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# A Master Plan Study for the Carbondale & Rural Fire Protection District

July 2015

CARBONDALE & RURAL
CARBONDALE · REDSTONE · MARBLE
FIRE PROTECTION DISTRICT

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ALMONT ASSOCIATES

August 3, 2015

Carbondale & Rural Fire Protection District
c/o Gene Schilling, President of the Board
300 Meadowood Dr.
Carbondale, CO 81623

Dear Mr. Schilling:

Almont Associates is honored to present this Master Plan Study for the Carbondale & Rural Fire Protection District (District.) The entire staff of the District was very professional and cooperative. In every interaction with the staff of the District they continually demonstrated a high level of professionalism. Throughout the entire process they provided all of the requested information in a timely manner. It is very clear that the leadership of the District is competent and capable of leading the department into the future.

The District board members provided the Almont team with a clear understanding of the organizational picture and the desire for the service provided by the fire department. The Carbondale & Rural Protection District is truly an organization capable of meeting the needs of the citizens residing in the jurisdiction. This report highlights the positive attributes and addresses the areas of concern. The report makes numerous recommendations based on comparisons to recognized standards and common practices across the United States.

As we noted at the beginning of the relationship between the District and Almont, we stand ready to assist in any way necessary to successfully implement the results of this Master Plan. We feel that it is incumbent upon our staff to support the efforts of the District. In this we are different than many consultants. We truly believe that we are involved in a long-term relationship that goes far beyond the completion of this project. Thank you for providing Almont staff with the opportunity to serve you and the entire staff of the District.

Respectfully,

Tom Weber

Tom Weber
President

## Executive Summary

This document outlines a detailed report resulting from a community driven planning process for the Carbondale and Rural Fire Protection District (District.) This master planning process was conducted in an effort to insure an effective public outreach and public education process was completed in addition to this formal analysis of the Carbondale and Rural Fire Protection District service delivery system. The report has been developed with a review and subsequent summary in ten (10) areas within the District's operation. This report also concludes with a list of recommendations intended to serve as a guide in future decision-making for the District's board members and department leadership.

The staff and board members of Carbondale and Rural Fire Protection District have provided significant amounts of information and feedback as the Almont team requested data to analyze. This project was supported by information gathered from internal and external stakeholders through a variety of surveys and data collection instruments. Internally, staff and board members participated in direct interviews, SWOT sessions, and anonymous surveys. Externally, citizens and business owners completed surveys, participated in direct interviews, and attended "town hall" style meetings. Without this level of involvement on the part of the stakeholders, a quality assessment would not have been possible.

The ***Organizational Analysis and Overview*** section of this report provides an understanding of how the District was formed. The section also provides an overview of the department and District board's structure and operation. This assessment found that the District is a legally established organization and functions within its statutory areas of responsibility. However, there are some areas in which the department and board structure should be addressed.

The Planning Process section addresses the master planning process, stakeholder feedback, mission, vision, and values of the District. This section also outlines a set of strategic initiatives, goals, and objectives to support future efforts should the District choose to move toward international accreditation. These goals and objectives are supported by a series of recommendations located at the end of the document. As a result of this master planning process, the combined volunteer and career staff of the District intentionally chose to refine its mission statement and reduce its core values from a daunting list of 36 to an easily understood list of four (4).

The ***Inter-Agency and Governmental Agreements*** section reviewed the existing state of mutual aid agreements to which the District is a participant. This review identified areas to which the District

provides emergency response services into, but does not have agreements to formally provide services. Formalized and current mutual aid agreements are an essential part of operations as they provide clear delineation of the expectations and areas of responsibilities of each party and protection for the District.

The ***Organizational Development*** section provides an assessment of the departmental structure, board, and lines of communication within the District. This assessment resulted in key issues that must be addressed by the board to insure an effective operational environment within the District. In its current form, District board members are allowed to serve as volunteer firefighters which cause concern with the doctrine of incompatibility.

The ***Organizational Productivity*** section provides a comprehensive assessment of the District's revenue trends (taxes and ambulance fees) expenditure trends, and conducts economic modeling based upon possible improvements in capital replacement planning and staffing improvement. This section is intended to provide District board members and the public an understanding of the historical, current, and future economic impact associated with the operation of Carbondale and Rural Fire Protection District. It is clear in this section that the continued deficit spending pattern in which the department finds itself cannot continue without dire consequences in the near future. Historically, the District's leadership has made severe cuts to curtail spending. Further cuts will reduce the abilities of the department and negatively impact the delivery of service.

Like most departments within the United States, responses to medical emergencies account for a majority of the department's demand for service. As a result, the ***EMS Delivery*** section provides for an analysis of the District's quality assurance program, current level of response and coverage as well as projected future response and coverage. The District must further develop the quality assurance program to insure a proper level of care is provided for all paramedic level treatment and interventions. It also became apparent that the current medical director arrangement between the District and physician is being managed under a loosely developed arrangement. This relationship must be further developed and formalized to insure proper medical direction is always in place to support the District staff.

The ***Staffing*** section provides for an assessment of the District's operational, administrative, and volunteer structure and response capabilities. This section also addresses response times and trends within the community. It also takes into account trends occurring on the state and national level which

could impact the delivery of services within the District. An analysis of the District standard of response coverage is also provided within this section and provides some feedback as to potential improvements in the usage of volunteer personnel to improve the quality of care to patients experiencing medical emergencies. In conducting this analysis, it became clear that the department is currently using response time reports in an "average" reporting format and this should be changed to a "fractile" report. The average response time of the District is currently more than 9 minutes and 45 seconds (9:45.) The department's average response time is currently being negatively impacted by incidents that have very extended "task time" which result from being in rural parts of the District. Further impacting the average response time is the issue of call concurrency. Concurrent calls were realized in more than 12.84% of the District's EMS calls in 2011 and 18.66% in 2012. Concurrent calls are a critical area to address in delivering EMS services to the citizens of the District.

The ***Community Risk Reduction*** section addresses the department's activities relative to life safety, fire prevention, code enforcement, public education, and public information. Specifically, the District can realize significant gains in its fire prevention and code enforcement activities. As a department serving three (3) counties and two (2) municipalities, the District must address the issue of code enforcement and increase the amount of annual fire inspections currently being completed. Comprehensive risk reduction programs have the impact of reducing the community's risk which can further improve the ISO score of the District.

The ***Comparison to National Standards*** section provides a comparison of the Carbondale and Rural Fire Protection District operation to other nationally accepted standards. These standards include the National Fire Protection Association, Insurance Services Office, National Incident Management System, and Center for Public Safety Excellence. As a result of this comparison, it is understood that Carbondale and Rural Fire Protection District must determine whether it will choose to adhere to either NFPA 1710 or 1720. Since the department is a combination department, either of the standards could apply. Under the current ISO grading, Carbondale and Rural Fire Protection District was given a split rating of 5 /9. Relative to the 5 rating, Carbondale and Rural Fire Protection District is better than 56% of fire departments in the state of Colorado and 68% of fire departments in the United States.

The ***Maintenance of Facilities and Equipment*** section provides an assessment of the District facilities, apparatus, and equipment. This review identified the fact that a significant amount of the District's

equipment has approached its useful life-cycle and replacement must be addressed in the near future. As an example, many of the District's inventory of self-contained breathing apparatus bottles were beyond their accepted life-cycle and presented a significant liability for the District. During the development of this report the District made the decision to make an "emergency" purchase and replace seventy-two (72) bottles. The department's leadership has developed a capital replacement plan, but the plan must be formalized and adopted as part of the District's operation.

The ***Recommendations Matrix*** provides a list of 75 very specific recommendations to be undertaken by the District to support the previously identified strategic goals, objectives, and critical tasks. These recommendations are grouped under headings correlated to the "divisions" within the departmental structure to provide areas of responsibility for each recommendation. To insure these recommendations become a reality, each must be assigned to a single person responsible for implementation and become part of the formal communication process between department leadership and the board.

**Observations and Conclusions**

The board members and staff of Carbondale and Rural Fire Protection District have done yeoman's work in navigating the department through very difficult economic times. Where staffing and budget cuts have been made, staff members have stepped up to shoulder the additional work. In some cases, staff members are significantly overloaded and operating outside of their formal job descriptions in an effort to see the department succeed. If the District continues to move forward under its current arrangement, levels of service will decrease and impacts to the community will be realized. The department must be proactive in addressing issues, effective in communicating, diligent in the execution of their mission, and focused on the vision of the District.

Thomas Jefferson was quoted as saying that "government closest to the people works best." As a special District under Colorado law, one cannot get any closer to the people. The responsibility of the District is to develop its collective "story" into a format that can be easily communicated to the citizens of the District. Informed citizens will find it easier to determine the level of service they desire and support funding initiatives to operate at that level. Should the District not tell this story someone will, and the citizens will be left to make their own judgement accordingly.

The staff and leadership of Carbondale and Rural Fire Protection District are a group of capable professionals who can serve the citizens of the District well. It has been a pleasure for the Almont team to work with each of them on the development of this Master Plan.

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# 1.0 Carbondale & Rural Fire Protection District Emergency Delivery Services

## 1.1 Analysis Overview

After careful consideration of Carbondale's stated needs, Almont understood that CRFPD serves an area of slightly more than 300 sq. miles from five (5) stations. CRFPD functions as a full service emergency and non-emergency delivery system. The delivery of these services is accomplished under the direction of a board of directors and the leadership of a fire chief. The department is structured using a combination of full time and volunteer personnel.

Almont understood that CRFPD was in the final year of a previously adopted ten (10) year master plan. That master plan served to focus the organization on several areas of concern and provided a general direction to manage growing challenges within the jurisdiction. The District has made its desires clear in maintaining the services that use volunteers, and has gone to great lengths to communicate the value volunteers bring to the community.

It was understood that the Board of Directors for CRFPD and the leadership of the department desire to conduct a community driven planning process. Almont immediately began the work of data collection and analysis by working with CRFPD staff to collect relevant data. Concurrently with this data collection and synthesis process on the part of Almont, Mark Chain and associates began the process of conducting community and neighborhood based meetings in an effort to gather feedback from citizens.

On March 9th, Almont conducted a phone conference with members of the "steering committee" to begin the process of conducting the master planning process and outlining the responsibilities of the two consultants whose services were retained to develop and deliver the master plan. In the ensuing weeks a variety of conference calls were conducted as CRFPD staff began to deliver datasets requested by Almont.

On April 22nd, Almont staff conducted an "onsite" visit to further gather input from internal stakeholders. This process consisted of one-on-one interviews with board members, leadership team, career staff, and volunteers. The Almont team also participated in an external stakeholders meeting.

In addition to the direct interviews with board members, staff, and citizens, a series of survey instruments were administered to internal and external stakeholders. The data and information collected as part of these surveys was used as a basis for developing this master plan.

As part of the master planning process, CRFPD has identified its core services provided to the citizens and visitors of its jurisdiction. The District has worked to further understand and communicate the external influences on the organization, as well as the challenges associated with delivering these services. The needs of the District include developing a series of short-term, mid-term, and long range plans. These plans will serve as guides towards service delivery, program implementation, and financial sustainability and are paramount to the success of the master plan, as well as the welfare of the community it serves. The citizens served by CRFPD have invested their respective tax dollars with the department and expect a level of return on that investment. The Board of Directors and leadership of

CRFPD have a responsibility to provide that return on investment and effectively communicate what that level of return means to the citizens.

## 1.2 Organizational History

The Carbondale Rural and Fire Protection District was founded in 1953 as an all-volunteer fire department and remained as such until 1980 when the first paid fire chief was hired to lead the organization. The District began providing modern ambulance service with volunteer EMT-Basics in 1978. In the early 1980s, the Colorado EMT-Intermediate certification program was institutionalized and some Carbondale volunteers began the slow, methodical change to providing Advanced Life Support Services to the community. Dr. Mike Stahl was recruited as the District's Physician Advisor in the early 1980s and remains in that position today. Currently, the District operates four ambulances staffed and equipped to Advanced Life Support standards including at least one paramedic, or EMT – Intermediate (EMT-I) on every emergency call. Over the years, the ever-increasing demand and expectations of the public for advanced level emergency medical services has driven the need for more career EMTs and Paramedics at CRFPD. The same demands for service have driven the need for additional career fire fighter positions at CRFPD. All District operations are managed by a professional, career, Deputy Chief in charge of operations. Additionally, the administrative and maintenance demands on the District have driven the need for additional professional positions, including a full time fire marshal, training coordinator, and maintenance coordinator. Currently the District supports 18 full time positions and 65 volunteer fire fighters and EMTs. Throughout its history, the CRFPD has maintained its culture of "The Volunteer Spirit" and heavily depends on the community volunteers to deliver a high level of fire protection and emergency medical services to the community.

## 1.3 Legal and Operational Authority

The Carbondale Rural and Fire Protection District was established on January 10, 1955, as a quasi-municipal corporation and is a political subdivision of the state of Colorado. The District was created by court order to serve areas of Gunnison, Garfield, and Pitkin Counties (figure 1.) As a political subdivision, Carbondale Rural and Fire Protection District is afforded the governing authorities and responsibilities authorized under Title 32 Article 1, Colorado Revised Statutes. Because of its status as a political subdivision of the state Carbondale Rural and Fire Protection District, it is required to provide reports to other state agencies.

As a special District, Carbondale and Rural Fire Protection District is not unique. According to the Special District Association of Colorado, in 2008 there existed 253 Special Districts in the state. Special Districts are believed to be an effective and efficient methodology by which to fund services without straining other types of infrastructure. A unique benefit of the special District is the ability of the taxpayer to determine the specific levels of service provided by the District and fund those services accordingly.

Under Colorado law, counties are limited in the services it can provide (Colorado Department of Local Affairs). More often than not, these special Districts are formed to provide services to unincorporated

areas of a county. In addition to fire protection, other special Districts can be formed to provide the following services;

- Ambulance
- Health Service
- Sanitation
- Water
- Parks and Recreation
- Metropolitan
- Water and Sanitation
- Health Assurance

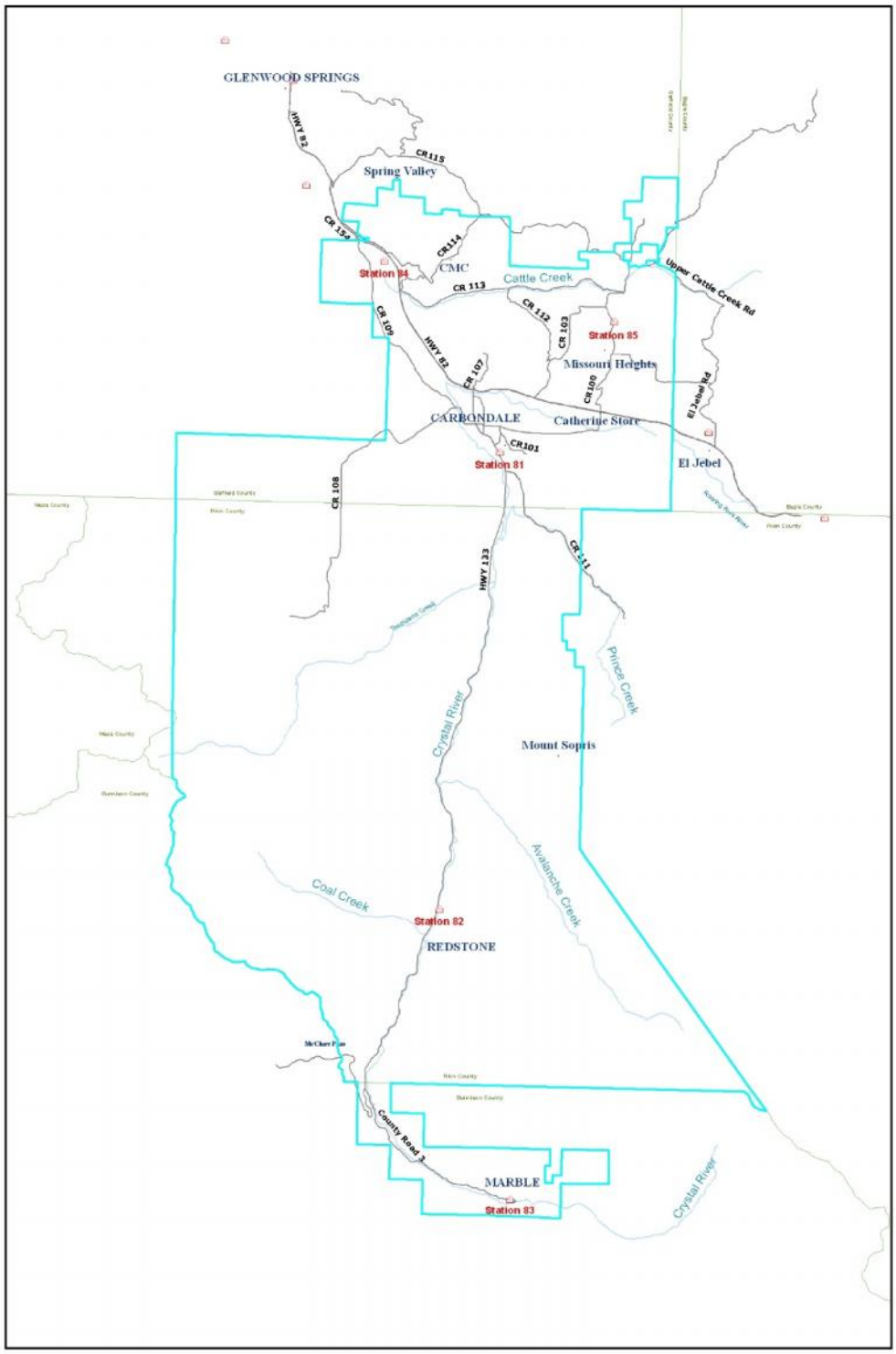



Figure 1- Tri - County Area / CRFPD Jurisdiction

# 2.0 Planning

## 2.1 Master Planning

### 2.1.1 Strategic Plan

The Center for Public Safety of Excellence's Commission of Fire Accreditation International (CFAI) defines strategic planning as "… a process by which an organization envisions its short-term future and conducts the necessary analysis to effectively plan for that future." It can be further defined as the process by which members of an organization determine what it intends to be in the future and how it will get there. To put it another way, they develop a vision for the organization's future and determine the necessary priorities, procedures, and operations (strategies) to achieve that vision.

Of far greater importance is the ability to swiftly revise tactics to meet changing requirements of constantly moving, and at times, shrinking revenue sources. Success in today's environment requires District leaders to have the ability to create a vision of the organization's future direction, as well as, identify a plan to get there. Given the contraction and downsizing of the economy, organizations have been forced to rethink their strategies related to service levels and delivery. The most successful strategies have been ones with specific plans and implemented with employee involvement.

A strategic planning process that includes development of a plan with continuous monitoring, revision, and updating will create an environment that prepares a District for adjusting to difficult times while maintaining its ability to provide services. The level of service that is provided may not be the same as before, but the environment that we are now dealing with could very well establish a new set of expectations and redefine how services are provided. Strategic planning is a process by which adapting to changing environments is manageable with participation from the entire organization. It also provides a format for conducting a visionary approach to service delivery and allows an organization to be prepared for anticipated changes or to even modify its service delivery before change is forced upon it.

The very nature of a strategic planning process allows for flexibility to an ever-changing environment. This plan allows for the prioritization of work on organizational goals and objectives, while incorporating critical tasks into the annual budget process. The plan will serve as a reference and a means to measure progress throughout the upcoming years. Peter F. Drucker, professor of Social Science and Management, says, "*What we have to do today is to be ready for an uncertain tomorrow*."

### 2.1.2 Strategic Planning Process

The process included an internal environmental scan; prioritization of the scan results; a one-day planning session, which included a SWOT analysis; review of the strategic planning process; review of the environmental scan; review of the mission, values, and vision of the department. These sessions were conducted in two different time periods to allow as many members as

possible to participate. The initial meeting in conducting the SWOT was held immediately following a shift change to improve the possibilities of career shift staff being able to attend. In this meeting nearly all of the shift personnel attended and actively participated. The second meeting in the SWOT was held in the evening to allow for a higher participation rate relative to volunteer personnel. Personnel were allowed to attend either of these meetings based upon their personal schedules and input from participants in both sessions was high. In addition, the anonymous surveys of these two groups resulted in a significant number being returned and the information gathered was used as part of the SWOT sessions.

## 2.2 Stakeholder Feedback

### 2.2.1 Environmental Scan - Internal Stakeholder

As part of the environmental scan with the internal stakeholders, an anonymous survey was presented to the District's membership, which included three open-ended questions:

1. What is working well?
2. What is not working well?
3. What would you like to see change or incorporate in the future?

Data from 29 surveys were compiled into a spreadsheet, organized, and categorized. Categories for each question are listed below in priority order. The priority was determined by the number of members that mentioned this topic. Topics only mentioned once were not included in the prioritization analysis.

### 2.2.2 What's working well?

1. Good people/strong operations
2. Support from chiefs, board, leadership
3. Training
4. Volunteer staff willing/eager
5. Facilities / equipment

Other topics mentioned once include: pay/benefits, relationships with local, state, federal agencies and human resource management.

### 2.2.3 What's not working well?

1. Volunteer Participation/Certifications/Standards
2. Training/Training Attendance
3. Finances
4. Compensation/Benefits
5. Board Unification/Direction

6. Management Staff /Leadership Style
7. Turn Over/Retention
8. Internal Communications
9. Equipment/Bunker Gear
10. Public Outreach

Other topics mentioned once include: response times, communications system, live in residents issues, lack of communication, lack of professionalism and uniforms.

### 2.2.4 What would you like to see change or incorporate in the future?

1. Community Outreach
2. Fiscal Management/Revenue
3. More Staffing
4. Training (proper, increased, expanded)
5. Leadership Changes
6. Equipment/facility replacement/improvement
7. Better pay/benefits

Other topics mentioned once include: accountability, stricter guidelines, clear direction from board, additional station, on-call chief system, EMS coordinator, improved radio system, wildland fire preparation/training, NFPA compliance, pro-activeness, marketing and improved internal communication.

### 2.2.5 Environmental Scan - External Stakeholders

During the consulting firm selection process, CRFPD awarded the community feedback portion of the planning work to another consulting company. The process used by Almont Associates involves the validation of internal stakeholder work with external stakeholder data. In an effort to get applicable external stakeholder data, Almont consultants asked the Fire Chief and staff to conduct some feedback sessions with community groups in the area. One of the most effective external data collection methods is to meet citizens were they live, work, and play. Data was collected on external stakeholder strengths, concerns, expectations, and response times. The below tables (1 – 3) represent the data collected from the external stakeholder groups.

| Areas of Strength (Pride) |
|---|
| Great service |
| The District provides excellent service now |
| The volunteerism in the valley is something to be proud of |
| Provides fire alarm and fire sprinkler inspections on new and remodeled buildings in town |
| 24 hour coverage of Carbondale area |
| Fire Chief does an excellence job and interacts with surrounding departments well |
| New equipment |
| Always volunteering at events |
| Personnel & care they take |
| Assist recreation department (hosing down tennis courts, flooding ice rinks, provide medical standby at rodeo) |
| Very professional and present themselves at a high level |
| Response time within the town limits is excellent |
| Professional |
| Response times |
| Wide area of services |
| Wildfire capabilities |
| Staff & volunteer longevity |
| Fire District participates in safety training with town staff |
| The fire District has been willing to participate in town planning (infrastructure, development reviews) |
| Excellent training |
| Work with areas throughout valley |
| Community education |
| Knowing some employees-I know they take pride! |
| Never had any issues - proud of that |
| Quick in town! |
| Fast response |
| Training |
| Great fire employees |
| We need to do to fast, progressive growth instead of the old hippy-oriented past. Have a town manager who takes charge from the town council |
| In my experience everything seems good |
| Because of you our fire insurance is lower |
| Doing much better job communicating this year |

| |
|---|
| The presence in our community from a visibility and response time commendation to a special effort in educating our community and children on fire and safety prevention |
| Recently moved to valley, so can't speak on this yet |
| Don't know |
| Very pleased with paramedic response to my house. People were well trained and very pleasant & helpful. Also in ambulance ride to Valley View. |
| Timely response to assisted living facilities |
| Competent, friendly toward patients |
| Having local residences of Redstone and Marble on staff |
| Frequent inquiries from staff personnel asking how District can be more proactive |
| Willingness to help with community events (July 4th) |
| Smoke patrol in summer is great |
| Appreciate presence at RCA events like July 4th Grand Illumination |
| Nice to have station in Redstone |
| Not much personal experience with service but have the impression that we have good people responding to calls |
| Good volunteer base, service and equipment |

Table 1 - Areas of Strength (Pride)

| Areas of Concern |
|---|
| Limited access out of Carbondale if weather/fire arises |
| Lack of regular business fire inspectors |
| Perception of “good ole boy” network |
| Financial health / lack of funding |
| Poor development review and lack of impact fee |
| Response time for outer areas |
| Is one ambulance enough? |
| Enough personnel that are EMT - Paramedic |
| As a resident of Swiss Village near Redstone, I worry about response time. |
| I would like to see defibs in communities that are far away - with training. |
| Education of what you do to the community |
| Full disclosure of what happens with the board |
| Need new blood or a refreshment to the board |
| Need transparency in budget and spending |
| Fast Response |
| Training / Keep training levels |
| Ability to access rural areas timely |
| Can't think of any |
| Communication/letting us know what you have done for us - it is very hard to brag about how great of a job you are doing! Let us know! |
| Funding for rural fire prevention |
| Funding for ambulance for quick response time |
| Possible lack of required equipment required to keep current |
| Hope District is proactive in being prepared for fire risk resulting from climate change/drought/low snowpack, etc. |
| Stay fiscally sound |
| Ability to handle forest fire in the Crystal River Valley area |
| Coordination with USFS |
| CRFPD belittling staff at assisted living facilities for calling 911 on certain patients |
| Last requested increase was large with no sunset or review |
| Old addition of fire code. Fire code should be coordinated with building code. |
| I am concerned with an increase in taxes. Our tax burden is already outrageous. |
| The District does not have current IGA with Carbondale. Need yearly inspections of commercial buildings. Town of Carbondale does not have expertise on staff to adopt and enforce code. |

Table 2 - Areas of Concern

| Customer Expectations |
| --- |
| Humble, prompt, sincere service, well trained, and properly equipped |
| Thankfully, I have never had to use District services. District staff is excellent to work with. |
| Development review of projects to include hydrants, fire flow, etc. requirements provided to town in a report. |
| Reminder to community as to what the District does and how it is funded - just an idea |
| Evacuation plan? Where do we go? |
| Quick response time |
| Appropriate personnel for the situation |
| Educational piece - because this is a diverse area |
| Quick response times |
| Staff/volunteers that can handle emergency situations |
| Better education of how good our department is to the community |
| Top service 911 |
| Prompt response |
| Trust |
| Quick, friendly, experienced |
| Fast response |
| Training |
| I have needed your help 4 times in the 36 years I have been in Carbondale - all were done with grace, care, and knowledge of what is needed to be done. Thank you! |
| Adopt a current IGA and fire code and perform maintenance inspection in the town |
| Quick response time |
| Preventive fire in rural areas |
| Full and rapid coverage and response time whether its fire or ambulance |
| Up-to-date and current amount of equipment to service our community properly |
| An adequate budget to provide amazing fire & ambulance services |
| Fast response times |
| Well-trained professionals w/ continuing education to stay up-to-date on skills etc. |
| Arrive on scene in timely manner |
| Treat residence of assisted living facilities like they are citizens and part of community |

| |
|---|
| Staff Redstone station with medical personnel 24/7 |
| Arriving on scene as quickly as possible |
| Having correct competencies for the job |
| Acting in a professional manner |
| Fast reliable fire and ambulance service without huge administration |

Table 3 - Customer Expectations

External stakeholders were asked how fast they expect personnel and equipment to arrive on scene of a medical emergency. Figure 2 - Medical Response Time Analysis below demonstrates the analysis of the response time expectations:

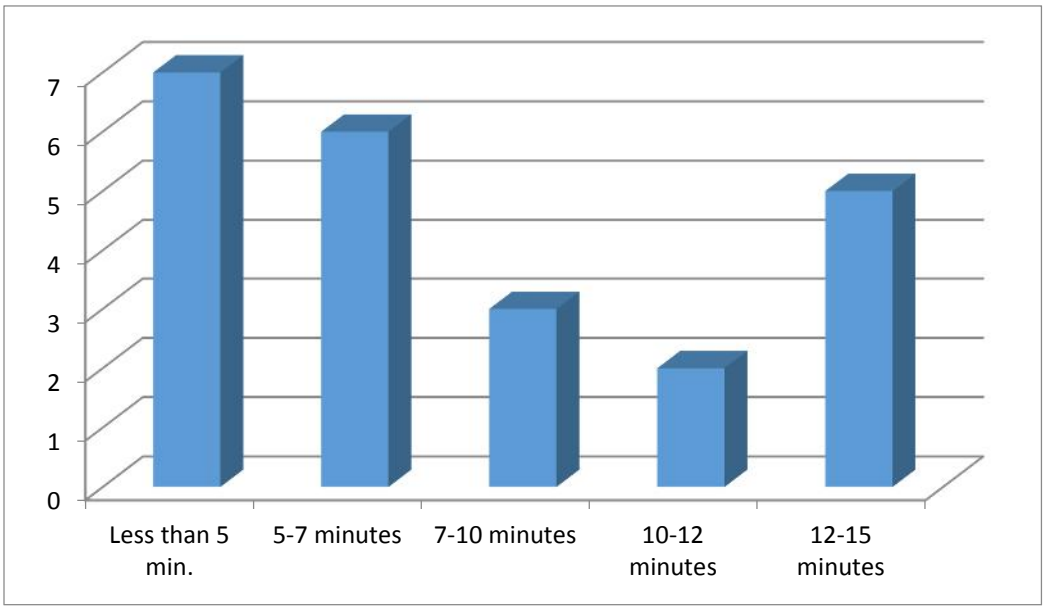



Figure 2 - Medical Response Time Analysis

External stakeholders were also asked how fast they expect personnel and equipment to arrive on scene of a fire or rescue emergency. Figure 3 - Fire Response Time Analysis below demonstrates the response time expectations:

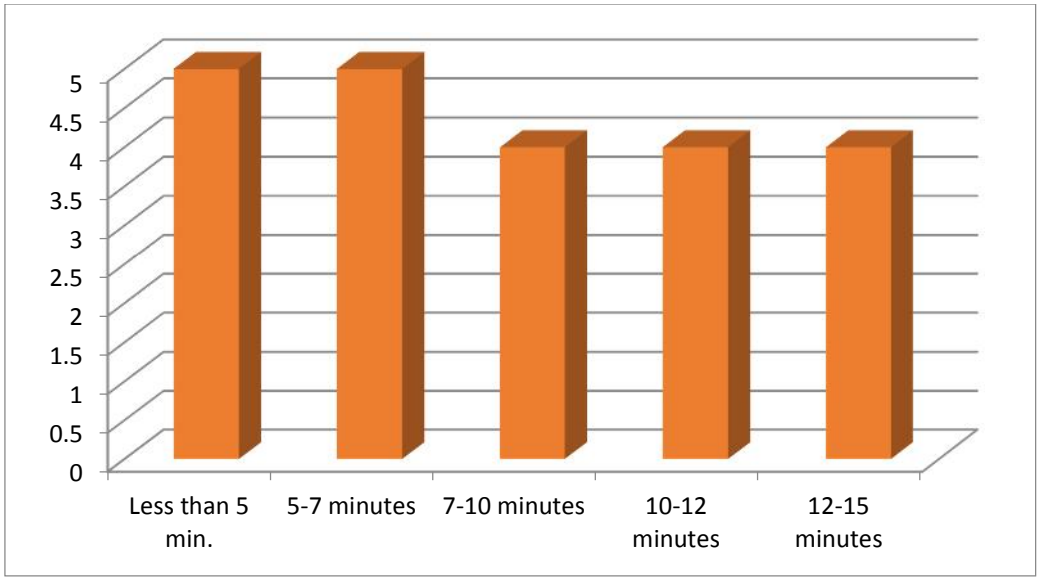



Figure 3 - Fire Response Time Analysis

### 2.2.6 External Stakeholders Data Facts & Observations

1. The anonymous data collection process utilized three (3) purposely vague questions about the strengths, concerns, and expectations of CRFPD. This process allows for participants to document the top items of each category without restriction on question design or facilitation. This produces a true unedited opportunity for feedback.
2. External stakeholder comments are a reflection of their perception or understanding about the current status and services of CRFPD. The data indicates that certain stakeholder's perception is not based on accurate information about the service that is provided by the department.
3. While this amount of data collected is not a statistically valid sample of the District stakeholders, it represents a snapshot of feedback that can validate internal work and guide public outreach efforts.
4. The feedback obtained on response time expectation for medical and fire response is significantly lower than what the department is capable of providing in many parts of the District response area.
5. One (1) external stakeholder provided a split response time for the Town of Carbondale and rural areas. While not able to show effectively in the charts above, this approach is an appropriate methodology to communicate response time baselines and benchmarks.

## 2.3 Strategic Plan Process

### 2.3.1 SWOT Analysis

The Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis is a vital exercise for the purposes of identifying a game plan for future organizational improvement. This process is challenging because it requires the internal stakeholders to analyze with a critical eye the organization as a whole. The identification of these four elements provides the foundation for the identification of service gaps and critical issues utilized when addressing and identifying goals and objectives.

During the site visit, two sessions were held with internal stakeholders. One session included volunteer members and the other paid (non-administrative) members. During these sessions, data collected through the anonymous survey was reviewed. Participants were provided with the opportunity to comment on the results of the survey and make any general observations. In large part, the internal stakeholders group did not find the results of the survey surprising.

Following the review of the collected data, internal stakeholders were asked to participate in a facilitated exercise to complete a SWOT analysis. Participants were encouraged to contribute in the process and add to the data collected in the survey. The results of the SWOT analysis are as follows:

### 2.3.2 Strengths

| | |
|---|---|
| We dodge bullets well (limited resources available) | Fires get put out and patients get to hospital |
| Do a good job operationally | When people respond they do the best they can do |
| Paid staff appreciates volunteers on a personal level | One of the few Districts that allow volunteers on the District |

Table 4 – Strengths

### 2.3.3 Weakness

| | |
|---|---|
| Paid staff doesn't care about the knowledge, skills, and abilities of volunteer staff (has gotten better) | Advanced training affiliation with medical centers |
| Some policies are too rigid | Task book processes for volunteers. Handed out but not followed through by administration |
| Support from leadership is individualistic | Need an inclusive decision-making process. |
| Input is taken but no sincerity in the feedback that is given to admin | Conversations tend to be monologue and not dialogue |

Table 5 – Weaknesses

### 2.3.4 Opportunities

| | |
|---|---|
| More deployments for hospital, tech rescue, wild land | Possible international accreditation |
| Building inspections in older facilities | Training program that refreshes basic skills |
| Bring in outside trainers | Send people to train-the-trainer programs |
| Use training facility to bring regional training into Carbondale | Build relationships with contractors to identify "scrapes" of old buildings |
| Leverage training with other entities | Communicate and support attendance at training opportunities outside of the agency |

Table 6 - Opportunities

### 2.3.5 Threats

| | |
|---|---|
| Negative press | PIO function is not assigned not identified function. Current person with responsibility has many other duties. |
| Master plan not being implemented and measured. | Retention of talent |
| Unwillingness to change | Lack of volunteers |
| Cost of living to move into Carbondale | Public communications – they don't understand the current capabilities of the District |
| Militant (angry) resistance to change | Ideas are presented but 99% of the time blown off |

Table 7 - Threats

## 2.4 Mission Statement

The purpose of the Mission Statement is to answer the following questions about the agency:

- Who are we?
- Why do we exist?
- What do we do?
- Why do we do it?
- For whom?

The District had an existing mission statement used throughout the District and posted on the website.

> *To serve the communities within the Carbondale & Rural Fire Protection District and help create a safer environment through the provision of quality emergency services, public education, and prevention programs with a volunteer force supported by a paid staff.*

During the internal stakeholders meetings, a discussion was facilitated on the content, representation, and application of the mission statement. Feedback was obtained regarding various components and wording of the existing mission statement. Following the internal stakeholder sessions, it was clear to a majority of the agency's members that it was appropriate to modify the mission statement to be more clear and representative of the agency's existence. Several draft versions of the mission statement were created and provided to the agency for consideration. With the agency's approval the following modified mission statement was created:

**To serve the communities within the Carbondale & Rural Fire Protection District and help create a safer environment through the provision of quality emergency services, public education, and prevention programs with a professional dedicated force of volunteers and paid staff.**

## 2.5 Values

The District also had an existing list of values and guiding words. This list was created during the last master planning process that was conducted with internal staff. This list included the following:

| | | |
|---|---|---|
| Integrity | Safety | Honesty |
| Diligence | Ethics | Pride |
| Commitment | Flexibility | Trust |
| Respect | Enthusiasm | Caring |
| Tolerance | Community | Adaptability |
| Intuition | Open-Mindedness | Loving |
| Teamwork | Service | Loyalty |
| Professionalism | Perseverance | Courage |
| Kindness | Determination | Equality |
| Humor | Knowledge | Compassion |
| Patience | Excellence | Fairness |
| Creativity | Supportive | Change |

An exercise was facilitated with internal stakeholders in an effort to identify core values. The results of this exercise were tallied and organized which produced four values that internal stakeholders felt best represented the foundational behavior expected of all members of the District. These values should represent the culture that prevails in the District's everyday decision making, operations, and character.

