

CITYGATE ASSOCIATES, LLC

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MANAGEMENT CONSULTANTS ■



**FIRE AND EMERGENCY
SERVICES STUDY
FOR THE
EL DORADO
LAFCO**

VOLUME 1 OF 3 – MAIN REPORT

Draft Report

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FIRE & EMERGENCY SERVICES

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VOLUME 2 of 3 – Map Atlas (separately bound)

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EXECUTIVE SUMMARY

El Dorado LAFCO retained Citygate Associates, LLC to conduct a fire and emergency services planning study to include a high level assessment of:

1. The existing countywide fire suppression and emergency service levels;
2. A gap analysis to identify where, if any, current service levels are inadequate;
3. The current expenses and revenue for these services;
4. A gap analysis to determine where the existing revenue structure can or cannot support the existing and improved service levels and a summary discussion of available fiscal approaches to closing the fiscal gap;
5. The service delivery cost-effectiveness, in the context of El Dorado County, of the four broad approaches to organizing the delivery of fire services and a discussion of the appropriate governance arrangements as alternatives to the present situation.
 - County-wide fire system;
 - Series of sub-regional systems;
 - All agencies continuing to operate independently;
 - A combination of sub-regional and independent fire operations.

The study was to provide options for the parties to consider that will most effectively organize the delivery of fire service and also achieve the following objectives:

1. Stabilize existing services;
2. Maintain what is working well;
3. Expand partnerships to gain economies of scale;
4. Broadly identify the next steps to implement the policy direction of LAFCO, depending upon the policy options chosen.

POLICY CHOICES FRAMEWORK

As a starting point, El Dorado County leadership needs to remember that there are no mandatory federal or state regulations directing the level of fire service response times and outcomes. Thus communities have the level of fire services that they can afford, which is not always what they would desire. However, the body of regulations on the fire service provides that *if fire services are provided at all, they must be done so with the safety of the firefighters and citizens in mind* (see regulatory discussion on page 16). Given this situation, the overall challenge for the County's fire districts is to design fire services within the fiscal constraints that limit its ability to staff, train and equip a safe and effective fire/medical response force across a diverse set of communities. Not all of the Districts will likely ever experience enough growth to provide a stable revenue base for more than a very low level of fire services.

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All of the fire districts in the County are affected by volunteer firefighter negative pressures (described elsewhere in this study) on recruiting and operating volunteer and or per diem based fire services.

OVERALL CITYGATE PERSPECTIVE ON THE STATE OF EL DORADO'S COUNTY'S FIRE SERVICES

In brief, Citygate finds that the challenge of providing fire services by the fire districts in El Dorado County is similar to that found in many California counties: providing an adequate level of fire services within the context of limited fiscal resources, competing needs, changing population demographics and the uncertainty that surrounds the exact timing and location of future development.

Citygate evaluated all aspects of the El Dorado County fire agencies during the preparation of this deployment study and fire prevention systems review including fiscal recommendations, and *three* critical challenges for the fire agencies emerged. To address each of these challenges, there are findings and recommendations that deserve specific and particular consideration.

Throughout this report, Citygate makes observations, key findings and, where appropriate, specific action item recommendations. Starting in Section 5 on page 120, all the findings and recommendations are presented together, in order. Overall, there are 13 key findings and 7 specific action item recommendations and three suggested next steps after policy consideration and direction is given after consideration of this study.

In this Executive Summary, instead of citing all the findings and recommendations, Citygate will only highlight the most critical ones across three challenges:

WHAT IS WORKING WELL

It needs to be stated at the front of this study that Citygate Associates team members who spent time in El Dorado County found the fire staffs at all levels very cooperative and helpful. They are committed to their county, agency, and mission. Given the struggle to keep pace in their departments to cope with tight revenues, there is pride and on-going efforts to deliver the best customer service with the currently available resources. Fires are being attended to and medical calls are being answered with excellent patient care.

Finding #1: Citygate finds the response time performance in the Western Slope area comes very close to meeting the County EMS system goal of getting the first unit on scene within 11-minutes from the time of call, 90 percent of the time. The Building Fire performance is better than a recommended 14-minutes by NFPA Combination Fire Department Standard #1720. Many calls closer to stations in the very developed areas had much better response times, consistent with the recommendations in NFPA #1710 for career fire departments in built-up areas.

Finding #3: Citygate finds the response time performance in the Basin area comes very close to meeting the County EMS system goal of getting the first unit on scene within 11-minutes from the time of call, 90 percent of the time, *when calls to the ski resorts are not considered*. The Building Fire performance is close to the recommended 14-minutes by NFPA Combination Fire Department Standard

#1720. However snow conditions much of the year and a high quantity of “simultaneous” calls on the weekends, slows this measure and achieving an urban response time goal would be very difficult and expensive to deliver.

Finding #5: When the mapping analysis is considered along with the response statistics and the daily staffing plan, it is apparent the fire stations themselves are well located on the road network. The career staffed stations and ambulances are appropriately located in the higher call for service areas.

Even given the fiscal stress in some parts of the system, all of the fire agencies closely cooperate; have common dispatching and other sharing of resources, such as in the ambulance Joint Powers Authorities. In this sense, there already are great examples of best practices in shared fire and ambulance services.

MAIN CHALLENGES

One can summarize the fire service challenges that face El Dorado County in four themes: (1) *insufficient firefighter staffing per unit in most areas*; (2) the need to assess fire apparatus and develop a replacement plan with financing that ensures all agencies are operating with safe and adequate equipment; (3) the need for a set of effective organizational sharing and fiscal policies to ensure a funding level that will at least continue the current level of service, and when the economy permits, fund improvements in fire services; and (4) re-organize fire services where practically and politically possible to provide the most cost and service efficient structure.

Because of slow growth of revenue over the past decade due to recessions and state revenue policies towards the special districts and counties, the fire districts have not been able to significantly increase career staffed field resources, while at the same time, the volunteer firefighter retention is under significant challenges that limit their numbers and around the clock availability.

Challenge 1: Field Operations Deployment (Fire Stations and Staffing)

Fire department deployment, simply stated, is about the *speed* and *weight* of the attack. Speed calls for first-due, all risk intervention units (engines, ladder trucks and specialty companies) strategically located across a department. These units are tasked with controlling everyday average emergencies without the incident escalating to second alarm or greater size, which then unnecessarily depletes the department’s resources as multiple requests for service occur. Weight is about multiple-unit response for significant emergencies like a “room and contents structure fire,” a multiple-patient incident, a vehicle accident with extrication required, or a complex rescue or wildland fire incident. In these situations, departments must assemble enough firefighters in a reasonable period in order to control the emergency safely without it escalating to greater alarms.

In Section 3 of this study, the Response System Deployment Analysis reveals that El Dorado County has a weight of attack problem. There are currently not enough on-duty firefighters Countywide plus paid-call firefighters and volunteers responding *quickly* to keep potentially serious emergencies contained and small, particularly if the paid-call firefighters and volunteers cannot provide an immediate response to fill out the necessary staffing.

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The current El Dorado County fire service deployment system has served the community well in the past, but is now increasingly strained to handle a singular serious event, or multiple serious events in the same sub-area and to provide equitable coverage in all areas with similar population densities. The County is no longer a quiet farming or recreational only area. The foothills have become a favorite place for suburban development. Many of these homes are for people who work, shop, and recreate in nearby cities. Consequently, their connection to the County is at best tenuous. This adds a strain on the County for which it receives little benefit. El Dorado County fire services should consider growing fire defenses commensurate with the risk and call for service growth; however, making changes is a tall order given economic pressure.

Citygate's recommendations are designed to improve these issues as fiscal resources allow. By increasing minimum staffing where possible, there will be more firefighters and more fire attack units on the street. More attack units are achieved without adding more fire stations. With more immediately responding staffing, it is less likely that moderate emergencies will draw in more understaffed units across a large area to make up an effective response force. This leaves more uncommitted engines for simultaneous emergencies.

As demonstrated further on in this report, total reliance on volunteer firefighters responding from other than a fire station can't fill this gap. While volunteers are desirable from a fiscal perspective, shifting the total burden of fire protection responsibility, at a suburban population density level, from the general taxpayer to a few citizens, places a huge burden of frequent response and intense training on the few volunteers.

Citygate recommends the fire districts and County consider adopting updated fire service response time measures for its fire services. This is because population largely drives the frequency of routine calls for service and more densely populated areas have a larger revenue base from which to fund a higher level of service than do rural areas.

While it makes sense that many of the rural residents know and accept the fact they moved out beyond the reach of urban fire, police and ambulance services, the reality is that some, particularly second home residents or visitors, do not. Increasingly, many residents are newcomers from urban areas, and may only reside in the County part-time in second homes. Yet, the County has a mix of pockets of higher density population where at least emerging-suburban and suburban levels of fire service deployment make sense given the risks present.

Thus, Citygate's **key** deployment findings and recommendations are summarized below. For reference purposes, the findings and recommendation numbers refer to the sequential numbers in the main body of the report. Note that not all findings and recommendations that appear in this report are listed in this Executive Summary.

Finding #6: While the stations are well located, the region *does* have a staffing per unit issue. Not all stations are staffed fulltime, nor are the volunteers always readily available. What this means is that the system will be challenged to deliver enough firefighters, quickly enough, to prevent the spread of serious fires.

Finding #7: In addition to the thin daily quantity of on-duty firefighters in fire stations, in the West Slope, 38 percent of the total career firefighters on-duty per day is assigned to ambulances. In the Tahoe Basin, it is 17 percent of the on-duty firefighters. While the paramedics are cross-trained as firefighters, when they are on EMS

emergency incidents or hospital-to-hospital transfers, they are not available for firefighting or technical rescue.

Finding #8: The current paramedic deployment plan using principally ambulances in the West Slope means there is an equity of coverage issue in the outlying areas. A common practice in California when this happens is to use paramedic staffed engines to provide faster access to a paramedic. In the West Slope area, this occurs in at least two areas, the northwest and southeast areas. Cameron Park, the El Dorado County Fire District, and Pioneer already operate paramedic engines at their expense. Ideally, funding would be provided from the regional EMS system to fund paramedic engine coverage outside of the primary ambulance areas to all agencies in the JPA. This would take considerable economic pressure off Garden Valley and Pioneer whom want to provide this enhanced service on very small revenues.

Finding #9: The current fire service deployment measures in the County General Plan does not fully meet best practice recommendations by defining the time measurement starting point, specific population density measures, the desired outcome and a response time/performance goal for multiple units. Such a more comprehensive measure also would link population density to risks to outcomes to revenue capacity in very different areas within the county.

Citygate’s recommendations are designed to improve these issues as fiscal resources allow.

Based on Citygate’s above findings and the national best practices outlined in this study, Citygate recommends the County adopt revised fire station and crew deployment measures.

The fire deployment service levels and resultant trigger points in the following table are consistent with national recommendations as discussed earlier in this section of the report. These measures serve as guidelines for adding more fire stations and crews.

Citygate’s Proposed Deployment Measures Based on El Dorado Population Densities

	Structure Fire Urban Area 90% Goal	Structure Fire Emerging Suburban Area 80% Goal	Structure Fire Rural Area 80% Goal	Wildfires Populated Areas 90% Goal	Remote Areas*
	>1,000 people/sq. mi.	500-1,000 people/sq. mi.	<500 people/sq. mi.	Permanent open space areas	
1 st Due Travel Time	4	10	14	10	10
Total Reflex Time	7	13	17	13	13
1 st Alarm Travel Time	8	15	20	12	20
1 st Alarm Total Reflex	11	18	23	15	23

*CAL FIRE or Forest Service Responsibility Lands.

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Recommendation #3: As the economy allows, a minimal staffing plan would be for every fire district in its most populated areas to operate at least one 2-firefighter unit 24/7/365. This could be done as is currently with a variety of staffing plan combinations from career to per diem to volunteer firefighters.

This would provide multiple benefits – improved first-due unit response time, increased unit response and total firefighter counts on serious emergencies and reduce reliance on ambulance staffing for primary firefighting forces.

Challenge 2: Fire Apparatus Assessment and Replacement

There exists a need in the County to assess fire apparatus and develop a replacement plan with financing that ensures all agencies are operating with safe and adequate equipment.

Most of the agencies have capital needs that should be met over the next five years in order to provide effective and safe equipment. Many of the districts do **not** have the fiscal resources to meet these needs.

Station and Apparatus Needs

Agency	Station Needs	Immediate Apparatus Replacement Need	Next Five Years Apparatus Replacement Need
Tahoe Basin			
Fallen Leaf			\$700,000
Lake Valley			\$400,000
Meeks Bay	1		\$650,000
S Lake Tahoe	4	\$800,000	\$250,000
West Slope Agencies			
Cameron Park			
Diamond Springs	1		\$800,000
El Dorado County FPD	6	\$1,900,000	\$2,800,000
El Dorado Hills (Water District)	2		\$1,000,000
Garden Valley		\$1,100,000	
Georgetown	1		\$2,000,000
Latrobe		\$1,100,000	
Mosquito			\$400,000
Pioneer			\$700,000
Rescue			\$400,000
Total:	15	\$4,900,000	\$10,100,000

Challenge 3: Costs and Funding Strategies

The current local government revenue structure in California makes it highly unlikely that the fire districts and or County can fund the recommended fire service improvements and facility replacements without some additional sources of revenue. New residential development, particularly if not accompanied by new high sales tax generating commercial business, will not generate sufficient new General Fund revenue to pay their share of both current County services and at least new minimally adequate fire and medical emergency response services to serve the development.

From a fiscal and deployment perspective, the fire service agencies fall into three broad categories: 1) Those with a suitable and stable revenue base that permits the provision of quite adequate fire and EMS services; 2) Those who, in spite of a larger revenue base, are stretched quite thin across a large geographic area and so are not able to provide equity of coverage throughout their District; and 3) Those who are small and providing very modest service on an unstable revenue base that is very reliant on year-to-year County funding and Strike Team revenue from the State.

Categorizing the agencies into three categories is a judgment based on a series of data elements, some of which actually may point in competing directions; and so it is very possible for someone to question the appropriateness of placing an agency in one category or another. For summary purposes, Citygate has made judgments regarding the fiscal and deployment condition of the agencies based on current fiscal and deployment data. This summary table is a starting point for understanding the findings and more detailed data to follow in the report.

Fiscal and Deployment Condition of the Fire Agencies

Best Condition	Modest Condition with Stretched Services	Unstable Condition
Cameron Park	El Dorado County FPD	Fallen Leaf
Diamond Springs	Rescue	Garden Valley
El Dorado Hills (Water District)		Georgetown
Lake Valley		Latrobe
Meeks Bay		Mosquito
South Lake Tahoe		Pioneer

Regardless of the current fund balances of an agency, an important measure of its real fiscal health is the size of its capital obligation to replace fire equipment and fire stations.

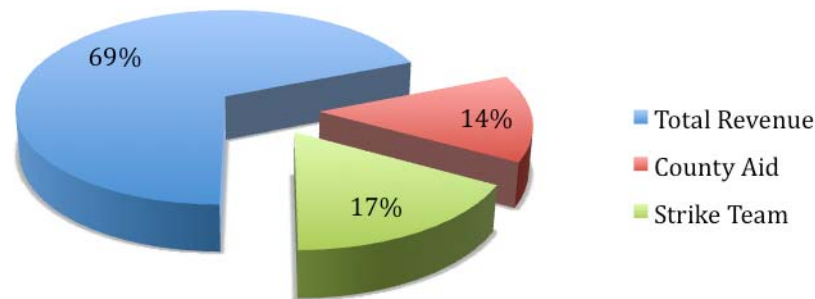
Finding #10: Most of the Agencies have immediate or pending significant fire engine and station replacement needs, and most of them do not have the current or projected resources to meet these needs. Most of the capital needs are for replacement and not additions, and so can only be partially funded from new development impact fees. Impact fee revenue will be insignificant in most agencies due to the low rate of growth for the foreseeable future.

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A second measure of fiscal health is the size of reserves and the percentage of annual revenue that comes from sources that can be highly variable from year to year.

Finding #11: All of the smaller agencies, those with budgets near or under \$1,000,000 per year, rely significantly on nonrecurring (annually renewable) revenue, principally County funding and reimbursement for providing Strike Teams for State emergencies.

The chart below reflects the percentage overall of County contribution and Strike Team revenue received by the eight agencies that currently receive County contributions.



With so many agencies reliant upon unstable sources of revenue to maintain their current service level, we looked at the current assessment on a typical single family dwelling in each agency that receives County funding and then estimated what increase would be needed if County funding were removed and all of the assessment were placed on dwelling units.

Finding #12: All but one agency receiving County funding levies an assessment to support fire operations, although the EMS JPA assessment applies to all but Meeks Bay. Including the EMS assessment, the average assessment on the typical single-family dwelling unit is about \$180 per year. If assessments were to be added to replace county funding, the assessment would increase an average of \$165 per year if applied only to dwelling units. It would be somewhat less if also applied to other properties.

Current Assessments and Estimated Assessment as Replacement Revenue

Agency	County Funding	Total Fire and EMS Annual Tax and Assessment on Typical Single Family Home FY 09-10	Estimated Annual Tax/Assessment Increase per Dwelling Unit-to Replace County Funding
Tahoe Basin			
Fallen Leaf	\$60,454	\$419	\$349
Meeks Bay	\$312,945	\$291	\$172
West Slope Agencies			
Garden Valley	\$205,285	\$131	\$105
Georgetown	\$36,240	\$109	\$24
Latrobe	\$168,978	\$80	\$420
Mosquito	\$35,047	\$229	\$64
Pioneer	\$279,047	\$25	\$100
Rescue	\$202,351	\$155	\$86

In an earlier table, Citygate categorized the 14 fire agencies in the County into three broad categories that combined both a deployment and fiscal perspective. The table below also categorizes the agencies but from solely a fiscal perspective.

Finding #13: If all current funding were to continue in place for each agency for the next several years, only the City of South Lake Tahoe is presently fiscally stressed in its efforts to continue the current level of fire services. If County funding and/or other non-recurring funding were to be withdrawn or substantially reduced, 6 more agencies would be fiscally stressed or very stressed and all of them have significant unmet capital needs.

Current Fiscal Condition of Fire Agencies

Agency	Total FY 2008-09 Revenue	County FY 2008-09 Contribution	End of FY 2008-09 Reserves	Current Fiscal Condition	Condition without County Funding	Significant Unmet Capital Needs
Tahoe Basin						
Fallen Leaf	\$266,685	\$60,454	\$136,480	Adequate	Very Stressed	Yes
Lake Valley	\$5,636,090	\$0	\$2,096,011	Adequate		
Meeks Bay	\$1,318,563	\$312,945	\$1,141,864	Adequate	Adequate	Yes
S Lake Tahoe	\$7,424,066*	\$0	N/A	Stressed		Yes

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Agency	Total FY 2008-09 Revenue	County FY 2008-09 Contribution	End of FY 2008-09 Reserves	Current Fiscal Condition	Condition without County Funding	Significant Unmet Capital Needs
West Slope Agencies						
Cameron Park	\$2,703,646*	\$0	N/A	Adequate		
Diamond Springs	\$4,345,266	\$0	\$1,102,883	Adequate		Yes
El Dorado County FPD	\$10,957,370	\$0	\$6,230,866	Adequate		Yes
El Dorado County Water District	\$16,404,780	\$0	\$20,571,606	Very Adequate		
Garden Valley	\$2,366,649	\$205,285	\$625,873	Adequate	Very Stressed	Yes
Georgetown	\$1,294,174	\$36,240	\$339,375	Barely Adequate	Barely Adequate	Yes
Latrobe	\$372,733	\$168,978	\$259,476	Adequate	Very Stressed	Yes
Mosquito	\$517,418	\$35,047	\$129,714	Adequate	Stressed	
Pioneer	\$1,155,646	\$279,047	\$387,978	Adequate	Very Stressed	Yes
Rescue	\$1,982,293	\$202,351	\$1,198,125	Adequate	Stressed	

*For both the South Lake Tahoe and Cameron Park Fire Department budgets, their expenditures have been used as the “revenue” because the both departments are part of a larger general fund. Even with earmarking of revenue, there is some ability on the part of the agency to prioritize how funds are expended among a number of services, including fire.

Challenge 4: Fire Services Re-organization

The challenge exists to reorganize fire services where practically and politically possible to provide the most cost and service efficient structure.

The El Dorado County Grand Jury recommended that fire districts be consolidated in order to save money through the elimination of redundant headquarters positions. The assumption was that a consolidated fire department incorporating many of the current fire districts could operate with a single fire chief and eliminate the other fire chief positions along with some of the clerical positions. Citygate was asked to consider alternative reorganizations approaches as it studied the deployment and fiscal issues facing the County and the fire districts.

Although it is commonly assumed that reorganization means the consolidation of two or more agencies, consolidation can, in fact, take three basic forms:

1. Full
2. Functional
3. Contract.

It is not uncommon for agencies that want full consolidation, to use functional consolidation as an interim step to assess the viability of consolidation or to provide time for one or the other partner to gather the necessary long-term financing to pay their full share of a joint fire department.

There are practical issues that have to be explored in order to determine which form of consolidation is, in fact, cost effective.

It is important to remember that in this report Citygate has described the Headquarters units in the various fire districts and concluded that under any form of consolidation, the assumed extra positions should largely be retained with different job classifications to ensure that there is organizational leadership for volunteer organizations, that there is timely provisions of on scene incident command, there is supervision of the geographically far flung fire stations, and that many of the training, fire prevention and maintenance type functions that the present fire chiefs are performing will continue to have the staff hours available to perform them.

Governance is often the most critical issue in consolidation. There are two fundamental governance models. The first is clearly the formal consolidation of two or more fire districts into a single district with a single board of directors. This is the most stable form, but seldom occurs because the boards of separate district want their communities to maintain some measure of local fiscal and policy control.

The second model is a Joint Powers Authority. When local government agencies seek to provide consolidated services and yet want to retain a greater measure of fiscal and operational oversight than either a single enlarged district would allow, they usually turn to the creation of a Joint Powers Authority.

There is no single perfect form of consolidation that fits all situations. Many of the fire districts correctly responded to the Grand Jury recommendation by suggesting that an in-depth study needed to be done concerning many of the issues that are outlined above. Once the agencies understand the facts within many of these issues, the appropriate form of consolidation that is both cost effective and acceptable to the partners can be negotiated.

FIRE PLAN PHASING

The conclusions of this report are that County or comparable funding is needed by a majority of the agencies currently receiving it, in order for them to continue their current level of service. It is also clear, that even with the current level of revenue, many of the agencies cannot afford to replace fire engines that need to be replaced over the next five years and certainly cannot afford to replace fire stations.

Before deciding how much revenue each agency really needs for long term sustainable health, a much more refined assessment of the fire apparatus needs to be made in order to determine how truly imminent the problem is for each agency.

Step One

Recommendation #4: Contract with CAL FIRE or similar agency with credentialed fire apparatus mechanics to assess all of the fire apparatus in all of the agencies with the possible exception of El Dorado Hills and Cameron

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Park (where the equipment is operated by CAL FIRE). The assessment is to provide a recommendation regarding whether the equipment should be upgraded to meet safety standards and at what estimated cost, operated as front line or reserve, and whether it should be side-lined and not operated by the District. If total replacement is recommended, the analysis should provide an estimate of the year in which the equipment should be replaced.

While consolidation, merger, contracts for service among agencies or similar arrangements will not result in reducing the number of staff, fire stations, or equipment as has been discussed elsewhere in this report, such arrangements may be able to create more rational and cost effective organizations. This should be explored before any long-term financing solution is put into place to continue, replace or enhance current County funding. Who will receive funding, the amount, the appropriate vehicle for creating and administering the funding is wholly dependent upon the answer to the question of what new organizational arrangements might better serve the residents of the County and each District.

This examination will be more than a study. It will need to be an examination of what is not only cost effective, but what is practically possible from both a legal and public acceptance point of view. The latter is important because any “new funding arrangement” is likely to involve some form of voter or property owner approval. And it needs to be in a form that encourages and supports the continued viability of the very effective volunteer forces in the County. Without these volunteers, the service level will decrease very substantially and in most of the Districts, there will never be the revenue base to support career firefighter only operations.

Step Two

Recommendation #5: Continue County funding for the next two fiscal years for all agencies with the exception of Georgetown and Meeks Bay, under the stipulation that the agencies actively participate in a study regarding what combination of merger, contracts for service or other arrangement would most cost effectively maintain at least the current level of service.

Recommendation #6: While Georgetown and Meeks Bay can operate for a period of time without immediate supplemental funding, their long-term needs will eventually outstrip their finite revenue bases. As such, they should be encouraged to fully participate in any re-organization planning.

Recommendation #7: The County should examine the Ambulance transport rates in both JPA's, keep them current with the marketplace and as revenues allow, provide supplemental funding to encourage the use of paramedic engine companies in the areas without ambulances.

After completion of the agency merger/contract studies, an outcome should be a recommendation regarding whether additional fire service assessments are appropriate to equalize funding and/or improve service levels.

Citygate also reminds the parties that there is not one form of re-organization that is a best-fit choice, as there are too many variables and differences at this time across a large, diverse county. Some districts may contract some or all services. For some a better answer may be Joint Powers Agreements, and some the best choice may be a total re-organization with the appropriate approvals.

Several other actions would follow completion of the studies and decisions regarding the most cost effective arrangements.

Step Three

- ◆ Adopt the technical deployment performance measures identified in this study as Recommendations #1-3;
- ◆ After completion of the studies, the County could explore the option of providing the financing for construction of new fire stations where the local agencies cannot obtain the financing themselves;
- ◆ After completion of the studies, the County might offer to facilitate a joint bid for all fire apparatus in order to obtain better prices;
- ◆ After completion of the studies several or all the districts could develop a regional approach to providing training to fire agencies, possibly using one of the largest agencies in the county to provide the regional training overview and delivery.

Concluding Thoughts

With regard to El Dorado County's fire departments, County residents need to know that they do have caring, committed, fire departments. However, they must continue to evolve with the changing demands for service, develop an appropriate revenue base upon which to staff fire companies, and maintain a viable volunteer and per diem force with a support organization adequate for the Fire Departments.

SECTION 1—INTRODUCTION AND FIRE SERVICE REGULATORY AND LEADERSHIP FRAMEWORK

1.1 REPORT ORGANIZATION

This report is structured into the following sections that group appropriate information together for the reader.

This Volume (**Volume 1**) includes:

- Section 1 Introduction and Fire Service Regulatory and Leadership Framework: Background facts about El Dorado County’s current fire services.
- Section 2 Risks to Be Protected: What should the fire services system be designed to do?
- Section 3 Response System Deployment Analysis: The analysis of fire station location, staffing, geographic coverage and response statistics analysis.
- Section 4 Individual Agency Analysis: An outline of the operations, revenues, expenses and future challenges for each fire services agency.
- Section 5 Opinions and Recommended Strategies: An integrated recommendation and conclusion section.
- Appendix Fire Apparatus Inventory Summary

Separately attached:

- Volume 2** Response Coverage Geographic Maps
- Volume 3** Response Statistics Analysis

As each of the sections mentioned above impart information, this report will cite findings and make recommendations, if appropriate, that relate to each finding. There is a sequential numbering of all of the findings and recommendations throughout this report. To provide a comprehensive summary, a complete ordered listing of all these same findings and recommendations is in Section 5. Finally, attention will be brought to the highest priority needs and possible timing of those needs.

This document also provides technical information about how fire services are provided, legally regulated, and how the El Dorado County Fire Departments currently operate. This information is presented in the form of recommendations and policy choices for the El Dorado County leadership and community to discuss.

The result is a solid technical foundation upon which to understand the advantages and disadvantages of the choices facing the El Dorado County leadership and community on how

best to provide fire services, and more specifically, at what level of desired outcome and expense.

While this report and technical explanation can provide a framework for the discussion of fire services for El Dorado County, neither this report nor the Citygate consulting team can make the final decisions or cost out in detail every possible alternative. Once final fire services planning choices are given policy approval, staff can conduct any final costing and implementation fiscal analysis.

1.2 BACKGROUND

This project involved the study of fire services organizations, their deployment and their financing within the County. This effort involved the analysis of the fire services risk within the El Dorado County, which in turn drives the need for fire crews to accomplish desired outcomes. In this report, the term “District” will be used when referring to the fire agency itself, and the term “County” will be used when referring to the El Dorado County.

LAFCO and the County commissioned this study and resultant planning recommendations to evaluate the current capacity of the fire protection districts to respond to emergency fire, rescue, and medical incidents within their area, review other related operational issues within the context of very limited revenue to support all service needs Countywide. In its entirety, this analysis and corresponding findings and recommendations will allow the Board of Supervisors to make informed policy decisions about the level of fire, rescue, and emergency medical services desired and the best method to deliver and fund them.

The challenges facing the community and County leadership are not unique. Growing communities in California all face the dilemma of how to provide municipal services, while prior to the build-out of an area, there is usually not enough growth rate in General Fund revenue sources to build up fire services as fast as the community would prefer.

1.3 EL DORADO COUNTY PROJECT APPROACH AND RESEARCH METHODS

Citygate used several tools to gather, understand, and model information about the County and the Fire Districts for this study. We started by making a large document request to the Districts via an on-line questionnaire to gain background information on costs, current and prior service levels, the history of service level decisions and what other prior studies, if any, had to say.

In subsequent site visits, Citygate team members followed up on this information by conducting focused interviews of fire management team members and other appropriate County staff. We reviewed demographic information about the County, proposed developments, and managed growth projections. As we collected and understood information about the County and Districts, Citygate obtained electronic map and response data from which to model current and projected fire services deployment.

Once Citygate gained an understanding of each District’s service area with its fire, rescue, and EMS risks, the Citygate team evaluated the organizational and financial capacity of the Districts to safely and effectively provide fire services into the future.

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1.4 POLICY CHOICES FRAMEWORK

As a starting point, Fire District and County leadership needs to remember that there are no mandatory federal or state regulations directing the level of fire service staffing, response times and outcomes. Thus, communities have the level of fire services that they *can afford*, which is not always what they would desire. However, the body of regulations on the fire service provides that *if fire services are provided at all, they must be done so with the safety of the firefighters and citizens in mind* (see regulatory discussion below). Given this situation, the overall challenge for the Fire Districts is to design fire services within the fiscal constraints that limit the Department’s ability to staff, train and equip a safe and effective fire/medical response force.

1.5 REGULATION AFFECTING THE FIRE SERVICE

In addition to restrictions on local government finance, there have been a number of new state and federal laws, regulations, and court cases over the last decade that limit the flexibility of cities in determining their staffing levels, training, and methods of operation. These are given an abbreviated overview below:

1. 1999 OSHA Staffing Policies – Federal OSHA applied the confined space safety regulations for work inside tanks and underground spaces to America’s firefighters. This requires in atmospheres that are “IDLH” (Immediately Dangerous to Life and Health) that there be teams of two inside and two outside in constant communication, and with the outside pair equipped and ready to rescue the inside pair. This situation occurs in building fires where the fire and smoke conditions are serious enough to require the wearing of self-contained breathing apparatus (SCBA). This is commonly called the “2-in/2-out” policy. This policy requires that firefighters enter serious building fires in teams of two, while two more firefighters are outside and immediately ready to rescue them should trouble arise.

While under OSHA policy one of the outside “two-out” personnel can also be the incident commander (typically a chief officer) or fire apparatus operator, this person must be fully suited-up in protective clothing, have a breathing apparatus donned except for the face piece, meet all physical requirements to enter IDLH atmospheres and thus be ready to immediately help with the rescue of interior firefighters in trouble.

2. May 2001 National Staffing Guidelines – The National Fire Protection Association (NFPA) Standard on Career Fire Service Deployment was issued seven years ago. While *advisory* to local governments, as it starts to become locally adopted and used, it develops momentum, forcing adoption by neighboring communities. NFPA 1710 calls for four-person fire crew staffing, arriving on one or two apparatus as a “company.” The initial attack crew should arrive at the emergency within four minutes travel time, 90 percent of the time, and the total effective response force (first alarm assignment) shall arrive within eight minutes travel time, 90 percent of the time.

In substantially combination (volunteer) departments, the NFPA 1720 recommends the initial response is 6 firefighters in 14 minutes, 80 percent of the time. These guidelines will be explained and compared to El Dorado area fire departments in the deployment measures section of this document.

3. The on-scene Incident Commanders (typically Chief Officers) at Hazardous Materials Incidents must have certification compliant with NFPA 472, Standard for Emergency Response to Hazardous Materials Incidents. This is also now an OSHA requirement.
4. CAL OSHA Requirements – Among the elements required is a safety orientation for new employees, a hazard communications system for employees to communicate hazards to supervisors, the CAL-OSHA process for post injury reviews, the required annual report of injuries, and a standard for safety work plans. Employers have many different responsibilities under the Occupational Safety and Health Act of 1970 and the Code of Federal Regulations (CFR). Initially OSHA focused its efforts on the private sector; more recently, it has turned its attention to the public sector and specifically the fire service.
5. Volunteer Training Requirements – Early in this decade, due to rising firefighter injuries and deaths, especially in the paid-call ranks, more safety regulations and training minimums were placed on all firefighters:
 - January 2004 California Paid-call Firefighters – New laws (Assembly Bills 2118 and SB 1207) require paid-call firefighters to receive *the same level of training* that the full-time staff receives. AB 2118 was Chaptered in 2002, and was delayed to 2004. In part it “...provides that the California Occupational Safety and Health Act applies to paid-call firefighters. Equipment and training for paid-call firefighters to meet the same requirements as regular firefighters.”

