

**SUBMITTAL TO THE BOARD OF SUPERVISORS
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA**

444



FROM: FIRE

SUBMITTAL DATE: April 7, 2003

SUBJECT: 10 Year Master Plan for New and Replacement Fire Stations

RECOMMENDED MOTION: Move that the Board:

1. Receive and file the 10 Year Master Plan for constructing and staffing new and replacement fire stations.
2. Schedule a workshop with the Fire Chief in 90 days to review and adopt the County Fire Protection and Emergency Medical Master Plan in its entirety.

BACKGROUND: On 1/28/03 (M.O. 3.19), the Board approved the Executive Office request for Fire to provide a 10 year master plan that identifies new and replacement fire stations to be constructed and staffed over the next 10 years. In the face of a very grim budget picture for the next few years, the Executive Office needed this information to evaluate the impact to the General Fund. (Continued on Page 2)



 TOM TISDALE
 County Fire Chief

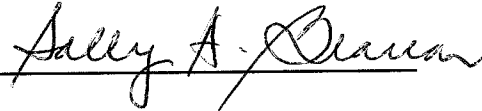
FINANCIAL DATA:

CURRENT YEAR COST \$
 NET COUNTY COST
 BUDGET ADJUSTMENT
 SOURCE OF FUNDS:

ANNUAL COST:
 IN CURRENT YEAR BUDGET:
 FOR FY:

CEO RECOMMENDATIONS:

Approve and refer to the CIP Team for review during the 90-day period.

County Executive Officer Signature: 

Policy
 Policy

Consent
 Consent

Department Recommendation:
 Per Executive Office:

Prev. Agn. ref.

Dist.
All

AGENDA NO.

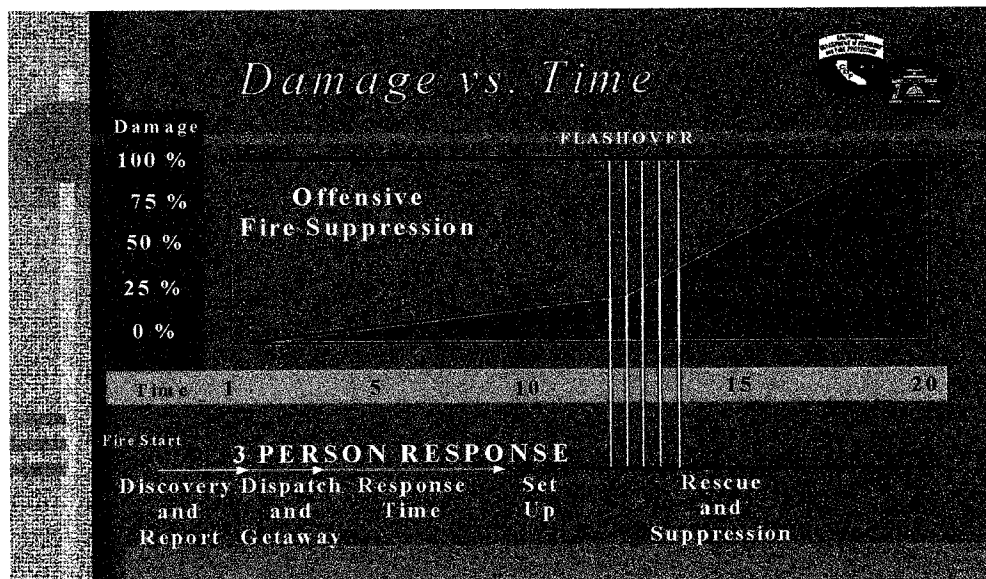
Based on current projections of structural taxes, no additional General Funds for staffing new facilities will be required until approximately FY 06/07. This assumes tax revenues will continue to grow at 5% to 7% and be solely dedicated to funding new facility staffing. Critical support functions and other emergency medical services will still require financial assistance from the General Fund. A schedule listing these requirements are also attached.

The schedules and narrative attached do not represent the Fire Department's Master Plan in its entirety. We are requesting an opportunity to have a workshop with the Board in 90 days to review all aspects of the Department's Fire Protection, Emergency Medical Operation and Support Services.

Riverside County Fire Department Funding Master Plan 2003- 2008

This Financial Master plan documents a comprehensive, multi-year, strategic plan which addresses the financial impact of construction and staffing of new and replacement facilities within the County Fire Department system.

