The Town of Hilton Head Island
Regular Public Safety Committee Meeting

Monday, January 7, 2013
10:00 a.m. – Benjamin M. Racusin Council Chambers

AGENDA

As a Courtesy to Others Please Turn Off All Cell Phones and Pagers during the Meeting

1. **Call to Order**
2. **Freedom of Information Act Compliance**
   Public notification of this meeting has been published, posted, and mailed in compliance with the Freedom of Information Act and the Town of Hilton Head Island requirements.
3. **Approval of Minutes**
   a. Regular Public Safety Committee Meeting of November 5, 2012
4. **Unfinished Business**
   None
5. **New Business**
   a. Presentation of 2013 Fire & Rescue Strategic Plan
6. **Adjournment**

Please note that a quorum of Town Council may result if four (4) or more of Town Council members attend this meeting.

TOWN OF HILTON HEAD ISLAND

PUBLIC SAFETY COMMITTEE REGULAR MEETING

Date: November 5, 2012 **Time:** 10:10 a.m.

Members Present: Bill Harkins, *Chairman*; Kim Likins, *Council Member*; Lee Edwards, *Council Member*

Members Absent: None

Town Staff Present: Greg DeLoach, *Assistant Town Manager*; Rene Phillips, *Website/Court Systems Administrator*; and Lynn Buchman, *Administrative Assistant*

Others Present: Ken S. Heitzke, *Council Member*; Captain Toby McSwain, *Beaufort County Sheriff's Office*; Keira Morris, *Beaufort County Sheriff's Office.*

Media Present: Tom Barton, *Island Packet*

---

1. Call to Order

2. Freedom of Information Act Compliance

Public notification of this meeting has been published, posted, and mailed in compliance with the Freedom of Information Act and the Town of Hilton Head Island requirements.

3. Approval of Minutes

Motion to approve the minutes of the October 1, 2012 Regular Public Safety Committee meeting was made by Kim Likins and seconded by Lee Edwards. The Motion was approved by a vote of 3-0.

4. Unfinished Business

None.

5. New Business

a. 3rd Quarter 2012 Crime Statistics – Capt. Toby McSwain

Capt. Toby McSwain from the Beaufort County Sheriff's Office presented the 3rd Quarter 2012 Crime Statistics. He noted that the office is currently operating at full staff, with the construction of the holding cells moving forward. They are finalizing the plans for submission to the State for approval, and then will move into the bidding process. A discussion among the Committee and Capt. McSwain followed concerning the cell capacity of roughly 10 to 11 prisoners, which the State will ultimately determine, the design change made for cost effectiveness, and the anticipated State approval process, leading to a completion date of late January.

The statistics for crimes against persons were up for the quarter, but arrests were reported for the one murder case on Allen Road, the local shooting on Cordillo Court, and robberies suspected to involve multiple cases. While the numbers remained steady, Capt. McSwain indicated there was more work to be done.

Capt. McSwain and Ms. Likins discussed the statistics in regard to the North and South Forest Beach areas and the efforts recently made to establish a neighborhood watch. Looking at the numbers, Capt. McSwain noted no specific increase of crimes in this area. He reported that bar activity is a constant concern despite the increased patrols. Ms. Likins expressed her appreciation to the Sheriff's Office for their efforts to assist the citizens in this area. Low lighting, particularly during turtle season, dense scrubbery, and increased tourist activity in the area were cited as contributors to the tough situation, but Capt. McSwain noted they would continue to encourage vigilance from citizens and maintain patrols to help curtail the problems.

Traffic incidents, trespassing notices, drinking violations, drug charges, ABC violations, arrest warrants served, and other violations handled by the bar patrols funded by the Town of Hilton Head Island were detailed by Capt. McSwain. Chairman Harkins questioned the reaction of bar owners to the additional support provided by the Sheriff's Office, which Capt. McSwain explained was more of a love/hate relationship. He noted that increased police presence does not curtail problems in the bar areas, but such presence will continue.

Capt. McSwain reported that property crimes were significantly down in comparison to last year, with quite a few arrests having been made for possession or receiving of stolen goods, although burglaries could not be charged. He noted a pattern of multiple arrests and bonds occurring that put criminals back on the streets awaiting trial. A discussion followed between Mr. Edwards and Capt. McSwain concerning why bonds are not denied or increased if a pattern is established. Capt. McSwain reiterated his and Sheriff Tanner's previous comments to the Town that who is conducting the bond hearings should be looked at more closely. He reported that Ned Tupper is currently contracted with the Town to conduct bond hearings. While he felt the Sheriff's Office was doing its job in putting criminals in jail, the responsibility for bond hearings lies with the magistrates and municipal judges.

Chairman Harkins asked Greg DeLoach to comment on what could be done about the revolving door situation. While recognizing that the Committee's role was separate from the judicial role, he felt their continued displeasure should be publicly noted.

Greg DeLoach, Assistant Town Manager, repeated his comments made in the past that law enforcement locally or elsewhere will never be satisfied with bonds being set in this country. He explained the wide discretion given municipal judges and magistrates, depending on numerous circumstances, including the severity of the crime. While there is nothing improper or inappropriate being done, he pointed out that it is simply a matter of judgment as to the amount of bond being set. He emphasized that no suggestion was being made that the Sheriff's Office was wrong, but there is simply a difference of opinion that exists between Judge Tupper and law enforcement on some bonds, but not all. Mr. DeLoach explained the arrangement between the Town and Judge Tupper and other judges in the City of Beaufort to conduct bond hearings and the difficulty of identifying other judges to perform such work. Mr. DeLoach and Mr. Edwards discussed the displeasure that has been conveyed to Judge Tupper over the years, and the fact that the Judge understands the position of the Sheriff's Office and Town. In response to Mr. Edwards' inquiry about finding someone else, Mr. DeLoach pointed out there are not many avenues to pursue and in his experience, high profile cases do not happen very often.

Ms. Likins relayed to the Committee the conversation she recently had with Solicitor Duffie Stone concerning crime in Hilton Head Island, truth in sentencing, and the difference in bonds and sentencing for non-violent and violent crimes. While many individuals are convicted repeatedly of non-violent crimes, in the long run, he felt they are probably just as likely to be convicted of violent crimes. The Solicitor indicated to her that crime over the past 6 years has dropped on Hilton Head Island, and that progress has been made in requiring service of full sentences, but there is clearly additional progress to be made. She pointed out that as Mr. DeLoach had indicated, almost any Judge will react similarly for offenders of non-violent crimes. The Committee members agreed it would be worthwhile to invite Solicitor Stone to appear before the Committee to further discuss this subject.

On a positive note, Capt. McSwain informed the Committee that the cameras were working, citing an arrest for breaking into a vehicle in Chaplin Park that was the result of the cameras.

Ms. Likins and Capt. McSwain discussed the property crime incidents occurring in the North and South Forest Beach areas. While noting this is a popular spot for crime, Capt. McSwain indicated that over the last 6 months the car break-ins were forcible rather than unlocked vehicles. He reported they are working closely with Bluffton and Chatham County Metro, with arrests made and cases cleared up, but cited the difficulty in charging them with actual break-ins rather than possession or receiving of stolen goods.

Capt. McSwain and Mr. Edwards discussed auto thefts and the likelihood of recoveries. Capt. McSwain reported the arrests made in multiple cases in Bluffton involving kids taking unlocked vehicles for joy rides and ditching the cars later. However, those car thefts in Hilton Head Island do not seem to involve an auto theft ring, and more often than not are not recovered, even though they are entered into the system.

Chairman Harkins and Capt. McSwain discussed the larcenies and burglaries occurring in Hilton Head Plantation, but Capt. McSwain did not have specific information, however, he noted arrests had been made for individuals involved in multiple cases.

The statistics showed vehicle collisions were down, with two fatalities which Capt. McSwain described in detail. The number of tickets were down one month due to an injured officer who was not replaced, but the tickets were steady. New officers have been assigned to the Hilton Head Island traffic team, replacing officers who had been here for several years.

Capt. McSwain reported the volunteers put a lot of time and effort into keeping the office running smoothly, for which he was grateful. In response to Ms. Likin's inquiry, Capt. McSwain reported the new building was very nice and they had very few complaints.

Chairman Harkins and Capt. McSwain discussed the status of the study concerning the automated vehicle license identification equipment discussed at the last meeting. Capt. McSwain reported that documentation is being gathered and will be provided soon. However, he indicated a discussion will need to ensue with Sheriff Tanner in the event this is implemented, since additional manpower or refocusing of manpower will be needed. Chairman Harkins requested any request coming forward be synchronized with the budget process for review.

Chairman Harkins and Capt. McSwain discussed the safety concerns that had been expressed at the last meeting by Kathie Fayfich, a resident in the Allen Road area. Looking at the crime statistics, Capt. McSwain pointed out no further activity had been reported in that area, and Ms. Fayfich had made no further contact with the Sheriff's Office..

Ms. Likins reported that the Community Action Group has formed, with the Sheriff's and Solicitor's Offices working with them. While Capt. McSwain indicated the Sheriff had taken on that project, and he personally had not attended any of their meetings, it was his understanding that classes were being conducted in the Oaks focusing on the Hispanic community to encourage reporting of crimes without fear of deportment. Ms. Likins expressed her appreciation for the Sheriff's Office willingness to work with this organization, as one of their significant goals or initiatives is to take back the streets.

Chairman Harkins thanked Capt. McSwain for his report.

Adjournment

At 10:48 a.m. Mr. Edwards moved to adjourn the meeting and Ms. Likins seconded. The motion was approved by a vote of 3-0.

Respectfully submitted:

_____

Lynn W. Buchman
Administrative Assistant

Approved by:

_____/_____
Bill Harkins, Chairman

DRAFT

Hilton Head Island Fire & Rescue

Office of the Fire Chief
40 Summit Drive
Hilton Head Island, SC 29926
843.682.5153

ACCREDITED AGENCY 2012-2017 CFAI

TO: Town of Hilton Head Island, Public Safety Committee
FROM: Lavarn Lucas, Fire Chief
VIA: N/A
DATE: December 11, 2012
SUBJECT: 2013 Fire & Rescue Strategic Plan

Recommendation:

Review, revise, and recommend to the Town Council of the Town of Hilton Head Island adoption of the 2013 Fire & Rescue Strategic Plan.

Summary:

The Fire & Rescue Strategic Plan (Plan) is submitted for the Committee's review. Fire & Rescue will present an overview of the plan specific to:

- Overview of 1998 & 2004 Master Plans
- Challenges Associated with the Previous Plans
- Development Process of the 2013 Plan
- Supporting Materials for the 2013 Plan
- Overview of 2013 Plan Including Layout, Longevity, Reporting, & Future updates
- Overview of Costs Associated with Proposed 2013 Plan

Fire & Rescue will be prepared to answer questions regarding the proposed Plan and any recommendations included in the Plan. Fire & Rescue does not expect the Committee to vote on supporting the proposed Plan during this meeting. Instead, it is requested that Plan recommendations that may require more complex answers be identified prior to the February 4th, 2013 meeting or at a special meeting prior to the February 4th meeting. In this manner Fire & Rescue will be able to provide more specific answers to the questions that may arise.

Fire & Rescue stands ready to revise existing recommendations contained within the Plan so that a clean and unencumbered Plan may be adopted by the Committee and forwarded to the Council for approval.

Background:

Fire & Rescue first adopted a Master Plan in 1998. The 1998 Master Plan was updated in 2004. The existing 2004 Master Plan was to be updated in 2009. Due to significant administrative changes at Fire & Rescue, as well as the utilization of a different plan development strategy, the 2004 Master Plan has remained the official Master Plan until this 2013 Plan is be adopted.

Town of Hilton Head Island
Fire & Rescue

Strategic Plan

2013 to 2022

An Internationally Accredited Organization

Dear Reader,

Welcome to the 2013 Hilton Head Island Fire & Rescue (Fire & Rescue) Strategic Plan. This plan is intended to be an integral part of the Town's Comprehensive Plan for the community and to reinforce the goals, objectives and standards established by the Town Council. It is intended to:

- Enhance the value that Fire & Rescue provides to the community
- Be used to continue the development of Fire & Rescue as a high quality Fire and EMS organization
- Enhance the overall perception of Hilton Head Island as a quality place to live and visit

It is common, when thinking of the fire service, to form mental images of burning buildings, car wrecks, and emergency vehicles responding to those incidents with lights flashing and sirens sounding. These things are certainly the most visible face of a fire department, as well as providing some of the most rewarding career moments for fire service professionals. The duties, responsibilities and achievements of The Town of Hilton Head Island Fire and Rescue are many and varied, and go far beyond those readily formed images. Many of these occur so far out of the public eye that historically they may have been known only to the members of Fire & Rescue, or have been communicated on a piecemeal basis in the form of various statistical reports, announcements or press releases.

The philosophy of many fire administrators has been one of reacting to a fire problem rather than planning to meet challenges. Historically, fire protection planning has been no more than the application of the insurance grading schedule, which is updated about every ten years, and then, the dominant consideration has been efforts to reduce the community's insurance classification. Communities have traditionally followed the catastrophe theory of fire reform for fire protection services, one which mandates corrective legislation only after a major disaster. However, planning for emergencies and disaster scenarios better prepares the agency and the community when events do occur.

In many communities, the fire department and the services they provide have simply evolved over time from the need perceived by fire chiefs. The true effectiveness and efficiency of these fire agencies is largely unknown. Fire services' planning provides a means to logically evaluate fire services and to efficiently provide levels of service in

response to measured needs, levels of risk, and the financial capabilities of the community.