These regulations, sometimes referred to as “Be a chief, go to jail,” are no laughing matter and in some cases carry criminal as well as civil liabilities. Most fire chiefs know this and make every effort to comply with the law on these issues, however this requires the understanding and support of their governing bodies as well.

This training standards and safety equipment change, coupled with all the other factors, causes many pure volunteer and even paid-call firefighter programs dry up due to lack of members. Additional training and additional responses mean a significant time commitment for “true” volunteer or paid-call firefighters, who are serving for love of community and to give something back. Most departments feel that it takes 80 to 120 hours of training per year to meet safety minimums, and this time is *before* a paid-call or volunteer firefighter goes on a single emergency call.

1.6 NEGATIVE PRESSURES ON VOLUNTEER-BASED FIRE SERVICES

All volunteer-based fire departments are under great pressure today to maintain an adequate roster. The reasons for this are not unique to any one type of community and are placing pressure on small community volunteer systems across the state and nation:

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- ◆ Economic pressures result in more two-income families and less time to volunteer.
- ◆ In a commuter economy, more jobs are clustered in metropolitan and dense suburban areas. Communities that formerly were small towns increasingly have residents who work elsewhere, and many of the younger-aged people who would consider volunteering are just too busy.
- ◆ Due to the growth in society of complex systems and technology, the fire service was given more missions, like emergency medical services, hazardous materials response, and technical rescue. This dramatically increased the legally mandated training hours for volunteers, causing many to drop out as the time commitments became unbearable.

Volunteer and paid-call firefighters are citizens first and firefighters second, and the fact that they are willing to volunteer their time is worthy of respect, but it is unfair for the community to expect a few citizens to carry the firefighting load for all the rest. Studies have shown that most people volunteer for the fire service because they receive some intrinsic value from their service, and generally it is more than just “community service.” If a community expects people to volunteer their time as volunteer or paid-call firefighters it must do its part to support them and ensure that those intrinsic rewards are maintained.

In addition, most employers today are unwilling to allow paid-call firefighters to leave their jobs to respond to an emergency dispatch; chiefs in El Dorado County mentioned this exact situation. Across the fire service, volunteer and paid-call programs have been changing and adapting to a different model. The current model understands the commitment needed, and usually includes two types of paid-call firefighters: the first is the usual community-based person; the second is a younger person who desires to be a career firefighter. While the younger person is going through community college fire science classes, after obtaining basic firefighter certification, they work “part-time” for a per diem shift stipend or for an hourly wage, without benefits. These personnel are used successfully to increase daily station staffing and are called “reserve” firefighters or part-time firefighters. They do not need to live in the community they serve, as they are often not needed to respond from home with quick travel times. El Dorado County fire agencies use this model in various forms and degrees as part of their staffing programs. The level of “ability” exhibited of course varies depending on their level of training. Community-based paid-call firefighters can be used from home for major emergencies, within their limited training as they gain certifications and experience. Once they meet state minimums, they also can be used for per diem shifts. In El Dorado County the common practice in many of the agencies is to use the paid-call and per diem firefighters Monday through Friday during the day and depend more heavily on volunteer response at night and on the weekends.

1.7 INCIDENT COMMAND STAFFING (CHIEF OFFICERS)

As noted above, safety regulations state the emergency incident must have a certified, trained incident commander (Duty Chief, chief officer, battalion chief, etc.).

Many of the fire districts can only afford one and maybe two or three chief officers. If the officer lived within the Department’s boundaries, they handle after hours emergencies from home. This responsibility often comes ahead of family and any other personal time. This level of chief

officer staffing is considered inadequate and depending on the individual’s qualifications even unsafe in today’s highly regulated safety rule set for fire services. In the absence of the sole chief officer, the fire engine captain, who may or may not hold chief officer credentials, assumes command until relieved by a higher trained officer.

If a political subdivision provides fire services at all, they must be provided with the safety of the public and firefighter in mind. Additionally, the Chief Officers as scene incident commanders must be well trained, competent and are liable for mistakes that violate the law. An under staffed, under led token force will not only not be able to stop a fire, it opens the employer up for real liability should the fire department fail.

Then there are the advances in fire service prevention and fire codes, which mean the departments, need to provide effective fire prevention and enforcement for the adopted Fire Code. Almost none of the agencies in El Dorado County can afford a trained, certified fire prevention officer/fire marshal. Most of the single chiefs in the small departments have to also handle these functions.

At a minimum, these safety, command, training and fire prevention needs will require 3 Chief Officers, all of whom live within or immediately adjacent to the department and are willing to share on-call 24 hour responsibility year-round. More realistically a minimum, safe and effective headquarters staff for even a one-station fire department looks like:

1. Fire Chief
2. Fire Marshal
3. 3 Battalion Chiefs to provide 24/7/365 incident command and station supervision/training
4. Office Support Position

Most fire departments can no longer recruit Chief Officers willing to make the commitment to live in the department and respond from home to emergencies, which means a significant impact on their family life. This is even more problematic at the pay level that a small district can afford.

Here is the current chief officer count in the 14 El Dorado fire departments:

Staffing Headquarters – Fiscal Year 08-09

Agency	Total Full Time Chief Officers
<i>Tahoe Basin</i>	
Fallen Leaf	1
Lake Valley	5
Meeks Bay	1
S Lake Tahoe	5
<i>West Slope Agencies</i>	
Cameron Park	2
Diamond Springs	3

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Agency	Total Full Time Chief Officers
El Dorado County FPD	8
El Dorado County Water District	4
Garden Valley	1.5
Georgetown	1
Latrobe	0.33
Mosquito	0.3
Pioneer	1
Rescue	1

1.7.1 Chief Officer Analysis

The agencies with shaded names received the prior aid to fire funds from the County. None of them have even two full time chief officers. Cameron Park has two CAL FIRE Chief officers via their contract. One chief does field operations, the other fire prevention. Only the larger and better funded departments have enough chief officers to staff headquarters functions like prevention and training while also covering incident command duties 24/7/365.

In El Dorado County Fire District’s case, they cover a very large area, too large for one duty chief to cover in a reasonable response time, so their chief officer count is not excessive.

In the Tahoe Basin, even if the agencies wanted to contract/consolidate chief services, Meeks Bay is too far from Lake Valley, and impossible to get to in winter, so Meeks Bay almost demands a chief officer due to isolation. Or Meeks Bay could possibly contract with North Lake Tahoe Fire across the county line. Fallen Leaf could contract, but have longer response times from Lake Valley’s headquarters.

In the West Slope, even IF all of the departments receiving aid to fire were merged with other agencies, while on paper this reduces 5.1 chief officers, it does not permanently. In order to maintain incident command response times, it might take a northern and a southeastern West Slope duty chief. If staffed on a 24-hr shift schedule, this would take for two per day, 6 chiefs total. If instead two “resident” chiefs could be found who would share all of the incident command response duties, then at least the West Slope agencies would need one training officer and one fire prevention officer. So even if these staff positions are compensated at less than chief officer wages, a consolidated model still could consume at least 4 of the 5.1 saved positions. While this is more efficient and likely a better joint headquarters service level with specialists at different positions, at best it is plus or minus \$100,000 annual savings, which is not enough savings to allow any of the agencies to improve services, or even stave off using fiscal reserves during the recession.

1.8 APPARATUS AND SAFETY REGULATIONS

Generally speaking fire response vehicles – engines, ladder trucks, rescue vehicles and other similar heavy vehicles travel considerably fewer miles in their lifetimes than do similar trucks in commercial service. Mileage is, therefore, not a reliable parameter to judge the replacement criteria for fire apparatus. Fire departments use age as a much more reliable barometer to evaluate replacement: as apparatus ages finding parts to maintain and repair becomes problematic; safety standards change over time and older apparatus frequently does not meet the newer standards; and labor saving devices and other improvements develop over time.

Fire apparatus manufacture is a specialty business. Many of the smaller fire apparatus manufacturers construct the “build-up” (compartments, pumps, aerial ladders, etc.) on chassis built by others. Many of the smaller companies go out of business only to be replaced by others. For example, *Beck* and *P. E. Van Pelt* both used to build fire apparatus in California and both of these companies apparatus are in fire departments in El Dorado County. However, the factory support for these companies is pretty much non-existent. Replacement parts for the build-ups need to be specially constructed at a high cost.

In 1991 the National Fire Protection Association (NFPA) issued a new version of Standard 1901 *Standard for Automotive Fire Apparatus* that incorporated many new safety standards and states, “It is recommended that apparatus built to meet the 1979 or 1985 edition of NFPA 1901 be placed in reserve status and upgraded to incorporate as many features of the post 1991 fire apparatus as possible.” In 2006 NFPA issued Standard 1912 *Standard for Fire Apparatus Refurbishing* which now provides guidelines for bringing old apparatus up to current standards.

During Citygate’s review of the departments that received county augmentation funding the age of the fleet was reviewed and if there were engines older than 1991 manufacture, the departments were polled on the safety upgrades that NFPA 1901 requires of pre-1991 fire apparatus.

The rule of thumb for replacement of first line apparatus is 15 years of service with another five years in reserve. This means that the average age of the fleet should hover around seven or eight years. In volunteer service in rural communities with low call volumes a service life of twenty years with five years in reserve would be reasonable. After 25 years of service, regardless of conditions, the difficulty of obtaining parts and making repairs along with the safety considerations makes apparatus of this age undesirable.

All of the agencies reported that Monday through Friday during normal commute and working hours is when they had the lowest turnout of volunteers (many work in the Sacramento area). Every labor saving device that can be included in an engine or ladder truck will help fill that gap when they are most vulnerable. An example of this would be a newer structure fire pumper that instead of plain water for fire attack can use one of the newer Class A Fire foams or compressed air foams. These foams greatly multiply the fire knock down effect, which allow for smaller diameter fire hoses that in turn are more mobile to move around and require fewer firefighters per hose line.

1.9 TRAINING AND SAFETY REQUIREMENTS

The job of a firefighter is extremely complex, and firefighters must perform the services they deliver correctly every time. This is particularly critical for those tasks that are very hazardous

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do not occur very often, and for which there is little decision time. Training in the fire service has three parts: (1) vocational training which teaches the skill sets necessary to perform the “hands-on” type work that firefighters do; and (2) education which teaches the knowledge necessary to do the “mental” work that firefighters do and (3) frequent training drills that practice and maintain the skills and knowledge needed to operate efficiently and safely.

The NFPA has ten recommended standards that cover the training arena. Then there is specific State of California firefighter and emergency medical training requirements. Some of the required training must be done only once, such as driver/operator certification; other training requires repetition for so many hours each year or quarter, such as 32 hours per year of medical training for paramedics. There are two painful issues for substantially volunteer fire departments for training – first it takes a lot of time, and second, actually delivering, certifying and tracking the training to ensure compliance and currency.

In order to maintain consistent standards, it is considered a best practice to place entry-level firefighters, volunteer or career into some sort of academy. Even when partially accomplished through web-based independent study, this still averages 80+ hours of training before they can ever go on a call. Next comes basic first aid at about 24 hours, or Emergency Medical Technician-Basic at about 100 hours. Now the “volunteer” is ready to go on an emergency.

After this initial certification, the new firefighter still needs about 80-100 hours of training each year to meet annual state safety and EMS standards, even more should they need training in more advanced or specialized medical, rescue or hazardous materials skills. On top of this comes hours to train on new procedures, equipment, or apparatus. So even a “free” citizen volunteer could put in over 100 hours per year or 2-hrs per week just for training, before they are able to serve stand-by time in a fire station or respond to emergencies.

Federal and state safety standards require that all training must be documented as to the individual, subject, instructor and hours. This takes clerical support time and an accurate record keeping system. In the case of a firefighter injury or safety violation, these records are critical to the agency’s liability exposure and will be examined by the regulatory agency investigating the incident. Training records can also be used in court, in the event of a lawsuit.

Then there are required safety and firefighter health standards. These cover the breathing apparatus and protective clothing as well as personal health standards for each individual to be able to serve. There needs to be periodic testing of health fitness for the use of breathing apparatus plus the apparatus itself has to be tested to ensure that it fits the face of the firefighter properly. This means that individual firefighters as well as protective equipment must meet current standards, be tested/inspected annually and accurate records maintained.

Then comes the safety and firefighter health standards. These cover the breathing apparatus, protective clothing and personal health standards to serve. There needs to be periodic testing of health fitness for the use of breathing apparatus plus the apparatus itself has to be tested to ensure that it fits the face of the firefighter properly. All of this means the protective equipment has to meet current standards, be tested/inspected annually and all records kept.

Finally, there are DMV training and testing requirements for the operators of fire apparatus and ambulances. Chief officers need even higher levels of certification and training, such as Hazardous Materials Incident Commander.

Who oversees this training delivery program? Someone has to be designated as a training officer in order to put programs together, arrange their delivery, conduct testing, and maintain records and track individual progress. Much of the training can be delivered “in-house”, but some can only be taught by certified instructors to be valid. In those cases, the department must seek instructors or courses from outside the agency, often at a high cost.

Most agencies estimate that it takes about \$5,000 in protective clothing to equip a firefighter. When you add in training costs for a new recruit, that recruit becomes a \$10,000 investment that may not even last the probationary period. Protective clothing, again mandated by safety standards, must be tailored to each individual; this makes it difficult to pass around garments. (Protective clothing garments also need to be decontaminated after each call where they are exposed to smoke or other contaminants; this cannot be done on a home washing machine, it requires expensive specialized equipment. While the garments are being decontaminated, substitute protective clothing needs to be available.)

Most of these regulatory costs have come on-line in the last ten years. They were needed for safety, but come at an incredible cost in equipment and administrative overhead. Many civilians outside the fire service do not understand this newer burden and wrongly believe that a volunteer firefighter is less expensive – but only for the salary and benefits!

International Association of Fire Chiefs in cooperation with the National Fire Protection Association has published Fundamentals of Firefighter Skills. It is 1067 pages long and contains 37 chapter or basic skill areas that a firefighter needs to have at least some knowledge, skills and ability. These skills are taken from NFPA 1001, *Standard for Fire Fighter Professional Qualifications*. There are similar requirements for company officers and chief officers.

A typical annual performance requirement might look something like this:

1.9.1 Ropes and Knots

Performance	Standard
Demonstrate inspecting rope	IFSTA Essentials ¹
Demonstrate proper cleaning and storage of rope	IFSTA Essentials
Demonstrate tying: Clove hitch Figure 8 Figure 8 follow-through Figure 8 bend Figure 8 on a bight Overhand bend Double overhand bend	IFSTA Essentials
Demonstrate hoisting tools and equipment aloft	IFSTA Essentials

¹ IFSTA *International Fire Service Training Association; Essentials of Firefighting and Fire Department Operations*, is the publication that describes the essential tasks of a firefighter

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Something as seemingly so innocuous as tying knots, requires training to learn how to do it and practice to ensure that the muscle motor connection is secure. It also requires a trainer who has the necessary skill to teach, test, and record the training. Finally, it requires the publication that carries the standard. This is repeated for every one of the multitudes of skill sets required of firefighters.

The greatest risk to firefighters, when bad things happen, is during those events that are fairly rare and very risky and where there is little or no time for anyone to evaluate and develop a plan. These are what are categorized as *low frequency, high risk, and no decision time situations*. This is when all the training comes into play and firefighters must have already had the essential training to function correctly or someone is likely to get killed or injured. If this has not happened to departments in El Dorado County it is because they either have not had the incident or the training has been adequate to meet the situations. The consequence to jurisdictional governing bodies is not only can they afford to provide the level of service to the community that the community desires and is willing to pay for; it also must examine whether it can afford to provide that service with the human resources it has at its disposal to do the work safely.

SECTION 2—RISKS TO BE PROTECTED

2.1 WHAT IS EXPECTED OF THE FIRE DEPARTMENT?

The Commission on Fire Accreditation International recommends a systems approach known as “Standards of Response Coverage” to evaluate deployment as part of the self-assessment process of a fire agency. This approach uses risk and community expectations on outcomes to assist elected officials in making informed decisions on fire and EMS deployment levels. Citygate has adopted this methodology as a comprehensive tool to evaluate fire station location. Depending on the needs of the study, the depth of the components can vary.

Such a systems approach to deployment, rather than a one-size-fits-all prescriptive formula, allows for local determination of the level of deployment to meet the risks presented in each community. In this comprehensive approach, each agency can match local need (risks and expectations) with the costs of various levels of service. In an informed public policy debate, a Fire District Board and or County Supervisors “purchases” the fire, rescue, and EMS service levels (insurance) the community needs and *can afford*.

While working with multiple components to conduct a deployment analysis is admittedly more work, it yields a much better result than any singular component can. If we only look to travel time, for instance, and not look at the frequency of multiple and overlapping calls, the analysis could miss over-worked companies. If we do not use risk assessment for deployment, and merely base deployment on travel time, a community could under-deploy to incidents.

Fire department deployment, simply stated, is about the *speed* and *weight* of the attack. Speed calls for first-due, all risk intervention units (engines, ladder trucks and specialty companies) strategically located across a department. These units are tasked with controlling everyday average emergencies without the incident escalating to second alarm or greater size, which then unnecessarily depletes the department resources as multiple requests for service occur. Weight is about multiple-unit response for significant emergencies like a room and contents structure fire, a multiple-patient incident, a vehicle accident with extrication required, or a heavy rescue incident. In these situations, departments must assemble enough firefighters in a reasonable period in order to control the emergency safely without it escalating to greater alarms.

Thus, small fires and medical emergencies require a single- or two-unit response (engine and ambulance) with a quick response time. Larger incidents require more crews. In either case, if the crews arrive too late or the total personnel sent to the emergency are too few for the emergency type, they are drawn into a losing and more dangerous battle. The art of fire crew deployment is to spread crews out across a community for quick response to keep emergencies small with positive outcomes, without spreading the stations so far apart that they cannot amass together quickly enough to be effective in major emergencies.

Communities, such as El Dorado County, are faced with neighborhood equity of response issues. When one or more areas grow beyond the reasonable travel distance of the nearest fire station, the choices available to the elected officials are limited: add more neighborhood fire stations, or tell certain segments of the community that they have longer response times, even if the type of fire risk found is the same as other areas.

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For the purposes of this fire services study, Citygate the Standard of Response Cover process (at varying levels of detail) to understand the risks in El Dorado County, how the Departments are staffed and deployed today, and then we modeled those parameters using geographic mapping and response statistical analysis tools. Thus, Citygate tailored the deployment recommendations in this report to El Dorado County's unique needs.

2.2 EL DORADO COUNTY COMMUNITY RISK ASSESSMENT

The County mostly contains a mix of single- and multi-family dwellings, small and larger businesses, retailers and, of course, a tourism and hospitality industry. There is also agriculture and some light manufacturing. Both newcomers to the community, as well as long-term residents, may not realize the community assets that are at risk today in such a vibrant and diverse community. The area Fire Departments are charged with responding to a variety of emergencies, from building and wildland fires to emergency medical calls to special hazards and cargo transportation emergencies. Here is a partial inventory of the types of risk demographics in addition to the visible homes and business buildings:

1. Some hazardous materials storage, use, and release, including industrial and transportation on the highways;
2. Recreation and tourist industry;
3. The protection of the agriculture acreage by controlling wildfire in the non-farmed lands;
4. The protection of water run-off drainages to lakes and rivers;
5. Dealing with the traffic and issues created by tourists from all over the world.

The significance of the above information is that the Fire Departments must be staffed, equipped and trained to deal with (at least through the first alarm level prior to automatic or mutual aid) most any type of emergency faced by a United States fire department. True, the County does not have multiple, very tall high-rise buildings, an international airport, a port or an oil refinery, but that is about all the Department does not experience in its calls for service.

Many (but not all) recent building fires in the county have started small and allowed the available on-duty force to catch them. The reasons for this can range from the fire being still small upon being reported, to the fire having occurred close to a fire station in an area that has one to begin with combined with the newer age of some of the housing stock. Conversely, there are also some significant building fire losses.

In order to understand the importance of response time in achieving satisfactory outcomes, the deployment of resources must be based upon assessment of the values at risk. There are actually many different *types* of values at risk depending upon the nature of the emergency. At a very basic level, a fire in a structure is among the most frequent events with a measurable outcome. A *single* patient medical emergency is a different event, and while it is the most frequent, it is normally not as threatening to life and property as the structure fire since the structure fire can spread and eventually become a conflagration.

From a hazard, risk and value perspective, the number of structural fires is usually linked to the distribution and concentration of different building types in the community. As is expected in an

urban-suburban area, communities have a very specific growth and development pattern consistent with past decisions on land use. As would be anticipated, there are pockets of various densities of housing stock ranging from low-cost, high-density housing to higher-cost, medium-density neighborhoods. In some County communities there is a distribution of neighborhood retail and commercial facilities. Some of the County is used for agriculture purposes. Along the main transit routes are typical commercial, mixed and public uses. Then, of course, there are clusters of high concentration of values that exist in the traditional “downtown” areas such as Placerville. These are the locations of job provider and sales tax businesses.

Citygate reviewed the 14 Fire Department’s response performance information, their operational plans and County zoning, and we interviewed Fire Department members and drove through some of the County. The challenge is to protect the various fire risks in El Dorado County while a limited road system connects non-contiguous pockets of development. Where developed areas have a fire station, that is satisfactory for a single-unit response, but when multiple units are needed for serious fires, then the other needed units have to travel considerable distances, at times over limited rural highways. As will be discussed in other sections of this report, a fire unit staffed with one or two firefighters is insufficient to handle even a modest emergency. When this occurs, they must wait for volunteers or other lightly staffed units to arrive, which can be very slow in the less populated fire districts.

2.2.1 Population and Developed Parcels

The population countywide is 180,185 according to the latest State Department Finance measures. In the County there are 131,555 total parcels in the county. Of these 71,553 are residential with 4,217 nonresidential improved parcels. That means there are about 55,785 vacant parcels.

These measures do not take into account the busy highways at peak hours, in and out migration of people to places of employment and the considerable tourism industry.

2.2.2 Fire Risks

In a Standards of Response Coverage study, building fire risk can best be understood by looking at types of zoning and the quantity of different zoning types in a community.

An effective response force is needed for serious buildings and wildland fires. It is the deployment of multiple units (pumpers, ladder trucks and incident commander) so they can arrive close enough together to combat serious fires and keep them to less than greater alarm, mutual aid size. This refers back to the earlier points in this report on speed and weight of attack. The massing of units in a timely manner (weight) must be such that serious fires do not typically become larger. Since usual and customary zoning has placed buildings throughout the County, this places additional pressure to have a multiple-unit effective response force of pumpers and, also importantly, ladder trucks throughout the more intensely developed areas.

Unlike other counties, a majority of the County is in Federal and State lands. This is illustrated by the amount of acreage in each type of ownership from data provided by CAL FIRE GIS:

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Fire District	Federal Acres	State Acres	Local Acres
Cameron Park Fire	284	3076	989
Diamond Springs Fire	2505	39555	0
ED County Fire	33516	141023	3747
ED Hills Fire	0	18282	3036
Fallen Leaf Fire	2963	564	0
Garden Valley Fire	5804	31824	0
Georgetown Fire	16535	27364	0
Lake Valley Fire	37130	8734	47.58
Latrobe Fire	1202	22739	0
Meeks Bay Fire	854	2972	9.11
Mosquito Fire	608	6490	0
Pioneer Fire	98444	84648	0
Rescue Fire	1297	19994	39.85

2.2.3 Growth Forecast

In September 2009, the Board of Supervisors adopted this ten-year housing permit forecast for their Department of Transportation Capital Improvement Budget planning:

09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	TOTAL
166	166	478	920	1,500	1,500	1,500	1,500	1,500	1,500	10,730

Given the slow economy, the proposed 10-year total permit forecast is 85 percent of prior forecasts. While there is modest growth even if 10,000 units were built, and if they were evenly divided per all 14 fire departments, that is only 714 units per District, or 71 per year, which at even a higher supplemental fire assessment rate does not allow a fire district to “grow its way” out of economic troubles. However, even this is misleading as some district’s will see a lot of growth while large open space or restricted districts like Pioneer and Lake Valley will see hardly any.

2.2.4 Desired Outcomes

Once policy makers choose outcomes, then the response system can be designed with staffing and station locations to accomplish the desired outcomes. In an urban area an outcome example is, “confine a residential fire to the room of origin.” That outcome requires a more aggressive response time and staffing plan than “confine the fire to the building of origin, to keep it from spreading to adjoining structures.” In a similar sense, wildland fires should be controlled when they are still small to keep conflagrations from starting.

In rural areas like much of El Dorado County the desired outcomes are to keep building fires from spreading to the forest and to assist emergency medical patients that are still viable upon the arrival of the first responding unit.

2.3 EL DORADO COUNTY OUTCOME EXPECTATIONS – WHAT IS EXPECTED OF THE FIRE DEPARTMENT?

The next step in the Standards of Response Cover process is to review existing fire and emergency medical outcome expectations. This can be restated as follows: for what purpose does the current response system exist? Has the governing body adopted any response time performance measures? If so, the time measures used by the Districts, the County and the EMS JPA's need to be understood and good data collected.

The community, if asked, would probably expect that fires be confined to the room or nearby area of fire origin in suburban areas and in rural areas, to the building of origin to prevent the fire spreading to the wildland areas. Emergency medical patients salvageable upon arrival should have their injuries stabilized and be transported to the appropriate care location. Thus, the challenge faced by the Departments is to maintain an equitable level of fire service deployment across their entire service area without adding significantly more resources as demand for services grows and traffic congestion increases, slowing response times.

This is a dynamic, complex problem in a county like El Dorado. While population clusters exist like Placerville or South Lake Tahoe where some residents may well expect suburban levels of service, the outer, more rural areas may have homeowners who know they have moved beyond the reach of fast response time public safety services. Some of the agri-businesses may well depend more on built-in protection and fire insurance, rather than a rapid fire department response. Yet, the political problem is that for every person or business that would accept rural fire services, they likely have neighbors who would not.

The Insurance Services Office (ISO) Fire Department Grading Schedule would like to see fire stations spaced 1.5 miles apart, which, given travel speeds on surface streets, is a 3 to 4-minute travel time. The newer National Fire Protection Association (NFPA) guideline 1710 on career fire services deployment for urban to suburban areas suggests a 4-minute travel time for the initial fire apparatus response and 8 minutes travel time maximum for the follow-up units.

NFPA 1720 for substantially combination (volunteer) departments (which all of the Fire Districts are) recommends an initial response of:

1. **Urban Areas** of more than 1,000 people per square mile is 15 firefighters in 9 minutes, 90 percent of the time.
2. **Suburban Areas** of 500-1,000 people per square mile is 10 firefighters in 10 minutes, 80 percent of the time.
3. **Rural Areas** of less than 500 people per square mile is 6 firefighters in 14 minutes, 80 of the time.

More importantly, within the Standards of Response Coverage process, positive outcomes are the goal, and from that crew size and response time can be calculated to allow efficient fire station

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spacing. Emergency medical incidents have situations with the most severe time constraints. In a heart attack that stops the heart, a trauma that causes severe blood loss, or in a respiratory emergency, the brain can only live 8 to 10 minutes maximum without oxygen. Not only heart attacks, but also other events can cause oxygen deprivation to the brain. Heart attacks make up a small percentage; drowning, choking, trauma constrictions, or other similar events have the same effect on the brain and the same time constraints. In a building fire, a small incipient fire can grow to involve the entire room in a 4- to 5-minute time frame. The point in time where the entire room becomes involved in fire is called “flashover” when everything is burning, life is no longer possible, and the fire will shortly leave the room of origin.

If fire service response is to achieve positive outcomes in severe EMS situations and incipient fire situations, *all* the crews must arrive, size-up the situation and deploy effective measures before brain death occurs or the fire leaves the room of origin.

Given that the emergency started before or as it was noticed and continues to escalate through the steps of calling 911, dispatch notification of the crews, their response and equipment set-up once on scene, there are three “clocks” that fire and emergency medical crews must work against to achieve successful outcomes:

1. The time it takes an incipient room fire to fully engulf a room in 4 to 5 minutes, thus substantially damaging the building and most probably injuring or killing occupants.
2. When the heart stops in a heart attack, the brain starts to die from lack of oxygen in 4 to 6 minutes and brain damage becomes irreversible at about the 10-minute point.
3. In a trauma patient, severe blood loss and organ damage becomes so great after the first hour that survival is difficult if not impossible. The goal of trauma medicine is to stabilize the patient in the field and get them to the trauma surgeon inside of one hour.

Somewhat coincidentally, in all three situations above, the first responder emergency crew must arrive on-scene within 5 to 7 minutes of the 911-phone call to have a chance at a successful resolution. Further, the follow-on (additional) crews for serious emergencies must arrive within the 8- to 11-minute point. These response times need to include the time steps for the dispatcher to process the caller’s information, alert the stations needed, the crews to then don OSHA mandated safety clothing and drive to the emergency. The sum of these three time steps – dispatch, crew turnout and drive time – comprises “total reflex,” or response time. Thus, to get the first firefighters on-scene within only 5 to 7 minutes of the 911 call being answered is very challenging to all parts of the system, as this study will describe later in detail.

The above response times form the foundation for an urban-suburban level of outcome where the community can afford a deployment system to provide the best chance of a positive outcome in serious situations. In rural areas, medical patients with problems that have already stopped their heart, or have caused catastrophic bleeding may not survive. Houses on fire may burn to the ground and success may be defined as the house fire being stopped before a wildland fire can start and spread rapidly to adjoining properties. New evidence shows that in rural environments as well as urban environments, structure-to-structure fire spread will continue to propagate the

fire *without* a wildland component even if buildings are 100 to 200 feet apart (San Diego and Butte County Fire Storms for example).

El Dorado County has adopted a fire services *response* policy in its General Plan as:

Community Region: 8-minute response to 80% of the population
Rural Center/Region: 15-45 minute response

One of the deliverables in this study is to recommend such a set of policies. The above goal statements do not specify when time “begins” at dispatch receipt, crew notify or unit responding. The County General Plan does have in its Safety Element modest requirements for wildland fire prevention and safer building construction, but nothing as to what the capability of the response system should be by type of risk found.

The County manages Emergency Medical Services under state law via its EMS Authority. The authority in turn contracts with two Joint Powers Authorities (JPA’s) that are made of area fire departments to deliver ambulance services. Each has a slightly different contract term so the response time policies are similar, but not the same:

Basin EMS JPA Response Times (oldest):

Priority	Urban	Semi-Rural	Rural	Wilderness
1	10:00	20:00	20:00	Prompt*

West Slope EMS JPA Response Times:

Area	Response Time	Compliance Percentage
Urban	11 minutes	90%
Semi-Rural	16 minutes	90%
Rural	24 minutes	90%
Wilderness	as soon as possible	N/A

From the time of 911 *receiving the call*, an effective deployment system is **beginning** to manage the problem within 7 to 8 minutes total response time. This is right at the point that brain death is becoming irreversible and the fire has grown to the point to leave the room of origin and become very serious. Yes, sometimes the emergency is too severe even before the Fire Department is called in for the responding crew to reverse the outcome; however, given an appropriate response time policy and if the system is well designed, then only issues like bad weather, poor traffic conditions or a significant number of multiple emergencies will slow the response system. Consequently, a properly designed system will give the citizens hope of a positive outcome for their tax dollar expenditure.

Where urban “best effort” outcomes are not possible in lightly populated emerging suburban and rural population density areas, it is advantageous to set fire service response policies to each type of area, so that a rural resident does not expect a short response time delivering an urban outcome level of service and this the county has done.

The EMS system measures the start of response time when the fire dispatcher has enough information from the caller to begin the dispatch process, and then alert the crew. The NFPA

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#1720 measures listed above do *not* they begin the time measurement from when the crew is alerted.

Thus when one minute is added for dispatch processing to the NFPA 1720 firefighting initial unit recommendations, we get total response times in moderately populated areas of 11-minutes, where 11-minutes is the current West Slope EMS measure. With the added minute for dispatch the rural NFPA measure is 15-minutes which is one minute less than the West Slope EMS rural measure.

Given that the NFPA #1720 recommendations are close to the newer West Slope EMS measures, for this study Citygate chose to measure the deployment system performance at:

1 st due Unit	11-minutes from time of call receipt, 90% of the time in more populated areas.
1 st due Unit	15-minutes from time of call receipt, 90% of the time in less populated areas.

2.4 SAFETY AND STAFFING – WHAT MUST BE DONE OVER WHAT TIMEFRAME TO ACHIEVE THE STATED OUTCOME EXPECTATION?

Fires and complex medical emergencies require a timely, coordinated effort in order to stop the escalation of the emergency. Once the tasks and time to accomplish them to deliver a desired outcome are set, travel time and thus station spacing can be calculated to deliver the requisite number of firefighters over an appropriate timeframe.

