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**FIRE-RESCUE SERVICES ELEMENT**

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# **FIRE-RESCUE SERVICES ELEMENT**

## **I. INTRODUCTION**

### **A. Purpose**

Palm Beach County has witnessed unparalleled increases in the demand for emergency services in the last decade. In an effort to deal with these service demands in a comprehensive and organized fashion, the Board of County Commissioners has chosen to include an optional Fire-Rescue Element in the Comprehensive Plan. This Element develops Levels of Service for both emergency and non-emergency functions of the Fire-Rescue Department and establishes indicators that project service demands in relation to growth. Therefore, Fire-Rescue has also been included as a criteria for Concurrency Review. The Level of Service standards and projections apply to the Coastal Fire-Rescue MSTU only. The Coastal MSTU covers the unincorporated area of Palm Beach County east of 20-Mile Bend and several municipalities which have voted by referendum to be a part of that MSTU. The Glades Regional MSTU, which covers the area west of 20-Mile Bend, is not addressed by this element of the Comprehensive Plan. The ability to adequately provide these and other essential services in an efficient and cost-effective manner will become a major challenge facing the County as it moves into the 1990s and 21st Century. From this perspective, the ability to adequately plan and provide these necessary services is of paramount importance.

### **B. Assessments and Conclusions**

Population growth is occurring in Palm Beach County at a vigorous pace. This rate of growth has been most pronounced in those areas served by the Palm Beach County Fire-Rescue Department. The unincorporated areas of South County west of Boca Raton, Delray and Boynton Beach, along with the Wellington area and the northern municipalities of Jupiter and Juno Beach have increased at a faster pace than the County overall. Along with a rise in population, the County has also undergone significant changes in the concentration of its growth. Development has sprawled into the western portions of the County, replacing areas previously uninhabited or sparsely occupied by ranches and farmland. Regional shopping centers, schools, institutions and other activity centers have altered the transportation network. The County's economic base, fueled by tourism, service and manufacturing industries has become more diversified. This diversification has offered greater employment opportunity, which has similarly accelerated the migration of people into the area, specifically those in the 25-to-40 age group.

Each of these factors has dramatically affected the demand for emergency fire and rescue services. In addition, the County has increased reliance on Fire-Rescue personnel in the mitigation of other manmade and natural emergencies. Transportation accidents involving vehicles, railway cars, aircraft and boats have occurred in greater frequency. Hazardous material incidents, including chemical spills and exposures have become more frequent. Natural disasters such as; flooding, tornados and hurricanes commonly are the responsibility of Fire-Rescue.

In addition to these expanded responsibilities, greater use of the services traditionally provided by the County has occurred. This has been fostered by the universal 911 dialing system, the advent of the cellular phone and automatic home alarm dialing systems. These communication systems offer instantaneous access to emergency service providers.

With advancements in industrial and transportation technologies, and the hazards these changes present, local governments are relying more and more on Fire-Rescue Services to take responsibility. Thus, the state of readiness, for an effective response becomes more complex, necessitating expanded regulatory/enforcement powers.

## II. GOAL, OBJECTIVES AND POLICIES

### GOAL 1 EFFECTIVE FIRE AND RESCUE SERVICES

It is the **GOAL** of Palm Beach County to provide an effective program of emergency fire and rescue services with a comprehensive fire prevention program that is responsive to the desires, needs and economic capacity of the community.

#### OBJECTIVE 1.1 System Evaluation

Palm Beach County shall continuously evaluate the development and performance of its fire-rescue system network.

**Policy 1.1-a:** The Fire-Rescue Advisory Board shall provide to the Board of County Commissioners an annual evaluation of the Fire Rescue Department and a recommendation on budget proposals.

**Policy 1.1-b:** The Fire and Life Safety Task Force shall prioritize goals for educational programs directed at reducing death, injury and property damage.

**Policy 1.1-c:** The County shall update future station location studies, staffing needs, and equipment deployment on an annual basis to ensure efficiency and effectiveness. Resource and deployment strategies will be evaluated on the following criteria:

- Monthly review of travel times;
- Quarterly trend analysis and station response patterns,
- Periodic evaluation of alarm activity to determine appropriate staffing and equipment allocations, and
- Quarterly review of performance measure data utilized in annual budgetary process.