The goals of this Fire & Rescue Strategic Plan are to:

- Present an objective and quantitative assessment of the emergency medical and fire protection service levels as they currently exist
- Present philosophies, plans and goals intended to improve emergency medical and fire protection service levels in a systematic and predictable manner
- Establish service levels that coincide with the objectives set forth by Town Council to meet the needs and expectations of the community
- Clarify the emergency medical and fire protection responsibilities for other groups in the community
- Increase the effectiveness and efficiency of emergency services in the Town of Hilton Head Island
- Establish coordinated guidelines, goals, objectives, and priorities for future service to the community
- Establish guidance for program implementation and review
- Provide direction for future requests for resources

Every effort has been made to present the most accurate information possible in this Strategic Plan. Data was extracted from Fire & Rescues incident reporting software (FireRMS®), Computer Aided Dispatching (CAD) software and the Town's geographic information system (GIS) software. Data analysis was conducted by Fire & Rescue staff personnel and those findings are represented in this document. Calculations in this plan are based on national averages, generally accepted fire service standards, and educated recommendations from experts in the field.

Reference materials used in the analysis of this data reflect standards and guidelines recommended by the National Fire Protection Association® (NFPA), the U.S. Fire Administration (USFA), the International Association of Fire Chiefs™ (IAFC), the Commission on Fire Accreditation International© (CFAI), the American Heart Association® (AHA), and the Insurance Services Organization (ISO).

Town of Hilton Head Island
Fire & Rescue – 2013 Strategic Plan

Table of Contents

I: STRATEGIC PLAN OVERVIEW 1
- Development of the Strategic Plan 1
- Strategic Plan Maintenance and Longevity 3
- Achievements from Previous Strategic Plans 3

II: FIRE & RESCUE ORGANIZATION 4
- Overview 4
- Department Services 4
- Organization Chart 5
- Facilities and Staffing 6
- Emergency Scene Access 9
- Response Time Reduction 10
- Occupancies 10
- ISO Rating 10
- Major Departmental Milestones 11
- Financial Resources 11
- Risk Assessment 12

III: COMMUNITY OVERVIEW 14
- Population 14
- Geography 15

IV: DEPARTMENTAL RECOMMENDATIONS AND PLANS BY DIVISION 17

ADMINISTRATION 17
- Overview 17
- Strategic Recommendations 19

FIRE PREVENTION 23
- Overview 23
- Strategic Recommendations 23

COMMUNICATIONS 33
- Overview 33
- Strategic Recommendations 34

EMERGENCY MANAGEMENT 36
- Overview 36

- Strategic Recommendations 36

FLEET MAINTENANCE 42
- Overview 42
- Strategic Recommendations 43

OPERATIONS 44
- Overview 44
- Strategic Recommendations 46

PLANNING 52
- Overview 52
- Strategic Recommendations 53

PUBLIC SAFETY SYSTEMS 58
- Overview 58
- Strategic Recommendations 59

SUPPORT SERVICES 61
- Overview 61
- Strategic Recommendations 62

TRAINING 67
- Overview 67
- Strategic Recommendations 68

VI: APPENDICES

A 2004 Master Plan Recommendation Status
B Fire & Rescue Annual Achievements
C Standard of Cover
D List of Strategic Recommendations
E Emergency Access Gate – Site Selection and Construction

STRATEGIC PLAN OVERVIEW

Development of the Strategic Plan

In November of 1998, Town Council adopted the first Fire & Rescue Master Plan as an appendix to the Town of Hilton Head Island's Comprehensive Plan. This document became the catalyst for many changes within the organization related to improvements in service delivery and emergency response. Recommendations were made in this document for the adoption of an emergency response time standard with the staffing, technology improvements and fire station construction and re-location projects designed to meet this standard.

In April of 2005, Town Council adopted an updated version of the Fire & Rescue Master Plan titled *2004 Master Plan*. This document provided more details on community risk assessment and provided specific recommendations with regards to staffing considerations, vehicle replacement strategies and emergency management functions.

This 2013Fire & Rescue Strategic Plan document is intended to continue the long-term planning process in order to establish goals for Fire & Rescue designed to meet the needs of the community. The process for the creation of this document began with a formal retreat sponsored by Fire & Rescue on June 23, 2009. The purpose of this retreat was to solicit input from <u>all</u> of the members of Fire & Rescue regarding the mission of Fire & Rescue and the future role of Fire & Rescue within the community. Additionally, members were encouraged to provide suggestions for future plans, projects and operations designed to enhance our service to the community. Forty-one members of Fire & Rescue attended this retreat. A list of fifty four (54) topics was created by suggestions from the membership to be researched for possible inclusion in the 2013 Strategic Plan document. These topics were assigned to various staff members who provided the research necessary to justify inclusion into the Strategic Plan. Additionally, a new mission statement, core values statement and motto were suggested for Fire & Rescue. Open meetings were held to review the justification for each recommendation and a consensus was reached as to whether the justifications were accurate and if the topic was to be included in the Strategic Plan document. The authors of this document have chosen to present a unified explanation and justification for the recommendations being made to the Town Manager and Town Council.

This document also includes, as Appendix C, Fire & Rescue's Standard of Cover (SOC). A SOC document has been developed and adopted by Fire & Rescue. As the Department worked to establish its service level goals, it did so based on its past performance, national standards such as NFPA 1710 *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and*

Special Operations to the Public by Career Fire Departments, the CFAI accreditation model, and the ISO grading schedule. Developing and updating an SOC helps the department establish and meet service level goals for the types of emergencies routinely responded to.

The SOC document is designed to provide elected officials and residents with information on fire service operations and risk management planning. It is intended to be used in conjunction with the Fire & Rescue's Strategic Plan. While the SOC provides an overview of risk assessment, deployment of resources, and an analysis of current performance, the strategic plan outlines the resources needed to address current deficiencies and future service demands as well as sets the benchmarks for the Department to judge its service delivery. The SOC will be updated annually as required by CFAI.

The Hilton Head Island Fire & Rescue's Strategic Plan & Standard of Cover document is intended to serve in a supportive role to the Town's Comprehensive Plan and satisfy the requirements for the department's International Accreditation. This document should set goals, objectives, and priorities for Fire & Rescue and should assist in determining allocations of funds and resources within the agency. As a part of the accreditation process this document is divided into sections as pursuant to the guidance documents.

It is anticipated that this document, along with the Standard of Cover, will:

1. Provide an accurate review of the current levels of service provided to the community
2. Establish coordinated guidelines, goals, objectives, and priorities for future services to the community
3. Establish guidance for program implementation and review
4. Increase the effectiveness and efficiency of emergency services in the Town of Hilton Head Island
5. Provide the necessary documentation to maintain International Accreditation
6. Provide direction for maintaining and improving the Department's Insurance Service Office (ISO) rating
7. Provide direction for future requests for resources

In 2002, Hilton Head Island Fire & Rescue received accreditation through the Commission of Fire Accreditation International (CFAI). The CFAI, a joint venture of the International City/County Management Association and the International Association of Fire Chiefs, was created to develop a comprehensive system of fire service evaluation. A major component of the accreditation process is self-assessment conducted by

department members and administration. This document has been tailored to satisfy the department's accreditation process as well as Strategic Planning. It has a new, contemporary look and is more concise and user friendly while still incorporating all the key elements of the old Master Plan. Having one unified document helps provide continuous quality improvements and enhances the delivery of services by the fire department to the community.

Strategic Plan Longevity and Maintenance

This Fire & Rescue Strategic Plan is written to have a ten-year life expectancy from the time of its adoption. It is anticipated that this document will undergo a comprehensive review, update and revision at its five year midpoint, and be renewed with another ten-year life expectancy. Additionally, it is intended that this Strategic Plan will be reviewed annually with updates to the Standard of Cover and Appendices. A status report will be presented to Town Council indicating the current levels of emergency services provided to the community, and the progress made on achieving the approved recommendations set forth in the Strategic Plan on an annual basis.

Many of the calculations in this plan are based on national averages, generally accepted fire service standards, and recommendations from experts in the field. It is expected that service level determination will improve over time, as more local data is collected and greater evaluation of fire fighting and emergency medical techniques are implemented. The limits and standards suggested in this plan should, therefore, not be considered as absolutes, but rather as the best available information at this time.

Achievements from Previous Strategic Plan

The recommendations contained in the *1998 Master Plan* did not specifically carry over to the 2004 Master Plan. Because of this, continuity from one plan to another has been lost or has been difficult to follow. In order to provide continuity from the *2004 Master Plan* to the 2013 Strategic Plan, a review was conducted of all 2004 Master Plan recommendations. After this review, the 2004 Strategic Plan recommendations were determined to fall under one of the following Categories:

- Completed as written
- Completed with modifications
- Delayed
- Withdrawn
- In progress

Of the 50 recommendations in the 2004 Master Plan, 32 have been completed either as written or with modifications, 4 have been delayed, 5 are in progress, and 8 have been

withdrawn. For further details on the status of individual recommendations, please refer to Appendix A.

For a listing of Hilton Head Island Fire & Rescue's accomplishments from 2005 through 2011, refer to Appendix C.

FIRE & RESCUE ORGANIZATION

Overview

Since its creation on July 1, 1993, Hilton Head Island Fire & Rescue has undergone an evolutionary process that has transformed the organization from being a local fire suppression provider into one of the premier Fire & Rescue organizations in the country. Historic events over the past decade have resulted in Fire & Rescue not only providing fire suppression and emergency medical services to the community, but also expanding its ability to deliver more specialized services. Some of these services include hazardous materials response, confined space rescue, urban search and rescue, emergency management, and improved emergency communications / dispatching services.

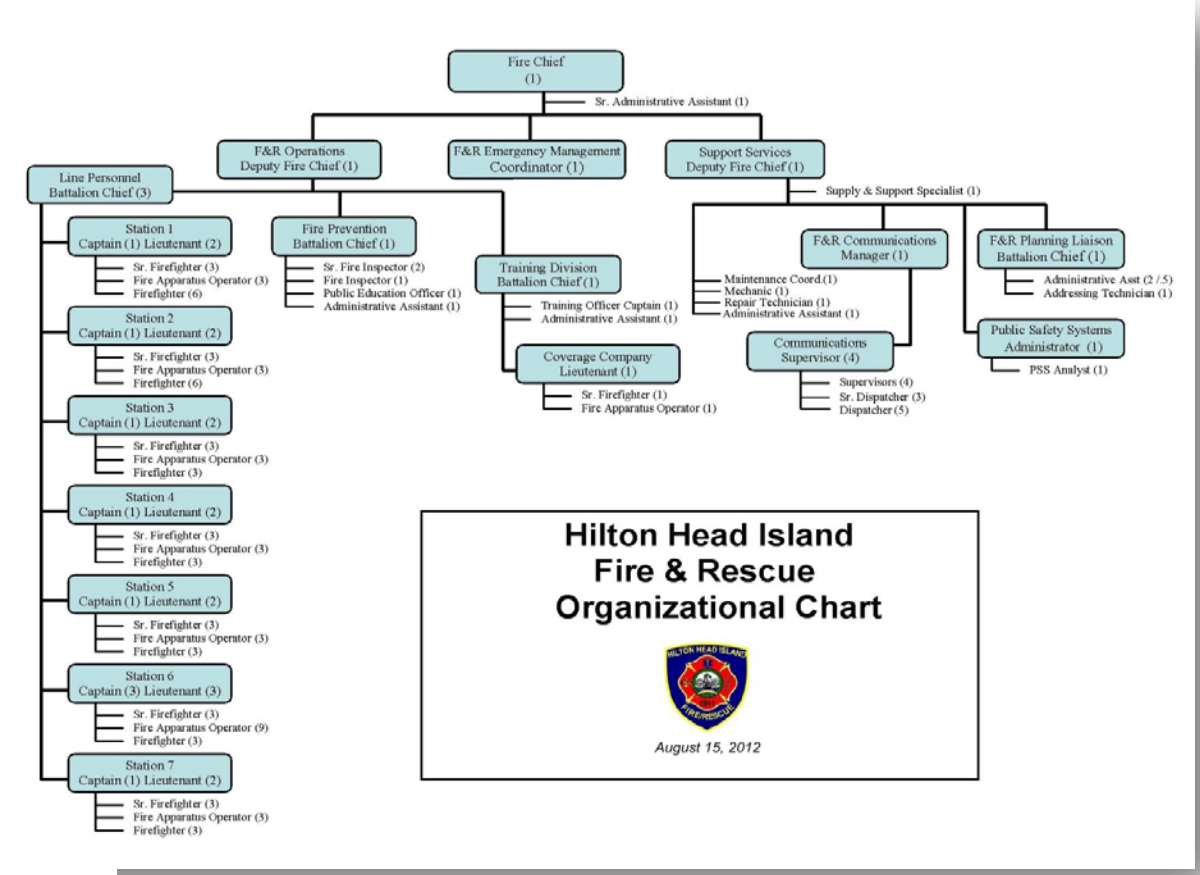
Department Services

Hilton Head Island Fire & Rescue operates seven staffed fire stations, an Emergency Communications Center, an Emergency Operations Center, a Headquarters/ Maintenance facility and a Training facility. Fire & Rescue provides the following emergency services to the citizens and visitors of Hilton Head Island:

- Fire Suppression operations for all areas within the incorporated town limits
- Emergency Medical Services (EMS) pre-hospital treatment and transport operations for all areas within the incorporated town limits
- Emergency Communications and Dispatching operations for Fire & Rescue, Daufuskie Island Fire District, Beaufort County EMS on Daufuskie Island and Hilton Head Island Airport Aircraft Rescue and Fire Fighting
- Special Operations including Hazardous Material Response and Mitigation, Urban Search and Rescue (USAR) Response and Wildland Firefighting Response
- Emergency Management including Pre-Incident Preparedness and Planning, Disaster Mitigation Planning, Incident and Disaster Operations and Management, Disaster Recovery Planning and Operations, and All Hazard Public Education
- Fire Prevention operations including Fire / Safety Inspections, Code Enforcement, Plans Review and Approval, Fire Cause Investigation, Fire Hydrant Inspection and Repair

- Public Fire and Safety Education including File of Life®, Risk Watch®, Child Safety Seat Inspections, Community CPR Training, Community Automatic External Defibrillator (AED) Training, Community First Aid Training, Community Fire Extinguisher Training and Community Fire Drill Exercises
- E-9-1-1 Addressing
- Logistical and Maintenance Support Operations including routine service and repairs of all Fire & Rescue and Town vehicles and equipment, as well as purchasing, inventorying and distribution of all routine Fire & Rescue supplies and equipment.
- Annual Household Hazardous and e-waste Disposal Operations
- Support of the Public Safety Shelter site where Fire & Rescue and other area emergency response agencies would evacuate to in the event of an approaching hurricane of a category three or less

Department Organizational Chart (Fig 1)



(Fig 1)

Facilities and Staffing

The Fire & Rescue Division has seven (7) staffed fire stations in order to provide protection and services. Fire & Rescue operates a three shift system, where three groups of firefighters each work on one of three consecutive days, and then have the next 48 hours off duty. Therefore, one of the three shifts (A, B or C) is always on duty. There are thirty five (35) positions assigned to each shift, with a minimum manning level of twenty nine (29) personnel on duty each day.