For an extreme outcome example, to confine a fire to one room in a multi-story building requires many more firefighters than in a single-story family home in a suburban zone. The amount of staffing required can be derived from the desired outcome and risk class. If the community desires to confine a one-room fire in a residence to the room or area of origin, that effort will require a minimum of 14 personnel plus an incident commander. This number of firefighters is the minimum needed to safely conduct the *simultaneous* operations of rescue, fire attack, and ventilation plus providing for firefighter accountability and incident command *in a modest, one fire hose line house fire*.

A significant fire in a two-story residential building or a one-story commercial or multi-story building would require, at a minimum, an additional two to three engines and an additional truck and chief officer, for upwards of 12 plus additional personnel. As the required fire flow water gallonage increases, concurrently the required number of firefighters increases. Simultaneously the travel distance for additional personnel increases creating an exponential impact on the fire problem. A typical auto accident requiring multiple-patient extrication or other specialty rescue incidents will require a minimum of 10 firefighters plus the chief for accountability and control.

2.4.1 Offensive vs. Defensive Strategies in Structure Fires Based on Risk Presented

Most fire departments use a strategy that places emphasis upon the distinction between offensive or defensive methods. These strategies can be summarized:

It is important to have an understanding of the duties required at a structural fire to meet the strategic goals and tactical objectives of the Fire Department response. Firefighting operations fall in one of two strategies – **offensive** or **defensive**.

We may risk our lives a lot to protect savable lives

We may risk our lives a little to protect savable property

We will not risk our lives at all to save what is already lost.

Considering the level of risk, the incident commander will choose the proper strategy to be used at the fire scene. The incident commander must take into consideration the available resources (including firefighters) when determining the appropriate strategy to address any incident. The strategy can also change with conditions or because certain benchmarks are achieved or not achieved. For example, an important benchmark is “all clear,” which means that all savable persons have been removed from danger or placed in a safe refuge area.

Once it has been determined that the structure is safe to enter, an **offensive** fire attack is centered on life safety. When it is safe to do so, departments will initiate offensive operations at the scene of a structure fire. Initial attack efforts will be directed at supporting a primary search – the first attack line will go between the victims and the fire to protect avenues of rescue and escape.

The decision to operate in a **defensive** strategy indicates that the offensive attack strategy, or the potential for one, has been abandoned for reasons of personnel safety, and the involved structure has been conceded as lost (the incident commander makes a conscious decision to write the structure off). The announcement of a change to a defensive strategy means all personnel will withdraw from the structure and maintain a safe distance from the building. Officers will account for their crews. Interior lines will be withdrawn and repositioned. Exposed properties will be identified and protected.

For safety, federal and state Occupational Safety and Health Administration (OSHA) regulations mandate that firefighters cannot enter a burning structure past the incipient or small fire stage, without doing so in teams of 2, one team inside and one team outside, ready to rescue them. This is the so-called 2-in/2-out safety law. This totals a minimum of 4 firefighters on the fireground to initiate an interior attack. The only exception is when there is a known life inside to be rescued. This reason, along with the fact that a 4-person crew can perform more work simultaneously than a 3-person crew, is why NFPA Deployment Standard 1710 for substantially career fire departments recommends 4-person crew staffing on engines (pumpers) as well as on ladder trucks.

For rural fire services, the deployment recommendation in NFPA Deployment Standard 1720 is fewer firefighters over a longer response time reflects the realities of the paid-call fire service, but paid-call firefighters must still follow the 2-in/2-out safety law.

2.4.2 El Dorado County Staffing Discussion

If the various communities and or the county provide fire services at all, safety of the public and firefighters must be the first consideration. Additionally, the chief officers, as on-scene incident

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commanders, must be well trained and competent, since they are liable for mistakes that violate the law. An under-staffed, and/or under-led token force will not only be unable to stop a fire, it also opens the County up for liability should the Fire Department fail.

National fire service best practice guidelines indicate that 15 firefighters within 11 minutes or so of the 911 call, including an incident commander, are needed at significant building fires in suburban population density areas if the expected outcome is to contain the fire to the room of origin and to be able to simultaneously and safely perform critical tasks. The reason for this is that the clock is still running on the problem after arrival, and too few firefighters on-scene will mean the fire can still grow faster than the efforts to contain it. Chief officers also need to arrive at the scene in a timely manner in order to intervene and provide the necessary leadership to the organization.

Below is a table that describes for the entire county what the minimum daily 24/7/365 staffing plan is for the immediate and initial response to emergencies. As this initial force responds, volunteers can be alerted who also respond, but not as quickly:

Current County Daily Minimum Wide Staffing

Agency	Population	# of Dwelling Units	Unit Count	Career	Paid Call/Vol	Total	If staff is NOT present 24/7/365	Total Volunteers
Tahoe Basin								
Fallen Leaf	388	173	1-Eng	1		1	180 days	18
Lake Valley	13,687	6,105	3-Eng; 1-Amb	6	1	7		25
Meeks Bay	4,071	1,816	1-Eng	1	0	1	2nd F/F in summer	7
S Lake Tahoe	24,176	14,629	3-Eng; 2-Amb	10	1-3	10-13		25
Totals:	42,322	22,723	8-Eng; 3-Amb	18	1-4	19-22		75
West Slope Agencies								
Cameron Park	16,331	7,284	2-Eng; 1-Amb	6	2	8		30
Diamond Springs	15,618	6,966	2-Eng; 2-WT; 1-Amb	6	1	7		30
El Dorado County FPD	53,099	23,831	8-Eng; 4-Amb;	27*	0	27	*1-Amb @ 12-hrs/day	30
El Dorado County Wtr Dist	31,027	13,839	3-Eng; 1-Tk; 1-Amb	16	0	16		40

Agency	Population	# of Dwelling Units	Unit Count	Career	Paid Call/Vol	Total	If staff is NOT present 24/7/365	Total Volunteers
Garden Valley	4,376	1,952	1-Eng	2	0	2		16
Georgetown	3,332	1,486	1-Eng; 1-Amb	4	0	4		38
Latrobe	901	402	2-Eng	0	5	2	1-Eng @ 10-hrs/day	7
Mosquito	1,235	551	1-Eng	2	0	2	Eng @ 10-hrs/day	22
Pioneer	6,239	2,783	2-Eng	4	0	4		13
Rescue	5,302	2,365	2-Eng; 1-WT	2	0	2	3rd F/F in summer	21
Totals:	137,460	61,459	24-Eng; 8-Amb; 3-WT; 1-TK	42	8	74		247
Countywide	179,782	84,182	32-Eng; 11-Amb; 3-WT; 1-Tk;	60	9-13	93-96		322
CAL FIRE - FIRE SEASON			4 to 7 Eng; 4-minimum	12-28			Seasonal	

While 60 firefighters on-duty on 32 engines 11 ambulances and other units backed up by over 300 volunteers sounds like an impressive force, it is, within limited situations:

1. Of the 60 personnel on-duty, 32 percent are paid for and assigned to ambulances. This means that 32 percent of the on-duty, immediate response force may not be available for firefighting if they are on a medical call.
2. The units are almost all lightly staffed at 2-firefighters each, occasionally one.
3. The units for the most part are very widely spaced, meaning the initial crew is very limited in serious emergencies and has to wait for units from a distance or for volunteers to arrive.
4. Given the light staffing per unit and the wide station spacing, serious fires may not get enough total firefighters quickly enough, which means the fire grows to greater alarms.

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5. The table above does not include chief officer/incident commander staffing which is necessary. In most cases the one chief in a smaller district does this function from office or home and in his absence, a station firefighter has to do it.

SECTION 3—RESPONSE SYSTEM DEPLOYMENT ANALYSIS

All of the agencies cooperate under automatic and mutual aid policies to provide assistance where needed. Common dispatching of resources is done. Given this coordinated system, this review will analyze the response system in three broad themes – countywide, the West Slope and Lake Tahoe Basin.

3.1 COUNTYWIDE MEASURES

Over the last three years, the emergency calls for service types were:

	Building Fire	EMS	Wildfire	Other Fire	Other	Total
FY 06/07	212	13,920	355	550	3,933	18,970
FY 07/08	242	14,283	387	524	5,265	20,701
FY 08/09	197	13,625	299	406	6,113	20,640
Total	651	41,828	1,041	1,480	15,311	60,311
Percentage	1%	69%	2%	3%	25%	100%

In the past year, for incidents with complete time records and a response time of less than 60-minutes, the countywide response time performance for the *first-due* unit from call received in fire dispatch to the unit stopped on-scene was:

INC Type	Incidents	Mins. to 90%	Mins. to 80%	% @ 11 min	% @ 15 min
Emg. Medical	11,300	12:30	09:30	86.05%	93.71%
Other Fire	348	17:30	11:45	76.14%	87.35%
Wildfire	272	24:00	17:30	58.08%	74.63%
Building Fire	190	14:00	10:45	83.68%	91.57%

For serious fires a concentration or massing of units (the First Alarm) is needed to deliver enough firefighters quickly enough to stop the emergency from escalating to greater alarms. Countywide in the last 12-months, when a 4th due unit was needed and arrived on-scene, the response time performance to get the 4th due unit was:

Percent	Building Fires	Wildland Fires
70%	14:30	28:00
80%	17:15	32:30
90%	23:15	44:00

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3.2 WEST SLOPE

The West Slope region of El Dorado County is served by ten fire departments. While separate agencies, the departments operate as much as possible as one entity under a common dispatch center (CAL FIRE Camino Center via contract) and joint operating policies. There is close policy coordination via the County Fire Chiefs Association. The West Slope EMS Joint Powers Authority provides emergency Medical Paramedic Ambulance services as a fire department based multi-agency operating agreement under contract to the El Dorado County EMS Authority.

3.2.1 Overview

The ten fire departments operate a total of 40 stations staffed by a combination of career staff, paid-call firefighters (per diem staff) and volunteers under various stipend plans. Of these stations, 21 or half are staffed partially or fully with career based firefighters. In some of these, there might only be one career firefighter on duty paired with a per diem or volunteer firefighter. Only one department can afford to staff more than two career personnel per day, per unit. This is less than a typical suburban plan of three firefighters per unit and in metro areas, 4-firefighters per unit.

The departments operate a wide variety of apparatus common to the western fire service such as pumpers, ladder trucks, wildfire units, rescue units, ambulances and specialty units such as breathing air, lighting and technical rescue.

A primary measure of fire service deployment is the neighborhood unit that responds initially to emergency calls. As such, a beginning measure of the system is what units are staffed full time to quickly initiate a response while volunteers can be paged to respond from home or other locations. As such in the West Slope, here is the daily, minimum staffing plan:

Agency	Population	Dwelling Units	Minimum Daily Unit Count	Career	Paid Call/Vol	Total	If staff NOT 24/7/365	Total Vol's
Cameron Park	16,331	7,284	2-Eng; 1-Amb	6	2	8		30
Diamond Springs	15,618	6,966	2-Eng; 2-WT; 1-Amb	6	1	7		30
El Dorado County FPD	53,099	23,831	8-Eng; 4-Amb	27	0	27	1-Amb @ 12-hrs/day	30
El Dorado County Water District	31,027	13,839	3-Eng; 1-Tk; 1-Amb	16	0	16		40
Garden Valley	4,376	1,952	1-Eng	2	0	2		16
Georgetown	3,332	1,486	1-Eng; 1-Amb	4	0	4		38

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Agency	Population	Dwelling Units	Minimum Daily Unit Count	Career	Paid Call/Vol	Total	If staff NOT 24/7/365	Total Vol's
Latrobe	901	402	2-Eng	0	5	2	1-Eng @ 10-hrs/day	7
Mosquito	1,235	551	1-Eng	2	0	2	Eng @ 10-hrs/day	22
Pioneer	6,239	2,783	2-Eng	4	0	4		13
Rescue	5,302	2,365	2-Eng; 1-WT	2	0	2	3rd F/F in summer	21
Totals:	137,460	61,459	24-Eng; 8-Amb; 3-WT; 1-TK	42**	8	74		247

**Of these 42 daily career firefighters, the EMS JPA pays for 16 or 38 percent of these positions.

CAL FIRE – Operates response resources in the western county during wildfire season. From four fire stations, they operate 4 to 7 engines with staffing of 3 or 4 per unit, depending on fire weather conditions. Thus their daily staffing ranges from 12-28 per day. This staffing is not necessarily committed to only the County.

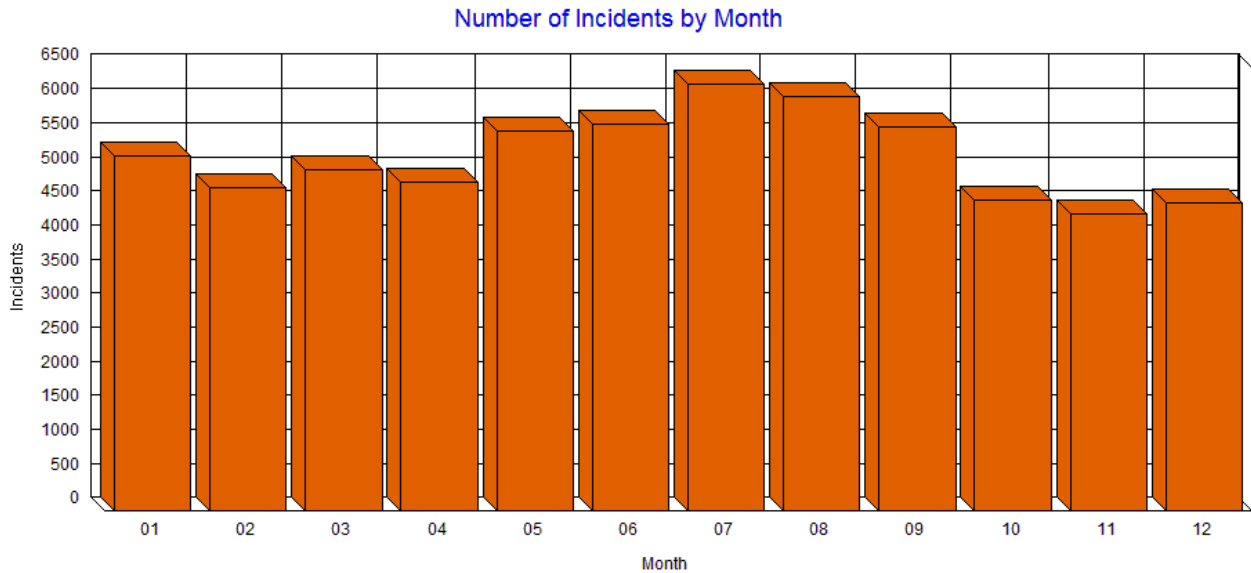
Call Types

In the West Slope where four years of data is available, the incident types are:

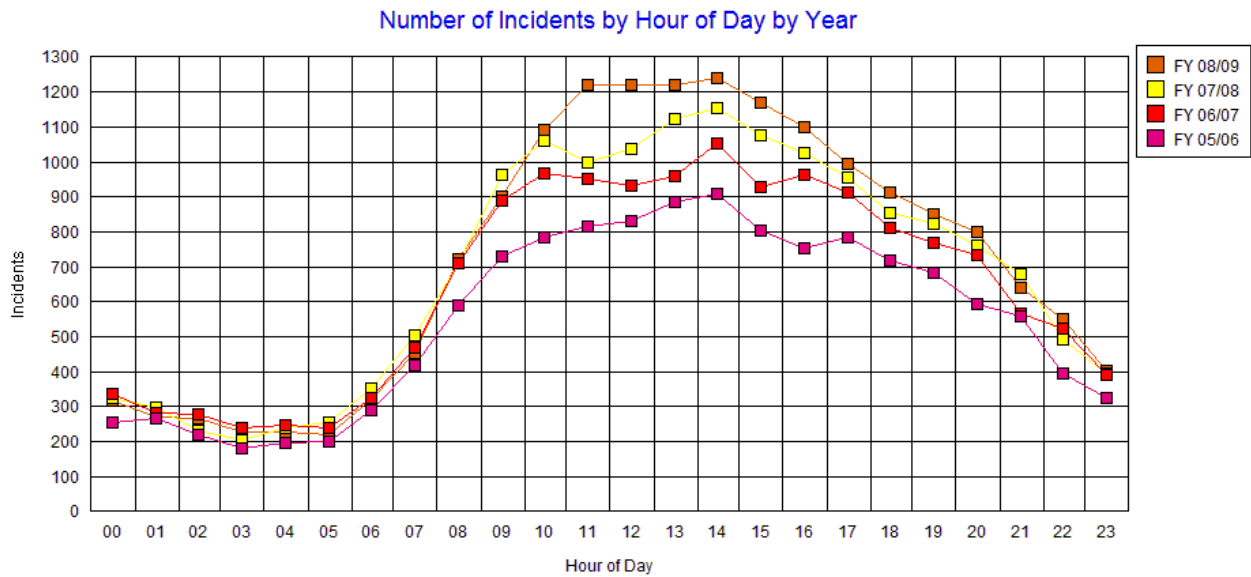
	Building Fire	EMS	Wildfire	Other Fire	Other	Total
FY 05/06	204	9,710	286	625	2,367	13,192
FY 06/07	171	11,589	273	502	2,943	15,478
FY 07/08	173	11,481	352	480	4,015	16,501
FY 08/09	157	11,344	279	380	5,178	17,338
Total	705	44,124	1,190	1,987	14,503	62,509
Percentage	1%	71%	2%	3%	23%	100%

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In the West Slope incident activity tends to peak in the summer months:



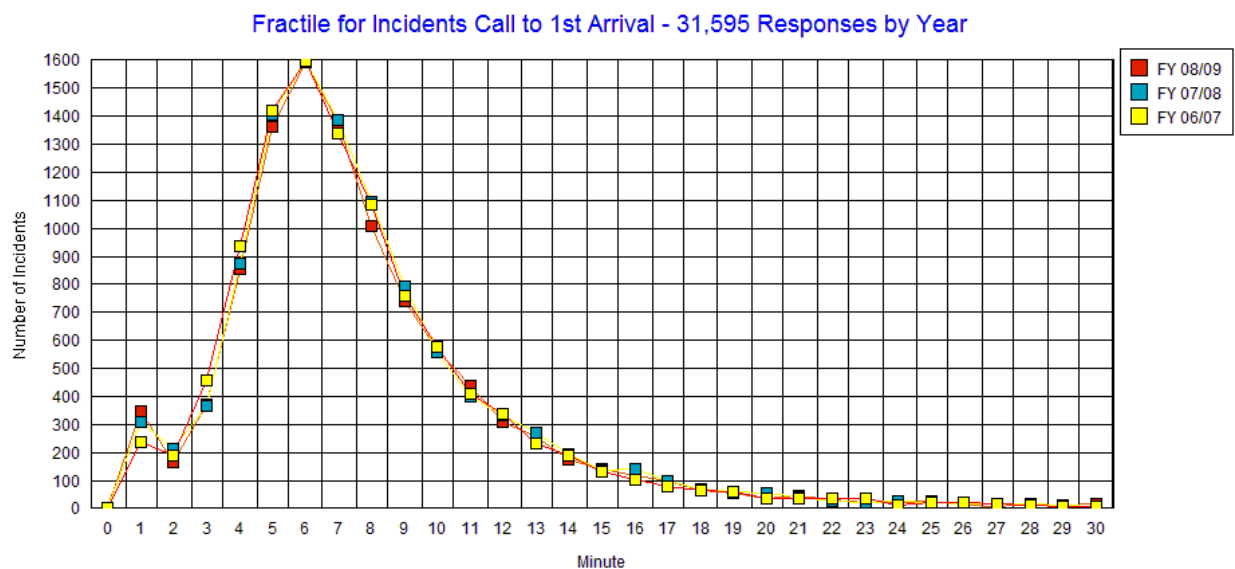
While activity has remained steady in the early morning hours late morning, afternoon and evening activity is increasing with each passing year:



3.2.3 West Slope Response Times

In the most recent year, where data sets were complete, the response time performance was:

INC Type	Incidents	Mins. to 90%	Mins. to 80%	% @ 11 min	% @ 15 min
Emg. Medical	9,635	12:15	09:30	86.14%	94.29%
Other Fire	325	17:45	12:00	74.46%	86.46%
Wildfire	255	23:45	17:15	58.03%	74.90%
Building Fire	154	13:00	10:45	83.76%	92.20%



The wide spread of times in the above graph indicate that a lot of calls are answered farther from the fire stations in the less populated areas and during periods of simultaneous call demand, units are responding from a distance to cover for the already busy home unit.

Finding #1: Citygate finds the response time performance in the Western Slope area comes very close to meeting the County EMS system goal of getting the first unit on scene within 11-minutes from the time of call, 90 percent of the time. The Building Fire performance is better than a recommended 14-minutes by NFPA Combination Fire Department Standard #1720. Many calls closer to stations in the very developed areas had much better response times, consistent with the recommendations in NFPA #1710 for career fire departments in built-up areas.

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Finding #2: To substantially improve this response time performance with such a limited road network and challenging topography would require more fire stations, which would not be cost-effective for the modest number of annual calls in the areas with the longest response times.

3.3 BASIN

The four fire departments in the Lake Tahoe Basin region operate a total of 10 stations staffed by a combination of career staff, paid-call firefighters (per diem staff) and volunteers under various stipend plans. Of these stations, 8 are staffed partially or fully with career based firefighters. In some of these, there might only be one career firefighter on duty paired with a per diem or volunteer firefighter. None of the department's can afford to staff more than two career personnel per day, per unit. This is less than a typical suburban plan of three firefighters per unit and in metro areas, 4-firefighters per unit.

The departments operate a wide variety of apparatus common to the western fire service such as pumpers, ladder trucks, wildfire units, rescue units, ambulances and specialty units such as breathing air, lighting and technical rescue.

They operate ambulances under a separate EMS JPA under contract with the El Dorado EMS Authority.

A primary measure of fire service deployment is the neighborhood unit that responds initially to emergency calls. As such, a beginning measure of the system is what units are staffed full time to quickly initiate a response while volunteers can be paged to respond from home or other locations. As such in the West Slope, here is the daily, minimum staffing plan:

Agency	Population	# of Dwelling Units	Minimum Daily Unit Count	Career	Paid Call/Vol	Total	If staff NOT 24/7/365	Total Vol's
Fallen Leaf	388	173	1-Eng	1		1	180 days	18
Lake Valley	13,687	6,105	3-Eng; 1- Amb	6	1	7		25
Meeks Bay	4,071	1,816	1-Eng	1	0	1	2nd F/F in summer	7
S Lake Tahoe	24,176	14,629	3-Eng; 2-Amb	10	1-3	10-13		25
Totals:	42,322	22,723	8-Eng; 3-Amb	18*	1-4	19-22		75

* 3 or 17 percent of the daily career personnel are funded via the EMS JPA.

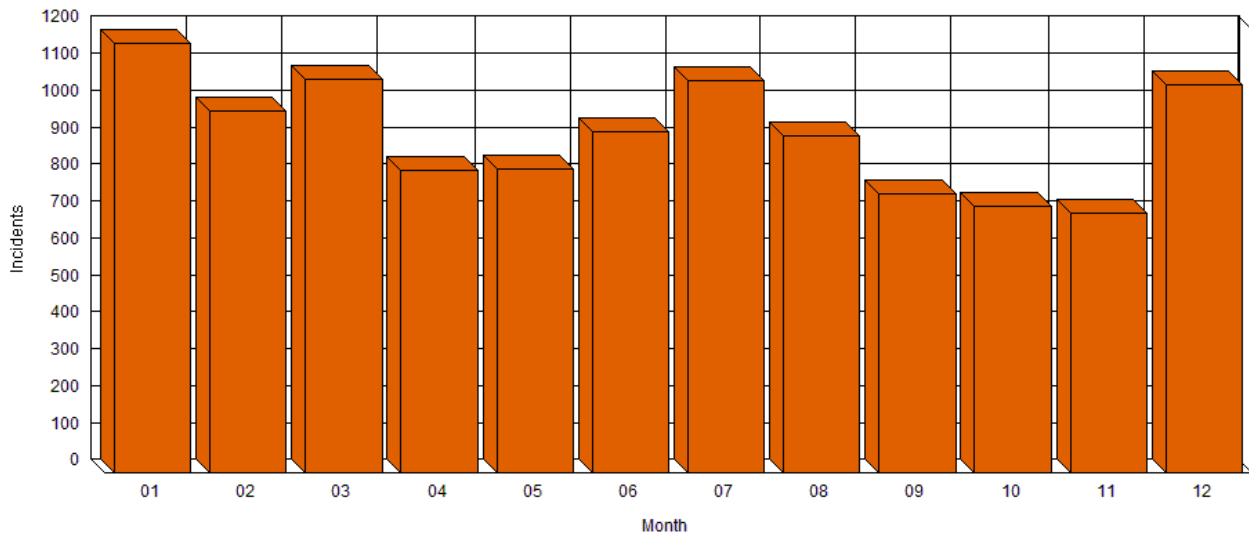
CAL FIRE – During fire season as an interim measure, they operate one 4-firefighter unit, located in a South Lake Tahoe station.

Call Types in the Basin

	Building Fire	EMS	Wildfire	Other Fire	Other	Total
FY 06/07	41	2,331	82	48	990	3,492
FY 07/08	69	2,802	35	44	1,250	4,200
FY 08/09	40	2,281	20	26	935	3,302
Total	150	7,414	137	118	3,175	10,994
Percentage	2%	67%	1%	1%	29%	100%

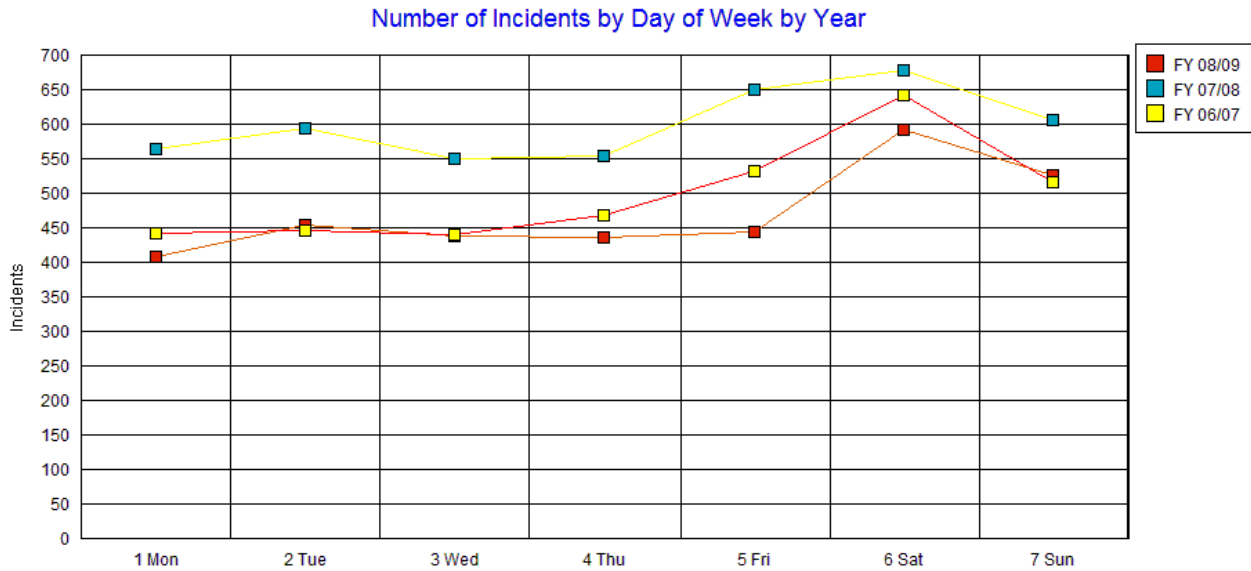
While Tahoe Basin shows a general increase in activity in the summer months winter recreational activities may be providing an activity boost December through March.

Number of Incidents by Month

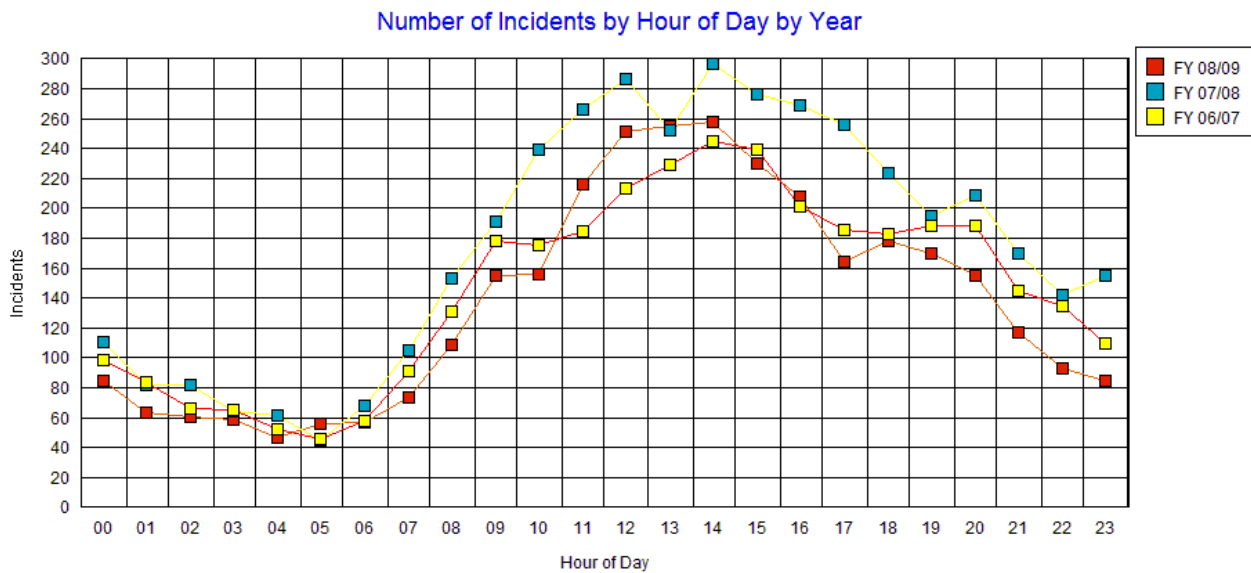


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Incidents tend to increase as the weekend starts.



Here is the annual trend by hour of day.



3.3 MEEKS BAY AND FALLEN LEAF FIRE DEPARTMENTS

Electronic incident records were not available for these two agencies. From manual records, this study found:

From 2006 through 2008 the Fallen Leaf Fire Department responded to an average of 32 incidents per year. Peak activity is May through September. Average arrival time for first Fallen Leaf responder is 4:48 from time of dispatch. Ambulance response times from dispatch to arrival average 18:57.

Meeks Bay responded to 201 incidents in 2006, 215 in 2007 and 213 incidents in 2008. Roughly 60 percent of incidents are EMS and 20 percent fire. The majority of dispatch-to-arrival times are less than 10-minutes.

Approximate Percentage by Incident Type:

Incident Type	Building Fire	Wildfire	Other Fire	EMS	Other
Fallen Leaf	3%	25%	24%	37%	11%
Meeks Bay	1 – 2%	1 – 2%	3%	79%	15%

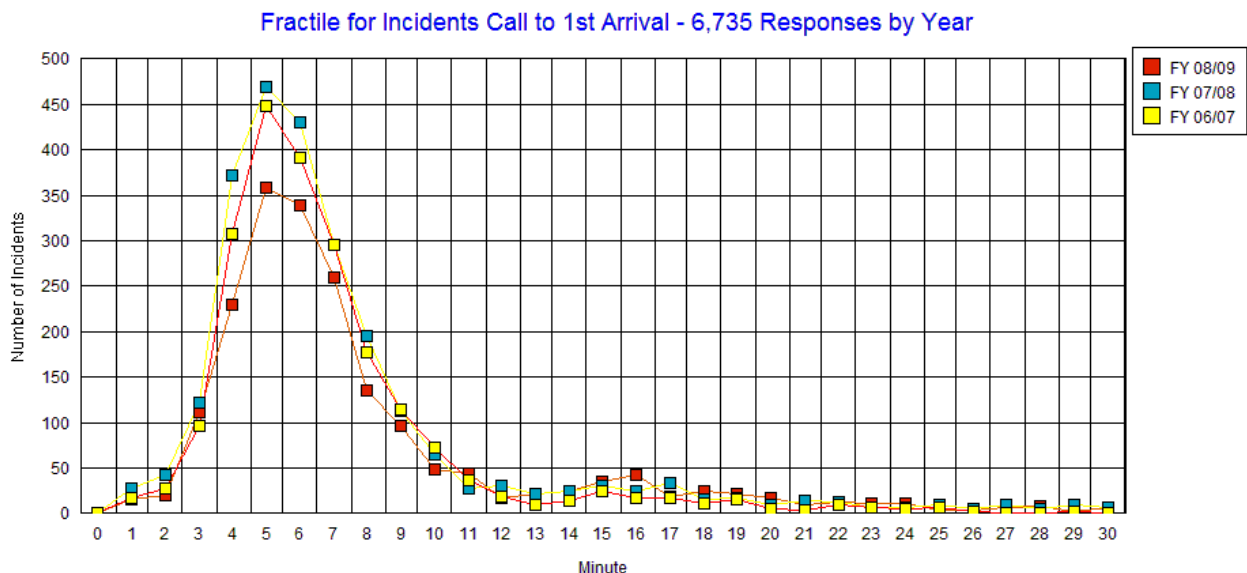
The following response time measures do not include these two agencies.