**Integrity**

**Respect**

**Honesty**

**Professionalism**

## 2.6 Strategies / Goals / Objectives

| Strategy 1 – Governance and Administration | |
|---|---|
| **Goal 1.1 – Exercise responsibility for the quality of the District through an organized system of planning, staffing, directing, coordinating, budgeting, and evaluation.** | |
| Objective 1.1.1 – Keep the CRFPD Board of Directors informed on all matters of significance by attending regular meetings, reporting significant events, and presenting evidence based data that will assist the Board with policy level decisions. | Ongoing |
| Objective 1.1.2 – Comply with the legal requirements of local, state, and federal governments within specified due dates 100% of the time | Ongoing |
| Objective 1.1.3 – Review and revise, as necessary, existing mutual aid agreement to include all mutual aid agreements annually. | Ongoing |
| Objective 1.1.4 – Review annually and / or establish automatic aid agreements to insure maximum credit for equipment / staffing response for maximum ISO public protection classification score. | Ongoing |
| **Goal 1.2 – Communicate and deploy the District values, performance expectations, and a focus on creating and balancing value for customers and other stakeholders.** | |
| Objectives 1.2.1 – Review annually, update as needed, and publish all District policies to ensure accuracy and effectiveness. | January 2016 & Ongoing |
| Objective 1.2.2 – Design and publish an accurate organization chart with associated job descriptions that accurately reflect positional responsibilities and reporting structure. | January 2016 |
| Objective 1.2.3 – Research and implement a format and method of timely communication of important District events and performance to all District Board Members, volunteers, and support staff. | March 2016 |
| Objective 1.2.4 – Conduct a job task analysis of all positions within the department and adjust all job descriptions accordingly. | January 2017 |
| **Goal 1.3 – Maintain relationships that demonstrate public responsibility and good citizenship that will, among other things, help anticipate public concerns related to the services and operations of the District.** | |

| | |
|---|---|
| Objective 1.3.1 – Identify and participate in or support community programs and/or associations that are aligned with the mission of the District (i.e. Rotary, municipal committees, etc.) | July 2016 & Ongoing |
| Objective 1.3.2 – Formalize the use of a Public Information Officer position to ensure adequate communication with external stakeholders and community partners. | January 2016 |
| **Goal 1.4 – Provide leadership that projects a culture of continuous evaluation and improvement.** | |
| Objective 1.4.1 – Establish an Officer Development program that provides administrative and soft skill (i.e., leadership, communication, and conflict resolution) training needed for personnel development and succession planning. | January 2017 |
| Objective 1.4.2 – Conduct a self-assessment process in support of potentially earning international accreditation through the Center for Public Safety Excellence (CPSE). | July 2017 |

| Strategy 2 – Assessment and Planning | |
|---|---|
| **Goal 2.1 – Identify the community's emergency service needs and establish strategies, goals and objectives, standards of response coverage, and key performance indicators of quality.** | |
| Objective 2.1.1 – Utilize a pre-fire planning process to analyze service area/population density for the purpose of developing total response time standards. | July 2016 |
| Objective 2.1.2 – Create a formal Standard of Cover document that defines resources, deployment methodologies, and establishes baseline and benchmark response times for the District. | July 2017 |
| **Goal 2.2 – Implement the strategic planning processes to ensure that relevant data and information is collected and analyzed to ensure that customer needs/expectations are being met.** | |
| Objective 2.2.1 – Share and publish strategic goals and progress to internal and external stakeholders while encouraging accountability | March 2016 & Ongoing |

| | |
|---|---|
| and transparency. | |
| Objective 2.2.2 – Establish a strategic planning committee made up of a cross-section of internal and external stakeholders to monitor the implementation and reporting of the various strategic goals. | October 2016 |

| Strategy 3 – Goals and Objectives | |
|---|---|
| **Goal 3.1 – Establish an Annual Action Plan to implement short-range goals and tasks that are consistent with the Strategic Plan to direct priorities of operational programs and support services.** | |
| Objective 3.1.1 – Evaluate, and modify if necessary, the goals and objectives of the Annual Action Plan to ensure that they are current and consistent with the Mission, Vision, and Strategic Plan of the District. | January 2016 & Ongoing |

| Strategy 4 – Financial Resources | |
|---|---|
| **Goal 4.1 – Develop and implement a Capital Improvement Plan based on current and anticipated programs, services, and revenues.** | |
| Objective 4.1.1 – Plan for new additional capital assets required to meet the demands of a growing District and identify the proper revenue sources. | January 2016 |
| Objective 4.1.2 – Establish funding requirements, revenue sources, and schedules for the repair and replacement of capital assets as necessary to meet the mission of the District. | January 2017 |
| Objective 4.1.3 – Establish an appropriate level of contingency funds for operating and capital expenditures. | July 2016 |

| Strategy 5 – Programs | |
|---|---|
| **Goal 5.1 – Provide services, activities, and responses that meet all quality baselines and approach or exceed established benchmarks.** | |
| Objective 5.1.1 – Meet all deployment objectives with 90% reliability for all types of emergency incidents, as outlined in a Standard of Cover document. | Ongoing |
| Objective 5.1.2 – Establish a staffing plan with triggers to hire additional staff as needed for emergency operations, fire prevention, training, and public education. | January 2017 & Ongoing |
| Objective 5.1.3 – Complete annual inspection of all business occupancies | January 2018 & Ongoing |
| Objective 5.1.4 – Utilize existing technology to improve data collection for the fire inspection program | July 2016 |
| Objective 5.1.5 – Evaluate and refine as necessary public education and prevention programs that reduce the incidence of personal injury and property loss with key performance indicators to measure success of these programs | April 2017 & Ongoing |
| Objective 5.1.6 – Evaluate and implement SMART performance measures for the improvement of fire data collection and analysis to include: securing utilities, primary search, and water on fire, fire controlled | April 2018 |
| Objective 5.1.7– Continue to promote community AED and CPR programs so that all communities have sufficient resources (equipment and trained personnel) to implement emergency cardiac care as soon as possible. | Ongoing |
| Objective 5.1.8– Establish CERT and/or Fire Corp programs to utilize volunteers that are unable to maintain active firefighter training requirements. | Ongoing |
| Objective 5.1.9 – Evaluate and refine volunteer policy, processes, and performance measures to ensure adequate training/preparedness. | September 2017 |

| Strategy 6 – Physical Resources | |
|---|---|
| **Goal 6.1 – Plan, design, maintain, and manage physical resources (i.e. facilities, apparatus, and capital assets) to ensure that they are adequate to meet the goals and objectives of the District.** | |
| Objective 6.1.1 – Establish and utilize a cross-functional team to develop recommendations for design specifications of physical resources and capital assets. | April 2017 |
| Objective 6.1.2 – Research the feasibility of the construction and staffing of a vehicle maintenance facility on District owned property contiguous with CRFPD headquarters. | July 2016 |
| Objective 6.1.4 – Assist with the design and oversight of the construction of new fire stations as necessary to meet increasing demands for service. | Ongoing |
| Objective 6.1.5 – Evaluate and refine as necessary inventory and maintenance processes/systems integrated into the Fire RMS records management system, which will ensure that all apparatus and personnel are equipped and supplied to meet the goals and objectives of the District. | July 2017 |

| Strategy 7 – Human Resources | |
|---|---|
| **Goal 7.1 – Develop and maintain human resource processes for work and job design, recognition, career progression, recruitment, and diversity that will encourage and enable District members to achieve high performance in a healthy, safe, and satisfying work environment.** | |
| Objective 7.1.3 – Research and implement a succession development process that includes training to ensure quality sustainment. | July 2017 |
| Objective 7.1.4 – Participate with HR to maintain job descriptions that are current and accurate. | Ongoing |

| | |
|---|---|
| Objective 7.1.6 – Implement a wellness/fitness process to ensure that they align with the findings and recommendations of the IAFC/IAFF plan. | January 2018 |

| Strategy 8 – Training and Competency | |
|---|---|
| **Goal 8.1 – Provide staff, resources, and programs in adherence with state and national emergency service professional standards to encourage and stimulate competency, innovation, and increased effectiveness.** | |
| Objective 8.1.1 – Coordinate and schedule training for department utilizing performance data from quality assurance and improvement analysis. | Ongoing |
| Objective 8.1.2 – Develop and implement an Officer Development Program that includes technical, administrative, and soft skills competencies. | January 2017 |
| Objective 8.1.3 – Explore and implement clinical medical training at local medical facilities and offices. | October 2016 |
| Objective 8.1.4 – Provide for training to be recorded, so that all personnel can view the briefings and training sessions. | January 2017 |

| Strategy 9 – Essential Resources | |
|---|---|
| **Goal 9.1 – Maintain or improve as necessary water supply, radio communications, and administrative support/office services so that they are reliable and able to meet the demands of major operations, including command and control, during emergency operations.** | |
| Objective 9.1.1 – Maintain hydrant maintenance and inspection program. | Ongoing |
| Objective 9.1.2 – Explore and implement the feasibility of water maintenance personnel entering hydrant data into the FireRMS. | July 2017 |

| | |
|---|---|
| system when repair, replacement, or outages occur. | |
| Objective 9.1.3 – Continue to work with local jurisdictions to upgrade and improve radio communications throughout the District. | Ongoing |
| Objective 9.1.4 – Research and implement the use of Emergency Medical Dispatch (EMD) procedures at dispatch centers. | October 2017 |
| Objective 9.1.5 – Develop a tiered response system based on EMD levels and risk analysis of emergency responses. | January 2018 |
| Objective 9.1.6 – Continue to evaluate, analyze, and refine a paperless work environment where possible. | Ongoing |
| Objective 9.1.7 – Research and evaluate IT hardware/software tools to improve information management. | Ongoing |

## Strategy 10 – External Systems and Relationships

| | |
|---|---|
| **Goal 10.1 – Foster and maintain relationships and agreements with external agencies and systems that affect or influence the mission, operations, or cost effectiveness of the District.** | |
| Objective 10.1 – Maintain active participation in various associations such as Fire Chiefs' Associations, CPSE, local EMS interagency groups, etc. | Ongoing |
| Objective 10.2 – Review and maintain current agreements to ensure they remain current and applicable to the mission of CRFPD (inter local, mutual aid, automatic aid, etc.) | Ongoing |

## Strategy 11 – Customer and Market Focus

| | |
|---|---|
| **Goal 11.1 – Research and implement processes to determine requirements, expectations, and preferences of customers and markets to ensure the relevance of current services and to develop new opportunities to meet and exceed the expectations of the community.** | |
| Objective 11.1.1 – Develop and implement a customer satisfaction survey. | July 2017 |

| | |
|---|---|
| Objective 11.1.2 – Establish annual meeting(s) for stakeholders to review and revise, when necessary, the CRFPD Strategic Plan. | January 2017 |
| Objective 11.1.3 – Research and implement a complaint management policy. | July 2017 |
| Objective 11.1.4 – Research and refine the process to communicate customer feedback to CRFPD personnel. | December 2016 |
| Objective 11.1.5 – Improve participation in opportunities to interact with the community. | Ongoing |
| Objective 11.1.6 – Develop and implement a Marketing Plan. | March 2017 |

*** The dates assigned to the above objectives are estimated completion dates. These dates do not take into account funding and resource availability. Actual completion dates for selected objectives should be established during an annual goal setting session and incorporated into the budgeting process.

## 2.7 Vision

In 2021, CRFPD will be an agency that delivers professional emergency services through effective leadership, risk reduction, self-assessment, financial management, and strong relationships with internal and external stakeholders. With a focus on analysis and planning, CRFPD will deliver high quality fire and EMS services that meet established baselines and approach or exceed established benchmarks. CRFPD will have a diverse workforce of volunteer and career personnel that are motivated, trained, and qualified to deliver exceptional service to the businesses, citizens, and visitors of the District.

CRFPD will maintain a healthy, safe, and satisfying work environment through job function analysis, recognition, career progression, recruitment, and retention. CRFPD will be compliant with local, state, and national standards to ensure efficiency and safety in all aspects of operations. Essential resources including equipment, apparatus, and facilities will be adequate to support the needs of District. Through constant improvement, communication, transparency, and performance, CRFPD will be an organization in which others benchmark their efforts.

## 2.8 Plan Implementation and Success

Provided the community-driven strategic planning process is kept dynamic and supported by effective leadership and active participation, it will be a considerable opportunity to unify internal and external stakeholders through a jointly developed understanding of organizational direction; how all vested

parties will work to achieve the mission, goals, and vision; and how the organization will measure and be accountable for its progress and successes.[1]

CRFPD must utilize this plan to focus resources, measure success, and ultimately improve service delivery to its customers. Robert Collier, one of America's original success authors, said, "Success is the sum of small efforts, repeated day in and day out." While this strategic plan provides the road map to accomplishing the vision of CRFPD, it will be the commitment of the customers, members and elected officials that make the journey successful.

## 2.9 Community Profile

CRFPD covers approximately 300 square miles and includes parts of Garfield, Pitkin and Gunnison Counties. The District includes the communities of Carbondale, Redstone, and Marble. The Town of Carbondale was founded in 1888 and is the home to CRFPD headquarters and Station 81. The Town sits at the base of Mt. Sopris, and prides itself in being a family based community offering a diversity of outdoor recreational opportunities, artistic and cultural events, ranching and local agriculture, restaurants and retail shops, and other small business opportunities. The Town of Marble, first incorporated in 1899, is a statutory town of the State of Colorado and is home to Station 83. Marble is located in a valley of the upper Crystal River along the Elk Mountains, and is located in Gunnison County. The Village of Redstone is listed on the National Register of Historic Places and was established in the late 19th century by industrialist John Osgood. Known for its coal mining history Redstone is located in Pitkin County and home to Station 82.

The composition and topography of the District creates a number of challenges with distribution and concentration of emergency response. Areas like Missouri Heights, West Bank and Spring Valley areas also add to the diverse area the District is tasked with protecting. The District is classified as a combination District of volunteer and paid members. The District operates 20 different apparatus out of 5 stations throughout the District.

## 2.10 Building Structure Inventory

**Headquarters Building**

301 Meadowood Drive
Carbondale, CO 81623

**Station 83 – Marble**

300 West Park
Marble, CO 81623

**Station 81- Carbondale**

300 Meadowood Drive

**Station 84 - CMC Road & Highway 82**

5449 County Road 154

[1] Matthews (2005). *Strategic Planning and Management for Library Managers*

Carbondale, CO 81623

Glenwood Springs, CO 81601

**Station 82 – Redstone**

1085 Redstone Boulevard
Redstone, CO 81623

**Station 85 – Missouri Heights**

6986 County Road 100
Carbondale, CO 81623

# 3.0 Inter-Agency and Governmental Agreements

## 3.1 Mutual Aid

CRFPD is one of 29 emergency providers participating in the Northwest Colorado Mutual Aid Agreement. This mutual aid agreement allows any party participating in the agreement to request assistance from any other participant. The Northwest Mutual Aid Agreement is recognized as the I-70 mutual aid agreement as it is the common highway connector between all agencies.

Carbondale is also a participant within the Pitkin County Annual Operating Plan (AOP) along with the Pitkin County Sheriff, Colorado Division of Fire Prevention and Control (DFPC), U.S Forest Service (USFS), Bureau of Land Management (BLM). The Pitkin County AOP is an agreement between all parties to coordinate their wildfire responses and activities. This agreement insures all agencies are operating within the National Response Framework which was signed into law by President George W. Bush following 9/11.

CRFPD participates in the Pitkin County "Intergovernmental Mutual Aid and Automatic Aid Assistance Agreement." This agreement allows all emergency services providers within Pitkin County to provide assistance to each other in an efficient and effective manner. This agreement was originally executed in 2011, and is a perpetually renewing agreement until either of the parties communicates its intention to terminate the agreement. This agreement should be reviewed annually by the leadership of CRFPD and the results of such review communicated to the District board through a formal communication tool (i.e. annual report.)

Currently, CRFPD responds into certain areas surrounding its jurisdiction without a mutual aid or automatic aid agreement in place. Specifically, these areas include Spring Valley and Lead King Basin. While the call volume into these areas does not approach being considered significant, the reality is that these responses prove to be an area of concern. Response into the Spring Valley area without an agreement in place is an issue of increased liability for the District. Anytime an emergency services provider responds without specific authorization, the expectations of all parties is unclear. In addition, responses into the Lead King Basin are a challenge for the District in that the total task time a CRFPD resource is committed to an emergency is significant. Response into these back country areas are typically highly technical in nature and considered to be low frequency / high consequence events.

CRFPD should work with the governing bodies for each of these areas to enumerate the expectations of each party and formalize the business relationships.

## 3.2 Local Service Delivery

Since its inception, CRFPD has been recognized as a provider of high quality fire protection services. The department and its members are highly respected within the community and have enjoyed an environment of respect and admiration from the citizens within the fire District and among other emergency services providers within the region. In addition to the traditional fire suppression services, CRFPD also provides fire prevention, fire inspection, wildland fire response, paramedic (ambulance), swift-water rescue, and other "back country" rescue services. Since its inception in 1953, the department has evolved into a combination department utilizing career and volunteer staff to meet service demands.

## 3.3 Regional Service Delivery

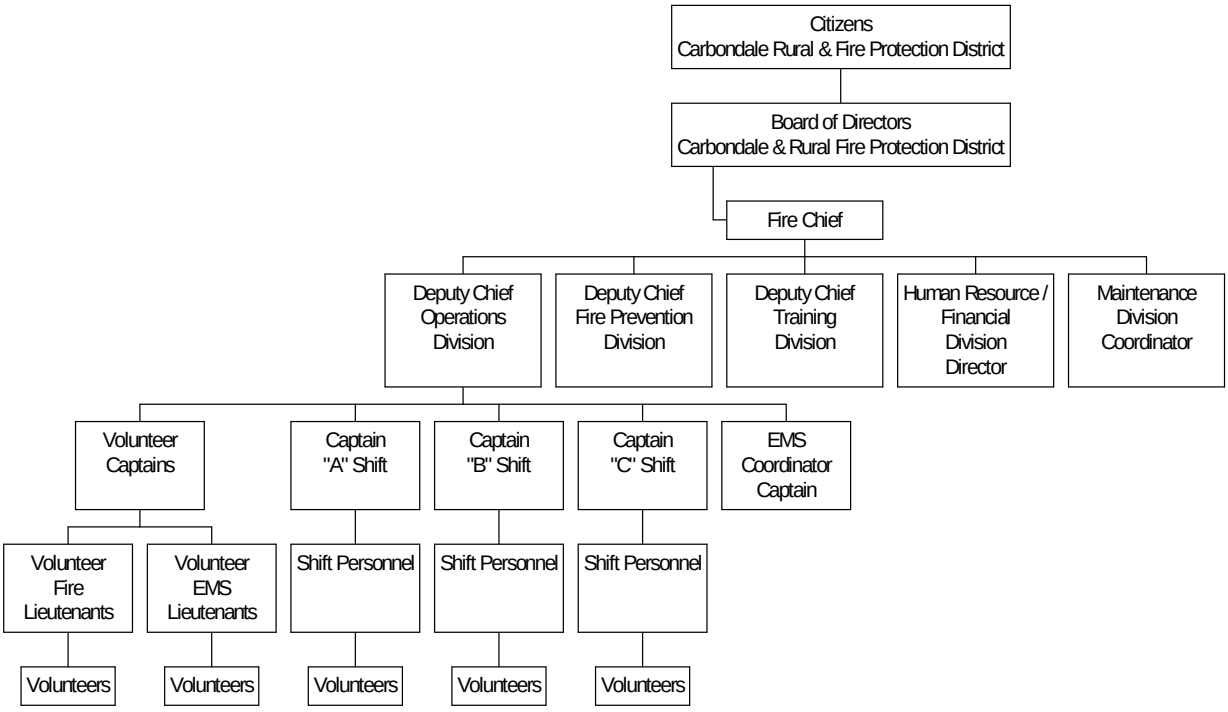
As a participant in the Northwest Colorado Mutual Aid and Pitkin County "Intergovernmental" Mutual aid agreements, CRFPD provides emergency response services to areas outside of its District. Members of the CRFPD team have served in key roles in major wildland fires (i.e. Storm King Mountain), which have proven beneficial to the development of command and control skills not easily gained when a department responds to local emergencies only.

In addition to providing mutual aid assistance to regional partners, CRFPD benefits from the regional partnerships by receiving assistance. As a service provider, CRFPD must maintain the ability to respond to its regular calls for service. However, CRFPD must be able to provide a quality response to calls that tax its resources beyond their normal limits. It is through participation within the regional response that CRFPD can draw upon a larger resource pool.

# 4.0 Organizational Development

## 4.1 Organizational Leadership Structures

CRFPD is led by a full-time fire chief who is responsible for the daily operation of the department. The fire chief's leadership responsibilities include the traditional tasks of planning, organizing, and budgeting of all aspects of the department with overall policy decisions being made by a five (5) person elected board of directors. Relative to daily operations, the board of directors has no managerial authority of departmental personnel and response.




## 4.2 Board Structure/Operation

During the site visit, Almont met individually with each of the board members. Board members seem actively engaged and interested in making improvements to CRFPD service delivery. Four (4) of the five (5) board members indicated they are comfortable with current leadership and management within the department. There is a difference of opinion among board members with respect to the scope of authority and responsibility in decision making. Having worked with municipalities, county government, and special Districts in many states throughout the country, Almont consultants can make several observations and recommendations. Elected board members are primarily tasked with making policy level decisions. Likewise, board members are tasked with hiring a fire chief to handle day-to-day operations. To ensure a healthy leadership model and communication throughout the organization, the board bylaws should clearly indicate this policy level involvement.

Almont also noted that current board members are permitted to retain active volunteer status with the department. While there may be a benefit in having experienced emergency service professionals on the board, this would not be considered "best practice". Many agencies and special Districts prohibit this practice as it is often viewed as being in conflict with the “doctrine of incompatibility.” This doctrine is a set of standards developed over time through case law and attorney general opinions. In general, it prohibits an individual from simultaneously holding two positions or offices that would be considered as "incompatible". Board members and staff communicated clearly that community interest in serving as a board members has been minimal. As such, prohibiting members from serving in two capacities completely may result in unfilled board positions. However, it is recommended that CRFPD review its current bylaws and structure. Consideration should be given to address incompatibility issues, encourage policy level actions, and ensure elected positions are representative of the District (geographically and demographically). The District would also benefit from a legal review of the bylaws following draft modifications to ensure compliance with applicable laws.

The fire chief is supported by an administrative team of three (3) deputy chiefs, one (1) financial manager / human resources director / public information officer, one (1) billing technician, and one (1) EMS captain. In addition to their administrative responsibilities, each of these individuals serve in various roles during emergency response and disaster activities roles. Many of the individuals serve as “on duty / on call” officers for a 24 hour period, one day of the week and “on-duty/on-call chief” one weekend per month (Friday thru Sunday, 72 hours.) Even the financial manager previously had ten (10) years of experience as a firefighter / EMT prior to taking on her administrative responsibilities. The three (3) deputy chief’s responsibilities are divided between Operations, Fire Prevention, and Training activities. The Deputy Chief of Operations provides overall management of shift personnel, while the Deputy Chief of Fire Prevention provides all fire inspection and plans review services within the jurisdiction, and the Training Deputy Chief oversees all training activities within the department.

The department’s daily operation (emergency response) is supported by a nine (9) member team of paramedic / firefighters and firefighter / EMTs. These personnel are divided into three (3) teams of three (3) shifts operating a 48/96 schedule. Under this arrangement, each shift is on-duty for 48 hours and off for 96 hours providing emergency response capabilities around the clock for 365 days per year. Of the three (3) personnel assigned to each shift, one (1) individual serves as the “shift commander” at the rank of captain. The responsibilities of the captain include the administration of departmental procedures, management of “on-duty” career and volunteer personnel, as well as initial command and control activities until the arrival of additional command staff.

In addition to the administrative and operational personnel, the department maintains a two (2) person maintenance team. These two individuals maintain all of the department’s fleet (25 fire trucks, ambulances, and support vehicles,) facilities (five stations and grounds), and equipment on each apparatus. In maintaining the fleet these personnel conduct nearly all of the mechanical services to keep the fleet operational. Facility services include lawn maintenance and plumbing.

In 2014, CRFPD leadership was required to conduct a reduction in force by eliminating two (2) firefighter / EMT positions and one (1) administrative position. These three positions resulted in eliminating $324,000 from the budget for fiscal year 2014. To address this direct impact to operations, the personnel assigned to administration were required to serve as "back-up" responders in the event of multiple or significant calls. While it is commendable for the staff to take on added responsibilities, it must be understood that this action has the negative impact upon other responsibilities within the department being completed effectively or efficiently. The simple fact is that when the Deputy Chief of Fire Prevention is responding to calls fire inspection and enforcement activities are not being accomplished. Should this issue go unaddressed the consequences will be realized through missed organizational commitments and employee "burnout."

## 4.3 Lines of Communication

Communication within any organization can take on a variety of forms and be accomplished and effective through a variety of methods. Consistently, an analytical review of any amount of leadership material will identify the issue of communication as being one of the key challenges facing an organization. Communications can be informal and as simple as the spoken word. This takes place every day in every part of the organization. It becomes more formal and takes on more importance in a setting such as emergency operations. Other areas of formal communications occur in the form of written communication via memorandums, policies, procedures, and directives.

The development and implementation of a Master Plan is a very powerful communications tool as it focuses everyone inside the organization, as well as those outside of the organization, on the direction of the organization. Not only does the Master Plan provide direction by establishing goals, but it also provides the metrics by which the goals are measured. The alternative of not developing and implementing a Master Plan insures that competing agendas and "organizational attention deficit disorder" will cause the organization to lose focus and / or direction and is therefore doomed to failure.

Performance challenges within any organization can almost always be attributed to some form of a communication issue whether it originates from the top down or the bottom up. The solution is for the development of a strong bidirectional flow of information and participation. Members of the District need to understand that not all ideas can be accepted all the time; but they need to know that their concepts have a functioning method to be heard and considered. They also need to know why their input was either accepted or rejected.

A monthly (at minimum) staff meeting should be regularly conducted. It must include representatives from the entire organization and detailed notes in the form of minutes published. Each area of responsibility of the department should be reported on by the person responsible for that specific organizational function. Suggestions for change or improvement should be finalized at these meetings. The recording and publication of meeting minutes helps to provide a feedback loop to all parties involved and helps to reduce confusion on the part of those in attendance.

A key component in insuring effective communication exists is having clear and consistent roles and responsibilities within the organization. These clear roles and responsibilities are defined within the job description of each member. In reviewing the existing job descriptions, Almont Associates identified the descriptions as being dated and unclear. In one instance, the job description for a key position is non-existent. The District should review and revise all job descriptions within the organization after conducting a formal job task analysis to clearly understand the functions currently being performed by each member of the department.

In addition to the traditional face-to-face meetings, other forms of structured communications have the ability of keeping members of the organization "informed." Many departments have implemented regular newsletters to insure information is distributed between meetings. These newsletters are often described as "Notes from the Chief," "411 for the 911," or "Chief's Chatter." Regardless of the title, the focus of the effort is to insure members receive regular and consistent information from the leadership. This type of communication effort is even more critical in organizations relying upon a workforce spread across large geographical areas where members are not regularly interacting with one another. In organizations like CRFPD, opportunities for misinformation and rumors to take hold are extremely possible. Every effort must be made to insure all members of the department receive as much information as possible.

In addition, the ability to utilize today's technology to better communicate allows organizations to think "outside of the box" when it comes to keeping members informed. CRFPD should evaluate the possibility of using a "blog" as a communication tool. This tool would allow communication to be more immediate depending upon the design and operation, as it allows for more of a question and answer atmosphere to exist. The blog also has the benefit of allowing those involved to feel as if they are a participant in the communication process.

Many departments confuse formal lines of communications as a means to limit or do away with open door policies. The two should not be mixed or confused. Open door policies in the fire service are a way for problems to be addressed or ideas to be brainstormed. All officers should maintain an open door philosophy. However, the presence of an open door policy does not negate the need for a formal chain of command. Without the presence of a formal chain of command, personnel are inclined to "shop" for the desired answer. Properly managed, both formal and informal lines of communication can work in harmony.

# 5.0 Organizational Productivity

## 5.1 Historical Budget Analysis

### 5.1.1 Background

As part of this study, Almont reviewed annual budget data from FY 2009 through the proposed FY 2016 fiscal years. The District uses a modified accrual basis for accounting and budgetary purposes. The District fiscal year is coincident with the calendar year beginning January 1. The District annually adopts its budget by resolution in December pursuant to Section 29-1-108 CRS. Annual audited budgets for FY 2009 through FY 2013 were reviewed and compiled with the estimated FY 2014, adopted FY 2015 and proposed FY 2016 budgets supplied by staff. Staff-provided audited budgets were updated with information from independent auditor reports for FY 2011-2014 provided by the CPA firm of McMahan and Associates, LLC of Avon, Colorado.

The District serves portions of Garfield, Gunnison and Pitkin Counties. While it may set its own mill levy, it must submit a copy of its annual budget to each county pursuant to Section 29-1-113 CRS each year in December prior to the start of the fiscal year. The District has divided its operation into four funds supported by several separate mill levies; the General Fund operating budget (the primary mill levy), the Capital Fund (impact fees and transfer from the General Fund), the Bond Fund (separate mill levy for each series) and the Volunteer Firefighter Pension Fund (portion of the General Fund mill levy). It must set its annual mill levies by resolution pursuant to Section 39-5-128 and 39-1-111 CRS. Finally, the District must adopt a resolution appropriating funds each year pursuant to Section 29-1-108 CFS.

Each fund was reviewed and analyzed separately but, for purposes of the economic model, will be compiled together with the exception of the Bond Fund which is not discretionary. Further, the Pension Fund is a separate fiduciary fund whose tax revenue is a small portion of the General Fund millage. For purposes of economic modelling, the tax revenue supporting the Pension fund is shown as revenue and expense in the General Fund, although this is not actually how the funds are budgeted and accounted for. This was done solely to show financial impact of the Pension Fund on the General Fund millage rate.

## 5.2 Revenue Trends – Taxes

In order to build an economic model that is predictive, it is important to understand how much of the projected tax revenue in the adopted budget is actually received by the end of the year audit for all recurring revenue sources. Fiscal years 2010 through 2013 were analyzed in order to determine the ratio of funds received to funds budgeted (Table 8). It is clear that the ratio is quite high as shown below and it is not unreasonable to use a ratio of 99.5% in the model moving forward for FY 2016-2020.

| FISCAL YEAR | PERCENT ACTUAL/BUDGET |
|---|---|
| 2010 | 98.4% |
| 2011 | 99.5% |
| 2012 | 99.9% |
| 2013 | 99.5% |

Table 8 - Audited actual versus budgeted revenue for General Fund by fiscal year

Figure 4 shows the net assessed property value for the District ("taxing entity") as reported to the State of Colorado for adopted fiscal years 2011-2015 along with the aggregate millage rates for the General and various Bond Funds. The bars represent the millage rate as shown on the axis to the right of the figure while the aggregate taxable value is shown as the blue line and the axis to the left. The District suffered a taxable value drop of 28% between FY 2011 and 2012 and another drop of 20% from FY 2013 to 2014. This represents a total loss in assessed taxable value over three years of 41.6% or $197,200,500.

This decrease is due to the economic downturn and is not dissimilar to the economic picture experienced in most areas of the country, albeit hitting Carbondale a bit later than other areas of the country. Unlike some areas of Colorado where a significant portion of the assessed values are based upon oil & gas properties which can fluctuate differently from real estate, this is not an issue for the Carbondale Fire Protection District; therefore, future property value increases are primarily related to real estate values which are less subject to external market fluctuation and more readily predicted.

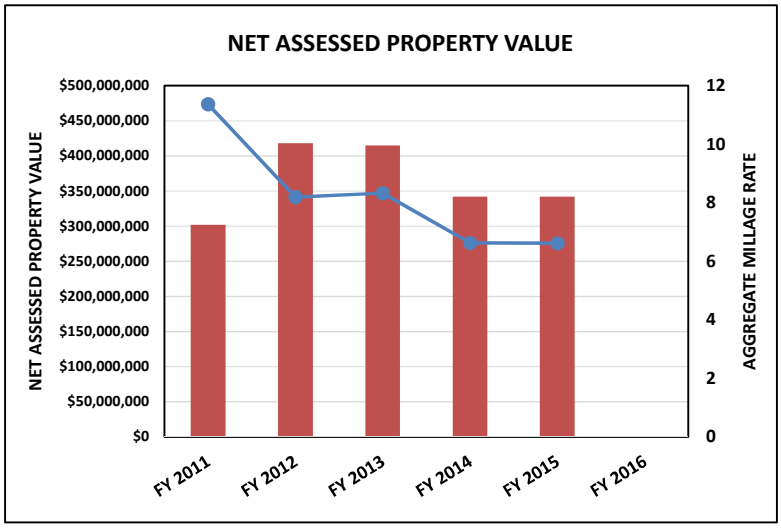



Figure 4 – Net assessed property value (adopted FY 2011-2015) versus aggregate millage rates

**Figure 5** shows individual millage rates for the refund/abatement program, the general obligation bond/interest fund, and the general operating fund (which includes volunteer retirement and capital programs), as well as total assessed property value and total revenue and operating revenue only (difference is bond fund revenue). Note that the monetary values are shown on a logarithmic scale to

the left while millage rates are shown on the scale to the right. Also, note that the bond fund millage rates were increased while the general operating fund millage was decreased from FY 2013 to FY 2014 as total taxable value declined. This was done in order to maintain necessary bond principal and interest payments. The drop in revenue affected the operating fund; the net effect of which were significant cuts to the operating expenditures and use of reserves as will be shown later.

More specifically, the impact of the major drop in assessed values and the interplay with millage rates can be seen on Figure 6 showing total District tax revenue versus General Fund operating tax revenue on the linear scale to the left versus the various fund millage rates on the right of the figure. The General Fund millage rate was increased as a two-year override by the voters at the November 1, 2011 general election for FY 2012 and 2013 only.

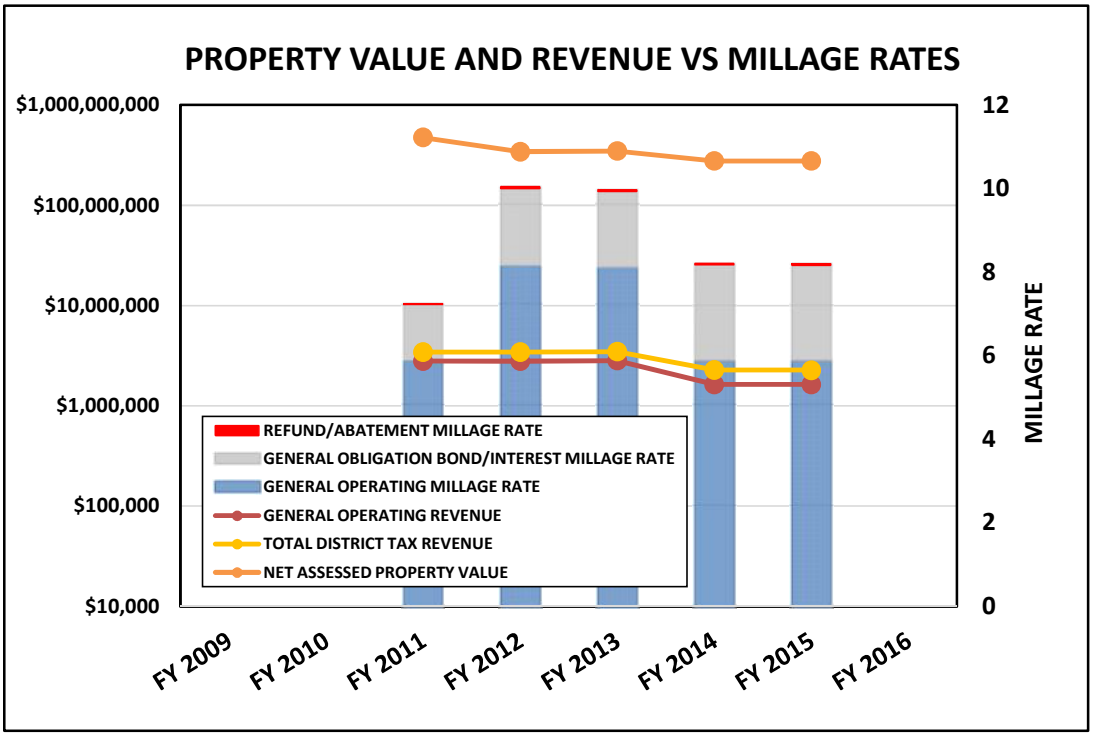



Figure 5 – Property value vs millage rates and associated revenue

This voter-approved millage rate override provided essentially the same revenue as in prior years to the District despite a significant drop in assessed value. This is known as the "rolled back" rate in some areas of the country and it is that millage rate that is anticipated to bring in the same revenue as the prior year; whether taxable values go up or down (down in this case). After this approved override expired in FY 2014, the General Fund millage rate dropped back to its previous level and the full effect of the drop in property values hit the District; specifically the operating budget, as shown by the total versus General Fund revenue.

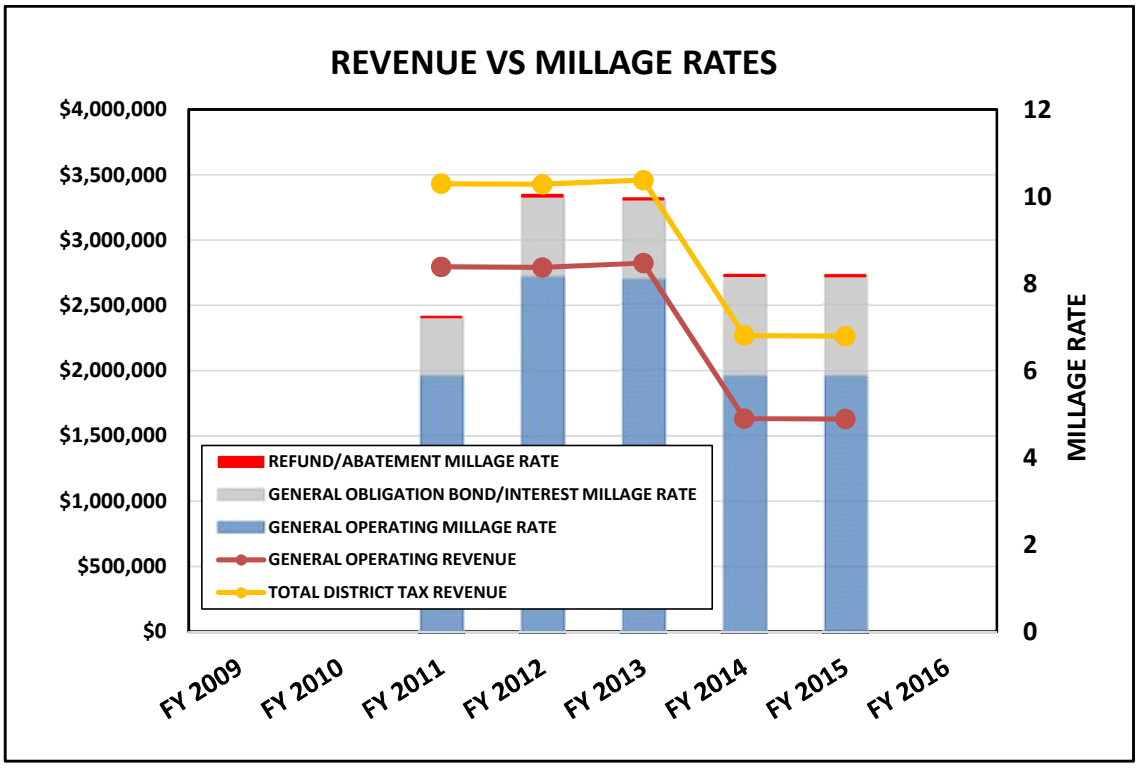



Figure 6 – District revenue versus millage rates

Figure 7 shows General Fund operating budget revenue sources for audited FY 2009-2013, expected FY 2014, adopted FY 2015 and proposed FY 2016 budgets. The combined effect of the assessed value drop due to the general economic downturn and the reduction in voter-approved millage levy is quite clear in the almost 42% reduction of tax revenue from FY 2013 to FY 2014. Additionally, other revenue sources (shown in red) have steadily declined from a peak in FY 2013. The District was able to build a healthy cash position through FY 2014 after which cash forward was used to offset recurring revenue declines leading to a rapid decline in cash forward. This trend will continue into FY 2016 despite a 30% anticipated increase in assessed value. The other revenue category is also anticipated to increase slightly reversing the declining trend from FY 2013 through FY 2015.

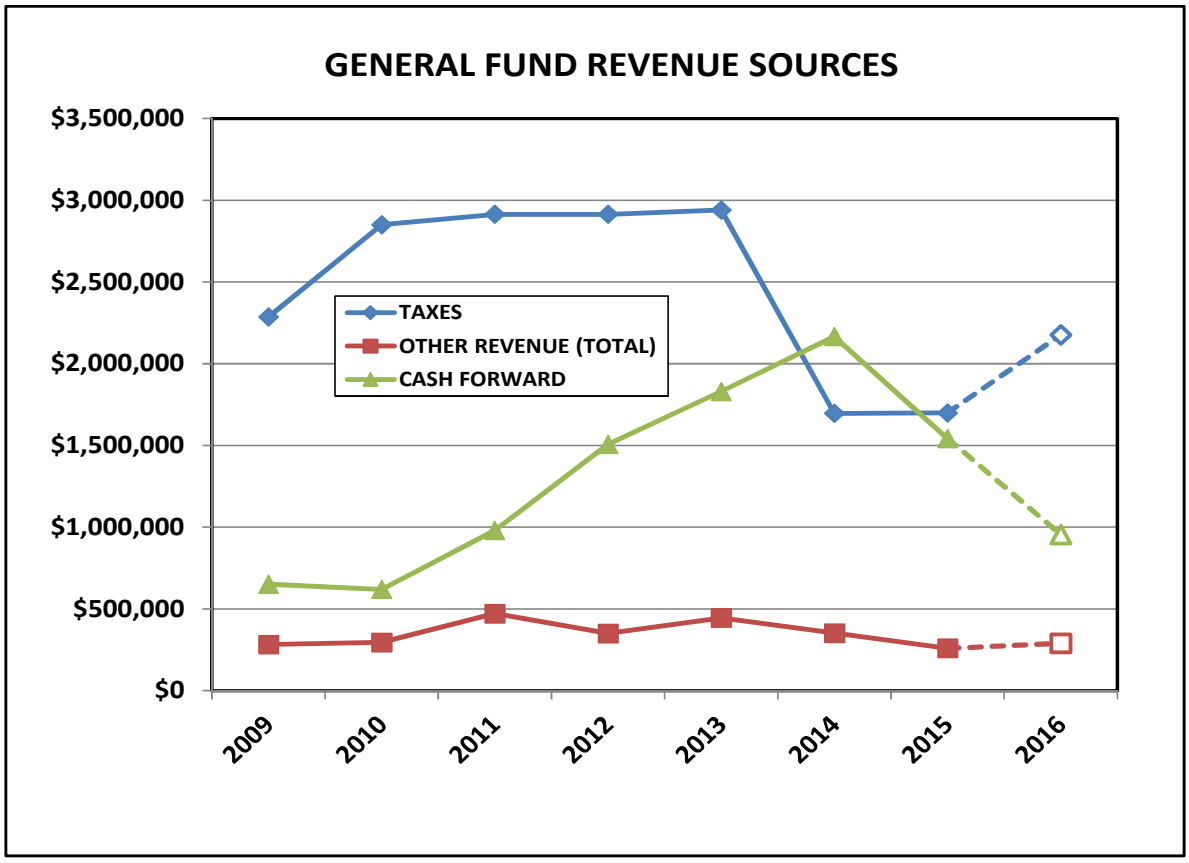



Figure 7 – General Fund revenue sources FY 2009-2015

Figure 8 focuses specifically on other revenue sources within the General Fund. It is clear that the bulk of this revenue category is directly tied to billing for ambulance service. Grant funding is quite variable within this category of funding each year, ranging from a low of just under $1,000 in FY 2011 to a high in FY 2009 and FY 2014 of between $42-45,000. Building rental fees have been declining steadily from a high near $20,000 in FY 2009 and 2010 to near $7,000 in FY 2014 and 2015.

