GOLDFIELD RANCH

FIRE DISTRICT

Strategic Analysis
July 2015

Goldfield Ranch Fire District

Strategic Evaluation and Operational Study Report

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INTRODUCTION

The scope of the following study is centered on evaluating the Goldfield Ranch Fire District (GRFD) and its community safety goals. The study will focus on current standards and the feasibly of enhancing those standards while recognizing constraints limited to location and financial factors.

The study utilized an evaluative method of research based on similar type and size communities and follows principles established by the International Association of Fire Chiefs, the Insurance Service Office (ISO) and National Fire Protection Association (NFPA).

Goldfield Ranch Fire District was formed as a special taxing district in 2007 under the following State Statues A.R.S. §§ 48-803, 48-804 and 48-805. These statutes lay out in detail what the District shall do and may do. (See appendix A)

Goldfield Ranch is unique in several ways.

- As a relatively 'new' community of less than twenty years old, most if not all structures, meet current modern day fire code standards in regards to engineering, construction methods and safety standards.

- A somewhat isolated 5000 acre rural residential neighborhood with limited outside influences
- Very limited infrastructure with the only state recognized authority being the Fire District
- No commercial facilities such as schools, churches or public meeting places
- Contracts with the Fort McDowell Reservation for fire protection
- A very limited population base to be able to create a volunteer/reserve, first responder type system.

The study will be broken down into a number of evaluation areas including: current state, risk factors, financial analysis, future issue, a set of potential recommendations with a benefit cost analysis and finally and executive summary.

CURRENT STATE

Since the Fire District was formed in 2007, it has contracted with the Fort McDowell Yavapai Nation Fire Department for first responder services on an ongoing multi-year contract. The District, with approximately 130 residences, has seen little growth through new development but has seen significant de-valuation in property values, as has the rest of the state.

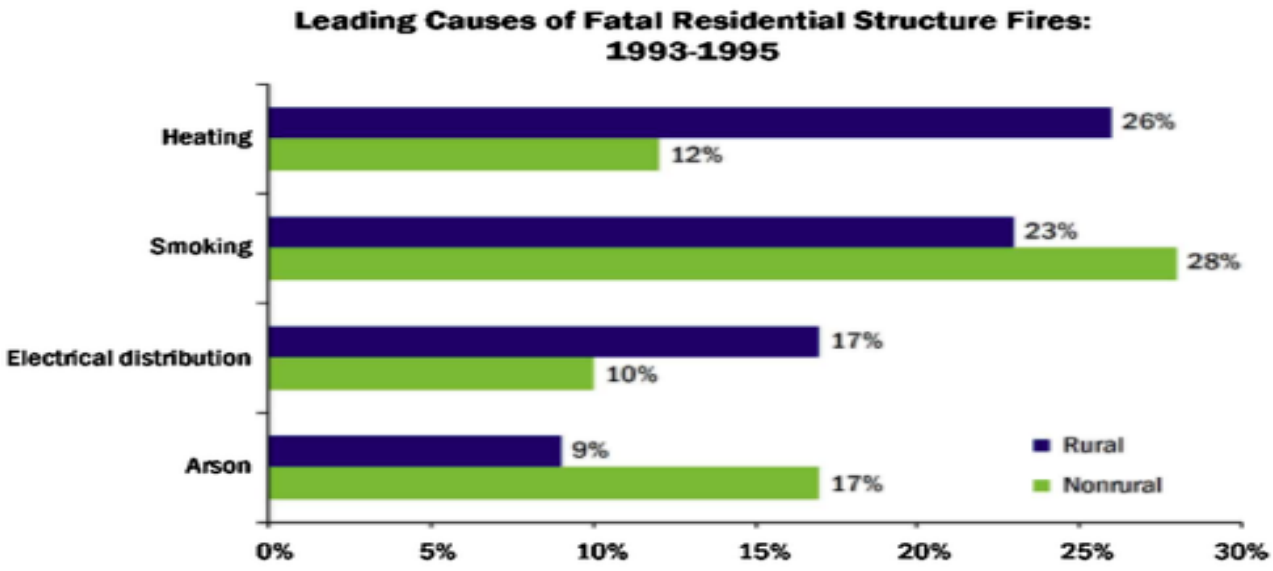
The assessed value of the Fire District has been reduced over the last seven years based on the depreciation of home values from a high of 24.2 million dollars in 2010 to its current value of 7.6 million dollars from which the District tax revenue is generated.

