



City of Coral Springs, Florida

Fire Suppression SWAT Team Report

May 19, 2000

SWAT Team Roster

Roy Arigo, Police Chief
Frank Babinec, Battalion Chief, Suppression Division
Christopher Bator, Crew Leader, EMS Division
Lotus Boss, Principal Office Assistant, Fire Department
Jim Cerny, Director of Information Services
Mark Curran, Fire Marshall
Christine Heflin, Training Coordinator (Team Facilitator)
Ellen Liston, Assistant City Manager
Vince Locurto, EMS Division Chief
John Martinelli, Paramedic, EMS Division
Dave Nilio, Suppression Division Chief
Mike Reimer, Captain, Training Division
Matt Stillwell, Communications Administrator
Chris Tritsch, Battalion Chief, Suppression Division

Other Support

Robert Bertone, Fire Lieutenant
Steve Frey, Fire Inspector
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Background

In February 2000, the City Manager directed that a cross-functional team be established to assess the performance of the City's fire suppression services. Concerns from fire suppression staff, a decline in the number of volunteers and the significant increase in City population were the impetus behind the assessment. Further, the City's Business Plans for Fiscal Years 1999 and 2000 had prescribed actions to improve daytime response time; the team assessment would provide data on the effectiveness of the actions.

The team includes the Assistant City Manager and Fire Department management (Acting Fire Administrator, Suppression Division Chief, Inspections Division Chief, and EMS Division Chief). Two volunteer Firefighters, two paid Paramedic/Firefighters and the Fire Department Training Officer are also on the team, providing representation for both the volunteers and the union. There also is representation from Communications/Dispatch, and Information Services. A statistician assisted the team in initial data analysis and later a

consultant on fire suppression was added so the experiences of other locations could be incorporated into the analysis. Human Resources staff facilitated the team.

The team followed the City's standard problem solving methodology, i.e, define the problem, assess the current situation through data analysis, establish measurable objectives, generate and assess alternative solutions.

Problem Definition

At the initial team meeting the group listed areas of concern. These concerns would form the basis of data collection on the current situation. The concerns the team identified were:

- Response time of the first engine on scene. (As distinguished from the response time of the Battalion Chief.)
- The decline in the number of volunteers, and the qualifications and experience of the volunteers.
- The number of firefighters on equipment.
- The availability of equipment beyond one engine when Standard Operating Procedures require additional equipment.
- The availability of cross-training and promotional opportunities for current EMS Division employees.

Current Situation

Resources and Process—The Coral Springs Fire Department is primarily volunteer, managed by a Fire Chief who also oversees Fire Inspections and Emergency Medical Services. There is a paid Fire Suppression Division Chief and a Training Officer who serve the entire Department. There are two paid support personnel, one of whom keeps records on volunteer time and compiles data for required reporting. The other is the Chief's Administrative Assistant.

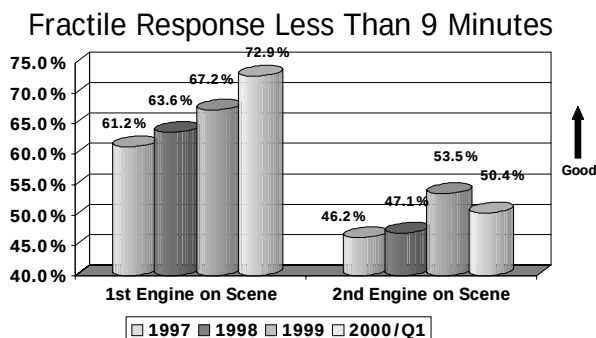
One of four volunteer Battalion Chiefs is generally on duty and coordinates the response to fire calls, or coverage is supplied by a Code Enforcement Officer who is also a firefighter. For the past year, the

volunteer response has been supplemented 7:00 a.m. to 5:00 p.m., Monday through Friday by two Fire Inspectors doing inspections from a fire engine that is available to roll on calls. This approach was implemented as part of a Business Plan initiative to improve daytime response time.