## 5.3 Revenue Trends – Ambulance Fees

Ambulance fees are shown in blue on **Figure 8** and show a steady increase over time, with the exception of a spike in FY 2011. EMS/Rescue call volume annually is shown in green bars with the scale on the right of the chart while actual patient transports are shown in purple. Ambulance revenue generally tracks with transport volume. During various financial audits it became clear that in some cases accounts receivable were booked as revenue and then in subsequent audits were removed via bad debt expense. For example, revenue in the FY 2012 audited financials (period ending December 31, 2012) spiked at $392,075 but was subsequently reduced during the FY 2013 audit to $237,441 by a bad debt expense of $154,634. Subsequent to FY 2013, receivables no longer appeared to be booked as revenue until the cash was actually received. The 2011 billing revenue appears to be inflated by uncollectable accounts receivable that were not written off in subsequent audits; therefore, FY 2011 revenue shown

in **Figure 8** may be anomalously high. In any case, it appears that overall ambulance revenue has been increasing slightly since FY 2009.

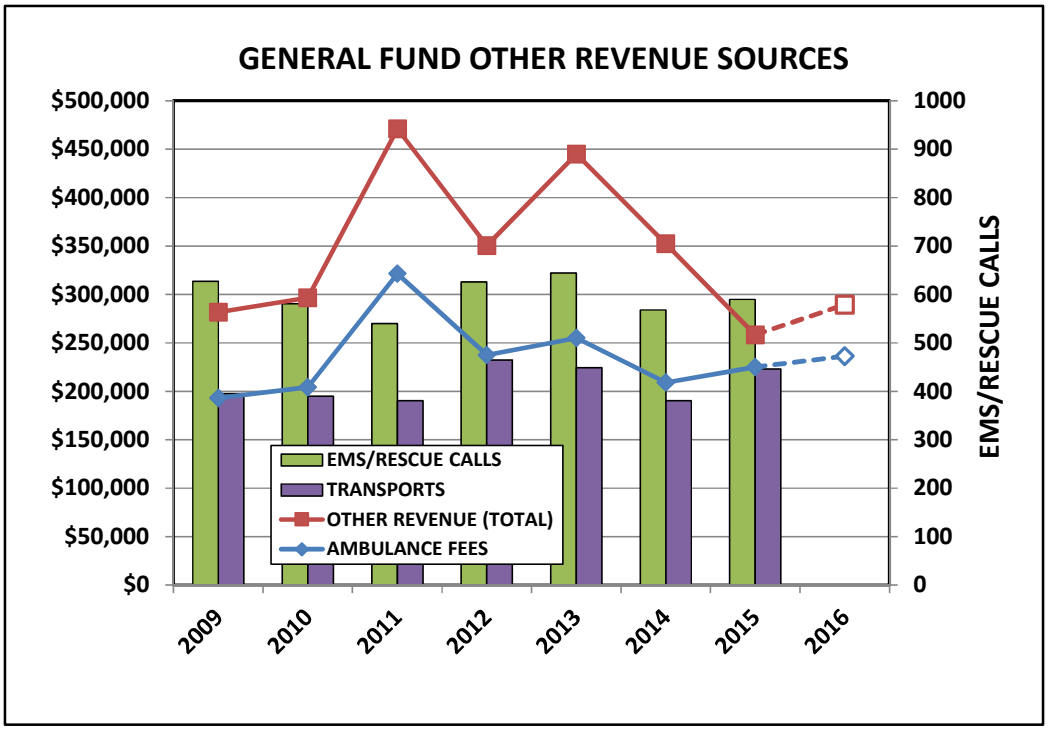



Figure 8 - General Fund other revenue sources through time

It is important to note that ambulance rates were increased in FY 2013. Prior to that, rates were different for in-District versus out-of-District patient transports with Advanced Life Support (ALS) calls charged at $554 and $664, while Basic Life Support (BLS) transports were charged at rates of $443 and $554; respectively. As of FY 2013, one rate was applied regardless of whether or not the transport was within the District; $1000 for ALS transports and $700 for BLS transports. Mileage charges have remained the same at $14/mile for both classes of transport.

This increase in rates does not appear to have had a significant effect on overall revenue levels as might be expected. In order to have a better understanding of what is happening with ambulance revenue, it is important to look at patient transports by severity and payor mix from year-to-year. **Figure 9** shows total EMS/Rescue calls by year from 2004 through 2014 and patient transports by year from 2009 through 2014 with projections for 2015. Additionally shown are ALS versus BLS transports for 2009 through 2014 with projections for 2015.

In 2009 and 2010, there was a significantly higher number of ALS versus BLS calls while the difference was not significant for the next four years with a slight bump in ALS calls projected for FY 2015. None of this variability has had an apparent effect on revenue recovered which is not unexpected given the slight

difference between rates and the same mileage charges. Almont suggests that the District take a closer examination of its rate structure and study revenue recovery by call severity and subsequent rate.

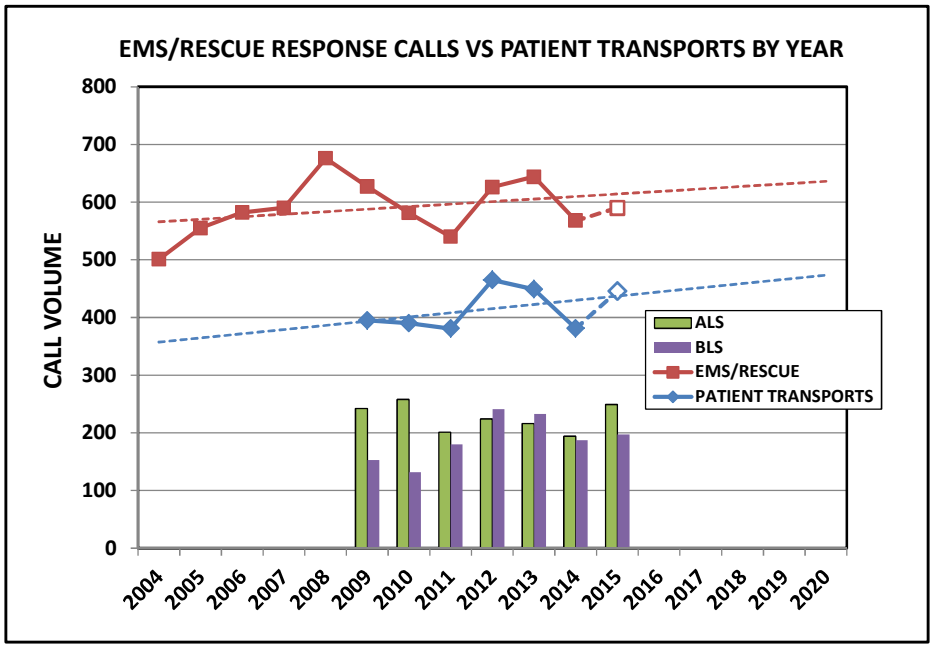



Figure 9 – Total annual EMS/Rescue calls vs patients transported by total and severity

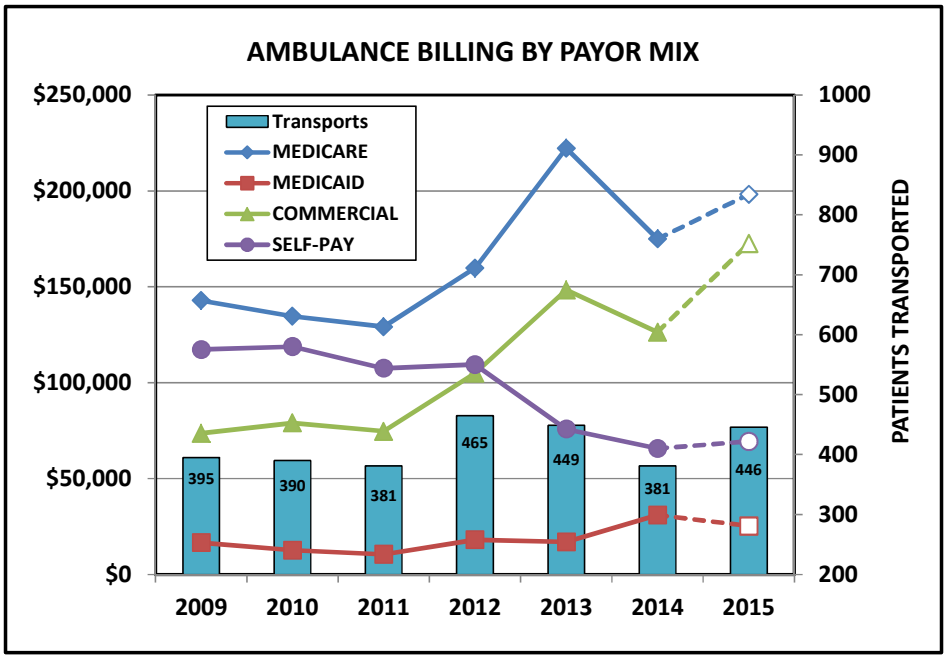



Figure 10 – Ambulance billing by payor mix and transport volume annually

Perhaps more instructive is a review of patient billing by payor mix through time. **Figure 10** shows total annual patient transport volume from 2009 through projected 2015 and billing by payor mix from the ambulance billing system. Medicaid by volume is generally fairly minor and has remained consistently flat with a slight uptick in 2014. From 2009 through 2011 the other categories were relatively flat. Between 2011 and 2012, there was a significant increase in transport volume. Interestingly, there was a corresponding increase in billing and revenue for the two highest payor categories; Commercial insurance and Medicare. While Medicare only pays 80% of its allowable rate, it does allow the agency to balance bill the difference between the full rate and the allowable, unlike Medicaid.

Other than a dip in transport volume in 2014, it appears that patient transports have generally been increasing at a low rate since 2009 with some degree of inconsistency from year-to-year. Of greater significance is the change in payor mix following the increase in rates in 2013, with a significant decrease in self-pay and a significant increase in commercial and Medicare payors. This should have had a positive impact on revenue recovery. In fact, **Figure 11** shows that this may not be the case.

There is an increase in commercial recovery with the rate increase of 2013 as expected, as this is generally the best payor class. Both the Medicare and commercial payor categories actually see a reduction in revenue recovery after peaking in 2013. However, the reductions in 2014 are probably more related to a decrease in transport volume. The 2015 projections are based upon partial revenue to date for the year projected through December 31 and may be artificially low given that the transport volume is projected to increase back to 2013 levels.

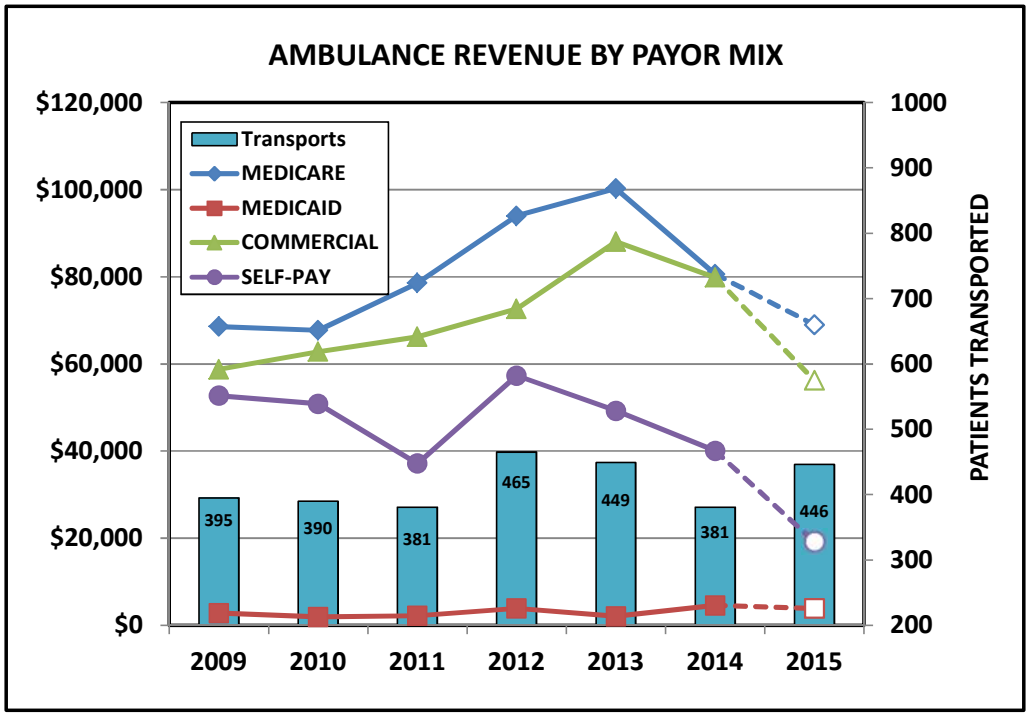



Figure 11 – Ambulance revenue by payor mix versus total transports by year

As expected, the self-pay category continues a declining trend which approximates the decrease in self-pay billing. Medicaid recovery remains flat as expected. Figure 12 shows charges billed versus revenue recovered by year and the ratio. While the ratio of revenue to charges is generally in the 50% range, it should be higher, particularly given the payor mix experienced by the District. Further, the ratio has declined since its peak in 2012 and may be worsening based upon projected returns for 2015, although these projections may be artificially low as discussed above.

While the percentage of revenue recovered versus amount billed (approximately 50%) is considered fair by industry standards, Almont recommends a separate and detailed billing study to determine the exact cause of these revenue trends and causal factors. A request for proposals for outside billing services could include such an analytical request and may provide a very good mechanism for finding the most appropriate vendor for billing services should the District wish to pursue that option. The District showed a recovery rate on billings of almost 60% in 2012 which has declined somewhat to its current rate; a decline which may signal a continuing trend that should be closely monitored.

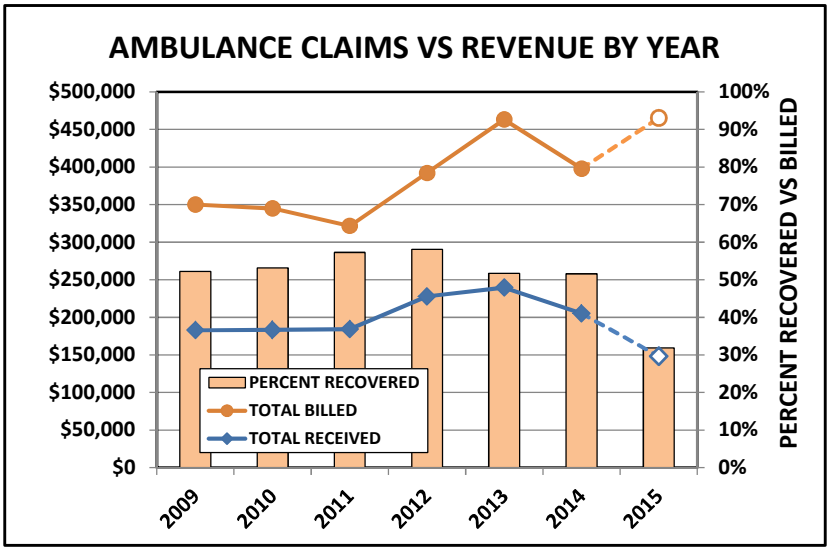



Figure 12 – Ratio of ambulance charges versus revenue by year

An analysis of accounts written off over the last several years may indicate that more self-pay and commercial pay accounts are going delinquent. An analysis of individual bills from the top ten commercial payors over the last 3-4 years along with an account aging analysis could help pinpoint any issues. Follow up letters to commercial accounts may be necessary to ensure that full payment is always received based upon District adopted rates.

Specialized EMS billing companies are available that could offer assistance up to and including full scale billing services. EMS billing is a very complex and specialized field that is changing constantly and it is difficult for smaller ambulance services with in-house billing to remain current. Typically, a single employee dedicated 100% to billing can handle up to 2000 accounts annually before falling behind and any sort of follow up becomes difficult beyond 1500 accounts. The current rate of revenue recovery

may be indicative of the need for more specialized assistance or added resources applied solely to the billing function. Ambulance billing is a critical revenue component to funding the District; greater focus on increasing this revenue source is strongly recommended.

One issue affecting billing recovery may be that an increasing number of patients are being transported who are without insurance, have limited insurance or simply do not pay their bills. This may be reflective of a trend seen in other regions of the country, where commercial carriers are denying ambulance charges on the basis that the ambulance service is an "out-of-network" provider. This is an issue that may have to be dealt with at the state and even federal levels on a legislative basis. However, it may also be partially resolved with more follow up to commercial accounts to ensure that adopted rates are fully reimbursed in a timely manner. The District payor mix (Figure 13) is heavily weighted toward commercial and self-pay categories; both of which require more follow up after the initial bill than Medicare and Medicaid classes. The ratio of visitors to residents transported may have an impact on ability to recover as well.

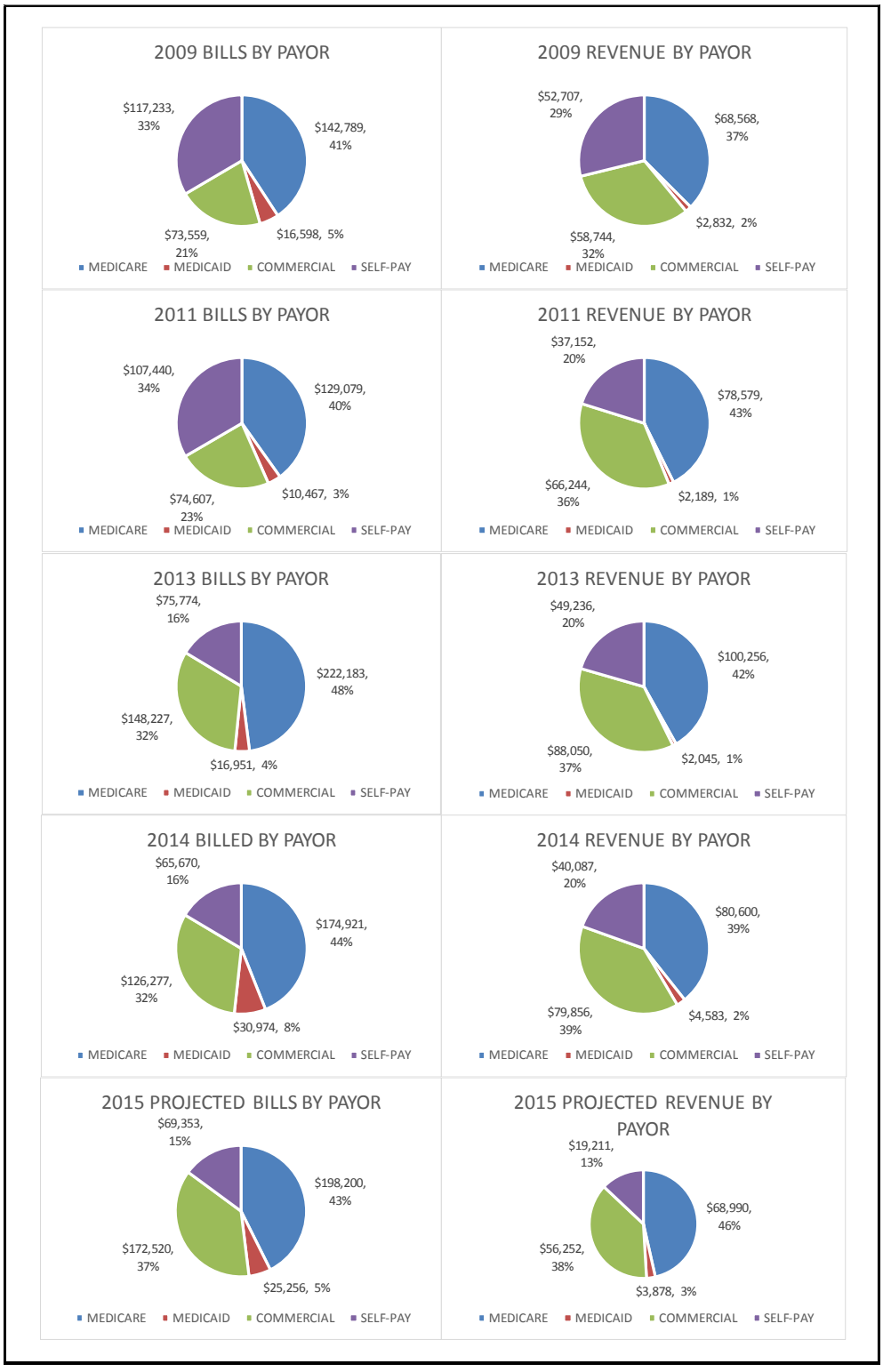



Figure 13 – Annual ambulance billing and revenue by payor class

Again, the District should consider contract billing assistance and may want to pursue legislative action and/or a more aggressive follow up relative to the commercial payor class. Commercial carriers have been trying for many years to force ambulance agencies into lower paying contracts by refusing to honor patient assignment of benefit forms. For example, Florida agencies were successful at the state level in passing legislation requiring commercial carriers to honor assignment of benefit forms similar to medical offices. The issue of refusal to pay on the basis that an ambulance service is out-of-network is more problematic with no easy remedy.

The District has the ability to set charges for various services, adjusting them from time to time, and took such action in 2013 with a rate increase. Staff will undoubtedly continue to review this every few years and bring forward recommendations for future increases. That said, rate increases will typically only affect the commercial payor group in any meaningful way with respect to increasing revenues and, only to the extent that the charges are reasonable for the region and adopted via resolution by the governing body. As mentioned previously, commercial payors are beginning to deny ambulance transport bills as "out-of-network". This may be causing the trend seen in Figure 11. As mentioned above, commercial carriers are even denying assignment of benefit authorizations. The patient is paid directly for ambulance charges forcing the ambulance provider to go after the patient rather than directly billing the carrier. This is an effort to force providers to enter into contracts which reimburse at lower rates than actually charged; similar to a managed care contract.

Medicare, Medicaid, and others will only pay a certain amount; regardless of District rates and providers are not permitted to bill Medicaid patients for the balance between actual charges and what the government pays. Figure 13 demonstrates that this payor class represents less than 5% of the revenue stream. What is not clear at this point is the near future impact of the changes to the national health care system (that took effect in January, 2014) on ambulance revenue. Some forecasters are actually predicting an increase in revenue as many in the bill patient category will now have some form of insurance coverage where previously there was little to no chance to recover on such a bill.

The District should consider interfacility work along with 911 ambulance work, as these charges are more likely to be paid versus 911 charges. Another approach to be considered is a Request for Proposals (RFP) for outside billing services. Even if the cost-benefit analysis does not show this to be an effective strategy, it is recommended that the District look outside every few years. Although it appears that the District has in the past done an adequate job with its billing program, this is a complicated function. With declining revenues in some payor classes and only slightly increasing revenue despite increased patient volume and higher fees and potential for changing recovery by payor mix, Medicare/Medicaid changes, etc. it may be timely to examine a Request for Proposals for EMS billing services.

While there does not appear to be much potential for staff reduction by outsourcing the billing function, it may be an opportunity for revenue enhancement rather than an expenditure reduction. Conducting an RFP process would provide the District with evidence that the current system is functioning at optimum levels versus what outsourcing may produce. Many systems that utilize in-house billing

periodically examine outsourcing as an option. Smaller systems may find it more advantageous to out-source this function due to its specialized nature; however, this would be confirmed through this RFP process. Typical costs of outsourced billing operations are 5-8% of recovered revenue.

## 5.4 Expenditure Trends - Overview

As discussed earlier, the District has divided its operation into four funds supported by separate mill levies; the General Fund (GF) operating budget (the primary mill levy), the Capital Fund (impact fees and transfer from the General Fund), the Bond Fund (separate mill levy for each series) and the Volunteer Firefighter Pension Fund (portion of the General Fund mill levy). The GF operating budget is the primary discretionary budget and, when added to the Capital Fund (CF) budget, make up the discretionary spending by the District in any given fiscal year.

Although presented here for completeness, the Bond Fund (BF) has a separate mill levy which must be set at a level sufficient to fund the annual principal and interest payments on the various bond series. Therefore, it will not be addressed in the economic modeling provided in a later section of the report. Additionally, the Volunteer Firefighter Pension Fund (VFPF) is a fiduciary fund accounted for separately from the GF and CF funds, although it receives a small portion of the GF millage as part of its revenue stream. The VFPF budget is also shown here for completeness but will only be addressed in the economic models as a transfer of millage each plan year from the GF to the VFPF.

### 5.4.1 Expenditure Trends – General/Capital Funds

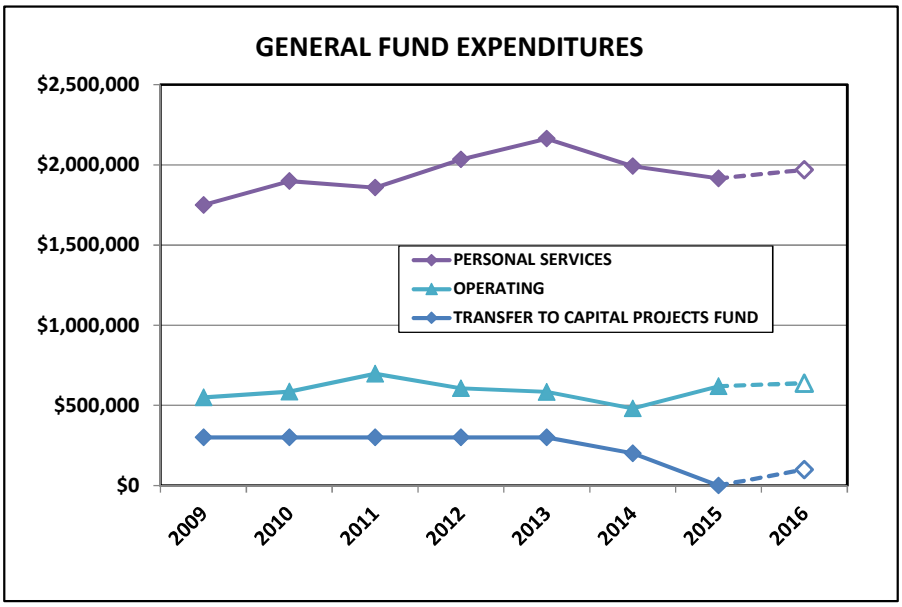



Figure 14 – Annual General Fund major expenditure categories

Figure 14 shows annual, audited GF expenditures by major category with projections for FY 2015 and proposed budget for FY 2016. Although property values dropped 28% between FY 2011 and FY 2012, the voters approved a two-year special override levy that allowed the District to increase millage (Figure 4) sufficiently to maintain tax revenue at the same level as the prior two years. However, when that levy expired and property values dropped by another 20% in FY 2014, tax revenue dropped from near $2.9 million to near $1.7 million (Figure 7) which caused the District to rely on its large cash balance between the GF and CF budgets to make up the difference between tax revenue and expenses. Figure 14 shows that while values were dropping, the personal services budget increased and was only reduced when the override levy expired in FY 2014. Operating expenses were cut earlier from a high in FY 2011 to a low in FY 2014 to coincide with the major reduction in tax revenue. The transfer to the CF was not reduced from its annual level of $300,000 until FY 2014 and to its current level of $0 in FY 2015.

Figure 7 also shows a significant build-up of cash reserves from $650,000 in FY 2009 to a high of $2.2 million in FY 2014. The District currently relies heavily on those cash reserves and, as the models show later, this reserve will be completely exhausted by FY 2019 at the current rate of spending and assuming that District property value increases occur as projected. As shown in Figure 14, the largest portion of discretionary spending is associated with career staff. And, although these costs have risen some through FY 2013 followed by some reduction, the District will not be able to reduce these costs further without a reduction in service level since staffing is at a minimal level for safe and effective operations currently. Functional operating expenses in the GF (see Table 9) have generally remained around the $600,000 range annually but have been reduced somewhat. Again, given the current level of service there is not a great deal of additional room for staff to reduce without negatively affecting service.

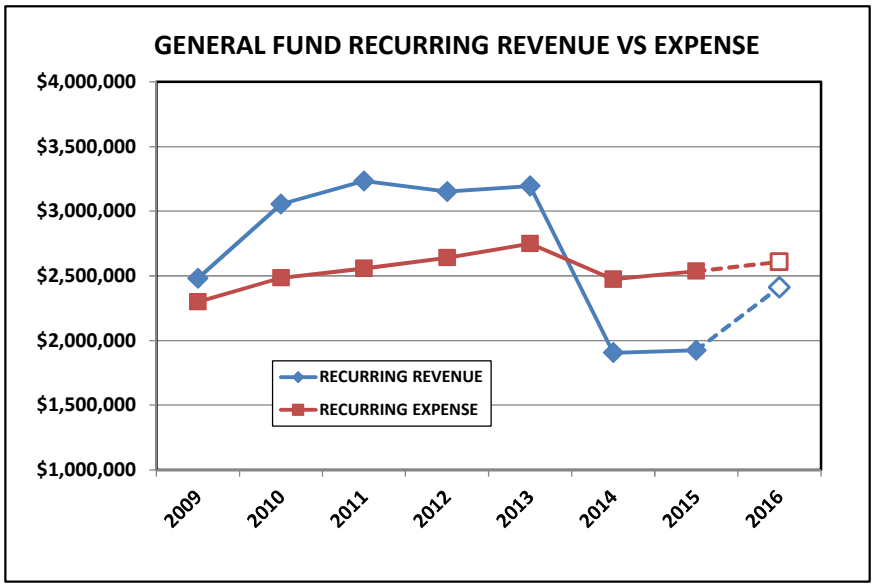



Figure 15 – Annual General Fund recurring revenue vs recurring expense

A better view of the health of the GF is provided by Figure 15 which shows recurring revenue balanced against recurring expenditures. Recurring revenues are defined as tax revenue and ambulance fee revenue which are both relatively well-known and expected to continue in some fashion. Grant funding, donations, wildfire contracts, etc. are less stable and more of an intermittent or non-recurring revenue stream that cannot be routinely relied on for predictive purposes. Recurring expenses are clearly costs associated with personnel and operating costs associated with each function as shown in Table 9.

| | FY 2009[1] | FY 2010[1] | FY 2011[1] | FY 2012[1] | FY 2013[1] | FY 2014[1] | FY 2015[2] | FY 2016[3] |
|---|---|---|---|---|---|---|---|---|
| **GENERAL FUND EXPENDITURES** | | | | | | | | |
| **PERSONAL SERVICES** | **$1,749,772** | **$1,899,591** | **$1,858,983** | **$2,033,748** | **$2,164,658** | **$1,992,334** | **$1,916,421** | **$1,970,080** |
| Wages | $1,241,638 | $1,352,835 | $1,267,948 | $1,458,733 | $1,549,885 | $1,391,287 | $1,306,135 | $1,342,707 |
| Health Insurance | $252,073 | $265,001 | $299,012 | $282,583 | $300,001 | $342,960 | $337,795 | $347,253 |
| Pension/457 Contributions | $132,322 | $136,311 | $133,495 | $135,110 | $142,654 | $127,060 | $127,552 | $131,123 |
| Workers Compensation | $44,589 | $53,048 | $71,354 | $58,380 | $70,814 | $56,608 | $65,000 | $66,820 |
| Volunteer Incentive | $15,088 | $18,261 | $11,850 | $17,087 | $18,331 | $6,344 | $10,000 | $10,280 |
| Volunteer Dinner Program | $7,107 | $7,077 | $9,022 | $9,321 | $8,692 | $6,305 | $8,000 | $8,224 |
| SSI/Medicare | $20,568 | $23,282 | $20,621 | $29,062 | $30,491 | $22,467 | $18,939 | $19,469 |
| Board Member Pay | $6,100 | $7,500 | $7,900 | $7,800 | $8,000 | $4,800 | $8,000 | $8,224 |
| Disability | $28,238 | $33,949 | $34,401 | $31,861 | $31,743 | $30,681 | $31,000 | $31,868 |
| Unemployment Insurance | $2,049 | $2,327 | $3,380 | $3,811 | $4,047 | $3,822 | $4,000 | $4,112 |
| | | | | | | | | |
| **OPERATING - ADMINISTRATIVE** | **$206,402** | **$235,335** | **$346,136** | **$220,930** | **$222,493** | **$176,011** | **$252,100** | **$259,159** |
| Insurance | $43,300 | $42,866 | $43,693 | $46,937 | $45,431 | $46,297 | $50,000 | $51,400 |
| Treasurer's Fees | $48,198 | $61,522 | $62,144 | $63,556 | $63,840 | $36,110 | $38,000 | $39,064 |
| Abated Taxes | $589 | $8,647 | $1,724 | $8,463 | $1,452 | $3,326 | $1,000 | $1,028 |
| Supplies and Expenses | $12,118 | $14,107 | $18,273 | $14,075 | $25,382 | $11,034 | $11,000 | $11,308 |
| Accounting | $11,700 | $11,700 | $11,700 | $10,900 | $9,800 | $9,800 | $10,100 | $10,383 |
| Bad Debt Expense (ambulance billing) | $33,004 | $22,155 | $143,299 | $0 | $0 | $0 | $0 | $0 |
| Legal | $20,630 | $18,256 | $26,329 | $21,527 | $28,306 | $26,845 | $25,000 | $25,700 |
| Dues & Subscriptions | $4,071 | $5,388 | $5,888 | $6,036 | $7,010 | $4,113 | $5,000 | $5,140 |
| Fuel | $14,016 | $15,928 | $22,214 | $25,690 | $19,640 | $15,647 | $15,000 | $15,420 |
| Freight and Postage | $2,740 | $2,813 | $2,233 | $2,030 | $1,854 | $1,690 | $2,000 | $2,056 |
| Computer Supplies | $748 | $2,093 | $362 | $2,880 | $1,473 | $1,060 | $2,000 | $2,056 |
| Fire/EMS Prevention | $1,705 | $1,248 | $340 | $1,303 | $3,858 | $1,230 | $2,000 | $2,056 |
| Board Meeting Food Program | $5,527 | $5,468 | $4,479 | $5,032 | $4,495 | $1,106 | $0 | $0 |
| Election | $0 | $15,099 | $3,458 | $10,426 | $9,952 | $13,442 | $0 | $0 |
| Fire Works | $8,056 | $8,045 | $0 | $2,075 | $0 | $0 | $0 | $0 |
| Emergency Management | $0 | $0 | $0 | $0 | $0 | $0 | $1,000 | $1,028 |
| Master Plan | $0 | $0 | $0 | $0 | $0 | $4,311 | $90,000 | $92,520 |
| | | | | | | | | |
| **OPERATING - FIREFIGHTING** | **$27,425** | **$28,049** | **$41,934** | **$46,171** | **$42,972** | **$19,904** | **$25,000** | **$25,700** |
| Supplies and Expenses | $18,870 | $20,078 | $26,273 | $30,457 | $22,037 | $14,504 | $15,000 | $15,420 |
| Fuel | $4,018 | $4,925 | $5,617 | $11,836 | $10,936 | $5,145 | $5,000 | $5,140 |
| Incident Resources | $3,282 | $1,322 | $1,687 | $1,706 | $2,124 | $255 | $1,000 | $1,028 |
| Incident Food | $0 | $0 | $0 | $0 | $0 | $0 | $2,000 | $2,056 |
| Wildfire Expenses | $1,255 | $1,724 | $8,357 | $2,172 | $7,875 | $0 | $2,000 | $2,056 |
| | | | | | | | | |
| **OPERATING - EMERGENCY MEDICAL SERVICES** | **$33,913** | **$37,397** | **$34,051** | **$38,006** | **$32,709** | **$32,731** | **$31,000** | **$31,868** |
| Supplies and Expenses | $22,955 | $26,438 | $22,038 | $28,022 | $22,145 | $23,507 | $22,000 | $22,616 |
| Infection Control | $4,624 | $3,290 | $2,836 | $0 | $877 | $235 | $500 | $514 |
| Fuel | $2,834 | $4,169 | $5,677 | $6,484 | $6,187 | $5,489 | $5,000 | $5,140 |
| Medical Director | $3,500 | $3,500 | $3,500 | $3,500 | $3,500 | $3,500 | $3,500 | $3,598 |
| | | | | | | | | |
| **OPERATING - COMMUNICATIONS** | **$44,390** | **$41,168** | **$42,014** | **$39,494** | **$35,204** | **$23,936** | **$24,079** | **$24,753** |
| Telephone Service | $14,753 | $14,375 | $13,731 | $13,782 | $13,991 | $14,038 | $13,000 | $13,364 |
| Cell Phones | $14,098 | $18,107 | $15,488 | $13,192 | $9,649 | $3,674 | $3,500 | $3,598 |
| Supplies and Expenses | $5,813 | $2,151 | $9,012 | $8,122 | $8,298 | $1,645 | $3,000 | $3,084 |
| Communications Center | $9,726 | $6,535 | $3,783 | $4,398 | $3,266 | $4,579 | $4,579 | $4,707 |
| | | | | | | | | |
| **OPERATING - TRAINING** | **$40,943** | **$53,330** | **$57,906** | **$70,162** | **$38,287** | **$42,599** | **$17,000** | **$17,476** |
| Medical | $8,983 | $12,759 | $11,355 | $7,856 | $13,506 | $5,414 | $2,500 | $2,570 |
| Fire | $12,809 | $16,092 | $6,755 | $10,665 | $9,508 | $1,742 | $11,000 | $11,308 |
| Administration | $5,740 | $15,342 | $13,009 | $5,069 | $5,617 | $1,955 | $500 | $514 |
| Rescue | $200 | $0 | $388 | $0 | $0 | $2,176 | $0 | $0 |
| EMT Tuition | $2,383 | $8,232 | $7,352 | $11,493 | $6,293 | $4,293 | $1,000 | $1,028 |
| Paramedic Program | $10,828 | $905 | $16,374 | $30,811 | $2,302 | $27,019 | $0 | $0 |
| Food | $0 | $0 | $2,673 | $4,268 | $1,061 | $0 | $2,000 | $2,056 |
| | | | | | | | | |
| **OPERATING - EQUIPMENT** | **$78,914** | **$58,334** | **$70,624** | **$68,805** | **$77,910** | **$57,192** | **$63,500** | **$65,278** |
| Vehicle Repairs-Outside | $7,261 | $0 | $51 | $10,260 | $4,512 | $16 | $3,000 | $3,084 |
| Vehicle Supplies, Parts, Tires | $28,028 | $22,383 | $25,100 | $24,141 | $24,632 | $16,727 | $20,000 | $20,560 |
| Equipment Testing | $5,370 | $7,918 | $11,172 | $9,035 | $20,170 | $7,536 | $10,000 | $10,280 |
| Communications Equipment | $2,041 | $4,654 | $7,605 | $1,883 | $1,456 | $968 | $1,500 | $1,542 |
| Maintenance Contracts | $13,202 | $14,243 | $14,986 | $16,267 | $18,010 | $22,696 | $20,000 | $20,560 |
| Computer Repairs/Service | $14,662 | $8,500 | $10,539 | $7,219 | $9,130 | $9,249 | $8,000 | $8,224 |
| Portable Equipment | $8,350 | $636 | $1,171 | $0 | $0 | $0 | $1,000 | $1,028 |
| | | | | | | | | |
| **OPERATING - BUILDINGS** | **$97,663** | **$118,904** | **$99,167** | **$109,575** | **$128,020** | **$116,151** | **$111,000** | **$114,108** |
| Utilities | $73,445 | $79,603 | $76,197 | $71,206 | $75,903 | $75,062 | $70,000 | $71,960 |
| Maintenance and Repair | $12,733 | $14,690 | $12,298 | $20,092 | $29,479 | $24,615 | $20,000 | $20,560 |
| Supplies | $11,485 | $24,611 | $10,672 | $18,277 | $22,638 | $16,474 | $20,000 | $20,560 |
| Janitorial Supplies | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Rentals | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Laundry | $0 | $0 | $0 | $0 | $0 | $0 | $1,000 | $1,028 |
| | | | | | | | | |
| **OPERATING - MISCELLANEOUS** | **$19,572** | **$13,663** | **$6,017** | **$13,792** | **$7,232** | **$12,355** | **$96,086** | **$100,000** |
| TABOR Emergency Reserves | $0 | $0 | $0 | $0 | $0 | $0 | $90,000 | $90,000 |
| Other Miscellaneous | $19,572 | $13,663 | $6,017 | $13,792 | $7,232 | $12,355 | $6,086 | $10,000 |
| | | | | | | | | |
| **TRANSFER TO CAPITAL PROJECTS FUND** | **$300,000** | **$300,000** | **$300,000** | **$300,000** | **$300,000** | **$200,000** | **$0** | **$100,000** |

Table 9 – Annual General Fund operating budget by functional division

While some recurring expenses are less critical than others, they are all shown as recurring expense for the purposes of Figure 15. This figure clearly illustrates the untenable position in which the District finds itself. Recurring revenue exceeded recurring expense leading to a sizeable reserve build-up from FY 2009 through FY 2013. However, FY 2014-2015 shows a reversal where recurring expenses are considerably higher than recurring revenue, even after the District has cut where it could and still provide the current level of service. FY 2016 shows that trend is still holding but at a much lesser gap due to anticipated increases in property value originally estimated at 30%. Should values increase less than projected leading into FY 2016 (original 30% estimate has since been reduced to 25.5% based upon weighted average of Garfield and Pitkin counties received on July 23, 2015 from staff; this represents 94.8% or District tax revenue stream) and subsequently FY 2018 (5%) and FY 2020 (a further 5%) then the reserve will be depleted sooner absent a reduction in service level.