#### OBJECTIVE 1.2 Level of Service: Emergency Response

Palm Beach County shall maintain a Level of Service Standard for emergency response.

**Policy 1.2-a:** The County shall provide an initial emergency fire and rescue response to all of the service area in the Coastal Fire-Rescue Municipal Service Taxing Unit (MSTU), in an average total response time of 7 minutes 30 seconds or less.

**Policy 1.2-b:** The determination of when to construct new Fire-Rescue facilities will be based on, but not limited by, the following:

- A major development is in construction phases and a fire station is planned as part of its development;
- The population of the station's response area produces an average of 3 alarms per day;
- Annual trend analysis for stations in adjoining response areas indicate an escalation of alarm activity and travel time;

- Development activity (including high/target hazards) increases in areas where Fire-Rescue does not have a 5 minute travel time;
- The number of calls with an over 8 minute travel time for a geographically specific area can be identified as excessive and increasing in number;
- It has been determined that the imminent annexation of the area is unlikely.

**Policy 1.2-c:** The County shall staff all in-service emergency response units with a minimum of the following:

APPARATUS	EMPLOYEES
Fire Pumpers	3
Quints	3
Rescue/Engines	3
Rescue Vehicles	2
Ladder Trucks	2
Crash Fire Rescue	1
Special Operations	2
Tankers	1

**Policy 1.2-d:** The County shall maintain a staffing level of personnel in the communications center consistent with the standards set forth in NFPA Pamphlet 1221 (2002) 6.3.1 and 6.4.

**Policy 1.2-e:** The County shall maintain an apparatus replacement schedule that insures the safe and dependable utilization of emergency response vehicles. The replacement of apparatus shall take into consideration the following criteria: age of the apparatus, years of operation, mileage, engine hours, maintenance costs, current standards, and performance of the apparatus.

**Policy 1.2-f:** The County shall maintain sufficient training personnel to provide at least 100 contact hours annually for each operations employee.

**OBJECTIVE 1.3      Level of Service: Non-Emergency Response**

Palm Beach County shall maintain a Level of Service Standard for non-emergency functions.

**Policy 1.3-a:** The County shall maintain sufficient staffing and efficiency levels to insure the completion of fire inspections, as stipulated in Appendix G of the Palm Beach County Fire Code.

**Policy 1.3-b:** The County shall maintain sufficient staffing and efficiency levels to insure that 90 percent of all submittals for fire plan review are completed within four working days.

**Policy 1.3-c:** The County shall maintain sufficient staffing for program development and delivery to insure annual instructional programs for school age students and adults in the area of fire and life safety education and injury prevention.

**Policy 1.3-d:** The County shall maintain sufficient mechanical personnel and efficiency levels to meet the projected hourly service requirements for fire service vehicles.

**Policy 1.3-e:** The County shall maintain sufficient staffing and efficiency levels to investigate the cause, origin, and circumstances of fire.

**Policy 1.3-f:** The County shall maintain sufficient staffing and efficiency levels to insure all scheduled inspections required by the Palm Beach County Building Division's permitting process are completed on a daily basis.

#### **OBJECTIVE 1.4      Intergovernmental/Inter-Agency Cooperation**

Palm Beach County shall develop service agreements to insure the orderly interaction with neighboring agencies and jurisdictions when assistance is required.

**Policy 1.4-a:** The County shall maintain mutual aid agreements for reciprocating service with those fire rescue agencies who maintain comparable Levels of Service for staffing and equipment.

**Policy 1.4-b:** Review and, if necessary, revise fee structures for all services that may be provided to jurisdictions or agencies that do not maintain mutual aid agreements with the County.

**Policy 1.4-c:** The County shall bi-annually review and update, if necessary, procedural coordination and policy development with the Department of Emergency Management to respond more effectively to large scale manmade and natural disasters.

**Policy 1.4-d:** Coordinate Emergency Service Functions (ESF's) 4-firefighting, 9-urban search and rescue and 10-hazardous materials for the County Division of Emergency Management in the event of a hurricane or other disaster.

