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**Title:** Why the Fire Department Responds to Medical Emergencies with Multiple Apparatus.

Ward(s): All Wards  
 Councilor(s): All Councilors  
 Neighborhood(s): All Neighborhoods  
 Result Area(s): Safe Community

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| 9/26/2022 | 1    | City Council | received and filed |        |

**TO:** Mayor and City Council

**THROUGH:** Keith Stahley, City Manager

**FROM:** Mike Niblock, Fire Chief

**SUBJECT:**

Why the Fire Department Responds to Medical Emergencies with Multiple Apparatus.

Ward(s): All Wards  
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**SUMMARY:**

The fire department, in conjunction with Willamette Valley Communications Center (WVCC), utilizes a priority dispatching system. When a 911 call is received that is prioritized as needing a two (2) or more unit response, the closest fire department resource is dispatched in conjunction with a transporting ambulance, and often the fire department arrives first. Medical emergencies involve a wide range of potential obstacles responding personnel must be prepared to overcome quickly in delivering patient care. Fire engines are the primary response vehicle for the fire department and provide the best platform for dealing with the dynamic circumstances of medical emergencies.

**ISSUE:**

Information only

**RECOMMENDATION:**

Information only

**FACTS AND FINDINGS:**

Good patient outcomes start with a timely response. Our current Emergency Medical Services (EMS) system utilizes thirteen (13) First Response Advanced Life Support (Paramedic staffed) apparatus from Salem Fire Department in combination with up to ten (10) Falck Northwest Ambulances strategically located throughout the city. When a 911 call is received that is prioritized as needing a two (2) or more unit response, the closest fire department resource is dispatched in conjunction with a transporting ambulance. Overall, there are fewer available ambulance resources than fire department resources, so it is substantially more likely that a fire department resource will be closer, arrive sooner, and provide initial stabilizing medical care. Currently, the Salem Fire Department arrives before an ambulance 57.3% of the time on the highest priority calls.

The current Marion County Ambulance Service Area Plan (ASA Plan) allows ambulances eight (8) minutes to respond (ambulance notification to arrival on scene) 90% of the time. The ASA Plan recognizes Advanced Life Support first response from the Salem Fire Department as an integral part of the EMS system. The ASA Plan allows additional response time for ambulances if an Advance Life Support first response unit from Salem Fire Department "stops the clock" and provides initial medical care within 5 minutes. The utilization of Advanced Life Support first response allows a system design which has proven to be effective and cost efficient in this public private partnership.

Having the appropriate number of personnel to properly care for a critically ill patient is vital. Falck provides one Paramedic on every ambulance, and each Salem Fire apparatus is staffed daily with a minimum of two (2) Paramedics. Having at least two (2) Paramedics on these types of scenes allows for multiple procedures to be completed simultaneously. Examples include starting intravenous lines, administering medications, aggressive airway management procedures, and defibrillation, etc. In addition, pre-hospital personnel are faced with a variety of settings that require more than two (2) people to mitigate. Examples include removing a non-ambulatory patient from a variety of complex situations such as down a stairwell from a third (3<sup>rd</sup>) floor room or out of a cramped bathroom or bedroom. Experience has shown that two (2) people alone cannot efficiently or safely deal with an emergent sick patient in the pre-hospital environment.

The fire engine is our primary response vehicle and responds to a wide variety of call types, including medical emergencies, fires, car crashes, hazardous materials, natural gas leaks, overpressure/ruptures, severe natural disasters, false alarms, service calls, good intent (includes calls

cancelled in route), and citizen complaints. Think of the fire engine as a toolbox, that provides us all the tools we need to mitigate all call types we respond to. Salem Fire Department doesn't know ahead of time which type of call will come next, so we need to be prepared to respond to anything, whether that be a cardiac arrest where we use our paramedic skills and advanced life support equipment to begin immediate care prior to the arrival of the transport ambulance, or a house fire where we use our turnout gear and SCBA's to affect a rescue and extinguish a house fire and then protect exposures. Having the right tools and the appropriately trained personnel arrive quickly to mitigate an emergency is critical in protecting the lives and property of those living in our community. Our fire trucks best meet this need. On calls where a fire truck resource is ultimately not needed, the units quickly go back into service and are available to handle the next call for service.

Salem Fire Department has used computer modeling to explore various alternative service delivery methods to validate if we can provide the same service using a more cost-effective approach. Salem Fire Department has researched the addition of 3 two-person squads 24/7 (two firefighter paramedics in a pickup type of vehicle) in addition to our current deployment that would be in the busiest parts of the city where the need is the greatest. The computer modeling indicates that these squads would improve our 2021 on scene response in 5 minutes by 2.78% citywide (less than 1% per squad). In contrast, relocating Station 8 from its current location, which is outside the city, and building and staffing two additional fire stations with fire engine companies improves our on-scene percentage by 5.24% citywide. Both scenarios add 18 FTEs to the budget, so the cost is comparable, however the engine company option provides almost double the impact on our ability to deliver services and better meet our response times.

For medical emergencies, Salem Fire Department's response will vary based on the nature of the emergency. Some medical conditions are not time critical. However, for serious trauma, cardiac arrest, or conditions that may lead to cardiac arrest, response time can be crucial. Equally essential is delivering a sufficient complement of personnel to the scene to perform all concurrent tasks required to deliver quality emergency care. For a cardiac arrest, this can be up to eight (8) personnel. Thus, for a medical emergency, the real test of performance is the time it takes to provide the personnel and equipment needed to deal effectively with the patient's condition, and achieve a good patient outcome, not necessarily the time it takes for the first person to arrive. Protecting lives, property, and the environment, placing safety and service above all, we endeavor to continually improve our patient's outcome no matter their circumstance. Delivering properly trained professionals, equipped with the right tools as quickly as possible helps us achieve the best outcomes for our community.

MIKE NIBLOCK  
FIRE CHIEF

Attachments:  
None