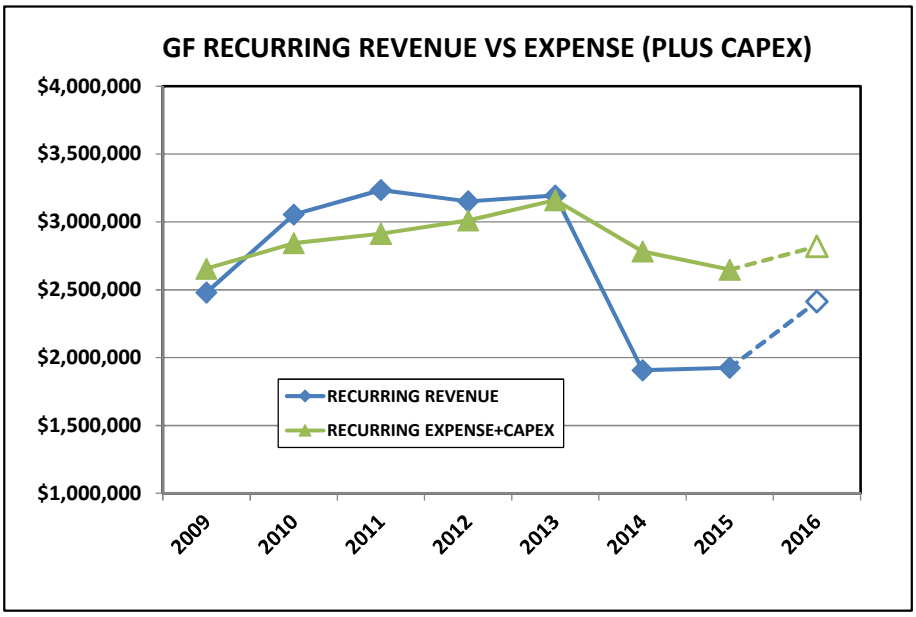



Figure 16 – Annual General Fund recurring revenue vs recurring expense w capital & debt service

Annual capital replacement at some level should be considered as a recurring expense and a fire rescue service of the size of the District should be able to function well with an annual capital replacement budget of $2-300,000. Figure 16 is a hypothetical view of what the recurring revenue versus recurring expense chart would have looked like had the District actually spent the $300,000 it annually transferred to the CF budget. Also included as a recurring expense, is the debt service on capital rolling stock purchased through loan proceeds. Additionally, the minimal capital equipment actually purchased each fiscal year is included in recurring expenses.

In actuality, given the cost of some of the capital apparatus, the District's approach of setting aside funding each year would allow it to periodically purchase these larger units for cash and avoid debt; a prudent approach. Chief Leach and his staff have developed an apparatus replacement program that, while it could be improved upon, is an excellent tool that can be used to smooth out capital replacement

over time rather than "spiking" replacement as equipment reaches its maximum life all at the same time. Unfortunately, the reserve funding built in the CF budget has been required to fund non-capital recurring expenses (personnel and functional division operating) as discussed above. Models presented later will show the District what is needed to return to this prudent financial management practice.

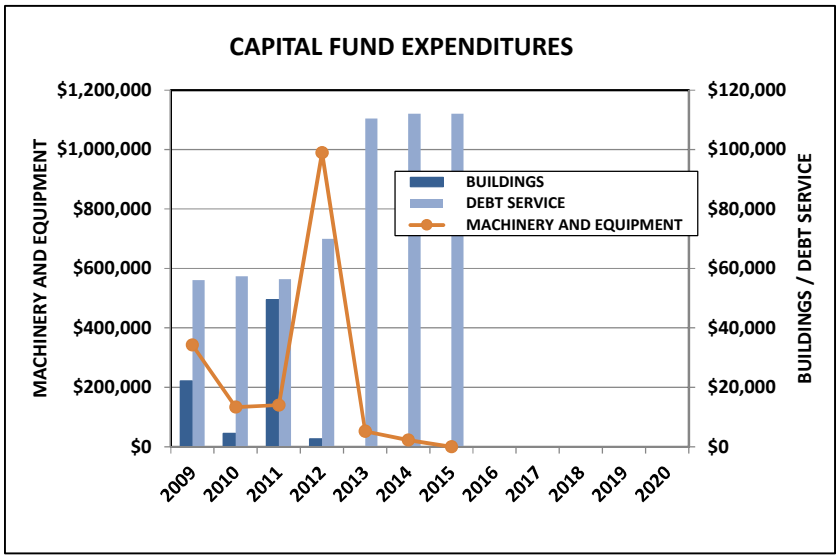



Figure 17 – Annual audited expenditures in the Capital Fund

Figure 17 illustrates actual audited capital spending by fiscal year by the District. The largest category of capital spending is machinery and equipment which is shown by the brown line and the axis on the left side of the chart. Other than the spike in FY 2012, capital machinery and equipment spending has been steadily decreasing to essentially none in FY 2014-15. The spike in FY 2012 represents the expenditure of loan proceeds on capital apparatus. A corresponding increase in annual debt service payments is seen immediately following the spike in machinery and equipment. This is the debt service load realized as a result of the prior year apparatus purchase with loan proceeds. The debt service and building spending are shown as bars with the axis on the right side of the chart.

Also included in debt service, although not technically accurate, is the copier lease which runs approximately $9,000 annually. The debt service payment on the Redstone station was just under $50,000 annually with the last payment in FY 2011. The first truck debt service payment began in FY 2012.

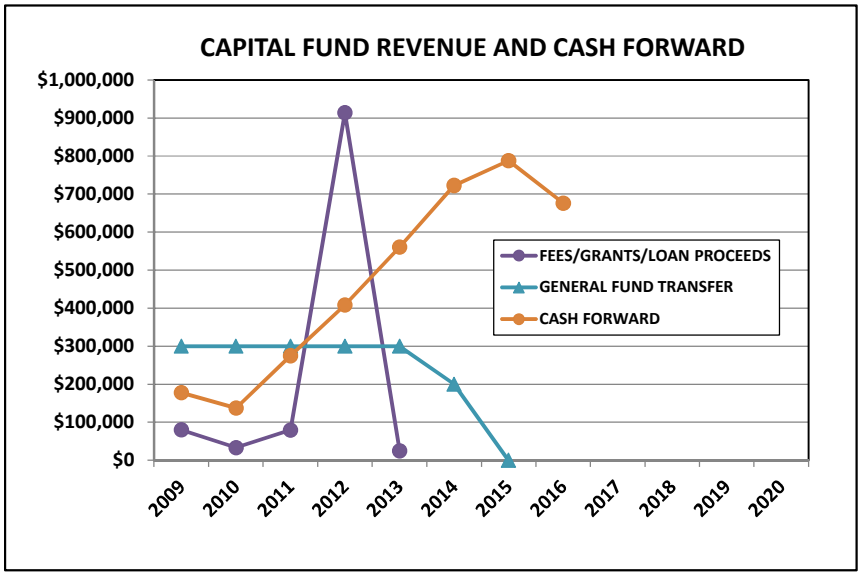



Figure 18 – "Revenue" sources for the Capital Fund by fiscal year

Figure 18 shows CF revenue sources by fiscal year. The purple line shows grants, impact fees and loan proceeds; all of which combined are generally fairly low, except for the spike in FY 2012. These revenue sources are not predictable enough to rely on as a recurring source of revenue. The most reliable source of revenue for the CF is the transfer from the GF budget (blue line) which is why the cash forward has grown significantly in this fund. Therefore, indirectly, the CF is seen as a subset of the GF and is modeled as such. As the transfer from the GF has dropped off in FY 2014-15, the cash forward has begun to decline as this reserve is then used to service the debt.

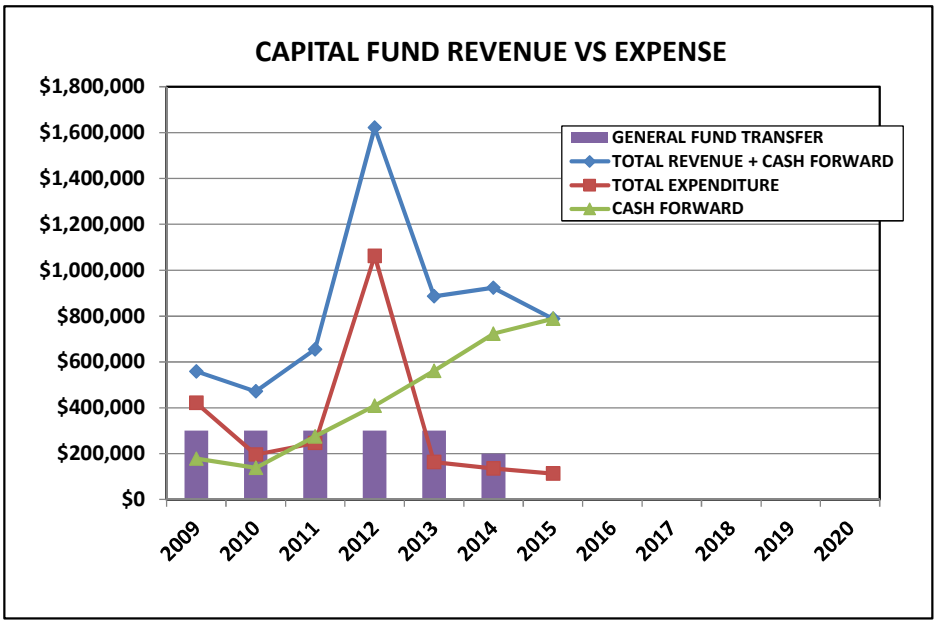



Figure 19 – Annual total capital fund expense versus revenue and cash balance

Figure 19 illustrates even more clearly this relationship between the GF transfer, the CF build-up of cash reserves which serves as the principal source of "revenue" growth and drop-off of revenue as the transfer is lowered to $0 and cash forward is used to service the debt. The overall expenditure decrease through time is also quite apparent with the exception of the use of loan proceeds in FY 2012. In the later years shown, the expense is almost exclusively debt service which will negatively affect the District as it does not have the capacity to replace other smaller vehicles and small equipment such as radios, nozzles, air packs, etc. Subsequent modeling will address this issue and build in an annual equipment replacement funding mechanism. Again, an annual target of $2-300,000 should be adequate and should ultimately include debt service. With an appropriate long-term replacement schedule for all capital equipment and apparatus, one can adequately plan this as a recurring expense over time making it much easier to plan for funding needs and explain those needs to the public which must fund them.

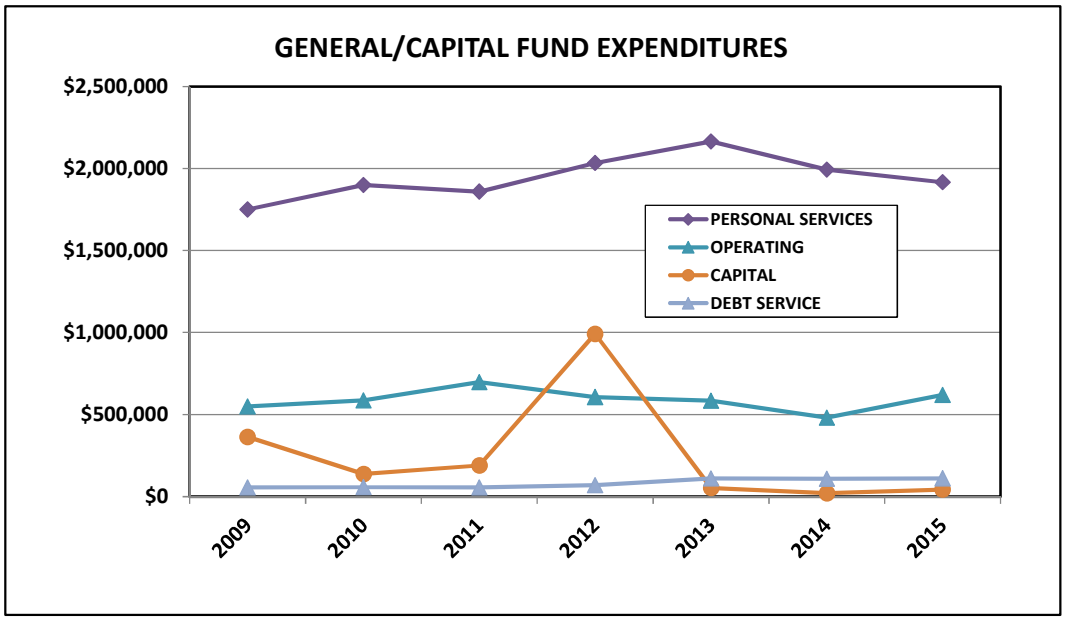



Figure 20 – Combined annual General/Capital Fund expenditures by major category

As discussed earlier, for modeling purposes, it makes most sense to combine the GF and CF budgets. Figure 20 shows how past budgets for FY 2009-2014 and adopted FY 2015 would look if those two budgets are combined into one expenditure budget. Four major spending categories are shown with the major cost being various personnel costs as identified earlier and shown here in purple. Total operating expenses are shown in blue and were discussed previously. Also shown here are capital and debt service costs through time relative to the GF operating budget categories. The GF transfer is not shown as an expense as that funding is actually merely retained as cash forward in the CF budget.

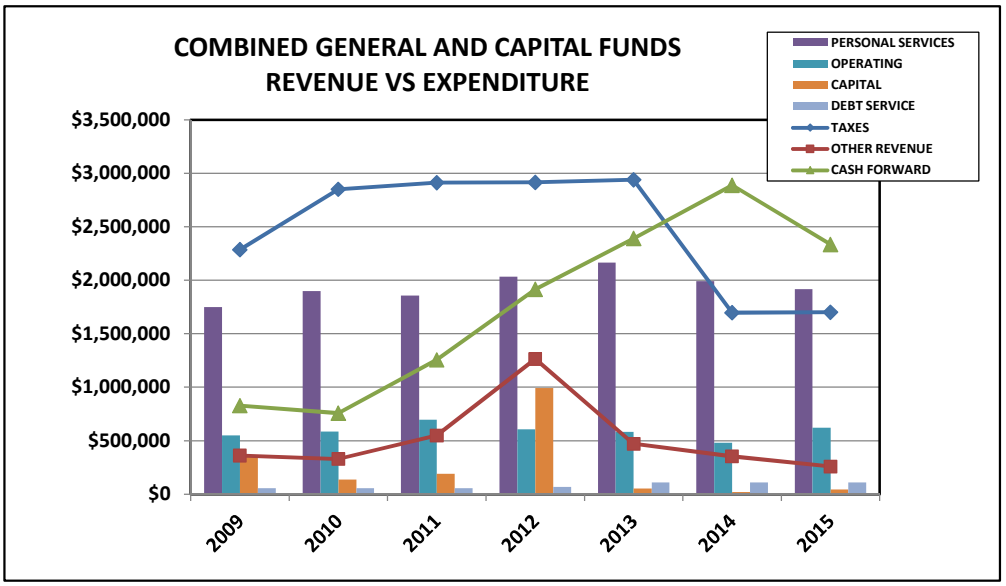



Figure 21 – Combined annual GF/CF expenditures by category versus revenue/cash forward

Figure 21 puts revenue and expenditures together for the GF and CF budgets through time and each of these and their relationships have been previously discussed.

### 5.4.2 Expenditure Trends – Bond Funds

| | FY 2009[1] | FY 2010[1] | FY 2011[1] | FY 2012[1] | FY 2013[1] | FY 2014[2] | FY 2015[3] | FY 2016 |
|---|---|---|---|---|---|---|---|---|
| **BOND FUND REVENUE** | | | | | | | | |
| Property Tax | $626,769 | $621,427 | $622,155 | $621,846 | $618,936 | $627,637 | $623,012 | |
| Abated Tax | $0 | $0 | $1,934 | $2,442 | $1,993 | $1,238 | $2,488 | |
| Interest on Deposits | $356 | $141 | $96 | $217 | $160 | $150 | $150 | |
| Lawsuit Settlement | $0 | $0 | $0 | $33,989 | $0 | $0 | $0 | |
| Miscellaneous | $0 | $0 | $0 | $0 | $0 | $0 | $0 | |
| | | | | | | | | |
| **TOTAL REVENUE** | **$627,125** | **$621,568** | **$624,185** | **$658,494** | **$621,089** | **$629,025** | **$625,650** | **$0** |
| | | | | | | | | |
| **CASH FORWARD** | **$61,235** | **$64,996** | **$66,854** | **$69,770** | **$106,359** | **$106,611** | **$106,761** | **$106,911** |
| | | | | | | | | |
| | | | | | | | | |
| **BOND FUND EXPENDITURES** | | | | | | | | |
| Treasurer Fees | $14,326 | $14,122 | $14,231 | $14,467 | $14,412 | $18,500 | $18,500 | |
| 96 Bond Issue, Principal | $0 | $0 | $0 | $0 | $0 | $0 | $0 | |
| 96 Bond Issue, Interest | $0 | $0 | $0 | $0 | $0 | $0 | $0 | |
| 2004 Bond Issue, Principal | $120,000 | $125,000 | $315,000 | $325,000 | $0 | $355,000 | $0 | |
| 2004 Bond Issue, Interest | $66,338 | $61,838 | $56,838 | $44,238 | $0 | $15,975 | $0 | |
| 2007 Bond Issue, Principal | $220,000 | $225,000 | $50,000 | $55,000 | $395,000 | $60,000 | $70,533 | |
| 2007 Bond Issue, Interest | $202,400 | $193,600 | $184,600 | $182,600 | $210,825 | $178,200 | $535,267 | |
| Fiscal Agents Fees | $300 | $150 | $600 | $600 | $600 | $1,200 | $1,200 | |
| Refunding Fee | $0 | $0 | $0 | $0 | $0 | $0 | $0 | |
| Miscellaneous | $0 | $0 | $0 | $0 | $0 | $0 | $0 | |
| | | | | | | | | |
| **TOTAL EXPENDITURES** | **$623,364** | **$619,710** | **$621,269** | **$621,905** | **$620,837** | **$628,875** | **$625,500** | **$0** |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| **TOTAL REVENUE + CASH FORWARD** | **$688,360** | **$686,564** | **$691,039** | **$728,264** | **$727,448** | **$735,636** | **$732,411** | **$106,911** |
| **LESS TOTAL EXPENDITURE** | **$623,364** | **$619,710** | **$621,269** | **$621,905** | **$620,837** | **$628,875** | **$625,500** | **$0** |
| **EQUAL CASH FORWARD** | **$64,996** | **$66,854** | **$69,770** | **$106,359** | **$106,611** | **$106,761** | **$106,911** | **$106,911** |
| | | | | | | | | |
| [1]Audited budget | | | | | | | | |
| [2]Adopted budget | | | | | | | | |
| [3]Proposed budget | | | | | | | | |

Table 10 – Annual Bond fund revenue versus expenditures

Table 10 illustrates both revenue and expense from FY 2009 through adopted FY 2015. As this fund has its own millage rate and is a non-discretionary fund that must be funded each year regardless of variation in property values, it is not addressed in the economic models. However, it is instructive to note how it varies through time. The net effect is that expenses are relatively stable between $600-625,000 annually requiring a similar revenue level to sustain the principal and interest payments. The fund is currently in good financial condition and has a healthy cash balance which has been growing over time and is now approximately $100,000.

### 5.4.3 Expenditure Trends –Volunteer Firefighter Pension Fund

Table 11 represents the Volunteer Firefighter Pension Fund which is a fiduciary fund budgeted and accounted for separately from the discretionary General Operating and Capital Funds of the District. For the purposes of the economic models, the tax revenue used for this fund is shown as a transfer from the GF budget as the GF millage rate is the source of the relatively minor tax proceeds placed into this fund annually. The State of Colorado also provides a match to the District tax funds. The GF "transfer" has varied since FY 2009 from a low of $40,000 to a high of just under $80,000 in FY 2011. This fund carries a healthy cash balance which is set aside to cover actuarial obligations and this is growing annually.

| | FY 2009[1] | FY 2010[1] | FY 2011[1] | FY 2012[1] | FY 2013[1] | FY 2014[2] | FY 2015[3] | FY 2016 |
|---|---|---|---|---|---|---|---|---|
| **PENSION FUND REVENUE** | | | | | | | | |
| Property Tax | $40,000 | $64,132 | $78,831 | $51,060 | $62,369 | $71,818 | $63,727 | |
| FPPA Matching Funds | $36,068 | $36,000 | $57,719 | $70,948 | $45,954 | $56,545 | $64,636 | |
| Interest on Deposits | $256,473 | $232,770 | $27,307 | $218,487 | $291,031 | $195,360 | $100,000 | |
| Miscellaneous | $0 | $0 | $0 | $0 | $0 | $0 | $0 | |
| | | | | | | | | |
| **TOTAL REVENUE** | **$332,541** | **$332,902** | **$163,857** | **$340,495** | **$399,354** | **$323,723** | **$228,363** | **$0** |
| | | | | | | | | |
| **CASH FORWARD** | **$1,607,623** | **$1,751,558** | **$1,883,193** | **$1,837,418** | **$1,965,804** | **$2,155,602** | **$2,193,722** | **$2,131,085** |
| | | | | | | | | |
| | | | | | | | | |
| **PENSION FUND EXPENDITURES** | | | | | | | | |
| FPPA Fees and Expenses | $12,194 | $13,074 | $14,057 | $16,695 | $11,734 | $13,000 | $13,000 | |
| Treasurer Fees | $915 | $1,788 | $1,796 | $1,183 | $1,448 | $2,000 | $2,000 | |
| Benefits | $157,950 | $167,225 | $174,600 | $174,600 | $175,125 | $250,000 | $250,000 | |
| Disability Insurance | $17,547 | $19,180 | $19,179 | $19,631 | $21,249 | $20,000 | $25,000 | |
| Fidelity Bond | $0 | $0 | $0 | $0 | $0 | $603 | $1,000 | |
| Miscellaneous | $0 | $0 | $0 | $0 | $0 | $0 | $0 | |
| | | | | | | | | |
| **TOTAL EXPENDITURES** | **$188,606** | **$201,267** | **$209,632** | **$212,109** | **$209,556** | **$285,603** | **$291,000** | **$0** |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| **TOTAL REVENUE + CASH FORWARD** | **$1,940,164** | **$2,084,460** | **$2,047,050** | **$2,177,913** | **$2,365,158** | **$2,479,325** | **$2,422,085** | **$2,131,085** |
| **LESS TOTAL EXPENDITURE** | **$188,606** | **$201,267** | **$209,632** | **$212,109** | **$209,556** | **$285,603** | **$291,000** | **$0** |
| **EQUAL CASH FORWARD** | **$1,751,558** | **$1,883,193** | **$1,837,418** | **$1,965,804** | **$2,155,602** | **$2,193,722** | **$2,131,085** | **$2,131,085** |
| | | | | | | | | |
| [1]Audited budget | | | | | | | | |
| [2]Adopted budget | | | | | | | | |
| [3]Proposed budget | | | | | | | | |

Table 11– Annual Pension Fund revenue versus expenditures

## 5.5 Economic Model - Overview

In order to evaluate the funding needed to support the current and projected levels of service, it is critical that the department have a reasonable financial model with which to evaluate various financial and service level impacts on taxpayers. In order to develop that model, there are many input parameters that are required. Almont has worked with staff to understand the current and past budgets, past and projected workloads, and various costs and needs facing the department. To the extent possible, information has been gathered from various sources to develop model assumptions. Where critical, these assumptions will be pointed out so that policy makers can understand both the power and limitations of the model as future funding and service level decisions are contemplated.

As already discussed, the model will only focus on the discretionary funds; that is, the General Fund operating and Capital Fund budgets. These two funds are combined in the following model scenarios as they are sourced from the same millage; the GF millage rate. Further, the Pension Fund receives its tax revenue from the GF millage rate. In order to model this correctly, the tax revenue estimated for the Pension Fund over the next five years will be shown as a transfer from the GF budget to the PF budget. Since the revenue derives from the GF millage, total millage shown in the model will cover all the millage needed for all three funds when, ultimately, they are budgeted separately.

Once developed, the model was then used to create various scenarios to illustrate for board members what the financial and service level impacts on the department and the citizens it serves might be under various situations. Three basic scenarios with several funding variants were developed and presented for District review. The first scenario projects the current level of service over the next five years with no capital replacement and no increase in millage. A variant of this scenario maintains current LOS but increases the millage to support it. District staff state originally that they expected property values to increase 30% between FY 2015 and FY 2016. However, recently released estimates from Garfield and Pitkin counties (provided to Almont on July 23, 2015), which represent approximately 95% of the District's tax revenue stream, are closer to 25.5% as a weighted average. The base scenario discussed later includes a sensitivity analysis to show the impact of property value variability on the anticipated revenue stream.

Since properties are reassessed on a two-year cycle, staff has further assumed a 5% increase between FY 2017-18 and FY 2019-20. These increases are built into the model and used in each of the scenarios presented. It is important to understand that if property values increase or decrease outside these assumptions, it could have significant impacts on the recommended millage rates needed to sustain each the department under each scenario. Budget figures for the adopted FY 2015 fiscal year are used as the base year for the model which extends to FY 2020.

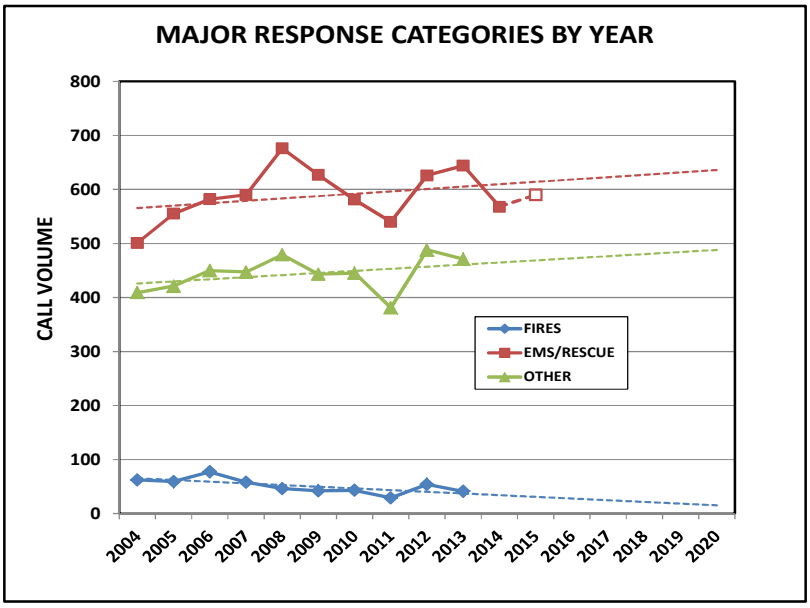



Figure 22– Annual call volume by major category

Figure 22 shows annual call volume for the District by major category from FY 2004 and projected through FY 2015 for EMS/Rescue calls. Note that fire calls have actually been going down over time. No attempt has been made here to differentiate any further and no weight is given for workload of fire calls. For example, major wildfires may require a great deal more time and resource than a vehicle fire. Because patient transport revenue is the only other significant revenue source available and

EMS/Rescue calls are a significant workload, tracking closely with other call types, their rate of increase is used as an economic factor in the model. An analysis of these calls indicates that their rate of increase has historically been approximately 1.2% per year. This provides a basis for the growth factor used in the model.

A salary level adjustment of 2% per year is used in the model and is applied to the entire personnel services budget. Further, in the expenditure portion of the model the personnel services budget is increased annually by an approximate 1% additionally. This is in recognition of unpredictable but generally significant increases experienced in health care costs. In many instances these can be as high as 10% per year. An inflation factor of 2% per year is used based upon best estimates currently available of CPI changes anticipated. In some instances, such as fire apparatus, we have seen increases of 5% or more. However, an overall inflation factor for all categories of 2% is not unreasonable at this point in time. Since each model scenario uses these same assumptions, the effect of service level increases, etc. can be tested. Should the District wish to change any of these assumptions that can be done at a later date to determine sensitivity on millage rates.

The model is divided into five main sections. First are the *Economic Variables* as just discussed. There are six columns representing respectively, the base year (adopted FY 2015) and years one-five of the model (FY 2016-20). Included in the economic variables is the District net assessed property value with the increases postulated by District staff. It is assumed that the State of Colorado will not change the factor applied to actual value to arrive at net assessed value to which the millage rate is actually applied.

The next section of the model identifies *Revenues and Other Sources of Funds*. The primary source of funding is ad valorem taxes. The millage rate for the model can be changed and is with each scenario presented in order to optimize ending fund balance, the importance of which will be discussed below. Fees are grown through application of growth and inflation factors. Utilization of prior year ending fund balance is shown in this section as well which gives an indication of whether recurring revenues balance~~s~~ recurring expenditures or not.

It is important to note that for the base year (FY 2015), the General Fund Operating millage rate is 5.903 mills. There is an additional small millage that represents the annually required refund/abatement program (this has varied between 0.024 and 0.042 mills between FY 2009 and FY 2015) in the General Fund. Rather than show this additional millage in the model since it is variable from year-to-year, an additional revenue line item was added for this revenue source (it is also included as an annual expense in the operating expenditure budget). Annual average revenue for this item from FY 2009-2015 is $11,610. The base year figure is slightly less at the adopted amount of $9,129 which is increased by the application of the growth and inflation factors.

The next section of the model identifies *Expenditures*. Major components broken out are personnel, operating, and current equipment (capital and leases). Debt service is shown under the "lease payments" item. Personnel are increased approximately 3% annually (2% specifically for salary increases and an additional 1% to cover such items as health insurance, workers' compensation, etc.

which may increase at significantly higher rates) as discussed while the other items are increased 2% per year. Debt service is constant. Also shown is a transfer to the Pension Fund which represents the Pension Fund equivalent millage portion of the total GF millage shown in this model.

The most important section of the model is the *Fund Balance on Reserve Analysis* section. The first line shows the total ending fund balance for the combined GF/CF budgets. The next line provides for a minimum reserve. It is recommended that the District utilize this as a guideline for future budgeting and is consistent with generally accepted government accounting principles. The first component of the minimum reserve is a reserve for cash flow. That is, sufficient cash to cover the first several months of personnel services and operating expenses which is generally the time prior to receiving significant tax revenues in the new fiscal year. The model actually uses 3 months of expected tax revenue as the reserve for cash flow.

The second component is a reserve for contingencies such as major wildfires, catastrophic equipment failures, etc. This is generally considered to be 5% of the recurring expenditure budget. The most important line of the model is the last line of this section; "Ending Fund Balance Over (Under) Minimum. As long as this number is positive, the District is on sound financial footing. However, if this number becomes significantly negative and the trend holds, the District must make changes either cutting expenses, reducing service level and/or increasing revenue.

The power of this model is that the ending fund balance over or under minimum line is then used to drive the millage rate needed to sustain the modeled level of service desired and shown in each scenario. Various other revenue or expenditure inputs can be modeled but these are the most significant.

### 5.5.1 Economic Model – Scenario 1A-B Current Service Level No Capital Replacement Program

| Plan Year | Base Year | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|---|---|---|---|---|---|---|
| Fiscal Year | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| **ECONOMIC VARIABLES** | | | | | | |
| EMS/Rescue Call Volume | 617 | 625 | 632 | 640 | 647 | 655 |
| % Increase Over Prior Year | 1.20% | 1.20% | 1.20% | 1.20% | 1.20% | 1.20% |
| District Net Assessed Property Value | 275,863,200 | 346,208,316 | 346,208,316 | 363,518,732 | 363,518,732 | 381,694,668 |
| % Increase Over Prior Year | 0.00% | 25.50% | 0.00% | 5.00% | 0.00% | 5.00% |
| Salary Level Adjustment | | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% |
| Price Level Adjustment | | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% |
| **REVENUES AND OTHER SOURCES OF FUNDS** | | | | | | |
| Ad Valorem Tax Millage Rate | 5.903 | 5.903 | 5.903 | 5.903 | 5.903 | 5.903 |
| % Increase (Decrease) Millage Rate | | 0% | 0% | 0% | 0% | 0% |
| Ad Valorem Tax Revenue - Estimated Actual | 1,620,278 | 2,033,449 | 2,033,449 | 2,135,122 | 2,135,122 | 2,241,878 |
| Delinquent Ad Valorem | 1,000 | 1,032 | 1,065 | 1,099 | 1,134 | 1,171 |
| Abated Tax | 9,129 | 9,423 | 9,727 | 10,041 | 10,365 | 10,699 |
| Specific Ownership Tax | 120,000 | 123,869 | 127,863 | 131,985 | 136,240 | 140,632 |
| Ambulance Fees | 225,000 | 232,254 | 239,742 | 247,471 | 255,449 | 263,685 |
| Other Fees | - | - | - | - | - | - |
| Interest & Miscellaneous | 38,300 | 39,535 | 40,810 | 42,126 | 43,484 | 44,886 |
| Impact Fees | - | - | - | - | - | - |
| Lease Purchase Proceeds | - | - | - | - | - | - |
| Other Revenue | - | - | - | - | - | - |
| Total Other Revenue Sources | 393,429 | 406,113 | 419,207 | 432,722 | 446,672 | 461,073 |
| Total Revenues | 2,013,707 | 2,439,562 | 2,452,656 | 2,567,844 | 2,581,794 | 2,702,951 |
| Utilization of Fund Balance | 741,946 | 388,128 | 449,086 | 410,023 | 474,332 | 433,626 |
| **Total Revenues and Other Sources of Funds** | 2,755,653 | 2,827,690 | 2,901,742 | 2,977,867 | 3,056,126 | 3,136,577 |
| **EXPENDITURES** | | | | | | |
| Current Personnel | 1,916,421 | 1,973,914 | 2,033,131 | 2,094,125 | 2,156,949 | 2,221,657 |
| Current Operating | 619,765 | 632,160 | 644,803 | 657,699 | 670,853 | 684,270 |
| Current Equipment | 43,704 | 44,578 | 45,470 | 46,379 | 47,307 | 48,253 |
| Equipment Acquired - Lease Purchase | - | - | - | - | - | - |
| Lease Purchase Payments | 112,036 | 112,036 | 112,036 | 112,036 | 112,036 | 112,036 |
| Current Major Capital | - | - | - | - | - | - |
| Current Transfer to Pension Fund | 63,727 | 65,002 | 66,302 | 67,628 | 68,981 | 70,361 |
| Cumulative FTE (Career FF) | - | - | - | - | - | - |
| Engine (Equipped) | - | - | - | - | - | - |
| Ambulance (Equipped) | - | - | - | - | - | - |
| Brush Truck (Equipped) | - | - | - | - | - | - |
| Tanker (Equipped) | - | - | - | - | - | - |
| Utility (Equipped) | - | - | - | - | - | - |
| Other Equipment | - | - | - | - | - | - |
| Other Expenditures or Adjustments | - | | | | | |
| **Total Expenditures** | 2,755,653 | 2,827,690 | 2,901,742 | 2,977,867 | 3,056,126 | 3,136,577 |
| **FUND BALANCE AND RESERVE ANALYSIS** | | | | | | |
| **Ending General Operating/Capital Fund Balance** | 2,146,905 | 1,758,777 | 1,309,691 | 899,668 | 425,336 | (8,290) |
| Minimum Reserve: Cash Flow + 5% Contingency | 542,852 | 649,747 | 653,449 | 682,674 | 686,587 | 717,298 |
| Ending Fund Balance Over (Under) Minimum | 1,604,053 | 1,109,030 | 656,242 | 216,994 | (261,251) | (725,588) |
| **DECISION UNITS AND UNIT COSTS** | | | | | | |
| FTE (Career FF) | | - | - | - | - | - |
| Engine (Equipped) | | - | - | - | - | - |
| Ambulance (Equipped) | | - | - | - | - | - |
| Brush Truck (Equipped) | | - | - | - | - | - |
| Tanker (Equipped) | | - | - | - | - | - |
| Utility (Equipped) | | - | - | - | - | - |
| Cumulative New FTE (Career FF) | | - | - | - | - | - |
| Cumulative Total FTE (Career FF) | 18 | 18 | 18 | 18 | 18 | 18 |
| Cumulative Number of Stations | 5 | 5 | 5 | 5 | 5 | 5 |
| FTE (Operating) | 65,000 | 66,300 | 67,626 | 68,979 | 70,359 | 71,766 |
| Engine (Equipped) | 350,000 | 357,000 | 364,140 | 371,423 | 378,851 | 386,428 |
| Ambulance (Equipped) | 165,000 | 168,300 | 171,666 | 175,099 | 178,601 | 182,173 |
| Brush Truck (Equipped) | 95,000 | 96,900 | 98,838 | 100,815 | 102,831 | 104,888 |
| Tanker (Equipped) | 210,000 | 214,200 | 218,484 | 222,854 | 227,311 | 231,857 |
| Utility (Equipped) | 40,000 | 40,800 | 41,616 | 42,448 | 43,297 | 44,163 |

Table 12– Scenario 1A Current service level fund balance burn rate with no millage increase

Table 12 shows Scenario 1A which effectively models the current level of service without any capital equipment replacement. Further, the current GF millage rate of 5.903 mills is retained throughout the five year period. Under the *Fund Balance and Reserve Analysis* section, one can see that the current "burn rate" of the cash reserve will reduce the ending fund balance over the minimum needed from $1.6 million in the base year to $217,000 in year three (FY 2018). In year four (FY 2019), the ending fund balance is actually $260,000 less than the minimum needed for cash flow and reserve; a trend that continues to worsen in the final year of the model absent any changes in revenue or expenditures.

