

FIRE STATION AND STAFFING PLAN

BOULDER CITY FIRE
DEPARTMENT

APRIL 2022



Executive Summary

The fire department has identified gaps in response capabilities based on the findings of the 2021 Community Risk Assessment, 2018 Geographical Information System Emergency Response Capabilities Analysis Report by the International Association of Fire Fighters, the 2016 Insurance Services Office Rating Report, and the 2021 Insurance Service Office Rating Report.

This document is intended to serve as a guide for city leaders, and an informational document to help keep the community informed of the needs, the proposed process to close the gaps, and the estimated associated costs.

The findings of the reports consistently identified that the department is understaffed for the city it protects and the equipment is not properly spread across the city. The result is that homes, businesses, and citizens in the Lakeside, Del Prado, and San Felipe neighborhood zones are outside of the nationally recognized standard of four-minute drive time from the nearest fire station. In fact, there are several areas of the city that people live greater than eight minutes from the sole fire station. The staffing is also well below what is required to address the cities risks, as identified in the risk assessment document. In some instances, this is addressed through a mutual aid agreement with Henderson Fire Department. Examples would be structure fires, complex technical rescues, hazardous materials responses, and mass casualty medical incidents. However, the mutual aid cannot adequately support the routine medical incidents. The department has a high number of concurrent calls for service annually which require both ambulances (rescues) to be committed at the same time. When this occurs, there is no ambulance available within the city. When a subsequent call for a medical emergency comes in, the dispatch center must call Community Ambulance in Henderson to respond to the call. The average response time for one of these ambulances is twenty-two minutes, after they are contacted. This is critical if they are responding to a call such as a heart attack or a stroke where the sick person needs to be in a hospital immediately to save their life. This plan identifies a path forward that the fire department thinks addresses the gaps in as fiscally conservative way as possible.

The cost estimates are based on Spring 2022 numbers. With the rapidly changing national economy they are subject to vary.

Will Gray, Fire Chief

This page left blank intentionally

Contents

Executive Summary	2
Introduction	5
2021 Community Risk Assessment Findings	5
2021 Insurance Services Office - Rating Report	6
2016 Insurance Services Office - Rating Report	7
2018 Geographic Information System Emergency Services Response Capabilities Analysis – Boulder City Fire Department – International Association of Fire Fighters	7
Station 122.....	9
Fire Station 122 Construction Recommendation.....	10
Sample Fire Station Elevation.....	11
Possible Fire Station Funding Sources (In order of preference).....	12
Staffing Proposals	13
Staffing Option 1	13
Staffing Option 2.....	14
Staffing Option 3.....	15
Additional Staffing.....	15
Summary	17

Introduction

The following document will help explain the justification for the request for an additional fire station (Station 122) and increased staffing. The document will discuss the four different reports that have analyzed the fire department response capability. It will include a proposed project for the Station 122 construction and location, as well as the estimated costs and timeline. There will also be options for how the new fire department personnel can be hired all at once, or in a phased approach that allows for the most benefit to the community.

2021 Community Risk Assessment Findings

The fire department set out to complete a community specific risk assessment in the spring of 2020 prior to the pandemic hitting the United States. The pandemic took priority for the department and significantly slowed the process while the department led the emergency management and overall pandemic response.

As the pandemic slowed in intensity, the fire department began to evaluate the city of Boulder City for all risks to the citizens, the environment, and the economic health of the community. This assessment included identifying a specific set of risks to include fire, emergency medical services, technical rescue, and hazardous materials response. This involved evaluating the community's building stock to determine what risks are present such as building codes used for the construction, age of the buildings, uses, and occupants. This is critical when one considers that the city has four senior living facilities that have many occupants that are not able to easily move themselves out in the event of an emergency. Other buildings are used for large groups to assemble such as a church, the Smith Building, or a school. Each of these buildings present a different set of risks that must be planned for.