3.3.1 Response Times

In the most recent year, where data sets were complete, the response time performance was:

Type	Incidents	Mins. to 90%	Mins. to 80%	% @ 11 min	% @ 15 min
Emg. Medical	1,665	14:45*	08:45	85.52%	90.39%
Other Fire	36	16:45	09:00	83.33%	88.88%
Wildfire	23	09:15	09:00	100.00%	100.00%
Building Fire	17	24:45	19:00	58.82%	70.58%

* Includes multiple calls to ski areas with protracted times to reach the patient.



The key area to watch is the drop-off of the number of minutes after 7-minutes. The faster the drop-off the fewer the incidents experiencing delayed first apparatus arrival. Here we see a fairly

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normal drop-off until 15 – 20 minutes where longer response times indicate a few responses to a few remote locations.

Finding #3: Citygate finds the response time performance in the Basin area comes very close to meeting the County EMS system goal of getting the first unit on scene within 11-minutes from the time of call, 90 percent of the time, *when calls to the ski resorts are not considered*. The Building Fire performance is close to the recommended 14-minutes by NFPA Combination Fire Department Standard #1720. However snow conditions much of the year and a high quantity of “simultaneous” calls on the weekends, slows this measure and achieving an urban response time goal would be very difficult and expensive to deliver.

Finding #4: To substantially improve this response time performance with such a limited road network, snow season issues and challenging topography would require more fire stations, which would not be cost-effective for the modest number of annual calls in the areas with the longest response times.

3.4 GEOGRAPHIC COVERAGE

This study used a fire service response analysis tool married with Google Earth to look at fire station response time performance. The Google Earth tool is a “live” application that has been given to the agencies for modeling a wide variety of performance measures. For this summary report, eight images have been selected to explain the major themes. These images are described next and are found bound in full-page format in an accompanying map appendix.

In addition to an aerial topography image, a map of the fire districts, each with a different color lays under the incident data measures.

In all the maps where there is a red cross symbol used for a fire station instead of a house, this marks the location of a 24/7/365 paramedic ambulance.

Map #1 – West Slope EMS Incident Performance at 11-minutes

This image displays in small grids the average response time performance per grid. A green cell means performance was 90 percent or better, Yellow is 80-89 percent and Red is 70-79 percent. As can be seen, where there are more stations, on or near the primary roads, performance is at or better than 90 percent. There is some falloff in the yellow areas, and then as the areas get very rural with sparse roads, the performance falls to the 70 percent range. Where there is green coverage in a very rural area, it might only be for one call, where a responder happened to be nearby.

Map #2 – West Slope EMS Incident Performance at 15-minutes

In comparison to the prior map, this view is at the 15-minute point which when dispatch time is included is consistent with NFPA #1720 for a rural area response. There is an obvious improvement where many more cells (incidents) receive a first-responder by the 15th minute.

Map #3 – Basin Area EMS Incident Performance at 11-minutes

In the Basin the fire station locations are a little closer together so the 11-minute performance is better except in the outer Lake Valley District area. The red 70 percent areas in South Lake Tahoe are actually due to incidents at the ski area with lengthy response times.

There was not electronic incident data available with geographic coordinates for Fallen Leaf and Meeks Bay, so they are not included in this map.

Map #4 – Basin Area EMS Incident Performance at 15-minutes

As in the West Slope area, performance is better at this measure, meaning that most of the developed areas of the City and Lake Tahoe receive building fire initial unit response meeting or exceeding rural area guidelines.

Map #5 – Countywide EMS Incident Location and Volume Measures

This map instead of response time shows the density of calls per grid, with lower quantities being green, progressing up to red for the highest quantities. Then the height of the bar shows comparative total volume versus the other grids. Thus the red bar in Placerville shows this grid area as having the most EMS calls per year. Given that EMS is almost 70 percent of the total incident count, the high population centers along Highway 50 and in South Lake Tahoe drive higher calls for service. Noting the red crosses for ambulance locations, most of the ambulances are located in the highest workload areas.

Map #6 – Countywide EMS Incident Density Measures

This map shows again the EMS workload densities by “clustering” the grids to portray where in yellow to red the largest hot spots of incidents occur. Again the Highway 50 areas and South Lake Tahoe drive the highest workloads. This map shows more clearly the correct location of the ambulances.

However, this map also points out that the northwest and southeast areas of the West Slope receive very long ambulance coverage’s. This could be offset where ambulances are not cost-effective due to low incident volumes by staffing a paramedic fire engine for a more immediate response to begin paramedic treatment while the ambulance is still in-route.

The green person symbol at Pioneer Station 38 shows where they have begun staffing a paramedic engine, at their expense, not the EMS JPA’s. The red person symbol shows where at Station 51 in Garden Valley they want to start a paramedic engine at their expense in the Spring 2010 timeframe.

Map #7 – Countywide Building Fire Incident Location and Volume Measures

Displayed here is the lower quantity of building fires. As with EMS they are in the most developed areas and in many cases closer to staffed fire stations.

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Map #8 – Countywide Wildfire Fire Incident Location and Volume Measures

Unlike building fires, the wildfires occur over a much wider area. As such as noted in the response time's tables, they have the longest response times given the rural areas. As can be seen, some of the higher workload areas are well outside the more populated zones.

This presents a significant challenge to provide a timely fire attack were more of the stations are staffed with volunteers.

3.5 OVERALL DEPLOYMENT OPINIONS

- Finding #5:** When the mapping analysis is considered along with the response statistics and the daily staffing plan, it is apparent the fire stations themselves are well located on the road network. The career staffed stations and ambulances are appropriately located in the higher call for service areas.
- Finding #6:** While the stations are well located, the region *does* have a staffing per unit issue. Not all stations are staffed fulltime, nor are the volunteers always readily available. What this means is that the system will be challenged to deliver enough firefighters, quickly enough, to prevent the spread of serious fires.
- Finding #7:** In addition to the thin daily quantity of on-duty firefighters in fire stations, in the West Slope, 38 percent of the total career firefighters on-duty per day is assigned to ambulances. In the Tahoe Basin, it is 17 percent of the on-duty firefighters. While the paramedics are cross-trained as firefighters, when they are on EMS emergency incidents or hospital-to-hospital transfers, they are not available for firefighting or technical rescue.
- Finding #8:** The current paramedic deployment plan using principally ambulances in the West Slope means there is an equity of coverage issue in the outlying areas. A common practice in California when this happens is to use paramedic staffed engines to provide faster access to a paramedic. In the West Slope area, this occurs in at least two areas, the northwest and southeast areas. Cameron Park, the El Dorado County Fire District, and Pioneer already operate paramedic engines at their expense. Ideally, funding would be provided from the regional EMS system to fund paramedic engine coverage outside of the primary ambulance areas to all agencies in the JPA. This would take considerable economic pressure off Garden Valley and Pioneer whom want to provide this enhanced service on very small revenues.

Finding #9: The current fire service deployment measures in the County General Plan does not fully meet best practice recommendations by defining the time measurement starting point, specific population density measures, the desired outcome and a response time/performance goal for multiple units. Such a more comprehensive measure also would link population density to risks to outcomes to revenue capacity in very different areas within the county.

Recommendation #1: The County should adopt fire unit deployment performance measures based on population density zones in the table below, to direct fire station location, timing and crew size planning. The measures should take into account a realistic crew turnout time of 2 minutes and be designed to deliver outcomes that will save patients medically salvageable upon arrival; and to keep small, but serious fires from becoming greater alarm fires. Citygate recommends these measures be:

- 1.1 Distribution of Fire Stations for Initial Response to Built-up Suburban Areas of Greater than 1,000 People per Square Mile: To treat and transport medical patients and confine small fires *to* the room of origin, the first-due unit should arrive within 7 minutes, 90 percent of the time from the receipt of the 911 call. This equates to 1-minute dispatch time, 2 minutes crew turnout time and 4 minutes travel time spacing for single units.
- 1.2 Effective Response Force (First Alarm) for Built-up Suburban Areas of Greater than 1,000 People per Square Mile: To treat and transport medical patients and to confine fires *near* the room of origin, a multiple-unit response of at least 15 personnel should arrive within 11 minutes from the time of 911 call receipt, 90 percent of the time. This equates to 1-minute dispatch time, 2 minutes crew turnout time and 8 minutes travel time spacing for multiple units.

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- 1.3 Emerging Suburban Areas of 500 to 1,000 people per square mile should have first-due fire unit travel time coverage of 10 minutes, 80 percent of the time; and the effective response force should have a travel time of 15 minutes, 80 percent of the time. Fires will be contained to the building of origin to prevent a wildland fire. Medical patients salvageable upon arrival will receive appropriate care for their condition.
- 1.4 Rural Areas of less than 500 people per square mile should have first-due unit travel times of 14 minutes, 80 percent of the time. Rural areas should receive the effective response force within 20 minutes travel time, 80 percent of the time. Fires will be contained to the building of origin to prevent a wildland fire. Medical patients salvageable upon arrival will receive appropriate care for their condition.

The fire deployment service levels and resultant trigger points in the following table are consistent with national recommendations as discussed earlier in this section of the report. These measures serve as guidelines for adding more fire stations and crews.

Citygate’s Proposed Deployment Measures Based on El Dorado Population Densities

	Structure Fire Urban Area 90% Goal	Structure Fire Emerging Suburban Area 80% Goal	Structure Fire Rural Area 80% Goal	Wildfires Populated Areas 90% Goal	Remote Areas*
	>1,000 people/sq. mi.	500-1,000 people/sq. mi.	<500 people/sq. mi.	Permanent open space areas	
1 st Due Travel Time	4	10	14	10	10
Total Reflex Time	7	13	17	13	13
1 st Alarm Travel Time	8	15	20	12	20
1 st Alarm Total Reflex	11	18	23	15	23

*CAL FIRE or Forest Service Responsibility Lands.

Recommendation #2: The County and Fire Districts could, as adopted policy, use the population density service level table to identify to the development community when and where new fire stations are necessary.

Recommendation #3: As the economy allows, a minimal staffing plan would be for every fire district in its most populated areas to operate at least one 2-firefighter unit 24/7/365. This could be done as is currently with a variety of staffing plan combinations from career to per diem to volunteer firefighters.

This would provide multiple benefits – improved first-due unit response time, increased unit response and total firefighter counts on serious emergencies and reduce reliance on ambulance staffing for primary firefighting forces.

SECTION 4—INDIVIDUAL AGENCY ANALYSIS

WEST SLOPE AGENCIES – THOSE THAT DID NOT RECEIVE COUNTY ASSISTANCE

4.1 CAMERON PARK

Cameron Park Community Services District was formed in 1961 and as one of its services, provides fire protection, currently via a contract with CAL FIRE. The District is bordered by the El Dorado Hills County Water District on the west, on the north by Rescue Fire Protection District, and on the east and south by El Dorado County FPD. Some portions of the Cameron Park overlap with Rescue and El Dorado County FPDs. These areas, called “limited service areas,” were annexed by LAFCO to Cameron Park to receive services other than fire suppression.

Major access roads/inhabited corridors include Highway 50, Cameron Park Drive, Cambridge Road and Green Valley Road. District Size and Development

The District’s *fire service* boundary encompasses approximately 8.5 square miles. Most of the fire service area is in State Responsibility Area for wildfire protection, with very small portions in Federal or local responsibility areas. As throughout California, local fire agencies are responsible for medical and structural fire incidents on land designated as State Responsibility and by default, within the Federal Response Area.

Most of the District’s territory is built-out with high-density residential development as the dominant land use, resulting in a high population density relative to the extensive undeveloped areas surrounding the District.

Agency	Population	# of Dwelling Units
Cameron Park	16,331	7284

4.1.1 Deployment Assessment

Daily Minimum Apparatus and Staffing

The District operates two stations with a variety of fire apparatus including engines, an ambulance provided via the EMS JPA and specialty units. The minimum daily staffing provided to protect the area’s risks is:

Minimum Daily Unit Count	Career	Paid Call/Vol	Total	If staff NOT 24/7/365	Total Vol's
2-Engines 1-Ambulance	6	2	8		30

The full CAL FIRE regional command staff serves as headquarters staff for Cameron Park. In addition, the District separately funds a fire marshal and two clerical positions.

District Fire Marshal	Support and Clerical Staff
1	2

Response Times

Using the EMS system goal of having a unit on-scene by the 11th minute from the call being received, 90 percent of the time, about 80 percent of the District receives this coverage. By a 15-minute, 90 percent measure, 100 percent of the District is reached.

EMS Services

The District houses one of the West Slope EMS JPA paramedic ambulances. Additionally, both fire engines are staffed with one paramedic each. For a given area, this is the most complete paramedic response coverage in the county.

Station and Apparatus Replacement Needs

Stations – At this time, the District does not need to replace any stations. They are in good condition and the District does not see the need for additional stations.

Apparatus – Cameron Park has five structure fire engines plus 4 utility trucks and Chief Officer units. All of the equipment is newer and not in need of near term replacement.

4.1.2 Fiscal Assessment

Principal Sources of Funding

The Cameron Park Fire Protection District relies on three principal sources of fund for their fire operations and apparatus replacement needs. Property Taxes and Strike Team/Grant/Contract Revenue and, the EMS Contract, all of which comprise 99 percent of their funding. For purposes of this report, in both the South Lake Tahoe and Cameron Park Fire Department budgets, their expenditures have been used as the “revenue” because both departments are part of a larger general fund. Even with earmarking of revenue, there is some ability on the part of the agency to prioritize how funds are expended among a number of services, including fire.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	Property Tax Revenue	Special Taxes and Assessments Revenue	Other Funding
Cameron Park	\$2,703,646	\$0	\$174,500	\$2,416,756	\$0	\$809,926

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Current Reserve Level

The Fire Department is part of the Cameron Park CSD General Fund. Like the City of South Lake Tahoe, the District has the flexibility to utilize its General Fund revenue where best needed. This includes any reserves they have associated with a single department such as fire or parks and recreation. Presently, revenue identified to the fire department budget is more than adequate to cover expenses as reflected in the table below.

Fire Services Agency	FY 08-09 Revenue	County Funding	FY 08-09 Expenditure	Restricted and Unrestricted Reserves
Cameron Park	\$2,703,646	\$0	\$2,703,646	General Fund

Stability of Revenue Sources

The Cameron Park CSD, in relying largely on Property Taxes and EMS funding to support its fire services contract with CAL FIRE, has a stable and adequate source of revenue for its fire services operation. Non-recurring type revenue only totals 5 percent of the District's total revenue allocated to the fire department .in the survey information provided for this study.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	County and Non Recurring Revenue as a Percent of Total Revenue
Cameron Park	\$2,703,646	\$0	\$174,500	5%

Headquarters and Line Operation Costs

A principal portion of Cameron Park costs is directly the result of the contract with CAL FIRE that provides daily line operations and supervision. Separately the District employs a fire marshal and clerical staff.

Fire Services Agency	Line Operations and CAL FIRE HQ Costs
Cameron Park	\$2,703,646

Apparatus Funding Need Compared to Current Reserves

An important consideration of any fire District in the current economic climate is whether or not the reserves are adequate to serve as a buffer until economic recovery may begin to restore some growth to the property tax revenue. Cameron Park's costs are very comparable to similar sized communities and within the current fiscal capacity of the District to continue at the current level.

A critical component of this is the continued funding of the EMS positions by the JPA. This covers about one-third of the cost of the CAL FIRE contract and related expenditures.

The agency has not reported the need to replace any of its apparatus in the near term.

Capacity to Levy Additional Taxes or Assessments

The District does not levy a fire related assessment. If they were to determine that earmarked funds were needed to support fire services, one alternative for the District to consider is to request the property owners/voters to approve either a special tax (with a two-thirds voter approval) or an assessment District (with majority property owner approval). For illustration purposes, below is a table reflecting that it would require an annual assessment of approximately \$102 per dwelling unit to replace the EMS funding that supports some of the CAL FIRE positions.

Fire Services Agency	Population	Number of Dwelling Units	County Funding	Current Fire and EMS Annual Tax and Assessment on Typical Single Family Home	Estimated Annual Tax/Assessment Increase per Dwelling Unit to Replace EMS Funding
Cameron Park	16,331	7,284	\$0	\$25	\$102

Impact of Reduced Funding

The District has not reported any expected impact from a reduction in revenue. However, it is apparent that if the District were to lose the present EMS funding, it would require them to reduce the number of CAL FIRE engines stationed in the District or to reprioritize their present General Fund expenditures to continue supporting the fire service at its present level.

4.2 DIAMOND SPRINGS FPD

The Diamond Springs/El Dorado Fire Protection District was formed in 1979 through the consolidation of the Diamond Springs Fire Protection District and the El Dorado Fire Protection District. It is bounded on the west by the Rescue, El Dorado County and Latrobe Fire Protection Districts; on the north and northeast by the El Dorado County Fire Protection District; on the east by the Pioneer Fire Protection District and on the south by the Amador Fire Department in Amador County. The District serves the communities of Diamond Springs, Missouri Flat, Sleepy Hollow, Logtown and El Dorado. Major access roads in the district include Highway 49, Missouri Flat Road, Green Valley Road, Mother Lode Drive, El Dorado Road, Green Stone Road, Pleasant Valley Road and Highway 50.

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4.2.1 District Size and Development

The District’s boundary encompasses approximately 93 square miles; all of the District land is designated as State Responsibility area for wildfire. Lands owned and managed by the Bureau of Land Management (BLM) are scattered throughout the District’s mid-eastern section. As throughout California, local fire agencies are responsible for medical and structural fire incidents on land designated as State Responsibility and by default, within the Federal Response Area.

The District can be divided into four major land use types: industrial, commercial, semi-urban and rural. Rural residential areas can be found in the far north and south areas of the District. These areas are furthest from the district’s commercial center and can be very isolated. The southern part of the District contains agricultural development – pockets of land are devoted to various crops and orchards, but the area is primarily devoted to grazing.

Semi-urban residential uses contain small subdivisions and isolated residential developments that are characteristic of a suburban ranch environment. These areas are located immediately north and south of the District’s commercial and industrial center.

Concentrated in the area between Highway 50 and Pleasant Valley Drive, the District’s commercial area contains a variety of commercial, light industrial, educational and manufacturing facilities. Development is concentrated in the upper mid-eastern portion of the district, around the towns of El Dorado and Diamond Springs and along the Missouri Flat Corridor. The District prior to the recession saw an annual growth rate of 4 percent. Areas in Missouri Flat, El Dorado and Pleasant Valley are slated for more development under the 2004 General Plan. Although the County General Plan reflects a growth rate averaging under 2 percent over the next 15 years on the Western Slope.

Agency	Population	# of Dwelling Units
Diamond Springs	15,618	6,966

4.2.2 Deployment Assessment

Daily Minimum Apparatus and Staffing

The District operates five stations with a variety of fire apparatus including engines, wildland fire units and a water tender. The minimum daily staffing provided to protect the area’s risks is:

Minimum Daily Unit Count	Career	Paid Call/Vol	Total	If staff NOT 24/7/365	Total Vol's
2-Engines 2-Water Tenders 1-Ambulance	6	1	7		30

The total headquarters staff is limited and only provides 24/7/365 incident command response if all of the Chief Officers share responsibility for being on-call in addition to their regular duties:

Fire Chief and Chief Officers	Support and Clerical Staff
3	1.5

Response Times

At the EMS JPA goal point of delivering EMS care by the 11-minute 90 percent the District delivers this performance to approximately half of the District that is closest to the staffed fire stations. At the 15-minute, 90 percent coverage measure, over 95 percent of the District is reached. The stations are well enough located, where the delays are occurring to topography and a volunteer based response.

EMS Services

The District houses one of the EMS JPA ambulances to provide paramedic coverage. Fire engines as first responders provide medical care at the EMT-Basic level.

Station and Apparatus Replacement Needs

Stations – At this time, the District needs to replace one station that is too small and not well located. If this re-location occurs, it also addresses growth needs.

Apparatus – The District operates a fleet comprised of engines, water tenders and specialty units, along with the EMS JPA ambulance. The National Fire Protection Association recommends that second line equipment should not be more than 20 years old; three of the district’s major response apparatus exceed this recommendation.

4.2.3 Fiscal Assessment

Principal Sources of Funding

The Diamond Springs FPD Fire Protection District relies on only two principal sources of fund for their operations and apparatus replacement needs. Property Taxes and Non-recurring Revenue, which together comprise 88 percent of their funding. It is significant that almost 16 percent of the District’s revenue is from Non-Recurring sources. The District receives no funding from the County.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	Property Tax Revenue	Special Taxes and Assessments Revenue
Diamond Springs	\$4,345,266	\$0	\$682,699	\$3,145,269	

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Current Reserve Level

For this past four fiscal years, the District's reserves have been stable at about \$1,100,000. During this time annual expenditure rose from about \$3,100,000 per year to the present \$4,345,266. But revenue kept pace with inflation, partially through continued growth in property tax revenue and an increase this last year in Strike Team revenue.

Fire Services Agency	FY 08-09 Revenue	County Funding	FY 08-09 Expenditure	Restricted and Unrestricted Reserves
Diamond Springs	\$4,345,266	\$0	\$4,195,266	\$1,102,883

Stability of Revenue Sources

Unfortunately, like so many smaller fire Districts, Diamond Springs FPD relies upon unstable or one time sources of revenue for a significant part of its funding. While property tax revenue has shown some growth, Strike Team revenue increased as well. Between these two sources, reserves have remained at a fairly constant level, but the reliance on Strike Team revenue is worrisome and significant. It is an unstable source and the District's overall reserve level is not so great as to provide a very significant buffer if such Non-Recurring revenue does indeed decrease significantly several years in a row.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	County and Non Recurring Revenue as a Percent of Total Revenue
Diamond Springs	\$4,345,266	\$0	\$682,699	16%

Headquarters and Line Operation Costs

Diamond Springs is operating with a very modest headquarters function for an agency its size. Unlike El Dorado Hills and El Dorado County FPD which budget about 20 percent of their expenditures for headquarters and line support functions, Diamond Springs only budgets about 16 percent. This is reflected in the fact that the District only has 3 Chief Officers and 1.5 office support staff. While this is very similar to small fire department operations of this size, it does significantly limit the support activities such as fire prevention and education, training and coordination with other agencies. The Chief Officers have day to day supervisory responsibilities and share incident command response duties, which limits the time available for other support activities. A Chief Officer is a necessary on-scene component of larger scale incidents such as a multiple injury accident or a house fire.

A principal portion of Diamond Springs FPD costs are directly the result of daily Line Operations as reflected in the table below. Of these line costs, about 81 percent are for personnel, representing a normal split between personnel and maintenance, materials and supplies costs.

Fire Services Agency	Total FY 08-09 Expenditures	HQ Costs	Line Operations Costs
Diamond Springs	\$4,195,266	\$688,142	\$3,507,124

Apparatus Funding Need Compared to Current Reserves

While Diamond Springs FPD reserves appear to be adequate as a buffer against the impact of the recession, possible future inflation and or a reduction in Strike Team revenue, the District reserves need to be measured against future capital needs. Over the next five years the District needs to replace \$800,000 in fire apparatus. If they use cash to accomplish this, it will consume most of their reserves. However, if the use lease-purchase financing, it will add about \$100,000 per year to their expenses. This will bring annual expenses just about even with annual revenue, leaving the District more vulnerable to a reduction in Non-Recurring Strike Team revenue. The District does need to maintain a regular equipment replacement program because half of their major apparatus is 17 years or more old. This is acceptable if the older equipment remains in reserve status and is replaced as newer equipment is transitioned into reserve based on age and whether they meet the newer safety standards.

Fire Services Agency	Restricted and Unrestricted Reserves	Apparatus Replacement Need (0-5 yrs)	Additional Apparatus Replacement Need (5+ yrs)
Diamond Springs	\$1,102,883		\$800,000

Capacity to Levy Additional Taxes or Assessments

If the District finds its expenses exceeding revenue due to inflation or a reduction in Strike Team reimbursement revenue, one alternative is to request the property owners/voters to approve either a special tax (with a two-thirds voter approval) or an assessment District (with majority property owner approval). The District property currently only pays an assessment to support the EMS system. Based on the data in the table below, an assessment of \$50 per year would generate approximately \$350,000 from dwelling units in the District.

Fire Services Agency	Population	Number of Dwelling Units	County Funding	Current Fire and EMS Annual Tax and Assessment on Typical Single Family Home
Diamond Springs	15,618	6,966	\$0	\$25

Impact of Reduced Funding

Were the District to lose some or all of its non-recurring revenue, they would need to both postpone equipment replacement and reduce their full time line staffing. Presently they staff 2 full time line personnel per day on each of two fire engines and two personnel on an ambulance.

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To achieve this staffing level, the District uses 19 people. If a revenue reduction were to require a reduction in staff, each unfilled staff position would save the District approximately \$110,000 to \$130,000 per year, depending upon the tenure and job classification of the position. But not filling positions would require the District to either reduce staffing or rely more heavily on volunteers and paid-call firefighters. Unless volunteer participation increased correspondingly, some station reduced staffing would occur.

4.3 EL DORADO COUNTY FPD

The El Dorado County Fire Protection District was formed on March 1, 1991 through a reorganization of the Pleasant Valley, Shingle Springs, and Pollock Pines/Camino Fire Protection Districts and annexation of the City of Placerville. Subsequent to its formation, the District annexed the Strawberry area and the Highway 50 corridor. The Coloma-Lotus and Northside Fire Protection Districts were reorganized into the District in 1993. Major access corridors in the district are Highway 50, which runs east to west, and Highway 49, which run north to south. These two transportation corridors intersect in the City of Placerville.

4.3.1 District Size and Development

The District’s boundary encompasses approximately 279 square miles.

All of the communities in the District are major risk areas for wildland/urban interface and, with the exception of Placerville, is designated by the state as state responsibility area (SRA). As throughout California, local fire agencies are responsible for medical and structural fire incidents on land designated as State Responsibility and by default, within the Federal Response Area.

The district serves the City of Placerville and the communities of Cool, Pilot Hill, Lotus, Coloma, Gold Hill, Shingle Springs, Sierra Springs, Camino, Pleasant Valley, Oak Hill, Pollock Pines, Pacific House, Kyburz, and Strawberry. All major land uses are represented within the district.

Agency	Population	# of Dwelling Units
El Dorado County FPD	53,099	23,831

4.3.2 Deployment Assessment

Daily Minimum Apparatus and Staffing

The District operates 15 stations with a variety of fire apparatus including engines, wildland fire units, a ladder truck, specialty units and water tenders. The minimum daily staffing provided to protect the area’s risks is:

Minimum Daily Unit Count	Career	Paid Call/Vol	Total	If staff NOT 24/7/365	Total Vol's
8-Engines 4-Ambulances	27	0	27	1-Ambulance @ 12-hrs/day	30

The total headquarters staff is appropriate for the population and geographic size of the District as well as the number of fire stations and daily career personnel on duty.

Fire Chief and Chief Officers	Support and Clerical Staff
8	3

Response Times

The District is large and difficult to provide efficient response times to given the limited road network and topography. Where staffed stations are present, these areas can receive coverage at the EMS JPA goal of 11-minutes, 90 percent of the time. This typically only occurs along and just off of the major roads traversing the District.

At the 15-minute, 90 percent measure, about 50 percent of the District is covered, with an even higher percentage of coverage in the highest population clusters nearer to staffed fire stations.

EMS Services

The large and diverse District houses four of the EMS JPA ambulances, covering the length of the District. Six of the seven engines every day are staffed with one paramedic firefighter, increasing significantly the paramedic coverage of the District. When non-paramedic engines respond, they provide medical care at the EMT-Basic level.

Station and Apparatus Replacement Needs

Stations – The District has determined the need to replace six of its stations. These six are considered outdated, aged, in deteriorated condition, of inadequate size, inadequate configuration, and/or a combination of the above. The District has no identified funding plan or savings for this capital investment. In terms of possible growth, at this time the District does not have any plans for additional stations.

Apparatus – The District owns and operates 30 engines, five water tenders, five rescue vehicles, 25 utility vehicles and four medic vehicles. NFPA recommends that second line equipment should not be more than 20 years old; 13 out of 32 pieces of major fire apparatus are 20 years or more old and another 5 are at least 10 years old.

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4.3.3 Fiscal Assessment

Principal Sources of Funding

The El Dorado County FPD Fire Protection District relies on three principal sources of funds for their operations and apparatus replacement needs. Property Taxes, assessment revenue and Non-recurring revenue. These three sources comprise 88 percent of their funding.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	Property Tax Revenue	Special Taxes and Assessments Revenue
El Dorado County FPD	\$10,957,370	\$0	\$513,627	\$8,345,744	\$769,000

Current Reserve Level

For the past four fiscal years, the District's reserves have remained at approximately \$6,000,000, finishing this past fiscal year at \$6,230,866. A significant contribution to this stability in reserves is the growth in property tax revenue. It increased from \$7,705,303 in FY 2006-07 to \$8,345,744 in this past fiscal year. This is counter to the trend seen in many other government agencies where property tax revenue has decreased over the past several years. And with property tax representing 76 percent of all District revenue, growth in the source has a positive impact on reserves.

Fire Services Agency	FY 08-09 Revenue	County Funding	FY 08-09 Expenditure	Restricted and Unrestricted Reserves
El Dorado County FPD	\$10,957,370	\$0	\$10,610,673	\$6,230,866

Stability of Revenue Sources

With property tax representing such a significant portion of District revenue and remaining stable during this recession, the District's overall revenue picture has been and portends to be very stable. Only 5 percent of the revenue is Non-Recurring Strike Team reimbursements. This does not mean that the District will be immune to the affects of inflation. With property values likely not to grow significantly and property revenue growth limited by the Proposition 13 formula, the District is likely to see expenses outpace revenue over the next decade, making it more difficult to keep pace with equipment replacement needs. One additional concern for the District remains the future of ERAF funds, which represented \$936,207 of their FY 2008-09 revenue.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	County and Non Recurring Revenue as a Percent of Total Revenue
El Dorado County FPD	\$10,957,370	\$0	\$513,627	5%

Headquarters and Line Operation Costs

A principal portion of El Dorado County FPD costs are directly the result of daily Line Operations as reflected in the table below. About 82 percent of the cost of line operations is salaries and benefits, leaving the remainder to fund materials and supplies for the line operation. This is a percentage that is again consistent with the practice in similar agencies and adequately funds the need for maintenance and safety materials and supplies. Headquarters Costs and staffing are consistent with similar organizations with balanced attention to field incident command supervision, training, fire prevention, and maintenance functions that support the line operation.

Fire Services Agency	Total FY 08-09 Expenditures	HQ Costs	Line Operations Costs
El Dorado County FPD	\$10,610,673	\$2,440,455	\$8,170,218

Apparatus Funding Need Compared to Current Reserves

An important consideration of any fire District in the current economic climate is whether or not the reserves are adequate to not only serve as a buffer until there is full economic recovery, but are reserves adequate to fund the District’s capital needs. The District is facing a significant investment in fire apparatus over the next five years. If equipment is replaced consistent with the normal experience of wear and tear and older equipment that does not meet new safety standards is replaced, then the District will need to invest about \$4,700,000 in new apparatus over the next five years. 13 out of 32 pieces of major fire apparatus are 20 years or more old and another 5 are at least 10 years old.

In order to preserve reserves, the District does have the option of financing equipment acquisition under lease-purchase arrangements. This will add an annual cost of \$550,000 or more to their budget, making it most likely that expenditures will very soon outpace revenue and begin to decrease the reserves.

Fire Services Agency	Restricted and Unrestricted Reserves	Apparatus Replacement Need (0-5 yrs)	Additional Apparatus Replacement Need (5+ yrs)
El Dorado County FPD	\$6,230,866	\$1,900,000	\$2,800,000

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Capacity to Levy Additional Taxes or Assessments

When the District faces the difficult choices of how to maintain current service levels, one alternative for the District to consider is to request the property owners/voters to approve either a special tax (with a two-thirds voter approval) or an assessment District (with majority property owner approval). The District already has an assessment, that when combined with the EMS assessment, is \$96 per year on a typical single family home.

Fire Services Agency	Population	Number of Dwelling Units	County Funding	Current Fire and EMS Annual Tax and Assessment on Typical Single Family Home
El Dorado County FPD	53,099	23,831	\$0	\$96

Impact of Reduced Funding

The concern of the El Dorado County Fire Protection District is much the same as that expressed by the El Dorado Hills Fire Department. If County funding is removed from the smaller fire agencies, their level of service response times and service levels will be adversely affected. The El Dorado County Fire Protection District feels this will place an increasing burden on them for mutual aid response. They have expressed an unwillingness to pick up the extra service burden created by a withdrawal of County funding.