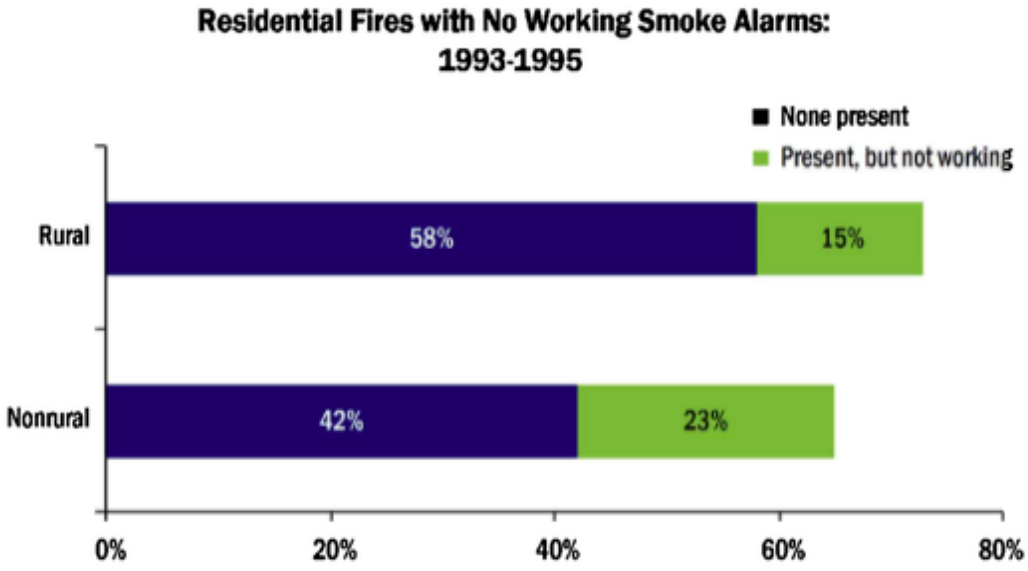
RISK FACTORS

Based on the makeup of the Goldfield Ranch community, its rural location and limited data specific to the community, I'll refer to the national statistics for similar type communities as reference.

RESIDENTIAL FIRES

The primary causes of rural residential fires that spread to the entire structure are the following categories: heating equipment (approximately 36%), arson (16%), smoking (16%), cooking fires (13%), electrical fires (12%), and natural causes (9%). Of significant note in the above numbers, when a fatality occurred 73% of the time, the homes either did not have a smoke detector at all or they were present but non-functioning.





data from US Fire Administration

WILDLAND/URBAN INTERFACE

The wildland interface in Goldfield Ranch Fire District is best identified as the terrain separating most of the individual properties and vacant land in the community. From a risk management standpoint there is no one solution that fits all. The geographical location, terrain and elevation changes potentially place the structures at risk from a rapidly moving wildland fire but those same factors are the primary reason the community developed.

EMERGENCY MEDICAL

The age demographics of the community are somewhat diverse in that no one particular age group, i.e. young active families or retired seniors, drives the needs in regards to emergency medical care. The closest medical transport response is from Fountain Hills. GRFD falls under a Southwest/Rural Metro Ambulance Certificate of Necessity (CON). From a risk factor stand point the community is in the same category as many rural communities that face an extended emergency medical service delivery timeframe and should obviously be a consideration of residents who present with elevated health issues.

FINANICAL STATUS

A fire district's operational efficiency and effectiveness depends upon the ability of its elected officials to obtain sufficient funding. A fire district's primary source of funding is the primary property tax. To determine how best to plan for and manage property tax revenues, elected officials and fire district professional staff must know and understand the statutory provisions that establish and regulate a fire district's property taxing authority. They must also understand the various procedural elements set forth by statute so their actions will produce the desired results while following the letter of the law.