Fire & Rescue maintains 108 Line (Response) personnel, 26 Administrative/ Support / Maintenance personnel and 13 Dispatch/Communications personnel (147 total) operating out of the following facilities:

Fire Station #1: 70 Cordillo Parkway (Shipyard Plantation)
1- Fire Engine (Quint)
1- Medic (ambulance)
1- Rehab / Evacuation Bus
5- Firefighters assigned daily (maximum)
4- Firefighters assigned daily (minimum)

Fire Station #2: 65 Lighthouse Road (Sea Pines Plantation)
1- Fire Engine (Pumper)
1- Medic (ambulance)
1- Brush Fire Response Vehicle
5- Firefighters assigned daily (maximum)
4- Firefighters assigned daily (minimum)

Fire Station #3: 534 William Hilton Parkway
1- Fire Engine (Pumper)
1- Medic (ambulance)
1- Hazardous Materials Response Vehicle
4- Firefighters assigned daily (maximum)
3- Firefighters assigned daily (minimum)

Fire Station #4: 400 Squire Pope Road
1- Fire Engine (Pumper)
1- Medic (ambulance)
1 – Reserve Ambulance
4- Firefighters assigned daily (maximum)
3- Firefighters assigned daily (minimum)

Fire Station #5: 20 Whooping Crane Way (Hilton Head Plantation)
1- Fire Engine (Quint)
1- Medic (ambulance)
1- Reserve Ladder Truck
5- Firefighters assigned daily (maximum)
4- Firefighters assigned daily (minimum)

Fire Station #6: 16 Queens Folly Road (Palmetto Dunes Plantation)
1- Fire Engine (Pumper)
1- Medic (ambulance)
1- Ladder Truck
1- Urban Search & Rescue Response Vehicle
8- Firefighters assigned daily (maximum)
7- Firefighters assigned daily (minimum)

Fire Station #7: 1001 Marshland Road
1- Fire Engine (Pumper)
1- Medic (ambulance)
1 – Battalion Chief Command Vehicle
1- Reserve Fire Engine (Pumper)
1- Fire Suppression Air / Support Vehicle
5- Firefighters assigned daily (maximum)
4- Firefighters assigned daily (minimum)

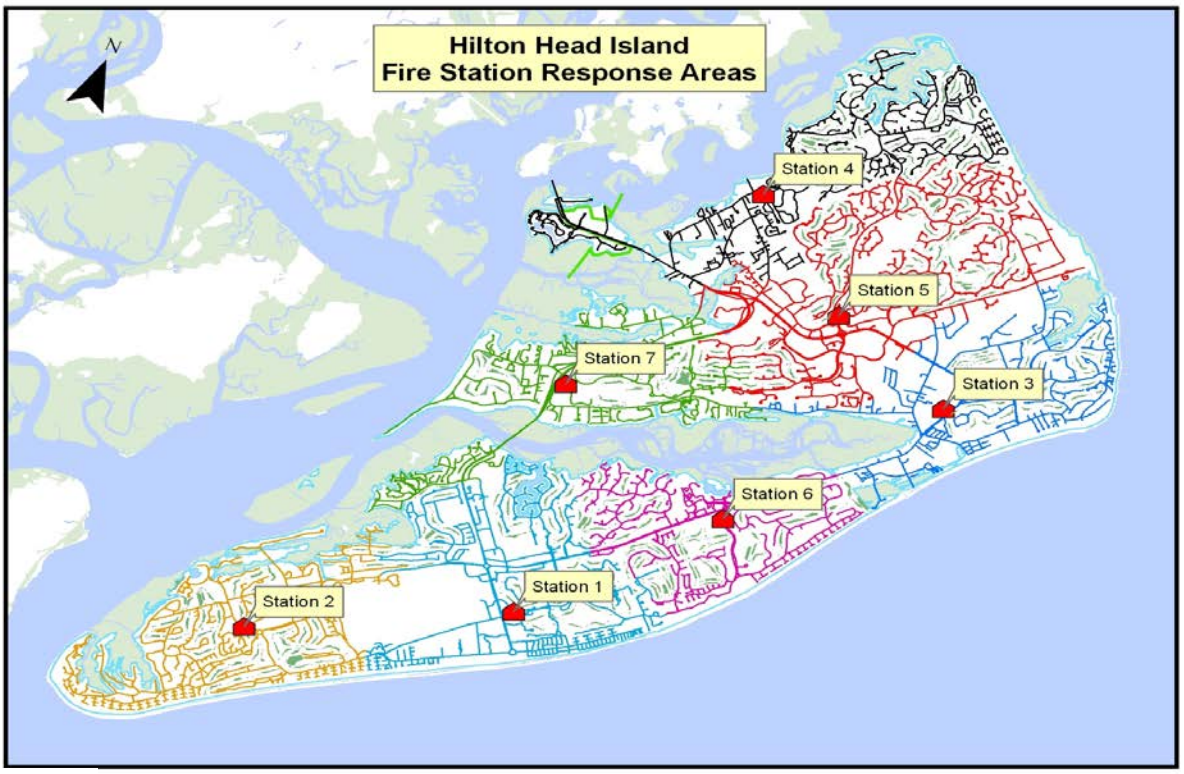
Fire & Rescue Headquarters: 40 Summit Drive
9- Fire & Rescue Senior Staff and Administrative Support personnel
6- Bureau of Fire Prevention personnel
4- Logistics & Maintenance personnel
6- Fire & Rescue Training personnel
1- Emergency Management personnel

Emergency Communications Center: 21 Oak Park Drive
13 - Emergency Dispatch personnel
3- Dispatchers assigned daily (Maximum)
2- Dispatchers assigned daily (Minimum)
Town of Hilton Head Island Emergency Operations Center

Fire & Rescue Training Facility: 75 Dillon Road
(Live Fire) fire suppression training props
Rescue / Extrication training props

Hazardous Materials training props
Vehicle and Operator testing areas
4 story training tower with (Live fire) burn room
3- Firefighters assigned Daily (Maximum)
0- Firefighters assigned daily (Minimum)

Fire & Rescue's facilities are located throughout the community to provide services (Fig 2). All fire fighting personnel are cross-trained to a minimum level of State and National Registry Basic Emergency Medical Technician (EMT) with a goal of maintaining forty two (42) of our personnel trained to a level of EMT Paramedic. Each fire station is equipped with a fire engine and an ambulance to provide personnel with the appropriate equipment for the required tasks including transportation to the nearest medical facility, based on the type of call for service received.



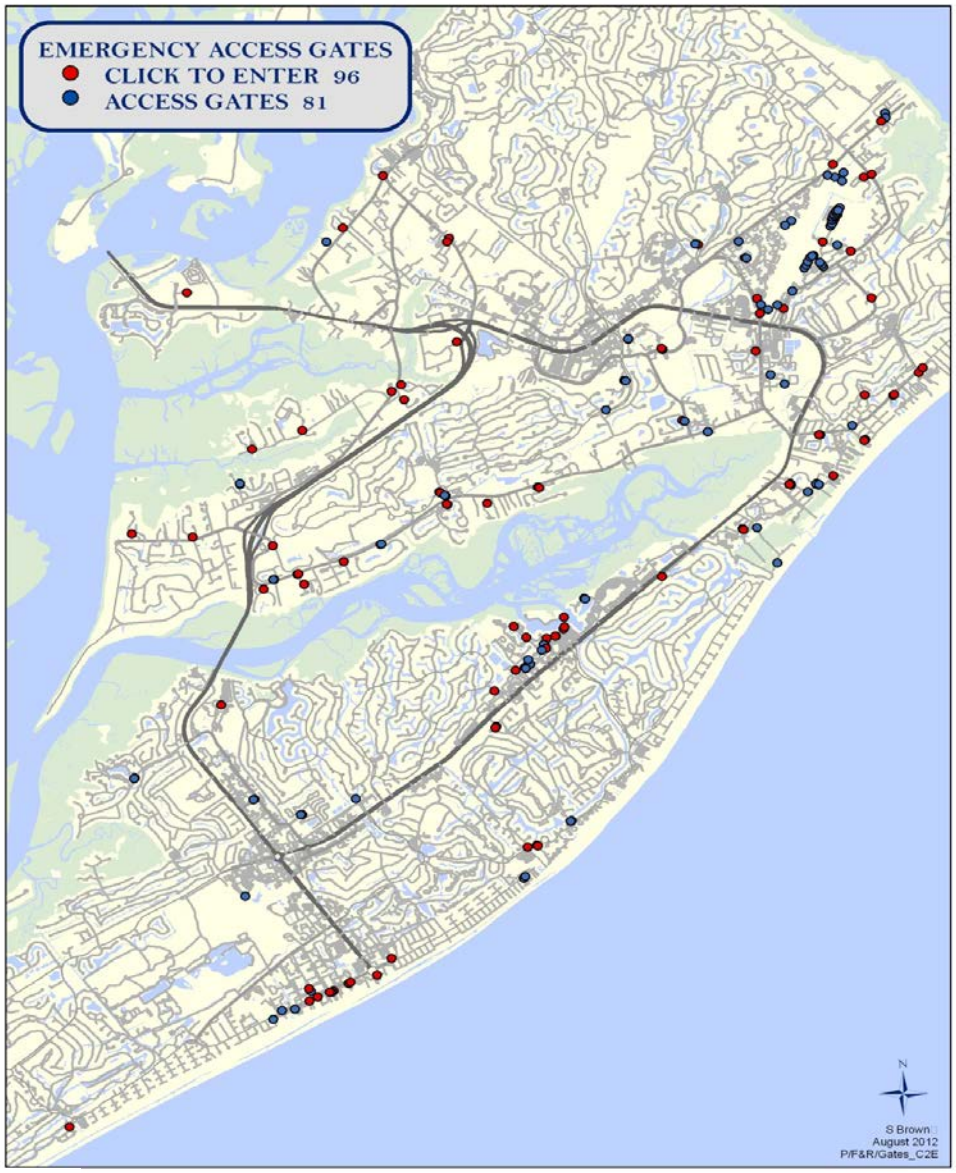
(Fig 2)

Each day three of the seven fire engines are staffed with a minimum of four firefighter/EMT's. Four fire engines have a minimum of three firefighter/EMT's, one Ladder truck with a minimum of four firefighter/EMT's, and one Battalion Chief who collectively provide a minimum on-duty strength of twenty nine.

In order to assure sufficient coverage at all times, an additional fire engine and ambulance are staffed with a three firefighter/EMT crew. This roaming crew provides coverage to areas if their normally assigned crew is involved in training or other responsibilities.

Emergency Scene Access

One key issue that Fire & Rescue previously identified was the difficulties encountered in accessing limited access communities. A program was initiated to improve access to gated communities. To date there are 176 emergency access points installed in key locations. The map below (Fig 3) shows the locations of all access gates in current use.



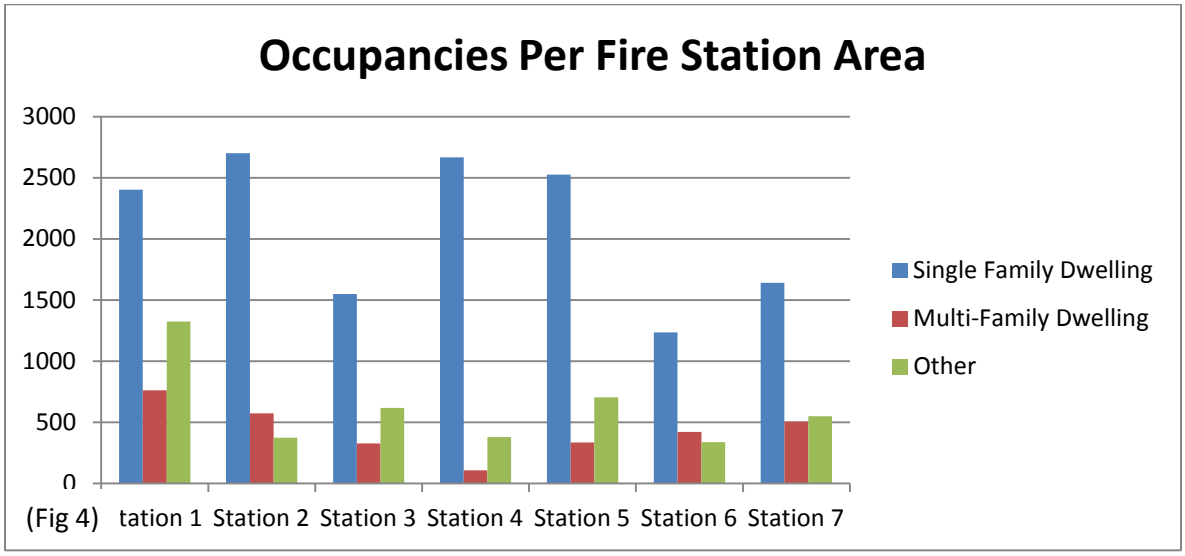
(Fig 3)

Response Time Reduction

In regard to response time reduction, Fire & Rescue has a very unique response system. With the addition of Computer Aided Dispatching (CAD) and multiple other public safety computer systems, such as Automatic Vehicle Location (AVL), iMobile® Mobile CAD, and Onboard Mobile Gateways (OMG), the department is able to dispatch the closet unit to a call, not necessarily the apparatus from a specific station nearest the call. This is done electronically through the Fire & Rescue CAD system. The computer recommends units based on locations throughout the island and takes into account a fifteen second time delay for traffic lights, stop signs and other items that may delay a unit in responding to a call. The result is citizens receiving the closest available fire truck or ambulance when calling 911.