On some types of fire calls (e.g., structure fires, hazardous materials incident, extrication), an EMS rescue unit is deployed as part of the response. Three of four EMS rescue units are staffed by three person crews of Paramedic/Firefighters; one unit has a two person crew. The City has a total of 42 paid Paramedic/Firefighters; this includes 13 crew leaders. They are led by three Lieutenants; one covers each shift.

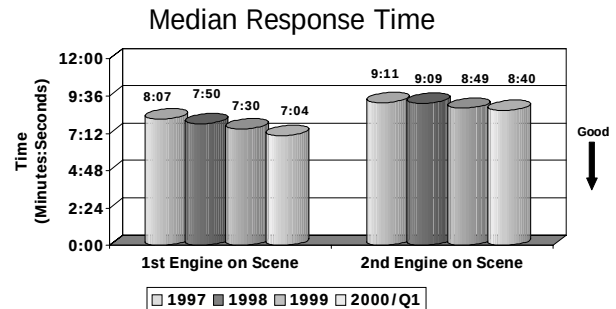
The process for fire response is that fire calls are “toned out” by dispatch to volunteers on stand-by at stations and wherever they might be with their pagers on. The Battalion Chief on duty always receives the signal, as do the EMS rescue units and the police. The City has five fire stations, three have two engines, two have an two engines and an aerial truck, one has only one engine. From 10:00 p.m. to 6:00 a.m., seven days a week, volunteers are on stand-by status at one of the stations.

Response Time—Measuring from the time a call is received to the time the first engine arrives, the City's fractile response time has improved each year since 1997. (Note: all data is reported on a calendar year basis.) In 1997, 61% of the calls were responded to in less than 9 minutes; in 1998, 64%; in 1999, 67% and in the first quarter of 2000, 73%.



The median response time has also improved in each of the four years. In 1997, the median response time from the call to the arrival of the first engine was

eight minutes seven seconds (8:07). In the first quarter of 2000, it is seven minutes four seconds (7:04). The second engine response time has also improved, as has the EMS rescue response.



Determining how these response times compare to other communities is difficult. Some locations measure response time from the time the call is received, some measure from dispatch. Some departments measure only “Code 3” calls (highest priority); others measure all calls. Some departments define “arrival” as the arrival of any fire personnel (e.g., a chief in a car); others define arrival as arrival of the first engine. The reported results may exclude calls during extreme weather conditions or delays due to mechanical breakdowns. One city contacted, Cooper City, does not measure response time at all.

When a fire is called in, a response time of under six minutes is ideal. Smoldering ignition, which sets off a smoke detector, can lead to flaming ignition. A fire doubles in size and intensity each minute after ignition. Under some circumstances (e.g., poor ventilation of a confined area) flashover can occur in less than five minutes.

The goals and performance of communities vary along a wide spectrum, as do their risk factors. Broward County, Pompano Beach and Davie respectively report **average response times** of 6:12, 6:32 and 6:54 (minutes:seconds) **from dispatch**; or 7:12, 7:32 and 7:54 **from the 911 call**. Tamarac reports that in April they responded under six minutes 75% of the time for “Code 3” priority calls. Data from other neighboring cities was not made available.

The conclusion, then, is that the City's response time has improved in recent years and is in a range similar to neighboring cities. Whether investments are

needed to sustain response time depends on the continued viability of the volunteer system. Whether investments to further reduce response time are justified, depends on the service level policy makers feel is appropriate. The team has made a recommendation for a minimum standard (Fire Service Standards on page 5).

Patterns in Delayed Response—The team reviewed case files to determine the reason for delay on calls where the response time was nine minutes or more. Many of these longer response times occurred because the call priority was lowered to “Code 1” (low priority/slow down) based on an assessment by the Battalion Chief who was on the scene. Sometimes an engine was cancelled entirely. This review identified the need to revise reporting procedures so “real” delays (i.e., system failures) can be readily identified.

Although the data needed refinement, there was a clear pattern of delays by time of day. More than a third of the longer response times occur between 5:00 p.m. to 9:00 p.m., during commuter traffic jams and volunteer dinner/family time. Further, the Fire Inspector engine is off duty at 5:00 p.m. and the routine volunteer stand-bys start at 10:00 p.m. Any effective solution will have to increase resources in the 5:00 p.m. to 9:00 p.m. time slot.