The department also looked at the historical emergency medical services call types within the city. This call type accounts for approximately 75% of the fire department's calls for service. The city also has double the percentage of people over 65 years old as the national average, 32% to 16%. This is important as it typically means that the city will have about twice as many medical calls for assistance in areas such as traumatic falls, breathing difficult, heart attacks, and stroke. This knowledge helps the fire department make sure that the training, equipment, and resources are available to address these specific call types when someone calls for help. Many of these call types of calls are extremely time sensitive regarding treatment. The saying in the medical

world is, “time is tissue”. This means that the longer you delay definitive treatment, the more heart or brain tissue that dies resulting in a poor outcome. In a cardiac arrest, every minute of delay to definitive treatment results in a 10% reduction in survival chances¹.

2021 Insurance Services Office - Rating Report

“ISO collects and evaluates information from communities in the United States on their structure fire suppression capabilities. The data is analyzed using our Fire Suppression Rating Schedule (FSRS) and then a Public Protection Classification (PPC) grade is assigned to the community”². This summary report is completed approximately every five years by this third party and is used to set the fire insurance rating for residential and commercial structures in a city. The ISO summary report issues a rating for the city based on a 1-10 scale with 1 being the best. This report assigned Boulder City a rating of 3, which was an improvement from the past rating of 4. It also makes suggestions on how to make the city safer based on their analysis and comparison to national standards. This report made the following findings:

- The department received 6.17 of the possible 15 points for company personnel. This is the number of firefighters needed to safely fight a fire.
- Identified that the analysis recognized that the department has zero ladder service companies. While the city has provided a ladder truck in 2011, the city does not receive credit for it because it is not staffed due to a lack of personnel.
- The report found that the city should have 3 suppression engines (fire engines) in service. The department currently staffs one fulltime and cross-staffs a second one in lieu of the second rescue (ambulance) for all fires. The calculation is based on the identified fire flow needed to effectively fight a fire in the larger buildings in the city.
- It is important to remember that mutual aid response is already considered in these ratings. This analysis included information from the Henderson Fire Department assistance that they provide.

¹ American Heart Association

² Public Protection Classification Summary Report – Boulder City Nevada 11-2021

2016 Insurance Services Office - Rating Report

This report had similar findings except at the time it was determined that the city had a rating of ISO 4. The 2016 report also found that the city had a minimum fire flow requirement of 2,500 gallons per minute based on the buildings that were present at that time. That report found that the department should have two staffed fire engines, but they only had one based on the deployment model and the limited staffing at the time.

2018 Geographic Information System Emergency Services Response Capabilities Analysis – Boulder City Fire Department – International Association of Fire Fighters

This report was performed by the International Association of Fire Fighters headquartered in Washington, DC. The purpose was to study the city's staffing and deployment capabilities based on national best practices established by the National Fire Protection Association, specifically *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*. This report had several key findings to include:

- The daily staffing at the time was six firefighters per day, including two firefighters on the engine and both rescues.
- The staffing expectation established by national standards in *NFPA 1500: Standard on Fire Department Occupational Safety and Health Program*, and *NFPA 1710* is four firefighters on each fire engine. The report stated that because the fire engine is not staffed with four, the crew must wait on personnel arriving later before making entry into the environments that are immediately dangerous to life and health, such as those occurring in structure fires, in order to comply with industry standards and OSHA rules and regulations.
- *NFPA 1710* requires that the first arriving company at a structure fire to be on scene within four minutes to 90% of the incidents. (The standard indicates that it is four-minutes of travel time and six-minutes total response time – from 911 call to on scene time). The report stated that the fire department can only meet this response standard to 22.8% of the roads within the city, but the most recent fire department analysis suggests that this is closer to 50%.
- The lack of resources within the Boulder City Fire Department significantly contributes to the fire department's inability to provide for safe and effective fireground operations.
- When both rescue units (ambulances) are unavailable for response (due to other calls), the department does not have the ability to establish a minimum of four

personnel on scene within four-minutes until one becomes available (or until a Henderson Fire unit arrives in approximately 12-15 minutes).