The provision of fire stations vary more as a function of the geographic distribution of structures than the increases in population. One of the most important criteria for effective firefighting is the response time needed to reach the site of the fire. Existing stations are strategically located to ensure adequate service within the area. Having more structures at build out suggests the potential for structure fires would increase. Graph #1 (below) illustrates the time critical concept of “flash over”. A flash over will occur when the temperature of the heated gases in the upper atmosphere of a room reach ignition temperatures. When this occurs the fire flashes throughout the entire space. The fire then goes from a fire confined to a single room and immediately and explosively spreads to the entire structure.



Graph 1

Build out of the unincorporated areas of the County will result in a substantial increase in population and residential and non-residential structures, resulting in increased demand for fire protection and emergency medical services. Table #1 shows an example of the statistical relationship between population numbers and the number of incidents.

TABLE 1

RESPONSE COMPARISONS			
Jurisdiction	Population	Incidents (2001)	Inc. per 1000 People
Banning	24260	2780	115
Beaumont	11364	1381	122
Calimesa	7105	949	133
Canyon Lake	10200	595	58
Coachella	23072	1445	63
Desert H.S.	16999	2672	157
Lake Elsinore	30381	2975	98
Indian Wells	3800	579	152
Indio	51500	3946	77
La Quinta	24250	1584	65
Moreno Vy	149000	10154	68
Palm Dst	42350	5294	125
Perris	33000	3960	120
Rh.Mirage	12000	2361	196
San Jacinto	26124	3434	131
Temecula	67000	3960	59

Today's fire service is multi-task oriented and handles a wide variety of emergencies (fire, hazmat, rescue, medical aid). The vast majority of the CDF/Riverside County Fire Department's incident responses are for medical emergencies, equaling approximately 75% of the department's total call volume. Common sense, as well as numerous studies, has substantiated the requirement for rapid initiation of basic life support services. Information in Table # 2 (from the American Red Cross document, Cardiopulmonary Resuscitation), also establishes the need for rapid response to strokes, heart attacks, airway obstruction, and serious bleeding incidents. Thus the number and location of fire stations and companies are also greatly influenced by EMS goals and objectives involving response times. The Riverside County Fire Department's Master Plan (1986) shows the desired response time for the various land use categories. (Graph #2).

Several things influence response time. The two most critical are, the distance from the fire station facility and the Level of Service (LOS) for the roadways used to respond to the incident. The majority of emergency vehicle responses are on "Local Facility" roadways and are therefore subject to interrupted traffic flow delays. Equally as important as the response time for the first arriving apparatus is the timely arrival of all emergency apparatus required to abate the emergency. The National Fire Protection Association has established minimum numbers of on-scene personnel to effectively conduct safe and efficient fire ground operations. Through various standards and publications, NFPA tells us that fifteen fire ground personnel plus a chief officer are required on fires in single-family dwellings. The strategic placement of adjoining stations and/or staffing of second engines to meet the response times for the required full alarm is a goal of this department.

DESIRED TIME OBJECTIVES

Objective	<u>Land Use Category</u>			
	Outlying	Rural	Urban	H.Urban
Extinguishing agent applied to structure and vegetation fires within listed minutes from dispatch.	20	14	10	7 indus/ comm. 8 res.
Full assignment in operation within listed minutes from dispatch.	30	20	15	10
Suppression initiated within listed minutes of receipt of alarm for at least 90% of all fires.	15	8	10	Prior to Flashover
Fire station located within listed miles.	8	5	3	1 ½

GRAPH 2

American Red Cross: Cardiopulmonary Resuscitation

TABLE 2

Brain Damage as a Result of Lack of Oxygen			
0-Minutes	4-Minutes	6- Minutes	10- Minutes
CLINIC DEATH		BIOLOGICAL DEATH	
(0-4 MIN) BRAIN DAMAGE Not likely	(4-6 MIN) BRAIN DAMAGE probable	(6-10 MIN) BRAIN DAMAGE probable	(OVER 10 MIN) BRAIN DAMAGE almost certain

Deployment / Funding

Using the Riverside County Proposed General Plan (August 14,2002) Section 3 Project Description, and referring to the Land Use Concepts, the following fire station deployment proposal is submitted.

The proposed General Plan divides the unincorporated portions of the county into 19 areas. A map and statistical summary for each of these areas has been drafted. Overlaying the response areas of the existing fire stations on to the Area Plan Land Use maps, clearly indicates those areas in need of a new fire station. Using the statistical summary developed for each Area, the level of service required of the fire department can be determined. That required level of service determines the size and location of a new fire station.

