

CHAPTER I. INTRODUCTION

This study presents the results of a project that was conducted for Wake County by TriData Corporation of Arlington, Virginia. TriData is an international consulting firm that specializes in the organization and operations of public fire departments and emergency medical services.

The study is intended to address the following area which were identified in the Request for Proposals:

- Review and evaluate the existing fire departments in Wake County in order to make recommendations on how the departments can achieve the desired effectiveness in the most efficient manner and how the departments can work cooperatively to achieve an optimum level of fire protection throughout the County. Specific areas of review and analysis include: station type and location; type and location of equipment; location and number of paid personnel; methods for handling special hazards (hazardous materials and confined spaces); necessary operation and fiscal changes for service standardization; plan of service delivery in non-rated areas; methods for improvement of fire service's role in fire suppression, investigation, and training.
- Develop a five year plan for the allocation of major resources (stations, equipment, apparatus, paid personnel and water points) throughout the County, at levels consistent with the performance standards included in fire department service contracts.

- Assist County staff in the development of the means to revise these plans as demographic and fire hazard conditions in the County change over time.

- Develop a model standard operating guideline for the management of Wake County volunteer fire departments, compatible with the existing service contracts between departments and the County and directed at the most efficient achievement of the performance standards within the contracts.

The Request for Proposals included 11 specific questions that were asked of the consulting team:

1. What is the consultant's professional opinion of the 21 fire departments serving Wake County's jurisdiction, and of the system as a whole?

2. What alternatives (including continuation of the current system as it is) does the consultant offer for review by the Wake County Board of Commissioners?

3. What does the consultant recommend as a five year (specific) and 10 year (general) plan for programs, budgets, and resources, including staff, equipment, water supply, and stations?

4. What is the consultant's assessment of existing equipment, and recommendations for additional/replacement equipment?

5. What is the consultant's assessment of existing stations, and recommendations for additional/replacement of stations?

6. How will proposed annexation by cities and towns affect ability for fire service's delivery among the Wake County fire departments?
7. What financing and structural alternatives does Wake County have with regard to fire fighting -- e.g. countywide tax district, consolidation of departments, use of fees, grants, or alternative funding?
8. Should Wake County fire departments improve their insurance ratings? If so, how? What should be the goal for insurance ratings in the unincorporated districts, as well as the standard in the incorporated areas that Wake County fire departments serve?
9. What does the consultant recommend with regard to the staffing and organization of professional fire fighting in Wake County, while maintaining a sensitivity to the need for a strong volunteer basis for fire fighting in the County's jurisdiction?
10. How should Wake County handle the need for confined space rescue and hazardous materials response in its jurisdiction?
11. How can we improve the fire service's role in fire suppression, investigation, and training?

The overall purpose of this project is to help Wake County and all of the interested parties and organizations within the County become aware of the choices that are available, how to weigh the choices, and to develop a plan and implementation strategy based on the most desirable objectives.

During the past nine months, TriData staff visited every fire station in Wake County to talk with volunteer and career personnel, evaluate their equipment and

capabilities first-hand, and assess each department's needs. TriData has worked intimately with the Fire Chiefs and especially with the County Fire Marshal and his staff, who were extremely helpful in providing information and data, and supporting the study team. Many individuals and organizations were contacted and provided additional information and assistance. The overall study takes into account the needs of the County and its citizens, the volunteer and career fire fighters, the individual departments, the Fire Marshal's Office, and the municipalities within the County.

Chapter Two provides a description of the different entities that constitute the existing fire protection system in Wake County. Chapter Three lists general recommendations about the future direction and organization of fire protection system, including a five- and ten-year plan. Chapter Four provides an analysis of special areas of fire protection, listing recommendations for future directions in each specific area.

Strategic Overview

Over the next ten years Wake county should anticipate rapid population growth, primarily occurring within expanding incorporated areas.

The existing system of independent fire districts works fairly well, but is not an efficient or effective system for the needs of a rapidly growing suburban county. The County should promote and support the development of a more efficient system to deliver consistent levels of service at a reasonable cost.

Fire protection and related services should be planned as a "seamless" countywide system, based on a high level of cooperation and coordination among the service providers. Under this system the closest fire department would always respond to emergency calls and all of the fire departments would routinely respond and operate as an integrated system.

The fire service in most of Wake County should be planned as a combination career/volunteer model, with career personnel providing weekday, daytime staffing in most areas and primarily volunteer staffing at night and on weekends.

The Raleigh-Cary-Morrisville-RDU Airport area will be protected by full-time career fire departments, supplemented by some volunteer support units. These fire departments should work closely together and with the surrounding departments and should protect all unincorporated areas within and immediately adjacent to their incorporated service areas.

The growing incorporated communities should take the primary responsibility for providing fire protection and related services within and around their incorporated areas.