Occupancies

Fire & Rescue resources should match the type of emergencies most likely to occur. While there are many factors that affect the types of emergencies which may occur, the types and numbers of occupancies is of primary concern. There is a significant variance in the number and type of occupancies within the Station response districts. The following graphic (Fig 4) depicts the distribution of occupancies by the individual station response district.



(Fig 4)

ISO Rating

Insurance Services Office (ISO) collects information on municipal fire-protection efforts in communities throughout the United States. In each community, ISO analyzes relevant data using a Fire Suppression Rating Schedule (FSRS). A Public Protection Classification (PPC) from 1 to 10 is then assigned. Class 1 generally represents

superior property fire protection, and Class 10 indicates that the area's fire-suppression program doesn't meet ISO's minimum criteria.

Classifying a communities' ability to suppress fires through their public fire-protection service is the end result of the ISO evaluation. The program produces an objective evaluation, based on a countrywide standard. This evaluation assists Fire & Rescue in planning and budgeting for facilities, equipment, and training.

Fire & Rescue was rated in 2012 indicating that the agency will retain its current PPC of 3, but by only .48% of one point. A very narrow margin of 0.48% is of grave concern. Any number of events may occur which would result in Fire & Rescue slipping to a PPC of 4. By maintaining the lowest practical rating possible Hilton Head Island taxpayers receive favorable fire insurance premiums. It is apparent that maintaining the current PPC of 3 would not affect premiums positively or negatively, but slipping to a 4 may result in increases in both residential and commercial insurance premiums.

Major Department Milestones

Hilton Head Island Fire & Rescue has come a long way since its formation in 1993, and has built a reputation for professionalism, excellence and innovation. Much of the past was still present, however, in terms of personnel, apparatus, and stations. This has changed, however, in the last 3 years with the replacement of all of the apparatus and the replacement of most of the original Fire Stations.

It has been a time of change in regard to staffing and apparatus changes, and also a time of change as Fire & Rescue continues to embrace new and emerging technologies, equipment and techniques. What has remained constant, however, is the department's tradition of striving to be the best, with a mission of providing fire, rescue, emergency medical and emergency services to the community and visitors. Fire & Rescue accomplishes this through a cost effective and efficient delivery system designed to enhance a safe environment for the public. Fire & Rescue respects its past, is proud of the present, and enthusiastically looks forward to a future of providing quality service with a new generation of firefighters, equipment and facilities.

Financial Resources

The Fire Chief, professional staff, the Town Manager and Town Council all share responsibility for planning, management, and stability of financial resources. The Deputy Chiefs oversee the various commands and operate in a fiscally responsible manner, having a significant voice in their respective budgets. The department adheres to the policies, guidelines, and processes for developing the annual budget defined by the Town of Hilton Head Island. Budget preparation is the ultimate responsibility of the Fire

Chief and approval goes through the Town Manager and Town Council. Thereby determining funding allocation for programs included in the final budget.

Risk Assessment

In order to determine the effectiveness of the delivery systems for fire or emergency medical service and correctly establish the levels of services desired by a community, it is necessary to evaluate the resources required in relation to the resources available, in other words determine the community's acceptable level of risk. This provides an understanding of the present service level being delivered, assesses the community's needs, and develops a plan for the future. The difference between the required and available levels of resources indicates a risk level of high, moderate, or low. Where the resources match the need, the community risk is considered manageable. The reverse is true when the needs exceed the resources, and the community risk is high.

The key element to this approach is finding the common yardstick by which to measure service requirements and resources available. Services delivered within a certain time-frame are generally an accepted and tested criterion, and the one most often used as the common factor for assessing community risk.

Key Risk Factors

In the past five years, the face of Hilton Head Island has changed dramatically. Where previously existed a community of mostly single or two story structures now stands an urban community comprised of large shopping centers and complex residential and commercial centers.

Structural Fire Risk Factors

There are approximately 22,054 structures identified in the Town of Hilton Head Island Geographical Information System (GIS) database. These properties are classified by GIS according to their use as defined in the Town of Hilton Head Island Land Management Ordinance. Of these structures, approximately 14,726 are classified as single-family dwellings, 3,307 are classified as multi-family dwellings and 4,291 are classified as mobile homes or other structures. Based on these statistics, single family residences account for approximately 67% of the structures identified in the town.

The Town of Hilton Head Island Fire & Rescue conducts an on-going process of examining the hazards associated with the existing occupancies within the Town. The Town is divided into 235 "Emergency Response Zones" or planning zones for this evaluation process. One planning zone or "map page" equals 4,700 square feet. Types of occupancies for each planning zone are identified utilizing GIS data.

Emergency Medical Risk

In 2010 there were an estimated 37,099 full time residents living on Hilton Head Island. This number, coupled with the visitors that travel to the island every day, generated a total of 5,867 emergency calls. Of those 5,867 calls, 4,135 calls were for emergency medical services.

The population is growing at a significant rate with the age of the current population continuing to increase. According to the Census information the age group 85 and older grew almost 111% since the 2000 Census, resulting in a greater percentage of aging population that will need emergency medical services to be delivered to them. This dramatic increase is a result of a combination of the continued influx of retirees and the national trend of the aging baby-boomer population.

The population is distributed somewhat equally throughout the island; however, there has been a significant increase in the number of persons living in group quarters in recent years. With each additional special care facility that is constructed in the community, the impact on emergency medical call volumes increases substantially.

Other Possible Risks

Natural disasters pose the next likely risk the community faces. According to the Town of Hilton Head Island Comprehensive Emergency Management Program Overview Hazard and Risk Summary (2012), (Fig 5) the likelihood of natural disasters in the order of probability include:

Hazard	Frequency (annual probability)	Severity (loss)	Vulnerability	Relative Numerical Value
Thunderstorms	Very high(283)	Medium	150	1
Fire	Very High(over 100)	Very Low	10	12
Flood	Medium(42.37)	Medium	90	3 (tied)
Tornadoes	Medium(35.59)	Medium	90	3
Drought	Medium(35.59)	Very Low	30	11
Hurricanes	Low (12.6)	Very high (Cat. 4 or higher)	100	2 (tied)
Winter Event	Very low(1.69)	Very low	10	12
Earthquakes	Very Low(.32)	High	40	10
Dam Failure	Very low(n/a)	Very low	10	12
Tsunamis	Very Low(n/a)	High	40	10
Landslides	Very Low(n/a)	Very Low	10	12

(Fig 5)

Further information on hazards, likelihoods, and mitigation plans may be found in the *Beaufort County Hazard Mitigation Plan.*

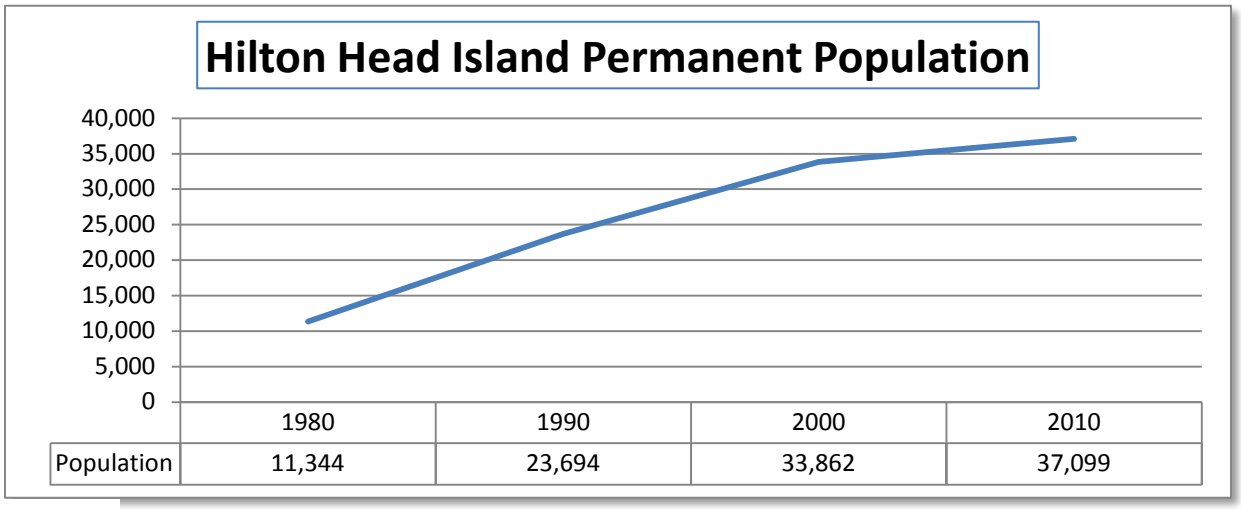
COMMUNITY OVERVIEW

The Town of Hilton Head Island was formed on September 26, 1983 and has a Town Manager – Mayor Council form of government. The Mayor is elected at large and there are 6 council persons elected from 6 wards.

The Town encompasses more than 54 square miles, of which 34.16 are considered usable land. The Town boasts 13 miles of beaches, and in excess of 60 miles of dedicated leisure or bike pathways for the enjoyment of residents and visitors alike.

Population

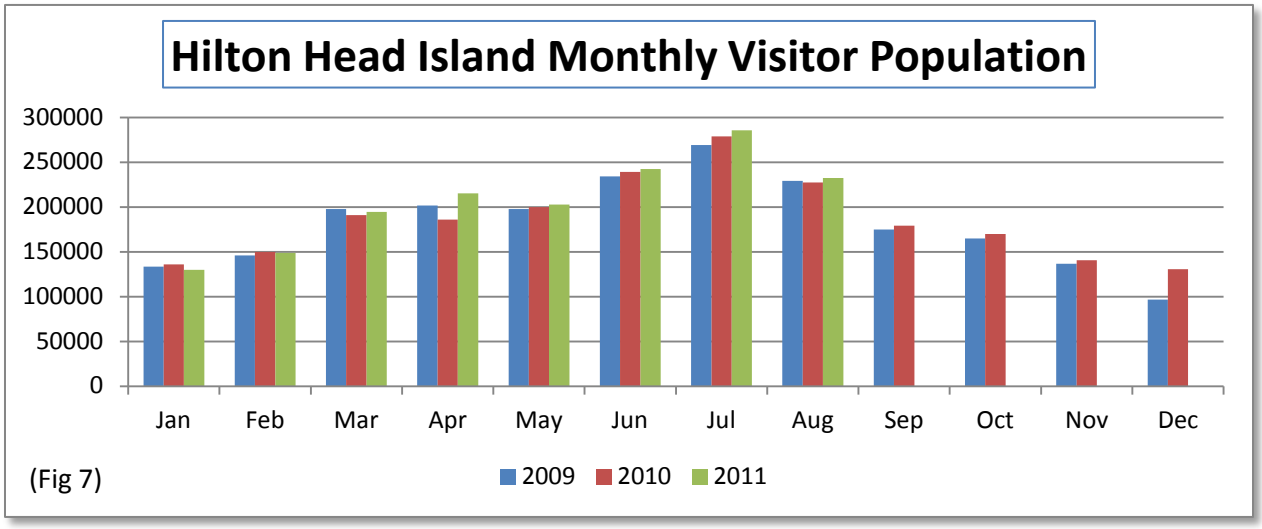
The total permanent resident population of the Town of Hilton Head Island, according to the 2010 Census is 37,099 persons (Fig 6). When compared to the 2010 population of Beaufort County, the Town's population comprises nearly 22 percent of the county's population.



(Fig 6)

The Town is renowned as a first class tourist destination, so the island population fluctuates according to the season. As a community with four large resorts, numerous hotels and rental properties, year-round recreational activities, and a large retirement component, there are a considerably higher actual number of persons on the Island than what is reported in the census information. Figures from the *2010 Beaufort County Comprehensive Plan*, the Hilton Head Island Chamber of Commerce Visitor Survey, and the 2006-2008 *American Community Survey*, indicate that the average daily population on Hilton Head Island approached or exceeded 100,000 in July of the last three years.

In 2010 more than 2.5 million visitors enjoyed the amenities of the Island. This considerably raises the Island's daily population (Fig 7).



(Fig 7)

The 2006–2008 American Community Survey reported for the Town of Hilton Head Island a total of 29,182 housing units on the island. The 2006–2008 American Community Survey showed an average household size to 2.26 persons per household.

Geography

As a coastal community, Hilton Head Island is virtually isolated from the rest of the surrounding communities by the large bodies of water surrounding the island (Fig 8). There is only one roadway connection to the island from the mainland (US-Highway 278). This connection depends on the integrity of the roadways and bridges along this route (Fig 9). Since there is essentially only one way to access the island from the mainland, Fire & Rescue has limited capability for receiving aid from other emergency response agencies.

(Fig 8) (Fig 9)

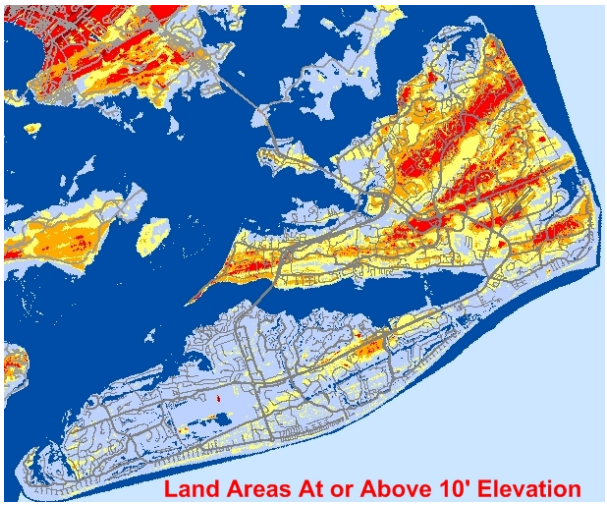
The municipal limits of the Town of Hilton Head Island covers approximately thirty four square miles of land area on the island and also covers approximately twenty square miles of the waterways surrounding the island. These waterways stretch well into Calibogue Sound, Skull Creek and Port Royal Sound and also include the waters one mile offshore into the Atlantic Ocean. Hilton Head Island is almost “split” by Broad Creek in the middle of the island (Fig 10).