Service Demand—Demand for service is up significantly. There were 3,197 calls in 1999 versus 2,779 in 1997. However, there is potential to reduce

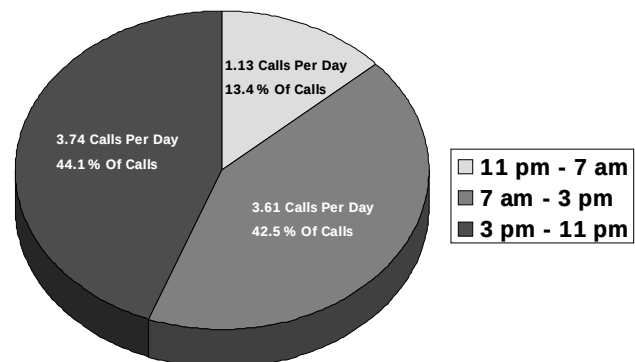
	1997	1998	1999
All Calls for Service	2,779	2,877	3,197
Structure Fires Extinguished	65	54	48
Percent	2.3%	1.8%	1.5%

the number of false alarm calls through management action. The number of calls from alarms has gone from 20% to 37% of the call load during the same time. Of these calls, 98 to 99% are false alarms that drain fire suppression resources. Another significant pattern is the increase in the number of times that EMS rescue units have requested assistance from an engine. Further study is needed on the conditions

that have produced this pattern. The number of times the Fire Department actually has to extinguish any kind of fire, including structural fires, is very low ranging from 6.9% of all calls in 1997 to 4.9% of all calls in 1999, which is typical of communities with the same risk factors as Coral Springs. The first quarter of 2000 is higher, at 8.4%.

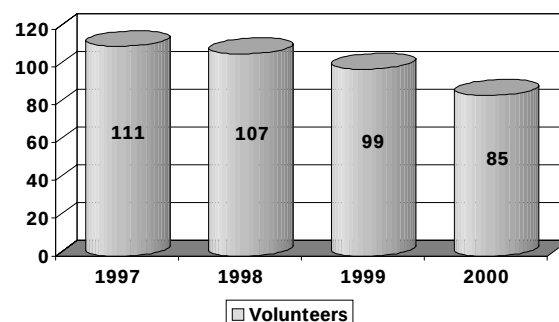
The pattern in demand for service by time of day mirrors the pattern in long response time. Call load peaks during the day and early evening. The highest load is at 6:00 p.m. The other extreme is 11:00 p.m. to 7:00 a.m. which averages one call a night, city-wide. There is also a pattern geographically, suggesting how resources should be deployed, as six of 33 sectors account for 35 % of the calls.

First Quarter 2000 Calls By Shift



Patterns in the Number of Volunteers—There has been a significant decline in the number of active volunteers. Currently, there are 85. This decline from a 1995 high of 119 volunteers has in part been accommodated by using Fire Inspectors for daytime response. Given that demand for services continues to increase this trend is still a problem. Although

Firefighter Volunteers



advertising has been increased, the Department has not taken any concerted actions to retain volunteers or recruit new volunteers. However, the design of any initiatives in this area must recognize that there is a shortage of qualified firefighters in this metropolitan area and state and trained staff have abundant employment opportunities.

Patterns in Outcome Data—Data on response time, call load and staffing should be analyzed in light of community risk factors. A high-density community with old housing stock is at greater risk than a low-density community recently built to an updated building code. Coral Springs does not have a high risk factor. Of the 34 larger cities (population of 100,000+) reporting to ICMA on commercial and industrial fire incidents, only five had 18 or fewer incidents. Coral Springs was among them at 18. The average number of incidents for these cities was 136. Of 32 locations reporting, 13 had the same or fewer total structure fire incidents per 100,000 as Coral Springs (105.6). The median number is 147. Of the 24 locations reporting, Coral Springs has the fifth fewest “Total Fire Incidents Per 100,000 Population in Area Served.” The Coral Springs rate is 272.