The District also noted that there will be little incentive for them or other “better financed” Districts to consolidate with any of the smaller Districts if these latter are not adequately funded. Without proper permanent funding, merging with a smaller District would mean subsidizing that District using revenue from the larger District.

4.4 EL DORADO HILLS FPD

El Dorado Hills County Water District (AKA the Fire Protection District), was established July 11, 1960 and is located in the westernmost portion of El Dorado County. El Dorado Hills also provides mutual aid service to departments in both Sacramento and El Dorado County. Major access roads/inhabited corridors include Highway 50, El Dorado Hills Boulevard, Silva Valley Parkway, Green Valley Road, Francisco Drive, Salmon Falls Road, Bass Lake Road and Latrobe Road.

4.4.1 District Size and Development

The District’s boundary encompasses approximately 40 square miles or 25,600 acres, in the most populated area of the county. Approximately 90 percent of the District is designated as a State Responsibility Area for wildfires. As throughout California, local fire agencies are responsible for medical and structural fire incidents on land designated as State Responsibility and by default, within the Federal Response Area.

El Dorado Hills, which comprises the District’s urban core, is largely comprised of large scale master-planned communities, residential subdivisions organized as single family residential

“villages,” associated commercial and retail uses. Agricultural lands include the Tong ranch in the center of the District, some grape-growing areas to the north and grazing lands in the south.

Commercial areas include the 900-acre Business Park (approximately 110 buildings and 2.6 million square feet), Town Center south of Highway 50, and various small neighborhood-shopping strips such as the Raley’s Center off Saratoga Way and the intersection of Green Valley Road and Francisco Drive. Total commercial space within the District is approximately 3.8 million square feet. The Business Park also includes some industrial uses. A portion of Folsom Lake and Brown's Ravine Marina lies within the boundaries of the District.

The District projects residential growth to average 8 percent per year through 2009. Total future residential development within the District is estimated at 11,355 units or an additional 34,065 people. This development includes projects that are in the planning stages, approved, or under construction. Of this amount, approximately 12 percent of the projected new residents will live in the Bass Lake area, which will require additional entitlements for service before development will occur and 18 percent will live in Serrano. In addition, development is likely in Valley View, east of Latrobe Road and in Carson Creek, between the county line and west of Latrobe Road. The District projects new commercial development at 180,000 square feet per year through 2009.

Agency	Population	# of Dwelling Units
El Dorado Hills	31,027	13,839

4.4.2 Deployment Assessment

Daily Minimum Apparatus and Staffing

The District operates four fire stations with a variety of fire apparatus including engines, an ambulance, a ladder truck, wildland fire units, breathing support unit and a water tender. The minimum daily staffing provided to protect the area’s risks is:

Minimum Daily Unit Count	Career	Paid Call/Vol	Total	If staff NOT 24/7/365	Total Vol's
7-Engines 4-Ambulances	24	2	26	+1-Ambulance @ 12-hrs/day	30

The total headquarters staff is sufficient for an agency this size:

Fire Chief and Chief Officers	Support and Clerical Staff
8	3

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Response Times

All but the northeast corner of the District receives the EMS Agency emergency medical service response time goal of 11-minute response time coverage at the 90 percent point. When measured at the 15-minute point, almost 95 percent of the District is covered 90 percent of the time.

EMS Services

The District houses one full time and one part time (12-hr day) ambulance funded by the West Slope EMS JPA. Engine based personnel provide medical services at the EMT-Basic level.

Station and Apparatus Replacement Needs

Stations – The District has plans to replace one station and add an additional station as growth occurs. They have partial capital improvement funding committed to these projects.

Apparatus – The District’s fleet is newer and they have savings for planned replacements in sync with national best practice recommendations.

4.4.3 Fiscal Assessment

Principal Sources of Funding

The El Dorado Hills Fire Protection District relies on three principal sources of funds for their operations and apparatus replacement needs. Property Taxes represent 85 percent of their funding, with Strike Team reimbursement and assessments totaling another 6 percent. This large proportion of property tax revenue represents the impact of Proposition 13 revenue allocation, which has worked to the advantage of the District.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	Property Tax Revenue	Special Taxes and Assessments Revenue
El Dorado Hills	\$16,404,780	\$0	\$750,000	\$13,954,780	\$200,000

Current Reserve Level

The District’s reserves are clearly adequate to permit the District to deal with both the economic decline and any immediate capital needs. The District reserves have been increasing annually, giving the District the option of meeting capital needs with either cash or through long term financing that would increase the annual budget.

Fire Services Agency	FY 08-09 Revenue	County Funding	FY 08-09 Expenditure	Restricted and Unrestricted Reserves
El Dorado Hills	\$16,404,780	\$0	\$15,260,924	\$20,571,606

Stability of Revenue Sources

The El Dorado Hills revenue sources are the most stable of all of the Districts in the County. Only 5 percent of its revenue is from Strike Team reimbursements and subject to the fluctuation common to such Non-Recurring revenue. Even with the decline in property values, the District total revenue has been exceeding expenditures. With the further growth potential in the District, the long term fiscal health of the District appears to be very adequate to allow the District to continue meeting the growing service needs of a growing population.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	County and Non Recurring Revenue as a Percent of Total Revenue
El Dorado Hills	\$16,404,780	\$0	\$750,000	5%

Headquarters and Line Operation Costs

The El Dorado Hills allocation of costs between Headquarters and Line Operations is consistent with best practice for a fire service agency that provides a full range of services. Headquarters costs include not only effective and adequately staffed field incident command services, but also fire prevention, training, and equipment and facility management. This is a level of funding and service that many smaller departments would like to afford, but cannot.

Fire Services Agency	Total FY 08-09 Expenditures	HQ Costs	Line Operations Costs
El Dorado Hills	\$15,260,924	\$3,268,775	\$11,992,149

Apparatus Funding Need Compared to Current Reserves

El Dorado Hills has done a very good job of keeping its fire apparatus replaced on a timely basis. Of 15 major pieces of equipment, only 5 are more than 10 years old, which is consistent with using such older equipment in a reserve capacity while the new equipment is in front line status. Based on the age of the equipment, several pieces should be replaced in the next five years, but the District clearly has the option of funding this estimated \$1,000,000 in replacement with existing reserves.

Fire Services Agency	Restricted and Unrestricted Reserves	Apparatus Replacement Need (0-5 yrs)	Additional Apparatus Replacement Need (5+ yrs)
El Dorado Hills	\$20,571,606		\$1,000,000

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Capacity to Levy Additional Taxes or Assessments

The District does not rely on a District-wide assessment for funding, although the District is part of the EMS funding District.

Fire Services Agency	Population	Number of Dwelling Units	County Funding	Current Fire and EMS Annual Tax and Assessment on Typical Single Family Home
El Dorado Hills	31,027	13,839	\$0	\$25

Impact of Reduced Funding

The concern for the El Dorado Hills District is the impact on nearby agencies if County funding is removed. As response times and service levels are adversely affected in other Districts, this will place an increasing burden on El Dorado Hills for mutual aid response. They are particularly concerned if the Latrobe District ceases operations and residents then rely upon El Dorado Hills for response.

Several fire agency representatives have commented that the provision of services and funding needs to be viewed on a more regional rather than District-by-District basis because of the importance of quick response especially to field and forest fires. As any one District's ability to respond is diminished, it impacts all of the other agencies nearby who not only provide mutual aid but also might be faced with an emergency that grows large due to a slow or too lightly staffed response.

WEST SLOPE AGENCIES – THOSE THAT DID RECEIVE COUNTY ASSISTANCE

4.5 GARDEN VALLEY FPD

The Garden Valley Fire Protection District, established November 1973, is located in the northwestern portion of El Dorado County, bounded by Georgetown FPD to the north, the El Dorado County FPD to the west and south, and the Mosquito FPD to the southeast. The Eldorado National Forest is east of the District.

Major communities in the area are Garden Valley, Greenwood, and Kelsey, with all of them being in major risk areas for wildland urban interface. Highway 193 and Marshall Road are major access roads through the district.

4.5.1 District Size and Development

The District’s boundary encompasses approximately 60 square miles. The National Forest lands are in a Federal Response Area and the remaining territory is designated as a State Responsibility Area with no Local Responsibility Area. As throughout California, local fire agencies are responsible for medical and structural fire incidents on land designated as State Responsibility and by default, within the Federal Response Area.

Land use in the District primarily consists of residential, agriculture, grazing, and crops. There are no major commercial land uses in GRV; the few businesses in the District are primarily in residential areas.

Agency	Population	# of Dwelling Units
Garden Valley	4,376	1,952

4.5.2 Deployment Assessment

Daily Minimum Apparatus and Staffing

The District operates three stations with a variety of fire apparatus including engines, wildland fire units, a rescue unit and a water tender. The minimum daily staffing provided to protect the area’s risks is:

Minimum Daily Unit Count	Career	Paid Call/Vol	Total	If staff NOT 24/7/365	Total Vol's
1-Engine	2	0	2		16

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The total headquarters staff is limited:

Fire Chief and Chief Officers	Support and Clerical Staff
1.5	.5

Response Times

Around the two central area fire stations, the District can deliver the EMS Agency emergency medical service response time goal of 11-minute response times, at 90 percent. This increases to about 60 percent of the District at the 15-minute, 90 percent goal point.

EMS Services

The District does not house an EMS JPA ambulance. Given its distance from the ambulances to the north and south of it, the District by Spring 2010 wants to operate a paramedic level engine from its main station, via its own funding in order to provide faster on-scene paramedic response than is now possible with a paramedic ambulance coming from outside of the District. At this time the EMS JPA is not financially supporting Districts staffing a fire engine with paramedics to supplement the existing EMS ambulances now being financed by the JPA. Currently first responder EMS is provided by District firefighters at the Emergency Medical Technician Basic level (EMT-B).

Station and Apparatus Replacement Needs

Stations – At this time, the District does not need to replace any stations. They are in good condition. Nor does the District see the need for additional stations.

Apparatus – The District operates a fleet of engines, water tenders and a rescue unit. In the near term, the District needs to replace three of its oldest engines.

4.5.3 Fiscal Assessment

Principal Sources of Funding

The Garden Valley Fire Protection District relies on four principal sources of funds for their operations and apparatus replacement needs. Property Taxes, County Funding and nonrecurring revenue comprise 99 percent of their funding. What is very obvious from the table below is that Strike Team and similar revenue is 64 percent of total revenue. The District serves as “contract provider” of an Incident Management Team, with revenue reimbursing not only the direct cost but also administration expenses. This gross revenue offsets expenses and serves to provide a net revenue of about \$225,000 in this small agency’s budget that helps support the overhead of the department, freeing up additional normal revenue for daily fire agency line operation expenses.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	Property Tax Revenue	Special Taxes and Assessments Revenue
Garden Valley	\$2,366,649	\$205,285	\$1,513,654	\$358,731	\$254,163

Current Reserve Level

For this past four fiscal years, District reserves have ranged between approximately \$525,000 and the current \$635,873. The stability of the reserves is largely a result of the District beginning to serve as a contract provider of “Incident Management Team” services to the NFS. The added annual net revenue has helped the District meet the impact of inflation on its budget.

Fire Services Agency	FY 08-09 Revenue	County Funding	FY 08-09 Expenditure	Restricted and Unrestricted Reserves
Garden Valley	\$2,366,649	\$205,285	\$2,238,076	\$625,873

Stability of Revenue Sources

Garden Valley FY 2008-09 revenue includes about \$1,150,000 in revenue associated with contracting out an Incident Management Team to the NFS. While this is an effective way for the District to earn a net revenue of about \$225,000, it is an unstable source of money because the annual amount is reliant upon demand for the service. When this net revenue is added to the annual County contribution, it represents about one-third of the \$1,300,000 in revenue needed to operate the daily line fire services to the residents of the District. The District reserves help provide some cushion against annual fluctuation, particularly in the Incident Management Team revenue and provides a reserve for current apparatus replacement needs.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	County and Non-Recurring Revenue as a Percent of Total Revenue
Garden Valley	\$2,366,649	\$205,285	\$1,513,654	73%

Headquarters and Line Operation Costs

The amount of budgeted funds (\$1,859,503) left in the Garden Valley budget after subtracting Headquarters expenses is not a true reflection of the cost of providing fire services directly to the District. Approximately \$925,000 or roughly half of the annual expenditures are actually to pay the salary and travel expenses of the Incident Management Team that the District provides under contract to the NFS.

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The real cost of line operations for District fire emergency services is about \$932,000. This results in a “normal” fire agency budget of \$1,300,000 which is consistent with the size of the Garden Valley Fire Protection District budget in the years prior to beginning the Incident Management Team contract service.

Headquarters Costs are relatively small and reflect funding only 1.5 Chief Officers and office support along with some added overhead expense associated with the Incident Management Team contract service. For the size of operation, the headquarters staffing is quite modest.

Fire Services Agency	Total FY 08-09 Expenditures	HQ Costs	Line Operations Costs
Garden Valley	\$2,238,076	\$378,573	\$1,859,503

Apparatus Funding Need Compared to Current Reserves

An important consideration of any fire district in the current economic climate is whether or not the reserves are adequate to serve as a buffer until economic recovery may begin to restore some growth to the property tax revenue. While Garden Valley has a reserve that is 27 percent of its total annual expenditures, it does also have immediate capital needs that the reserves are not adequate to fund.

The newest Type 1 fire engine operated by the District is 22 years old and well past the age normally requiring replacement for both safety and maintenance reasons. After reviewing the equipment, Citygate’s assessment is that at least three engines need to be replaced as soon as possible at a cost of about \$1,100,000. Since the reserves are obviously not adequate to fund this replacement, the District could pursue lease-purchase. But even that will be about \$130,000 per year in added cost to the annual budget and exhaust reserves in just 4 to 5 years, leaving no ability for the District to absorb a reduction in any of its nonrecurring revenue such as County contributions.

Fire Services Agency	Restricted and Unrestricted Reserves	Apparatus Replacement Need (0-5 yrs)	Additional Apparatus Replacement Need (5+ yrs)
Garden Valley	\$625,873	\$1,100,000	

Capacity to Levy Additional Taxes or Assessments

One alternative for the District to consider is to request the property owners/voters to approve either a special tax (with a two-thirds voter approval) or an assessment District (with majority property owner approval). The District already has a special assessment for fire purposes that combined with the EMS assessment results in an annual cost of \$131 on a single-family residence. Were the District to try to replace the County funding, the assessment would need to be an estimated additional \$105 annually per single-family dwelling unit. Replacing the net revenue from the Incident Management Team contract service would result in a further increase of about \$115 per year.

Fire Services Agency	Population	Number of Dwelling Units	County Funding	Current Fire and EMS Annual Tax and Assessment on Typical Single Family Home	Estimated Annual Tax/Assessment Increase per Dwelling Unit to Replace County Funding
Garden Valley	4,376	1,952	\$205,285	\$131	\$105

Impact of Reduced Funding

Were the District to lose some or all of its nonrecurring revenue, such as County funding and Incident Management Team revenue, the District has indicated that the following impacts would occur as a result of reducing its operating budget.

- ◆ Close Fire Station #52 (Kelsey) and Fire Station 53 (Greenwood) Volunteers currently assigned to those stations would have to respond to Station #51 (Garden Valley) thereby significantly increasing the amount of time for a unit to respond with volunteers
- ◆ Eliminate 1 full time career position (24 hour shift personnel) The Fire Chief could fill the shift position and work as a part time chief as needed while on shift only. Additional options could include having only one, 24-hour shift person on duty with daytime coverage provided by 40 a week personnel. This option would result in a significant delay in response for the hours not covered by the 40 hour employee and would force the District to reevaluate its abilities to provide assistance to neighboring departments and the State of California during major emergencies
- ◆ Eliminate all operational part time positions (2 assistant Chiefs) and eliminate volunteer response stipend.
- ◆ Cut all District training and unreimbursed travel to classes and conferences This will result in staff not being able to meet California firefighter, emergency medical service and fire officer certification Standards

Since 67 percent of Garden Valley’s line operations costs are salaries and benefits, Citygate concurs that a reduction in revenue of this magnitude would need to result in reducing the current 6 full time line positions as outlined by the District. It is Citygate’s assessment that the District’s budget reduction plan is a temporary measure and that within several years the District would need to restore some of the nonoperational budget cuts and then reduce daily staffing further. If volunteer participation increased correspondingly, some service level reduction might be avoided, but most Districts are in fact experiencing a decrease rather than an increase in the volunteer fire services work force.

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4.6 GEORGETOWN FPD

The Georgetown Fire Protection District was established August 12, 1937 as the successor to the Mountain Hook and Ladder Company, which had been in place since 1854. The District consists of 96 square miles in the far northwestern portion of El Dorado County. The department is the second oldest fire department in California. It has a rich history and tradition of volunteer operation. Because of this, its isolated geography on the Georgetown Divide and the way it is operated today being very supportive of volunteers, its volunteer operation is amazingly strong.

The District's topography is characterized by dense forest and mountainous, steep terrain.

The District's adjoining mutual aid partners are El Dorado County and Garden Valley Fire Protection Districts. Georgetown serves the communities of Georgetown, Greenwood, Quintette, and Volcanoville. Highway 193 and Wentworth Road are the District's major access corridors.

4.6.1 District Size and Development

The District's boundary encompasses approximately 96 square miles. For wildfire costs, half of the District is composed of State Responsibility Lands and the other half is Federal Responsibility area. As throughout California, local fire agencies are responsible for medical and structural fire incidents on land designated as State Responsibility and by default, within the Federal Response Area.

Most of the territories in Georgetown, Greenwood and Quintette are designated as Rural Centers in the 2004 El Dorado County General Plan. Land in the District consists primarily of residential uses, from a minimum of one quarter-acre on up to 40-acre parcels, with some commercial and industrial facilities. The District also has a small general aviation airport and three schools within its boundaries.

The population and development potential in the District are limited as reflected by the population and dwelling unit count.

Agency	Population	# of Dwelling Units
Georgetown	3,332	1,486

4.6.2 Deployment Assessment

Daily Minimum Apparatus and Staffing

The District operates five fire stations with a variety of fire apparatus including engines, an ambulance, wildland fire units, a breathing air support unit and a water tender. The minimum daily staffing provided to protect the area's risks is:

Minimum Daily Unit Count	Career	Paid Call/Vol	Total	If staff NOT 24/7/365	Total Vol's
1-Engine 1-Ambulance	4	0	4		38

The total headquarters staff is limited and incident command functions require the Chief to respond from home, or if unavailable, the station officer is in charge:

Fire Chief and Chief Officers	Support and Clerical Staff
1	1

Response Times

The District can meet the EMS Agency emergency medical service response time goal of 11-minutes, 90 percent of the time, close to three of its stations in the center of the District. At the 15-minute point about 40 percent of the District is covered. Improving this even with more staffing is problematic given the terrain and road network.

EMS Services

The District hosts one West Slope EMS JPA ambulance at Station 61.

Station and Apparatus Replacement Needs

Stations – At this time, the District needs to desperately replace its headquarters station due to seismic issues with the old brick building and inadequate space. For a modest station, this will cost the District between \$3,000,000 and \$4,000,000. One additional station, a 6th is desired, but not funded.

Apparatus – Georgetown has eight engines, one water-tender and one rescue vehicle. The oldest engine in Georgetown’s fleet is a 1982 E-One on a GMC chassis. The newest is a Boise Mobile Equipment build-up on an International chassis. The average age of the fleet is 18.7 years. None of the pre-1991 apparatus has had the NFPA 1901 safety upgrades.

4.6.3 Fiscal Assessment

Principal Sources of Funding

The Georgetown Fire Protection District relies on three principal sources of funds for their operations and apparatus replacement needs. Property Taxes, Special Assessments, County Funding and Nonrecurring Revenue comprise 74 percent of their funding. What is particularly notable is the very high proportion of Strike Team payments. Looking at the historical record, these revenues have varied significantly from year to year. And while they do represent a reimbursement that offsets expense, the actual revenue received does exceed the direct out of pocket costs to the District for providing Strike Team assistance.

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Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Nonrecurring Payments	Property Tax Revenue	Special Taxes and Assessments Revenue
Georgetown	\$1,294,174	\$36,240	\$418,221	\$424,625	\$78,643

Current Reserve Level

While District reserves have risen approximately \$250,000 over the past four years, based on their expenditure and revenue data, this is a modest amount in light of the fact that such a significant portion of their revenue is from Strike Team payments, which vary substantially from year to year.

Fire Services Agency	FY 08-09 Revenue	County Funding	FY 08-09 Expenditure	Restricted and Unrestricted Reserves
Georgetown	\$1,294,174	\$36,240	\$1,090,242	\$339,375

Stability of Revenue Sources

Unfortunately, like so many smaller fire districts, Georgetown relies upon unstable or one-time sources of revenue for much of their funding. While the year-to-year allocation of County funding does not represent a significant portion of their revenue, State Strike Team revenue is very important to them. Whenever the state asks a fire agency to supply personnel and fire apparatus resources for an emergency outside of the area, the state pays an amount in excess of the immediate out of pocket costs of the district. From year to year the amount of the State revenue depends upon whether they are asked to assist the State at a fire outside of their area. 35 percent of Georgetown’s revenue is from potentially nonrecurring sources.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Nonrecurring Payments	County and Non Recurring Revenue as a Percent of Total Revenue
Georgetown	\$1,294,174	\$36,240	\$418,221	35%

Headquarters and Line Operation Costs

A principal portion of Georgetown costs are directly the result of daily Line Operations as reflected in the table below. While Headquarters Costs are not insignificant, the dollar amount does not reflect the fact that the Headquarters consists of only a Fire Chief and office support. The Fire Chief, as the only chief officer, responds to supplement the line staff. A Chief Officer is a necessary on-scene component of larger scale incidents such as a multiple injury accident or a

house fire. The percentage allocation of costs to the Headquarters function is consistent with that of other fire agencies in El Dorado County.

Fire Services Agency	Total FY 08-09 Expenditures	HQ Costs	Line Operations Costs
Georgetown	\$1,090,242	\$250,511	\$839,731

Apparatus Funding Need Compared to Current Reserves

In light of the relatively high amount of nonrecurring revenue that supports the Georgetown fire services, their reserves serve as a buffer to periodic downturns in that revenue source. But the District must also be concerned about being able to afford to replace aging fire apparatus. As the table below reflects, the District needs to replace approximately \$2,000,000 in fire apparatus in the next five years. Of their 8 fire engines, 5 are more than 22 years old, one is 14 years old and two were purchased within the past five years. While this investment could be handled through lease-purchase financing, even that method would add approximately \$250,000 per year in payments. This obviously would consume the District’s reserve in less than two years.

Fire Services Agency	Restricted and Unrestricted Reserves	Apparatus Replacement Need (0-5 yrs)	Additional Apparatus Replacement Need (5+ yrs)
Georgetown	\$339,375		\$2,000,000

Capacity to Levy Additional Taxes or Assessments

As the District faces the issues of possibly losing County funding, other nonrecurring revenue, and financing apparatus replacement, one alternative is to request the property owners/voters to approve either a special tax (with a two-thirds voter approval) or an assessment District (with majority property owner approval). For illustration purposes, below is a table reflecting that it would require an annual assessment of approximately \$24 per dwelling unit to replace the current County funding. If this were expanded to include replacement of older fire apparatus an additional \$168 annual assessment would be required.

Fire Services Agency	Population	Number of Dwelling Units	County Funding	Current Fire and EMS Annual Tax and Assessment on Typical Single Family Home	Estimated Annual Tax/Assessment Increase per Dwelling Unit to Replace County Funding
Georgetown	3,332	1,486	\$36,240	\$109	\$24

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Impact of Reduced Funding

Were the District to lose some or its entire County funding, the District has indicated that this would result in elimination of the seasonal fire fighter program that provides extra resources during the fire season.

While County funding only represents about 3 percent of total District expenditures, and while current reserves might permit the District to absorb this impact for several years, Citygate believes that not adjusting the budget downward to reflect this new reality would be imprudent for the District. Line operation salaries and benefits represent about 75 percent of line operation costs, leaving little room for the District to absorb even a small revenue reduction without then making an adjustment in personnel costs by reducing the number of personnel. Alternatives to this action include short-term reduction in maintenance and small equipment replacement that eventually has to be made up if a safe operation is to be continued.

4.7 LATROBE FPD

The Latrobe Fire Protection District, established April 1, 1982, is located in the southwestern corner of El Dorado County, serving the greater community of Latrobe. The district is bounded on the west by Sacramento Metropolitan FPD, on the northwest by El Dorado Hills CWD, on the north by El Dorado County FPD, on the southeast/east by Diamond Springs/El Dorado FPD, and on the south by Amador County FPD. Major access roads/inhabited corridors include Latrobe Road and South Shingle Road.

4.7.1 District Size and Development

The District's boundary encompasses approximately 36 square miles or 23,000 acres. The entire District is designated as a State Responsibility Area for wildfires with no Local Responsibility Area. As throughout California, local fire agencies are responsible for medical and structural fire incidents on land designated as State Responsibility and by default, within the Federal Response Area.

Approximately 70 percent of the District's territory is agricultural and 30 percent is residential. Residential lands are clustered into eight main areas. There are no commercial or industrial lands and there is one small winery. The population and development potential in the District are limited as reflected by the population and dwelling unit count.

Agency	Population	# of Dwelling Units
Latrobe	901	402

4.7.2 Deployment Assessment

Daily Minimum Apparatus and Staffing

The District operates two stations with a variety of fire apparatus including engines, wildland fire units and a water tender. The minimum daily staffing provided to protect the area's risks is:

Minimum Daily Unit Count	Career	Paid Call/Vol	Total	If staff NOT 24/7/365	Total Vol's
2-Engines	0	5	5	1-Engine @ 10-hrs/day	7

The total headquarters staff is limited:

Fire Chief and Chief Officers	Support and Clerical Staff
.33	.25

Response Times

Only the areas close to the El Dorado Hills District and that are close to the two stations receive 11-minute coverage at the 90 percent point. The coverage is better at the 15-minutes 90 percent point, but not more than half of the District. This is due to not only geography, but also the lag time to get volunteers to the station and then the incident.

EMS Services

The District does not have an ambulance stationed in it, nor does it operate a paramedic level engine company. First Responder medical services are provided at the Emergency Medical Technician Basic level (EMT-B).

Station and Apparatus Replacement Needs

Stations – At this time, the District does not need to replace any stations. They are in good condition nor does the District see the need for additional stations.

Apparatus – Latrobe operates engines, a water tender and a rescue vehicle. The oldest engine is 33 years old (1976) and the newest is 14 years old (1995). The average age of this fleet is 25 years. None of these apparatus have been upgraded to meet 1991 edition of NFPA 1901.

4.7.3 Fiscal Assessment

Principal Sources of Funding

The Latrobe Fire Protection District relies on four principal sources of funds for their modest operations and apparatus replacement needs. Property Taxes, County Funding, Grant Revenue and Assessment revenue. These comprise 98 percent of their funding.

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Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	Property Tax Revenue	Special Taxes and Assessments Revenue
Latrobe	\$372,733	\$168,978	\$54,859	\$111,794	\$30,046

Current Reserve Level

Over the past four fiscal years, the District's reserves have remained in the range of \$230,000 to the present \$259,476. The District has been able to control their costs and maintain their reserves largely because they do not have full time employees, but rely on volunteers and part-time paid call firefighters.

Fire Services Agency	FY 08-09 Revenue	County Funding	FY 08-09 Expenditure	Restricted and Unrestricted Reserves
Latrobe	\$372,733	\$168,978	\$334,103	\$259,476

Stability of Revenue Sources

With 45 percent of its revenue coming from the County and another 15 percent of last year's revenue coming from a grant, Latrobe relies upon unstable or one time sources of revenue for much of their funding. With such small budget, the District is dependent upon unstable revenue sources for its year-to-year ability to remain in operation.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	County and Non Recurring Revenue as a Percent of Total Revenue
Latrobe	\$372,733	\$168,978	\$54,859	60%

Headquarters and Line Operation Costs

Since Latrobe has no full time employees, the greatest portion of its costs are directly the result of daily Line Operations as reflected in the table below. Headquarters Costs are insignificant, and represent only necessary expenses not directly associated with daily operations, such as insurance etc. Of the line operation costs in FY 2008-09, \$102,500 was purchase of water tender. Another approximately \$160,000 represents labor costs associated with volunteers and paid call fire fighters.

Fire Services Agency	Total FY 08-09 Expenditures	HQ Costs	Line Operations Costs
Latrobe	\$334,103	\$35,300	\$298,803

Apparatus Funding Need Compared to Current Reserves

An important concern of any Fire District is their capacity to fund equipment replacement. While some replacement can be done with grants, the availability of this funding is not assured. For Latrobe, their immediate need to replace three fire engines due to the age of their apparatus is too great to reasonably expect grant funding to cover all of the cost for such a small budget fire agency.

While the District’s \$259,476 in reserves is clearly not adequate to fund the equipment replacement with cash, it is also not adequate to fund it on a lease purchase basis. The total of their reserves would be gone after just two years of lease purchase payments on the needed fire engines, the newest of which is 25 years old.

Fire Services Agency	Restricted and Unrestricted Reserves	Apparatus Replacement Need (0-5 yrs)	Additional Apparatus Replacement Need (5+ yrs)
Latrobe	\$259,476	\$1,100,000	

Capacity to Levy Additional Taxes or Assessments

One alternative for the District to consider is to request the property owners/voters to approve either a special tax (with a two-thirds voter approval) or an assessment District (with majority property owner approval). For illustration purposes, below is a table reflecting that it would require an annual assessment of approximately \$420 per dwelling unit to replace the current County funding. An additional \$152 per year would be required to fund lease purchase of the needed new fire apparatus.

Fire Services Agency	Population	Number of Dwelling Units	County Funding	Current Fire and EMS Annual Tax and Assessment on Typical Single Family Home	Estimated Annual Tax/Assessment Increase per Dwelling Unit to Replace County Funding
Latrobe	901	402	\$168,978	\$80	\$420

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Impact of Reduced Funding

Were the District to lose some or all of its County funding, the District has indicated that it would cease or severely limit operation. Sixty percent of their calls are mutual or automatic aid outside of their district. They are going to have to take a very close look at those responses and whether they can continue. If they have to drop out of the mutual aid business this could have a big impact on them receiving aid primarily from El Dorado County Fire Department and Amador County Consolidated Fire.

Citygate has reviewed their budget and operations and concurs that there would be insufficient revenue to maintain equipment, facilities and make required workers compensation and insurance payments if District revenue were reduced very much below the current level.

4.8 MOSQUITO FPD

Mosquito Fire Protection District, established January 1978, serves the communities of Mosquito and Swansboro Country. Mosquito's closest mutual aid partners are the Garden Valley and El Dorado County Fire Districts.

Major access roads/inhabited corridors to the district are limited with only Mosquito Road (via Highway 50) and Rock Creek Road (via Highway 193) leading in and out of the area. Mosquito Road becomes a dirt road on Forrest Service land and provides limited access to the Georgetown FPD; this road is considered mostly to be an emergency evacuation route.

4.8.1 District Size and Development

The District's boundary encompasses approximately 13 square miles. Swansboro Country is located in a wildland urban interface area in the east portion of the district and considered a major risk area. Most of the District's land is in Federal or State Responsibility area for wildfire protection. There are no local responsibility acres in the District. As throughout California, local fire agencies are responsible for medical and structural fire incidents on land designated as State Responsibility and by default, within the Federal Response Area.

Land uses in the District consist primarily of agricultural and residential uses. Residential, single family homes on a minimum parcel size of two acres are concentrated on the east side of the district. The District is currently 58 percent built out and has averaged 12 new homes per year over the past ten years.

Agency	Population	# of Dwelling Units
Mosquito	1,235	551

4.8.2 Deployment Assessment

Daily Minimum Apparatus and Staffing

The District operates one station with a very small quantity of fire apparatus including 4 engines and 3 water tenders. The minimum daily staffing provided to protect the area's risks is:

Minimum Daily Unit Count	Career	Paid Call/Vol	Total	If staff NOT 24/7/365	Total Vol's
1-Engine	2	0	2	Engine @ 10-hrs/day	22

The total headquarters staff is limited:

Fire Chief and Chief Officers	Support and Clerical Staff
.3	.7

Response Times

Due to the rugged terrain and limited road network only approximately the square mile around the fire station receives 11-minute at 90 percent coverage in alignment with the EMS JPA goal. By the 15th minute, 90 percent measure about 7 square miles are covered.

EMS Services

The District does not house an EMS JPA ambulance. For first responder medical care, the District firefighters are trained to the EMT-Basic Level.

Station and Apparatus Replacement Needs

Station – At this time, the District does not need to replace its station. It is in good condition nor does the District see the need for additional stations.

Apparatus – Mosquito operates a smaller, but very important fire apparatus fleet. Of the four fire engines in the District fleet, two are more than 17 years old. And of the three Water Tenders, two are over 23 years old. All of these are older than recommended replacement ages and more recent safety standards.

