



Margate Fire Department

PROUDLY SERVING THE RESIDENTS AND VISITORS OF

THE CITY OF MARGATE

ISO Class 1 Fire Department



Memorandum

To: City Manager

From: Roberto Lorenzo, Fire Chief *Roberto Lorenzo*

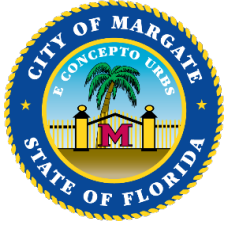
Date: April 2, 2024

Subj: Advancing Fire Services: Analysis of Staffing within the Margate Fire Department

Background

The City of Margate Fire Department has provided services to the community since 1956. During this time the City has seen tremendous growth which continues to increase demand for public safety services. Also, during this time, the Fire Department has expanded services to adequately meet the growth in population and economic development. These increased service expectations have resulted in an estimated 9,700 requests for service annually, which include a wide variety of fire, rescue, and medical emergency incidents. All of these require increased equipment and personnel improvements necessary to operate effectively and safely as outlined in several professional industry standards and locally agreed upon practices.

In the dynamic world of firefighting, teamwork is critical to the successful achievement of hazard mitigation. Historically, deploying a three-person rescue crew and a two-person fire truck crew out of each of our three fire stations has established a solid foundation for responding to the community. However, with the community's increased growth and demand for service, increasing our fire truck crews from two to three, while maintaining our rescue units at three, demonstrates a thoughtful consideration of what our crews truly require to effectively and safely mitigate the hazards faced. Enhancing the fire truck crew size to a three-person unit emphasizes our core values of teamwork and mutual support, which has proven crucial in high-stakes environments. This improvement will result in heightened preparedness, whether rushing to extinguish a fire, safely removing someone from a wrecked vehicle, or providing life-



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saving medical interventions, a three-person fire truck crew will greatly reinforce our role as a dependable pillar of support in any emergency in which we serve the public.

NFPA 1710 – Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments

The National Fire Protection Association (NFPA) establishes requirements intended to provide effective, efficient, and safe protective services to help prevent fires, reduce risk to lives and property, deal with incidents that occur, and help prepare for anticipated incidents.

Increasing the Fire Department's current deployment from two to three firefighters on each fire truck will significantly enhance operational effectiveness, safety, and incident response outcomes. The (NFPA) Standard highlights the critical nature of a well-staffed fire truck for performing the numerous tasks required at the scene of a fire or emergency. With three firefighters, the crew will more effectively execute roles and responsibilities such as command, operations, search and rescue, and safety oversight, ensuring a more coordinated and efficient approach to emergency situations. This configuration allows for a rapid initial fire attack, immediate search and rescue operations, and the establishment of a water supply, significantly improving the likelihood of victim survivability and overall positive outcomes. Moreover, having additional staffing means that tasks will be performed simultaneously rather than sequentially, reducing the critical time to control and extinguish the fire, and enhancing the safety of both the firefighters and the public we serve.

National Institute of Standards and Technology (NIST), U.S. Department of Commerce

The National Institute of Standards and Technology (NIST) conducted comprehensive residential fire ground field experiments to explore the dynamics of firefighting tactics, with a particular focus on comparing the effectiveness of two-person versus three-person primary search teams. The findings, derived from rigorous and controlled scenarios, indicate that three-person teams are significantly more efficient in conducting primary searches within residential structures. The



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addition of the third team member not only allows for a more rapid search and potential victim rescue but also contributes to improved firefighter safety.

Additionally, the physical and mental demands of firefighting are immense, and the risks of injury are high. A three-person firefighting crew reduces individual workload, mitigates the risk of injury, and ensures that firefighters can rely on immediate backup in hazardous situations.

Occupational Safety and Health Administration (OSHA)

Adhering to the critical "two-in, two-out" safety rule for fire truck activities (Occupational Safety and Health Administration policy 29 CFR1910.134 (g)(4)(i)). This respiratory protection standard requires that workers engaged in fighting interior structural fires work in a buddy system; at least standby personnel enter the building together, so they can monitor each other's whereabouts as well as the work environment, there must also be at least two standby personnel outside the fire area prepared to rescue the inside firefighters should the need arise. In both cases, current staffing does not allow for these operations to be conducted according to the provision.