Fire Service Standards

The team agreed that specific standards are needed to assess response time, staff qualifications and the quality of the response (appropriate number of fire fighters and equipment). Based on a review of the goals of other cities, the risk factors, resource requirements and safety considerations, *the team recommends the following:*

1

On “Code 3” (highest priority) calls, the first engine should arrive in less than 8 minutes 0 seconds from the time that the 911 call is received, 90% of the time.

2

As a minimum, the Fire Department should be able to respond 24 hours a day, seven days a week, with the appropriate complement of personnel and equipment on initial response to the recommended matrix in Appendix A.

3

The Fire Department should report quarterly results of actual compliance with the new revised response matrix.

This matrix is used by the Fire Department and dispatch to determine what resources to deploy for different categories of calls. The existing matrix is not fully in line with practice or need. There is team consensus on the revisions and an endorsement by the fire consultant.

4

All volunteer and paid firefighters meet the same certification standards and the same standards for specialized positions such as driver and engine officer.

Currently, approximately 40 of the 85 active volunteers are State Certified Firefighters (360 hours of training). The rest are State Certified Volunteer Firefighters (40 to 160 hours of training). Current volunteers should be given one year to get fully certified by the State. The training time may adversely effect service availability, but this recommendation addresses the concern that professionalism, teamwork and safety are compromised by not enforcing a uniform certification requirement.

Options

The City does not currently meet the recommended response time standard and may not be meeting the requirements of the new matrix. (New reporting requirements will be instituted to track matrix compliance.) Different approaches to enhancing service to meet the recommended response time standard and matrix compliance were discussed.

Options III and IV (pages 9 and 10) had support from most team members although no option was supported by all members of the team. Option III had wide support, however some team members were still unconvinced about having sufficient volunteers available, and therefore preferred Option IV. On the other hand, some team members felt Option IV provided more coverage than necessary during off-peak hours.

Team members were skeptical about whether the number of volunteers is sufficient to sustain Options I or II (pages 7 and 8). Option V (page 11) is not financially feasible or consistent with data on the dimension of performance gaps. In light of direction from the City Commission to provide them with varied options, the strengths and weaknesses of all four plans have been included.

All options presented provide for stand-by staff at a minimum of three stations 24 hours a day, seven days a week. This level of staffing supports the recommended response standard (recommendation 2 on page 5).

All options also include the addition of the following paid staff: Three Fire Commanders, one Trainer and one Volunteer Coordinator. The rationale for these positions is that paid Fire Commanders will manage coverage by volunteer and paid staff to assure resources are available during peak periods. They would also provide consistent, timely response and command all fire scenes. These Fire Commanders, with the additional training position can better keep up with the extensive training needed to bring volunteers up to the new requirements and keep volunteer and paid staff current on continuing education requirements. The Volunteer Coordinator would work on the

recruitment and retention of volunteers and coordinate stand-by schedules.

Whatever solution is selected, performance results must be identified and monitored by Fire Department Management during a test period. This serves two purposes: To determine the continued viability of the actions taken and to suggest what additional actions should be undertaken, if necessary.

A Note on the Financial Projections

For each option presented, program costs and residential fire assessment fees are projected in the section titled "Impact." These numbers are estimates of the cost for each option and are subject to a number of additional influences, particularly:

- Program costs are for the staffing and equipment identified in the option description *only*. Other changes to the Fire Rescue budget are expected in addition to any options selected, which would further increase the assessment rates.
- The increase in assessment is for Residential properties *only*, other property classifications will have different increases.
- The assessment increases are based on Fiscal Year 2000 call statistics and property distribution. When the new data is available this summer, the changes in the use of property and the number of calls from each property type *will change the distribution of the assessment*.
- Assessment estimates are based on the option program costs and *will further change* depending on other additions or subtractions from the Fire Department budget not addressed in this report.

Option I

Description

The volunteers would continue to carry the bulk of fire suppression duties, however, paid Fire Inspectors will be added to address peak periods. Those peak hours would be covered by two Inspector engines in two shifts. Three stations would be staffed 24 hours a day, seven days a week. Having volunteers on stand-by at a station cuts response time systematically. The volunteer allowance system should be modified to compensate volunteers for additional training and “stand-by” status; a differential could be offered for stand-by during peak periods.