NEW STATIONS

<u>Project Name</u>	<u>Occupancy Date</u>	<u>Funding Source</u>
Eastvale	2003	mitigation
Sycamore	2003	mitigation
ElCariso	2003	DIF
Horsethief Cyn	2004	DIF
Pauba	2005	DIF
Pourroy	2005	DIF
Romoland	2005	DIF
Audie Murphey	2006	DIF
Domenogoni	2006	DIF
Galena	2006	DIF
Valerie Jean	2007	DIF
Menifee Vy Cnt	2007	DIF
Scott Rd	2007	DIF
Sedco Hills	2008	DIF
Wildrose	2008	DIF
Eastvale #2	2008	DIF
Walker Basin	2009	DIF
Cottonwood	2010	DIF
Mission	2010	DIF
Glen Oaks	2010	DIF
Dawson Cyn	2011	DIF
Armstrong	2011	DIF

NEW STATIONS (cont)

Project Name	Occupancy Date	Funding Source
Cactus Vy	2012	DIF
Thorobred	2012	DIF

REPLACEMENT STATIONS

<u>Project Name</u>	<u>Year Built</u>	<u>Occupancy Date</u>	<u>Funding Source</u>
Cabazon	1972	2003	DIF
ElCerrito	1975	2003	mitigation
Home Gardens	lease	2003	mitigation
Mead Valley	1978	2003	mit./redevelopment
Woodcrest	1968	2003	mitigation
Blythe	1951	2004	empowerment
Pedley	1949	2004	DIF
Ripley	1955	2004	empowerment
Thousand Palms	1958	2004	mitigation
North Shore	1964	2004	DIF
Cherry Valley	1954	2005	DIF
Lake Tamarisk	1970	2005	empowerment
Mecca	1952	2006	empowerment
Quail Valley	1954	2006	DIF
Oasis	1957	2007	empowerment

Total of 3 replacement stations using “old mitigation” funds

Total of 5 replacement stations using DIF as funding source

Total of 5 replacement stations using empowerment zone funds.

The stations in line for replacement are very old and were designed for a fire crew of one or two personnel. Kitchen, bathroom and sleeping facilities can no longer accommodate the number of personnel on duty. The apparatus garage is too small for the size and number of fire apparatus currently in service.

Riverside County Fire Dept. Funding Master Plan

This Plan recommends actions to be taken to continue the implementation of the Riverside County Fire Department Master Plan. This plan presents a proposed schedule of activities which will lead to the accomplishment of the goals and objectives.

Deployment priorities are based on current and anticipated growth patterns. This plan covers five years and will be updated annually to reflect growth and implementation progress.

The following information sheets reflect the yearly increases in facilities and staffing.

1986 Master Plan Resource Requirement Standards
Personnel Standards

Fire station staffing. This title has been changed to Fire Apparatus Staffing. It now includes staffing for engines, trucks, emergency medical units and hazardous material units. The 1986 Master Plan set the standard at two firefighters per engine. No standard had been set for truck, medical unit or hazardous materials unit. The current standards are now:

Three firefighters per engine

Four firefighters per truck

Two firefighters per paramedic squad or ambulance

Five firefighters per hazardous materials unit

The upgrade to firefighter II staffing is currently in process and is scheduled to be completed in year 05/06.

Personnel clerks. The 1986 Master Plan set the standard at one staff member for every 75 career employees. This standard is proposed to change to one staff member for every 100 career employees. The fire department currently has 935 career employees. This equals 10 people required in the personnel section. We currently have five county and two state personnel clerks. **Need three additional people.**

Apparatus maintenance. The 1986 Master Plan set the standard at one mechanic for every twenty-five vehicles. No changes are proposed to this standard. The fire department currently has 378 vehicles. This equals 15 mechanics required in this section. We currently have fifteen mechanics working in the vehicle maintenance section. No additional mechanics are needed.

Facility Maintenance. The 1986 Master Plan did not address this standard. Preventative maintenance, minor repairs and unscheduled maintenance will be done by in-house staff. Major repairs and replacement tasks will be done by contract. The proposed standard is one general maintenance worker for every 25 stations. One electrician for every 100 stations. One carpenter for every 100 stations. One maintenance supervisor for every 100 stations. The fire department currently has 89 fire stations. This equals four new positions. Currently we have no people working in this section. **Need four additional people.**

Supply (Warehouse). The 1986 Master Plan set the standard at one staff member for every twenty-five stations. No changes are proposed to this standard. The fire department currently has 89 stations. This equals four people required in this section. We currently have four people working in this section. No additional people are needed.