Funding a fire district's operation may involve not only acquiring revenue but also deferring payment for equipment or borrowing funds to be repaid over multi-year periods by the ultimate beneficiaries of the equipment and facilities, the district's residents and property taxpayers. A district's ability to borrow funds or defer payments may potentially provide a substantial financial benefit based upon various factors. Typically, most fire districts use general obligation bonding or lease-purchase instruments to finance capital acquisitions. Elected officials and fire district staff must be able to identify the appropriate financing option for their respective district and comply with associated statutory requirements. A.R.S. § 48-805.02 limits the indebtedness of a fire district to the amount of taxes levied and to be collected and the money actually available and unencumbered at a specific time in the fire district fund. There are exceptions to this and they are detailed in A.R.S. §§ 48-805.B.2, 48-806 and 48-807.

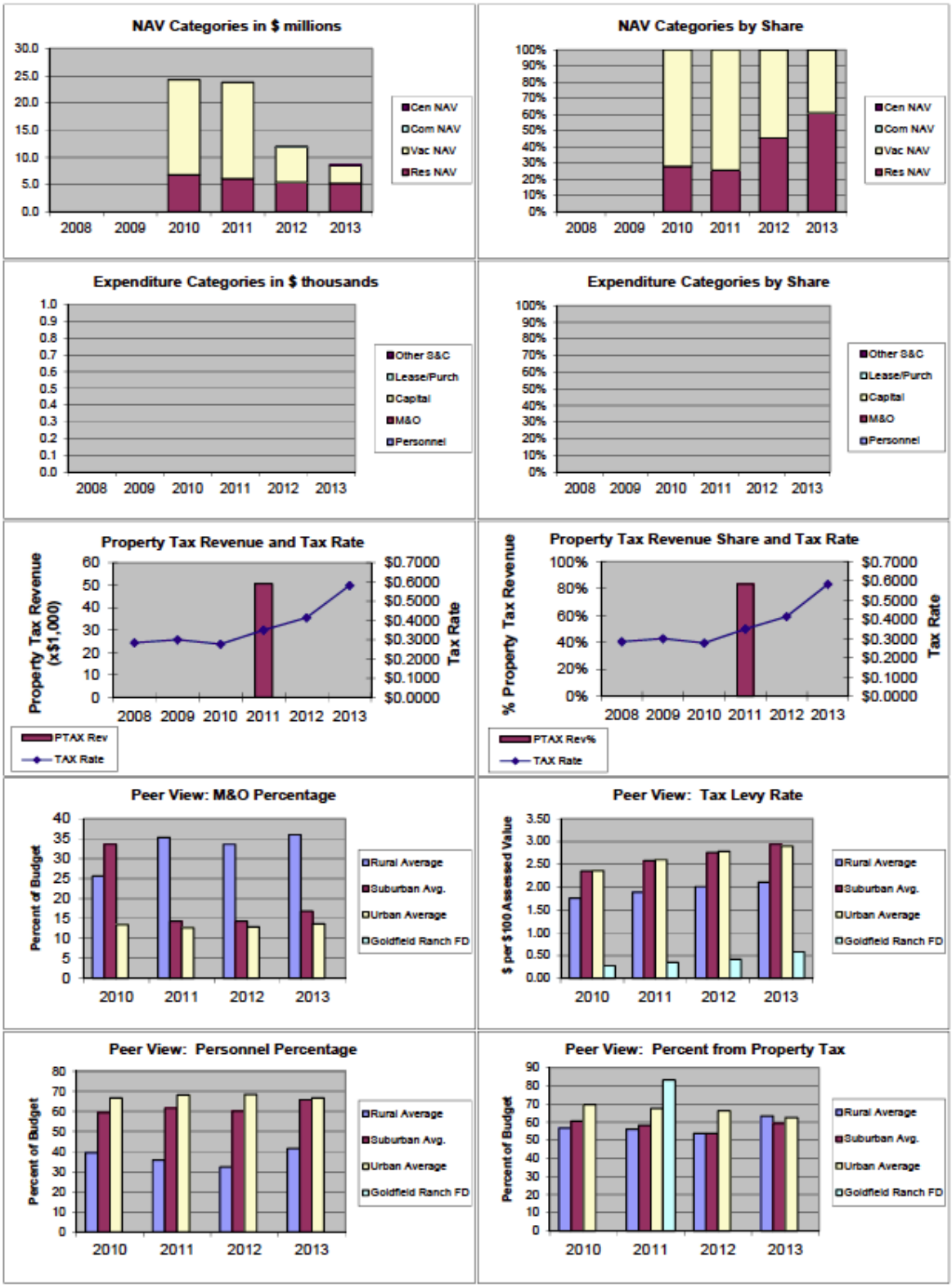
Goldfield Ranch Fire District

In the case of GRFD, as one of the smallest fire districts in the State and one that contracts with the Fort McDowell Fire Department for primary response, its current financial position is dictated by the needs and wants of the community.