It should be noted that portions of Jenkins Island, at the foot of the bridges leading to the mainland, is not in the municipal limits of the Town of Hilton Head Island. This area contains the residential communities of Windmill Harbor, Blue Heron Point, Mariners Point and Outdoor Resorts (Fig 11).

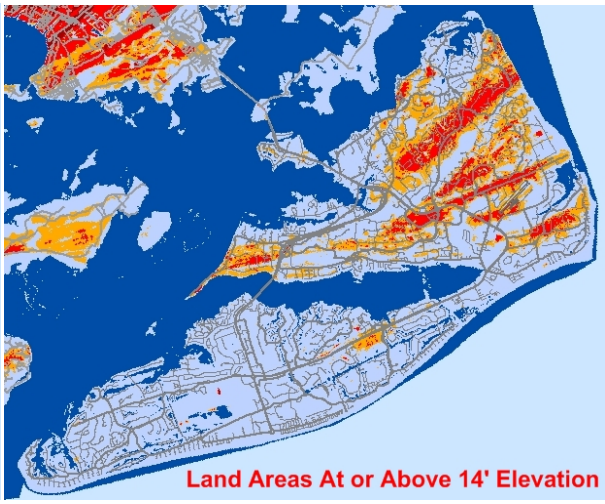
(Fig 10)

(Fig 11)

Hilton Head Island has very low elevations. Few areas on the south end of the island are at or above ten foot elevation (Fig 12). Areas that are at or above fourteen foot elevation are predominately located on the north end of the island (Fig 13).



(Fig 12)



(Fig 13)

2013 Strategic Plan

(Recommendations by Division)

ADMINISTRATION

Overview

Hilton Head Island Fire & Rescue began operations July 1, 1993 as a consolidation of the former Sea Pines Forest Beach Fire Department, the Hilton Head Island Fire District and the Hilton Head Island Rescue Squad.

Hilton Head Island is the largest barrier island on the Atlantic coast with 22,000 acres of semi-tropical low country geography, which includes unspoiled sea marshes, creeks, lagoons, forests and more than 12 miles of pristine beaches.

Protecting a population of approximately 37,000 full time residents and more than two million visitors yearly, Hilton Head Island Fire & Rescue has 7 fire stations and is served by an enhanced 911 communications dispatch center.

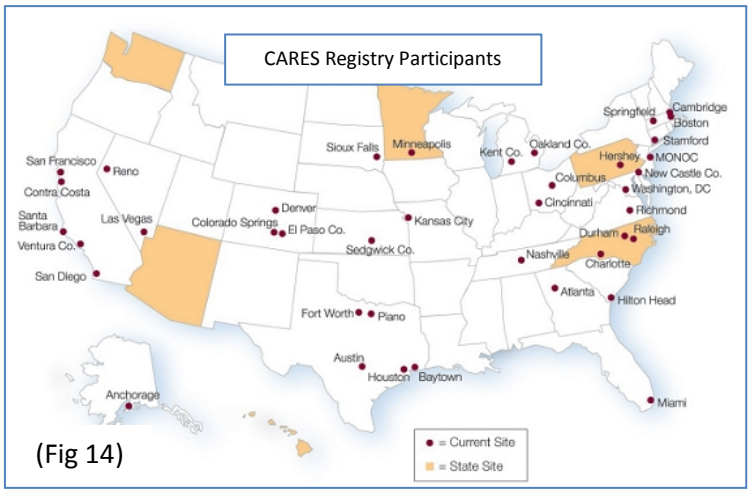
One of Hilton Head Island Fire & Rescue's outstanding achievements is that the Agency has obtained International Accreditation from the Commission on Fire Accreditation International (CFAI). The Hilton Head Island Fire & Rescue applied for a five year renewal of its accreditation in 2011, and received it in March 2012. Hilton Head Fire and Rescue is one of only 145 fire agencies worldwide, and one of just five in South Carolina, to have this distinction.

The CFAI is committed to improving fire and emergency service agencies around the world. In order to become accredited, Hilton Head Island Fire & Rescue has demonstrated to outside assessors, excellence in service, and an established a plan for continuous improvement.

As an organization, Hilton Head Island Fire & Rescue participates in the development of the state fire services by participating in many state programs. Nationally, several members of the staff sit on NFPA technical committees championing fire service professionalism and excellence.

Additionally, Fire & Rescue participates in the Cardiac Arrest Registry to Enhance Survival (CARES Registry). The CARES registry seeks to save more lives from out-of-hospital cardiac arrest; to strengthen collaboration between 9-1-1 centers, first responders, EMS agencies, and hospitals; provide a simple, confidential, HIPPA-compliant process to assess patient outcomes; and to offer technical assistance to help

community leaders identify and prioritize opportunities to improve EMS performance. The map at the right (Fig 14) shows those states and communities that are participating in the CARES Registry in 2012.



(Fig 14)

2011 marked a continuation of the process to replace our 1970's and 1980's fire stations with new storm hardened structures. During 2011, replacement facilities at Station 1 in Shipyard, and Station 5 at the entrance to Hilton Head Plantation were completed and dedicated.

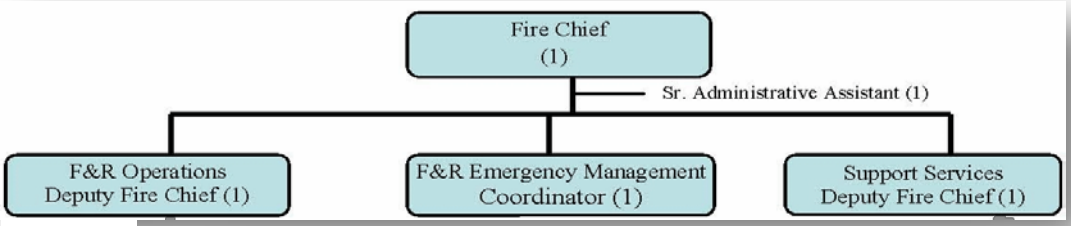
The core services of the Town of Hilton Head Island Fire & Rescue are:

- To respond to emergencies such as fire, medical, hazardous material, a wide variety of rescues and natural disasters; to provide a broad spectrum of services to the public such as water clean-up and lockout service; to assist the elderly when no one else will provide assistance; and to recognize that Fire & Rescue is truly the community "Safety Net"
- To operate seven Fire Stations, a Communications Center/Emergency Operations Center and Headquarters/Training Center; to manage enhanced 9-1-1 emergency communications for Hilton Head Island, Hilton Head Island Airport and Daufuskie Island in addition to serving as a backup Communication Center for both Beaufort and Jasper Counties
- To conduct fire safety inspections of multi-family dwellings and commercial buildings and to provide public educational programs for all ages (i.e., CPR for the public, fire safety for the young and elderly, fire extinguisher use, First Aid, AED use and child car seat inspections)
- To participate in the Town-wide Safety Program including safety inspections for Town-owned facilities; to conduct required fire and EMS employee training; to administer the Town's All Hazard Emergency Management Program; to provide maintenance for all Town-owned vehicles and to maintain all Fire and Rescue apparatus in a ready state for response

The goal is to provide these core services every day, delivering the highest customer service possible. That goal is shared by all of the personnel in Fire & Rescue, from the

Chiefs to the newest hire, from the line personnel to the dispatchers to the administrative staff, and will never willingly settle for less.

The Administration of Fire & Rescue (Fig 15) is managed by the Fire Chief, who reports to the Town Manager, 1 Deputy Chief overseeing Operations, 1 Deputy Chief overseeing Support Services, an Emergency Management Coordinator, and 1 Administrative Assistant.



(Fig 15)

ADMINISTRATION STRATEGIC RECOMMENDATIONS

Mission, Vision, Core Values & Motto

The current Mission Statement needs replacing because it is over 20 years old, was never well supported, and somewhat cumbersome. A new mission statement, supported by the majority of Fire & Rescue personnel would be more effective. Additionally, there is no adopted Vision Statement, Core Values Statement, or Motto. Adoption of these new statements which have had the input of a significant number of personnel will assist all members of Fire & Rescue to be reminded of their responsibilities to the public.

In June 2009, all personnel were invited to attend a Strategic Plan work session to discuss topics to be considered for this Strategic Plan update. Over 40 Fire & Rescue employees attended this planning session. During this session several Mission Statements were reviewed as well as Vision Statements, Core Values Statements, and Mottos. The following statements were the result of that planning session:

Vision Statement:

It is the vision of Hilton Head Island Fire & Rescue to achieve the highest levels of community service and protection by delivering excellent customer service in all that we do.

Mission Statement:

It is the Mission of the Town of Hilton Head Island Fire & Rescue to protect the people, property, and environment of Hilton Head Island with courage, commitment, and compassion.

Core Values Statement:

The Core Values of the Town of Hilton Head Island Fire & Rescue are to take responsibility, lead by example, be honest, help others, and have a passion to serve.

Motto:

***H**onor, **H**onesty, **I**ntegrity, **F**ocus, **R**espect (**HHIFR**)*

Recommendation: It is recommended that Fire & Rescue adopt a new Mission Statement as well as create a Vision Statement, Core Values Statement, and a Motto. Ref: ADM-02

Department Name

The formation of Fire & Rescue was authorized by Town Council approval of Ordinance 92-18 on May 18, 1992. This created a Public Safety Department for the Town that included a Fire Services Department, which was first called The Town of Hilton Head Island Fire and Rescue Division. Sometime after 1996 it was deemed that Division was not appropriate nomenclature and the organization began to be called The Town of Hilton Head Island Fire and Rescue Department. Both of these names, along with The Town of Hilton Head Island Fire Department, were, over time, used in official documents, licensure applications, etc.

The Commission on Fire Service Accreditation objected to the unofficial name change in their initial peer review of Fire & Rescue in 2002. CFAI recommended that the official name of *Division* be used or that Ordinance 92-18 be amended to use *Department*. CFAI felt that using a name other than the legally established name could lead to problems involving litigation and with codes enforcement. CFAI's concerns were discussed with the Town's Staff Attorney. The Staff attorney determined that the name conflict would cause no problem, so no changes were made. CFAI has rejected this opinion in 2007 stating again as follows: *The department should consider going through all documentation and legal papers to make sure the official name of the department is the same as that which has been legally adopted in the Municipal Code, Title 2, Chapter 11, and Ordinance Number 92-18.* Fire & Rescue was reevaluated by CFAI in 2012 and this again was a point of contention.

The length of the official name (53 character spaces) becomes problematic in a variety of circumstances, and has been an issue with the South Carolina Department of Health and Environmental Control (DHEC). DHEC requires the license holder of an EMS

agency to mark their ambulances with the exact name appearing on the license and in specific size lettering. Current ambulance configurations do not allow legally appropriate markings, and DHEC has been very reluctant to allow exceptions to the regulations. Fire & Rescue is operating on a special dispensation from DHEC with regard to name variations, but DHEC has asked that the situation be corrected.

Amending ordinance 92-18 to utilize the word *Department* does not shorten the name of the organization. Leaving the current ordinance as it is, would keep the word *Division,* resulting in 51 character spaces. For these reasons, the adoption of the name Hilton Head Island Fire & Rescue (32 character spaces) is recommended.

Recommendation: It is recommended that a revision, by Town Council ordinance, of Chapter 11, Title 2 of the Municipal Code of the Town of Hilton Head Island, occur to formally establish the name of Fire & Rescue as "Hilton Head Island Fire & Rescue". Ref: ADM-01

Fire & Rescue Enabling Ordinance

The ordinance creating Fire & Rescue has not been updated in 18 years, although numerous functional changes, initiatives, and responsibility enhancements have been approved and implemented under the authority of the Town Manager since that time. These changes have allowed Fire & Rescue to become more effective at serving the citizens of the Town, but have also led to a disparity between our actual operating structure and our enabling legislation. This difference has prevented us from seeking some grant funding opportunities.

Town Council approval of Ordinance 92-18 on May 18, 1993, created a Public Safety Department consisting of four components: a Police Division, a Fire Services Division, an Emergency Medical Service Division, and a Dispatch Center Division. When choosing this direction, the Town Council included in the ordinance specific language with regard to fire protection, fire prevention, fire control, fire inspection, emergency medical services, emergency medical response, emergency medical treatment and dispatch center communications. The identified priorities have remained appropriate throughout the years; however, the proposed four department structure contained within the Public Safety Department has not.

The functions of the Emergency Medical Service Division and the Dispatch Center Division have been merged into the structure of Fire & Rescue. The Fire & Rescue Emergency Management Division was established in 1999, and the Town should legally recognize that Fire & Rescue has assumed this function. A separate recommendation explaining in detail the reasons for doing so are included in this revision of the Strategic

Plan. Other examples include the Hazardous Materials and Urban Search and Rescue Teams, which should be formally recognized as Fire and Rescue missions as these teams participate in regional and state emergency responses and seek state grant funding. A final example is Fire and Rescue's operation of the Town's fleet maintenance program, which is another unrecognized responsibility.

This revision is necessary to correct disparities between the enabling legislation and the operational responsibilities and expanded mission of the organization which has evolved since 1993, and to end the confusion when dealing with licensing and accrediting bodies.

Recommendation: It is recommended that Fire & Rescue seek a revision, by Town Council ordinance, of Chapter 11, Title 2 of the Municipal Code of the Town of Hilton Head Island which will cause the enabling legislation governing Fire & Rescue to more accurately reflect the current structure, responsibilities and operational procedures of the organization. Ref: ADM-03

Fire & Rescue Self Assessment

Following the June 18, 2007 Sofa Super Store fire in Charleston, SC an internal review committee was established to review the results of 3 investigative reports concerning the handling of the fire by the Charleston Fire Department (CFD). The combined three (3) reports generated 210 specific recommendations.