The rural fire departments in most of these communities should become municipal fire departments, with career fire chiefs and daytime personnel.

In areas that remain unincorporated, the system should support strong volunteer organizations, supplemented by daytime career personnel. The career personnel in these areas could be County employees contracted to the individual departments.

All of the unincorporated areas within the County should be consolidated into a single fire district and taxed at an equal level for fire services. The County should contract with whichever fire department is most appropriate to serve each area. (In this manner Wake County would contract and establish a contractual partnership with each fire department in the county.)

Wake County should support the countywide system by providing coordination and services to the fire departments, including systemwide planning, training, emergency communications, and a platform for the development of standardized programs, policies and procedures. An additional effort should be directed towards human resources, assisting the fire departments with the recruiting, development and retention of volunteers and support services that would provide administrative and managerial assistance to the fire departments. These services could include programs such as joint purchasing of apparatus and equipment, the development of specialized teams (hazardous materials, technical rescue, confined space,...) that would be shared resources for the overall system.

The County Fire Marshal's responsibilities in the unincorporated areas for fire prevention, public fire education and fire cause investigations should continue. These services should be offered to the incorporated communities on a contractual basis.

The Fire Marshal's functions should be one component of the duties and responsibilities of a County Fire Administrator, who would have administrative

responsibility for all of the County's programs relating to fire protection and the fire departments.

The delivery of Emergency Medical Services should involve the coordinated participation of the fire departments and rescue squads, working with the County's EMS Department. The relationships could be based on coordinated service delivery or consolidation of the services. (It appears that consolidation of Fire-Rescue-EMS would provide significant efficiency enhancements, particularly as more career staffing and 24 hour coverage of the fire stations are provided.)

The fire departments should take-on the responsibility for technical rescue services, including automobile extrication, from the volunteer rescue squads. All fire departments should provide at least first responder, and preferably BLS medical treatment.

As growth leads to higher activity levels in the suburban fire departments, programs to provide overnight staffing with sleep-in or live-in volunteer personnel should be promoted. As the system evolves, it may become necessary to provide 24 hour career staffing at some of the higher activity stations.

Most of the volunteer stations will have to be renovated, rehabilitated or replaced to accommodate career and overnight crews. Stations will have to be added in the more populous areas as the population continues to increase.

Summary of Recommendations

Overall System of Fire Protection

Restructure the existing fire departments into a smaller number of organizations that would all function as one system.

The overall system would include municipal career fire departments, municipal career-volunteer combination departments, and rural volunteer or career-volunteer combination departments.

Volunteer Organizations

Continue to utilize the volunteer organizations as the primary emergency responders for the foreseeable future, but the provision of fire protection by the organizations must be better coordinated.

The County should take a much more active role in coordinating and supporting the volunteer departments.

Volunteer and Career Personnel

Design the new system around the concept of volunteer and career personnel complementing one another in their duties.

Develop specific policies and procedures addressing the relationship between paid and volunteer personnel. These should establish a unified qualification and promotional process that are tied directly to minimum training and performance standards. (The

system should include an oversight mechanism to ensure that the participants meet their obligations as individuals and organizations.)

Utilize career personnel to perform functions that are not practical for volunteers to perform -- including daytime, weekday emergency response.

Utilize career personnel to perform maintenance functions, training, and to conduct pre-fire planning, public fire safety education, and fire code enforcement.

Establish a cadre of "duty crews" who rotate to ensure that volunteer personnel will be available to respond and operate equipment at unstaffed stations at all times.

Establish a minimum entry level, training and performance requirements for all career and volunteer positions within the County.

Relationship between Rural Fire Departments and Municipalities

Joint planning must occur between the municipalities and rural volunteer organizations in Wake County to improve the use of system resources and eliminate system redundancies.

Consider the transition of rural volunteer corporations into municipal departments, especially in areas where the municipality is becoming the dominant component of a fire department's service area.

Combine the rural fire departments to create a smaller number of stronger organizations to serve contiguous unincorporated areas. Restructure the fire districts to coincide with these new organizations or combine all of the unincorporated areas of the County into a single fire district. New response areas should be defined so that the closest station always responds to an emergency.

Fire Advisory Board

Appoint and empower a Fire Advisory Board to recommend, approve, and manage minimum performance guidelines, policies, and procedures. The Board should be the primary source of policy direction for fire protection services, and should advise the Board of County Commissioners on fire service needs.

The Fire Advisory Board should evaluate and prioritize budget requests on a Countywide basis and present the Board of County Commissioners with a recommended consolidated annual budget and revenue allocation plan.

Restructuring the Fire Marshal's Office

Restructure the Fire Marshal's Office into a Department of Fire Protection Services, headed by a County Fire Administrator. The primary role of this Department would be to coordinate and support the fire departments. The Fire Administrator should be supported by a Planner and three divisions: Fire Marshal, Support Services, and Human Resources.