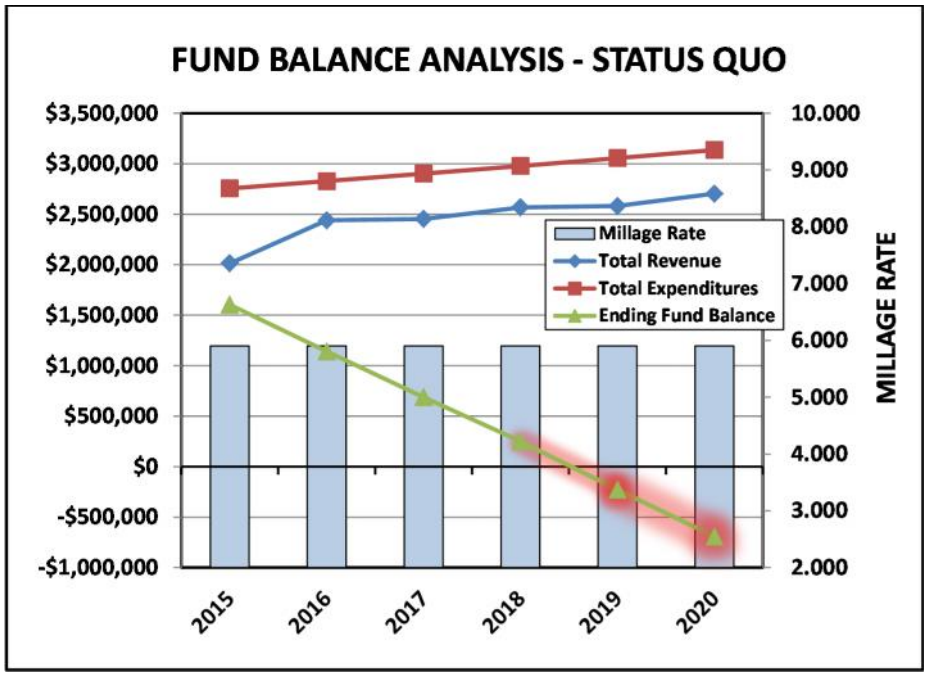



Figure 23– Scenario 1A Current LOS fund balance analysis with no millage increase

This scenario is untenable for the District from several respects. At a minimum, the District "burns" through its reserves such that it is well below the minimum needed by FY 2020 as shown visually in Figure 23 where the green line represents ending fund balance. The red shadow shows where the fund balance goes negative. The blue bars show millage rate static with the axis on the right side of the graph. This continues the current trajectory of the District where revenues are less than expenditures and fund balance makes up the difference each year. Further, there is essentially no capital replacement funding available which ultimately will affect the District's ability to carry out its mission as equipment breaks down and cannot be repaired or replaced.

The originally estimated increase in property values was reported as 30%. Subsequently, following release of values for FY 2016 by Garfield and Pitkin counties, the estimated property value increase was lowered to 25.5% as a weighted average for these two counties which represent approximately 95% of the District's tax revenue stream. Figure 24 shows a sensitivity analysis of property value variability from 30% to 20% to illustrate what happens to fund balance above or below minimum needed if the

anticipated property values increase 20%, 25% and 30%; respectively. The net effect of reducing estimated property value increase by 5% in FY 2016 (from original 30% estimate) is to bring the fund balance into a negative status one year sooner in out years of this scenario. For example, at a 30% property value increase in FY 2016, and no change in millage or service level, the fund balance goes negative in FY 2020. At a 25% increase in value for FY 2016, the fund balance goes negative in FY 2019.

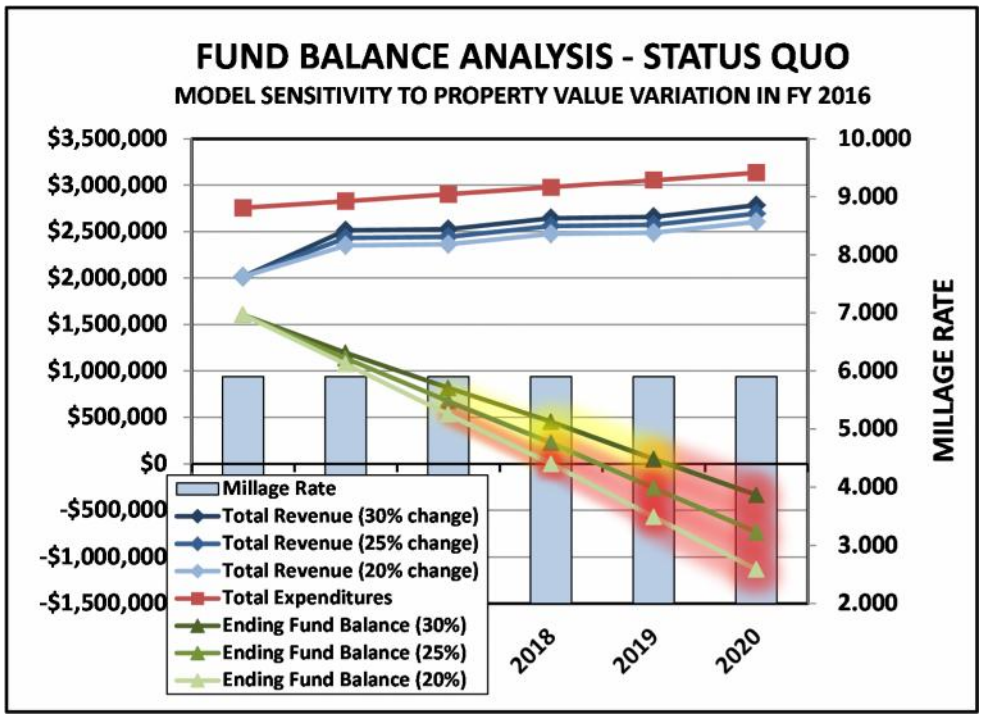



Figure 24 - Scenario 1A Sensitivity to Variation in Property Values (20 – 30%)

Conversely, Scenario 1B shown in Table 13 shows the same service level through time, again with no capital replacement, but with a millage rate that prevents the ending fund balance from going below the minimum needed to sustain the District on a proper financial footing. The current millage rate of 5.903 mills can be maintained for the first two years of the model after which it is raised approximately 0.5 mills in year three (FY 2018) and another 0.5 mills in year four (FY 2019) where it remains for two years.

The impact of this scenario on ending fund balance is better illustrated by Figure 25 which again shows millage rate each year as blue bars on the right-hand axis. The ending fund balance is shown in green with the axis on the left. Note that the ending fund balance is reduced significantly for the first three years as millage rate is kept flat in years one-two and raised 0.5 mils in year three, despite the 25.5% modeled increase in net assessed property value in FY 2016. As the millage rate is increased another 0.5 mills in the final two years, the trajectory of the ending fund balance flattens out to approximately $200-250,000 over the minimum for the remaining two years. This begins to show the District how it might begin to handle some capital replacement. Further, notice that revenue now approaches expenditures such that in the final year, revenues approximate expenditures. However, this scenario, while

addressing the issue of recurring expenses exceeding recurring revenues and negative fund balances, does not address service level needs of the District.

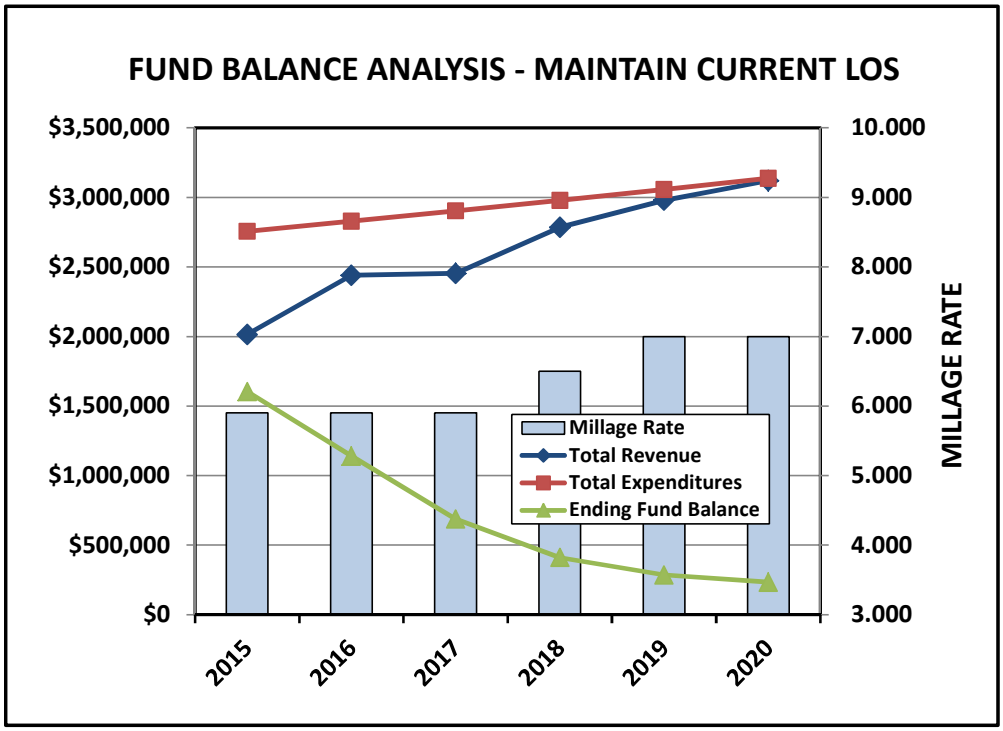



Figure25– Scenario 1B Current LOS maintained, fund balance analysis with millage increase

Scenarios 2 and 3 below address first, a solid capital replacement program and second, both a capital replacement program and a service level improvement by providing additional cross-trained career staff over a five-year period.

| Plan Year | Base Year | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|---|---|---|---|---|---|---|
| Fiscal Year | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| | | | | | | |
| **ECONOMIC VARIABLES** | | | | | | |
| | | | | | | |
| EMS/Rescue Call Volume | 617 | 625 | 632 | 640 | 647 | 655 |
| % Increase Over Prior Year | 1.20% | 1.20% | 1.20% | 1.20% | 1.20% | 1.20% |
| | | | | | | |
| District Net Assessed Property Value | 275,863,200 | 346,208,316 | 346,208,316 | 363,518,732 | 363,518,732 | 381,694,668 |
| % Increase Over Prior Year | 0.00% | 25.50% | 0.00% | 5.00% | 0.00% | 5.00% |
| | | | | | | |
| Salary Level Adjustment | | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% |
| Price Level Adjustment | | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% |
| | | | | | | |
| **REVENUES AND OTHER SOURCES OF FUNDS** | | | | | | |
| | | | | | | |
| Ad Valorem Tax Millage Rate | 5.903 | 5.903 | 5.903 | 6.500 | 7.000 | 7.000 |
| % Increase (Decrease) Millage Rate | | 0% | 0% | 10% | 8% | 0% |
| Ad Valorem Tax Revenue - Estimated Actual | 1,620,278 | 2,033,449 | 2,033,449 | 2,351,057 | 2,531,908 | 2,658,503 |
| | | | | | | |
| Delinquent Ad Valorem | 1,000 | 1,032 | 1,065 | 1,099 | 1,134 | 1,171 |
| Abated Tax | 9,129 | 9,423 | 9,727 | 10,041 | 10,365 | 10,699 |
| Specific Ownership Tax | 120,000 | 123,869 | 127,863 | 131,985 | 136,240 | 140,632 |
| Ambulance Fees | 225,000 | 232,254 | 239,742 | 247,471 | 255,449 | 263,685 |
| Other Fees | - | - | - | - | - | - |
| Interest & Miscellaneous | 38,300 | 39,535 | 40,810 | 42,126 | 43,484 | 44,886 |
| Impact Fees | - | - | - | - | - | - |
| Lease Purchase Proceeds | - | - | - | - | - | - |
| Other Revenue | - | - | - | - | - | - |
| Total Other Revenue Sources | 393,429 | 406,113 | 419,207 | 432,722 | 446,672 | 461,073 |
| | | | | | | |
| Total Revenues | 2,013,707 | 2,439,562 | 2,452,656 | 2,783,779 | 2,978,580 | 3,119,576 |
| | | | | | | |
| Utilization of Fund Balance | 741,946 | 388,128 | 449,086 | 194,088 | 77,546 | 17,001 |
| | | | | | | |
| **Total Revenues and Other Sources of Funds** | 2,755,653 | 2,827,690 | 2,901,742 | 2,977,867 | 3,056,126 | 3,136,577 |
| | | | | | | |
| **EXPENDITURES** | | | | | | |
| | | | | | | |
| Current Personnel | 1,916,421 | 1,973,914 | 2,033,131 | 2,094,125 | 2,156,949 | 2,221,657 |
| Current Operating | 619,765 | 632,160 | 644,803 | 657,699 | 670,853 | 684,270 |
| Current Equipment | 43,704 | 44,578 | 45,470 | 46,379 | 47,307 | 48,253 |
| Equipment Acquired - Lease Purchase | - | - | - | - | - | - |
| Lease Purchase Payments | 112,036 | 112,036 | 112,036 | 112,036 | 112,036 | 112,036 |
| Current Major Capital | - | - | - | - | - | - |
| Current Transfer to Pension Fund | 63,727 | 65,002 | 66,302 | 67,628 | 68,981 | 70,361 |
| Cumulative FTE (Career FF) | - | - | - | - | - | - |
| Engine (Equipped) | - | - | - | - | - | - |
| Ambulance (Equipped) | - | - | - | - | - | - |
| Brush Truck (Equipped) | - | - | - | - | - | - |
| Tanker (Equipped) | - | - | - | - | - | - |
| Utility (Equipped) | - | - | - | - | - | - |
| Other Equipment | - | - | - | - | - | - |
| Other Expenditures or Adjustments | - | - | - | - | - | - |
| **Total Expenditures** | 2,755,653 | 2,827,690 | 2,901,742 | 2,977,867 | 3,056,126 | 3,136,577 |
| | | | | | | |
| **FUND BALANCE AND RESERVE ANALYSIS** | | | | | | |
| | | | | | | |
| **Ending General Operating/Capital Fund Balance** | 2,146,905 | 1,758,777 | 1,309,691 | 1,115,603 | 1,038,057 | 1,021,056 |
| | | | | | | |
| Minimum Reserve: Cash Flow + 5% Contingency | 542,852 | 649,747 | 653,449 | 736,658 | 785,783 | 821,455 |
| Ending Fund Balance Over (Under) Minimum | 1,604,053 | 1,109,030 | 656,242 | 378,945 | 252,274 | 199,601 |
| | | | | | | |
| **DECISION UNITS AND UNIT COSTS** | | | | | | |
| | | | | | | |
| FTE (Career FF) | | - | - | - | - | - |
| Engine (Equipped) | | - | - | - | - | - |
| Ambulance (Equipped) | | - | - | - | - | - |
| Brush Truck (Equipped) | | - | - | - | - | - |
| Tanker (Equipped) | | - | - | - | - | - |
| Utility (Equipped) | | - | - | - | - | - |
| | | | | | | |
| Cumulative New FTE (Career FF) | | - | - | - | - | - |
| Cumulative Total FTE (Career FF) | 18 | 18 | 18 | 18 | 18 | 18 |
| Cumulative Number of Stations | 5 | 5 | 5 | 5 | 5 | 5 |
| | | | | | | |
| FTE (Operating) | 65,000 | 66,300 | 67,626 | 68,979 | 70,359 | 71,766 |
| Engine (Equipped) | 350,000 | 357,000 | 364,140 | 371,423 | 378,851 | 386,428 |
| Ambulance (Equipped) | 165,000 | 168,300 | 171,666 | 175,099 | 178,601 | 182,173 |
| Brush Truck (Equipped) | 95,000 | 96,900 | 98,838 | 100,815 | 102,831 | 104,888 |
| Tanker (Equipped) | 210,000 | 214,200 | 218,484 | 222,854 | 227,311 | 231,857 |
| Utility (Equipped) | 40,000 | 40,800 | 41,616 | 42,448 | 43,297 | 44,163 |

Table 13– Scenario 1B Current service level sustained with millage increase

### 5.5.2 Economic Model – Scenario 2 Current Service Level with Capital Replacement

**UNIT COST PER YEAR**

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|
| AMBULANCE | $165,000 | $168,300 | $171,666 | $175,099 | $178,601 | $182,173 |
| BRUSH TRUCK | $95,000 | $96,900 | $98,838 | $100,815 | $102,831 | $104,888 |
| PUMPER | $350,000 | $357,000 | $364,140 | $371,423 | $378,851 | $386,428 |
| TENDER | $210,000 | $214,200 | $218,484 | $222,854 | $227,311 | $231,857 |
| UTILITY | $40,000 | $40,800 | $41,616 | $42,448 | $43,297 | $44,163 |
| OTHER | $10,000 | $10,200 | $10,404 | $10,612 | $10,824 | $11,041 |

**UNITS PROPOSED PER YEAR**

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|
| AMBULANCE | | 1 | | | 1 | 1 |
| BRUSH TRUCK | | | 1 | | 1 | |
| PUMPER | | | | | | 2 |
| TENDER | | | | | | 1 |
| UTILITY | | | 2 | 3 | 1 | |
| OTHER | | | 1 | 2 | 1 | |

**DISTRICT PROPOSED COST PER YEAR**

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|
| AMBULANCE | | $168,300 | $0 | $0 | $178,601 | $182,173 |
| BRUSH TRUCK | | $0 | $98,838 | $0 | $102,831 | $0 |
| PUMPER | | $0 | $0 | $0 | $0 | $772,857 |
| TENDER | | $0 | $0 | $0 | $0 | $231,857 |
| UTILITY | | $0 | $83,232 | $127,345 | $43,297 | $0 |
| OTHER | | $0 | $10,404 | $21,224 | $10,824 | $0 |
| ANNUAL COST | | **$168,300** | **$192,474** | **$148,569** | **$335,554** | **$1,186,887** |

Table 14– District proposed annual apparatus replacement schedule

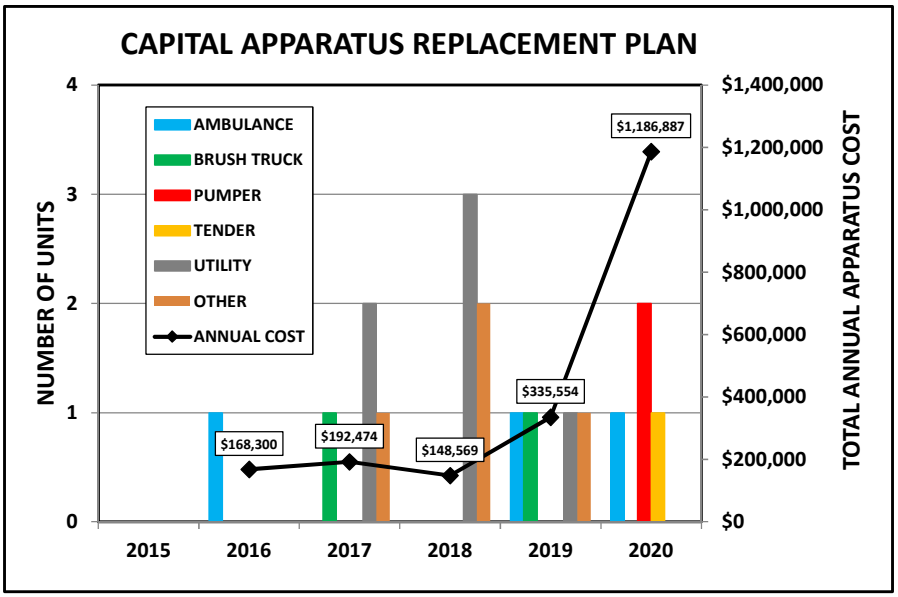



Figure26– Total cost vs unit type of District-proposed annual apparatus replacement schedule

The staff of CRFPD has done an excellent job in working to develop an apparatus replacement program that can be used to eliminate spikes in capital replacement which can lead to a greater ability to predict

capital replacement as a recurring annual expense that can be programmed into a long-range master plan. Table 14 identifies types of apparatus needed by the department over time with unit cost in the base year (FY 2015) and inflated over time to show impact if purchased outright in subsequent years. The model's 2% inflation factor has been applied for illustrative purposes. The bottom of each scenario modelled has a section called, *Decision Units and Unit Costs*. This is the same cost data shown in Table 14 above. The costs are tied to the base year and inflated each year thereafter. If a unit is identified for purchase in any given year, the number purchased is filled in the table under this section and the appropriate cost is built into the expenditure for that year.

The middle portion of Table 14 identifies how many of each type of unit the District is recommending and the final section shows the total cost of apparatus programmed for each year. Figure 26 shows graphically the fiscal impact of staff's proposed apparatus replacement program. Ideally, the unit cost would include radios and equipment so that an equipped unit cost could serve as accommodating replacement of smaller capital items and equipment. With the exception of the final year of the five year plan, the average annual capital replacement funding needed is approximately $250,000. This is in addition to the annual debt service requirement of $112,000. The staff recommendation is for two pumpers, an ambulance, and a tanker (tender) to be purchased in FY 2020. In order to keep the model from "spiking" too much but to still provide a significant replacement plan, one pumper was eliminated from Scenario 2 as were several smaller cost items. There should be sufficient reserve capacity to increase capital spending for some of these smaller items.

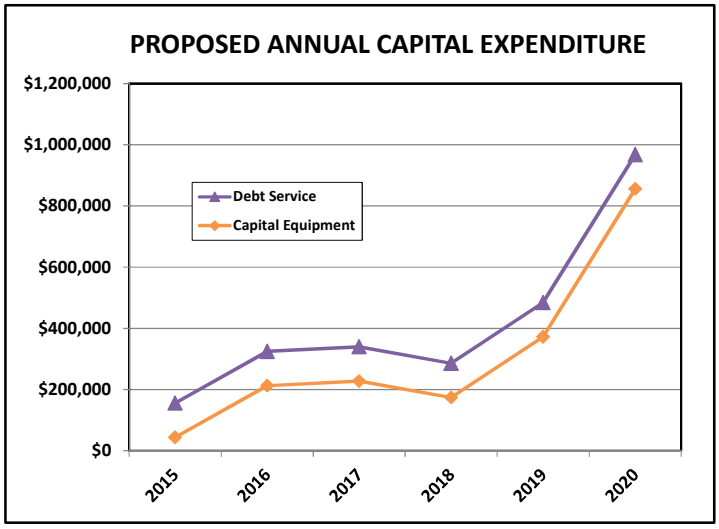



Figure 27– Scenario 2 Annual capital replacement program plus debt service as modeled

Figure 2727 shows the capital program as modeled in Scenario 2 which still spikes, although not to the extent shown in Figure26. Additionally, the debt service component is shown to provide the total impact of capital spending on the scenario in Table 15 below. The millage rate needed to implement this scenario goes from its current 5.903 to 6.5 mills in FY 2016 and then increases to 7.5 mills for the final four years.

| Plan Year | Base Year | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|---|---|---|---|---|---|---|
| Fiscal Year | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| | | | | | | |
| ECONOMIC VARIABLES | | | | | | |
| | | | | | | |
| EMS/Rescue Call Volume | 617 | 625 | 632 | 640 | 647 | 655 |
| % Increase Over Prior Year | 1.20% | 1.20% | 1.20% | 1.20% | 1.20% | 1.20% |
| | | | | | | |
| District Net Assessed Property Value | 275,863,200 | 346,208,316 | 346,208,316 | 363,518,732 | 363,518,732 | 381,694,668 |
| % Increase Over Prior Year | 0.00% | 25.50% | 0.00% | 5.00% | 0.00% | 5.00% |
| | | | | | | |
| Salary Level Adjustment | | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% |
| Price Level Adjustment | | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% |
| | | | | | | |
| REVENUES AND OTHER SOURCES OF FUNDS | | | | | | |
| | | | | | | |
| Ad Valorem Tax Millage Rate | 5.903 | 6.500 | 7.500 | 7.500 | 7.500 | 7.500 |
| % Increase (Decrease) Millage Rate | | 10% | 15% | 0% | 0% | 0% |
| Ad Valorem Tax Revenue - Estimated Actual | 1,620,278 | 2,239,102 | 2,583,580 | 2,712,759 | 2,712,759 | 2,848,396 |
| | | | | | | |
| Delinquent Ad Valorem | 1,000 | 1,032 | 1,065 | 1,099 | 1,134 | 1,171 |
| Abated Tax | 9,129 | 9,423 | 9,727 | 10,041 | 10,365 | 10,699 |
| Specific Ownership Tax | 120,000 | 123,869 | 127,863 | 131,985 | 136,240 | 140,632 |
| Ambulance Fees | 225,000 | 232,254 | 239,742 | 247,471 | 255,449 | 263,685 |
| Other Fees | - | - | - | - | - | - |
| Interest & Miscellaneous | 38,300 | 39,535 | 40,810 | 42,126 | 43,484 | 44,886 |
| Impact Fees | - | - | - | - | - | - |
| Lease Purchase Proceeds | - | - | - | - | - | - |
| Other Revenue | - | - | - | - | - | - |
| Total Other Revenue Sources | 393,429 | 406,113 | 419,207 | 432,722 | 446,672 | 461,073 |
| | | | | | | |
| Total Revenues | 2,013,707 | 2,645,215 | 3,002,787 | 3,145,481 | 3,159,431 | 3,309,469 |
| | | | | | | |
| Utilization of Fund Balance | 741,946 | 350,775 | 81,025 | (40,270) | 221,424 | 627,566 |
| | | | | | | |
| **Total Revenues and Other Sources of Funds** | 2,755,653 | 2,995,990 | 3,083,812 | 3,105,211 | 3,380,855 | 3,937,035 |
| | | | | | | |
| EXPENDITURES | | | | | | |
| | | | | | | |
| Current Personnel | 1,916,421 | 1,973,914 | 2,033,131 | 2,094,125 | 2,156,949 | 2,221,657 |
| Current Operating | 619,765 | 632,160 | 644,803 | 657,699 | 670,853 | 684,270 |
| Current Equipment | 43,704 | 44,578 | 45,470 | 46,379 | 47,307 | 48,253 |
| Equipment Acquired - Lease Purchase | - | - | - | - | - | - |
| Lease Purchase Payments | 112,036 | 112,036 | 112,036 | 112,036 | 112,036 | 112,036 |
| Current Major Capital | - | - | - | - | - | - |
| Current Transfer to Pension Fund | 63,727 | 65,002 | 66,302 | 67,628 | 68,981 | 70,361 |
| Cumulative FTE (Career FF) | - | - | - | - | - | - |
| Engine (Equipped) | - | - | - | - | - | 386,428 |
| Ambulance (Equipped) | - | 168,300 | - | - | 178,601 | 182,173 |
| Brush Truck (Equipped) | - | - | 98,838 | - | 102,831 | - |
| Tanker (Equipped) | - | - | - | - | - | 231,857 |
| Utility (Equipped) | - | - | 83,232 | 127,344 | 43,297 | - |
| Other Equipment | - | - | - | - | - | - |
| Other Expenditures or Adjustments | - | - | - | - | - | - |
| **Total Expenditures** | 2,755,653 | 2,995,990 | 3,083,812 | 3,105,211 | 3,380,855 | 3,937,035 |
| | | | | | | |
| FUND BALANCE AND RESERVE ANALYSIS | | | | | | |
| | | | | | | |
| **Ending General Operating/Capital Fund Balance** | 2,146,905 | 1,796,130 | 1,715,105 | 1,755,375 | 1,533,951 | 906,385 |
| | | | | | | |
| Minimum Reserve: Cash Flow + 5% Contingency | 542,852 | 709,575 | 800,086 | 833,450 | 847,233 | 908,951 |
| Ending Fund Balance Over (Under) Minimum | 1,604,053 | 1,086,555 | 915,019 | 921,925 | 686,718 | (2,566) |
| | | | | | | |
| DECISION UNITS AND UNIT COSTS | | | | | | |
| | | | | | | |
| FTE (Career FF) | | - | - | - | - | - |
| Engine (Equipped) | | - | - | - | - | 1 |
| Ambulance (Equipped) | | 1 | - | - | 1 | 1 |
| Brush Truck (Equipped) | | - | 1 | - | 1 | - |
| Tanker (Equipped) | | - | - | - | - | 1 |
| Utility (Equipped) | | - | 2 | 3 | 1 | - |
| | | | | | | |
| Cumulative New FTE (Career FF) | | - | - | - | - | - |
| Cumulative Total FTE (Career FF) | 18 | 18 | 18 | 18 | 18 | 18 |
| Cumulative Number of Stations | 5 | 5 | 5 | 5 | 5 | 5 |
| | | | | | | |
| FTE (Operating) | 65,000 | 66,300 | 67,626 | 68,979 | 70,359 | 71,766 |
| Engine (Equipped) | 350,000 | 357,000 | 364,140 | 371,423 | 378,851 | 386,428 |
| Ambulance (Equipped) | 165,000 | 168,300 | 171,666 | 175,099 | 178,601 | 182,173 |
| Brush Truck (Equipped) | 95,000 | 96,900 | 98,838 | 100,815 | 102,831 | 104,888 |
| Tanker (Equipped) | 210,000 | 214,200 | 218,484 | 222,854 | 227,311 | 231,857 |
| Utility (Equipped) | 40,000 | 40,800 | 41,616 | 42,448 | 43,297 | 44,163 |

Table 15– Scenario 2 Sustains current service level, adds capital replacement with millage increase

Figure 28 illustrates graphically how Scenario 2 with a solid capital replacement plan operates with respect to millage rates needed to sustain it and the impact on ending fund balance as well as recurring revenue versus expenditure. There are two increases in millage rate in this scenario, first in FY 2016 of approximately 0.6 mills and the second in FY 2017 of approximately 1 mill.

Note that fund balance declines through FY 2016 and then flattens out through FY 2018 declining somewhat in FY 2019. Further, the recurring revenue versus expenditure gap closes and recurring revenues actually approximate expenditures in FY 2018. With increased capital spending in FY 2019 over the average and a spike in FY 2020, expenditures exceed revenues and ending fund balance approaches $0 in FY 2020. This can be considered a one-time expense well above the average annual capital cost and can be managed without also "spiking" the millage for one year. The fund balance should then recover over the next several years beyond FY 2020.

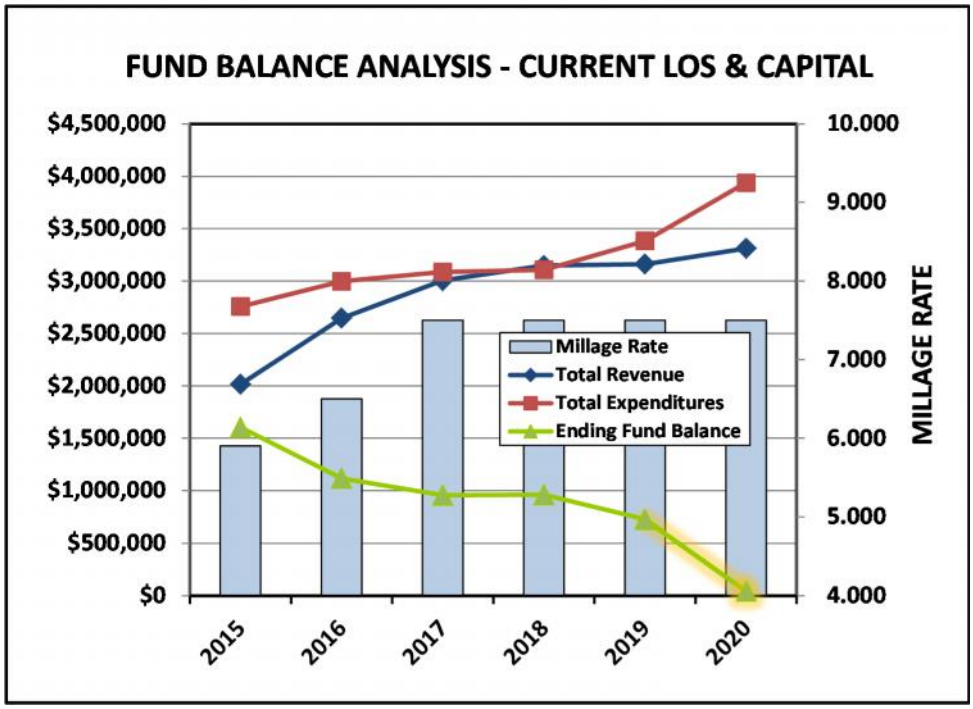



Figure 28– Scenario 2 Current LOS maintained, capital program added with millage increase

### 5.5.3 Economic Model – Scenario 3A-D Upgraded Service Level With Capital Replacement

| Plan Year | Base Year | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|---|---|---|---|---|---|---|
| Fiscal Year | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| **ECONOMIC VARIABLES** | | | | | | |
| EMS/Rescue Call Volume | 617 | 625 | 632 | 640 | 647 | 655 |
| % Increase Over Prior Year | 1.20% | 1.20% | 1.20% | 1.20% | 1.20% | 1.20% |
| District Net Assessed Property Value | 275,863,200 | 346,208,316 | 346,208,316 | 363,518,732 | 363,518,732 | 381,694,668 |
| % Increase Over Prior Year | 0.00% | 25.50% | 0.00% | 5.00% | 0.00% | 5.00% |
| Salary Level Adjustment | | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% |
| Price Level Adjustment | | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% |
| **REVENUES AND OTHER SOURCES OF FUNDS** | | | | | | |
| Ad Valorem Tax Millage Rate | 5.903 | 7.500 | 8.500 | 9.000 | 9.000 | 9.000 |
| % Increase (Decrease) Millage Rate | | 27% | 13% | 6% | 0% | 0% |
| Ad Valorem Tax Revenue - Estimated Actual | 1,620,278 | 2,583,580 | 2,928,057 | 3,255,310 | 3,255,310 | 3,418,076 |
| Delinquent Ad Valorem | 1,000 | 1,032 | 1,065 | 1,099 | 1,134 | 1,171 |
| Abated Tax | 9,129 | 9,423 | 9,727 | 10,041 | 10,365 | 10,699 |
| Specific Ownership Tax | 120,000 | 123,869 | 127,863 | 131,985 | 136,240 | 140,632 |
| Ambulance Fees | 225,000 | 232,254 | 239,742 | 247,471 | 255,449 | 263,685 |
| Other Fees | - | - | - | - | - | - |
| Interest & Miscellaneous | 38,300 | 39,535 | 40,810 | 42,126 | 43,484 | 44,886 |
| Impact Fees | - | - | - | - | - | - |
| Lease Purchase Proceeds | - | - | - | - | - | - |
| Other Revenue | - | - | - | - | - | - |
| Total Other Revenue Sources | 393,429 | 406,113 | 419,207 | 432,722 | 446,672 | 461,073 |
| Total Revenues | 2,013,707 | 2,989,693 | 3,347,264 | 3,688,032 | 3,701,982 | 3,879,149 |
| Utilization of Fund Balance | 741,946 | 138,897 | 7,052 | (168,947) | 241,745 | 775,546 |
| **Total Revenues and Other Sources of Funds** | 2,755,653 | 3,128,590 | 3,354,316 | 3,519,085 | 3,943,727 | 4,654,695 |
| **EXPENDITURES** | | | | | | |
| Current Personnel | 1,916,421 | 1,973,914 | 2,033,131 | 2,094,125 | 2,156,949 | 2,221,657 |
| Current Operating | 619,765 | 632,160 | 644,803 | 657,699 | 670,853 | 684,270 |
| Current Equipment | 43,704 | 44,578 | 45,470 | 46,379 | 47,307 | 48,253 |
| Equipment Acquired - Lease Purchase | - | - | - | - | - | - |
| Lease Purchase Payments | 112,036 | 112,036 | 112,036 | 112,036 | 112,036 | 112,036 |
| Current Major Capital | - | - | - | - | - | - |
| Current Transfer to Pension Fund | 63,727 | 65,002 | 66,302 | 67,628 | 68,981 | 70,361 |
| Cumulative FTE (Career FF) | - | 132,600 | 270,504 | 413,874 | 562,872 | 717,660 |
| Engine (Equipped) | - | - | - | - | - | 386,428 |
| Ambulance (Equipped) | - | 168,300 | - | - | 178,601 | 182,173 |
| Brush Truck (Equipped) | - | - | 98,838 | - | 102,831 | - |
| Tanker (Equipped) | - | - | - | - | - | 231,857 |
| Utility (Equipped) | - | - | 83,232 | 127,344 | 43,297 | - |
| Other Equipment | - | - | - | - | - | - |
| Other Expenditures or Adjustments | - | - | - | - | - | - |
| **Total Expenditures** | 2,755,653 | 3,128,590 | 3,354,316 | 3,519,085 | 3,943,727 | 4,654,695 |
| **FUND BALANCE AND RESERVE ANALYSIS** | | | | | | |
| **Ending General Operating/Capital Fund Balance** | 2,146,905 | 2,008,008 | 2,000,956 | 2,169,903 | 1,928,158 | 1,152,612 |
| Minimum Reserve: Cash Flow + 5% Contingency | 542,852 | 802,325 | 899,730 | 989,782 | 1,011,014 | 1,087,254 |
| Ending Fund Balance Over (Under) Minimum | 1,604,053 | 1,205,683 | 1,101,226 | 1,180,121 | 917,144 | 65,358 |
| **DECISION UNITS AND UNIT COSTS** | | | | | | |
| FTE (Career FF) | | 2 | 2 | 2 | 2 | 2 |
| Engine (Equipped) | | - | - | - | - | 1 |
| Ambulance (Equipped) | | 1 | - | - | 1 | 1 |
| Brush Truck (Equipped) | | - | 1 | - | 1 | - |
| Tanker (Equipped) | | - | - | - | - | 1 |
| Utility (Equipped) | | - | 2 | 3 | 1 | - |
| Cumulative New FTE (Career FF) | | 2 | 4 | 6 | 8 | 10 |
| Cumulative Total FTE (Career FF) | 18 | 20 | 22 | 24 | 26 | 28 |
| Cumulative Number of Stations | 5 | 5 | 5 | 5 | 5 | 5 |
| FTE (Operating) | 65,000 | 66,300 | 67,626 | 68,979 | 70,359 | 71,766 |
| Engine (Equipped) | 350,000 | 357,000 | 364,140 | 371,423 | 378,851 | 386,428 |
| Ambulance (Equipped) | 165,000 | 168,300 | 171,666 | 175,099 | 178,601 | 182,173 |
| Brush Truck (Equipped) | 95,000 | 96,900 | 98,838 | 100,815 | 102,831 | 104,888 |
| Tanker (Equipped) | 210,000 | 214,200 | 218,484 | 222,854 | 227,311 | 231,857 |
| Utility (Equipped) | 40,000 | 40,800 | 41,616 | 42,448 | 43,297 | 44,163 |

Table 16– Scenario 3A Upgrades service level, adds capital replacement w incremental mill increase

Scenario 3A as shown in Table 16 above illustrates the effects on millage rate with an upgrade in service level as proposed by District staff along with the capital program modeled in Scenario 2 (Table 15, Figure 28). Chief Leach has proposed adding two cross-trained firefighters per year each of the next five years. Based upon typical salary and benefit costs for an average firefighter, the model contemplates a base loaded employee cost of $65,000 per year. This is shown as a decision unit in the last section of the scenario modeled (*Decision Units and Unit Costs*). The cost is inflated by 2% per year. The cumulative operating costs of these additional employees are shown in the expenditure section of the scenario modeled (Table 16). These personnel are proposed as an upgrade to current service level and the need and impact is discussed elsewhere in this report.