The report made several recommendations to help address the identified gaps in response. These include:

- **Increasing the staffing on the fire engine to 5 personnel at all times.** (The current fire department administration does not believe this is necessary. While four personnel would be ideal and allow for personnel to increase capabilities, three firefighters per engine is a fairly common practice across the country and, providing adequate resources are available on other department apparatus, the department can still bring them to the scene of a fire as part of a multi-unit response.)
- **Maintain Response data to identify continually changing trends.** (This is currently being done)
- **The department should perform a risk assessment and critical task analysis.** (This has been completed and is being maintained)
- **Develop a strategic plan to focus on improving the resources and enhancing response practices within the city.** (This has been completed)
- **The department needs to maintain acceptable level of distribution of resources. An adequate distribution of resources will allow for quick responses to different areas of the municipality consisting of both personnel and apparatus within a specified time frame.**

Each of these reports between 2016 and 2021 have indicated that the fire department is understaffed and under resourced. Historical response data also demonstrates that the department has a very high number of concurrent calls for service that result in both current ambulances being out of town at the same time. There were over 498 concurrent calls for service in 2021. This resulted in the daily staffing of seven firefighters being drawn down to three firefighters for the entire city until the rescues could return to the city from area hospitals. This is a plan designed to address these shortcomings.

firefighters working that the same station. The attached garage would be converted to a storage and workout area for the crews.

The fire department got an estimate in October of 2021 from a local contractor of what it would cost to construct this size structure using prevailing wages and they stated it would be approximately \$1.5 million. This would obviously be affected by the recent increases in commercial construction costs. It is estimated that the structure could be designed, permitted, and constructed in 9-12 months. The city already owns land at the corner of Quartzite and Nevada Way which would accommodate the fire station well. The city has identified that utilities are already located close to this property which should help increase the speed of construction and help control the costs.

The department estimates that it would take an additional \$35,000.00 to fully furnish and equip the fire station. The annual operating cost for the additional fire station is estimated at \$10,000.00.

Sample Fire Station Elevations

The fire station construction is planned to be a typical single-story residential house with two large RV style garages attached to house the fire engine and ambulance. Below are two examples of the designs being considered by the fire department. They both would have two RV garages compared to the pictures displaying one.





Possible Fire Station Funding Sources (In order of preference)

1. American Rescue Plan Funding – The city currently has \$10 million that can be spent for anything the city council believes is needed. The fire department believes that this is the highest priority need in the city at this time. This project can be completed for less than 20% of the \$10 million and still leave funds for many other important projects. This would also allow the city to begin the process immediately and see the station operational within the next 9-12 months.
2. Capital Improvement Funds – The fire station is currently listed as a FY 2024 project. While this is promising, the fire department believes it is a critical need and should be started in FY 2023 in order to be completed for the FY 2024 budget to begin staffing it.
3. November 2022 Voter Approved Funds – This is a potentially good source of funds if the voters approve them; however, the finance department is stating that the funds would not be available until July 2023 at the earliest which would keep the fire station from being operational until at least the spring of 2024.
4. Tract 350 Public Safety Funds – This is estimated to be between \$2 - \$2.5 million. While these funds would help, the Tract 350 funds are projected to come to the city over a three-year period once the contracts are signed. This would likely delay the fire station construction for several years which the fire department believes is unsafe.

It is important to note that Fire Station 122 is a critical need, and it should not be connected solely to the increased staffing proposals. The department would be in a

better position to provide services to the residents and visitors with the addition of this station that it can today as it would allow the department to better distribute the existing rescues. The department could operate both stations with the staffing that is currently on staff until additional staffing could be funded.

Staffing Proposals

The department realizes that there are financial constraints that affect the city's decisions regarding long term staffing costs. The department is also aware of the critical need for increased fire department staffing to bring the city closer to the national standards. With this in mind, the fire department has identified different options to bring the staffing into the department as the city council deems appropriate.