4.8.3 Fiscal Assessment

Principal Sources of Funding

The Mosquito Fire Protection District relies on four principal sources of funds for their operations and apparatus replacement needs. Property Taxes, County Funding, Non-recurring Revenue and Assessment revenue comprises 86 percent of their funding.

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Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	Property Tax Revenue	Special Taxes and Assessments Revenue
Mosquito	\$517,418	\$35,047	\$95,000	\$137,777	\$180,800

Current Reserve Level

Over the past four years, the District's total revenue has just about equaled their total four year expenditure total, and so the current reserve level of \$129,714 is fairly representative of the District's past. This is principally due to the fact that the District has done a very good job of staying within their available resources and the District revenue sources have risen as the expenses have risen. Nevertheless, the total of the reserves is quite modest.

Fire Services Agency	FY 08-09 Revenue	County Funding	FY 08-09 Expenditure	Restricted and Unrestricted Reserves
Mosquito	\$517,418	\$35,047	\$424,358	\$129,714

Stability of Revenue Sources

With 25 percent of its very small budget dependent upon County revenue and Strike Team reimbursements, the District is functioning with an unstable revenue base. From year to year the availability of County funding is a decision by the Board of Supervisors and the amount of the State revenue depends upon whether they are asked to assist the State at a fire outside of their area. *The importance of this instability for the District illustrated in the discussion below.*

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	County and Non-Recurring Revenue as a Percent of Total Revenue
Mosquito	\$517,418	\$35,047	\$95,000	25%

Headquarters and Line Operation Costs

Like many very small rural Districts, that are principally staffed by volunteers, the Fire Chief spends a large portion of time in line operations. And so the allocation of costs in the table below does not accurately reflect the real division of cost and labor between headquarters and line operations. This also draws attention to the fact that any reduction in revenue will result in a reduction in line operations. This makes the District's reliance on County and nonrecurring revenue sources particularly worrisome. The District only has two full time paid fire personnel in addition to the Fire Chief.

Fire Services Agency	Total FY 08-09 Expenditures	HQ Costs	Line Operations Costs
Mosquito	\$424,358	\$89,861	\$334,497

Apparatus Funding Need Compared to Current Reserves

The District’s very small reserves are neither enough to cushion it against loss of revenue but wholly inadequate for their equipment replacement needs. While the condition of the fire apparatus fleet is adequate for the next few years, they do need to replace at least one fire engine during the next five years. Of the four fire engines in the District fleet, two are more than 17 years old. And of the three Water Tenders, two are over 23 years old.

The District’s fiscal dilemma is that they have neither the reserves to fund equipment replacement nor the capacity to make lease-purchase payments. Lease purchase on a \$400,000 fire engine will be approximately \$50,000 per year.

Fire Services Agency	Restricted and Unrestricted Reserves	Apparatus Replacement Need (0-5 yrs)	Additional Apparatus Replacement Need (5+ yrs)
Mosquito	\$129,714		\$400,000

Capacity to Levy Additional Taxes or Assessments

One alternative for the District to consider, if they lose revenue or need to finance equipment replacement, is to request the property owners/voters to approve either a special tax (with a two-thirds voter approval) or an assessment District (with majority property owner approval). The District already has assessments that cost the typical single family dwelling unit \$229 per year. For illustration purposes, below is a table reflecting that it would require an annual assessment of approximately \$64 per dwelling unit to replace the current County funding. Were the District to try to replace both the County funding and to cover of replacing a fire engine, an additional assessment of \$90 per year would be required.

Fire Services Agency	Population	Number of Dwelling Units	County Funding	Current Fire and EMS Annual Tax and Assessment on Typical Single Family Home	Estimated Annual Tax/Assessment Increase per Dwelling Unit to Replace County Funding
Mosquito	1235	551	\$35,047	\$229	\$64

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Impact of Reduced Funding

Were the District to lose some or all of its non-recurring revenue, such as County funding and Strike Team revenue, the District has indicated that the first impact would have to be ceasing its lease-purchase payments on the recently acquired fire engine. The only remaining areas for reduction after that would be line personnel. Citygate concurs that this would be a logical progression of reductions. The District would then be almost wholly reliant on volunteers and likely unable to get lease-purchase financing any time soon to replace other equipment.

4.9 PIONEER FPD

Pioneer Fire Protection District, established December 30, 1980, is located in the south central portion of El Dorado County and includes the communities of Grizzly Flat, Somerset, Outingdale, Fair Play, Mt. Aukum, and Omo Ranch. Pioneer also provides mutual aid service to River Pines in Amador County. Major access roads/inhabited corridors include Highway 16/Mt. Aukum Road, Sand Ridge Road, and Grizzly Flats Road.

4.9.1 District Size and Development

The District's boundary encompasses approximately 296 square miles or 189,000 acres, including approximately 96,920 acres that are within the Eldorado National Forest. The National Forest lands are in a Federal Response Area and the remaining territory is designated as a State Responsibility Area with no Local Responsibility Area. As throughout California, local fire agencies are responsible for medical and structural fire incidents on land designated as State Responsibility and by default, within the Federal Response Area.

The majority of private land use is agricultural. The remaining private land includes residential parcels, commercial parcels, and undeveloped land. The District also contains at least 30 wineries, 4 schools and 2 churches. The population and development potential in the District are limited as reflected by the population and dwelling unit count.

Agency	Population	# of Dwelling Units
Pioneer	7,000	2,783

4.9.2 Deployment Assessment

Daily Minimum Apparatus and Staffing

The District operates six stations with a variety of fire apparatus including engines, wildland fire units and a water tender. The minimum daily staffing provided to protect the area's risks is:

Minimum Daily Unit Count	Career	Paid Call/Vol	Total	If staff NOT 24/7/365	Total Vol's
2-Engines	2	2	4		20

At least one of the two firefighters on-duty is a paramedic; this is a new program, not supported by the West Slope EMS JPA.

The total headquarters staff is limited.

Fire Chief and Chief Officers	Support and Clerical Staff
1	2.2

Response Times

The District provides a response time of 11-minutes in those areas close to the station. The western half of the District sees many calls for service answered within a rural response time of 15-minutes, 90 percent of the time. Outer areas of the District receive longer response times given the volunteer staffing, limited road network and topography.

EMS Services

There is not a West Slope EMS JPA ambulance stationed in the District. The District meets the West Slope EMS goal time of 11-minutes 90 percent of the time closest to the one station only because they have a paramedic on the responding engine.

Station and Apparatus Replacement Needs

Stations – At this time, the District does not need to replace any stations. They are in good condition nor does the District see the need for additional stations.

Apparatus – Pioneer has three engines (two “type 1” engines and one “type 3” engine), one water-tender and two brush patrols (squads). The oldest engine is 22 years old (1987) and the newest is five years old (2004). The average age of this fleet is 13 years. Several of the apparatus do need to be replaced in the next five years.

4.9.3 Fiscal Assessment

Principal Sources of Funding

The Pioneer Fire Protection District relies on three principal sources of funds for their operations and apparatus replacement needs. Property Taxes, County Funding and Non-recurring Revenue comprise 90 percent of their funding.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	Property Tax Revenue	Special Taxes and Assessments Revenue
Pioneer	\$1,155,646	\$279,047	\$128,180	\$638,136	\$0

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Current Reserve Level

For this past Fiscal Year 2008-09, the District's reserves declined approximately 13 percent or \$59,189 to the current \$387,978. If County Funding remains in place and expenditures increase at approximately the rate of inflation, operational expenses will use all of the District's reserves in about four years.

Fire Services Agency	FY 08-09 Revenue	County Funding	FY 08-09 Expenditure	Restricted and Unrestricted Reserves
Pioneer	\$1,155,646	\$279,047	\$1,214,835	\$387,978

Stability of Revenue Sources

Unfortunately, like so many smaller fire Districts, Pioneer relies upon unstable or one time sources of revenue for much of their funding. Not only does the year-to-year allocation of County funding represent a significant portion of their revenue, but also State Strike Team revenue is important to them. Whenever the state asks a fire agency to supply personnel and fire apparatus resources for an emergency outside of the area, the state pays an amount in excess of the immediate out of pocket costs of the District. From year to year the amount of the State revenue depends upon whether they are asked to assist the State at a fire outside of their area. Thirty-six percent of Pioneer's revenue is from potentially nonrecurring sources.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	County and Non Recurring Revenue as a Percent of Total Revenue
Pioneer	\$1,155,646	\$279,047	\$136,494	36%

Headquarters and Line Operation Costs

A principal portion of Pioneer's costs are directly the result of daily Line Operations as reflected in the table below. While Headquarters Costs are not insignificant, the dollar amount does not reflect the fact that the Headquarters consists of only a Fire Chief and office support. The Fire Chief, as the only chief officer, responds to supplement the line staff. A Chief Officer, as discussed in the deployment section of this report, is a necessary on-scene component of larger scale incidents such as a multiple injury accident or a house fire. The percentage allocation of costs to the Headquarters function is consistent with that of other fire agencies in El Dorado County.

Fire Services Agency	Total FY 08-09 Expenditures	HQ Costs	Line Operations Costs
Pioneer	\$1,214,835	\$204,287	\$1,010,548

Apparatus Funding Need Compared to Current Reserves

An important consideration of any fire District in the current economic climate is whether or not the reserves are adequate to serve as a buffer until economic recovery may begin to restore some growth to the property tax revenue. Not only have Pioneer’s reserves declined in the past year, but a review of their apparatus reflects that they will need to expend approximately \$700,000 in the next five years to replace existing fire engines. Even if the District were to finance this acquisition under lease-purchase arrangements, it would increase the annual deficit between their current expenditures and revenue to over \$100,000. Under current expenditure and revenue patterns in the District, there will not be either the reserves or the room in the annual expenditures to support even lease-purchase replacement of fire apparatus.

Fire Services Agency	Restricted and Unrestricted Reserves	Apparatus Replacement Need (0-5 yrs)	Additional Apparatus Replacement Need (5+ yrs)
Pioneer	\$387,978		\$700,000

Capacity to Levy Additional Taxes or Assessments

One alternative for the District to consider is to request the property owners/voters to approve either a special tax (with a two-thirds voter approval) or an assessment District (with majority property owner approval). The District has already attempted twice to obtain passage of an additional revenue measure unsuccessfully. If the District were to try again, for illustration purposes, below is a table reflecting that it would require an annual assessment of approximately \$100 per dwelling unit to replace the current County funding. Were the District to try to replace both the County funding and to cover their current annual deficit between revenue and expenditures, the assessment would need to be over \$150 annually per single-family dwelling unit.

Fire Services Agency	Population	Number of Dwelling Units	County Funding	Current Fire and EMS Annual Tax and Assessment on Typical Single Family Home	Estimated Annual Tax/Assessment Increase per Dwelling Unit to Replace County Funding
Pioneer	7,000	2,783	\$279,047	\$25	\$100

Impact of Reduced Funding

Were the District to lose some or all of its non-recurring revenue, such as County funding and Strike Team revenue, the District has indicated that the following impacts would occur as a result of reducing its operating budget by up to one-third.

- ◆ Station-31 (Willows Area) would close, increasing response times.

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- ◆ Station-38 staffing would be cut by 50 percent.

With these reductions the District anticipates that

- ◆ Mutual-Aid/Automatic Aid to neighboring fire agencies and communities would be limited
- ◆ Fleet Maintenance, replacement for Personal Protective Equipment and training expenses would be reduced.

Since 75 percent of Pioneer's line operations costs are salaries and benefits, Citygate concurs that a reduction in revenue of this magnitude would need to result in reducing the current 7 full time line positions down to 4. Unless volunteer participation increased correspondingly, some station reduced staffing would occur and station closure could be avoided only with the increased participation of volunteers.

4.10 RESCUE FPD

The Rescue Fire Protection District was established December 1974 and serves Rescue, including the areas of Kanaka Valley, Gold Hill, Luneman, Jergens, Arrowbee and Starbuck Road. Being in the middle of the West Slope, Rescue is surrounded by other fire departments and participates in automatic aid response with all of them. Major access roads/inhabited corridors include Green Valley Road, Deer Valley Road, Lotus Road Starbuck Road, Springvale Road, Luneman Road, and Kanaka Road.

4.10.1 District Size and Development

The entire District is designated as a State Responsibility Area with no Local Responsibility Area. Approximately 2,365 dwelling units are served. As throughout California, local fire agencies are responsible for medical and structural fire incidents on land designated as State Responsibility and by default, within the Federal Response Area.

Land uses are principally developed and undeveloped large lot residential estates on 5-10 acre parcels. Agriculture uses in the District include commercial operations of vineyard/winery, olive and olive oil, lavender and cattle/grazing. An area to the east of the District contains developed and vacant parcels zoned industrial, including a commercial firewood business and a commercial storage facility. Four schools are included in the district as well as many churches.

The District's highest growth area is the southwest portion of the District, which adjoins the communities of El Dorado Hills and Cameron Park. In the 2004 Facilities Improvement Plan Report, RES noted a 6.5 percent growth rate, which was higher than El Dorado County as a whole. Presumably this growth rate is due to the District's proximity to El Dorado Hills and Cameron Park. Population was expected to increase by approximately 1,900 persons by 2010. In the current economic climate, a far more modest growth rate seems more reasonable. The Housing Element of the County General Plan forecasts an aggregate growth rate on the Western Slope of 2.3 - 1.6 percent over the next 15 years.

Agency	Population	# of Dwelling Units
Rescue	5,302	2,365

4.10.2 Deployment Assessment

Daily Minimum Apparatus and Staffing

The District operates two stations with a variety of fire apparatus including engines, wildland fire units and a water tender. The minimum daily staffing provided to protect the area’s risks is:

Minimum Daily Unit Count	Career	Paid Call/Vol	Total	If staff NOT 24/7/365	Total Vol's
2-Engines 1-Water Tender	2	0	2	3rd F/F in summer	21

The total headquarters staff is limited. The Fire Chief not only manages the department, but has to provide day to day incident command and daily supervision.

Fire Chief and Chief Officers	Support and Clerical Staff
1	1

Response Times

In about a third of the District closer to the two fire stations, the District can deliver the EMS Agency emergency medical service response time goal of 11-minute response coverage, at the 90 percent point. About two-thirds of the District is covered at the 15-minute, 90 percent of the time point. Given two stations and the road network, a 3rd station would be necessary to improve response time coverage at the 11-minute.

EMS Services

The District does not house a JPA ambulance, nor does it operate paramedic level engines. First Responder medical services are provided at the Emergency Medical Technician Basic level (EMT-B).

Station and Apparatus Replacement Needs

Stations – At this time, the District does not need to replace any stations. They are in good condition. If growth were to substantially exceed the projections for the Western Slope, the District might need to site a 3rd fire station.

Apparatus – Rescue maintains a type one engine that is 2 years old, a type 3 engine also 2 years old and a water tender that is 14 years old. The oldest apparatus is housed at their Lotus Road station. These are a 21 year old type 1 engine, a 9 year old type 3 engine and a 23 year old squad. Rescue has an established apparatus replacement program with the oldest scheduled for 2010/2011.

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4.10.3 Fiscal Assessment

Principal Sources of Funding

The Rescue Fire Protection District relies on four principal sources of funds for their operations and apparatus replacement needs. Property Taxes, Special Taxes and Assessments, County Funding and Non-recurring Revenue comprise 98 percent of their funding.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	Property Tax Revenue	Special Taxes and Assessments Revenue
Rescue	\$1,982,293	\$202,351	\$526,045	\$890,829	\$336,775

Current Reserve Level

For the past four fiscal years the District’s reserves have remained fairly steady, increasing a total of about \$100,000 since Fiscal Year 2005-06. This stability in reserve levels is in spite of the fact that expenditure totals and revenue have fluctuated as a result of one-time expenditures, many of which were funded with non-recurring grants and strike team reimbursements that traditionally more than offset direct strike team expenses.

Fire Services Agency	FY 08-09 Revenue	County Funding	FY 08-09 Expenditure	Restricted and Unrestricted Reserves
Rescue	\$1,982,293	\$202,351	\$1,811,054	\$1,198,125

Stability of Revenue Sources

Unfortunately, like so many smaller fire Districts, Rescue relies upon unstable or one time sources of revenue for much of their funding. Not only does the year-to-year allocation of County funding represent 10 percent of their FY 2008-09 revenue, but also it represents almost 14 percent of their operating revenue if Strike Team and other Non-Recurring revenue are excluded. Collectively, over one-third of the Rescue Fire Protection District’s revenue is from the County and other year-to-year sources.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	County and Non Recurring Revenue as a Percent of Total Revenue
Rescue	\$1,982,293	\$202,351	\$526,045	37%

Headquarters and Line Operation Costs

A principal portion of Rescue’s costs are directly the result of daily Line Operations as reflected in the table below. Headquarters Costs, as a percent of total costs, are somewhat less than most other fire agencies in the County and reflects the fact that the Headquarters consists of only a Fire Chief and office support. The Fire Chief, as the only chief officer, responds to supplement the line staff. A Chief Officer, as discussed in the deployment section of this report, is a necessary on-scene component of larger scale incidents such as a multiple injury accident or a house fire. While the District is placing greater emphasis on funding line operations, the absence of a more robust headquarters support function does usually affect the adequacy of training, incident command, maintenance and similar activities important for the long term quality and effectiveness of a fire department.

Fire Services Agency	Total FY 08-09 Expenditures	HQ Costs	Line Operations Costs
Rescue	\$1,811,054	\$256,981	\$1,554,073

Apparatus Funding Need Compared to Current Reserves

An important consideration of any fire district in the current economic climate is whether or not the reserves are adequate to serve as a buffer until economic recovery may begin to restore some growth to the property tax revenue. While the District does have some fiscal room to absorb a short term revenue loss such as receiving little or no Strike Team revenue, the reserves also serve as a source of funding for replacement of fire engines.

While Rescue’s fire apparatus fleet is overall newer than that of many El Dorado County fire agencies, the District still needs to replace one fire engine sometime during the next five years at an estimated cost of \$400,000. The reserves, then, represent a source of funding for either cash or lease-purchase payments. This replacement is currently scheduled by the District.

Fire Services Agency	Restricted and Unrestricted Reserves	Apparatus Replacement Need (0-5 yrs)	Additional Apparatus Replacement Need (5+ yrs)
Rescue	\$1,198,125		\$400,000

Capacity to Levy Additional Taxes or Assessments

If the District encounters the loss of one or more of its nonrecurring sources of revenue, one alternative for the District to consider is to request the property owners/voters to approve an additional supplemental revenue measure: either a special tax (with a two-thirds voter approval) or an assessment District (with majority property owner approval). A single family dwelling unit in the District already pays a \$155 per year charge for Fire and EMS services. If the District were to increase this, for illustration purposes, below is a table reflecting that it would require an annual assessment of approximately \$86 more per dwelling unit to replace the current County funding.

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Fire Services Agency	Population	Number of Dwelling Units	County Funding	Current Fire and EMS Annual Tax and Assessment on Typical Single Family Home	Estimated Annual Tax/Assessment Increase per Dwelling Unit to Replace County Funding
Rescue	5,302	2,365	\$202,351	\$155	\$86

Impact of Reduced Funding

Were the District to lose some or all of its non-recurring revenue, such as County funding and Strike Team revenue, the District has indicated that the following impacts would occur as a result of reducing its operating budget.

In addition to not filling the current vacancy, Rescue anticipates eventually reducing staffing by 3 FTE. “Fire season” staffing will go from 3/0 to 2/0. To maintain a basic level of service, they may use reserves to help fund essentials, which is estimated to last about 5 years. They plan to defund their Capital Improvement account and move it to operational use.

Since 71 percent of Rescue’s line operations costs are salaries and benefits, Citygate concurs that a reduction in revenue of \$200,000 would need to result in reducing the current number of line positions by at least 3 full time positions. Further loss in revenue would result in a further reduction in full time positions and a greater reliance on volunteers. But unless volunteer participation and the availability of part-time on-call firefighters increased correspondingly, there would be a noticeable reduction in response time and the number of personnel who could reach an emergency site in sufficient time to keep a modest emergency from escalating.

LAKE TAHOE BASIN AGENCIES – THOSE THAT DID NOT RECEIVE COUNTY ASSISTANCE

4.11 LAKE VALLEY FPD

The Lake Valley Fire Protection District is a recognized fire district that was formed in 1947 to provide fire protection along the south shore of Lake Tahoe, California. The District’s area is approximately 83 square miles. Mutual Aid responsibilities cover the City of South Lake Tahoe, and portions of Alpine and El Dorado counties.

4.11.1 District Size and Development

The District serves multiple distinct communities including the Emerald Bay/Cascade Lake area, Echo Summit, Christmas Valley, Meyers, Phillips, Sawmill and Pioneer, North Upper Truckee, Heavenly Valley, Phillips, Twin Bridges and Spring Creek (near Cascade Lake).

Most of the District’s land is in the National Forest. Another large section is deemed State Responsibility Area for wildfire and only approximately 48 acres are deemed local responsibility area. As throughout California, local fire agencies are responsible for medical and structural fire incidents on land designated as State Responsibility and by default, within the Federal Response Area.

The majority of the private land use is residential. The growth potential is very constrained due to regional Lake Tahoe Basin growth management policy.

Agency	Population	# of Dwelling Units
Lake Valley	13,687	6,105

4.11.2 Deployment Assessment

Daily Minimum Apparatus and Staffing

The District operates three fire stations with a variety of fire apparatus including engines, an ambulance and specialty units. The minimum daily staffing provided to protect the area’s risks is:

Minimum Daily Unit Count	Career	Paid Call/Vol	Total	If staff NOT 24/7/365	Total Vol's
3-Engines 1-Ambulance	6	1	7		25

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The total headquarters staff is appropriate for a fire district of this size and programs:

Fire Chief and Chief Officers	Support and Clerical Staff
5	1

Response Times

The District can meet the EMS response time goal of 11-minutes, 90 percent of the time around two of its three stations. Due to terrain and the limited road network and one station with volunteer staffing, this is difficult to cost-effectively improve upon. By the 15-minute, 90 percent measure substantially more of the District is reached but not all of the outer, sparsely developed areas.

EMS Services

Lake Valley operates one paramedic ambulance as part of the EMS JPA agreement. Three full time fire paramedic positions are funded by the Tahoe Basin EMS JPA. Firefighters on engines can deliver basic medical services.

Station and Apparatus Replacement Needs

At this time, the District does not need to replace any stations. Over the long term the District wants to add a 4th fire station.

Apparatus – The District operates a modest fleet of three engines and an ambulance and has been able to maintain up-to-date number of fire engines

4.11.3 Fiscal Assessment

Principal Sources of Funding

The Lake Valley Fire Protection District relies on three principal sources of funds for their operations and apparatus replacement needs. Property Taxes, Strike Team and Grant revenue, EMS related revenue. Strike Team revenue is \$436,394 of Non-Recurring revenue while the balance is from grants. This is a significant fiscal issue for the District.

Fire Services Agency	FY 08-09 Revenue	County Funding	Property Tax Revenue	Strike Team and Similar Non-Recurring Payments	EMS Related Revenue	Special Taxes and Assessments Revenue
Lake Valley	\$5,636,090	\$0	\$3,571,594	\$1,256,130	\$563,662	\$6,750*

*The assessments are development impact fees levied on new construction only.

Current Reserve Level

For this past Fiscal Year 2008-09, the District's reserves were about \$700,000 higher than they had been four years earlier. This is largely the result of the last two years in which revenue exceeded expenditures by about 6 to 8 percent.

Fire Services Agency	FY 08-09 Revenue	County Funding	FY 08-09 Expenditure	Restricted and Unrestricted Reserves
Lake Valley	\$5,636,090	\$0	\$5,371,095	\$2,096,011

Stability of Revenue Sources

With about two-thirds of its revenue coming from property taxes and another 10 percent from EMS related revenue, the Lake Valley FPD has fairly stable sources of revenue. Nevertheless, the nonrecurring sources of revenue, in the table below, represent 22 percent of total revenue. The loss of some or all of this Grant and Strike Team revenue would require the District to make difficult choices regarding ceasing some grant funded activities, postponing equipment purchases or using reserves for a short period of time. Like so many other fire districts, Lake Valley operates fiscally on a year-to-year basis, which makes long term planning difficult.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	Non Recurring Revenue as a Percent of Total Revenue
Lake Valley	\$5,636,090	\$0	\$1,256,130	22%

Headquarters and Line Operation Costs

Lake Valley, like its neighboring agency, operates with what Citygate calls, the 5 Chief model. With 5 Chief Officers, the District is able through its Headquarters unit to provide day to day supervision and incident command with a Battalion Chief assigned to each of the three shifts. The remaining two Chief Officers can then be responsible for the Fire Chief function, fire marshal activities, and the support and administration that needs the continuity of being there during business hours Monday through Friday. Additionally they can substitute for the shift Battalion Chief as incident commander if needed. This is an appropriate model for a small fire department. It is very difficult to operate with a smaller headquarters unit because it most safe and effective to have a trained incident commander on duty on each shift to not only supervise the shift personnel, but also to handle the emergency scene.

Lake Valley Salaries and Benefits represent about 83 percent of their total expenditures. This is somewhat high and leads to a concern that the District may be facing larger training, maintenance and equipment replacement needs in the near future. This is not unusual in California where public agencies, faced with fiscal stress, have chosen largely to retain the first responder staff and to postpone less critical maintenance and equipment replacement.

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It is important to point out again that a significant part of the line operations costs, about 18 percent, is grant revenue. The last four years has seen a high degree of variability in District expenditures, suggesting that grants have been an important source of periodic revenue for the District as has Strike Team revenue which represents 10 percent of the expenditures this past year.

Fire Services Agency	Total FY 08-09 Expenditures	HQ Costs	Line Operations Costs
Lake Valley	\$5,636,090	\$1,085,608	\$4,550,482

Apparatus Funding Need Compared to Current Reserves

Lake Valley has been able to maintain a small but up-to-date number of fire engines. In reviewing their equipment, there is only one replacement that appears needed, and that in about 4 to 5 years at a cost of an estimated \$400,000. If current reserves and revenue sources remain stable and if the District continues to receive grants, they should not have difficulty in funding this equipment replacement.

Fire Services Agency	Restricted and Unrestricted Reserves	Apparatus Replacement Need (0-5 yrs)	Additional Apparatus Replacement Need (5+ yrs)
Lake Valley	\$2,096,011		\$400,000

Capacity to Levy Additional Taxes or Assessments

Presently District property participates in the EMS assessment of \$24 per typical dwelling unit. If the District does face fiscal difficulty, one alternative for the District to consider is to request the property owners/voters to approve either a special tax (with a two-thirds voter approval) or an assessment District (with majority property owner approval) to help fund fire operations. The District does not currently have a District-wide assessment to support fire operations. For illustration purposes, below is a table reflecting that it would require an annual assessment of approximately \$70 per dwelling unit if the District were to replace Strike Team nonrecurring revenue with assessment revenue.

Fire Services Agency	Population	Number of Dwelling Units	County Funding	Current Fire and EMS Annual Tax and Assessment on Typical Single Family Home	Estimated Annual Tax/Assessment Increase per Dwelling Unit to Replace Strike Team Revenue
Lake Valley	13,687	6,105	\$0	\$24	\$70

Impact of Reduced Funding

The District is providing only an adequate level of funding for materials, supplies and services that supports fire prevention, training and other critical functions that help mitigate the need for a larger daily fire fighter response force. If the District loses any significant amount of revenue, this will require them to either use reserves for a short time or to reduce the work force. This latter would obviously reduce the service level in the District unless the District was fortunate enough to attract volunteers to supplement the daily staff.

Throughout California, however, attracting volunteers is becoming more problematic and many Districts are finding that they are caught in the squeeze of not being able to afford full time fire fighters and not being able to attract an adequate number of volunteers.

4.12 SOUTH LAKE TAHOE FPD

The City of South Lake Tahoe Fire Protection District, incorporated in 1965, provides fire services to its jurisdiction plus an additional 5 square miles of lake/water area, which lie inside the Eldorado National Forest and within the Tahoe Basin. South Lake Tahoe cooperates heavily within the mutual aid system with the Lake Valley Fire Protection District, Fallen Leaf Lake Community Services District and Meeks Bay Fire District, the U.S. Forrest Service and CAL FIRE during wildfire season. Major access roads include California Highways 50 and 89 and Nevada Highway 207. The City has a significantly developed core area that hugs Highways 50 and 89 to the north and Pioneer Trail along the southern edge.

4.12.1 District Size and Development

The District’s boundary encompasses approximately 18 square miles; all incorporated land is considered Local Responsibility Area and not part of the state or federal responsibility areas. As throughout California, local fire agencies are responsible for medical and structural fire incidents on land designated as State Responsibility and by default, within the Federal Response Area.

Tourism and recreational uses are the primary bases of the Lake Tahoe economy. Local business and industry occupations provide employment for approximately 12,000 workers, distributed among several sectors such as retail, health and social services, and arts and entertainment. Residential growth is approximately 30 permits annually. The Tahoe Regional Planning Agency (TRPA) sets building allocations and imposes regulations and restrictions on growth; the anticipated allocation remaining for residential units is approximately 300 units. Redevelopment efforts are expected in the vicinity of Highways 50 and 89 at the “Y” and in the AI Tahoe city center areas along Highway 50.

Agency	Population	# of Dwelling Units
S Lake Tahoe	24,176	14,629

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4.12.2 Deployment Assessment

Daily Minimum Apparatus and Staffing

The District operates three stations with a variety of fire apparatus including engines, wildland fire units, ambulances, a ladder truck and specialty units. A 4th station at the airport is not currently active. The minimum daily staffing provided to protect the area's risks is:

Minimum Daily Unit Count	Career	Paid Call/Vol	Total	If staff NOT 24/7/365	Total Vol's
3-Engines 2-Ambulances	10	3	13		25

The total headquarters staff is appropriate for an agency this size:

Fire Chief and Chief Officers	Support and Clerical Staff
5	1

Response Times

Generally response times in the city are good and meet the EMS system goals of 11-minutes, 90 percent of the time, except for some eastern upslope areas and the inner ski resort areas. By the 15th minute response measure, the coverage is slightly better, except in the far eastern upslope areas.

EMS Services

The department operates two paramedic ambulances within the Basin EMS JPA agreement. When fire engine first responders provide medical care, they do so at the EMT-Basic level.

Station and Apparatus Replacement Needs

Stations – The City needs to replace all four stations. Fire Station 2 built in 1947 does not meet seismic standards and is well under sized for the needs. Fire Station 3 built in 1953 is poorly located and well undersized for needs, Fire Station 4 serves the Lake Tahoe Airport, the facility is an old aircraft hanger, is poorly located at one end of the runway and needs to be relocated to central runway/taxiway location. This facility does not have any services other than storage. The city does not have funding reserved or identified for any of these needs.

Apparatus – The District operates four engines and a wildland fire unit. While the City's front line equipment is fairly new; it needs to replace three of its quite old reserve engines in the very near future at an estimated cost of \$1,050,000. This will permit moving new equipment into reserve status and provide the City with a quite adequate fire apparatus fleet for the coming decade.

4.12.3 Fiscal Assessment

Principal Sources of Funding

The City of South Lake Tahoe Fire Department is largely funded from City general revenue sources. As such the amount of appropriations to the department is a result of policy choices by the City Council between alternative community service needs. For purposes of this report, in both the South Lake Tahoe and Cameron Park Fire Department budgets, their expenditures have been used as the “revenue” because both departments are part of a larger general fund. Even with earmarking of revenue, there is some ability on the part of the agency to prioritize how funds are expended among a number of services, including fire.

A small amount of restricted money is available to the fire department, but this does not necessarily increase the department’s overall total each year. The City is also reimbursed by the EMS JPA for expenditures operating the ambulances and receives revenue from inter-facility EMS transfers.

The City does a small amount of assessment type revenue from several developments within the City to assist in fire related infrastructure financing, but there is no City-wide assessment to support fire department operations.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	EMS Related Revenue	Special Taxes and Assessments Revenue
S Lake Tahoe	\$7,424,066	\$0	\$167,645	\$923,439	\$272,000

Current Reserve Level

While the City’s audited financial statement reported the undesignated General Fund reserves at \$13,817,366 a year ago, the City’s reserves have fallen as revenue has decreased during this past year. The City’s November 2009 report to the City Council reflected that the last fiscal year ended with expenditures exceeding revenue by \$1,838,053 in the General Fund and \$5,709,636 in all City Funds. As the City seeks to preserve its financial position all department budgets have been reduced. The Fire Department budget has been reduced for the current year by about \$500,000 below the FY 2008-09 expenditure recorded in the table below.

Fire Services Agency	FY 08-09 Revenue	County Funding	FY 08-09 Expenditure	Restricted and Unrestricted Reserves
S Lake Tahoe	\$7,424,066	\$0	\$7,424,066	City General Fund

Stability of Revenue Sources

Unlike single purpose fire districts, a City has multiple sources of revenue, but also multiple service demands that must be balanced by the City Council. The configuration of revenue

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sources that cities in California now have after thirty years of repeated voter and legislation “reform” makes most cities very vulnerable to economic fluctuations. Their revenue sources are closely tied to the state of the economy and so not as stable as might be imagined.