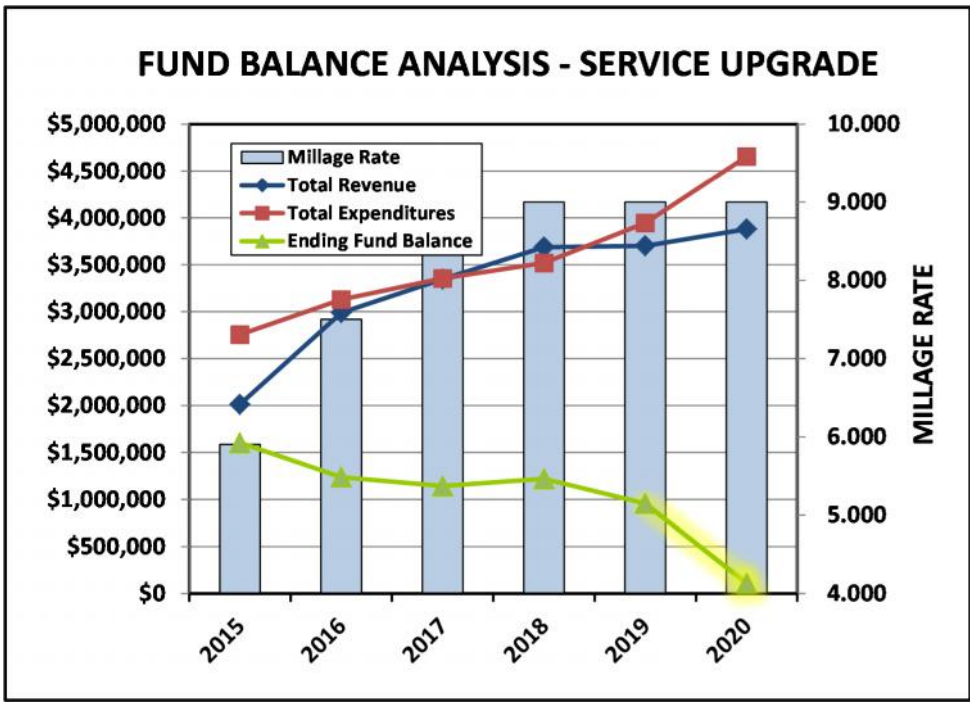



Figure 29– Scenario 3A Service level upgraded, capital replaced with millage increase

As with the other scenarios presented, Figure 29 shows graphically the impact of the proposed upgrade and capital program on the millage rate needed to sustain this scenario. Again, the millage rate is shown as blue bars with the scale on the right side of the graph. This scenario contemplates an incremental increase to fund the improvements. However, an additional option that could be used would be to increase the millage rate one time and hold it constant for the five years of the scenario. In the incremental case above, the millage is increased from its current rate of 5.903 by approximately 1.5 mills to 7.5 mills for FY 2016. It is increased again to 8.5 mills in FY 2017 and again to 9 mills in FY 2018. The fund balance declines at a slight rate to FY 2016 and generally remains roughly flat through FY 2019 when it then approaches $65,000 in FY 2020 due to the spike in capital expense in FY 2020 as discussed in Scenario 2. In order to test the incremental millage increase approach against a one-time increase held constant for five years, several variations of Scenario 3 were modeled to determine that

appropriate level for a one-time increase that would maintain the necessary fund balance given the various assumptions. These are identified as Scenarios 3B-D and will contain the same expenditure assumptions as Scenario 3A.

| Plan Year | Base Year | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|---|---|---|---|---|---|---|
| Fiscal Year | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| | | | | | | |
| ECONOMIC VARIABLES | | | | | | |
| | | | | | | |
| EMS/Rescue Call Volume | 617 | 625 | 632 | 640 | 647 | 655 |
| % Increase Over Prior Year | 1.20% | 1.20% | 1.20% | 1.20% | 1.20% | 1.20% |
| | | | | | | |
| District Net Assessed Property Value | 275,863,200 | 346,208,316 | 346,208,316 | 363,518,732 | 363,518,732 | 381,694,668 |
| % Increase Over Prior Year | 0.00% | 25.50% | 0.00% | 5.00% | 0.00% | 5.00% |
| | | | | | | |
| Salary Level Adjustment | | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% |
| Price Level Adjustment | | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% |
| | | | | | | |
| REVENUES AND OTHER SOURCES OF FUNDS | | | | | | |
| | | | | | | |
| Ad Valorem Tax Millage Rate | 5.903 | 7.903 | 7.903 | 7.903 | 7.903 | 7.903 |
| % Increase (Decrease) Millage Rate | | 34% | 0% | 0% | 0% | 0% |
| Ad Valorem Tax Revenue - Estimated Actual | 1,620,278 | 2,722,404 | 2,722,404 | 2,858,524 | 2,858,524 | 3,001,450 |
| | | | | | | |
| Delinquent Ad Valorem | 1,000 | 1,032 | 1,065 | 1,099 | 1,134 | 1,171 |
| Abated Tax | 9,129 | 9,423 | 9,727 | 10,041 | 10,365 | 10,699 |
| Specific Ownership Tax | 120,000 | 123,869 | 127,863 | 131,985 | 136,240 | 140,632 |
| Ambulance Fees | 225,000 | 232,254 | 239,742 | 247,471 | 255,449 | 263,685 |
| Other Fees | - | - | - | - | - | - |
| Interest & Miscellaneous | 38,300 | 39,535 | 40,810 | 42,126 | 43,484 | 44,886 |
| Impact Fees | - | - | - | - | - | - |
| Lease Purchase Proceeds | - | - | - | - | - | - |
| Other Revenue | - | - | - | - | - | - |
| Total Other Revenue Sources | 393,429 | 406,113 | 419,207 | 432,722 | 446,672 | 461,073 |
| | | | | | | |
| Total Revenues | 2,013,707 | 3,128,517 | 3,141,611 | 3,291,246 | 3,305,196 | 3,462,523 |
| | | | | | | |
| Utilization of Fund Balance | 741,946 | 73 | 212,705 | 227,839 | 638,531 | 1,192,172 |
| | | | | | | |
| **Total Revenues and Other Sources of Funds** | 2,755,653 | 3,128,590 | 3,354,316 | 3,519,085 | 3,943,727 | 4,654,695 |
| | | | | | | |
| EXPENDITURES | | | | | | |
| | | | | | | |
| Current Personnel | 1,916,421 | 1,973,914 | 2,033,131 | 2,094,125 | 2,156,949 | 2,221,657 |
| Current Operating | 619,765 | 632,160 | 644,803 | 657,699 | 670,853 | 684,270 |
| Current Equipment | 43,704 | 44,578 | 45,470 | 46,379 | 47,307 | 48,253 |
| Equipment Acquired - Lease Purchase | - | - | - | - | - | - |
| Lease Purchase Payments | 112,036 | 112,036 | 112,036 | 112,036 | 112,036 | 112,036 |
| Current Major Capital | - | - | - | - | - | - |
| Current Transfer to Pension Fund | 63,727 | 65,002 | 66,302 | 67,628 | 68,981 | 70,361 |
| Cumulative FTE (Career FF) | - | 132,600 | 270,504 | 413,874 | 562,872 | 717,660 |
| Engine (Equipped) | - | - | - | - | - | 386,428 |
| Ambulance (Equipped) | - | 168,300 | - | - | 178,601 | 182,173 |
| Brush Truck (Equipped) | - | - | 98,838 | - | 102,831 | - |
| Tanker (Equipped) | - | - | - | - | - | 231,857 |
| Utility (Equipped) | - | - | 83,232 | 127,344 | 43,297 | - |
| Other Equipment | - | - | - | - | - | - |
| Other Expenditures or Adjustments | - | - | - | - | - | - |
| **Total Expenditures** | 2,755,653 | 3,128,590 | 3,354,316 | 3,519,085 | 3,943,727 | 4,654,695 |
| | | | | | | |
| FUND BALANCE AND RESERVE ANALYSIS | | | | | | |
| | | | | | | |
| **Ending General Operating/Capital Fund Balance** | 2,146,905 | 2,146,832 | 1,934,127 | 1,706,288 | 1,067,757 | (124,415) |
| | | | | | | |
| Minimum Reserve: Cash Flow + 5% Contingency | 542,852 | 837,031 | 848,317 | 890,585 | 911,817 | 983,097 |
| Ending Fund Balance Over (Under) Minimum | 1,604,053 | 1,309,801 | 1,085,810 | 815,703 | 155,940 | (1,107,512) |
| | | | | | | |
| DECISION UNITS AND UNIT COSTS | | | | | | |
| | | | | | | |
| FTE (Career FF) | | 2 | 2 | 2 | 2 | 2 |
| Engine (Equipped) | | - | - | - | - | 1 |
| Ambulance (Equipped) | | 1 | - | - | 1 | 1 |
| Brush Truck (Equipped) | | - | 1 | - | 1 | - |
| Tanker (Equipped) | | - | - | - | - | 1 |
| Utility (Equipped) | | - | 2 | 3 | 1 | - |
| | | | | | | |
| Cumulative New FTE (Career FF) | | 2 | 4 | 6 | 8 | 10 |
| Cumulative Total FTE (Career FF) | 18 | 20 | 22 | 24 | 26 | 28 |
| Cumulative Number of Stations | 5 | 5 | 5 | 5 | 5 | 5 |
| | | | | | | |
| FTE (Operating) | 65,000 | 66,300 | 67,626 | 68,979 | 70,359 | 71,766 |
| Engine (Equipped) | 350,000 | 357,000 | 364,140 | 371,423 | 378,851 | 386,428 |
| Ambulance (Equipped) | 165,000 | 168,300 | 171,666 | 175,099 | 178,601 | 182,173 |
| Brush Truck (Equipped) | 95,000 | 96,900 | 98,838 | 100,815 | 102,831 | 104,888 |
| Tanker (Equipped) | 210,000 | 214,200 | 218,484 | 222,854 | 227,311 | 231,857 |
| Utility (Equipped) | 40,000 | 40,800 | 41,616 | 42,448 | 43,297 | 44,163 |

Table 17– Scenario 3B Upgrades service level, adds capital replacement with one-time 2 mill increase

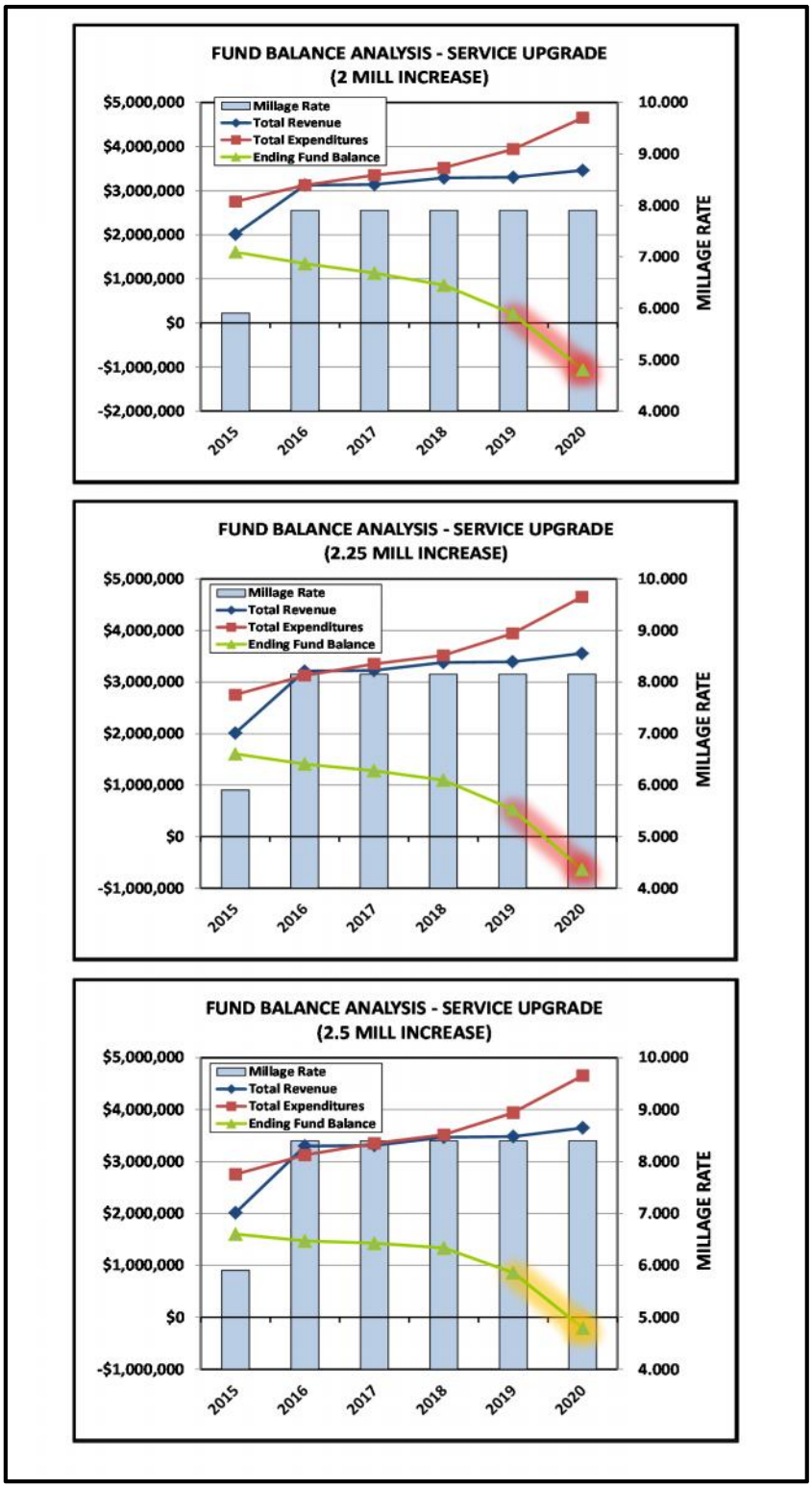



Figure 30– Scenarios 3B-D LOS upgrade, capital replaced, compares one-time 2.0, 2.25 and 2.5 mill increases

Figure 30 illustrates the effects of a one-time millage increase on the minimum fund balance year-to-year. A 2.0 mill increase (Table 17 Scenario 3B above) still slightly underfunds the District as seen in years 2017-2018 where expense exceeds revenue and fund balance steadily declines. With the increased capital apparatus expense in 2019 the gap widens and fund balance is used at a higher rate. This is exacerbated in 2020 with the spike in capital equipment purchased and the ending fund balance is significantly negative. Use of fund balance to cover expenditures rises from approximately $220,000 in 2017 and 2018 to almost $650,000 in 2019 and almost $1,200,000 in 2020. This degree of capital replacement is too high to maintain the minimum reserve needed for cash flow and contingency and is not a tenable financial course of action. Scenario 3C, with a one-time mill increase of 2.25 mills, provides only a slightly better picture and still has a significant reliance on utilization of fund balance in 2019 and 2020.

Ideally, the District may want to consider Scenario 3D with the effects as shown in Figure 30 where the millage is raised one-time by 2.5 mills. The revenue is slightly higher than expense in 2016 and approximates expense in 2017-2018 and fund balance is essentially preserved at a healthy level as shown in Table 18. Ending fund balance remains basically flat through 2018, declining somewhat in 2019 with a significant drop in 2020 when the major capital apparatus purchase is made. Although the ending fund balance is negative by approximately $260,000 the magnitude is not sufficient to negatively affect longer-term cash flow and the fund balance should recover absent reduction in recurring revenue or major capital purchases of the magnitude shown in 2019 and 2020 for the next several years. In order for the District to retain a healthy cushion for unforeseen circumstances and fluctuations in model assumptions (such as assessed value changes, etc.) Almont recommends that the District utilize a one-time 2.5 mill increase if this approach is used.

| Plan Year | Base Year | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|---|---|---|---|---|---|---|
| Fiscal Year | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| | | | | | | |
| ECONOMIC VARIABLES | | | | | | |
| | | | | | | |
| EMS/Rescue Call Volume | 617 | 625 | 632 | 640 | 647 | 655 |
| % Increase Over Prior Year | 1.20% | 1.20% | 1.20% | 1.20% | 1.20% | 1.20% |
| | | | | | | |
| District Net Assessed Property Value | 275,863,200 | 346,208,316 | 346,208,316 | 363,518,732 | 363,518,732 | 381,694,668 |
| % Increase Over Prior Year | 0.00% | 25.50% | 0.00% | 5.00% | 0.00% | 5.00% |
| | | | | | | |
| Salary Level Adjustment | | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% |
| Price Level Adjustment | | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% |
| | | | | | | |
| REVENUES AND OTHER SOURCES OF FUNDS | | | | | | |
| | | | | | | |
| Ad Valorem Tax Millage Rate | 5.903 | 8.153 | 8.153 | 8.153 | 8.153 | 8.153 |
| % Increase (Decrease) Millage Rate | | 38% | 0% | 0% | 0% | 0% |
| Ad Valorem Tax Revenue - Estimated Actual | 1,620,278 | 2,808,523 | 2,808,523 | 2,948,949 | 2,948,949 | 3,096,397 |
| | | | | | | |
| Delinquent Ad Valorem | 1,000 | 1,032 | 1,065 | 1,099 | 1,134 | 1,171 |
| Abated Tax | 9,129 | 9,423 | 9,727 | 10,041 | 10,365 | 10,699 |
| Specific Ownership Tax | 120,000 | 123,869 | 127,863 | 131,985 | 136,240 | 140,632 |
| Ambulance Fees | 225,000 | 232,254 | 239,742 | 247,471 | 255,449 | 263,685 |
| Other Fees | - | - | - | - | - | - |
| Interest & Miscellaneous | 38,300 | 39,535 | 40,810 | 42,126 | 43,484 | 44,886 |
| Impact Fees | - | - | - | - | - | - |
| Lease Purchase Proceeds | - | - | - | - | - | - |
| Other Revenue | - | - | - | - | - | - |
| Total Other Revenue Sources | 393,429 | 406,113 | 419,207 | 432,722 | 446,672 | 461,073 |
| | | | | | | |
| Total Revenues | 2,013,707 | 3,214,636 | 3,227,730 | 3,381,671 | 3,395,621 | 3,557,470 |
| | | | | | | |
| Utilization of Fund Balance | 741,946 | (86,046) | 126,586 | 137,414 | 548,106 | 1,097,225 |
| | | | | | | |
| **Total Revenues and Other Sources of Funds** | 2,755,653 | 3,128,590 | 3,354,316 | 3,519,085 | 3,943,727 | 4,654,695 |
| | | | | | | |
| EXPENDITURES | | | | | | |
| | | | | | | |
| Current Personnel | 1,916,421 | 1,973,914 | 2,033,131 | 2,094,125 | 2,156,949 | 2,221,657 |
| Current Operating | 619,765 | 632,160 | 644,803 | 657,699 | 670,853 | 684,270 |
| Current Equipment | 43,704 | 44,578 | 45,470 | 46,379 | 47,307 | 48,253 |
| Equipment Acquired - Lease Purchase | - | - | - | - | - | - |
| Lease Purchase Payments | 112,036 | 112,036 | 112,036 | 112,036 | 112,036 | 112,036 |
| Current Major Capital | - | - | - | - | - | - |
| Current Transfer to Pension Fund | 63,727 | 65,002 | 66,302 | 67,628 | 68,981 | 70,361 |
| Cumulative FTE (Career FF) | - | 132,600 | 270,504 | 413,874 | 562,872 | 717,660 |
| Engine (Equipped) | - | - | - | - | - | 386,428 |
| Ambulance (Equipped) | - | 168,300 | - | - | 178,601 | 182,173 |
| Brush Truck (Equipped) | - | - | 98,838 | - | 102,831 | - |
| Tanker (Equipped) | - | - | - | - | - | 231,857 |
| Utility (Equipped) | - | - | 83,232 | 127,344 | 43,297 | - |
| Other Equipment | - | - | - | - | - | - |
| Other Expenditures or Adjustments | - | - | - | - | - | - |
| **Total Expenditures** | 2,755,653 | 3,128,590 | 3,354,316 | 3,519,085 | 3,943,727 | 4,654,695 |
| | | | | | | |
| FUND BALANCE AND RESERVE ANALYSIS | | | | | | |
| | | | | | | |
| **Ending General Operating/Capital Fund Balance** | 2,146,905 | 2,232,951 | 2,106,365 | 1,968,951 | 1,420,845 | 323,620 |
| | | | | | | |
| Minimum Reserve: Cash Flow + 5% Contingency | 542,852 | 858,560 | 869,847 | 913,192 | 934,424 | 1,006,834 |
| Ending Fund Balance Over (Under) Minimum | 1,604,053 | 1,374,391 | 1,236,518 | 1,055,759 | 486,421 | (683,214) |
| | | | | | | |
| DECISION UNITS AND UNIT COSTS | | | | | | |
| | | | | | | |
| FTE (Career FF) | | 2 | 2 | 2 | 2 | 2 |
| Engine (Equipped) | | - | - | - | - | 1 |
| Ambulance (Equipped) | | 1 | - | - | 1 | 1 |
| Brush Truck (Equipped) | | - | 1 | - | 1 | - |
| Tanker (Equipped) | | - | - | - | - | 1 |
| Utility (Equipped) | | - | 2 | 3 | 1 | - |
| | | | | | | |
| Cumulative New FTE (Career FF) | | 2 | 4 | 6 | 8 | 10 |
| Cumulative Total FTE (Career FF) | 18 | 20 | 22 | 24 | 26 | 28 |
| Cumulative Number of Stations | 5 | 5 | 5 | 5 | 5 | 5 |
| | | | | | | |
| FTE (Operating) | 65,000 | 66,300 | 67,626 | 68,979 | 70,359 | 71,766 |
| Engine (Equipped) | 350,000 | 357,000 | 364,140 | 371,423 | 378,851 | 386,428 |
| Ambulance (Equipped) | 165,000 | 168,300 | 171,666 | 175,099 | 178,601 | 182,173 |
| Brush Truck (Equipped) | 95,000 | 96,900 | 98,838 | 100,815 | 102,831 | 104,888 |
| Tanker (Equipped) | 210,000 | 214,200 | 218,484 | 222,854 | 227,311 | 231,857 |
| Utility (Equipped) | 40,000 | 40,800 | 41,616 | 42,448 | 43,297 | 44,163 |

Table 18– Scenario 3C Upgrades service level, adds capital replacement w one-time 2.25 mill increase

## 5.6 EMS Billing

Based on the review of monthly billing reports generated by the Ambulance Biller and Financial Manager and the information obtained from the interview of the ambulance biller, the billing process is operating as effectively as it can, given the current system being utilized. Coding and billing of claims are occurring timely, and follow ups of unpaid claims are conducted regularly.

However, the billing process can operate more efficiently with automation. A review of the Monthly Call Report, Credit Report & Aging Report showed a turnaround time of three to four weeks before claim payments are received. Transitioning from paper claims to electronic claim filing can significantly decrease the turnaround time. Contracting with clearinghouses such as Availity, Gateway, or Emdeon Services who will facilitate electronic claim filing would prove to be a factor in increasing the agency's monthly collection rate of about 50%, since more payments will be received within the same month the claims were filed. Investing in an interface which will download patient information from FireRMS into Respond Billing will further improve the billing process currently in place, by minimizing time spent on data entry and maximizing time spent on coding, billing and follow-ups. The ambulance biller could benefit from additional training in the generation of Respond Billing reports. The biller currently tracks unpaid claims manually instead of utilizing reports that are readily producible in Respond Billing.

Beginning October 1, 2015, the transition from ICD9 Codes to ICD10 Codes will take effect. The ambulance biller has had some informal training on ICD10 viewing *ICD10 for Kindergarten* on YouTube. The ICD10 Coding guidelines are complex and require more coding specificity. Formal training is recommended to ensure that the ambulance biller will be well-equipped prior to the transition in order to avoid claim denials due to incomplete or inaccurate coding. A number of online ICD10 training, such as those offered by AAPC and AHIMA, are available. Training is also recommended for operational members providing basic and advanced life support care in documentation related to EMS billing. Proper documentation in the field and coding will ensure assist in maximizing reimbursement.

## 5.7 Service Delivery and Operations

CRFPD utilizes a service delivery model that is common across the United States and is considered to be the "norm" within the industry. The expectation of quick and effective response available 24 hours per day, 365 days per year, requires the presence of some level of "career" personnel. The current level of demand for service, and complexity of calls, has outpaced the desire of the volunteer firefighter to respond on every call. This fact is not related to skills and abilities of the volunteers, but only the fact that answering all calls would take the volunteer away from their paying jobs and families which has a negative impact on their individual livelihood.

Almont Associates does not recommend changing the delivery model of the department, nor its organizational structure. It is believed the current model is effective in meeting the needs of the community. However, there are roles and responsibilities that need to be better aligned and

communicated. It is the recommendation that CRFPD conduct a formal job task analysis for each position within the District and develop job descriptions accordingly.

# 6.0 EMS Delivery

Like current trends in fire based EMS delivery system, CRFPD incident data shows a majority of responses are medical (Figure 25) in nature. CRFPD has significant challenges with managing the distribution and concentration of EMS calls throughout the District. CRFPD has an informal agreement with a medical doctor that serves as the Medical Advisor/Director for the District. The informal agreement is an email between the Medical Director and the Fire Chief. It is recommended that a formal agreement with the Medical Director and District be executed. This agreement should include expectations for the Medical Advisor/Director in the areas of quality assurance, training, legal requirements and compensation. Protocols are developed by utilizing the foundation of the Denver Metro protocols. Staff feels that the protocols are adequate to meet the needs of the District and provide a platform for adequate treatment and transport of patients.

EMS is provided through the use of EMT-Basic, EMT-Intermediate, and EMT-Paramedic certified personnel. There has been some question as to the most appropriate scope and cost effectiveness of the various levels of training. A review of medical protocols and call levels within the District indicate a small portion of calls required the intervention of a paramedic trained provider. However, with advancement in medical prehospital intervention and increasing call volumes, it is likely the paramedic level providers will become increasingly necessary to support the needs of the community. While the scope of this master plan does not include a cost analysis of staffing with intermediate level verses paramedic level providers, the financial impact of utilizing paramedic providers seems insignificant when compared to the benefit. Most of the financial impact associated with paramedic providers is the initial training and certification. The retention of providers trained to the paramedic level is imperative to recover cost and impact the level of service provided to the community. In addition to competitive levels of compensation and benefits, CRFPD should consider the implementation of employment contracts that include educational reimbursement requirements. Employment contracts throughout the nation routinely include three (3) to five (5) year employment obligations after obtaining paramedic certification. If the employee leaves the District prior to satisfying the longevity requirement of the contract, the employee is required to pay back education and training expenses on prorated bases.

## 6.1 Quality Assurance/Improvement

A majority of the responsibility for EMS quality assurance/improvement is coordinated by a full time staff member assigned to EMS supervision. This position does not currently have a job description that outlines responsibilities and expectations. It is recommended that a formal job description be created for this position. While some quality/assurance reviews are taking place, a structured program that includes skill performance tracking, patient outcomes, and documentation accuracy is needed.

Currently, major medical and trauma calls (i.e., cardiac arrest, stroke, etc.) are being reviewed. Also, a small percentage of the calls are being sent to the Medical Director for review (approximately 3-8 calls per quarter). There is limited correlation, if any, in EMS skill performance/protocol adherence and training. It is recommended that the current quality assurance/improvement process be expanded to include skill performance tracking, patient outcomes, and documentation accuracy. It is further recommended that this data be shared with the Training Officer and used to steer training topics and exercises. EMS quality assurance and training is currently conducted by staff members trained to the EMT Intermediate level. While this seems to generally work, a smaller percentage of CRFPD EMS responses require Paramedic intervention. As such, feedback and training from EMS professionals with a lower level of training is often not well received. As such, quality assurance/improvement processes are not maximized. It is recommended that EMS responses requiring Paramedic level interventions be reviewed by someone with the same or higher level of training. A logical choice to help in this area would be to have the Medical Director review all Paramedic level calls. The call volume for CDFPD, while increasing, is not exorbitant. As such, every effort should be made to review, track and provide feedback as required on 100% of EMS responses.

## 6.2 Current Level of Response and Coverage

From January 1st, 2010 thru December 31st 2014, CRFPD responded to 5,394 calls for service. As indicated in Figure 25, Rescue calls account for the largest percentage of the demand for service. Of the 5,394 calls, 54.86% are the result of medical response. Across the nation emergency medical calls are proving to be the largest percentage of fire department response. However, most fire based EMS systems the percentages tend to be between 70% and 80%.

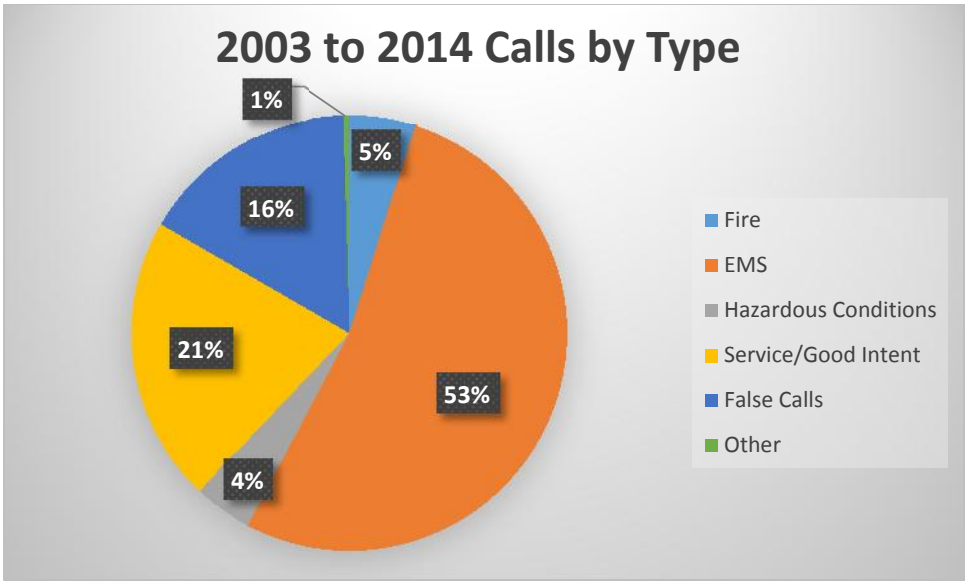



Figure 25 - EMS Calls by Type

As a "combination department", CRFPD utilizes its career staff to respond to the more common calls occurring during key times when volunteer personnel are unavailable. Traditionally "volunteer" fire departments have relied upon the altruism of business owners / operators to allow their personnel to respond to emergencies during business hours. Business owners usually agreed to this arrangement because the demands for service were few and far between, and the time spent on calls away from work were shorter in duration. However, more calls for service are occurring during the normal workday and volunteers are spending more time away from work. This fact has the impact of reducing the work productivity of the businesses in the community which in turn reduces the profitability of the company. An analysis if the 5,394 calls for service 70.32% of the calls occur between the hours of 7 a.m. and 7 p.m.

Additionally, it has become more difficult to rely upon volunteers working in the community to respond Monday thru Friday. Of the 5,394 calls for service 70.34% of the calls occur during weekdays, leaving only 29.66% of the calls occurring on the weekends. Additionally, many of the volunteers that currently perform shifts do not live in the District or the town of Carbondale area. This has a very negative impact on the ability to fully staff "first due" engine companies, second and third ambulance calls and incidents that require more than the 2-3 personnel who are typically on the shift at any one time. The "out of District" volunteers provide a valuable service to the District when they are available. These volunteers "schedule" their time to ride with on duty crews as available, but are not readily available when concurrent calls occur and immediate back-up is needed.

As in all departments there exist several time periods throughout the year in which demand for service increase notably. An analysis of the call statistics for the time period of 2010 to 2014 reveals that 39.22% of the calls occur between June 1st and September 30th. The District has historically managed this increase in call volume by hiring seasonal firefighter/EMT positions. This has proven to be an effective strategy to increase staffing as needed but the decrease in revenues has essentially made this program non-existent. The second significant time period impacting CRFPD is the traditional ski season which begins in December and ends in April of each year. From 2010 to 2014, the ski season has accounted for 37.11% of the calls for service.

## 6.3 Comparative Analysis with Similar Departments

A review was conducted of Glenwood Springs Fire Department and Basalt & Rural Fire Protection District. Each of these departments were identified through interviews with staff members as being comparable in operation. Basalt has been identified as being an agency to which CRFPD has lost personnel to for various reasons. Glenwood Springs is a traditional municipal fire department under Colorado law. As a municipal department Glenwood Springs has the ability to obtain funding through revenue streams not available to a fire District. Glenwood Springs operates three (3) fire stations covering a jurisdiction of approximately 75 square miles with seventeen (17) pieces of equipment. The department is staffed with 21 career firefighter / EMTs and paramedics, fire chief, fire marshal, an administrative assistant with support from eighteen (18) part time reserve personnel, and three (3) volunteer. Additional support functions like human resources and finance are provided by municipal

staff. Glenwood Springs responds to an average of 1,600 calls for service annually with 61% of their call volume attributed to medical calls (www.glenwoodfire.com).

Basalt is a fire District established under Colorado law similar to Carbondale. Similar to CRFPD, Basalt has a limited ability to establish funding streams outside of ad valorem taxes. Basalt operates four (4) fire stations covering a jurisdiction of 492 square miles with twenty (20) pieces of apparatus. The department is staffed with 13 career staff and 44 volunteers. The services provided are similar to those provided by CRFPD which include;

- Structural fires,
- Wildland urban interface fires,
- Hazardous materials,
- Medical emergencies,
- Auto accidents and extrication,
- Swiftwater,
- Ice rescue,
- Rope, trench, and confined space rescue

Like CRFPD, Basal realizes a split ISO rating throughout its jurisdiction. This split rating is based upon distance from a fire station and effective water supply (I.e. hydrants or tankers.) Basalts ISO rating is 4/9/10. Properties within 5 miles of a Basalt fire station receive a public protection classification score of 4 (www.basaltfire.org).

## 6.4 Projected Future Response and Coverage

A historical analysis of the CRFPD call volume demonstrates a slight increase in call volume from 2003 to 2014. On average the department is experiencing an average call volume increase of 1.53% from year to year. The total call volume increase from 2003 to 2014 was 18.4%. While there is some fluctuation from year to year, much of this can be attributed to fires in the wildland urban interface and auto accidents. The instances of EMS calls continue to increase and will continue to be the driver of demand for service into the future.

# 7.0 Staffing

## 7.1 Operations

CRFPD utilizes a three-platoon system to provide coverage for 24 hours per day. This three-platoon system is organized into shifts identified as A, B, and C and each staff member is assigned to one of the three shifts. As a shift member, each person will be "on-duty" for a 48 hour period and then "off-duty" for 96 hour period. Each shift has three staff members assigned and one of the members serves as the shift commander and provides daily management of shift operations. In addition, one of the three chief officers will be "on call" to provide for command support of significant incidents within the District. Station 81 is the only station in the District with career staff, and all other stations rely upon the support of volunteer personnel to respond concurrent to the career staff's response into these areas.

The 48/96 shift schedule is widely accepted throughout the American fire service as being a desirable shift assignment to provide 24 hour coverage. As an example other agencies utilize 10/14 and 24/48 shift schedules to meet their respective needs. To date there has been no significant scientific research to identify which schedule is better to provide 24 hour coverage. It is a matter of local policy and each agency must establish the work schedule best serving its jurisdiction. The debate as to which schedule works best for CRFPD is one that is outside of the purview of this proposal, but it is clear that the leadership of CRFPD is utilizing a shift assignment model that is considered to be acceptable within the emergency services industry.

## 7.2 Administration / Support

Daily operations of the department are managed through an administrative team consisting of nine (9) individuals. These individuals currently serve as Fire Chief, Deputy Chief of Operations, Deputy Chief of Fire Prevention, Deputy Chief of Training, EMS Captain, EMS Billing Administrator, and Finance / Human Resources, and Maintenance / Logistics. In addition to their assigned duties, these individuals are capable of responding to emergencies as needed, and the chief officers serve in the "on duty / on call" chief officer role. All of these personnel, except one, are certified at the emergency medical technician (EMT), firefighter / EMT, or firefighter / paramedic level. These individuals on many occasions are called upon to respond to emergencies regularly when the on-duty shift personnel are committed to other calls.

## 7.3 Volunteers

In addition to the department's career staff, CRFPD utilizes volunteer personnel to support the department's mission. At the time of this study, CRFPD identified a corps of approximately 70 volunteer members. However, during staff interviews it became apparent that nearly 40% of the members on the CRFPD volunteer list are for the most part inactive. These members have department issued turnout gear, pagers etc., but do not participate in on-call/on-duty shifts, incident response or trainings. It is recommended that CRFPD establish a minimum standard for members who are designated as responders.

It is noted that these volunteers serve in a variety of roles and not all of them provide emergency response. In many cases, volunteer personnel are also certified as emergency medical technicians, firefighter / EMTs, and firefighter / paramedics. These individuals can respond directly to emergencies and deliver direct patient care, or to one of the stations within the jurisdiction to staff an ambulance while career personnel transport patients to a hospital. It is important to note that the on-duty staff can be committed to a call for nearly two hours which begins the moment of dispatch until the unit returns from the hospital. As with all emergency services providers there is a place for "non-emergency" personnel to serve in various support roles. The presence of these support volunteers can "free-up" emergency response personnel. Examples of these activities include serving as ambulance drivers, pump operators, rehabilitation, and emergency operations center (EOC) activities. Under the current volunteer program there is a differentiation between emergency response and non-emergency response volunteers. However, there is a lack of consistency in the applying the differentiation. This has led to confusion as to expectations of volunteer personnel, and in some cases unrealistic expectations of volunteers. It is recommended that CRFPD further develop the delineation of these roles and responsibilities and hold personnel accountable within the developed policies.

The department's organizational staffing model provides for a high level of flexibility in meeting the needs of the community. In conducting the on-site analysis of the department, a concern was raised as to the ratio of shift personnel to administrative personnel. It is important to note that the administrative, operational, and equipment requirements of operating a volunteer / combination are extensive. The benefits of operating a department utilizing volunteers are important. However, it must be understood that volunteer personnel must be considered relative to span of control, policy administration, risk management, and training.

## 7.4 Call Back Personnel

One of the key considerations of designing an emergency response system is that of time. The longer an emergency is allowed to progress before some form of intervention is begun, the more extensive the damaging consequences become. Unchecked emergencies cause more damage, increase injuries, and impact economies. Unchecked emergencies also require additional emergency response resources to bring under control. The presence of career personnel allows for a quick initial response to occur. The department's usage of a career staff, supplemented by a "call back" of career personnel and volunteer personnel allows for a quick response to emergency incidents in most areas of CRFPD. The use of the call back procedure and the volunteer personnel is for incidents that require multiple personnel and apparatus.

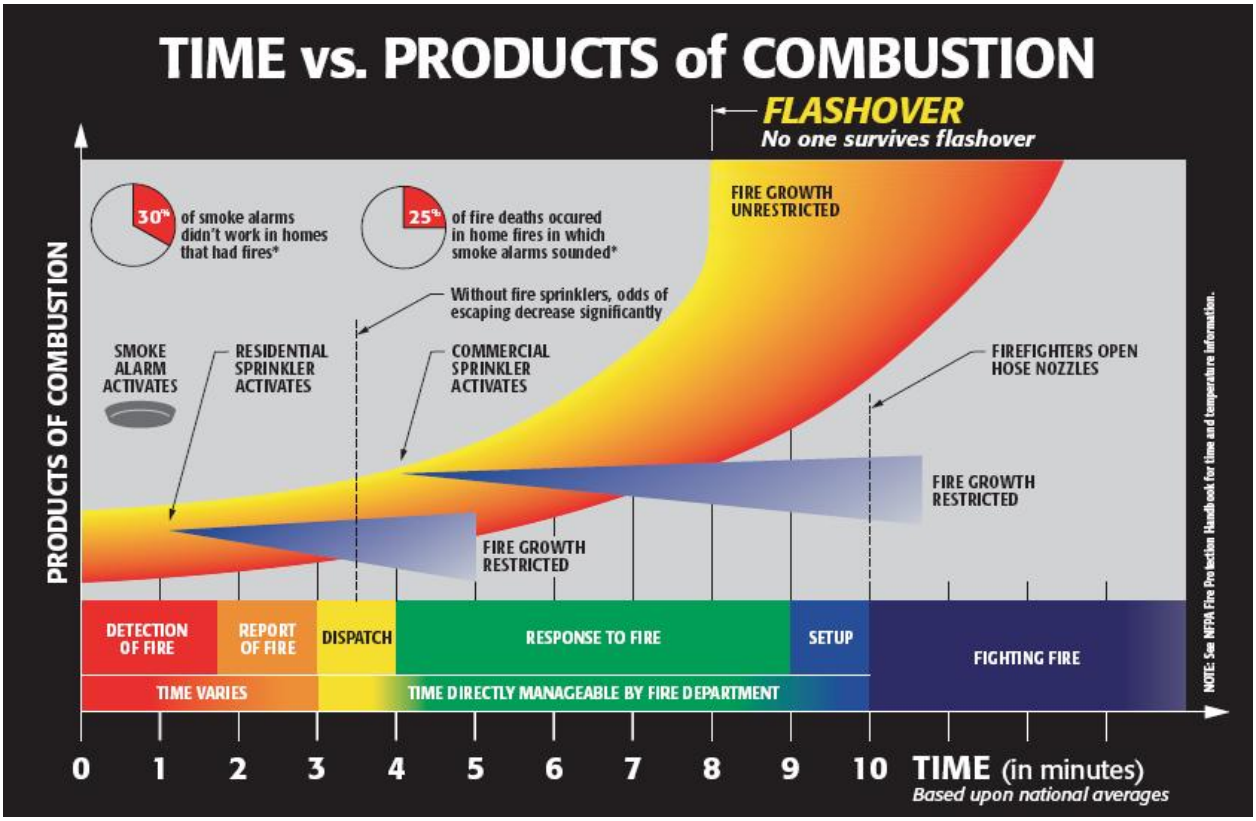
In the design of an operational structure for a fire department, interested parties attempt to identify some standard or "rule" that establishes staffing levels within a fire department. However, the reality is no single staffing standard exists within the United States that mandates staffing levels of a fire department. There are however NFPA standards addressing the number of firefighters that should be on-scene to accomplish specific tasks safely and effectively. These standards are known as 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* and NFPA 1720, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments*, and apply to either career organizations or volunteer organizations respectively. As a combination department, CRFPD can identify which standard it desires to follow. It is important to reiterate that this standard is not mandatory, but the reality is that not adhering to these standards will have implications, should a significant event occur and staffing levels be called into question. Many fire departments in the United States recognize the NFPA standards as being the "consensus standard," as they are developed through the experiences of other fire departments, and industry experts, who have gone through various response, safety and staffing challenges.

