

Welcome back. Today I am going to discuss the fire department performance standards regarding staffing, turnout, and response time. *Turnout time* is defined as the time between the call being dispatched and the time the crew leaves the station. *Response time* is the time it takes crews to reach the scene.

The National Fire Protection Association (NFPA) sets the standard for fire service performance. There is one standard for full-time departments and another for volunteer/part-time departments. Bainbridge Fire Department is a combination fire department, meaning we have both full-time and part-time staffing. Before the levy failed on average, the department's staffing consists of 4 full-time members supplemented with 2 part-time members for a total of 6 members on duty. Since there are more full-time members daily, the department falls under the standard for full-time departments. All personnel are dual trained as firefighters and emergency medical technicians.

Since the levy did not pass, we have been forced to reduce staffing to 4 personnel on duty which has resulted in the department only being able to staff 2 ambulances. If a patient is unstable, one person from the second EMS unit goes with the crew to the hospital and the second unit is out of service. At that point we recall personnel and calls are routed to the closest mutual aid department until we can staff an ambulance.

## **EMS**

The standard turnout time for EMS is 60 seconds and the standard for response time is 6 minutes or less. Bainbridge Fire Department's average turnout time for EMS is 52 seconds. Response times vary throughout the township, but our average response time is 5 minutes and 12 seconds for EMS calls. The response time for mutual aid ambulance averages 10-12 minute.

You may be wondering why those times are important. Well, when you have a stroke, heart attack, or a significant trauma event, time is critical. EMS plays a critical role in detecting time critical events, beginning treatment, notifying the hospital so that they can have the essential people in place when we arrive, and delivering the patient to the emergency room.

We staff 2 personnel on each ambulance with at least one being a paramedic, so our ambulances are advanced life support units where the personnel can start IVs, administer medication, and perform advanced procedures. Additional personnel are provided for a patient whose condition warrants a second attendant. Additionally, in the event of a motor vehicle crash the heavy rescue truck responds to provide tools and equipment for fire protection and/or extrication tools so that access to patients is safe, quick, and efficient.

Ohio has established laws regarding stroke, cardiac event, and trauma centers. These facilities must constantly meet rigorous criteria to be designated as a Stroke, Cardiac or Trauma center. Standard of care in Ohio dictates that patients suffering from a stroke, cardiac, or major trauma event should be transported directly to the appropriate center to reduce delays to a specialized advanced care. These designated centers provide the most advanced care for patients in those categories They recognize EMS's critical role, and we are integrated into their protocols to assure that our patients are getting the best care in the least amount of time.

### ***Stroke care***

Many of the interventions are time critical. For example, in the case of a stroke caused by a blood clot, clot busting drugs can be administered only within the 3 three hours of symptom onset. If the patient misses the three-hour window, the clot can be removed mechanically up to 6 hours of symptom onset. The sooner care is started the less damage to the brain and greater quality of life. (American Heart Association)

### ***Cardiac Care***

In the case of a major cardiac event involving the blockage of a coronary artery, which changes the heart's oxygen supply, blood flow, and electrical current in the lower part of the heart, EMS can begin life-saving care immediately and often partially or fully restoring circulation to the heart muscle preventing greater damage. Once the patient reaches the hospital, they will see a cardiac interventionalist for more definitive care. The longer the patient's heart is without oxygen, the greater the damage and risk of decreased cardiac function. The standard of care for a cardiac patient is 90 minutes from patient contact to the cardiac catheterization laboratory treatment. (American Heart Association)

### ***Trauma care***

Trauma centers are the oldest established specialty care centers. Generally, trauma patients are at great risk of hemorrhage and shock. The target time of one hour from time of injury to the definitive care is referred to as the golden hour because patients with multi-system trauma have a much higher survival rate when they reach the hospital within that hour. EMS can make a huge impact on survival by managing airway emergencies, controlling hemorrhage, administering oxygen and IV fluids, and stabilizing fractures. (International Trauma Life Support)

These time frames include the time it takes to recognize the event, activate the emergency response system, the response time of emergency providers, the delivery of initial care, removal of the patient to the EMS unit, or extrication from vehicles/machinery, and transportation time to the hospital.