Create two additional positions for a Fire Inspector/Investigators in the Fire Marshal's Office as soon as possible.

The Fire Marshal's responsibilities and authority in the areas of emergency response need to be more clearly defined.

Consolidation of Tax Districts and Distribution of Funds

Consolidate the 23 fire service districts into one countywide district which would have one tax rate and provide a more equitable cost for fire protection. A uniform tax rate of 10 cents per \$100 of assessed valuation is recommended for the initial period.

Funding allocations for capital projects should be based on countywide priorities, with money coming from a single fire tax district.

Insurance Class Ratings

Establish a Class 9S rating as the minimum service level for the entire County for the immediate future. Higher service levels should be provided in developed areas and gradually implemented in all areas.

To take advantage of the insurance savings, the countywide plan for providing fire protection services should set an objective of providing at least Class 8 service to all built-up areas and at least Class 5 in urbanized areas.

Response Standards

Establish a more reasonable basic standard for initial response that would include:

- *At least one attack unit with at least four trained and equipped personnel at the scene within 5 minutes, and*
- *A full structure fire response team of 12 to 15 personnel assembled on the scene within 8 to 10 minutes.*

- *A full response team should have the capability to establish and maintain a fire attack flow of at least 350 gallons per minute by the 10 minute mark, while conducting interior search and rescue and fire suppression operations.*

Fire Prevention and Public Fire Safety Education

When feasible, utilize line fire fighters to perform fire inspections and to conduct public fire education coordinated by the Fire Administrator on a countywide basis. Assign specific inspection and education roles to career and volunteer personnel.

Develop a program to train and qualify fire fighters to perform occupancy inspections in low hazard occupancies. This will allow the inspectors to concentrate on medium and high hazard occupancies.

Fire Investigation

Establish an improved system for follow-up investigations of suspicious fires. This should involve law enforcement organizations and the Fire Marshal's staff.

Apparatus

All apparatus and facilities obtained through future capital expenditures which use tax revenues should become County property.

Apparatus purchases should be coordinated and planned by the Fire Advisory Board so that all apparatus, including special apparatus, is strategically located throughout the County, and duplicate equipment purchases are eliminated. The apparatus plan must take into account the ability to have the apparatus staffed at all times.

Apparatus replacement budgets and schedules based on an average of fifteen years of first line service should be planned and prioritized by the Fire Advisory Board. Each unit should be evaluated annually.

The apparatus replacement program should be based on mileage, condition, and suitability of each vehicle, not strictly age.

Facilities

Establish a Capital Improvements Project Committee under the Fire Advisory Board to assist with developing countywide facility plans.

The Capital Improvements Project Committee should identify and prioritize fire service capital projects in the County. It should consider the creation of joint-use facilities, automatic mutual aid when evaluating the location of new facilities, and future design needs for sleep-in, live-in, or and career personnel.

At a minimum, provide a fire station within a maximum of five road miles of all developed areas of the County.

Special Rescue and Hazardous Materials

Establish a plan to strategically locate, fund, train, and equip 3 additional technical rescue teams across the County. The County teams should be part of a coordinated overall plan with Raleigh and Cary.

Continue support for the Raleigh and Wendell Hazmat Teams to serve the County.

Training

Maintain the training of all fire fighters at the hazmat operations level.

A Human Resources position should be established within the Fire Administrator's Office to create a training system for all fire departments providing services to Wake County.

Establish the Position of Chief of Training with full-time responsibility for implementing and monitoring competency based training programs for all departments providing contracted services to Wake County.

Establish a task force to work with the Director of Human Resource Development and the Chief of Training to create a system that will implement consistent competency based training programs for all ranks and all departments.

Establish that compliance with the training programs, determined by the task force, is mandatory for all departments providing contracted services to Wake County.

Develop a standard Wake County Training Manual.

Implement the site safety recommendations documented by the North Carolina Department of Insurance.

Establish and implement a certification program for all instructors who will participate in live fire training.

Establish and maintain a computer based record keeping system to document and maintain individual and department training records.

Mandate the development, documentation, and adherence to detailed lesson plans for any activity conducted at the Academy.

Establish a training program that requires each contracted department to annually participate in a performance based evaluation of their ability to safely, efficiently, and effectively complete a standard set of practical fireground evolutions. The evolutions should directly reflect the content, goals, and objectives contained in the County Training manual.

Establish a drill schedule that requires multiple departments to train together. Develop and provide a management training series that focuses on critical skills essential to implementing change.

Communications

Redesign the communications system and protocols around the new organization of fire services in the County, ensuring that the same communications protocols are used by all departments. The communications center should be the hub for dispatching assignments and coordinating automatic mutual aid response.

Ensure that all departments and units in the County can communicate between one another.