Staffing Option 1

Construct the fire station in FY2023. Then add the nine firefighters in the FY2024 budget. This would allow the department to have significantly better coverage of the community, add a 3rd ambulance, and add three additional firefighters daily that would be able to bring the capabilities closer to the NFPA 1710 standard for fire response (fifteen firefighters and officers). With our duty chief(s) and safety officer, we would have a total of 12 firefighters and officers. This would mean that as soon as the first Henderson Fire Department unit arrived, we could function fully within NFPA standards.

- Staffing Option 1 Estimated Costs for Personnel and Benefits in Year 1 - \$1,423,094.40

Projections for years 2-10 are made using an estimated 3% increase for wages and benefits annually.

- FY 2024/Year 2 – \$1,465,787.23
- FY 2025/Year 3 – \$1,509,760.85
- FY 2026/Year 4 – \$1,555,053.67
- FY 2027/Year 5 – \$1,601,705.28
- FY 2028/Year 6 – \$1,649,756.44
- FY 2029/Year 7 – \$1,699,249.14
- FY 2030/Year 8 – \$1,750,226.61
- FY 2031/Year 9 – \$1,802,733.41
- FY 2032/Year 10 – \$1,856,815.41

Staffing Option 2

This option takes advantage of the FY2022 FEMA Staffing for Adequate Fire and Emergency Response (SAFER) grant to be awarded. The fire department submitted for this grant in January 2022 and should learn of the awards between May and September 2022. If the department is successful, the city would receive one hundred percent funding for nine firefighter positions for the first three years of their employment. If the department is unsuccessful, the fire department can apply for the grant a second time in January 2023 and plan to request additional positions in the FY2024 budget to begin to close the gap. The three-year funding by the FEMA SAFER grant would be approximately \$4.5 million. At the conclusion of the three-year period, the fire department would be permitted to reapply for an additional three-year period, if necessary.

- Staffing Option 2 Estimated Costs for Personnel and Benefits in Year 1 - \$1,423,094.40 covered by 100% by the federal grant – (the grant funds firefighter positions through this grant). The additional costs associated with this option would be the increase of three of the new firefighter positions to captain and three to engineer in Year 1 - \$58,676.70 for the increase for captains from firefighters and \$48,446.85 for engineers from firefighters (\$107,123.55 total – not covered by the SAFER grant).

Projections for years 2-10 are made using an estimated 3% increase for wages and benefits annually.

- FY 2024/Year 2 – \$110,337.26
- FY 2025/Year 3 – \$113,647.37

Year 4 would see the fire department resubmit for the SAFER grant again. If successful, the lower costs below would apply. If not, the city would assume the cost of the nine firefighters and the costs would be the higher costs.

With New SAFER Grant

- FY 2026/Year 4 – \$117,056.80
- FY 2027/Year 5 – \$120,568.50
- FY 2028/Year 6 – \$124,185.55
- FY 2029/Year 7 – \$127,911.12
- FY 2030/Year 8 – \$131,748.45
- FY 2031/Year 9 – \$135,700.91

With City Covering 100% of Costs

- Year 4 – \$1,555,053.67
- Year 5 – \$1,601,705.28
- Year 6 – \$1,649,756.44
- Year 7 – \$1,699,249.14
- Year 8 – \$1,750,226.61
- Year 9 – \$1,802,733.41

- FY 2032/Year 10 – \$139,771.94 Year 10 – \$1,856,815.41

Staffing Option 3

This option allows the city to incrementally increase the staffing as the general fund revenues can support it. This would involve moving one existing rescue from Station 121 to the new Station 122. This move would require the city to convert three firefighter positions to captain positions. This is required so that there is a supervisor at both fire stations each day. This option would allow the city to begin to close the gap in response time to medical calls on the Lakeside and much of the Del Prado areas. It would not address the fire coverage to these areas or address the daily staffing concerns.

This option would allow the department to spread out (distribute) existing units better across the city until additional staffing can be added. This would have an estimated cost of \$58,676.70 the first year (FY 2023) for the increased personnel costs.