On April 28th, 2009 a committee was formed within Fire & Rescue and was charged to:

- Review the NIOSH and Routley Commission reports from the Charleston Sofa Superstore Fire
- Review the Peer Review reports (Phase I & 2) from the Charleston Sofa Superstore Fire
- Analyze F&R Operations as they compare to the findings of each Charleston Sofa Superstore reports
- Develop a list of the report recommendations detailing which ones F&R currently complies with or needs to improve in order to comply
- Recommendations should be practical and fundable
- Develop the recommendations utilizing a consensus process

The Committee was encouraged to make their recommendations as they saw fit and not to hesitate to recommend controversial recommendations. The Committee submitted a

final report on July 30th, 2009. Based upon the committee's recommendations, Fire & Rescue Administration prepared 41 specific recommendations. While not indicated here, a number of the recommendations in this Strategic Plan are intended to accomplish some of the committee's recommendations. Most of the recommendations are to be handled internally and separate from the Strategic Plan. Ref: ADM-05

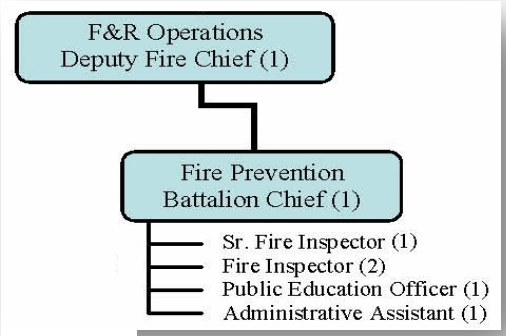
FIRE PREVENTION

Overview

The Hilton Head Island Fire & Rescue Fire Prevention Bureau is responsible for the reduction of preventable deaths, injuries and property loss through a comprehensive fire inspection program that enforces compliance with adopted fire codes; provides for the identification and removal of fire and life safety hazards in buildings and ensures the maintenance of fire protection equipment and systems. The Bureau also conducts business license inspections, plan and planning project reviews and fire investigations. Additionally, the Bureau provides Public Education programs that reinforce life safety education for the public

The Bureau of Fire Prevention also provides innovative, less traditional, programs for the benefit of the public including car seat installations and inspections, administration of the Click2Enter® emergency access initiative, participation in the File of Life®, program and a robust schedule of public CPR and First Aid training.

The Bureau of Fire Prevention (Fig 16) is supervised by the Fire Prevention Battalion Chief (Fire Marshal) who reports directly to the Deputy Chief of Operations. The Bureau has three (3) fire inspectors, one (1) Public Education Officer and one (1) Administrative Assistant.



(Fig 16)

BUREAU OF FIRE PREVENTION STRATEGIC RECOMMENDATIONS

Hydrant Flow

In structural firefighting situations, timely water supply is of utmost importance. Fire & Rescue's Standard Operating Guidelines (SOGs) dictates that fire engine connections should be made to the closest, most accessible, hydrant; however it would be extremely

beneficial for tactical purposes to be able to determine the actual flow capacity of the hydrant prior to making a connection. At times, a hydrant further from the fire may provide significantly more water flow. For this reason, fire hydrants should be classified and marked according to their tested flow rate (at 20 psi residual pressure) as recommended in NFPA Standards:

- The barrels for hydrants should be chrome yellow
- Hydrant barrels on a reverse osmosis distribution line should be painted black
- Hydrant barrels on a non potable line should be painted brown
- The tops and nozzle caps should be painted with the following capacity-indicating color scheme to provide simplicity and consistency

    1. Class AA — light blue - Rated capacity of 1500 gpm or greater
    2. Class A — green - Rated capacity of 1000–1499 gpm
    3. Class B — orange - Rated capacity of 500–999 gpm
    4. Class C — red - Rated capacity of less than 500 gpm.
    5. If the hydrant opens in the clockwise direction the 2½" caps will be painted black.

Recommendation: It is recommended that the Town of Hilton Head Island should work with the Public Service Districts to utilize the hydrant color schemes recommended by NFPA 24 *Installation of Private Fire Service Mains and their Appurtenances* and NFPA 291 *Recommended Practice for Fire Flow Testing and Marking of Fire Hydrants*. Ref: BFP-01

Traffic Calming Devices

The purpose of speed bumps is to reduce the speed and volume of traffic to acceptable levels for the functional class of a street and the nature of bordering activity. Intermediate goals are to reduce accidents and to provide safer environments for pedestrians and children. The speed and safety of fire apparatus responding to an emergency, and the speed and safety of Medic Units responding to and from an emergency, is of critical importance. Traffic Calming devices such as speed bumps, hinder rapid response times.

Fire & Rescue vehicle delays caused by speed bumps is typically 10 – 30 seconds per bump; having multiple speed bumps located along an emergency response route can add to the overall emergency response time. Longer delays caused by speed bumps are experienced by ambulances while transporting patients to the hospital because

ambulances must stop to complete some advanced medical procedures for patient safety. These delays may or may not be critical, depending on the medical condition of the patient. Currently, there are approximately 471 speed bumps within the Town. There is no consistency to the manner in which these speed bumps are designed and installed. The more radical of them increases response time to the incident significantly, damages fire apparatus and medic units, causes significant patient discomfort, jeopardizes patient care, and increases travel time to the hospital. It is Fire & Rescue's desire to phase out traditional speed bumps and replace with Flat Top Speed Humps consistently built to specified standards.

Recommendation: The Town should establish regulations requiring all new speed control devices (commonly referred to as speed bumps or humps), and any existing devices when replaced or repaired, to be constructed in accordance with SC DOT guidelines as Flat Top Speed Humps (commonly referred to Speed Tables) while discouraging use on public roadways. Ref: BFP-02

Fire Sprinkler Incentives

In 2009, fire killed more Americans than all natural disasters combined. In that year, 3,010 civilians died and 17,050 were injured as the result of fire. Data from the National Fire Protection Association (NFPA) in 2009 shows that residential fires continue to be the leading cause of these deaths and injuries, with 85 percent of all civilian fire deaths (2565) occurring in the home. While smoke detectors provide early detection of residential fires, automatic sprinkler systems actually extinguish these fires at their beginning. When automatic fire sprinklers are present, the chances of a person dying in a fire are reduced by up to 75% and the average property loss is reduced by up to 66% as compared with properties without sprinklers.

South Carolina has taken the initiative to increase fire sprinklers by offering a tax credit for installation when not required by code. This tax incentive law is known as the 2008 Fire Sprinkler Incentive Act.

The drive to pass this bill only came after several fires occurred that affected South Carolina residents: the fire in Charleston that killed nine firefighters, a fire in North Carolina that killed seven college students from South Carolina, and the Greenville hotel fire that killed six. These events prompted lawmakers to take a step towards making buildings safer.

The bill acknowledged the following facts as reason to create meaningful incentives for the installation of fire sprinkler systems.

- When fire sprinklers are present, the chances of a person dying in a fire are reduced by one-half to three-fourths
- When fire sprinklers are present, the average property loss per fire is cut by one-half to two-thirds, compared to fires where fire sprinklers are not present
- There is no record of a fire killing more than two people in a completely sprinklered public assembly, educational, institutional, or residential building where the system was working properly

In 2010, the Town's Intergovernmental Affairs Committee reviewed the pending adoption of the 2009 International Residential Code, which would have required residential sprinklers in all new homes. The Committee recommended that Town Council not support that effort. Town Council followed the Committee's recommendation, requesting that the South Carolina Building Code Council eliminate the residential sprinkler requirement. During these deliberations, the Town Intergovernmental Affairs Committee publically stated that they were in favor of a program to encourage, not require, the installation of residential sprinklers.

The 2008 Fire Sprinkler Incentive Act amended SC Code of Laws 12-37-220 and enabled a taxpayer to be eligible to receive a tax credit against real property taxes levied by the local taxing entity, if the taxpayer installs a new fire sprinkler system in a residential or commercial structure when such installation is not required by law, regulation or code. The tax credit would equal 50% of the cost of the installed sprinkler system, not to exceed the total cost of the real property taxes levied. Of this 50% credit, half of the credit would be returned to the property owner in the form of a rebate from the State and half of the credit would be returned to the property owner in the form of a rebate from the Town.

Recommendation: It is recommended that Fire & Rescue support the adoption of an ordinance to allow a property tax rebate enacted by the 2008 Fire Sprinkler Incentive Act 357 which amended Article 25, Chapter 6, Title 12 of the 1976 code of Laws. Ref: BFP-04

Fire Museum

South Carolina is ranked #7 in the nation for deaths caused by fires. According to 2008 National Fire Protection Association (NFPA) data, 83% of all civilian fires deaths occur within the home. Statistics like these move many communities to establish a mission to educate children and adults on the importance of fire and life safety.

One method for accomplishing this mission is the development of an interactive fire and life safety children's exhibit that encourages children and families to explore fire safety through realistic, fun, and hands-on experiences. This type of exhibit would help prepare children and adults for dealing with emergency situations and would bring about a greater community awareness of Fire and EMS services provided by the Town. This exhibit should be created in partnership in an existing children's facility such as the Sand Box.

Recommendation: The Town of Hilton Head Island Fire & Rescue should partner with someone like the Sand Box to develop an interactive fire and life safety children's exhibit for the benefit of residents and visitors of Hilton Head Island. Ref: BFP-05

Nuisance Fire Alarms

In 2010, Fire & Rescue responded to 883 activated fire alarms (Fig 17). Of that total, 620 locations required two or more emergency responses during the calendar year. The table is a breakdown of the number of times Fire & Rescue responded to two or more fire alarms at a single facility in 2010:

Number of responses	Number of Facilities	Number of Calls Generated
2	68	136
3	21	63
4	26	104
5	13	65
6	6	36
7	4	28
8	3	24
9	6	54
10	2	20
11or more	5	90
Total		620

(Fig 17)

Responding to this amount of alarms presents the following issues:

- Danger to the public from responding vehicles
- Liability for the Town as a result of vehicle accidents while responding to alarms
- Fire Apparatus being tied up on false alarms unable to respond to real emergencies
- Medic units being abandoned and unable to respond to actual medical emergencies
- Apparatus taking on an excessive amount of wear and tear
- Excessive fuel expenses

- Stress that is brought upon the men and women responding to the alarms
- Fire & Rescue personnel become complacent

Many of these responses occur because a fire alarm malfunction is not corrected in a timely manner. The Town needs to implement a mechanism to limit repeated responses to malfunctioning alarms originating from the same location. The purpose of the proposed ordinance would be to reduce the occurrences of nuisance alarms by charging a fee to property owners who are negligent in maintaining their fire alarm systems. No fee should be charged for a first or second response when the alarm is malfunctioning within a 6-month period. However, fees should be assessed for three or more responses. The ordinance would apply to all buildings containing alarm systems, including single family residences. The ordinance should not apply to medical alarms.

Additional charges may or may not be included in the ordinance. The fee may also be charged to fire protection companies that fail to notify F&R of work being performed on systems resulting in activations and to exterminating or construction companies that fail to take precautions against false activation as a result of their work. Inclusion of false alarms resulting from these types of activations need more study.

Recommendation: It is recommended that Fire & Rescue bring forth a nuisance alarm ordinance to the Town Council for adoption into the Municipal Code. Ref: BFP-06

Open Burning of Yard Debris

Since the 1960s, when modern fire services began on the Island, the practice of openly burning yard debris has been permitted. Over the years the practice of open burning has continued unabated. Since then, rules, regarding burning have been established by the fire departments and later adopted as ordinance, yet have failed to curb open burning.

While the rules are explained to each citizen at the time a permit is issued, open burning continues to generate over 60 documented calls per year (the actual volume is much higher) due to illegal burns. In addition, F&R regularly receives phone calls from citizens who are upset or offended by the open burning by their neighbors, often are several sub-divisions away.

Unlike in the past, open burning is now surrounded by multi-home subdivisions. The residents of these subdivisions are then subjected to smoke within their homes. This is especially true during times of temperature inversions when smoke won't dissipate.

Open burning is hazardous to the health of residents and visitors to the Island when the smoke won't dissipate and enters people's homes. Wood smoke poses a special threat to people with asthma and COPD and should be actively avoided by those with lung disease. Wood burning generates dangerous toxins including dioxin, arsenic and formaldehyde. Burning wood emits harmful toxins and fine particles in the air that can worsen breathing problems. The Town has stopped smoking in public places because it affects the health of others. The same concept should apply to the burning of yard debris.

Hilton Head Island is no longer a rural community and open burning should be prohibited Island-wide, as it already is in 69% percent of the Town. The major PUDs already forbid open burning either by covenants, by-laws, or just routine practice.

Continuing to allow open burning does not coincide with the Town's guiding principles set forth in the Town Council Workshop for 2011 to:

- Promote living in Harmony with Nature, Protecting the Natural Beauty, and Creating a Unique Sense of Place
- Provide a Serene, Safe, and Healthy Living Environment for Residents, Guests, and Visitors

Recommendation: The Town of Hilton Head Island should adopt an ordinance to prohibit residential open burning in order to reduce the risk of wildland fires and provide a healthier environment to our citizens. Ref: BFP-07

Community Cardiac Risk Reduction

Sudden cardiac arrest (SCA) can strike individuals of any age at any time. In fact, SCA is one of the leading causes of death, resulting in more than 250,000 deaths per year (1 every 2 minutes) in the United States. Even a seemingly healthy person can suffer a cardiac arrest without warning. According to the American Heart Association, as many as 50% of SCA victims have no prior indication of heart disease, their first symptom <u>is</u> cardiac arrest.

Over the past 3 years, Fire & Rescue, partnering with Hilton Head Hospital, developed a Comprehensive Emergency Cardiovascular Care Program. A multi-disciplinary ST Elevated Myocardial Infarction (STEMI) and Therapeutic Hypothermia (Code ICE) Steering Committee was formed as a forum for stakeholders to address concerns, identify opportunities for improvement, and share data that validates the success of their

programs. This furthers and improves continuing education with feedback to emergency personnel. Through the STEMI Committee, DVD angiograms are requested to assist in developing case studies for paramedics to sharpen their 12-lead ECG interpretation skills and enhance education within the entire department. With the CARES Registry, every resuscitation attempt is monitored, strengthening the chain-of-survival in our community.