At its current tax rate of 64 cents per $100 of primary assessed property value, the District provides protection to the community. Unfortunately, increasing the current level of response capabilities would incur a rapidly escalating increase to costs with very little improvement in actual service response due to the very limited number of taxpayers, levy rates and property tax limitations imposed by several legislative changes in the last few years, primarily Proposition 117. The District has seen a reduction in overall community valuation from approximately $25 million in 2010 to less than $8 million in the current year valuations.

Below is a budget breakdown of the Fire District using various benchmarks.

Goldfield Ranch Fire District Budget Graphs



FUTURE ISSUES

The Goldfield Ranch as a community has the potential for significant growth once, or when, the State starts to see a recovery in the housing market. Based on its location in the Phoenix geographical area and the desirability of rural living while also being close to a major urban center will make the area very attractive. Future planning now in regards to community safety becomes paramount and with the authority vested to the Fire District should enable the community to establish those goals.

PROPOSALS

The following suggestions will address some of the 'finds' from the previous section, and will also look at innovative ways to address current concerns while at the same time acknowledge the financial position of the Fire District. The underlying goal is to enhance community safety, reduce the potential of property loss due to fire and provide suggestions for addressing future growth in the community in regards to safety infrastructure.

Community Education

- Fire Prevention
    - Smoke Detector program
    - Fire Extinguisher training
    - Fire Code Adoption
- Fire Safety Training
    - Community Officer (volunteer or contract)

Identifying one area that can have a significant impact on community safety would be fire prevention and avoiding or detecting fires in their incipient stage.

As shown in an earlier diagram, almost 80% of all rural residential fires happen in homes without a functioning smoke detector. Creating an annual community Smoke Detector Program where the Fire District provides batteries and detectors would address the ability to improve early detection of a possible fire situation.

A second component to the Fire Safety education program would be offering the residents a very basic fire extinguishment class. This would involve the District sponsoring periodic fire extinguisher classes that covers not only how to use them but would advise the best types to get depending on individual residents.

In regards to Fire Code adoption, currently the District falls under the AZ State Fire Marshal's standard, 2006 International Fire Code (IFC). The District has the option of adopting a more stringent fire code with specific amendments specific to Goldfield Ranch.

The benefits to having a District specific code means control over infrastructure requirements. For example, fire hydrant placement, water flow requirements more

stringent than building code and possibly adopting the requirement of residential sprinkler systems. This would ensure that as the area is built out the District would have control over infrastructure such as fire station placement.

Cost Factors related to prevention

Implementation of a community smoke detector program has low initial outlay. Smoke detectors are available wholesale for less than ten dollars each and the average home would require between 5 and 7. Considering the relative newness of the community, most homes should already have detectors installed. What significant research has shown is that homeowners fail to replace batteries when they lose their charge and disconnect faulty detectors failing to replace them in a timely manner if at all.

Options available include

- Create a neighborhood program that tracks homeowners who are willing to 'certify' their detectors are working on an annual basis. Then focus on the residents that don't respond by providing detectors and personnel to install and check annually. $ 40/home ≅ Total $5000
- Hire an electrician at District expense to go home to home to evaluate and install as necessary. $120/home ≅ Total $15600
- Seek grants through rural development and Assistance to Firefighters Grant program Grant Writer expense $4000
- Adopting a District Fire Code in and of itself only requires purchase of all appropriate building and fire code manuals and the Board approving said code and amendments. The expense comes in maintaining the enforcement through plan reviews and building inspection. This can be contracted through a neighboring Fire agency and is dependent on growth in the community. All

expenses related to such a program can be passed on to the end user in the form of development fees (standard for most jurisdictions).