**Policy 1.4-e:** Participate and coordinate communications functions within the Palm Beach County Fire Chiefs Association's mutual aid plan.

#### **OBJECTIVE 1.5      Alternative Funding**

Palm Beach County shall develop alternative funding methods to more equitably distribute the costs for fire-rescue services.

**Policy 1.5-a:** Evaluate funding options on an annual basis to determine long-term capital needs including but not limited to: special assessments, general obligation bonds, and revenue bonds.

**Policy 1.5-b:** The County shall annually evaluate the fire inspection fee structure for all existing non-residential properties and transient residential properties.

### III. EXISTING CONDITIONS

The ability to deliver sufficient personnel and equipment to the site of a fire or emergency medical incident is the key factor in minimizing the loss of life and reducing property damage. The efforts of Fire-Rescue personnel are directed toward stabilizing and possibly reversing such damage.

Two factors directly affect this ability. One is the travel distance required to get to the site, and the other is the availability of personnel and equipment to respond. The current objective is to locate fire stations in a manner that achieves an average five-minute travel time. With the current density of development, this can be achieved by distributing fire stations at five-mile intervals. This provides a 2.5-mile radius from each station and covers the majority of the service area with minimal zone overlap. The establishment of this service threshold creates, however, a two-tier Level of Service provided to the urban and rural areas of the County. In the sparsely populated zones, the generation of alarms is insufficient to necessitate locating stations within a 2.5-mile radius of all points. As a result travel times to these remote areas will be higher than is standard. As these areas become more densely developed and begin to generate alarm activity that meets the criteria for new station construction (Objective 2, Policy 2-b), then additional facilities will be constructed.

The Fire-Rescue Facilities Map presents the current distribution of Palm Beach County fire stations as of 2003. This configuration provides an acceptable response pattern for each zone and creates a manageable workload for each station.

While travel distance is a key ingredient in the placement of fire facilities, it is not the only component in response time - as experienced by the citizens we serve. There are two other components that must be managed efficiently in order to mitigate emergencies in a timely manner. They are dispatch handling time and turnout time. Together with travel time, these three elements capture the amount of time between the citizen dialing 9-1-1 and emergency units arriving on the scene to initiate intervention techniques.

**Service Population:** With a service population in 2003 estimated to be 653,104 and a total of 926 operational personnel, the ratio of firefighters to population is 1.41 firefighters per thousand population. Also, approximately 100 volunteers act as a supplement to the career personnel.

**Staffing:** Because fire or medical emergencies occur at all hours, emergency personnel must be available on a 24-hour basis. As a result of this, the fire service utilizes a platooning system. This arrangement provides for personnel to be on duty for a continuous 24-hour period and then be relieved by another. In addition, each battalion has one supervisory personnel who works a 40-hour week schedule and responds to emergency incidents on an "on-call" basis. "Daily Firefighting Strength" in 2003 was 200. This is the actual number of personnel available for emergency response throughout the respective battalions.

**Deployment:** The deployment of personnel is accomplished through the use of several alternative strategies intended to contain costs and improve efficiency. While some fire stations are still staffed with 3-person engine companies and two-person rescue companies, some facilities may have one group of employees performing several functions. For example, "ALS Engines" perform pumper operations as well as advanced life support emergency medical services, and "Quints" incorporate ladder capabilities along with pumper operations. In some cases, two separate vehicles are housed at the station and the personnel determine which apparatus is more appropriate to respond to the scene, depending on the nature of the call.

These “combination” or “either/or” stations are typically in areas with relatively low alarm activity. This shift in philosophy provides more units with less personnel who perform multiple functions. In all, the department operates 75 first-line emergency response vehicles.

**Non-Emergency Services:** Fire prevention, vehicle maintenance, dispatch and training continue to provide a viable function in support of the department’s goal to reduce fire loss and injuries. Performance is monitored on a monthly basis to ensure productivity levels are maintained. While very few staff people have been added to these functions, work practices have been revised to allow the department to keep pace with growth. These functions will most likely require additional staff as well as continued implementation of innovative approaches to handle the increased workload expected in the years to come.