1986 Master Plan Resource Requirement Standards (cont)
Personnel Standards

Communications/Dispatch. The 1986 Master Plan set the standard at one dispatcher for every 2500 calls (incidents). No changes are proposed to this standard. The fire department currently dispatches 96000+ incidents per year. This equals thirty eight dispatchers required in this section. We currently have twenty nine dispatchers working in this section. **Need nine additional dispatchers.**

Information/ Technical support. The 1986 Master Plan did not address this standard. Installation of new machines and programs as well as preventative maintenance, minor repair and unscheduled maintenance will be done by in-house staff. The proposed standard is one user technician for every 100 computers in service. One network administrator for every ten networks in service. One maintenance supervisor for every five user technicians. We currently have 400 computers and ten network systems in service. This equals one network administrator, one maintenance supervisor and four user technicians. We currently have five people assigned to this section. **Need one additional user technician.**

Finance/Purchasing The 1986 Master Plan set the standard at one staff member for every 25 stations. This standard is proposed to change to 2 staff members for each \$10,000,000 in budget. The 02/03 budget for the fire department is approximately \$78,000,000. This equals sixteen people in the finance/purchasing section. We currently have twelve people working in this section. **Need four additional people.**

Records & Statistics. The 1986 Master Plan set the standard at one staff member for each 10,000 incidents. This standard is proposed to change to one person for each 25,000 incidents. The fire department currently processes 96,000+ incidents per year. This equals four persons in this section. We currently have no persons assigned to this section. **Need four additional persons**

Clerical. The 1986 Master Plan set the standard at one staff member for every 5 input persons. No changes are proposed to this standard. The fire department currently has 11 county and 12 state clerical personnel assigned. **An additional five clerical personnel are required. (Fire Prev., I.T., Northwest Div., Shop, Southwest Div.)**

Training The 1986 Master Plan set the standard at one training officer for every 15 fire stations. This standard is proposed to change to 1.5 training officer for each 100 uniformed personnel. The fire department currently has approximately 935 full time, 40 seasonal and 500 volunteer uniformed personnel. **Need eight training officers.**

1986 Master Plan Resource Requirement Standards (cont)

Personnel Standards

Analysis & Planning. The 1986 Master Plan set the standard at one staff member for each 100,000 in jurisdiction population. With the improvements in computer programs this standard is proposed to change to one staff member for every 200,000 in population. This section contains the Pre-Fire Management and GIS personnel. The fire Department currently serves a population of 900,000+. This equates to four people working in this section. We currently have one person assigned to this section.

Need three additional persons.

Plan Checking. The 1986 Master Plan set the standard at one staff member for every 1,000 cases. No changes are proposed to this standard. The fire department currently conducts approximately 3247 plan checks each year. This equates to four persons working in this section. We currently have five persons assigned to this section. No additional personnel needed.

Fire Prevention Inspection. The 1986 Master Plan set the standard at one staff member for every 1,000 inspections. No changes are proposed for this standard. The fire department currently conducts 4541 fire safety inspections. This equates to five persons working in this section. We currently have ten person assigned to this section. No additional personnel needed.

Weed Abatement (occupied property). The 1986 Master Plan set the standard at ½ inspector for every 10,000 lots. The fire department currently conducts 50,000 – 80,000 inspections. This equates to 5 inspectors. We currently have no inspectors assigned to this work. This is currently handled by engine company personnel.

Tax Lean inspection (vacant property). The 1986 Master Plan sets the standard at ½ inspector for every 200 lots. No changes are proposed to this standard. The fire department currently conducts 20,000 inspections. Sends out 8,875 notices with 722 lots being cleaned by the county. This equates to 5 inspectors. We currently have 5 inspectors. No additional personnel needed.