Fire & Rescue has also increased the training of citizens in bystander CPR; initiated an aggressive Automatic External Defibrillator (AED) program, and increased public education concerning the causes of cardiac events.

In March 2012, the International Association of Fire Chief's EMS Section, in collaboration with Physio-Control®, a division of Medtronic®, awarded Hilton Head Island Fire & Rescue their Heart Safe Community Award for small communities. This award, representing the 6,000 fire based EMS systems was awarded because of Fire & Rescue's dedication to improving therapies for patients with Acute Coronary Syndromes and its life-threatening complication, and sudden cardiac arrest. As a continuation of its efforts, Fire & Rescue should undertake and/or enhance the following initiatives as part of furthering Hilton Head Island as a Heart Safe Community:

- Promote the increased placement & registration of AEDs in areas frequented by significant numbers of citizens
- Integrate AED locations into Dispatch CAD system
- Host a community event to bring awareness to Sudden Cardiac Arrest
- Promote Online CPR, AED & First Aid training through the American Heart Association (AHA)
- Create Public service announcements on radio, TV, and in the schools to promote CPR and AED's
- Examine new social media technology like AED Link™ and Pulse Point to increase survival

Recommendation: Fire and Rescue should continue to cultivate a heart safe community by increasing public education and enhancement of technology to further strengthen the chain-of-survival. Ref: BFP-09

Tree Obstructions

Tree limbs overhanging various roads in the community have and will continue to affect the emergency response capability of Fire & Rescue. It is in the best interest of the public, Fire & Rescue and the Town to develop a standard procedure to address the low

hanging limb issues. These limbs negatively impact access, safety of response, increase response times and/or potentially restrict access altogether. Low hanging limbs have damaged Fire & Rescue vehicles and drivers have been distracted trying to avoid them. Low hanging limbs present a known safety and response hazard to Fire & Rescue. It is understood, however, this procedure must maintain the natural appearance the Town desires.
Many areas of the Island have limb down shoots that overhang the roadways. Under normal conditions they may only brush the apparatus, but when they grow, and especially when the weight of rainwater is applied, areas such as Folly Field, Point Comfort, and many of the PUDs have tree limbs that strike and damage apparatus.

A good example of this is the Palmetto Dunes Emergency Access Gate. The height requirement per Fire Code for an access gate specifically built for responding Fire & Rescue apparatus is 13' 6". Numerous specimen trees in that area do not comply with this required clearance and attempts to date to rectify this have not been successful with future conflicts likely to occur.

Past efforts to work in conjunction with Natural Resources and PUD POA's have been established, however, the process is very time consuming for the Town and Fire & Rescue Staff. A process in Palmetto Dunes was halted when citizens complained to a Town Council member and directions from the then Fire Chief stopped all trimming within the PUD.

The major issues with addressing the limb problem involve time, determining who is responsible for the required trimming and citizen complaints. No records are kept on delayed responses due to tree limbs, but much like dirt roads that impede response, dodging tree limbs adds delays.

The goal of the program should be to identify and remove dangerous limbs that pose a hazard while implementing a pruning program that eliminates low hanging limbs or down shoots while maintaining a canopy over the roadway that provides the citizens with the visual aesthetics they desire.

Recommendation: A procedure should be developed by the Town to address tree limbs overhanging the roadways on Hilton Head Island so the limbs do not become an obstruction to emergency response vehicles. Ref: BFP-10

Sale and Discharge of Fireworks

At this time there are no Town regulations that prohibit the sale or discharge of fireworks within the Town of Hilton Head Island except the Municipal Code prohibiting the discharge of fireworks on the beach.

There is a Beaufort County ordinance that regulates the display and sale of fireworks. It also prohibits the discharge of fireworks within Beaufort County except when permitted for public display by a licensed pyrotechnician. While Fire & Rescue for many years believed this applied within the Town limits, it is the opinion of the Town Staff Attorney that it is not enforceable. This is based upon an Attorney General opinion which states the County ordinance is not enforceable in the Town unless both parties agree. This would typically be done by an intergovernmental agreement, which has not been adopted.

During the time that everyone believed that the Beaufort County ordinance could be enforced by the Beaufort County Sherriff's Office, it was not wholly enforced due to a lack of personnel.

Recommendation: The Town of Hilton Head Island should enact an ordinance prohibiting the retail sale and the discharge of fireworks within town limits except when permitted for public display by a licensed pyrotechnician. Ref: BFP-12

BFP Staffing

Fire & Rescue believes there is a direct link between fire inspection and firefighter safety. It is the fire inspectors who interact with the community on a regular basis through annual existing building inspections. In addition to the life safety for the occupant's fire inspectors must look at all occupancies they inspect as though they were fighting a fire in that establishment. They look for things that could be dangerous to firefighters, as well as things that would make it difficult to fight the fire. Fire inspection also provides fire safety education to those being inspected. When the fire inspector can describe to an occupant how fire travels and why it is important to comply with the fire codes, it is easier for them to understand.

Taking the above into account, in October 2010 the Fire Prevention Bureau assumed the duties of New and Renovated Construction Plan Review and Inspections. At the time of this transfer, a position was eliminated from the Town's Community Development Department but a position was not created or transferred to Fire & Rescue.

Current figures indicate that one inspector conducts close to 1000 inspections a year. Approximately 350 of the inspections are initial existing building inspections and about 140 are re-inspections of those buildings. If a fourth inspector was added to the Bureau of Fire Prevention, an additional 1,000 inspections could be conducted each year. That would result in the inspection of a majority, of the existing buildings within the Town within a 12-month period.

A number of critical and specialized functions performed by this position negate the ability to shift or transfer responsibilities without severely hampering the operation of Fire & Rescue. The Fire Inspector position is essential and integral to the daily and long term operation of Fire & Rescue, the Town, and the citizens and visitors to the Island.

Recommendation: Increase the number of fire inspectors within the Bureau of Fire Prevention from 3 to 4 in order to provide more thorough and timely inspections of commercial occupancies. Ref: BFP-13

Communications

Overview

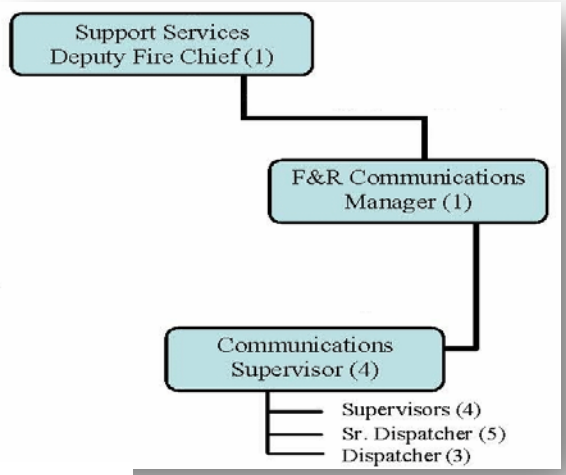
The Division manages and staffs the Communications Center which serves as the Public Safety Answering Point (PSAP) for the community. The dispatch center has the responsibility for answering 9-1-1 calls and dispatching, or causing the dispatch, of the appropriate fire, emergency medical services (EMS), law enforcement or other response units, as well as processing non 9-1-1 calls which may, or may not, require an emergency response. The Communications Center operates 24 hours a day, 7 days a week, and averages 137 incoming calls and seventeen fire or EMS dispatches daily.

As one of only two Communications Centers in Beaufort County, the center also serves as the designated back-up location for the County PSAP and dispatch center. This ensures that state-of-the-art infrastructure exists between the two centers.

Calls received in the Communications Center are answered by trained Dispatchers. These individuals undergo an extensive screening and educational process that includes nationally recognized certifications as well as detailed information on local policies and procedures. Familiarity with the community is perhaps far more critical in our operation than it is in many Communications Centers. Given the number of tourists who visit Hilton Head Island annually, dispatchers must frequently help emergency callers determine exactly where they are in order to send assistance. The dispatch staff

takes the safety of residents and visitors seriously, recognizing that when they answer a call they become, in effect, the first public safety person on the scene of the emergency, with the ability to positively influence the outcome by providing prompt, professional service.

The Communications Division (Fig 18) is supervised by the Communications Manager who reports to the Deputy Chief of Support Services. The Division has 4 Communication Supervisors with 3 Senior Dispatchers and 5 Dispatchers reporting to them. There are 4 crews of 3 working 12 hour shifts.



(Fig 18)

COMMUNICATIONS STRATEGIC RECOMMENDATIONS

Private Branch Exchange (PBX) Phone Systems

PBX phone systems are generally utilized by businesses or governmental entities that have multiple phone lines at one location or multiple office locations. PBX phone systems, while cost effective, do not typically allow for the exact address of each phone line on the system. A business could purchase extra equipment that will allow for the addressing of each phone line on the system. At a cost of $20,000, many organizations choose not to purchase this part of the system. Organizations must also train personnel to input the data, ensuring that proper data standards for 911 addressing are met.

Currently, Fire & Rescue personnel are working with the Beaufort County Emergency Management Division on replacing the 911 database. A feature of the new 911 database is the ability for BCEMD and Fire & Rescue personnel to directly input into the database the location of phone lines that are on a PBX phone system. The benefits of this feature include the assurance that valid address information for a location is entered and there are no added expenses for a business or governmental entity. The business or governmental entity would have to be willing to provide the location information to Fire & Rescue personnel.

In the event an organization is unwilling to provide the information, consideration of an ordinance requiring the information be provided may be needed.

Recommendation: Fire and Rescue should work closely with the Beaufort County Emergency Management Division (BCEMD) to pursue implementation of a new 911 database that will allow for proper addressing of Private Branch Exchange (PBX) phone systems to make location data transfers to the 911 database. Ref: COM-01

E-911 Caller Identification

Callers to any 911 system must be assured that their calls will connect to the closest Public Safety Answering Point (PSAP). Once connected to the PSAP, caller information and location is crucial in order for the PSAP to respond the most appropriate resources for the reported emergency.

For calls coming from land-line phones, the location and caller identification comes by way of a properly functioning Automatic Number Identification (ANI) and Automatic Location Identification (ALI) system. Fire & Rescue's Communication Center experiences improper ANI and ALI information displays. These errors are attributed to the ANI/ALI database managed by Beaufort County Emergency Management. Fire & Rescue has been working with Beaufort County to implement a new county-wide database to reduce those types of errors.

In the case of 911 calls being placed by cell phones, it is up to the cell phone carrier to provide identification and location information to the PSAP. FCC regulations require cell phone calls to 911 to provide specific caller ID information and location. This information is collectively known as Phase 2 data. Error rates continue to plague the Fire & Rescue Dispatch Center. While some progress has been made, there were 1,249 errors from January 1, 2011 through October 31, 2011 which is an average of over 124 errors per month.

Constant monitoring and reporting on cell phone errors is required to help the phone providers identify and correct these errors. Hilton Head Island Fire & Rescue will continue working with Beaufort County to contact the providers and ensure timely changes are made providing Fire & Rescue with the industry standard format and information. There is no monetary cost to the Town to implement this initiative.

The current phone system in use at the Dispatch Center, which is owned by Beaufort County, is not capable of utilizing what is collectively referred to as Next Generation

(NG911) technology. NG911 services will include such things as text messaging and email notifications to 911 centers. NG911 services can only be provided by switching the current phone system to a Voice over Internet Protocol (VoIP) system.

Recommendation: The Town of Hilton Head Island should encourage Beaufort County and private vendors to improve the delivery of 911 cell phone calls that are not FCC Phase II compliant and to make the best possible use of Voice over Internet Protocol (VoIP) while preparing to receive Next Generation (NG911) calls and data. Ref: COM-03

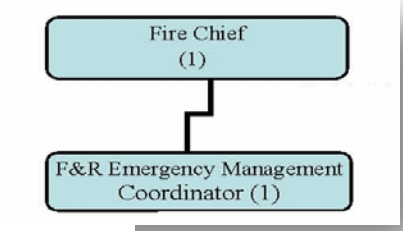
EMERGENCY MANAGEMENT

Overview

The mission of the Emergency Management Division is to position the Town of Hilton Head Island to respond efficiently to the full range of threats facing the community, seek to minimize the impacts of emergencies and disasters on the people, property, environment and economy of the Town, and to prepare staff and residents to better protect themselves and others, through an effective program of all-hazards planning, resource acquisition, training and public education/outreach. The Division works daily at achieving these goals.

A large scale disaster will, by definition, exceed the resources and capabilities of any jurisdiction and the successful management of the situation will require rapid and effective teamwork with units of government at the county, state and federal levels as well as private sector entities. The Division has developed an extensive series of Mutual Aid Agreements, Memoranda of Understanding, and contracts with these organizations which are ready for implementation if needed. Staff continues to pursue networking opportunities and form strategic alliances with agencies and groups which can potentially assist in bringing disaster relief to our residents.

Emergency Management (Fig 19) responsibilities are centralized in one person, the Emergency Management Coordinator, who reports to the Fire Chief.



(Fig 19)

EMERGENCY MANAGEMENT STRATEGIC RECOMMENDATIONS

Town Continuity of Government and Emergency Ordinances

Under normal conditions, the *Municipal Code of the Town of Hilton Head Island* is a model for good governance, complying with the laws of the State of South Carolina and incorporating appropriate checks and balances. The continuance of effective Town government in the event of an emergency or disaster needs to be assured. The *Municipal Code of the Town of Hilton Head Island* should clearly delineate responsibilities and authorities, provide for the delegation of these through established lines of succession, and address special actions which may need to be taken during exigent circumstances. The *Municipal Code* addresses many of these issues, but changes to some of the existing provisions should be considered in order to prevent needed actions from potentially going unperformed due to nebulous wording, unintended restrictions, or the absence of key personnel.