**Intergovernmental/Inter-Agency Cooperation:** Palm Beach County now has 21 interlocal agreements with local fire departments, six of which are mutual aid (no cost), six are automatic aid (closest response), and nine are fee-based. In addition to the collaborative efforts to improve emergency response, the fire service has joined together to conduct firefighter standards training; assess new firefighter candidates; share data and reporting technology; share training and video packages, combine dispatching functions; support obtaining Advanced Life Support transport licensure; adopt one, unified Incident Command System; explore regional delivery of special operations, hazardous materials mitigation services; co-locate employees in another agency’s fire station; and discuss joint construction of facilities such as fire stations and a regional training facility. In the delivery of EMS service, Palm Beach County Fire-Rescue is providing first response for treatment of medical emergencies as well as providing ALS transport, and the private ambulance providers are handling BLS, non-emergency, and inter-facility transport services. This successful partnership with the ambulance providers is one example of how government and the private industry can work cooperatively.

**Funding:** Since the implementation of the 1989 Comprehensive Plan, Palm Beach County has adopted several additional funding sources for fire-rescue services. The greatest of these was the approval to provide Advance Life Support Transport services in March, 1995. That service alone is expected to generate \$2.1 million per year in revenue. Impact fees were implemented in 1990 and have generated a total of \$500,000 per year since their inception. Other new sources of revenue include: false alarm fees, fire inspection fees, and hydrant rental fees.



#### **IV. FUTURE CONDITIONS**

The future demand for fire-rescue services will be driven by alarm activity, population concentrations, and the density of development, all of which necessitate emergency and non-emergency functions. The distribution of future fire-rescue facilities will be in response to new demand and shifting demand. New demand is basically a result of additional population moving into the service area or the expansion of the service area into those areas currently not serviced by the County. Shifting demand is caused by a loss of service areas either through annexation or migration of populations from one part of the service zone to another. In addition, as emergency personnel and facilities are expanded, those support functions must also increase. New demand may require an increase in facilities and personnel while shifting demand may necessitate the relocation of existing facilities or the reduction in service levels and personnel. The Fire-Rescue Facilities Map depicts the distribution of fire-rescue facilities for the projected needs of the community through the year 2005.

The strategic distribution of fire-rescue facilities is an important factor in maintaining response time standards as demand increases. However, staffing and deployment also contribute to the department's overall service levels. While new demand and shifting demand will ultimately lead to the need for additional personnel and resources, the department will continue to utilize alternative deployment and staffing strategies such as utilization of single units to perform multiple functions (e.g. Quints and ALS Engines) wherever efficiencies can be accomplished. Reallocating resources during peak time periods and reviewing other system status management methods have contributed to the department's ability to maintain response times. As the county becomes even more heavily populated, Fire-Rescue will continue to review these, as well as other similar efforts, for possible adaptability in Palm Beach County in order to provide a quality, cost-effective level of service to the citizens of this community.

#### **V. PLAN SUMMARY**

The development of the Fire-Rescue Element evolves from the five stated objectives:

1. System Evaluation
2. Level of Service for Emergency Response
3. Level of Service for Non-Emergency Response
4. Intergovernmental Coordination
5. Alternative Funding

The policies supporting the implementation of these objectives utilize logical and measurable techniques to provide emergency and non-emergency services. In addition, this Element addresses several critical coordination requirements in the area of intergovernmental coordination and also examines funding alternatives.

The essence of this Element is the development of a comprehensive approach that insures the consistent provision of emergency services to current residents and future populations. This Element identifies, in addition to those emergency functions, the auxiliary and support activities necessary to maintain the provision of Fire-Rescue Service. The Element further develops funding alternatives for the support of these activities and ongoing analysis to insure the most efficient and cost-effective approach for providing these services.

**ABBREVIATED AMENDMENT HISTORY**

<b>Action</b>	<b>Date</b>	<b>Ord. No.</b>	<b>Effective Date</b>
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**Note:** For a complete history of the specific changes to this element, please contact the Planning Division at (561) 233-5300.

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