Fire Prevention Area Management. The 1986 Master Plan set the standard at one manager for every ten stations. No changes are proposed to this standard. The fire department currently has 89 stations. This equates to nine area managers. We currently have no personnel assigned to this section. **Need nine additional people.**

Arson Investigation. This title has been changed to Fire Investigator. The 1986 Master Plan set the standard at one investigator for every 100 cases. The fire department currently handled 570+ investigations each year. This equates to six investigators. We currently have five investigators assigned to this section. **Need one additional investigator.**

1986 Master Plan Resource Requirement Standards (cont)

Personnel Standards

Information & Education. The 1986 Master Plan set the standard at one staff member for each 100,000 in County population. No changes are proposed to this standard. The population served is 900,000+ . This equates to nine staff members. We currently have three persons assigned to this section. **Need six additional personnel.**

Supervision. The 1986 Master Plan set the standard for supervision at;

One deputy chief for every five division chiefs,

The fire department currently has seven divisions. This equals two deputy chiefs. We currently have one deputy chief assigned. **Need one additional deputy chief.**

One division chief for every five battalion chiefs

The fire department currently has 35 battalion chiefs. This equals seven divisions. We currently have seven divisions.(four county and three state) No additional divisions are required.

One battalion chief for every five fire stations. This standard is proposed to change. (see battalion chief requirement standard)

The fire department currently has 89 stations. This equates to 18 battalion chiefs. We currently have twenty one field battalion chiefs. (some battalions require two)
No additional battalion chiefs required.

1986 Master Plan Resource Requirement Standards (cont)

Personnel Standards

Battalion Chief Requirement

The position of Battalion Chief bridges the responsibilities of routine administrative duties and initial attack emergency incident management. When developing the need for the battalion chief position both responsibilities must be considered. While an administrative duty standard of one supervisor for every five stations is acceptable, the emergency response criterion for a battalion chief restricts the size of the area that a battalion chief is assigned. The administrative and emergency workload varies for each battalion with some reaching the point where a second battalion chief is required. The following is the basic job description for a field battalion chief.

Emergency responses.

The battalion chief responds to and directs activities on many types of incidents. Many of these incidents involve working relationships and coordination of activities with other agencies. Personnel arriving on fire- rescue apparatus are tasked with rescue/suppression activities and the timely arrival of the battalion chief is essential to the effective management of these incidents. They include but are not limited to:

- All structure fires
- All train or aircraft incidents
- All vegetation fires during fire season
- All hazardous materials incidents
- All mass casualty incidents
- All extended rescue incidents

The amount of time an incident requires from the battalion chief varies from under one-hour to several days. Taking out the incidents lasting over twelve hours or more, statistical data gives two hours as an average commitment time per incident.

The goal of this department is to have the battalion chief on scene an incident prior to the arrival of the full first alarm equipment. (see figure 1)

Administrative Duties.

Those areas covered under the heading of administrative duties include but are not limited to:

- Personnel administration
- Administrative inspections
- Mutual aid programs
- Battalion level budgets/finance
- Training / safety
- Fire prevention / engineering

The amount of time administrative duties require of the battalion chief varies. All of the duties listed above influence the workload. Currently the average number of stations and personnel assigned to a battalion is six stations with 51 personnel. The increase in the number of stations and personnel will have an impact on the number of battalions needed. Figure 3 shows the current breakdown of battalions.

STATION CONSTRUCTION

NEW FACILITIES

Fiscal Year 2003/2004	Eastvale	Fiscal Year 2004/2005	Horsethief	Fiscal Year 2005/2006	Pauba	Fiscal Year 2006/2007	Audie Murphey	Fiscal Year 2007/2008	Valerie Jean	Fiscal Year 2008/2009	Sedco	Fiscal Year 2009/2010	Walker Basin	Fiscal Year 2010/2011	Cottonwood	Fiscal Year 2011/2012	Dawson Cyn	Fiscal Year 2012/2013	Cactus Vy
	Sycamore		Pourroy		Domenogoni		Menifee Vly		Wildrose		Mission		Armstrong						
	El Cariso		Romoland		Galena		Scott Rd		EastVale #2										

FUNDING SOURCES

Old Mitigation	\$5,600,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Approved DIF	\$1,922,000	\$1,922,000	\$1,922,000	\$1,922,000	\$1,922,000	\$1,922,000	\$1,922,000	\$1,922,000	\$2,482,000	\$1,922,000	\$1,922,000	\$1,922,000	\$1,922,000	\$1,922,000	\$1,922,000	\$1,922,000	\$1,922,000	\$1,922,000	\$1,922,000
Proposed DIF	\$0	\$2,650,000	\$6,187,000	\$6,349,180	\$6,514,604	\$6,683,336	\$433,000	\$7,027,549	\$6,042,000	\$3,381,400	\$6,042,000	\$6,042,000	\$6,042,000	\$6,042,000	\$6,042,000	\$6,042,000	\$6,042,000	\$6,042,000	\$6,042,000
General Funds	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$7,522,000	\$2,650,000	\$8,109,000	\$8,271,180	\$8,436,604	\$8,605,336	\$2,915,000	\$8,949,549	\$6,042,000	\$3,381,400	\$6,042,000	\$6,042,000	\$6,042,000	\$6,042,000	\$6,042,000	\$6,042,000	\$6,042,000	\$6,042,000	\$6,042,000

Note: Projected costs estimated at a 2% increase per year and does not include land acquisition.