South Lake Tahoe has experienced a greater economy based revenue reduction than any of the other fire service providers in the County. Although most of the other agencies are heavily reliant upon nonrecurring revenue, that revenue has uncharacteristically remained fairly constant over the past couple of years. And while these other agencies are concerned about having to reduce their budgets and very likely their service levels if revenue falls, South Lake Tahoe has actually needed to reduce its budget due to the instability of its revenue sources.

Headquarters and Line Operation Costs

A principal portion of South Lake Tahoe costs are directly the result of daily Line Operations as reflected in the table below. These funds include not only the City General Fund contribution to the fire service operation, but also \$923,439 in EMS related revenue. The EMS JPA portion of this revenue funds 6 full time paramedic positions in the department.

About 75 percent of the line operation budget is salaries and benefits and another 15 percent are capital outlay. With only 10 percent remaining for materials, supplies and services supporting line operations, this is near the lower end of what is normally needed to ensure materials are replaced and equipment maintained for long term effectiveness.

The Headquarters support funding is consistent with supporting 5 Chief Officers and a modest support staff. Anything more than a short term substantial reduction in this portion of the department budget will have a long term impact on the department’s capacity to effectively provide training, fire prevention/education and supervision that maintains present line operation capabilities.

Fire Services Agency	Total FY 08-09 Expenditures	HQ Costs	Line Operations Costs
S Lake Tahoe	\$7,424,066	\$1,307,605	\$6,116,461

Apparatus Funding Need Compared to Current Reserves

An important consideration for the City as it balances its stressed annual budget is the need to replace fairly expensive fire apparatus. While the City’s front line equipment is fairly new, it needs to replace three of its quite old reserve engines in the very near future at an estimated cost of \$1,050,000. This will permit moving new equipment into reserve status and provide the City with a quite adequate fire apparatus fleet for the coming decade.

Fire Services Agency	Restricted and Unrestricted Reserves	Apparatus Replacement Need (0-5 yrs)	Additional Apparatus Replacement Need (5+ yrs)
S Lake Tahoe	City General Fund	\$800,000	\$250,000

Capacity to Levy Additional Taxes or Assessments

One alternative for the City to consider in dealing with its stressed budget situation is to request the property owners/voters to approve either a fire service special tax (with a two-thirds voter approval) or an assessment District (with majority property owner approval). The City does not have a community-wide fire services assessment, although property within South Lake Tahoe does pay the EMS assessment of \$24 per year on a typical single family home.

For illustration purposes, below is a table reflecting that it would require an annual assessment of approximately \$35 per dwelling unit to generate sufficient revenue to replace what has been reduced from the present fire department budget.

Fire Services Agency	Population	Number of Dwelling Units	County Funding	Current Fire and EMS Annual Tax and Assessment on Typical Single Family Home	Estimated Annual Tax/Assessment Increase per Dwelling Unit to Replace the Reduced Dept Funding
S Lake Tahoe	24,176	14,629	\$0	\$24	\$35

Impact of Reduced Funding

The City has already reduced its fire department budget by about \$500,000 going into the current FY 2009-10. With about 73 percent of its total department expenditures represented by salaries and benefits, there is only about \$1,500,000 in remaining expenditures from which to take any further cost reductions. Reducing staff will impact service levels in terms of either the number of line personnel on duty each day or the ability of the department to support those staff with incident command, training, maintenance and supply related activities. Reducing materials, supplies and services will impact maintenance, training and fire prevention. While these latter reductions can be sustained in the short term, if not restored to more adequate levels within a couple of years, the readiness and effectiveness of the department will begin to be reduced.

LAKE TAHOE BASIN AGENCIES – THOSE THAT DID RECEIVE COUNTY ASSISTANCE

4.13 FALLEN LEAF FPD

Fallen Leaf Fire Protection District, established in 1982, is located around Fallen Leaf Lake south of the south shores of Lake Tahoe. Fallen Leaf also provides mutual aid service in cooperation with all of the local, state and federal fire agencies in the basin. There is limited access in and out of the District and narrow, dead-end and seasonal roads make access difficult

4.13.1 District Size and Development

The District’s boundary encompasses approximately 5.5 square miles. All of the District is either in National Forrest or State Responsibility lands for wildfire control. As throughout California, local fire agencies are responsible for medical and structural fire incidents on land designated as State Responsibility and by default, within the Federal Response Area.

Land uses within the District include residential areas, agriculture lands used for timber production harvest, commercial services in the lodge/marina/resort area and numerous recreational users (day hikers and overnight backpackers). In addition, the District serves the Stanford Sierra Camp (Stanford Center) and Fallen Leaf Lodge. The District has a high percentage of seasonal, second homes, so population estimates range from approximately 400 to 2,000 residents during summer to ten to 100 residents during winter. Little to no growth is expected to occur due to local topography and Tahoe Regional Planning Agency (TRPA) regulations; however, renovation and rebuilding of existing homes is increasing the size and complexity of provision of fire service.

Agency	Population	# of Dwelling Units
Fallen Leaf	400-2,000 (summer)	173

4.13.2 Deployment Assessment

Daily Minimum Apparatus and Staffing

The District operates one station with a structure fire engines and wildland fire units. The nearby City of South Lake Tahoe provides important automatic aid and assistance to augment the services provided by the Fallen Leaf Fire Department. Under the provisions of an annual contract with the District, the City provides one fire engine and battalion chief available on a 24-hour basis to respond automatically to fires, provided that the roads are passable.

The minimum daily staffing plan for the District is:

Minimum Daily Unit Count	Career	Paid Call/Vol	Total	If staff NOT 24/7/365	Total Vol's
1-Engine 1-Patrol	1	1	2	180 days	18

The total headquarters staff is limited. While the District reports 1 Chief Officer, the reality is that this positions pay level only supports part time work and the position serves, as needed, as a line firefighter responding to incidents. As the smallest District, and one that is open only during the non-winter weather, the staffing can be best characterized as “everyone is a line worker”.

Fire Chief and Chief Officers	Support and Clerical Staff
1	.5

Response Times

Fallen Leaf uses a web based incident report system and detail data was not available for this study. The District self-reports that *average* arrival time for first Fallen Leaf responder is 4:48 min/sec from time of dispatch. Ambulance response times from dispatch to arrival average 18:57 min/sec. The likely 90 percent goal point measure points are probably much higher.

EMS Services

The Basin EMS agency provides paramedic ambulance service from the closest unit, which is typically the ambulance stationed in Lake Valley. When firefighters provide medical care, it is at the basic first responder level.

Station and Apparatus Replacement Needs

Station – At this time, the District does not need to replace its stations.

Apparatus – The District has four fire engines, one of which is 10 years old and all of the others are more than 18 years old, exceeding the NFPA recommended life span of 15-years front line use.

4.13.3 Fiscal Assessment

Principal Sources of Funding

The Fallen Leaf Fire Protection District is the smallest in the County and is in operation only during late spring to fall, when the roads are open. The District has limited resources and relies on four principal sources of funds for their operations and apparatus replacement needs. It is notable that County funding is three times the amount of property tax funding received by the District. Plus assessments represent about one-third of their revenue.

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Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	Property Tax Revenue	Special Taxes and Assessments Revenue
Fallen Leaf	\$266,685	\$60,454	\$20,000	\$21,000	\$122,500

Current Reserve Level

For this past four fiscal years, reserves have held steady at about \$140,000 per year. The District has not reported any grant funding or other fiscal activities that would cause revenue or expenditures to vary much from the data in the table below.

Fire Services Agency	FY 08-09 Revenue	County Funding	FY 08-09 Expenditure	Restricted and Unrestricted Reserves
Fallen Leaf	\$266,685	\$60,454	\$272,765	\$136,480

Stability of Revenue Sources

Unfortunately, like so many smaller fire districts, Fallen Leaf relies upon unstable or one-time sources of revenue for much of their funding. Both the year-to-year allocation of County funding and the State Strike Team revenue are important to them, representing about 30 percent of their total revenue. While Property Tax and Assessments are both stable revenue sources for the District, the substantial reliance upon nonrecurring revenue puts the District in a fragile fiscal condition as will be discussed in the last portion of this report section on Fallen Leaf.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	County and Non-Recurring Revenue as a Percent of Total Revenue
Fallen Leaf	\$266,685	\$60,454	\$20,000	30%

Headquarters and Line Operation Costs

Fallen Leaf Headquarters costs, at \$87,067, are not a good picture of the reality of their operation. The Fire Chief not only manages the operation but responds to calls whenever he is available. Their daily operational staffing is small with only one firefighter on duty each day, and only two on the payroll as full time, but only during the non-winter months when the roads are open. These line staff are supplemented by the Fire Chief and any available volunteers. For all practical purpose almost the entire budget could be characterized as line operation costs.

Fire Services Agency	Total FY 08-09 Expenditures	HQ Costs	Line Operations Costs
Fallen Leaf	\$272,765	\$87,067	\$185,698

Apparatus Funding Need Compared to Current Reserves

Even though the District is small, it needs to use apparatus that has much the same capability as fire engines in much larger Districts. The District has four fire engines, one of which is 10 years old and all of the others are more than 18 years old. Sometime during the next five years at least two of the three older fire engines need to be replaced at an estimated cost of \$700,000. Clearly the District does not have the reserves to pay cash nor the yearly revenue to support lease-purchase payments of about \$85,000 per year.

Fire Services Agency	Restricted and Unrestricted Reserves	Apparatus Replacement Need (0-5 yrs)	Additional Apparatus Replacement Need (5+ yrs)
Fallen Leaf	\$136,480		\$700,000

Capacity to Levy Additional Taxes or Assessments

One alternative for the District to consider is to request the property owners/voters to approve either a special tax (with a two-thirds voter approval) or an assessment District (with majority property owner approval). The District already has substantial assessment fees of \$419 per year for a typical single family dwelling. If the District needed to raise additional revenue, for illustration purposes, below is a table reflecting that it would require an annual assessment of approximately \$349 per dwelling unit to replace the current County funding.

Fire Services Agency	Population	Number of Dwelling Units	County Funding	Current Fire and EMS Annual Tax and Assessment on Typical Single Family Home	Estimated Annual Tax/Assessment Increase per Dwelling Unit to Replace County Funding
Fallen Leaf	388	173	\$60,454	\$419	\$349

Impact of Reduced Funding

Were the District to lose some or all of its non-recurring revenue, such as County funding and Strike Team revenue, the District has indicated that the following impacts would occur as a result of reducing its operating budget by up to 30 percent

- ◆ Cancel the seasonal firefighter program
- ◆ Not staff one of the two fire stations.

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Since Fallen Leaf’s budget is for all practical purposes entirely line operations costs, Citygate concurs that a reduction in revenue of this magnitude would need to result in reducing the current number of part-time paid call firefighters. There is no practical room in their budget for any reductions other than staff costs. Some nominal amounts need to be retained for materials, supplies and services.

4.14 MEEKS BAY FPD

The Meeks Bay Fire Protection District, established in November 1973, is located in the extreme northeastern portion of El Dorado County, three miles north of Emerald Bay between the Placer County line and DL Bliss State Park. Adjacent fire service providers include the North Tahoe Fire Protection District in Placer County and Lake Valley FPD to the south.

4.14.1 District Size and Development

The District has a large interface with Desolation Wilderness, state park lands and federal lands. Of the 2,139 total acres in the district, 841 are owned by the State of California and 1,244 are owned by the U.S. Forest Service.

As throughout California, local fire agencies are responsible for medical and structural fire incidents on land designated as State Responsibility and by default, within the Federal Response Area. For wildland fires, the entire district is in a State Responsibility Area (SRA), where CAL FIRE has responsibility for fires. However, CAL FIRE has a “balance of efforts” agreement with the U.S. Forest Service (USFS) for fire protection in the vicinity of the District. Unlike CAL FIRE, the USFS does not provide around the clock staffing and is not equipped to assist with calls that CAL FIRE or other fire agencies normally manage, such as interior structural fire protection, medical aid, hazardous materials incidents and rescues. Consequently, when the USFS staff is not available, District firefighters become the primary responders for all wildfires in the general area. In addition, the District provides structural fire protection services to all USFS structures and all structures in the state parks – a function normally performed by CAL FIRE.

In the summer of 2008, CAL FIRE staged an engine on the south and north shores of Lake Tahoe, on a trial basis to meet one of the recommendations from the Emergency California/Nevada Tahoe Basin Fire Commission Report (“Blue Ribbon Commission”). While a great resource, both of these engines were still 25 minutes out from the District.

Recreational and residential uses are the principal land uses in the district. There are no industrial areas in the district; however, El Dorado County Department of Transportation and the State Parks Service have maintenance yards in the area. There are about 20 commercial operations in the district, and a community park. There are no formal schools, churches or other public assembly places. During the summer, the population can frequently rise to 10,000.

Agency	Population	# of Dwelling Units
Meeks Bay	1,200	1,816

The Meeks Bay population increases to 10,000 or more during the summer when the beach area is both a day time destination for those coming in from outside of the area as well as an attraction for those who occupy dwelling units only during the milder summer season.

4.14.2 Deployment Assessment

Daily Minimum Apparatus and Staffing

The District operates two fire stations with a variety of fire apparatus including engines, wildland fire units and a water tender. The minimum daily staffing provided to protect the area’s risks is:

Minimum Daily Unit Count	Career	Paid Call/Vol	Total	If staff NOT 24/7/365	Total Vol's
1-Engine	1	0	1		7

The total headquarters staff is very limited:

Fire Chief and Chief Officers	Support and Clerical Staff
1	1

Response Times

Meeks Bay keeps a manual incident records system and self-reports that the majority of the calls for service receive response times of 10-minutes or less.

EMS Services

In the wintertime, due to snow, the District can’t be reached by south shore fire or ambulance units. As such El Dorado County contracts with the North Lake Tahoe Fire Protection District for ambulance coverage from a unit based in Homewood on the west shore. Firefighters on Meeks Bay units provide first responder medical services at the EMT-Basic level.

Station and Apparatus Replacement Needs

Stations – The District needs to replace one inadequate station. It does not have funds reserved or secured for this need.

Apparatus – The District operates a modest fleet of engines and specialty units. All of their equipment, with the exception of a Water Tender, is more than 10 years old. Based on the age and condition of the equipment, several of the apparatus need to be replaced within the next several years.

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4.14.3 Fiscal Assessment

Principal Sources of Funding

The Meeks Bay Fire Protection District relies on four principal sources of funds for their operations and apparatus replacement needs. Property Taxes, County Funding, Non-recurring Revenue and Special Taxes or Assessments. Its notable that the Non-Recurring type funding and County contribution comprise about 35 percent of this total revenue. Property tax is only about 46 percent of total revenue.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	Property Tax Revenue	Special Taxes and Assessments Revenue
Meeks Bay	\$1,318,563	\$312,945	\$150,298	\$611,720	\$276,717

Current Reserve Level

For this past four fiscal years, the District reserves have increased a total of just under \$500,000 to the present \$1,141,864. This is a quite healthy amount of reserves that provides the District flexibility in how to fund capital needs. But it does only represent an average increase of about \$100,000 per year or approximately the cost of adding one full time person to the District budget. Noting that it would require three full time positions to increase daily staffing 24/7/365, the District has chosen not to put extra reserves into on-going expenses but to save the reserves for capital needs. This represents a long term funding strategy by the District to ensure a continued balance between revenues and expenditures rather than to use reserves for daily operational costs. The District reports that a portion of the reserves are earmarked as a “stabilization fund” that would permit them to avoid layoffs and that this fund was established as a condition of employees forgoing raises.

Fire Services Agency	FY 08-09 Revenue	County Funding	FY 08-09 Expenditure	Restricted and Unrestricted Reserves
Meeks Bay	\$1,318,563	\$312,945	\$1,167,616	\$1,141,864

Stability of Revenue Sources

Unfortunately, like so many smaller fire Districts, Meeks Bay relies upon unstable or one time sources of revenue for much of their funding. Not only does the year-to-year allocation of County funding represent a significant portion of their revenue, but also State Strike Team revenue is important to them. Whenever the state asks a fire agency to supply personnel and fire apparatus resources for an emergency outside of the area, the state pays an amount in excess of the immediate out of pocket costs of the District. From year to year the amount of the State revenue depends upon whether they are asked to assist the State at a fire outside of their area. 35 percent of Meeks Bay’s revenue is from potentially nonrecurring sources.

Fire Services Agency	FY 08-09 Revenue	County Funding	Strike Team and Similar Non-Recurring Payments	County and Non Recurring Revenue as a Percent of Total Revenue
Meeks Bay	\$1,318,563	\$312,945	\$150,298	35%

Headquarters and Line Operation Costs

A principal portion of Meeks Bay costs are directly the result of daily Line Operations as reflected in the table below. While Headquarters Costs are not insignificant, the dollar amount does reflect the fact that the Headquarters consists of only a Fire Chief and office support. The Fire Chief, as the only Chief Officer, responds to supplement the line staff. A Chief Officer is a necessary on-scene component of larger scale incidents such as a multiple injury accident or a house fire. The percentage allocation of costs to the Headquarters function is consistent with that of other fire agencies in El Dorado County.

The line operation portion of the budget supports 4 full time staff, supplemented by volunteers. 80 percent of line costs are for the salaries and benefits of both the full time positions as well as the part-time employees who increase daily staffing during the tourist season. Commencing in December 2009, the District added additional part-time employees to permit them to staff a single engine with 2 personnel 24/7 on a year round basis rather than reverting to an engine staffed with only one person during the winter with backup from on-call volunteers.

Fire Services Agency	Total FY 08-09 Expenditures	HQ Costs	Line Operations Costs
Meeks Bay	\$1,167,616	\$243,584	\$924,032

Apparatus and Station Funding Need Compared to Current Reserves

An important consideration of any fire District in the current economic climate is whether or not the reserves are adequate to serve as a buffer until economic recovery may begin to restore some growth to the property tax revenue. Meeks Bay has established a policy of increasing and using reserves for this buffer purpose and to fund capital equipment. All of their equipment, with the exception of a Water Tender, is more than 10 years old. Based on the age and condition of the equipment, several of the apparatus need to be replaced within the next several years at a cost of \$650,000.

The District has the option of using reserves to fund these purchases or to finance the acquisition under lease-purchase arrangements. The latter would increase annual operating expenses by about \$80,000 per year, effectively closing the current gap between expenditures and revenues.

Meeks Bay operates from a 50 year old structure, with most of its apparatus parked outdoors, in spite of the inclement weather. They estimate it will cost about \$1,000,000 to construct supplemental storage for the fire engines.

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Fire Services Agency	Restricted and Unrestricted Reserves	Apparatus Replacement Need (0-5 yrs)	Additional Apparatus Replacement Need (5+ yrs)
Meeks Bay	\$1,141,864		\$650,000

Capacity to Levy Additional Taxes or Assessments

With 35 percent of their revenue coming from potentially Non-Recurring sources, the District should consider what alternative funding sources might be available. One alternative for the District to consider is to request the property owners/voters to approve either a special tax (with a two-thirds voter approval) or an assessment District (with majority property owner approval). The District has recently received voter approval to increase the assessments which are now \$291 on a typical single family residence. If the District were to seek an increase, for illustration purposes, below is a table reflecting that it would require an annual assessment of approximately \$172 per dwelling unit to replace the current County funding.

Fire Services Agency	Population	Number of Dwelling Units	County Funding	Current Fire and EMS Annual Tax and Assessment on Typical Single Family Home	Estimated Annual Tax/Assessment Increase per Dwelling Unit to Replace County Funding
Meeks Bay	1,200	1,816	\$312,945	\$291	\$172

Impact of Reduced Funding

The District has established three different assessments, with the last intended to offset any potential loss of County revenue. While the current level of service can be maintained without the County funds, the District will not be in a position to add additional full time staff and will be reliant upon the continued ability to attract volunteers and part-time paid call firefighters to maintain the present level of service.

4.15 EMERGENCY MEDICAL SERVICES PROVISION AND FUNDING OVERVIEW

County Service Area 3 (CSA 3) was formed in 1963 and County Service Area 7 (CSA 7) was formed in 1976. These two CSAs include the entire incorporated and unincorporated area of El Dorado County and they serve as administrative vehicles for the collection of revenues needed for the provision of emergency medical services. The governing body of each CSA is the Board of Supervisors.

The ambulance and emergency medical functions of CSAs 3 and 7 are administered through the County Public Health Department. The Public Health Department, in turn, has agreements for the operation and staffing of ambulances with two entities, the El Dorado County Regional Pre-hospital Emergency Services Operations Authority for the Western Slope (West Slope JPA) and the California-Tahoe Emergency Services Operations Authority for the southern Tahoe Basin (Cal Tahoe) and northern Alpine County. These two JPAs are cooperative efforts by area fire departments to jointly and cost effectively provide ambulance and paramedic services.

The North Tahoe Fire Protection District in Placer County is contracted to provide ambulance services to the Meeks Bay area. This arrangement will not be reviewed in this study.

4.15.1 Ambulance Deployment

The West Slope JPA operates eight full-time ambulances and one part-time 12-hour/day ambulance. The ambulances (as are all fire resources) are dispatched by the CAL FIRE Emergency Communications Center (ECC) at Camino. The JPA includes 10 member agencies that staff and operate the ambulances. In return, these provider agencies receive funding for staff, supplies and equipment maintenance from the County.

As discussed in the fire services deployment section of this report, in addition to the ambulances, three fire departments also operate first responder engine crews that include one paramedic as an enhanced service level to more neighborhoods. These agencies are Cameron Park, El Dorado County Fire District and Pioneer. These paramedic engine expenses for the additional paramedic pay and the EMS JPA does not pay for equipment at this time. Garden Valley hopes to begin a paramedic engine at their expense in Spring 2010.

Agency	Ambulance Deployment
Cameron Park Community Service District	1 Ambulance and <i>Paramedic Engine</i>
Diamond Springs/El Dorado Fire District	1 Ambulance
El Dorado County Fire District	4 Ambulances full-time, 1-12/hour Ambulance and <i>Paramedic Engines</i>
El Dorado Hills Fire District	1 Ambulance
Garden Valley Fire District	Desires 1 Paramedic Engine
Georgetown Fire District	1 Ambulance
Latrobe Fire District	
Mosquito Fire District	
Pioneer Fire District	Operates 1 <i>Paramedic Engine</i>
Rescue Fire District	

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The Cal Tahoe JPA operates three full-time ambulances and maintains two reserve ambulances that are dispatched by the City of South Lake Tahoe Police Department, which also provides dispatching for South Lake Tahoe Fire, Lake Valley and Fallen Leaf Fire Districts. As of July 1, 2006, the JPA includes two member agencies, both of which are “provider” agencies:

Agency	Ambulance Deployment
Lake Valley Fire Protection District	1 Ambulance
City of South Lake Tahoe	2 Ambulances

The provider agencies are responsible for hiring firefighter/paramedic personnel to staff and operate the medic units and provide ambulance service. Per the terms of the contracts with the West Slope JPA and Cal Tahoe, ambulances must be staffed by at least one EMT-paramedic and either an additional paramedic or an EMT-1. Full-time ambulances operate 24 hours a day, 7 days per week. The West Slope JPA also has part-time ambulances, which operate 12 hours per day, 7 days per week, principally for interfacility transfers. The reserve units are reserved for use during high volumes of medical responses, disasters, or when the primary units are out of service.

Both JPAs are full service ambulance providers, which means in addition to emergency 911 system responses they do inter-facility transfers of ill patients between hospitals. This often takes one or more ambulances out of its District, and even out of the county.

While interfacility transfer helps with overall patient care and in bringing in more revenue to offset costs, there is a negative trade-off. As was stated in the field deployment section of this report, in the West Slope, 38 percent of the total career firefighters on-duty per day are assigned to ambulances. In the Tahoe Basin, it is 17 percent of the on-duty firefighters. While the paramedics are cross trained as firefighters, when they are on EMS calls or hospital to hospital transfers, they are not available for firefighting or technical rescue. The West Slope JPA partially offsets this loss by operating the 12-hr per day ambulance that primarily handles these transfers.

4.15.2 Administration, Management, and Operations

A flat sum is transferred to the provider agencies by the JPA to pay for EMS program administration services, which includes personnel administration, administrative and operation services and payroll. This flat fee is in addition to funding for salaries and benefits for employees, and supplies and equipment.

CSAs 3 and 7 tax and assessment revenue and billing for ambulance services provide funds for the implementation of the JPA contracts. The El Dorado County Emergency Medical Services Agency (EMSA), a division of the Public Health Department, is partially funded by revenue from CSAs 3 and 7. The Public Health Department integrates the EMS Agency’s funding request from CSAs 3 and 7 into their respective CSA budget.

Cal Tahoe was originally awarded a five-year contract for 911 ambulance services effective September 1, 2001, and has received five additional one-year contract extensions following satisfactory performance reviews by the EMS Agency in 2002, 2003, 2004, 2005 and 2006. The service is funded through County Service Area 3.

The CSA 3 expense is estimated to be approximately \$2,200,000 in each of the next four fiscal years. The Cal Tahoe contract is about \$2,000,000 of that, based on the County's revenue and expenditure projections.

The West Slope JPA has a five-year contract with the County for ambulance services from July 2006 to June 2011. The service is funded through County Service Area 7.

The CSA 7 expense is estimated to increase from \$11,600,000 to \$12,600,000 over the next four years. The West Slope JPA contract is expected to increase from about \$10,500,000 to \$11,500,000 of that, based on the County's revenue and expenditure projections.

4.15.3 JPA Fiscal Forecast

The County has forecast the fiscal condition of both County Service Areas through the end of Fiscal Year 2012-13.

The forecast for CSA 3 was based on "Projected" FY 2008-09 expenditures and revenues and projected that the Fund Balance for CSA 3 would drop from \$1,273,881 on July 1, 2008 to \$887,112 on June 30, 2013. This is a cumulative decrease of only \$84,433 and is not significant given the difficulties in precisely predicting expenditures (which often are less than budgeted) and revenues (which are frequently estimated on the conservative side).

The forecast for CSA 7 was based on "Actual" FY 2008-09 expenditures and revenues and projected that the Fund Balance for CSA 7 would drop from \$5,174,900 on July 1, 2008 to \$781,177. This is a significant cumulative decrease of \$1,998,872. However, the same observation made for CSA 3 regarding estimating expenditures and revenues needs to be made for CSA 7 as well. This is illustrated by the difference between the \$10,670,869 revenue estimate in the FY 2008-09 adopted budget and the County reported actual revenue of \$11,713,691. Again for FY 2009-10 the CSA 7 fiscal projection uses a property tax revenue estimate that is about \$150,000 less than the estimate provided by the Auditor –Controller after the budget was adopted.

Particularly for CSA 7, the "projected" decline in fund balance created by four years of projected deficit budgets is of concern. But the difficulty in projecting expenditures and revenues points to the importance of updating the estimates annually. As this is done, the County should also consider the appropriateness of current ambulance rates.

Citygate did a brief survey of ambulance rates in Amador, Calaveras, Sacramento and Stanislaus County and found that the El Dorado ALS Emergency Base Rate is 28 percent lower than the average and the ALS Non-emergency Base Rate is 13 percent below the average. Increasing the rates may have a positive impact on the fund balance issue. Medicare capitation and insurance company reimbursement rates mitigate against expecting a rate increase that will bring revenues up the same percentage increase as overall billing rates. But the County should consider the option of increasing the rates.

With the last County fiscal forecast for both CSA 3 and 7, there does not appear to be much room in either budget for increasing the ambulance service level in either District. There does appear, however, to be some room in the CSA 7 budget for a modest subsidy to pay the incremental cost difference between a firefighter and a firefighter "paramedic" salary and the added equipment and supply expense to fund the use of paramedic engines in those more remote agency areas where the ambulance response times are substantially longer than the response time

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(service level) in the more densely populated areas closer to the ambulance “posting” location. Granted that the last CSA 7 fiscal projection by the County reflects a significant decline in the Fund Balance, but more recent data available to Citygate indicates a more favorable five year projection. A reassessment of the fiscal projections and a consideration of raising ambulance rates, may very well indicate that the resources are there in CSA 7 to permit the CSA to fund a modest service level increase in the more remote areas.

4.16 ALTERNATIVES FOR COST EFFECTIVE REORGANIZATION

The El Dorado County Grand Jury recommended that fire districts be consolidated in order to save money through the elimination of redundant headquarters positions. The assumption was that a consolidated fire department incorporating many of the current fire districts could operate with a single fire chief and eliminate the other fire chief positions along with some of the clerical positions. Citygate was asked to consider alternative reorganizations approaches as it studied the deployment and fiscal issues facing the County and the fire districts.

4.16.1 Overview of Approaches to Reorganization

Types of Reorganization

Reorganization of existing fire agencies can take a number of forms, although it is commonly assumed that reorganization means the consolidation of two or more agencies into a single agency with a single governing board.

Consolidation can, in fact, take three basic forms:

1. Full
2. Functional
3. Contract.

In a full consolidation, two or more fire agencies combine completely to create a single fire department. The department then has a single budget, all personnel are employees of the one fire agency functioning under a single labor agreement and operating with a single payroll, finance, personnel and purchasing support system.

In a functional consolidation, two or more agencies share functions such as having a combined training officer and or a fire marshal function, or even combining all headquarters functions and sharing all administrative functions and reporting to a single fire chief. They may share a fire station, each operating their own fire company out of the single station or actually share the cost of a single fire company that serves areas in each agency.

Under contract for services, one agency contracts with another for full fire services and instead of shared governance, and ability to set internal policies and costs, the agency pays for service levels via contract terms.

Full consolidation usually is done with the creation of a new Fire District that incorporates the former agencies or through a Joint Powers Authority. Functional consolidation is more often undertaken with some form of Joint Powers Authority or contractual relationship in which one

agency may provide the fire marshal function for the entire area while the other agency provides the joint training officer function, for example.

It is not uncommon for agencies that want full consolidation, to use functional consolidation as an interim step to assess the viability of consolidation or to provide time for one or the other partner to gather the necessary long-term financing to pay their full share of a joint fire department.

There are practical issues that have to be explored in order to determine which form of consolidation is, in fact, cost effective. For example:

1. Do the combining agencies have the same salary structure, or will combining result in some employees being paid at a higher rate, raising the overall cost of fire services without increasing the number of line operating personnel?
2. Do the agencies have the same retirement benefit structure, and if they combine will the resultant retirement plan rate be higher than now being experienced by one or more of the agencies?
3. If the agencies offer health plans, are they very different in benefit structure and will combining agencies result in an overall increase in health plan costs?
4. Will a health plan provider accept all of the employees and dependents, including pre-existing conditions, or will consolidation leave some employees or dependents without coverage?
5. Are there outstanding Workers Compensation liabilities, and if so who will take responsibility for those and from what source of revenue?
6. Under a consolidation of employee groups, how will seniority be merged?
7. Under consolidation will employees be able to carryover unused vacation and sick leave, bringing an unfunded liability to the new organization?
8. All changes affecting employees in a consolidation of any form require the agencies to comply with meet and confer requirements. What happens if one or more employee groups do not support a consolidation?

These are just a few of the larger employee issues that can shape what is the best form of consolidation.

Fiscal issues that affect the form of consolidation include:

1. How to handle the fact that consolidating agencies may have different assessment district rates, creating an impression of fiscal inequity among the property owners of newly consolidated districts.
2. If there is functional consolidation or contracts for service, what is the appropriate cost sharing formula?

It is also important to remember the Citygate description of the Headquarters units in the various fire district and our conclusion that under any form of consolidation, the assumed extra positions should largely be retained with different job classifications to ensure that there is organizational

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leadership for volunteer organizations, that there is timely provisions of on scene incident command, there is supervision of the geographically far flung fire stations, and that many of the training, fire prevention and maintenance type functions that the present fire chiefs are performing will continue to have the staff hours available to perform them. Most, if not all of the Fire Chiefs, are working supervisors with many of them responding and working as line personnel when needed.

Consolidation, in its most appropriate form, will ensure that not only do all of the necessary functions continue to be performed, but there is an appropriate headquarters support unit with an adequate span of control and clerical support located in a manner that serves the residents in the numerous small communities within the fire districts.

4.16.2 The Critical Issue of Governance

Governance is often the most critical issue in consolidation. Preserving the ability to choose levels of service is important to communities and retaining input or control over the cost of service and the provision of new revenue measures is also an important issue, particularly where two or more existing boards of directors become partners rather than all of them consolidating into a single district with a single board. Actual consolidation is not that difficult if the practical issues briefly discussed above and if issues of local fiscal and policy control can be resolved by selecting an appropriate governance model.

4.16.3 Governance Models

There are two fundamental governance models. The first is clearly the formal consolidation of two or more fire districts into a single district with a single board of directors. This is the most stable form, but seldom occurs because the boards of separate district want their communities to maintain some measure of local fiscal and policy control and the advantages or incentives to consolidation are often not seen as greater than the disadvantages of lost control and possible resultant fiscal inequities between areas in the newly formed larger district.