- Option 3 Costs for Personnel and Benefits in Year 1 - \$58,676.70 – (Using existing staffing numbers). Additional costs associated with the increase of three positions to captain in Year 1 - \$58,676.70.

Projections for years 2-10 are made using an estimated 3% increase for wages and benefits annually.

- FY 2024/Year 2 – \$60,437.00
- FY 2025/Year 3 – \$62,250.11
- FY 2026/Year 4 – \$64,117.61
- FY 2027/Year 5 – \$66,041.14
- FY 2028/Year 6 – \$68,022.38
- FY 2029/Year 7 – \$70,063.05
- FY 2030/Year 8 – \$72,164.94
- FY 2031/Year 9 – \$74,329.89
- FY 2032/Year 10 – \$76,559.78

Additional Staffing

While staffing option 3 would allow the city to begin to close the gap in response for medical calls, it would not address the fire response coverage and the need for the third rescue (ambulance) to increase the probability of always having at least one rescue in the city. The long-term plan would still need to be to hire the nine firefighters over a two- or three-year period. The department would suggest adding two firefighters per

day to Station 121 first for a total of six new personnel. It would be suggested that this is completed in the FY 2024 budget. This would also allow the department to staff the third ambulance. This is a critical need due to the city regularly being without any ambulances in service during extended transports to area hospitals. As stated in the report above, the department exceeded 498 concurrent calls in 2021, which tied up all available resources at the same time. While it is not a recommendation of the fire department to wait this long to address the need for the third ambulance (rescue), it is an option for the city council to consider.

- Costs for Personnel and Benefits to add the six firefighters to fully staff a third ambulance beginning in FY 2024 – \$928,655.84

The department would recommend then that the city hire an additional engineer for each shift (three total personnel) to allow Station 122 to cross-staff a rescue and a fire engine. This would allow a three-person crew to work at Station 122 and act as a flexible resource. If the station receives a fire call, the three personnel will take the fire engine to the call. If the station receives a medical call, the personnel will take the rescue to the call. This would allow the city to essentially increase capabilities to that side of the city without having to have five people on duty at that station.

The initial cost of hiring an additional engineer each day (3 total positions) is estimated to cost approximately \$624,693.45 the first year (salaries and benefits).

Projections for years 2-10 are made using an estimated 3% increase for wages and benefits annually.

Six Firefighter Positions

- FY 2026/Year 2 – \$956,515.52
FY 2026 Total – \$1,599,949.77
- FY 2027/Year 3 – \$985,210.99
FY 2027 Total – \$1,647,948.27
- FY 2028/Year 4 – \$1,014,767.31
FY 2028 Total – \$1,697,386.71
- FY 2029/Year 5 – \$1,045,210.33
FY 2029 Total – \$1,748,308.31
- FY 2030/Year 6 – \$1,076,566.64
FY 2030 Total – \$1,800,757.56

Additional Three Engineer Positions

- Year 2 – \$643,434.25
- Year 3 – \$662,737.28
- Year 4 – \$682,619.40
- Year 5 – \$703,097.98
- Year 6 – \$724,190.92

- FY 2031/Year 7 – \$1,108,863.64 Year 7 – \$745,916.65
FY 2031 Total – \$1,854,810.29
- FY 2032/Year 8 – \$1,142,129.55 Year 8 – \$768,294.15
FY 2032 Total – \$1,910,423.70

The final staffing under this plan would be ten personnel daily responding from two stations with three rescues, one engine, and one cross-staffed engine.

Summary

This plan is intended to help the city council navigate the critical needs of the fire department. The department understands that there are competing interests for the city's limited finances but believes that this is the single most critical public safety issue facing the city today. As the fire department leadership identified in the November 17, 2021 city council workshop, there are gaps in the fire department's resources and capabilities. These gaps include response times performance that affects approximately half of the residences and population of Boulder City. This plan helps close these gaps and allows the fire department to better meet the risks and issues identified in the four referenced reports. This plan will help bring the fire department much closer to meeting the needs of Boulder City and creating a safer environment for the community.