Furthermore, studies and real-life incidents have demonstrated that a well-staffed fire truck can significantly impact the overall effectiveness of the fire department's response, including faster fire suppression, reduced property damage, and lower casualty rates. In essence, the justification for three-person staffing on fire trucks is rooted in operational efficiency, firefighter safety, and a commitment to public service excellence, making it a necessary standard for fire departments aiming to meet and exceed the benchmarks set forth by NFPA 1710.

Fastest Unit Response – Countywide Standards and Expectations

In 2022, Broward County fire rescue agencies worked cooperatively to implement the "Closest Unit Response" initiative, aimed at enhancing emergency services' efficiency by dispatching the nearest fire rescue unit to an emergency, regardless of jurisdictional boundaries. This approach is designed to ensure the fastest possible response for residents facing high-priority emergencies, such as structure fires, heart attacks, or severe injuries, emphasizing the importance of saving lives through reduced response times. A crucial element of this initiative is the requirement for fire truck aid requests to include a three-person crew or an augmented response, a standard our city has complied with since the agreement's inception. However, while augmented responses increase the immediacy of emergency interventions, they also



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leave the originating zone without an available unit, potentially compromising the area's response readiness for additional emergencies. Transitioning to a model that ensures a three-person fire truck is staffed and remains within its designated zone can significantly enhance service quality. This strategic shift not only guarantees rapid and efficient emergency responses but also maintains the capability to address additional incidents promptly, reinforcing community expectations, safety, and service effectiveness.

Comparisons to other agencies

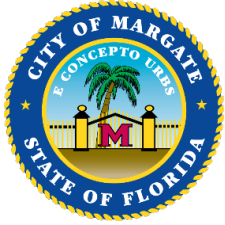
Broward County, home to close to 2 million residents, has a total of 128 fire trucks. Apart from the three fire trucks operated by the Margate Fire Department, the remaining 125 trucks are equipped with three-person crews. This highlights the County's dedication to high emergency response standards. Among the 134 EMS rescue trucks serving those residents, 74% (99 units) are staffed with three-person crews, including those from the Margate Fire Department. This demonstrates a significant commitment to maintaining optimal staffing levels for most rescue operations within the county.

It is noteworthy that some zones with lower incident response volumes are serviced by two-person rescue trucks. However, agencies in areas such as Davie and Fort Lauderdale are actively working on actionable plans to increase the number of three-person rescue trucks in response to their higher emergency incident volumes.

Recommendation

This comprehensive review, which incorporates the NFPA 1710 and OSHA standards, the implementation of the Fastest Unit Response initiative, and comparative data analysis with other local agencies, concludes that there is a critical need to standardize three-person staffing for both EMS rescue and fire truck units within the Margate Fire Department. Not only will this align with best practices in emergency response within Broward County but it will significantly enhance operational capabilities and service delivery to our community.

The deployment of a three-person crew on both EMS rescue and fire truck units is vital for several reasons. First, it supports efforts to meet compliance standards within NFPA 1710 and OSHA 1910.134 which emphasizes the importance of adequate staffing for safe and effective emergency operations. Moreover, the Fastest Unit Response initiative, by facilitating the quickest possible deployment of emergency units, further stresses the necessity of having more



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adequately staffed apparatus ready to respond. Importantly, adopting a standard of three-person crews for both EMS rescue and fire trucks will allow for a more autonomous, self-sufficient response to incidents, significantly reducing the need for tandem augmented responses for mutual aid. This strategic adjustment ensures that a three-person Advanced Life Support EMS unit remains within the City, primed and available for the next emergency. Finally, staff analysis of peer agencies reveals an evolving trend toward adopting three-person firefighting crews, reflecting a broader industry recognition of their effectiveness in improving response times, operational efficiency, and outcomes for both fire truck and medical emergencies.

Conclusion

Implementing three-person staffing for both EMS rescue and fire trucks supports the City's historical commitment to providing the highest quality level of service and is a step forward in our ongoing commitment to excellence, community service, and the well-being of our crew members. This adjustment is a significant step toward meeting current standards and expectations, positioning the City to provide an enhanced level of service, and leveraging additional resources to meet the needs of our community more effectively.