The second model is a Joint Powers Authority. When local government agencies seek to provide consolidated services and yet want to retain a greater measure of fiscal and operational oversight than either a single enlarged district would allow, they usually turn to the creation of a Joint Powers Authority. California law allows an almost infinite variety of shared services between governmental agencies and permits the partners to create almost any governing structure that meets the local needs for fiscal and operational control. For example, a JPA with a board composed of elected officials from each of the partner agencies is the most common form. Funding for the combined service can similarly be provided to the JPA by each partner agency according to whatever formula the parties may find agreeable.

Some of the variations in a Joint Powers Authority model include each partner agency continuing to control the number of fire stations within its borders, station staffing and to have the ability to concur as a full board on the joint budget and operating program of the shared fire department. An alternative is to create a totally independent JPA where that Board can determine all operational levels and resultant costs. This latter form can become insulated too much from the appropriate input of each community's elected officials.

4.16.4 Choices for El Dorado County

There is no single perfect form of consolidation that fits all situations. Many of the fire districts correctly responded to the Grand Jury recommendation by suggesting that an in-depth study needed to be done concerning many of the issues that are outlined above. Once the agencies understand the facts within many of these issues, the appropriate form of consolidation that is both cost effective and acceptable to the partners can be negotiated.

There are many consolidation studies completed by Citygate where agencies have assumed that full consolidation was the best thing to do only to find: 1) consolidation was going to cost both agencies more than if they remained separate and undertook function consolidation instead; 2) both agencies would have a modestly improved service level, but one agency would experience a large cost increase; 3) property owners in one agency would have to accept a new assessment fee in order to have an equity of taxation, and yet they would not have any greater number of fire stations or personnel assigned to their area; 4) the smaller agency would never have the fiscal capacity to bear its fair share of costs and so the larger agency tax payers would be subsidizing service to the smaller agency.

There can be a successful improvement by selecting cost effective solutions. But the right answer will only be reached after asking and researching the right questions and then good faith negotiations of the finer details behind the chosen basic choice for a form of consolidation in the County. The choices, again, may include:

1. Full consolidation of one or more agencies into a county-wide or several regional fire districts
2. Functional consolidation, with some or all of the current districts remaining in place for either fiscal, representation, or management of volunteers reasons
3. Contract for service with one or more districts serving as the single fire department, provided service contracted with the individual district boards, providing the advantages of size while retaining individual districts if this becomes practically or legally necessary.
4. Some form of Joint Powers Authority as a governance structure in lieu of one or more consolidated new districts replacing existing districts.

SECTION 5—OPINIONS AND RECOMMENDED STRATEGIES

5.1 DEPLOYMENT PLAN FINDINGS AND OPINIONS

As this study has identified and measured, some of the El Dorado County Fire Departments (especially the more rural ones) are *insufficiently* staffed with enough firefighters to address more than minor emergencies without waiting for volunteers and or mutual aid from farther away fire crews. The County does *not* have a distribution of fire station problem; the career and volunteer fire companies are well located to equitably cover all the developed areas in a timely manner, if the volunteer firefighters are available to quickly respond.

If there were more firefighters, the resultant increase in the number of firefighters per day would also help to control serious fires more quickly, or handle two serious fires at once, plus medical incidents, all with less dependence on mutual aid response being quickly available.

Citygate’s deployment findings for El Dorado County Fire Departments as noted in Section 2 are:

- Finding #1:** Citygate finds the response time performance in the Western Slope area comes very close to meeting the County EMS system goal of getting the first unit on scene within 11-minutes from the time of call, 90 percent of the time. The Building Fire performance is better than a recommended 14-minutes by NFPA Combination Fire Department Standard #1720. Many calls closer to stations in the very developed areas had much better response times, consistent with the recommendations in NFPA #1710 for career fire departments in built-up areas.
- Finding #2:** To substantially improve this response time performance with such a limited road network and challenging topography would require more fire stations, which would not be cost-effective for the modest number of annual calls in the areas with the longest response times.
- Finding #3:** Citygate finds the response time performance in the Basin area comes very close to meeting the County EMS system goal of getting the first unit on scene within 11-minutes from the time of call, 90 percent of the time, *when calls to the ski resorts are not considered*. The Building Fire performance is close to the recommended 14-minutes by NFPA Combination Fire Department Standard #1720. However snow conditions much of the year and a high quantity of “simultaneous” calls on the weekends, slows this measure and achieving an urban response time goal would be very difficult and expensive to deliver.
- Finding #4:** To substantially improve this response time performance with such a limited road network, snow season issues and challenging topography would require more fire stations, which would not be cost-effective for the modest number of annual calls in the areas with the longest response times.
- Finding #5:** When the mapping analysis is considered along with the response statistics and the daily staffing plan, it is apparent the fire stations themselves are well located

on the road network. The career staffed stations and ambulances are appropriately located in the higher call for service areas.

Finding #6: While the stations are well located, the region *does* have a staffing per unit issue. Not all stations are staffed fulltime, nor are the volunteers always readily available. What this means is that the system will be challenged to deliver enough firefighters, quickly enough, to prevent the spread of serious fires.

Finding #7: In addition to the thin daily quantity of on-duty firefighters in fire stations, in the West Slope, 38 percent of the total career firefighters on-duty per day is assigned to ambulances. In the Tahoe Basin, it is 17 percent of the on-duty firefighters. While the paramedics are cross-trained as firefighters, when they are on EMS emergency incidents or hospital-to-hospital transfers, they are not available for firefighting or technical rescue.

Finding #8: The current paramedic deployment plan using principally ambulances in the West Slope means there is an equity of coverage issue in the outlying areas. A common practice in California when this happens is to use paramedic staffed engines to provide faster access to a paramedic. In the West Slope area, this occurs in at least two areas, the northwest and southeast areas. Cameron Park, the El Dorado County Fire District, and Pioneer already operate paramedic engines at their expense. Ideally, funding would be provided from the regional EMS system to fund paramedic engine coverage outside of the primary ambulance areas to all agencies in the JPA. This would take considerable economic pressure off Garden Valley and Pioneer whom want to provide this enhanced service on very small revenues.

Finding #9: The current fire service deployment measures in the County General Plan does not fully meet best practice recommendations by defining the time measurement starting point, specific population density measures, the desired outcome and a response time/performance goal for multiple units. Such a more comprehensive measure also would link population density to risks to outcomes to revenue capacity in very different areas within the county.

Citygate’s recommendations are designed to improve these issues as fiscal resources allow. Based on Citygate’s above findings and the national best practices outlined in this study, Citygate makes the following recommendations regarding fire station and crew deployment:

Recommendation #1: The County should adopt fire unit deployment performance measures based on population density zones in the table below, to direct fire station location, timing and crew size planning. The measures should take into account a realistic crew turnout time of 2 minutes and be designed to deliver outcomes that will save patients medically salvageable upon arrival; and to keep small, but serious fires from becoming greater alarm fires. Citygate recommends these measures be:

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- 1.1** Distribution of Fire Stations for Initial Response to Built-up Suburban Areas of Greater than 1,000 People per Square Mile: To treat and transport medical patients and confine small fires *to* the room of origin, the first-due unit should arrive within 7 minutes, 90 percent of the time from the receipt of the 911 call. This equates to 1-minute dispatch time, 2 minutes crew turnout time and 4 minutes travel time spacing for single units.
- 1.2** Effective Response Force (First Alarm) for Built-up Suburban Areas of Greater than 1,000 People per Square Mile: To treat and transport medical patients and to confine fires *near* the room of origin, a multiple-unit response of at least 15 personnel should arrive within 11 minutes from the time of 911 call receipt, 90 percent of the time. This equates to 1-minute dispatch time, 2 minutes crew turnout time and 8 minutes travel time spacing for multiple units.
- 1.3** Emerging Suburban Areas of 500 to 1,000 people per square mile should have first-due fire unit travel time coverage of 10 minutes, 80 percent of the time; and the effective response force should have a travel time of 15 minutes, 80 percent of the time. Fires will be contained to the building of origin to prevent a wildland fire. Medical patients salvageable upon arrival will receive appropriate care for their condition.
- 1.4** Rural Areas of less than 500 people per square mile should have first-due unit travel times of 14 minutes, 80 percent of the time. Rural areas should receive the effective response force within 20 minutes travel time, 80 percent of the time. Fires will be contained to the building of origin to prevent a wildland fire. Medical patients salvageable upon arrival will receive appropriate care for their condition.

The fire deployment service levels and resultant trigger points in the following table are consistent with national recommendations as discussed earlier in this section of the report. These measures serve as guidelines for adding more fire stations and crews.

Citygate’s Proposed Deployment Measures Based on El Dorado Population Densities

	Structure Fire Urban Area 90% Goal	Structure Fire Emerging Suburban Area 80% Goal	Structure Fire Rural Area 80% Goal	Wildfires Populated Areas 90% Goal	Remote Areas*
	>1,000 people/sq. mi.	500-1,000 people/sq. mi.	<500 people/sq. mi.	Permanent open space areas	
1 st Due Travel Time	4	10	14	10	10
Total Reflex Time	7	13	17	13	13
1 st Alarm Travel Time	8	15	20	12	20
1 st Alarm Total Reflex	11	18	23	15	23

*CAL FIRE or Forest Service Responsibility Lands.

Recommendation #2: The County and Fire Districts could, as adopted policy, use the population density service level table to identify to the development community when and where new fire stations are necessary.

Recommendation #3: As the economy allows, a minimal staffing plan would be for every fire district in its most populated areas to operate at least one 2-firefighter unit 24/7/365. This could be done as is currently with a variety of staffing plan combinations from career to per diem to volunteer firefighters.

This would provide multiple benefits – improved first-due unit response time, increased unit response and total firefighter counts on serious emergencies and reduce reliance on ambulance staffing for primary firefighting forces.

5.2 ORGANIZATIONAL AND FISCAL OPINIONS

In addition to multiple observations about the Fire Departments’ field deployment functions, Citygate’s fiscal review findings and recommendations are:

From a fiscal and deployment perspective, the fire service agencies fall into three broad categories: 1) those with a suitable and stable revenue base that permits the provision of quite adequate fire and EMS services; 2) those that, in spite of a larger revenue base, are stretched quite thin across a large geographic area and so are not able to provide equity of coverage throughout their District; and 3) those that are small and providing very modest service on an unstable revenue base that is very reliant on year-to-year County funding and Strike Team revenue from the State.

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Categorizing the agencies into three categories is a judgment based on a series of data elements, some of which actually may point in competing directions. Thus it is very possible for someone to question the appropriateness of placing an agency in one category or another. Placing an agency into a category also does not speak to the long-term fiscal prospects of the agency. For some agencies, such as the Lake Valley Fire Protection District, their revenue base is very constrained by limited parcel growth and may very well stress the agency in five years or so. For South Lake Tahoe, a restoration of the economy will likely restore their fiscal capacity to continue supporting adequate fire service. A high rate of inflation in the economy could also make current revenue inadequate to meet expenses.

However, for summary purposes, Citygate has made these judgments based on current fiscal and deployment data. This summary table is a starting point for understanding the findings and more detailed data to follow.

Fiscal and Deployment Condition of the Fire Agencies

Best Condition	Modest Condition with Stretched Services	Unstable Condition
Cameron Park	El Dorado County FPD	Fallen Leaf
Diamond Springs	Rescue	Garden Valley
El Dorado Hills (Water District)		Georgetown
Lake Valley		Latrobe
Meeks Bay		Mosquito
South Lake Tahoe		Pioneer

Regardless of the current fund balances of an agency, an important measure of its real fiscal health is the size of its capital obligation to replace fire equipment and fire stations. Fire engines only have an effective life of 10-15 years, depending on how they are used and maintained. Engines older than that suffer metal fatigue and all of the growing maintenance problems everyone encounters with their older personal vehicles. Additionally, over the years the national recommended safety standards have become more comprehensive in efforts to improve the safety for personnel operating the equipment and the likelihood that the equipment will work properly in an emergency. Equipment that was specified and built prior to the year 1991 safety standards (at or over 19 years old) probably has not been refurbished to meet the newer standards. Even so, a close evaluation needs to be made regarding the cost effectiveness of upgrading any single fire engine, based upon its then unique current mechanical condition.

Finding #10: Most of the agencies have immediate or pending significant fire engine and station replacement needs, and most of them do not have the current or projected resources to meet these needs. Most of the capital needs are for replacement and not additions, and so can only be partially funded from new development impact fees. Impact fee revenue will be insignificant in most agencies due to the low rate of growth for the foreseeable future.

Station and Apparatus Needs

Agency	Station Needs	Immediate Apparatus Replacement Need	Next Five Years Apparatus Replacement Need
<i>Tahoe Basin</i>			
Fallen Leaf			\$700,000
Lake Valley			\$400,000
Meeks Bay	1		\$650,000
S Lake Tahoe	4	\$800,000	\$250,000
<i>West Slope Agencies</i>			
Cameron Park			
Diamond Springs	1		\$800,000
El Dorado County FPD	6	\$1,900,000	\$2,800,000
El Dorado Hills (Water District)	2		\$1,000,000
Garden Valley		\$1,100,000	
Georgetown	1		\$2,000,000
Latrobe		\$1,100,000	
Mosquito			\$400,000
Pioneer			\$700,000
Rescue			\$400,000
Total:	15	\$4,900,000	\$10,100,000

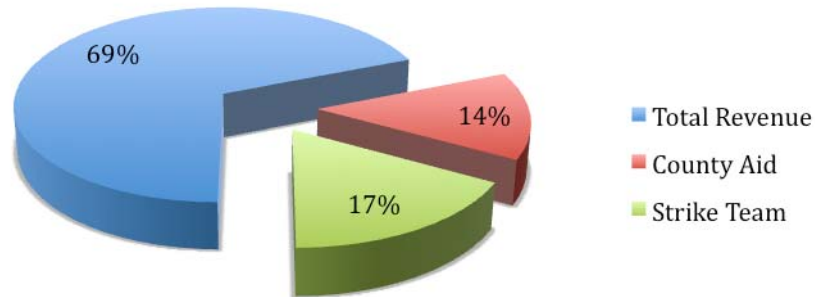
A second measure of fiscal health is the size of reserves and the percentage of annual revenue that comes from sources that can be highly variable from year to year. In El Dorado County, all of the fire agencies can provide Strike Teams to the State in the event of a major emergency that requires the State to request resources from local agencies. In those cases the State reimburses not only the labor, but also the value of the use of the fire engines and other expenses. But the amount reimbursed is more than the amount that was actually expended “out of pocket” in that year to provide the Strike Team. The difference represents a net revenue to the agency.

For many smaller agencies in California, this Strike Team revenue represents a significant source of money that actually allows them to maintain their current service level. Although they can only guess at the amount they will earn during the coming year as they adopt their annual budget. The more reliant the agency is on this and similar sources of revenue, such as annual County contributions, the more unstable their fiscal condition is.

Finding #11: All of the smaller agencies, those with budgets near or under \$1,000,000 per year, rely significantly on nonrecurring (annually renewable) revenue, principally County funding and reimbursement for providing Strike Teams for State emergencies.

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The chart below reflects the percentage overall of County contribution and Strike Team revenue received by the eight agencies that currently receive County contributions. And then below that is a table with the detail reflecting the combination of dollar reserves and the reliance on non-recurring revenue for each agency.



Size of Reserve and Stability of Revenue

Agency	Total FY 2008-09 Revenue	County FY 2008-09 Contribution	End of FY 2008-09 Reserves	County and Other Non-recurring Revenue as a Percent of Total Revenue
Tahoe Basin				
Fallen Leaf	\$266,685	\$60,454	\$136,480	30%
Lake Valley	\$5,636,090	\$0	\$2,096,011	22%
Meeks Bay	\$1,318,563	\$312,945	\$1,141,864	35%
S Lake Tahoe	\$7,424,066*	\$0	N/A	N/A
West Slope Agencies				
Cameron Park	\$2,703,646*	\$0	N/A	N/A
Diamond Springs	\$4,345,266	\$0	\$1,102,883	16%
El Dorado County FPD	\$10,957,370	\$0	\$6,230,866	5%
El Dorado County Water District	\$16,404,780	\$0	\$20,571,606	5%
Garden Valley	\$2,366,649	\$205,285	\$625,873	73%
Georgetown	\$1,294,174	\$36,240	\$339,375	35%
Latrobe	\$372,733	\$168,978	\$259,476	60%
Mosquito	\$517,418	\$35,047	\$129,714	25%
Pioneer	\$1,155,646	\$279,047	\$387,978	36%
Rescue	\$1,982,293	\$202,351	\$1,198,125	37%

*For both the South Lake Tahoe and Cameron Park Fire Department budgets, their expenditures have been used as the “revenue” because the both departments are part of a larger general fund. Even with earmarking of revenue, there is some ability on the part of the agency to prioritize how funds are expended among a number of services, including fire.

With so many agencies reliant upon unstable sources of revenue to maintain their current service level, we looked at the current assessment on a typical single-family dwelling in each agency that receives County funding and then estimated what increase would be needed if County funding were removed and all of the assessment were placed on dwelling units. As a practical matter, an appropriate assessment spread would have other parcels included, but this detailed data would require an Engineer’s Report for an assessment district to develop precisely. Instead we chose this approach to provide an order of magnitude measure of what the increase might be compared to the current assessment level in each District.

Finding #12: All but one Agency receiving County funding levies an assessment to support fire operations, although the EMS JPA assessment applies to all but Meeks Bay. Including the EMS assessment, the average assessment on the typical single-family dwelling unit is about \$180 per year. If assessments were to be added to replace county funding, the assessment would increase an average of \$165 per year if applied only to dwelling units. It would be somewhat less if also applied to other properties.

Current Assessments and Estimated Assessment as Replacement Revenue

Agency	County Funding	Total Fire and EMS Annual Tax and Assessment on Typical Single Family Home FY 09-10	Estimated Annual Tax/Assessment Increase per Dwelling Unit to Replace County Funding
Tahoe Basin			
Fallen Leaf	\$60,454	\$419	\$349
Meeks Bay	\$312,945	\$291	\$172
West Slope Agencies			
Garden Valley	\$205,285	\$131	\$105
Georgetown	\$36,240	\$109	\$24
Latrobe	\$168,978	\$80	\$420
Mosquito	\$35,047	\$229	\$64
Pioneer	\$279,047	\$25	\$100
Rescue	\$202,351	\$155	\$86

In an earlier table in this section, Citygate attempted to classify the 14 fire agencies in the County into three broad categories that combined both a deployment and fiscal perspective. The table below also categorizes the agencies but from solely a fiscal perspective. Here the “current” fiscal condition of the agencies are categories both with and without county funding, with information regarding whether or not the agency also has significant unmet capital needs. While an agency may be in a currently adequate fiscal condition, unmet capital needs are one element that strongly modifies this assessment projecting into the future.

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Finding #13: If all current funding were to continue in place for each agency for the next several years, only the City of South Lake Tahoe is presently fiscally stressed in its efforts to continue the current level of fire services. If County funding and/or other non-recurring funding were to be withdrawn or substantially reduced, 6 more agencies would be fiscally stressed or very stressed and all of them have significant unmet capital needs.

Current Fiscal Condition of Fire Agencies

Agency	Total FY 2008-09 Revenue	County FY 2008-09 Contribution	End of FY 2008-09 Reserves	Current Fiscal Condition	Condition without County Funding	Significant Unmet Capital Needs
Tahoe Basin						
Fallen Leaf	\$266,685	\$60,454	\$136,480	Adequate	Very Stressed	Yes
Lake Valley	\$5,636,090	\$0	\$2,096,011	Adequate		
Meeks Bay	\$1,318,563	\$312,945	\$1,141,864	Adequate	Adequate	Yes
S Lake Tahoe	\$7,424,066*	\$0	N/A	Stressed		Yes
West Slope Agencies						
Cameron Park	\$2,703,646*	\$0	N/A	Adequate		
Diamond Springs	\$4,345,266	\$0	\$1,102,883	Adequate		Yes
El Dorado County FPD	\$10,957,370	\$0	\$6,230,866	Adequate		Yes
El Dorado County Water District	\$16,404,780	\$0	\$20,571,606	Very Adequate		
Garden Valley	\$2,366,649	\$205,285	\$625,873	Adequate	Very Stressed	Yes
Georgetown	\$1,294,174	\$36,240	\$339,375	Barely Adequate	Barely Adequate	Yes
Latrobe	\$372,733	\$168,978	\$259,476	Adequate	Very Stressed	Yes
Mosquito	\$517,418	\$35,047	\$129,714	Adequate	Stressed	
Pioneer	\$1,155,646	\$279,047	\$387,978	Adequate	Very Stressed	Yes
Rescue	\$1,982,293	\$202,351	\$1,198,125	Adequate	Stressed	

*For both the South Lake Tahoe and Cameron Park Fire Department budgets, their expenditures have been used as the “revenue” because the both departments are part of a larger general fund. Even with earmarking of revenue, there is some ability on the part of the agency to prioritize how funds are expended among a number of services, including fire.

5.3 NEXT STEPS

There are three fundamental issues that run throughout this report: 1) How to maintain or improve the current fiscal situation of the fire agencies so that at least the current level of service can be continued, 2) what improvements in service levels are most cost effective if additional resources are available and 3) does some form of re-organization increase cost-effectiveness and or efficiencies?

The most critical question across all of these issues is whether or not the County can or should continue providing some level of funding to one or more of the fire agencies in addition to the present EMS support from CSA 3 and CSA 7.

The conclusions of this report are that County or comparable funding is needed by a majority of the agencies currently receiving it, in order for them to continue their current level of service. It is also clear, that even with the current level of revenue, many of the agencies cannot afford to replace fire engines that need to be replaced over the next five years and certainly cannot afford to replace fire stations.

Before deciding how much revenue each agency really needs for long term sustainable health, a much more refined assessment of the fire apparatus needs to be made in order to determine how truly imminent the problem is for each agency. Citygate only assessed apparatus based on reported age and national standards. Some of the apparatus may be in better or worse condition. Some may represent an immediate safety problem.

Once this assessment is done, all the agencies have a better picture of the capital shortfall and its urgency, allowing a number of options to be explored based on hard dollar needs. These include joint purchasing by the agencies through the County; County assistance in financing apparatus; a County initiated assessment district covering a number of districts to provide funding for equipment.

5.3.1 Step One

Recommendation #4: Contract with CAL FIRE or similar agency with credentialed fire apparatus mechanics to assess all of the fire apparatus in all of the agencies with the possible exception of El Dorado Hills and Cameron Park (where the equipment is operated by CAL FIRE). The assessment is to provide a recommendation regarding whether the equipment should be upgraded to meet safety standards and at what estimated cost, operated as front line or reserve, and whether it should be side-lined and not operated by the District. If total replacement is recommended, the analysis should provide an estimate of the year in which the equipment should be replaced.

While consolidation, merger, contracts for service among agencies or similar arrangements will not result in reducing the number of line or headquarters staff (see pages 19-20, chief officers), fire stations, or equipment as has been discussed elsewhere in this report, such arrangements may be able to create more rational and cost effective organizations. This should be explored before any long-term financing solution is put into place to continue, replace or enhance current County funding. Who will receive funding, the amount, the appropriate vehicle for creating and

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administering the funding is wholly dependent upon the answer to the question of what new organizational arrangements might better serve the residents of the County and each District.

This examination will be more than a study. It will need to be an examination of what is not only cost effective, but what is practically possible from both a legal and public acceptance point of view. The latter is important because any “new funding arrangement” is likely to involve some form of voter or property owner approval. And it needs to be in a form that encourages and supports the continued viability of the very effective volunteer forces in the County. Without these volunteers, the service level will decrease very substantially and in most of the Districts, there will never be the revenue base to support career firefighter only operations.

5.3.2 Step Two

Recommendation #5: Continue County funding for the next two fiscal years for all agencies with the exception of Georgetown and Meeks Bay, under the stipulation that the agencies actively participate in a study regarding what combination of merger, contracts for service or other arrangement would most cost effectively maintain at least the current level of service.

Recommendation #6: While Georgetown and Meeks Bay can operate for a period of time without immediate supplemental funding, their long-term needs will eventually outstrip their finite revenue bases. As such, they should be encouraged to fully participate in any re-organization planning.

Recommendation #7: The County should examine the Ambulance transport rates in both JPA’s, keep them current with the marketplace and as revenues allow, provide supplemental funding to encourage the use of paramedic engine companies in the areas without ambulances.

After completion of the agency merger/contract studies, an outcome should be a recommendation regarding whether additional fire service assessments are appropriate to equalize funding and/or improve service levels.

Citygate also reminds the parties that there is not one form of re-organization that is a best-fit choice, as there are too many variables and differences at this time across a large, diverse county. Some districts may contract some or all services. For some a better answer may be Joint Powers Agreements, and some the best choice may be a total re-organization with the appropriate approvals.

Several other actions would follow completion of the studies and decisions regarding the most cost effective arrangements.

5.3.3 Step Three

- ◆ Adopt the technical deployment performance measures identified in this study as Recommendations #1-3;
- ◆ After completion of the studies, the County could explore the option of providing the financing for construction of new fire stations where the local agencies cannot obtain the financing themselves;

- ◆ After completion of the studies, the County might offer to facilitate a joint bid for all fire apparatus in order to obtain better prices;
- ◆ After completion of the studies several or all the districts could develop a regional approach to providing training to fire agencies, possibly using one of the largest agencies in the county to provide the regional training overview and delivery.

APPENDIX

FIRE APPARATUS INVENTORY

Department Name	Unit Type	Year built	Age
CAL FIRE	Engine Type 3		
	-- Comm Type 1		
	Engine Type 3		
	Engine Type 3		
	Engine Type 3		
	Engine Type 3		
	Engine Type 3		
	Engine Type 3		
Cameron Park CSD Fire Department	1 Type 1 Engine		
	1 Type 1 Engine		
	1 Type 1 Engine		
	1 Type 1 Engine		
	1 Type 3 Engine		
	1 Utility Truck		
	1 Utility Truck		
	1 Chief Officer vehicle		
	1 Chief Officer vehicle		
	-- Rescue, Squad, Medic, Engine ALS Type 1	2005	4
	-- Rescue, Squad, Medic, Engine ALS Type 1	2005	4
Ambulance, Medic ALS Type 1			
Diamond Springs - El Dorado Fire Protection District	Engine Type 1	2000	9
	Engine Type 1	1992	17
	Engine Type 2	1978	31
	Truck Type 2	1981	28
	Water Tender Type 1	2006	3
	-- USAR Type 2	2003	6
	Engine Type 1	1981	28
	Ambulance, Medic ALS Type 1		
	Ambulance, Medic ALS Type 1		
	Engine Type 1	2006	3
	Engine Type 1	1992	17
	Water Tender Type 1	1990	19
	Engine Type 2	2004	5
	Engine Type 1	1981	28

Department Name	Unit Type	Year built	Age
El Dorado County Fire Protection District	Engine Type 4	1981	28
	Engine Type 1	1995	14
	Engine Type 1	1994	15
	Engine Type 3	1985	24
	Water Tender Type 1	1984	25
	Ambulance, Medic ALS Type 1		
	Ambulance, Medic ALS Type 1		
	Engine Type 2	1983	26
	Engine Type 1	1981	28
	Water Tender Type 1	1976	33
	-- Rescue, Squad, Medic, Engine ALS Type 1	2003	6
	-- Rescue, Squad, Medic, Engine ALS Type 1	2003	6
	Engine Type 1	1999	10
	Engine Type 2	1998	11
	Engine Type 1	1999	
	Ambulance, Medic ALS Type 1		
	-- Rescue, Squad, Medic, Engine ALS Type 1	2005	4
	Engine Type 1	2002	7
	Engine Type 3	1983	26
	-- Breathing Support Type 2		
	Engine Type 2	1976	33
	Engine Type 1	1999	10
	Engine Type 1	1987	22
	Ambulance, Medic ALS Type 1		
	Engine Type 1	1980	29
	Truck Type 1	1988	21
	Engine Type 2	1983	26
	Engine Type 1	2002	7
	Engine Type 2	1989	20
	Engine Type 3	2009	0
	Water Tender Type 1	1984	25
	Ambulance, Medic ALS Type 1		
	Engine Type 1	1994	15
	Engine Type 2	1984	25
	Water Tender Type 1	1995	14
	-- Breathing Support Type 2		
	Engine Type 2	1984	25
	Engine Type 1	1983	26
	Ambulance, Medic ALS Type 1		
	Engine Type 2	1984	25
Water Tender Type 1	1991	18	

Department Name	Unit Type	Year built	Age
El Dorado Hills County Water District (Fire Department)	Truck Type 1	2000	9
	Engine Type 1	1996	13
	Engine Type 3	1996	13
	-- Breathing Support Type 1	2002	7
	Ambulance, Medic ALS Type 1	2004	5
	Ambulance, Medic ALS Type 1	2003	6
	Engine Type 1	1999	10
	Engine Type 3	1995	14
	Engine Type 1	1990	19
	Engine Type 1	2003	6
	Engine Type 3	2006	3
	Water Tender Type 1	2003	6
	Truck Type 1	2007	2
	Engine Type 3	2004	5
	Engine Type 3	1993	16
Fallen Leaf Lake Community Services District Fire Department	Engine Type 1	1982	27
	Engine Type 3	1991	18
	Engine Type 3	1991	18
	Engine Type 4	1997	12
	-- Patrol	2001	8
Garden Valley Fire Protection District	Engine Type 1	1987	22
	Rescue, Squad, Medic, Engine ALS Type 3	2003	6
	Water Tender Type 1	1981	28
	-- Rescue, Squad, Medic, Engine BLS Type 2	1998	11
	-- Patrol		
	Engine Type 3	1978	31
	Engine Type 1	1973	36
Engine Type 1	1985	24	

Department Name	Unit Type	Year built	Age
Georgetown Fire Protection District	Engine Type 2	2004	5
	Engine Type 1	1986	23
	Engine Type 1	2005	4
	-- Patrol		
	-- Rescue, Squad, Medic, Engine ALS Type 1		
	-- Rescue, Squad, Medic, Engine ALS Type 1		
	Engine Type 2	1986	23
	Water Tender Type 1	1979	30
	-- Rescue, Squad, Medic, Engine ALS Type 1		
	-- Breathing Support Type 1	2006	3
	Engine Type 2	1995	14
	Engine Type 2	1983	26
	-- Patrol		
	Engine Type 1	1987	22
Engine Type 2	1982	27	
Lake Valley Fire Protection District	Engine Type 1	2005	4
	Ambulance, Medic ALS Type 1		
	Engine Type 1	1998	11
	Engine Type 1	1991	18
Latrobe Fire Protection District	Engine Type 1	1984	25
	Water Tender Type 1	2009	0
	Engine Type 3	1981	28
	-- Rescue, Squad, Medic, Engine BLS Type 2	1995	14
	-- Rescue, Squad, Medic, Engine BLS Type 2	2009	
	Engine Type 1	1976	33
	Engine type 2	2009	0
Meeks Bay Fire	Engine Type 1	1999	10
	Engine Type 4	1991	18
	-- Breathing Support Type 2		
	-- Rescue, Squad, Medic, Engine BLS Type 2	1990	19
	Water Tender Type 1	2003	6
	Engine Type 1	1989	20

Department Name	Unit Type	Year built	Age
Mosquito Fire Protection District	Engine Type 1	2000	9
	Engine Type 3	2005	4
	Engine Type 1	1992	17
	Engine Type 1	1985	24
	Water Tender Type 1	2006	3
	Water Tender Type 1	1975	34
	Water Tender Type 1	1986	23
Pioneer Fire Protection District	BRUSH PATROL	2002	7
	Engine Type 1	1987	22
	TYPE I	2004	5
	BRUSH PATROL	2003	6
	-- Rescue, Squad, Medic, Engine ALS Type 1	2004	5
	Engine Type 3	1997	12
	Water Tender Type 2	1991/2001	
Rescue Fire Protection District	Engine Type 1	2007	2
	Engine Type 3	2007	2
	Water Tender Type 1	1995	14
	Engine Type 1	1988	21
	Engine Type 3	2000	9
	Squad		23

Department Name	Unit Type	Year built	Age
South Lake Tahoe, City of	Engine Type 1	1999	10
	Engine Type 3	2008	1
	Ambulance, Medic ALS Type 1	2005	4
		2001	8
		2007	2
	-- Breathing Support Type 1	2009	
	Engine Type 1	1991	18
	Truck Type 1	1984	25
	Engine Type 4	1989	20
	Engine Type 1	2003	6
	Engine Type 3	2008	1
	-- Rescue, Squad, Medic, Engine ALS Type 1	1994	15
	MOBILE COMMUNICATION		
		1999	10
	Engine Type 1	1982	27
	-- Comm Type 1		

APPARATUS				
Agency	Front Line Apparatus	Age	Typical Years Remaining	Cost Replace
Rescue	Type I Engine	15	0	\$450,000
	Type I Engine	20	-5	\$450,000
	Type III Engine	10	5	\$350,000
Pioneer	Type I Engine	2	13	\$450,000
	Type I Engine	10	5	\$450,000
	Type III Engine	8	7	\$350,000
Garden Valley	Type I Engine	18	-3	\$450,000
	Type I Engine	20	-5	\$450,000
	Type III Engine	2	13	\$350,000