Strengths

- Supported by data on scope and time frame of performance gaps.
- Preserves the volunteer system and the resulting savings to the taxpayers.
- Provides for paid staff (Inspector engines) during peak periods.
- Low cost to test and monitor results.

Weaknesses

- Viability contingent upon sustaining and increasing the number of volunteers.
- Volunteer force may be more inexperienced due to high turnover generated by the area shortage of firefighters.

Impact

Additional Staff: Three Fire Commanders, one Trainer, one Volunteer Coordinator, and four new Fire Inspectors.

Volunteers' Responsibility: Three stations, nights and weekends; one station while Fire Inspectors are on duty.

Paid Staff's Responsibility: Two Inspector engines staffed 6:00 a.m. to 10:00 p.m., Monday—Friday.

Estimated Cost: Approximately \$660,000.

Estimated Increase of Residential Fire Assessment: Approximately \$9.97 per household.

Option II

Description

A similar plan was proposed that provides for one paid unit 24 hours a day, seven days a week. It reduces the volunteer coverage obligation and could buy time for recruitment efforts. Peak hours would be covered by two shifts of two Inspector engines. Volunteers would cover two stations Monday through Friday 10:00 p.m. to 6:00 a.m. and around the clock Saturday and Sunday. Having volunteers on stand-by at a station cuts response time systematically. The volunteer allowance system should be modified to compensate volunteers for additional training and “stand-by” status; a differential could be offered for stand-by during peak periods.

Strengths

- Supported by data on scope and time frame of performance gaps.
- Most volunteers are required when most are available.
- Would provide for sustained, if not improved response, even if there is a lag time from recruitment efforts to the increase in the volunteer corps.
- Provides for additional volunteer and paid staff during peak periods.
- Significant increase in response reliability with moderate investment.

Weaknesses

- Viability contingent upon sustaining and increasing the number of volunteers.
- Hiring paid staff may further reduce the volunteer ranks.

Impact

Additional Staff: Three Fire Commanders, one Trainer, one Volunteer Coordinator, from 12 to 13 full-time Firefighters and six new Fire Inspectors.

Volunteers' Responsibility: Two stations, Saturday and Sunday 24 hours a day, and Monday—Friday 10:00 p.m. to 6:00 a.m.

Paid Staff's Responsibility: One station, 24 hours a day, seven days a week staffing. Two Inspector engines will supplement Monday—Friday 6:00 a.m. to 10:00 p.m.

Estimated Cost: Approximately \$1.6 million.

Estimated Increase of Residential Fire Assessment: Approximately between \$23.76 and \$24.74 per household.

Option III

Description

Provides for two stations staffed around the clock by paid Firefighters and two shifts (eight hours each) of a “Fire Inspector Engine” from 6:00 a.m. to 10:00 p.m. (peak period for calls). These engines would be used for company fire inspections and would be staffed by a Fire Inspector/Crew Leader, a Firefighter and a Driver/Engineer. Volunteers would be on stand-by at a third station at night from 10:00 p.m. to 6:00 a.m. and would staff a station 24 hours a day on Saturday and Sunday.

Three paid engines would be available except during a period (10:00 p.m. to 6:00 a.m.) that averages one call a day, city-wide. Volunteers cover time slots when many are available to be on stand-by at the station. Having volunteers on stand-by at a station cuts response time systematically. The volunteer allowance system should be modified to compensate volunteers for additional training and “stand-by” status; a differential could be offered for stand-by during peak periods.

Strengths

- Requires the most volunteers when the most are available.
- The initial response to an incident would be more consistent with the response matrix.
- Reduces staff cost while maintaining service levels during non-peak hours.
- Reduces the number of volunteers needed, recognizing that paid opportunities may continue to diminish their numbers.
- Three paid units are available during peak periods; three units are always in a stand-by status.

Weaknesses

- A major increase in funding without information on the effects of incremental changes, such as volunteers responding from stand-by.
- Hiring paid staff may further reduce the volunteer ranks.