Fire Protection Resources

Per Arizona revised statue the District has the ability to purchase or lease resources

Per ARS 48≈805 Fire District Powers and Duties. A Fire District through its board may:

2. Construct, purchase, lease, lease-purchase or otherwise acquire the following or any interest therein and, in connection with the construction or other acquisition, purchase, lease, lease-purchase or grant a lien on any or all of its present or future property, including:

(a) Apparatus, water and rescue equipment, including ambulances and equipment related to any of the foregoing.

(b) Land, buildings, equipment and furnishings to house equipment and personnel necessary or appropriate to carry out its purposes.

Currently the District has response agreement with the Fort McDowell Fire Department and also two 3000-gallon water storage tanks and two mobile floating fire pumps for on-site resources. After meeting with Chief Openshaw and driving through the community it is apparent that the single pressing issue is the ability to get water to the scene of a working fire. The following is a list of potential options and the benefits and drawbacks to each.

- Increase community water storage through additional tanks or the construction of one large storage tank. Following current IFC fire codes, the appropriate volume of water to suppress a residential fire is 450 gallons per minute for 2 hours, which would require storage or availability of approximately 55,000 gallons (see picture).

- To capitalize on this concept and secure a long-term community resource that benefits the Fire District and community and has the added potential to lower property insurance rates, securing a site in the near future would take advantage of the current land values and the availability of useable lots prior to in-fill. Of note the location of a tank storage system should take into account, terrain, location of neighbors, elevation, access to the roadway and the need for an all weather roadway, and finally, power for the well site.
- Establish afire hydrant system utilizing water from residential swimming pools in the community. Each hydrant would require its own setup possibly requiring its own pump and plumbing by tapping into the existing swimming pools filtration systems. The average residential pool holds between 15,000 and 30,000 gallons. In order to meet the IFC standards mentioned above it would only take 4 to 6 residents to agree to meet the 55,000-gallon threshold. A shortcoming to a project like this would be requiring individual contracts covering liability, rental and maintenance would have to be established with homeowners.

While both of the above concepts address water supply they still do not solve the issue of getting the water to the scene of the fire. Fort McDowell FD responding apparatus has a capacity of 500 gals which again is a very limited amount and at standard fire flow rates using 1 ¾ hand lines would result is less than 4 minutes of water flow.

The District purchases its own 2000-gallon to 3000-gallon Water Tender and lease it back to the Fort McDowell Fire Department as part of the annual agreement the District currently has.

Cost Factors related to fire suppression

- Purchasing a water system that would meet ISO and NFPA fire flow requirements for the community (450 gal/hour for two hours within 5 miles of all structures) would require a tank or tanks, with a capacity of 55,000 gallons plus all appropriate infrastructure and continued maintenance. The initial outlay for such a project could exceed $300,000 and potentially require land purchase and water well rights, again increasing costs. While adding such infrastructure to the community would be of overall benefit, this concept is probably beyond the scope of the Fire District at this point in time.
- To establish a hydrant system would require legal agreements with individual homeowners then construction of the plumbing and hydrant itself. Two options are available. A dry pipe system that would cost around $1000 not including installation, which will vary significantly home by home, or a wet pipe system with individual pumps per hydrant. A wet pipe system involves less disruption to the existing pool but hardware costs go to approximately $10,000 not including installation (see appendix for description)
- To best explain the price points in purchasing a water truck, the cost of the truck pictured is currently available for sale at a price of $35,000. It is a refurbished 1989 Pierce water tender that carries 2500 gallon and has a 1500 gpm fire pump. Purchase of a new 2500 gallon tender with similar specifications would cost between $150,000 and $200,000.

EXECUTIVE SUMMARY

The following is a list of recommended actions in order of most optimum to least optimum based on several factors, including cost, viability of implementation and the ability of the Fire District to maintain or improve community safety.

- Establish a voluntary annual smoke detector/battery replacement program that also includes fire safety education

- Research the viability of adopting a Fire District fire code that meets or exceeds the State's code, with an eye to ensuring future growth augments community fire safety infrastructure

- Research purchasing a fire tender (tanker) that can be leased back to the Fort McDowell Fire Department.

- Create a long-term plan on addressing a suitable water storage solution. Through the purchase of a water tank site and eventually an integrated tankage and hydrant system that would supply the capacity for sustained fire flow.