STATION CONSTRUCTION

Replacement Stations

Fiscal Year	Fiscal Year	Fiscal Year	Fiscal Year	Fiscal Year
2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
Cabazon *	Blythe	Cherry Vly *	Mecca *	Oasis
ElCerrito	Pedley	Lk Tamarisk	Quail Vly	
HomeGardens *	Ripley			
Mead Valley	Thousand Palms			
Woodcrest *	North Shore			

Funding Sources

Old Mit/Redv	\$1,842,000	\$0	\$0	\$0
Approved DIF	\$2,998,500	\$1,642,000	\$1,642,000	\$0
Proposed DIF	\$0	\$65,680	\$98,520	\$0
Empowerment	\$4,803,970	\$2,500,000	\$2,500,000	\$2,500,000
General Funds	\$0	\$0	\$0	\$0
Total	\$9,644,470	\$4,207,680	\$4,240,520	\$2,500,000

Note: Projected costs estimated at a 2% increase (except empowerment zone) per year and does not include land acquisition.
 * Proposed Empowerment funding.

STAFFING PLAN

ADMINISTRATIVE, TRAINING & TECHNICAL STAFF

Fiscal Year 2003/2004 *	Fiscal Year 2004/2005	Fiscal Year 2005/2006	Fiscal Year 2006/2007
1 BC-Training (EMS)	9 FFII Breathing Support	9 FF Medics	1 PSCO Supv
3 Field BC	2 PSCOs	3 PSCOs	3 FFII Breathing Support
4 FC Training	4 Field BC	3 Bat Chiefs	
3 FFII-Breathing Supp	1 Field Div Chief	1 Field Div Chief	
3 Arson Investigators		6 FFII Breathing Support	
3 Personnel Clerks			
1 Publ Inf Ofcr			
1 Maintenance Crptr.	1 Maintenance Crptr.	1 Maintenance Crptr.	1 Maintenance Crptr.

FUNDING SOURCES

Contracts/Fees	\$586,173	\$635,258	\$864,345	\$380,206
General Funds	\$1,088,607.65	\$1,179,765.60	\$1,605,213	\$247,134
Total	\$1,674,781	\$1,815,024	\$2,469,558	\$627,340

* Due to the pending budgetary crisis facing the County and our Contract Cities, these critical staffing needs to support our operations for FY 03/04 will be carried over to our FY 04/05 Budget request.

STAFFING PLAN

NEW FACILITIES & TRUCK COMPANIES*

Fiscal Year	Fiscal Year	Fiscal Year	Fiscal Year	Fiscal Year	Fiscal Year	Fiscal Year	Fiscal Year	Fiscal Year	Fiscal Year	Fiscal Year
2003/2004	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	
Eastvale	Horsethief	Pauba	Audie Murphey	Valerie Jean	Sedco	Walker Basin	Cottonwood	Dawson Cyn	Cactus Vy	
Sycamore	Rubidoux*	Pourroy	Domenogoni	Menifee Vly	Wildrose		Mission	Armstrong		
	Sycamore*	Romoland	Galena	Scott Rd	EastVale #2		Glen Oaks			
	ThousPalms*									

FUNDING SOURCES

Fire Taxes	\$1,098,654	\$3,446,748	\$1,976,147	\$0	**	\$0	**	Too many variables exist to make a meaningful
General Funds	\$0	\$0	\$0	\$3,137,730	\$3,288,354	\$3,288,354	\$3,288,354	estimate of future staff costs beyond 5 years.
Total	\$1,098,654	\$3,446,748	\$1,976,147	\$3,137,730	\$3,288,354	\$3,288,354	\$3,288,354	

* Denotes addition of Truck Company

** FY 03/04 thru FY 05/06 COLA increases are anticipated to be covered by current Tax Reserves.
Starting in FY 06/07 increases in the Structural Fire Taxes will only be sufficient to cover COLA increases and will no longer be sufficient to cover staffing at new facilities.