Impact

Additional Staff: Three Fire Commanders, one Trainer, one Volunteer Coordinator, from 28 to 30 full-time Firefighters, two new Fire Inspectors.

Volunteers’ Responsibility: One station 10:00 p.m. to 6:00 a.m. Monday—Friday and 24 hour Saturday and Sunday; plus remaining on call for major or multiple emergencies.

Paid Staff’s Responsibility: Two stations 24 hours seven days a week and two Fire Inspector engines from 6:00 a.m. to 10:00 p.m. Monday—Friday.

Estimated Cost: Approximately between \$2.3 million and \$2.5 million.

Estimated Increase of Residential Fire Assessment: Approximately between \$35.44 to \$37.40 per household.

Option IV

Description

Provides for three stations and three fire apparatus staffed around the clock by paid Firefighters; each station is staffed by a Crew Leader, Firefighter and Driver/Engineer. Volunteers staff the remaining fire apparatus and stations, and supplement this service level based on availability.

Three engines are always available regardless of availability of volunteers; volunteers supplement service and continue to be part of the response team.

Strengths

- Three paid units are always in a stand-by status; providing reliability for at least three engines.
- The initial response to an incident would be more consistent with the response matrix.
- Volunteers are available to provide the depth of service needed when more than one priority incident occurs at the same time.

Weaknesses

- Every day, nine paid staff would work at three stations from 11:00 p.m. to 7:00 a.m. This time slot averages one call a night city-wide.
- A major increase in funding without information on the effects of more incremental changes, such as volunteers responding from stand-by.
- Hiring paid staff may further reduce the volunteer ranks.

Impact

Additional Staff: Three Fire Commanders, one Trainer, one Volunteer Coordinator, from 36 to 39 full-time Firefighters.

Volunteers' Responsibility: Supplement 24 hours a day, seven days a week for major and multiple incidents.

Paid Staff's Responsibility: Three stations, 24 hours a day, seven days a week staffing.

Estimated Cost: Approximately between \$2.8 million and \$2.9 million.

Estimated Increase of Residential Fire Assessment: Approximately between \$41.69 and \$44.66 per household.

Option V

Description

A “fully paid” fire department would require staffing all five fire stations with paid personnel totaling 21 positions, 24 hours a day, seven days a week. Volunteer reserves would also be available. A four station, 12 paid positions around the clock option was also presented. The arguments for these higher levels of paid staff are: the nearest station can always respond to an incident; increased firefighting safety and efficiency when additional trained staff are immediately at hand; increased ability to properly handle multiple significant events; and the ability to attract applicants because of increased career opportunities for Firefighter/Paramedics.

To provide maximum readiness for any fire event, and little or no dependence on volunteers or mutual aid.

Strengths

- The Department will not be dependent on the City’s ability to sustain and increase the number of volunteers.
- The initial response to an incident would be more consistent with the response matrix.
- As more full-time units are added, redundancy is added to the system, minimizing reliance on mutual aid for disasters or simultaneous serious incidents.

Weaknesses

- The City may not receive relative value for the additional cost, since our community fire risk is relatively low, the extra resources are difficult to justify.
- The City would ignore a significant community resource, the trained and qualified volunteer firefighters, and reject the savings that they offer the City. The volunteer department would be all but eliminated, with no further need for their assistance.

Impact

Additional Staff: Three Fire Commanders, one Trainer, one Volunteer Coordinator, from 48 to 91 full-time Firefighters.

Volunteers’ Responsibility: Supplement 24 hours a day, seven days a week for major and multiple incidents.

Paid Staff’s Responsibility: Four or five stations, 24 hours a day, seven days a week staffing.

Estimated Cost: Approximately between \$3.5 million and \$6.3 million.

Estimated Increase of Residential Fire Assessment: Approximately between \$53.55 and \$95.98 per household.

Areas for Management Action

Regardless of what option the City Commission chooses, there are areas that the team feels Fire Department Management must address on a priority basis. It would be beyond the scope of the team's project to suggest specific actions but these findings are significant and require short-term follow up.