### **FIRE**

The NFPA standard for turnout time is 80 seconds for fire calls to allow personnel to don their gear. The standard for response time is 6 minutes. Bainbridge Fire Department's average turnout time is 71 seconds for fire calls. The department's average response time is 5 minutes 46 seconds. The average mutual aid response time is 10-15 minutes for a fire truck.

NFPA standards also require a minimum of 14 personnel for a structure fire. Up until May, Bainbridge has staffed 6 personnel. Our response to structure fires has consisted of a fire engine with 3 personnel, a tanker with 2 personnel, and a command car with the officer-in-charge. One, or both of our assistant chiefs goes to each fire. We receive automatic aid from neighboring departments to make up the additional 7 people required.

Due to reduced staffing, we do not have enough staff to respond our tanker to fires. When a fire come in, everyone gets on the engine and responds. In accordance with OSHA regulations and NFPA standards, a minimum of 4 personnel is required before interior fire attack can be made.

Typically, 2 personnel form an interior fire attack team to enter the building, perform search and rescue, and extinguish the fire. There must be 2 people outside the structure fully geared up and ready to assist the interior fire attack team in the event something goes wrong. The engine driver is responsible for operating the truck and getting water to the interior crew. The Officer-in-charge serves as the Incident Commander to direct operations and oversee safety. Reduced staffing means the pump operator and the Officer-in-charge are the back-up team. It also means we are unable to meet the standard of 14 personnel on scene, even with the other responding units. Our automatic/mutual aid departments are 12-15 minutes away.

According to Western Michigan University, fire doubles every 30 seconds and reach temperatures of over 1000 degrees in 90 seconds. Many homes today are built with lightweight construction with open floor plans and contain synthetic materials that burn hotter and faster. This lightweight construction is prone to collapse after 10-15 minutes

of fire. More people are being trapped due to the speed and intensity of these fires. Firefighters must get water on these fires as quickly as possible to prevent massive losses.

The department has historically responded to structure fires with 4000 gallons of water: 1000 gallons on the engine and 3000 gallons in the tanker. Our reduced staffing prohibits us from responding the tanker, so we are arriving with just 1000 gallons. As previously stated, our automatic/mutual aid companies are 12-15 minutes away.

The average kitchen fire in a 3000 square foot home requires us to flow 250 gallons/minute minimum. The water we carry provides a maximum of 4 minutes of water flow. We are not like a city where there are hydrants. In much of the township we rely on hauled water and drafting water from ponds to supply our trucks during a fire. We use a 3000-gallon portable dump tank to hold water from tankers that dump their water, refill, dump again.

### **CURRENT STATUS**

I have had several people ask me what I have done to reduce expenses since the levy did not pass. Below is a list of actions:

1. Reduced staffing to 4 personnel per day, reducing the number of EMS units in-service from 3 to 2. Also, we have not replaced a full-time firefighter who resigned to move to New England with his new bride.
2. The department will not be replacing any equipment, including our aging ambulances
3. We have eliminated all non-emergency overtime.
4. Due to the elimination of overtime, limited staffing, and call volume, the department is unable to participate in community events such as the fireworks, parades, festivals, birthday/block parties. We are unable to offer CPR and first aid classes or conduct the Citizen Academy.
5. The department's participation in regional technical rescue teams has been limited and outside training opportunities have been eliminated.

That concludes my Fire Chief Friday for this week. If you have questions, comments, or suggestions, or topics you would like me to discuss please feel free to contact me @ [lmetz@bainbridgetwp.com](mailto:lmetz@bainbridgetwp.com) or 440-543-9873.