As part of the process for determining which standard to apply the issue surrounds the term "substantial." If a department is substantially volunteer then the organization could be recognized as falling under NFPA 1720, and if the department is substantially career then NFPA 1710 is the standard. There is no clear cut line in determining an exact number of what substantial means. The reality is that this is a policy decision on the part of the CRFPD board of directors. It is not the position of the Almont team that one standard is more desirable than the other. However, it is the position of the Almont team that CRFPD clearly establish its position relative the standard it feels best reflects the operation of the department and begin to plan accordingly.

At the time of this study CRFPD does not report response times in a manner consistent with either NFPA standard. This is not a difficult issue for CRFPD to correct in the fact that the FireRMS® data management system is capable of producing these results with minor adjustments within the system.

Whether the department utilizes NFPA 1710 or NFPA 1720 the reality is that time is the driving consideration in determining the success in mitigating an emergency incident. The longer a fire is allowed to grow before some form of suppression efforts is introduced into the equation the more difficult it becomes to suppress the fire. The same is true of patients in cardiac arrest or victims of traumatic injury. The following chart demonstrates the need for timely well-staffed response.




Once the initially arriving fire apparatus arrives on scene of a structure fire, the next major consideration becomes one of assembling an effective response force (ERF). As an NFPA 1720 department the following response benchmarks are;

Under NFPA 1720 the response time and staffing benchmarks are;

- Urban Zones with >1000 people/sq. mi. call for 15 staff to assemble an attack in 9 minutes, 90% of the time.
- Suburban Zones with 500-1000 people/sq. mi. call for 10 staff to assemble an attack in 10 minutes, 80% of the time.
- Rural Zones with <500 people/sq. mi. call for 6 staff to assemble an attack in 14 minutes, 80% of the time.
- Remote Zones with a travel distance =8 mi. call for 4 staff, once on scene, to assemble an attack in 2 minutes, 90% of the time.

## 7.5 Response and Reaction Times

The entire response time of a fire department to arrive at an emergency incident includes a *cascade of events*, which starts with the recognition of a problem requiring the fire department and ends with the fire department's arrival, intervention and action. The cascade of events includes:

- Recognition of problem
- Initiation of 911 call or transmission of fire alarm
- Receipt of 911 call or fire alarm by dispatch center
- Call processing time
- Dispatch processing time
- Notification of fire department
- Turnout time
- Travel time
- Time to reach patient and initiate care or to initiate fire suppression efforts

Travel time is one of the most manageable segments of time in the entire sequence. This is the amount of time that it takes for a piece of fire apparatus or an ambulance to travel from a fire station to an incident scene (wheel start to wheel stop). Travel time can be managed by selecting fire station locations based on the amount of time that it takes to travel from the fire station to the incident scene.

For the purposes of this study, the maps consider travel time with the average speed limit of 35 mph utilized for planning purposes on each street taken into consideration.

NFPA standard 1710 and 1720 define response time goals for fire agencies. The career standard was created for urban and suburban demand zones. The recommendations within NFPA 1710 for fire and EMS responses are that a four person first due company arrive at less than four (4) minutes and an entire first alarm at less than eight (8) minutes. The first alarm minimum staffing is 14 personnel. The Department can, and should, strive to meet NFPA 1710 as it grows into the future in those core areas of the Department. While it is not practical for CRFPD to provide a full first alarm assignment in 8 minutes, the organization's response profiles should strive to meet the minimum of 14 personnel for the typical single family home and 18 or more personnel for a commercial structure fire. This will require mutual aid and automatic aid but should be a standard that is met to assure the best chance of controlling the fire.

The District has potential resources they could utilize in efforts to provide fire protection. The presence of Colorado Mountain College allows for the recruitment of volunteer firefighters in exchange for either stipends, or room and board at CRFPD facilities. In addition, Town of Carbondale employees may serve as responders during "working" hours. There would be required training and protective clothing costs and the employees would need to be covered for leave from their assigned tasks. This could greatly benefit the community by having experienced volunteer firefighters function in the Town when at work.

Currently, CRFPD reports response time in an "average" format. CRFPD reports response time as being the total time from the time the unit is dispatched until the unit is on-scene. As indicated elsewhere in this document, the nationally accepted standard is for departments to report all phases of the total response time components using the 90% fractile method. In 2013 CRFPD realized an average response time of 9:46 to 1,046 emergency incidents and 9:57 in 2014 responding to 1,348.

To truly begin to understand response times across the District, CRFPD should develop and implement Fire Management Zones within each of the currently identified station response areas. The development of Fire Management Zones will begin to align CRFPD with center for Public Safety Excellence's Self-Assessment process. Reporting response times by Fire Management Zone will allow the District to understand which specific areas of each stations response area may be impacting the department

CRFPD should also begin to report each component of the response time independently (i.e. call processing, reaction, etc). This reporting structure will allow department leadership to understand and manage each part of the response time as an independent component and make adjustments accordingly.

## 7.6 Trends

### 7.6.1 Local

One of the primary considerations in any service delivery is the location of a facility. Facility location is directly related to response times. Whether responding to a fire, a medical emergency or rescue response, times are the only variable that can be initially impacted by facility location. Within the District there are a variety of proposed commercial and residential properties that have the potential of impacting the response times and capabilities of the department.

While the focus on the research is to apply Geographic Information Systems (GIS) computer-based modeling to determine possible fire station locations, a review was made of all possible methods used by the fire service to determine fire station locations.

The earliest method for determining fire station locations known to this consulting firm goes back to the horse drawn steamer era, where fire stations were located based on the distance that a team of horses could effectively pull a steamer engine and crew, approximately eight-tenths to one mile. A lingering result of that method of station distribution exists today in many large city fire departments, where fire stations are fairly close together and "bunched up" by today's standards. Over the decades, these stations become entrenched as part of their neighborhoods or communities. City governments and department administrations sometimes find these stations hard to close to provide a more economical and operationally feasible distribution, due to local resistance.

Each community must decide the appropriate response and travel times for their community. This decision should be based on a variety of factors, including:

- Types of services provided (fire, EMS, specialty response)
- Reasonable travel time for fire department fire apparatus and ambulances to meet emergency response needs of a community
- Size of area served and amount of resources available
- Level of risk a community is willing to accept by establishing or tolerating longer response times.

Utilizing GIS to pinpoint the call locations for 2013 and 2014, Almont was able to provide a graphical representation of call locations on the map below. This map provides the department and community with an understanding that the majority of the calls occur in the Station 81 response zone. The map also demonstrates that a significant number of calls occur in the Station 84 and Station 85 response zones. While the Station 83 response zone doesn't generate a large volume of calls, the map helps to provide an understanding that calls occurring in this zone are a significant distance from the headquarters station in Carbondale. This distance factor greatly impacts the amount of time an ambulance is committed to a call. This time commitment is commonly referred to as "total task time" and represents the time a unit becomes committed to a call till the unit is returned to service. In analyzing the 2014 the incidents in the Redstone (Station 82) and Marble (Station 83) areas the team discovered that 50% of the calls required the CRFPD unit to be committed for at least one (1) hour and some instances more than two (2) hours. The impact of these extended "task times" is that the ambulance staffed by the career staff is unable to respond to emergencies in the intervening period. This requires concurrent calls to be managed by the response of volunteers, administrative staff, or mutual aid departments.

### 7.6.2 State

The operation of an emergency medical services delivery system is unique in the state of Colorado. California and Colorado are the only two states in the nation that allow ambulance services to be licensed by the county and not by the state. This fact has created a system that presents unique challenges to each locality within the state. There are portions of Colorado that are understood to have "dead zones" where there is no dedicated ambulance services and other areas where medical response can take extended periods of time to reach victims. The demands placed upon local ambulance services will continue to evolve as more services are expected from pre-hospital providers. Some communities within Colorado have experimented with "community based paramedicine" to address demands for service within rural portions of the state. These programs have proven successful in obtaining funding from a variety of sources to pay for paramedics to manage a patient load outside of the hospital setting and in addition to their emergency response duties. These paramedics provide the fire based EMS system with an additional response paramedic, but also benefits the local emergency rooms by keeping non-emergent patients out of the hospital emergency rooms.

Another trend impacting the state of Colorado is the recent decision on the part of the National Registry to discontinue the licensing of individuals at the Emergency Medical Technician – Intermediate (EMT-I) level. Ambulances and fire-based EMS providers will be impacted by this decision as they must

determine the services levels of their respective agencies. Without the EMT-I licensure, agencies may have to train personnel to the paramedic level to meet the service expectations. In the interim, Colorado and the National Registry have agreed to test people to become certified at the EMT-I level, but will not be developing any new testing for certifications. This correlates into and outdated testing mechanism that may not support the knowledge, skills, and abilities needed of individuals functioning at the EMT-I level. In an email from Marschall S. Smith, Professional Standards Section Manager, Carbondale was informed that

"*The State of Colorado does not have plans to eliminate this certification level. However, two important things are happening beyond control of the Department at a national level that have great potential to impact continued certification.*

*First the National Registry of Emergency Medical Technicians (NREMT) no longer offers certification at the EMT-I level. They continue to provide an assessment examination that the Department uses for our certification purposes.*

*Second, the NREMT has indicated that they plan to discontinue updating of the examination for EMT-I applicants. Although no specific date has been provided by NREMT, they have indicated that the updating of the examination could cease between 2017 and 2019. The examination will be available and offered so that Colorado can continue the state certification. However, the effectiveness of an examination that is not update may bring into question the validity of the process."*

In addition, the state of Colorado has experienced a significant increase in the risk of wildfires and the potential loss of significant numbers of structures in the "urban interface" zones. It is generally not understood that wildfires are very costly to control and mange. In the case of CRFPD, the possibility is very real that the department could easily spend $1 million prior to receiving any assistance from state or federal resources. With the diminishing levels of reserves funds this reality could quickly impact the fiscal position of the department.

### 7.6.3 National

On a national level grant funding has reduced significantly and become even more competitive. This trend could easily continue to reduce in the coming years. This will require local governments to take on a variety of fiscal responsibilities that were formerly funded by either state or federal resources. The fire service is expected to increase its responsibilities in supporting homeland security. However, funding for these increased responsibilities cannot be certain to follow.

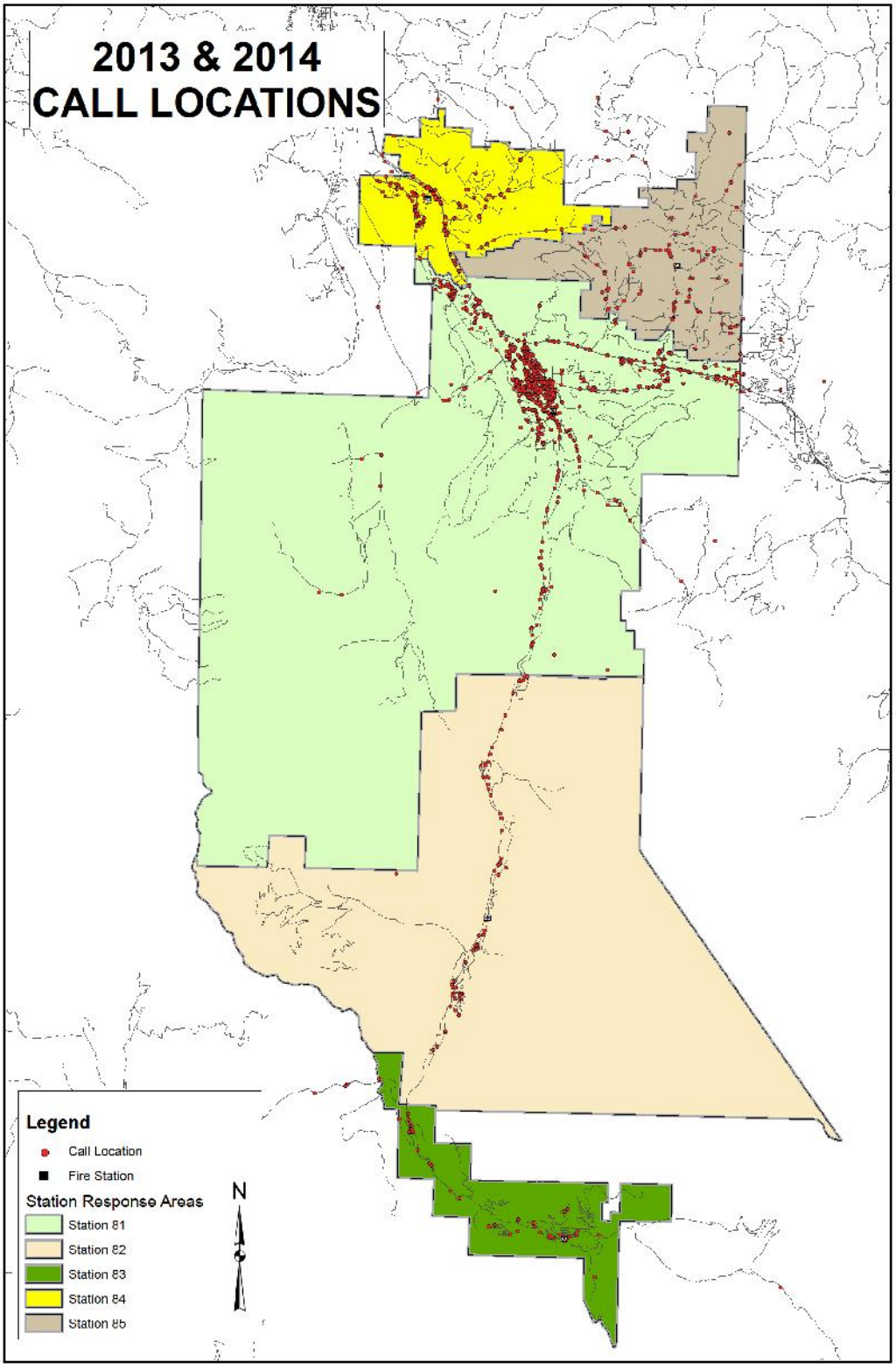



Figure 26 - Call Locations 2013 / 2014

### 7.6.4 ISO Rating / Distribution

The traditional benchmark fire departments have utilized is the Insurance Service Office's Public Protection Classification (ISO / PPC) as the basis for measuring the performance of a fire department. With the ISO / PPC, a higher score quite often translates in a higher insurance premium. While it appears to be intuitive that a lower score would automatically translate into a lower insurance premium for homeowners, the fact is that the establishment of an insurance premium involves much more than the grading of a particular department.

The American fire service has also come to understand that the presence of a low ISO / PPC score does necessarily translate into a better performing agency. On June 18, 2007 the Charleston, SC Fire Department experienced one of the greatest line of duty deaths incident when nine (9) of the department's firefighters died battling a sofa store fire. At the time of the fire, Charleston enjoyed an ISO / PPC score of 1. The ensuing investigations identified a myriad of problems within the department involving the department's culture, policies, and procedures which played into the loss of nine (9) firefighters.

| PPC | Points |
|---|---|
| 1 | 90 or more |
| 2 | 80 to 89.99 |
| 3 | 70 to 79.99 |
| 4 | 60 to 69.99 |
| 5 | 50 to 59.99 |
| 6 | 40 to 49.99 |
| 7 | 30 to 39.99 |
| 8 | 20 to 29.99 |
| 9 | 10 to 19.99 |
| 10 | 0 to 9.99 |

Table 19 - Public Protection Classification

Many fire departments have used the ISO / PPC as a method to determine fire station locations based on travel distances. The oft-cited *Fire Suppression Rating Schedule Handbook*, (Hickey, 1993) details how the distance between the placement of engine and ladder companies affects the provided municipal fire protection class and in effect, fire insurance premium costs. The ISO/CRS Grading Schedule considers four components when looking at the number of engine companies to deploy:

- Needed engine companies based on the determined basic required fire flow
- Needed engine companies based on the first-due response distance, and companies needed for distribution throughout a community
- Needed engine companies based on response of companies on the first alarm of fire to buildings
- Number of needed engine companies for areas outside the community (p. 76).

Based on the required fire flow (3000-3500 gallons per minute), the maximum number of required engine companies at any one fire incident is 3. Hickey (1993) further explains that the required number of engine companies (at any one fire incident) may respond from the same fire station (p. 76).

Regarding fire station locations, Hickey (1993) explains that each needed engine company can protect 1.5 miles travel distance from each fire station. The travel distance is measured according to the route most commonly taken from the station to the designated risk (structure). The designated travel path considers typical impediments to travel, such as railroad grade crossings, bridges (max. gross vehicular weight), dead-end streets and other obstructions. "In most cases, the 1.5 mile response zone from a fire station location will have an irregular shaped perimeter based on the actual travel distances; it will almost never be a circle" (p. 77).

Using the ISO/CRS methodology, fire station locations are determined by plotting compass points at 1.5 miles in all directions from the fire station or stations. Hickey (1993) shows how these concepts provide the foundation for determining needed fire station locations. The 1.5-mile travel distance is plotted on a map. Areas outside of the plot are evaluated by a count of available fire hydrants within those areas. Areas that have 50% or more of the hydrants in a standard response Department that are beyond 1.5 miles from an engine company require an additional engine company. Similarly, the placement of ladder companies is based on a 2.5 mile travel distance, however the availability of fire hydrants outside the primary response area is not a factor in this determination.

The ISO / PPC methodology should never be the sole risk assessment tool utilized to design and implement an emergency response delivery system. In addition, CRFPD must utilize a variety of risk assessment tools to understand the needs of the risks facing the community and make decisions accordingly. One of the more common methodologies for understanding community risks and the department's capabilities to manage those risks is the Center for Public Safety Excellence (CPSE) self-assessment program. Many departments who complete the CPSE self-assessment program have managed to improve their ISO score as a by-product.

CRFPD is currently recognized as having an ISO split rating of 5/10. In this situation, ISO has recognized the ability of CRFPD to deliver class 5 protection level within five (5) miles of a fire station where a water supply is available and class 10 protection level outside of this distance. The leadership of the District has evaluated the possibility of adding fire stations to the District to improve this score in the class 10 areas. However, the construction, equipping, and staffing of an additional fire station would require

significant expenses and the return on investment of this size would need to be determined by the CRFPD Board. In determining which PPC classifications apply, ISO utilization the following "distances as factors when assigning a "score";

- Properties 5 road miles or less to a responding fire station and with a hydrant within 1,000 feet are classified as being within the hydrant area. Thus, these properties receive better public protection classifications.
- Properties 5 road miles or less to a responding fire station and with a hydrant more than 1,000 feet away are classified as protected, but outside the hydrant system. These properties receive a lower public protection classification. CRFPD has demonstrated its ability to deliver water into these areas using tankers as a substitute for hydrants.
- Properties more than 5 road miles to a responding fire station receive the poorest public protection classification, essentially being without unrecognized protection. These properties receive the absolute lowest public protection classification.

| County | PC-5 | PC-10 | Total Structures |
|---|---|---|---|
| Garfield | 4,766 (98.59%) | 68 | 4834 |
| Pitkin | 389 (72.98%) | 144 | 533 |
| Gunnison | 332 (87.83%) | 46 | 378 |
| Total | 5,487 (95.51%) | 258 | 5,745 |

Table 20 -Structures / ISO Protection Class by County

### 7.6.5 Concurrency / Reliability

Traditionally, fire departments have been assessed based upon station location and the ability of the emergency response units to respond in a timely manner. This method works well when calls happen in a linear fashion. As long as calls for service come in one at a time the mathematics of drive time analysis are acceptable. However, to truly understand the issue of demand analysis it is necessary to review call concurrency. Call concurrency impacts the ability of a department to reliably respond to emergencies in a timely manner with an effective response force to mitigate an incident. When an ambulance or fire truck is committed to an incident it is unavailable to respond to a second call for service. When a second call occurs the responding unit must come from farther away which increases response times and allows the emergency to progress unmitigated. In addition to the issue of a longer response time, the impact is that the secondary response unit is now unavailable to respond to calls for service within its primary area. This then creates two Districts without coverage and the ability of the department to effectively respond becomes critical.

In conducting an analysis of CRFPD call volume from 2011 into 2015 it is apparent that call concurrency is a significant issue. As has been noted elsewhere in this report, CRFPD is experiencing long response times and long incident task times. Some of these long response times are attributed to CRFPD being a

rural community serving a large geographical area. However the number of concurrent calls has negatively impacted the community.

| Concurrent Calls | | | | |
|---|---|---|---|---|
| Year | Occurrences | Total Calls Involved | Multiple Ambulances | % of Calls |
| 2011 | 54 | 122 | 23 | 12.84% |
| 2012 | 93 | 218 | 32 | 18.66% |
| 2013 | 81 | 181 | 39 | 15.66% |
| 2014 | 64 | 150 | 36 | 14.37% |

Table 21 - Concurrent Calls by Year

As indicated in Table 21 above, in 2011 CRFPD experienced concurrent calls 54 times which impacted the department's ability to quickly and effectively respond to 122 calls. In addition, in 2011 concurrent calls involved multiple ambulances on 23 different occasions. In 2011, the number of concurrent calls accounted for 12.84% and 18.66% in 2012. The issue of concurrent calls is impacted by the availability of resources. There is simply a limited amount of response personnel available to quickly manage a second, or third, call. It is important to note that this issue is not one of ability on the part of volunteer personnel to provide quality support to the initially dispatched unit, but is in fact an issue of physics. Backup resources must travel from farther away which takes time. It is recommended that CRFPD consider the addition of career personnel to address the impact of concurrent calls.

## 7.7 Standards of Response Coverage

One recent trend in the fire service is to develop and adapt standards of response coverage on a local level to determine the appropriate allocation of resources available to respond to emergency (and non-emergency) incidents. The development of standards of response coverage has been increasing in acceptance and application in the past several years due, at least partly to its prominence in the fire accreditation model process. A team member is very familiar with the components of accreditation from his experience as a previous accreditation manager, and current peer assessor and team leader for the Commission on Fire Accreditation International (CFAI). The CFAI (1997-2002) recommends that agencies develop a standard, or benchmark, that indicates their response time goals. It also recommends that when writing target indicators for travel times, an organization should stay away from response time averaging because it is statistically misleading. It is more appropriate to set goals to achieve a prescribed travel time in a certain desirable percentage of all responses.

"Standards of response coverage must include an element of time: the maximum prescribed travel that indicates the level of service that is anticipated. Usually this is referred to in service level objective

statements of the agency and is expressed in terms of a specific response by a specific period of time" (CFAI, 1997-2002, p. 3-34).

CFAI (1997-2002) provides a sample policy statement for a standard of coverage: "For 90% of all incidents, the first due unit shall arrive within the five minute travel time. The first due unit shall be capable of advancing the first hose line for fire control or starting rescue or providing basic or advanced life support for medical incidents" (p. 3-22).

Currently, CRFPD reports response times in an "average" format. The utilization of an average response time does not present an accurate representation of the emergency response performance of the department. The utilization of an "average" reporting methodology demonstrates an agency's performance in roughly 50% of the time and statistical outliers can skew data when the volume of data is not sufficient enough to overcome the impact of the outlier. To understand and communicate the response capabilities of the department it is necessary to transition to a "fractile" reporting methodology whereby the department measures its ability to effectively respond in a desired time period 90% of the time. Specifically, this reporting methodology would be reported as;

Baseline Performance - The Carbondale Rural Fire Protection District experiences a "first unit on-scene" response time of 5:00 minutes 90% of the time.

### 7.7.1 Rapid Access to Defibrillation / Early Advanced Life Support Care

CRFPD does not currently provide this level of emergency medical service other than the defibrillation units located on emergency response units. With its reliance upon the responses and support of volunteer personnel in the outlying areas of the community, volunteers equipped with automatic external defibrillators (AED) would improve the possibility and probability of cardiac arrest victims receiving life-saving interventions sooner. Under the current system design CRFPD volunteers must respond to the fire station to retrieve equipment located on the emergency vehicles. Concurrently, the emergency response unit from the headquarters station is responding to the same call. This arrangement slows the arrival of the volunteer to the side of the patient with the life-saving electrical therapy of an AED, and ultimately places two transport capable units at the emergency scene. The current system design requires the volunteer to expend approximately four (4) minutes of the response time traveling to the station and at least another five (5) traveling from the station to the patient. CRFPD should equip volunteers with AED units and adjust their response during cardiac and respiratory related events to respond to the scene with support coming from responding transport units.

Specific to cardiac arrest victims, time is critical to their survival. Limmer, O'Keefe, Grant, Murray, and Bergeron, (2001) provide what The American Heart Association (AHA) believes are the four most important factors that affect the survival of victims of cardiac arrest. They are (1) early access (to the EMS system), (2) early initiation of Cardiopulmonary Resuscitation (CPR), (3) early defibrillation and (4) early advanced care (p. 348). The AHA states, "if the response time of the defibrillator is longer than eight minutes, virtually no one survives cardiac arrest." (Limmer, et al, 2001, p. 349). The AHA also states

that the faster a patient in cardiac arrest is provided with defibrillation, the more likely the patient will survive the event. The early initiation of advanced cardiac care administered by paramedic level responders also is apparently responsible for higher survival rates. (Limmer, et al, 2001)

### 7.7.2 Computer Modeling / GIS

It is widely understood that technology has improved the ability of emergency services providers to improve service delivery through a variety of methods. Geographic Information Systems (GIS) has proven to be one of the areas of technology having significant impact in emergency response system design and implementation. The evolution of early programs into today's GIS technology is exciting and ever developing. GIS provides the ability to quickly and inexpensively capture data, to process and integrate it with other existing databases, and to develop stand-alone modules of capacity in the mapping arena. Using pre-existing or created data sets, GIS gives policy makers the ability to see the potential impact of various planning scenarios prior to actual implementation. GIS allows the use of three dimensional rendering, virtual reality and modeling of future decisions and events, GIS gives planners and policy makers alike the ability to create future universes based on assumptions and parameters which can be easily modified.

The software can be used to generate service areas, shortest distance between two points, best route between two points or more points and drive time. It also provides information on population counts in a defined service area. The Network Analyst component allows the study of drive time from a variety of potential fire station locations. GIS is also used to identify available land parcels that are large enough to accommodate a future fire station site.

CRFPD currently has a staff member versed in utilizing GIS technology. It must be noted that this individual is essentially self-taught, but has developed quality mapping pieces to facilitate decision-making within the department. Further development of this individual's training in the area of GIS will continue to enhance the capabilities of the department to address continued demands for service within the District.

### 7.7.3 Procedures

The initial steps in conducting this analysis were to request specific data from the staff of CRFPD. This data specifically included GIS shape files of streets, call locations, water supply maps, and previous ISO reports. Almont also requested the staff to provide incident data by call type, call location, time of day, and day of week for the previous five (5) years at a minimum. Almont's GIS technician also validated the supplied data with each of the county's. It must be noted that CRFPD staff proved to be quite capable in collecting and providing the requested data in a very timely manner. This experience is not the norm in most studies and the staff of CRFPD should be commended.

### 7.7.4 Assumptions

The procedures utilized in the research were based on various assumptions. The first assumption was that the response time data obtained from the CRFPD was accurate and complete. A second assumption is that all of the computer program ArcView GIS Network Analyst software would produce accurate and verifiable data on response time scenarios for the depiction of current and any future fire stations. Other assumptions used in the research include a small but consistent increase in call volume and demand for services.

### 7.7.5 Current Locations

The following maps reflect the current configuration of the District's fire stations. These maps demonstrate the areas of the jurisdiction that are within a five, ten, and fifteen minute response time from each fire station. The coverage from these locations serves a majority of the District's population. As demonstrated in table 20, slightly more than 95% of the structures within the District fall within the ISO PPC rating of 5.

*** It is important to note these travel time maps reflect what is possible when volunteers are available to respond from the stations not staffed by career personnel. In situations where the emergency responders come from Station 81 in Carbondale actual travel times will be longer.

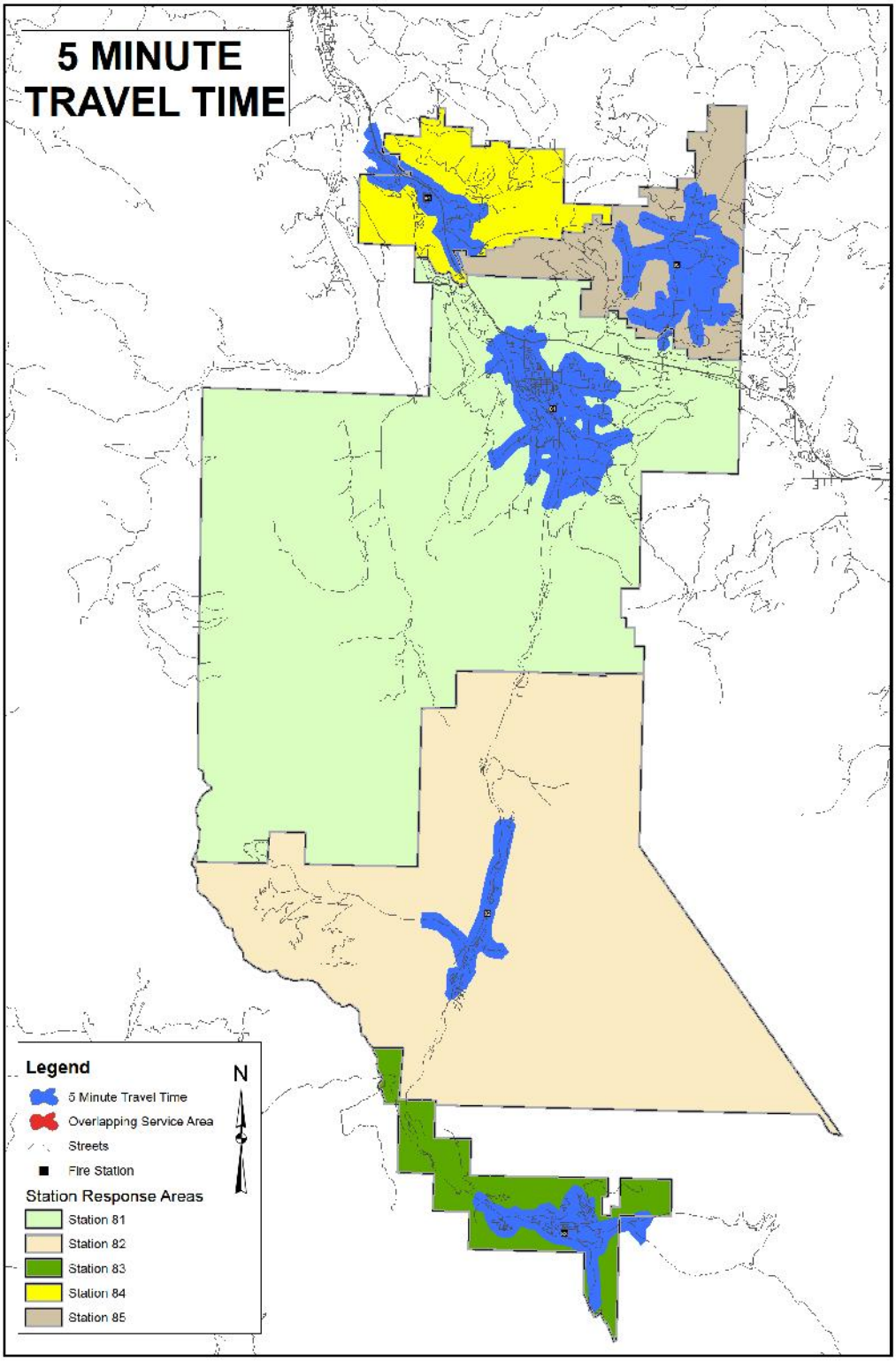



Figure 27 - Five Minute Travel Time

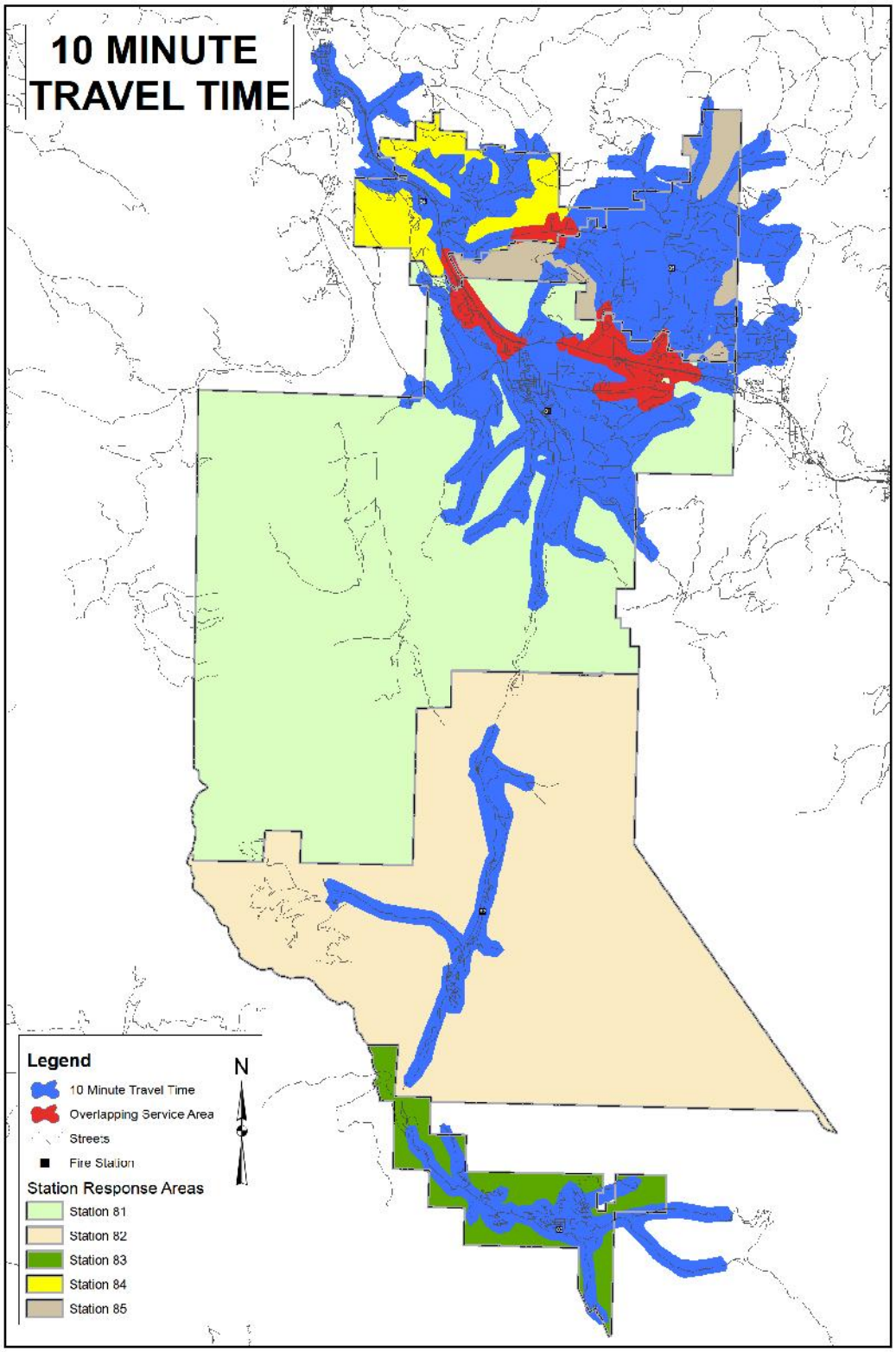



Figure 28 - Ten Minute Travel

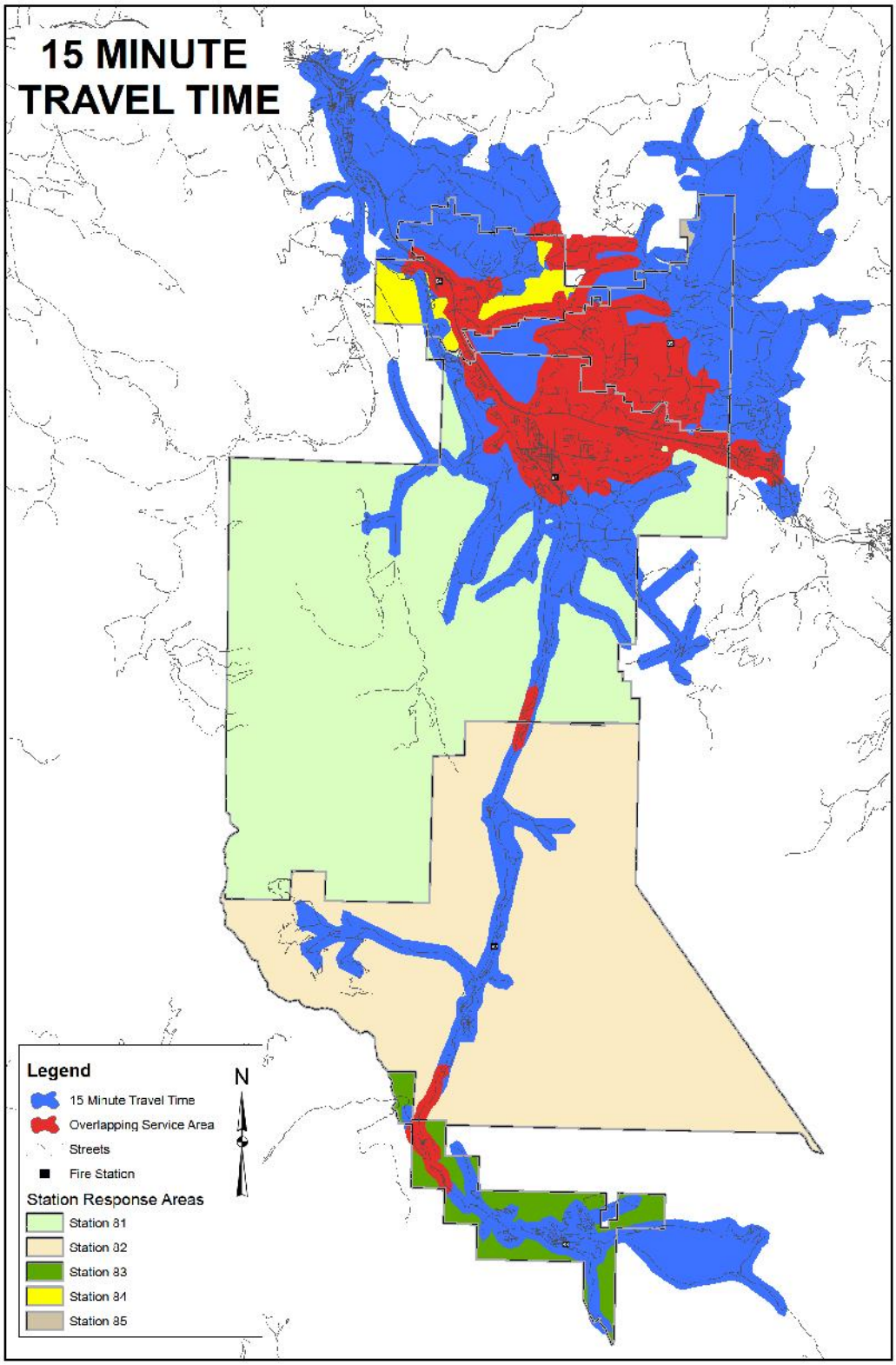



Figure 29 - 15 Minute Travel Time

## 7.8 Alternative Locations

In meeting with CRFPD staff and board members it was generally believed the District's inventory of fire stations was acceptable at this point in time. Relatively active volunteers support the current locations and to attempt to add any other locations to the jurisdiction would not be practical; any return on investment would not be realized in the near future. However, in conducting an analysis of the jurisdiction and call data, there is potential for the location of additional fire station locations in the area of Colorado Mountain College and Cattle Creek.

