become exposed to this as a result of working with multiple firefighting agencies attempting to deal with the differences between a police fire dispatch center and a fire only dispatch center. I am liable to start a lot of arguments with this contention but I believe it to be reasonable true. My contention is that dedicated fire dispatch centers are better at processing events than combined dispatch centers are. Law enforcement personnel in charge of dispatch centers will often make a statement that their workload is 4 – 10 times greater than the fire services workload and therefore their priority of 911 is processing their calls. If you are counting wickets, that might be true. But if you are counting emergencies it is not.

If you go back and look at the kind of work that is processed by a fire dispatch center alone almost every time that phone lights up on the console somebody's life or property is in danger. If you go to the law enforcement side and put a check mark in the box alongside the level of emergency is you will find that 9 out of every 10 requests for emergency services could be handled by either a Good Samaritan or somebody with a clipboard to take a report. Law enforcement does go on emergencies. Lets not make any mistake about that. For example a bank robbery in progress is an emergency. If you don't think so, go to Los Angeles City and the massive shoot out that they experienced a couple of years ago. A traffic collision with injuries is an emergency to the cops as well as it is for us. If you don't think so, go take a look at the number of firefighters who have been killed or injured attempting to set up a traffic protection zone around a traffic accident.

But a true emergency in a 911 system for law enforcement is actually a rarity. These are usually classified as a type 1 or class A event and do require response. As long as we are using the football metaphor there is also another phenomenon in emergency response. There are no referees dropping flags that result in the time outs being given. The only way that we are refereed is when we look at the outcomes over a period of time in our community. That leads to another issue that is absolutely of great significance to the fire service and that is the quality and quantity of our data. In conducting reviews of many fire departments one of the things I find somewhat startling is that many fire departments do not have anybody responsible for assuring quality control over response time data. It is assumed that the data is accurate. And it is assumed that the conclusions that are drawn from inaccurate data are appropriate. Neither of these cases is true.

Response time information is a big part of the statistical science that we need to establish our credibility in the community. Anything less than inaccurate and consistent portrayal of response time is going to continue to add to the confusion of both the public and the policy makers who must approve our budgets.