Policies and Procedures

- Multiple incident procedures are needed to eliminate any ambiguity in how staff and equipment will be assembled when demand is extraordinary.

Rank Structure and Chain of Command

- Paramedic/Firefighters assigned to rescue units want opportunities to get experience fighting fires. Feasibility should be assessed and an approach developed, if appropriate.
- Paid staff would prefer a uniform rank structure for the entire Fire Department and clarification of the chain of command. Given the public safety nature of the organization, their concerns should be reviewed and appropriate action taken.
- Other City departments, including the Police Department have adopted a “flat” organization structure to promote efficiency and empowerment. The Fire Department may benefit from a similar organization structure.
- Paid staff and volunteer staff operate as two teams; a strategy is needed to make them one team.

Recruitment and Retention

- Revisions in the volunteer allowance system need to be made to promote recruitment and retention. The pension system could also be revised to help keep experienced volunteers.
- An action plan for recruitment and retention of volunteers should be created.

Reporting

- Any time a call is responded to in over 8 minutes or an error or perceived error is made, the Crew Leader should write a report on the reasons for the delay/circumstances around the error. The information should be used to refine statistics and as the ignition for immediate process improvements.
- Procedures should be created that provide accurate data on what each unit is responding to; this is essential to tracking performance against standards. Currently a call priority may be downgraded without that fact being reflected in the computer records.
- For clarity of communication and assessment, all Fire Department Divisions should use a similar approach to performance measurement, e.g., if fire response is measured from the call; EMS response should be too.
- Data is needed on why the number of rescue requests for assists from fire engines is increasing significantly. Data should be used to develop a policy for these requests.

False Alarms

- Presently, 37% of the call load are false alarms. A system needs to be created to manage this figure down. This will conserve both paid and volunteer resources with no compromise in service.

Appendix A

City of Coral Springs Proposed Fire Response Matrix

CALL TYPE	RESPONSE PER CAD	OPTIONAL
Structure Fire - Single Family Duplex	2 Engines, 1 Ladder, 1 Rescue, 1 Chief, 1 Safety Officer	Rapid Intervention Team
Structure Fire - Apt / Condo	2 Engines, 1 Ladder, 1 Rescue, 1 Chief, 1 Safety Officer	Rapid Intervention Team
Structure Fire – Target Hazard	3 Engines, 1 Ladder, 1 Rescue, 1 Chief, 1 Safety Officer	Rapid Intervention Team
Auto Fire	1 Engine	Expressway—Add'l Engine
Brush Fire	1 Engine	
Hazardous Materials Incident	2 Engines, 1 Rescue, 1 Chief, 1 Safety Officer	Rapid Intervention Team, HazMat Team
Other Hazards Leak / Spill	1 Engine	
Investigation No Fire	1 Engine	
Investigation Fire Out	1 Engine	Chief Officer or On-call investigator
Extrication - Person Trapped	2 Engines, 1 Rescue, 1 Chief	Rescue Supervisor, Additional Rescue
Accident - With Injuries	1 Rescue	
Elevator Rescue	1 Engine	1 Rescue (if person is in distress)
Fire Alarm - Single Family / Duplex	1 Engine, 1 Chief – Code One	
Fire Alarm - Apt / Condo	2 Engines, 1 Ladder, 1 Rescue, 1 Chief	
Fire Alarm – Target Hazard	3 Engines, 1 Ladder, 1 Rescue, 1 Chief	
Bomb Treat	1 Engine, 1 Chief, 1 Rescue	Schools—Additional Engine
Dive Call	1 Engine, 1 Rescue, Rescue Supervisor, Dive Team	1 Air Van
Helicopter Landing	1 Engine, 1 Chief or 1 Rescue Supervisor	
Dumpster Fire	1 Engine	
Water Leak	1 Engine	
Plane Crash	2 Engines, 1 Rescue, 1 Chief , 1 Rescue Supervisor	
Accident Expressway	1 Engine, 1 Rescue, 1 Chief or 1 Rescue Supervisor	
Explosion	Same As Structure Response Categories	
Smoke Investigation	1 Engine	
Assist EMS	1 Engine	