The college is recognized as a high hazard area due to the number of people attending and occupying the facility on a 24-hour basis between classroom and dorm locations. Colorado Mountain College has been successful in the development of a residential dormitory program. The dangers associated with college dorms across the United States are well documented. An additional advantage of operating a fire station from the college location is the presence of a pool of potential volunteers. Many fire departments across the United States have experienced success in using college students as responders through a formalized "live-in" program. Students are provided living space within the fire station in exchange for their services. These programs must be formalized and the expectations of both parties identified in a written document to insure the program's effectiveness.

While it is outside of the scope of this project it is the position of the Almont team that these potential locations warrant further evaluation and analysis as the District grows and further demands are placed upon services. Further development of residential or commercial properties in the Elk Springs areas will place further demands upon the resources currently situated with the response zones of Stations 84 and 85. The development of fire management zones to further analyze response data will facilitate the understanding of demand for service in these areas.

## 7.9 Specialized Response

In addition to the traditional response to fire and emergency medical calls, CRFPD responds to specialized types of emergencies which include hazardous material releases, confined space, technical, trench, ice and water rescues, as well as "back-country" rescues. During this analysis the level of training for these types of emergencies was not determined. Through interviews it appears that personnel in general are not trained to the operations or technician level as defined by NFPA and OSHA guidelines. The department must conduct an audit of personnel training with regard to specialized responses and determine if personnel are qualified to function in these capacities and if not what needs to occur to qualify the employees to function in these capacities.

## 7.10 Operational Guidelines

CRFPD has a comprehensive set Standard Operating Procedures (SOP) in place. After reviewing the fire department's SOPs it is understood they are current and relevant. Additionally, the procedures reflect the various changes that have occurred in the fire service over the years and also expanded to cover operations at emergency scenes. Of particular note, the leadership of CRFPD has established a formal

document outlining the process for developing procedures for CRFPD. This document, "*CRFPD – Process for Development of Policies and Guidelines,*" clearly communicates the issues driving the need for a policy and who should be assigned the responsibility of developing the policy.

The standard operating guidelines for CRFPD are delineated under the following "headings;"

- Command Structure
- Structure Fires
- Vehicle Fires
- Hazardous Materials
- Wildland Fires
- Medical Calls
- Rescue
- Response
- Safety
- Driving
- Equipment Operation
- Infection Control
- Communication
- Miscellaneous

Under each of these headings, CRFPD has further developed specific policies relevant to that specific area. Every department is unique and has special circumstances that may separate them from other fire departments around the country. The development of SOPs to fit the needs of the District is critical to the members of the department and the citizens CRFPD serves. As SOPs are developed or revised, consideration must be given to the growing cooperation between neighboring fire departments and SOPs should reflect such. SOPs provide guidance to employees that ensure consistency in emergency and non-emergency situations.

In addition to the SOGs addressing scene operations, CRFPD has developed a significant set of personnel policies. This policy manual addresses,

- General Information
- Wage and Hour
- Leave of Absence
- Benefits
- Work Rules
- Safety

Effective personnel policies serve as the foundation for protecting the department from significant employee claims.

## 7.11 Incident Reporting and Data Management

The CRFPD uses software developed by FireRMS® to record information relative to emergency runs, non-emergency runs, training, and hydrant maintenance to name a few. FireRMS® is a very robust records management system and should serve CRFPD well into the future. As the Almont team worked with CRFPD staff, it became evident that a significant part of the department's data is currently being maintained within the system. However, it is recommended that the department increase the collection of data and usage of the system to make informed decisions. It is the belief that the system is not being used to its full potential.

## 7.12 Training

In order to analyze a fire department's ability to respond to structural firefighting the project team would have to evaluate actual fire operations. In the absence of that, fire operations can be evaluated based on training activities of a fire department. Anytime a dysfunctional emergency operation occurs it can generally be traced to improper training. Next to fire prevention activities, training is one of the most important non-emergency functions emergency services providers undertake. Today, a firefighter's survival depends on that firefighter's commitment to learning, as well as the department's desire, and ability, to provide valid opportunities for that learning to occur. Rapid technological changes are occurring in incident scene management, emergency medical service, hazardous materials response, and personnel management. Because of this, emergency services personnel require a personal and organizational commitment to both initial and continuing training.

During the site visit, the Almont team interviewed the training officer for CRFPD and reviewed the training activities of the department. The Almont team reviewed training records from 2013 and 2014. In 2014, departmental personnel participated in 36,807 hours of training. Of these hours, 69% were directly associated with the delivery of medical response training. The remaining 31% accounted for all other training (i.e. driver training, incident command, wildland.) In conducting this review it became apparent the department has experienced success in the delivery of;

- Firefighter 1 training
- EMS training
- Wildland
- Water supply
- ICS
- Initial attack small fires

The concern of all staff members interviewed revolved around the inability to deliver consistent fire suppression training to all personnel throughout the department. Specifically, CRFPD staff indicated a deficiency in the delivery of firefighter 2 skills, large fire attack, and large resource intensive incident type of calls. The inability to deliver this type of training is the result of various reasons. One issue is the lack of a dedicated training location. Currently, personnel must conduct fire suppression training in parking lots and on streets with small amounts of traffic. The ability to utilize parking lots and streets

are dedicated by issues outside of the control of the fire department (i.e. business hours, traffic patterns, etc.) To address this issue CRFPD should consider establishing a central training location to facilitate training not subject to the vagaries of private business operations and vehicle traffic patterns.

The delivery of effective fire suppression training is also limited by the ability of the department to assemble enough personnel at a training event to insure the training is realistic. With the large coverage area of the District, it is essentially impractical to get all personnel at a central location to deliver training. In the event the department was able to get all personnel to a central location, these personnel would be removed from the ability to respond to calls within their "home" coverage area.

The traditional delivery of instructional material through a "face-to-face" learning environment is unrealistic. CRFPD must consider the implementation of a structured "virtual" educational delivery pattern to insure a baseline of knowledge is effectively delivered to career and volunteer personnel. Implementation of an on-line learning management system (LMS) allows the training staff to deliver a consistent baseline of information using auditory and visual instructional methodologies before bringing teams together to perform the kinesthetic techniques to demonstrate / improve skills. Many agencies have effectively utilized IFSTA Resource One® LMS to insure the delivery of quality blended learning opportunities. It must be noted that the development and delivery of education via an online LMS system is labor intensive and requires staff resources to develop and deliver. The return on this investment comes in the ability of more personnel to receive a consistent level of training.

The training staff of CRFPD has historically established an annual training calendar to insure the delivery of training to as many personnel as possible. However, during the site visit staff indicated the difficulties in maintaining an annual calendar as call volumes increase and personnel are being pulled in many different directions as a result of issues occurring in their respective private lives (i.e. Little league, soccer, church, etc.)

It is the position of the Almont team that the current training officer is doing a significant amount of work in support of a combination workforce. The delivery of training to career and volunteer firefighters is difficult under the best of circumstances, as the training officer must take into account varying levels of knowledge, skills, and abilities of each member. Each of these members have professional (careers) and personal (i.e. little league, church, etc.) time constraints limiting their individual abilities to participate in organized training activities. It is strongly recommended that CRFPD create an additional training officer position to support the needs of managing a diverse group of volunteer and career personnel. This position would allow the department to address training issues and concerns beyond the "basic" level and implement necessary "advanced" training of existing staff. Outside of hiring additional career staff, CRFPD should consider the assignment of volunteer staff to deliver training to department members. These volunteer trainers could provide significant support in the development of the on-line LMS.

In conjunction with the delivery of emergency medical services training, the department should schedule and conduct operational training as outlined in National Fire Protection Association Standard 1401 and ISO. **NFPA 1401-5-3.3.12 Training** defines training as "the process of achieving proficiency through instruction and hands on practice in the operation of equipment and systems that are expected to be used in the performance of assigned duties." Not all training must be delivered in formalized sessions occurring at a specific place and time. Everyday training is conducted through vehicle and equipment inspections, pump and tool check-outs, building pre-fire plans, and physical fitness although this is not well documented. This lack of effective documentation is not unique to CRFPD, as most departments do not effectively capture these daily "training" events. All training activities should be recorded using Fire RMS® to insure the department receives full credit for all training activities during any future ISO grading events.

It is important to note that Colorado does not require anyone serving in the capacity of a firefighter to be certified to perform the duties of a firefighter. Currently, nearly all of CRFPD emergency response personnel are certified at the "Firefighter 1" as a minimum. In addition, many of the volunteer personnel have achieved certification at either emergency medical technician or paramedic level. Priority for training activities must take into account the State of Colorado's licensing and recertification procedures for emergency medical technician and paramedics. Of primary concern, evidenced by many of the CRFDP board members is the reality that the National Registry will discontinue to testing and certification of EMT-I licenses. The discontinuation of the EMT-I license will require personnel to become certified as paramedics. This reality will negatively impact the budget of the department as personnel must obtain more training than before. In addition, employees attending paramedic training are essentially "out of pocket" while they finalize their training.

A training facility is very important for the purposes of fire personnel training. Currently the CRFPD has no location to conduct "live fire" activities. Anytime the delivery of "live fire" training is required to certify new firefighters or conduct in-service training, personnel must travel nearly an hour to burn facilities in Gypsum or Rifle to utilize their facilities. When CRFPD personnel attend training at either of these facilities the community loses the responders for extended periods of time and reduces the capabilities of the department. To receive maximum ISO credit and insure competency of the fire department personnel, these facilities must be utilized consistently. Minimum facility use by all company personnel while training should include:

1. Eight (8) half day (3 hours) drills per year, 24 hours total
2. Four (4) half day (3 hours) multi-company drills per year, twelve (12) hours total
3. Two (2) night drills (3 hours) per year, six (6) hours total

There should be company training totaling twenty (20) hours per month per member. Training in basic skill development and retention of competencies in suppression related subjects such as hose, ladders, SCBA, forcible entry, salvage, tactics, and other job related training are the basics of this program. These

training components and officer development are the basis for ISO analysis. As mentioned before, this training can be delivered utilizing online training platforms in addition to the traditional face-to-face meetings.

The basic skills program should include the minimum number of hours in each subject area that the fire department administration determines is needed. Specific training goals should be established by the department's training officer for members on an annual basis; personnel as qualified training officers should complete these goals. Each company officer must document all training related activities in the department's records management system.

As previously indicated, pre-fire planning / inspection activities by fire company personnel in their area are considered training and should be considered to be a priority. The fire department must be active in pre-planning efforts that identify hazards to establish a strategic plan of operations for target commercial buildings. Additional training hours can be achieved through conducting documented post incident analyses after each significant event. Any and all activities that address NFPA standards, and improve the employees' ability to effectively deliver their required duties are recordable as training hours.

Examining emergency operations after the fact is one of the best learning and training tools available. It is essential that firefighters learn from what went right and what went wrong. The uses of informal and formal post incident analyses are a key component to successful safe emergency operations. The Fire Chief is responsible for personnel being prepared to function. The Chief oversees functionality and can make a difference in the performance of the department by using actual experiences to further improve employee skills.

Informal post incident analysis (documentation not required) should be conducted at the company or shift level. This includes on-scene or immediate return to the station reviews of the last call. A good informal tool is a lessons learned procedure (suggested information sharing documentation recommended), which has a company provide information about a call that they experienced in a written (memo) format to the fire chief who then distributes it to entire department. A good example of this is experience gained by performing extrication on a certain type of new model vehicle.

Formal post incident analysis (required documentation) should follow a defined format, be conducted for significant incidents, and a formal report be released. This report should be used to change procedures, training, or anything else that was discovered not to work during that incident. Not all post incident analyses have to have negative outcome; the procedure has to make sure to promote the positive outcomes too.

Training is a cost factor that is a necessary function of the Department. The constantly changing federal mandates from the Occupational Safety and Health Administration (OSHA) and the Environmental

Protection Agency (EPA) require political subdivisions meet certain mandates. OSHA mandates such as 29 CFR, 1910.146 which are required by EPA. In non-OSHA states have a very specific impact on the fire service. The law adopted in 1993 requires municipalities to provide a specified level of training and equipment for confined space entry and rescue. This law affects water departments, sewer/waste management departments, and fire departments with regard to entry and rescue operations. The Department must maintain annual training for their personnel with refresher and/or actual operations documented at the operations level for these skills.

The importance of training cannot be overstated; it must be the major priority of the Department. When a daily schedule of activities is created prioritization of training as the top priority should be the normal practice. Exceptions can be allowed but they should be infrequent.

# 8.0 Community Risk Reduction

## 8.1 Life Safety / Fire Inspection / Code Enforcement

CRFPD has a limited fire inspection and enforcement process. The key to managing fire risk in a community is the work done with routine fire inspections and code enforcement. This work should be performed by qualified and trained staff that is not only familiar with local fire codes and ordinances, but staff that has the authority to ensure compliance. Fire inspections should be performed on a regular schedule. Target hazards like high-risk occupancies, hotels, educational institutions and dormitories should be inspected on more frequent bases. It is recommended at a minimum that commercial buildings receive biennial inspections, while target hazards receive annual inspection. Inspections and violations should be documented utilizing the existing Fire RMS® records management system. Furthermore, this inspection schedule and process should facilitate the recommended risk analysis of the community. Commercial buildings should be rated using a risk analysis process. This risk rating of the building should determine the level of emergency response.

Plan review is also an important part of managing risk through fire prevention. CRFPD should work closely with county and municipal governments to ensure that an adequate fire review of all-new construction, renovation, and additions of commercial buildings is complete. Again, this work should be performed by qualified and trained staff with a working knowledge of construction, plan examination, fire system design, and life safety code.

Currently CRFPD lacks adequate means to ensure compliance with fire and life safety code. It is recommended that CRFPD research and implements a formal violation and enforcement process. Code enforcement boards, local magistrates, and citations are a few examples that should be considered. It will be imperative that this work be done in collaboration with local municipal and county governments to ensure continuity of application and avoidance of conflict. While most agencies have success with voluntary compliance, a formal enforcement mechanism is needed to ensure consistency.

## 8.2 Public Information

The Human Resource/Financial Division Manager also holds the responsibility of the District's Public Information Officer. Due to the current workload and responsibilities of this position, limited time is spent working on the public information role. The general public throughout the nation is generally uneducated on the roles, responsibilities, and effectiveness of fire and emergency agencies. It was clear in a meeting with external stakeholders during the onsite visit that the citizenry did not understand all of the responsibilities and needs of CRFPD. It is imperative to the future success of CRFPD that a more active role is taken to inform, educate, and interact with the customers in the District.

It is recommended that the District formalize the Public Information Officer position. There are several ways in which to accomplish this task. First, the role of the Public Information Officer could be transferred to another staff member or volunteer that has appropriate communication skills, time, and resources to engage the public. Second, the role of Public Information Officer could be shared by a small group of staff or volunteers with appropriate communication skills, time, and resources. Third, some of the Public Information Officer responsibilities could be outsourced to help manage staff workload while still being effective communication.

Regardless of the option chosen, CRFPD must have a face in the community. Positive information like recognition, major accomplishments, safety education, and successful rescues should be pushed out to the community on a regular basis. Capital needs, employee retention issues, response challenges, and recruitment advertisement should also be on the forefront of information that is shared with the community.

This is another area in which training for the person or personnel would be useful. There are a number of training programs nationwide that assist Public Information Officers in setting up media networks, developing press releases, and conducting press conferences that would be beneficial as the District focuses on this area.

## 8.3 Public Education

CRFPD staff participates in the traditional fire prevention week programs within the local schools. However, this is an area in which CRFPD could maximize its efforts with minimal effort on the part of the department and realize a tremendous upside in getting the prevention message into the community. It is a well-known fact that children have a significant influence within the home when it comes to smoke detectors and other safety related messages. Effective public education programs also have the benefits of building relationships with the children and their families. It was made clear that the ethnic demographics within the school system have changed significantly in the recent years. The intentional presence of CRFPD staff in the schools will significantly improve the relationships among these ethnic groups who tend to have very closed social circles. CRFPD should utilize its volunteer personnel to enhance the public education programs. Public education efforts should also be extended into other venues to improve the penetration of the prevention message. These venues could include summer camp programs and vacation bible schools to name a few.

# 9.0 Comparison to Recognized Standards

## 9.1 National Incident Management System (NIMS)

The National Incident Management System (NMS) is a common system intended to insure emergency responders across the United States are operating within a common framework in managing emergency incidents. NIMS compliance is essential in the safe systematic operation of not only emergency operations but also daily events and non-emergency operations. Compliance is required for eligibility for grant assistance and all disaster response. The CRFPD has demonstrated NIMS compliance. Staff has been trained to the appropriate levels for their responsibilities. CRFPD must continue to insure all personnel are trained in NIMS to maintain NIMS compliance.

The department has directed all members through policy to utilize the Incident Command System (ICS) on all incidents. While it is common in many departments to only implement the ICS system on larger events, the reality is that regular usage of the ICS on smaller incidents will make members more proficient and achieve success on larger incidents. The usage of volunteer and recall staff makes consistency essential to ensure scene safety. CRFPD must continue the practice of using the ICS system on all incidents. Practice makes perfect, and consistent use promotes improved skill levels and ensures when a major incident occurs the IC is prepared to employ ICS to its fullest.

## 9.2 Insurance Service Office (ISO)

In 2011, ISO graded 47,232 fire departments across the United States. With a PPC classification of 5, CRFPD is graded better than 68% of the United States fire departments. During this same period, ISO graded 622 fire departments within the state of Colorado. Of these, department CRFPD was graded better than 56% of Colorado fire departments. It is important to note that with the ISO score of 5 more than 95% of commercial and residential property owners are receiving a return on the investment of their tax dollars into CRFPD.

In CRFPD's most recent ISO report the fire department received only about 50% of the available scores relative to "Receiving and Handling Fire Alarms." It must be noted that the dispatching of CRFPD is accomplished from two different dispatch centers. This fact is the result of CRFPD being situated in three counties. One of the dispatch centers does not have capabilities similar to the other and as such ISO "chose" to use the less capable dispatch center as the scoring mechanism for this category. The leadership of CRFPD has addressed this issue with ISO management who has committed to using the more capable dispatch center as the scoring mechanism in the next grading. This fact alone has the potential of nearly moving CRFPD from and ISO PPC of 5 to a PPC of 4. Should CRFPD achieve a score of 4, business owners will realize the larger return on these efforts.

As with the "Receiving and Handling Fire Alarms" category, CRFPD received only 50% of the available scoring in the "Fire Department" category. While it is the position of the Almont team that CRFPD should just not use ISO scoring as rationale for justifying the making of large capital improvements, it is possible that there is "low-hanging fruit" within the ISO report, which CRFPD can strive to accomplish and return significant value to the citizens and community. Specifically within the most recent ISO

report, CRFPD should address the issue of training. Any efforts to improve the delivery of training will not only improve the department's ISO score, but the department gains more effective firefighters as a result. Specifically within the report, significant point deductions were made in the areas of "company training" and "pre-fire planning Inspections."

Relative to "company personnel" CRFPD received only one-third of the available points for staffing. ISO determines the strength of staffing using a yearly average of total firefighters available to respond to structure fires. The CRFPD received credit 4.99 on-duty personnel and 9.83 for volunteer personnel. It is important to note that ISON scores volunteer firefighters on a 3:1 basis in comparison to career staff. This factor has nothing to do with skills levels of volunteers, but only the reality that volunteers are not able to respond 100% of the time. Any addition of career personnel will have impact on this scoring area, but the reality is that the District must evaluate this from a cost / benefit standpoint. Consideration must be given to future staffing levels to correlate to the impacts of concurrent calls for service. Concurrency of calls will impact the department's ability to reach 911 calls in a timely manner. The issue of concurrency is a concern whenever more than one call occurs simultaneously, or the initial response unit from a specific station is committed and another station must respond into that area. Staffing will also need to be a consideration should there be a rapid expansion of the community or building growth.

Specific to the issue of new growth, the leadership of CRFPD must work with each of the governing bodies having jurisdiction over building construction in order to insure new and remodeled buildings have automatic sprinklers installed. The presence of sprinklers in commercial properties is one of the quickest ways to reduce the need for a large fire department to manage the fire risk. These systems have positive long-term effects on the cost of providing fire protection. They reduce the financial impact on the over the life of the building. A full fire protection sprinkler requirement within the CRFPD jurisdiction will significantly reduce the need to expand fire services as the community grows, thereby maintaining costs associated with fire protection. It will also assist occupancies in enjoying reduced insurance rates for fire protection.

## 9.3 National Fire Protection Association (NFPA)

### 9.3.1 Operations

CRFPD has done well to insure firefighting personnel are trained to standards identified within NFPA 1001 relative to firefighter 1. This is significant in light of the fact that the state of Colorado does not require any certification to be a firefighter and the training requirements are left to the local authority having jurisdiction. However, challenges exist in getting people to the firefighter 2 level and continuing to deliver in-service training at the firefighter 2 level. While all of CRFPD career personnel are trained to the firefighter 2 level many volunteers remain at firefighter 1. CRFPD should identify methods by which all personnel within the department will achieve firefighter 2 certification.

### 9.3.2 Special Response

CRFPD provides a variety of technical rescue services (i.e. high angle, trench rescue, etc.) The provision of these types of services is a matter of necessity and not simply a choice on the part of CRFPD leadership. The reality is that if these services are not provided, victims would suffer for longer periods of time as rescuers from other locations would need to respond in place of CRFPD. As a result, it is strongly recommended CRFPD work to comply with NFPA 1670 *Standard on Operations and Training for Technical Search and Rescue Incidents*. The type of incidents are categorized as being low frequency / high consequence events and as such CRFPD must be fully prepared to respond to and mitigate the incidents. The standard categorizes the different levels of training for first responders as: awareness, operations, and technician level. The department should perform a risk analysis and determine the extent of training that is required to safely mitigate a technical rescue incident.

### 9.3.4 Health and Wellness

The number one resource of any emergency services provider is its personnel. The leading cause of line of duty deaths among firefighters is heart attack and strokes. In addition to the obvious concerns of line of duty deaths, the rates of cancer and suicide among firefighters have become critical across the United States. The District should continue its efforts to comply with NFPA 1500 through implementation of the IAFF and IAFC Health and Wellness program. The Fire Service Joint Labor Management Wellness-Fitness initiative was developed by unionized firefighters and fire chiefs. The program consists of a medical evaluation and assessment, fitness, injury and medical rehabilitation, and behavioral health. The program is very specific to all the fields addressed and can be implemented in phases over a period of time.

## 9.4 Center for Public Safety Excellence (CPSE)

The issue of accreditation by an outside third party has come to the forefront in the delivery of emergency services. Law enforcement agencies have been utilizing accreditation as a means to ensure validation of service delivery through the Commission on Accreditation for Law Enforcement Agencies (CALEA®) since 1979. Ambulance services have utilized the Commission on Accreditation of Ambulance Services (CAAS®) since 1990 to demonstrate commitment on the delivery of high-quality services. Since 1996, the Center for Public Safety Excellence (CPSE®) has been utilized to provide accreditation of fire departments internationally. The CPSE established technical competencies with benchmarks for departments to measure their performance against so they can determine if they are providing quality services to the community they serve, as well as their members. The CPSE has set standards for fire departments and chief officer (fire, medical, and marshal) accreditation. These standards are derived from the National Fire Protection and the International City Manager Association guidelines. Recommendations in this report use these standards as their basis. While the CRFPD is not ready for accreditation either as a department or for individuals they should strive to function based on standards acceptable to the accreditation process. As the department progresses through its strategic planning process it should establish a timeline to complete the "Self-Assessment" portion of the CPSE® accreditation process even if it chooses to complete the peer review portions. The most significant

component of the CPSE process is having the agency complete the self-assessment and implement any findings as a result.

# 10.0 Maintenance of Facilities and Equipment

## 10.1 Facilities

During the site visit, the Almont team visited each facility operated by CRFPD. In general, facilities were maintained and adequate for current level of service delivery. However, it was obvious that the living quarters of stations that maintain resident volunteers vary greatly with respect to cleanliness and upkeep. It was also noted the resident volunteers have varying levels of commitment to responsibilities associated with training and emergency response. Residence at fire stations is a significant benefit that should come with a strong level of responsibility and commitment to the District. A formal written agreement for all volunteer residents with measurable expectations is recommended.

The same two staff members that are responsible for apparatus and equipment maintenance largely handle facility maintenance. These two staff members are major contributors to the overall success of CRFPD.

## 10.2 Apparatus / Vehicles

Apparatus and equipment also appeared well maintained. Maintenance staff level of contribution in the area was impressive. Like many areas with CRFPD, a lot is done with very little. Maintenance staff handles everything from small equipment repair, SCBA fit testing, to pump rebuilds. It is obvious that financial challenges have stressed the ability to maintain and keep up with the volume and scope of work in this area. Seasonal manpower and training, tools appear to be major obstacles for the future. Lack of EVT certification, training on newer apparatus technology, and District owned tools to repair apparatus and equipment are significant issues that should be addressed. Recommendations in these areas include obtaining EVT certifications and vendor specific training for mechanics performing preventative maintenance and repair work on apparatus, add tools to a capital replacement schedule, and add seasonal staff to assist with volume as needed.

### 10.2.1 Fleet Replacement / Schedule / Funding

CRFPD has created a fleet replacement schedule that is representative of the District's needs. The plan has a financial impact of over $1.7 million in the next five years. Given the state of the current finances within the District, a review of options must be explored and secured to keep critical infrastructure in operational condition. Delaying critical capital purchases is an ineffective way to sustain operational readiness in the long term. The District should keep the replacement plan current and advertise the need by including the plan in the annual budget. Additionally, continued submission of grant applications should occur in an effort to support fleet purchases.

### 10.2.2 Capital Equipment

Likewise, CRFPD has also created a capital equipment replacement schedule that covers everything from facility improvements, firefighting equipment, training aids, and computers. The financial impact of

needed capital equipment is also significant and a financial concern. It is recommended that equipment lifecycles should be established for each type/category of capital equipment and included in the annual budget as well. Forecasting needed expenditures and purchases is helpful in educating stakeholders on the need for funding.

## 10.3 EMS Equipment

CRFPD has equipment at each station capable of delivering EMS according to local protocols. Medical supplies are obtained from a combination of vendors and the local hospital. Unlike many EMS providers across the nation, CRFPD has not experienced delays and shortages of EMS fluids and medications. Current relationships and accounts should be maintained to ensure sustainability of supplies. Diagnostic equipment (i.e., Lifepak monitors, etc.) are maintained and serviced regularly. Some of the capital EMS equipment is dated and will need replacement. It is recommended, that all capital equipment should be added to a capital replacement plan. This will ensure proper funding can be secured and replacements are not delayed. It is also recommended that CRFPD look at leasing as an option of funding EMS capital equipment. Fair market value leasing options provide some flexibility with funding that may prove beneficial for the Districts capital replacement plan.

Adequate infection control equipment seems to be readily available for personnel. However, no fit testing is currently being conducted on N95 mask utilized for protection of airborne diseases. CRFPD has a quantitative fit testing machine utilized for the MSA Fire Hawk mask testing. These devices can often be utilized for the N95 mask testing as well. Qualitative testing utilizing a hood with testing solution would also be an acceptable alternative. It is recommended that fit testing be conducted for all EMS providers that could come in contact with a patient with an airborne disease. Testing should be done annually in accordance with OSHA 29 CFR 1910.134.

## 10.4 Self-Contained Breathing Apparatus

Apparatus and facility maintenance staff also handle the District's SCBA program including fit testing, service, and inventory. While SCBA's are maintained and tracked, there are significant safety and replacement issues. During the site visit, Almont noted that CRFPD was utilizing significant amount (90 +) of SCBA bottles that had reached their recommended life cycle (10 years). These bottles were not in compliance with NFPA 1852 recommendations and presented a significant liability for the District. Following the site visit, Almont was notified that the District purchased 72 new SCBA bottles utilizing reserve funds.

CRFPD maintenance staff performs repairs and maintenance work on SCBA, but is not MSA certified to perform this work. This also creates significant liability for the District due to the lack of training. This is also a significant safety issue in the event of an SCBA failure while operating in an IDLH atmosphere. Recommendations in the area would include MSA certification for staff working on SCBA equipment and a replacement schedule for bottles in accordance with NFPA 1852.

Furthermore, a formal OSHA 29 CFR 1910.134 respiratory compliance program should be adopted and incorporated. SCBA fit testing should be conducted prior to initial use, when masks are changed, and at

least annually after the medical evaluation confirms personnel are medically able to wear an SCBA. Firefighters cannot be fit tested nor allowed to use / train with SCBA when facial hair is between the mask sealing surfaces or interferes with valve function and or any condition that interferes with the face-to-face piece seal. It is recommended that the District adopt and enforce a grooming policy consistent with OSHA and NFPA standards and recommendations.

It was also noted during the site visit that CRFPD is utilizing some third party SCBA bottles. While often cheaper to purchase, these may present an issue with NIOSH and NFPA compliance. In an MSA memorandum written on March 3, 2009, MSA Sales Application Product Manager – SCBA explains that, "a respirator component, such as a spare cycler, is NIOSH and NFPA compliant ONLY if it is included in the manufacturing quality control plan that has been approved by NIOSH". The memorandum goes on to explain that some third party cylinders circumvent the MSA quality control plan and as a result void both NIOSH and NFPA compliance if used. As such, it is recommend that the District contact MSA directly to research and resolve any issue with warranty, repair, and service prior to purchasing new MSA bottles.

## 10.5 Funding for Replacement

As has been previously discussed, CRFPD has been unable to address the replacement of equipment as a result of the downturn in the economy. The leadership of CRFPD has endeavored to curtail expenditures as much as possible, but still insure the department can still deliver services. This has required the delay in replacing equipment and much of the current inventory of equipment has reached a critical point in its useful life. To continue this pattern of cost avoidance is highly unrealistic and only serves to delay the inevitable while placing the safety of the citizens and responders in question. CRFPD should establish a dedicated "repair and replacement" fund to address the replacement of capital equipment within the department. As a dedicated fund, its presence must appear within the annual budget and be part of the regular planning process.

## 11.0 Recommendation Matrix

| Item | Recommendation | Procedure / Policy / Program |
|---|---|---|
| **Training** | | |
| 1 | Evaluate the establishment of a central training location to facilitate training not subject to the vagaries of private business operations and vehicle traffic patterns | Policy |
| 2 | Utilize volunteer personnel in the delivery of training to department members to more effectively utilize career staff time for advanced (FF2 and technical) training. | Policy |
| 3 | Schedule and conduct operational training as outlined in National Fire Protection Association Standard 1401 and ISO | Program |
| 4 | EMS quality assurance processes conducted In conjunction with the delivery of emergency medical services training. | Program |
| 5 | All training activities should be recorded using Fire RMS® to insure the department receives full credit for all training activities during any future ISO grading events. | Policy |
| 6 | Conduct company level training totaling twenty (20) hours per month per member. | Program |
| 7 | Establish basic skills program inclusive of a minimum number of hours in each subject area determined by fire department administration. | Policy |
| 8 | CRFPD should identify methods by which all personnel within the department will achieve firefighter 2 certification | Program |
| 9 | Specific training goals should be established by the department's training officer for members on an annual basis, personnel qualified as training officers / preceptors should complete these goals. | Policy |
| 10 | Specifically within the most recent ISO report, CRFPD should address the issue of training | Program |
| 11 | Develop a web based online learning platform to facilitate the delivery of firefighter 1 level skills using IFSTA's learning management system (LMS). | Program |
| 12 | District should create an additional training position within the department to facilitate additional training at the firefighter 2 level.. | Policy |
| 13 | District should develop and implement a formal officer development program in support of future promotional opportunities in the future of the organization. | Program |
| **Prevention** | | |
| 14 | Fire inspections should be performed on a regular schedule. Target hazards (high risk occupancies, hotels, educational institutions and dormitories) should be inspected on more frequent bases. It is | Program |

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| | recommended at a minimum that commercial buildings receive biennial inspections, while target hazards receive annual inspection | |
| 15 | Inspections and violations should be documented utilizing the existing Fire RMS® records management system | Policy |
| 16 | Inspection schedule and process should facilitate an ongoing risk analysis of the community to determine appropriate level of emergency response. | Program |
| 17 | CRFPD should work closely with county and municipal governments to ensure that an effective fire review of all new construction, renovation, and additions of commercial buildings is completed. | Program |
| 18 | Research and implements a formal violation and code enforcement process. | Program |
| 19 | CRFPD should utilize its volunteer personnel to enhance the public education programs. | Policy |
| 20 | Public education efforts should also be extended into other venues to improve the penetration of the prevention message (i.e. summer camp programs and vacation bible schools.) | Program |
| 21 | Pre-fire planning / inspection activities by fire company personnel in their response areas are considered training and should be considered a priority | Policy |
| **Operations** | | |
| 22 | It is recommended that EMS responses requiring Paramedic level interventions be reviewed by someone with the same or higher level of training. | Policy |
| 23 | It is recommended that CRFPD establish a minimum response / participation standard for members who are designated as responders. | Policy |
| 24 | District should consider the addition of career personnel to address the impact of concurrent calls to reduce response times in support of positive patient outcomes ad survivability. | Policy |
| 25 | Informal post incident analysis (documentation not required) should be conducted at the company or shift level | Program |
| 26 | Formal post incident analysis (required documentation) should follow a defined format and be conducted for significant incidents, and a formal report be released | Program |
| 27 | Positive information (recognition, major accomplishments, safety education, and successful rescues) should be pushed out to the community on a regular basis. | Program |
| 28 | Capital needs, employee retention issues, response challenges, and recruitment advertisement should be on the forefront of information shared with the community. | Program |
| 29 | Perform a risk analysis and determine the extent of training required to safely mitigate a technical rescue incidents (i.e. backcountry rescues) | Program |
| 30 | Continue efforts to comply with NFPA 1500 through implementation of | Program |

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| | the IAFF and IAFC Health and Wellness program | |
| 31 | While CRFPD is not ready for accreditation either as a department, or for individuals, they should strive to function based on standards acceptable to the accreditation process. | Program |
| 32 | As the department progresses through its strategic planning process it should establish a timeline to complete the "Self-Assessment" portion of the CPSE® accreditation process even if it chooses not to complete the peer review portions | Program |
| 33 | Residence at fire stations is a significant benefit that should come with a strong level of responsibility and commitment to the District. A formal written agreement for all volunteer residents with measurable expectations is recommended | Policy |
| **Maintenance** | | |
| 34 | Lack of EVT certification, training on newer apparatus technology, and District owned tools to repair apparatus and equipment are significant issues that should be addressed. Recommendations include obtaining EVT certifications and vendor specific training for mechanics performing preventative maintenance and repair work on apparatus, add tools to a capital replacement schedule, and add seasonal staff to assist with volume as needed | Policy |
| 35 | Medical supplies are obtained from a combination of vendors and the local hospital. Unlike many EMS providers across the nation, CRFPD has not experienced delays and shortages of EMS fluids and medications. Current relationships and accounts should be maintained to ensure sustainability of supplies | Program |
| 36 | Fit Testing should be done annually in accordance with OSHA 29 CFR 1910.134 | Procedure |
| 37 | District should adopt a formal OSHA 29 CFR 1910.134 respiratory compliance program | Policy |
| 38 | It is recommended that fit testing be conducted for all EMS providers that could come in contact with a patient with an airborne disease | Procedure |
| 39 | District staff should achieve MSA certification for SCBA equipment in accordance with NFPA 1852. | Policy |
| 40 | Respiratory protection program should include a scheduled replacement cycle for all SCBA bottles in accordance with NFPA 1582 | Policy |
| 41 | District should adopt and enforce a grooming policy consistent with OSHA and NFPA standard | Policy |
| **Administration** | | |
| 42 | District should keep the replacement plan current and advertise the need by including the plan in the annual budget | Policy |
| 43 | District should continue to submit grant applications in an effort support fleet purchases | Policy |
| 44 | Equipment lifecycles should be established for each type/category of capital equipment and included in the annual budget as well | Policy |

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| 45 | Some capital EMS equipment is dated and will need replacement. It is recommended, that all capital equipment should be added to a capital replacement plan | Policy |
| 46 | CRFPD should establish a dedicated "repair and replacement" fund to address the replacement of capital equipment within the department | Policy |
| 47 | District should further develop the delineation of roles and responsibilities of volunteers and hold personnel accountable within the developed policies | Policy |
| 48 | Mutual aid agreements should be reviewed annually by the leadership of CRFPD and the results of such review communicated to the District board through a formal communication tool (i.e. annual report.) | Policy |
| 49 | District should work with the governing bodies for areas in which no mutual aid agreements exist to enumerate the expectations of each party and formalize the business relationships. | Policy |
| 50 | To ensure a healthy leadership model and communication throughout the organization, the board bylaws should clearly indicate this policy level involvement to avoid board member management of daily operations. | Policy |
| 51 | District should review its current bylaws and structure. Consideration should be given to address incompatibility issues and ensure elected positions are more representative of the District | Policy |
| 52 | A regular series of staff meetings should be conducted to facilitate formal communication within the District. | Procedure |
| 53 | The District should review and revise all job descriptions within the organization after conducting a formal job task analysis to clearly understand the functions currently being performed by each member of the department | Policy |
| 54 | CRFPD should evaluate the possibility of using a "blog" as a communication tool to enhance formal communication. | Policy |
| 55 | District should establish a formal agreement with the Medical Director. | Policy |
| 56 | CRFPD should consider the implementation of employment contracts that include education reimbursement requirements when providing tuition assistance to members. | Policy |
| 57 | Determine NFPA 1710 or 1720 operational status in support of achieving accreditation | Policy |
| 58 | Develop and implement Fire Management Zones within each of the currently identified station response areas | Policy |
| 59 | Report each component of the response time independently (i.e. call processing, reaction, etc.) | Policy |
| 60 | Transition from reporting response times in the traditional "average" format to "fractile" reporting at the 90% level. | Policy |
| 61 | Equip volunteers with AED units and adjust their response during cardiac and respiratory related events to respond to the scene with support coming from responding transport units. | Program |

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| 62 | District should support and encourage the development of public access defibrillator programs. | Program |
| 63 | Refine usage of Fire RMS to effectively support decision-making relative to operational services and accreditation. | Policy |
| 64 | It is recommended that the District formalize the Public Information Officer position. | Policy |
| 65 | District should work to comply with NFPA 1670 *Standard on Operations and Training for Technical Search and Rescue Incidents.* | Program |
| 66 | District should evaluate leasing as an option of funding EMS capital equipment. | Policy |
| 67 | The ICD10 Coding guidelines are complex and require more coding specificity. Formal training is recommended to ensure that the ambulance biller will be well-equipped prior to the transition in order to avoid claim denials due to incomplete or inaccurate coding | Policy |
| 68 | Training is also recommended for operational members providing basic and advanced life support care in documentation related to EMS billing | Policy |
| 69 | District should conduct a formal job task analysis for each position within the District and develop job descriptions accordingly. | Policy |
| 70 | It is recommended that the current quality assurance/improvement process be expanded to include skill performance tracking, patient outcomes, and documentation accuracy | Program |
| 71 | Review, track and provide feedback on 100% of EMS responses to staff members. | Policy |
| 72 | EMS data should be shared with the Training Officer and used to steer training topics and exercises. | Policy |
| 73 | Evaluate the development of a paramedicine program in cooperation with local hospital and physicians. | Program |
| 74 | District should develop a formalized Fire Corps or CERT program in support of departmental activities. | Program |
| 75 | The District should increase the collection of data and usage of the RMS to make informed decisions | Policy |