As an example, the Mayor has powers and duties which under both state and local codes are reserved for the chief elected official. In the Mayor's absence, these are vested in the Mayor pro tempore. The line of succession goes no further. This works fine under normal circumstances, as coverage for absences can be pre-arranged and continuity ensured. It is not, however, well suited to emergencies when both individuals may be away, missing or otherwise unavailable. If a Declaration of Emergency became necessary under those circumstances, or any of the other emergency powers of the Mayor should need to be invoked, it could prove operationally difficult and publicly embarrassing if there were to be no official legally entitled to do so available.

An ordinance change which extends the line of succession through the rest of the members of Town Council by seniority, alphabetically, or in another established manner would be both in the best interest of the Town and in keeping with published continuity standards, which recommend key positions be covered a minimum of "three deep", meaning the primary individual and at least two alternates.

Recommendation: It is recommended that Fire & Rescue seek improvements to the portions of the *Municipal Code of the Town of Hilton Head Island* which deal with Continuity of Government (COG) and administrative procedures during emergencies. Ref: EM-01

Emergency Management Accreditation – EMAP

EMAP (Emergency Management Accreditation Program) conducts assessments of and awards accreditation to emergency management programs which demonstrate compliance with *The Emergency Management Standard*. EMAP is the only accrediting

body in the field of emergency management, and *The Emergency Management Standard* is recognized as the national standard for the profession. The Town of Hilton Head Island emergency management program presently addresses most of the EMAP criteria, and would be strengthened by achieving full compliance. The quality of the program would also be demonstrated by measurement against rigorous, established standards.

The EMAP process and *The Emergency Management Standard* are recognized by a variety of State and Federal agencies as well as many national trade organizations.

Recommendation: It is recommended that Fire & Rescue work toward compliance with the Emergency Management Accreditation Program (EMAP) and to review possibility of formal accreditation at the next Strategic Plan update. Ref: EM-02

Emergency Management Ordinances and Legislation

The Town of Hilton Head Island Emergency Management Division was administratively established in October, 1999, but no enabling legislation was passed by the Town Council to support this action. Additionally, the *South Carolina Code of Regulations* (Chapter 58, Article 1) requires emergency management programs at the county level, but affords no recognition of local programs. The scope, authority and mission of the Town's program and local programs statewide remain undefined and open to question and challenge as a result of this. The Town has invested significant time and effort in developing an emergency management program which already meets nearly all of the requirements for planning, training and staffing set forth for county level organizations in the *South Carolina Code of Regulations*.

Adoption of a local ordinance mirroring the *South Carolina Code of Regulations* requirements for county level emergency management organizations would be a logical first step towards seeking state recognition of local organizations which are willing to conform to these mandated criteria. Pursuing legislative change to achieve state recognition is viewed as important in that this, if achieved, would clearly establish the right of municipalities to voluntarily create and operate an emergency management program. Without this, the authorities and responsibilities of local programs are subject to challenge by other government entities, and any cooperation afforded is purely a courtesy. In an emergency or disaster situation, this is a dangerous way in which to have to do business. The *National Response Plan* asserts that "all incidents should be managed "locally", and both local and state regulations should reflect and empower this.

State recognition would also position local programs, to potentially obtain a share of the Emergency Management Preparedness Grant (EMPG) funding which the state receives annually from the Federal Emergency Management Agency. These funds are dedicated to the promotion of emergency management among county and local jurisdictions. In South Carolina today, because of the wording of the code, only county organizations are entitled to claim a share of these funds.

In South Carolina, only six municipal Emergency Management organizations are known to exist. These are located in Hilton Head Island, Mount Pleasant, Myrtle Beach, North Myrtle Beach, Florence and the Isle of Palms. During a survey on Emergency Management services by the Municipal Association of South Carolina, the Town of Mount Pleasant responded "*We have our own emergency management plan and organization. We found after Hugo and Gaston that if you rely on others, you're setting the municipality up for disappointment".* The administrations of six communities have acknowledged this and taken the steps necessary to best protect and serve their citizens; the state should be urged to formally recognize the situation as well.

Recommendation: It is recommended that Fire and Rescue seek formal establishment of the Emergency Management Division by Town Council ordinance, and encourage, through the Town Council Intergovernmental Relations Committee and our local legislators, a change at the state level which recognizes voluntarily created local emergency management organizations. Ref: EM-03

Community Warning System

A joint effort by the Town of Hilton Head Island and Beaufort County to develop a siren-based Community Warning System has essentially collapsed after many years of discussion and no progress towards implementation. Beaufort County has announced they are no longer interested in the concept, and the monies the Town had earmarked for the project were removed from the budget. Subsequent analysis of a siren-based system by Town staff has concluded that it is inappropriate to our hazards, our geography and our financial situation.

Siren-based systems are well suited to events which develop so suddenly that there is insufficient time to alert the public by other means; they are commonly used around nuclear power plants, chemical facilities, and in tornado or tsunami prone areas for this reason. They are not of significant value for events which develop gradually, such as flooding, or for hazards such as hurricanes, which can be tracked for days or weeks before landfall. Essentially they are good for the things which are not the Town's primary concerns, and not good for those which are.

Alternate alerting methods need to be explored, with emerging technologies being carefully monitored.

Recommendation: It is recommended that Fire and Rescue continually evaluate emerging technology with an eye towards identifying a means of transmitting emergency warnings which is more appropriate to our community. Ref: EM-04

Communications and Emergency Operations Center

The Communications Center and the Emergency Operations Center (EOC) are presently located in leased space on the second floor of the Hilton Head Public Service District (HHPSD) building at 21 Oak Park Drive; the cost to the Town for this site is roughly $70,000 per year. Since the time this facility was occupied by the Town in 2004, new equipment and an improved and expanded incident management structure have combined to fully utilize all of the space available. The overall floor plan is not conducive to improvement through remodeling, and as call volume increases and technological advances are incorporated a marginal situation will become more and more problematic.

Recommendation: It is recommended that Fire and Rescue actively begin studying options and seeking opportunities to relocate the Communications and Emergency Operations Centers from their existing location to a Town owned facility of suitable location, size, construction and elevation. Ref: EM-05

Permanent Off-Island Evacuation Facility

Most Fire & Rescue personnel and other key Town employees must evacuate Hilton Head Island when approached by a hurricane of any magnitude. Emergency forces evacuate to USCB West of Bluffton for storms less than a Category 4. The current means of achieving this is by Fire & Rescue serving as the lead agency for Beaufort County's "Southern Command" operation, a situation which requires an investment of considerable time in preparing for the management function of a facility which will house nearly 1,000 persons under some circumstances. It will also require a significant commitment of Town personnel to operate the site, will subject personnel to time frames established by another government entity, and interfere with staff focusing only on The Town of Hilton Head Island concerns.

In addition to the complexity of Southern Command, the location itself is problematic. USCB is built in one of the largest swamps in South Carolina. While the buildings are

built to withstand hurricane force winds, flooding may very likely engulf the facility. The large pine forest located around the site will become a launching pad for pine tree missiles. Simply put, emergency forces will be in jeopardy at this location. For Category 4 and 5 storms, personnel must relocate to Barnwell SC. The Barnwell location is problematic because the return to the Island will be delayed several days.

Recommendation: It is recommended that Fire and Rescue pursue the acquisition or development of an off-island facility of suitable size, construction and elevation for use during hurricanes as a public safety evacuation site/base camp for Fire & Rescue personnel and key Town staff. Ref: EM-06

Storm Hardening of Fire & Rescue Headquarters

While the steel structure of Headquarters is reasonably substantial, the existing roofing, siding, windows and doors are not presently wind resistant and make the facility extremely vulnerable to tropical storms and hurricanes. In order to address this, storm hardening of these features should occur. The hardening of the structure would be intended to protect the structure from category 3 winds with additional benefits toward reducing some flood potential. This would be reasonably economical, so far as significant projects are concerned, in that it would involve only the exterior surfaces of the building; the current estimate for such a project is $675,000. Side benefits would include support of the Town's green initiative as a result of improved insulating qualities, and enhancement of the esthetics of a highly visible Town facility.

Recommendation: It is recommended that Fire and Rescue pursue structural improvement (storm hardening) of the Headquarters/Maintenance Shop facility to make the building more resistant to wind damage and flooding. Ref: EM-07

Information Technology Sustainability

The Town manages the information technology system used by Town staff on a daily basis. This system consists of email, internet connectivity, GIS, financial accounting, etc. While the system is stable there are concerns about the reliability of the system during disaster operations.

Current disaster response plans call for personnel to stay on the Island in designated facilities during Category 1 and 2 and maybe even Category 3 storms. Allowing personnel to remain will shorten the time required to provide emergency services

following a storm. This capability exists because the Town has built fire stations in a manner to withstand these types of storm.

The current IT plan is to remove the Town's server, located at Town Hall, to the public safety evacuation point at University of South Carolina, Beaufort (USCB). When this happens, personnel operating in the Town's EOC and fire stations will lose critical IT elements, including GIS capability, until the equipment is returned and re-established on the island. In effect, a blindfold will be placed on emergency personnel at the worst possible time which will endanger them, reduce response effectiveness, endanger the public that remained on the Island, and reduce the Town's ability to document reimbursement costs for FEMA.

While progress continues to be made in the Town's IT capability and infrastructure, progress needs to continue to move forward. One of those forward steps is identifying and ensuring the critical IT systems stay on-line or available during emergency operations or during an unforeseen event. This could include replicating data in the Fire and Rescue Server Room, remotely accessing the data from an offsite facility, or relocating the Town's servers to a hardened facility. This will also allow specified IT staff to function in the EOC, performing critical GIS duties during storm operations rather than moving computer hardware to the off island evacuation point.

Recommendation: It is recommended that Fire and Rescue and the Town's Information Technology Division actively pursue options to sustain critical IT systems during emergency operations, evacuations, or other unforeseen events. Ref: EM-08

FLEET MAINTENANCE

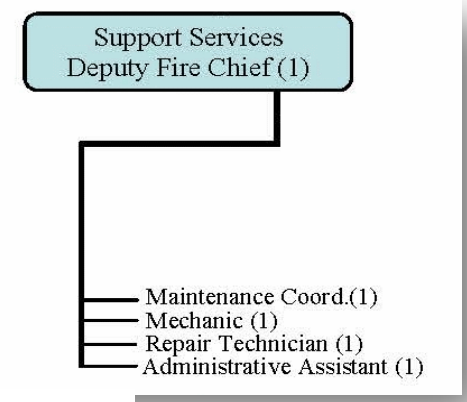
Overview

The Fleet Maintenance Division is the in-house mechanical service provider for all Town of Hilton Head Island departments. The staff of four (4) is responsible for coordinating a comprehensive and cost effective maintenance operation for a mixed fleet of approximately 100 vehicles including automobiles, light trucks, fire apparatus and ambulances. Additionally, the Division is responsible for the maintenance of Fire & Rescue's large fixed and mobile generators, as well as all of the gas and diesel powered tools and equipment used by Fire & Rescue and Facilities Management, and also conducts the annual pump and ladder testing required for fire apparatus.

The Division performs all of the functions typical of any fleet maintenance organization, from routine oil changes and preventative maintenance checks to brake system repairs, engine and transmission overhauls, and electronic system troubleshooting. Welding, metal

fabrication, and any other processes necessary to support the mission can be performed, at least on a limited basis, by the Maintenance Division. It is imperative to have these capabilities in order to be able to minimize the out of service time for Fire & Rescue's response vehicles, and to allow for emergency repairs to be performed any time of the day or night if necessary.

Fleet Maintenance (Fig 20) is overseen by the Deputy Chief of Support Services. The Division consists of 1 Maintenance Coordinator, 1 Mechanic, 1 Repair Technician, and 1 Administrative Assistant. While the Maintenance Coordinator oversees all day to day operations, the entire staff reports to the Deputy Chief of Support Service.



(Fig 20)

FLEET MAINTENANCE STRATEGIC RECOMMENDATIONS

Emergency Vehicle Traffic Pre-emption (EVP)

The existing optical EVP system, used to control traffic lights, is over 10 years old and has been plagued with more than 150 failures over the past 5 years. Repair costs during the last 5 years has been more than $54,000 excluding internal labor. Due to the age of the existing system, remanufactured replacement parts with a previously set exchange rate are being phased out and new parts must be purchased at a higher cost.

Cost Examples:

- An Optical Receiver previously costing $115.00 each will now cost $1,751.00 each – an increase of 1,423%
- A 2 Channel Control Board previously costing $115.00 each will now cost $2,551.00 each – an increase of 2,118%
- A 4 Channel Control Board previously costing $115.00 each will now cost $2,751.00 each – an increase of 2,292%

A new system would allow the Beaufort County Sheriff's Office and BC EMS to control traffic lights within the Town if they desired to participate in the program. Conversely, Fire & Rescue Medic units traveling through the Bluffton area would be able to control the traffic lights when transporting patients to off island medical facilities.

Recommendation: Update the Town of Hilton Head Island's existing optically operated emergency vehicle pre-emption system (EVP) with a Global Positioning System (GPS) pre-emption system. Ref: MAINT-01

Fleet Management System

Currently, maintenance requests, inventory of parts, vehicles, and facilities are managed by a fleet management program called i-Maint®. At the time it was purchased, i-Maint® was a basic, expandable, fleet management software package that was intended to help the agency improve all aspects of fleet and facilities maintenance operations. Over the years an increasing demand for detailed reporting and accountability have shown i-Maint® lacks the ability to deliver useful reports, has not improved process workflow and efficiency, has an inflexible software platform that does not give the ability to configure solutions to meet the unique tracking requirements of the Town, nor does it reveal trends to help reduce operating costs.

Fire & Rescue is recommending that the current i-Maint® system be replaced with a new more integrated system. The anticipated cost of a new system is roughly $18,000.00. Better inventory control, improved tracking of repeated maintenance problems, and less employee involvement will result in money saving opportunities over time. In addition to Fire & Rescue, it is anticipated that the Town's Facility Management Division (Facilities) would also use a new software system resulting in additional savings.

Recommendation: Fire & Rescue, in conjunction with the Town's Administrative Services Division, should replace the current fleet maintenance program (i-Maint®) with a system having the capability to evaluate and enhance tracking repairs and inventory. Ref: MAINT-02

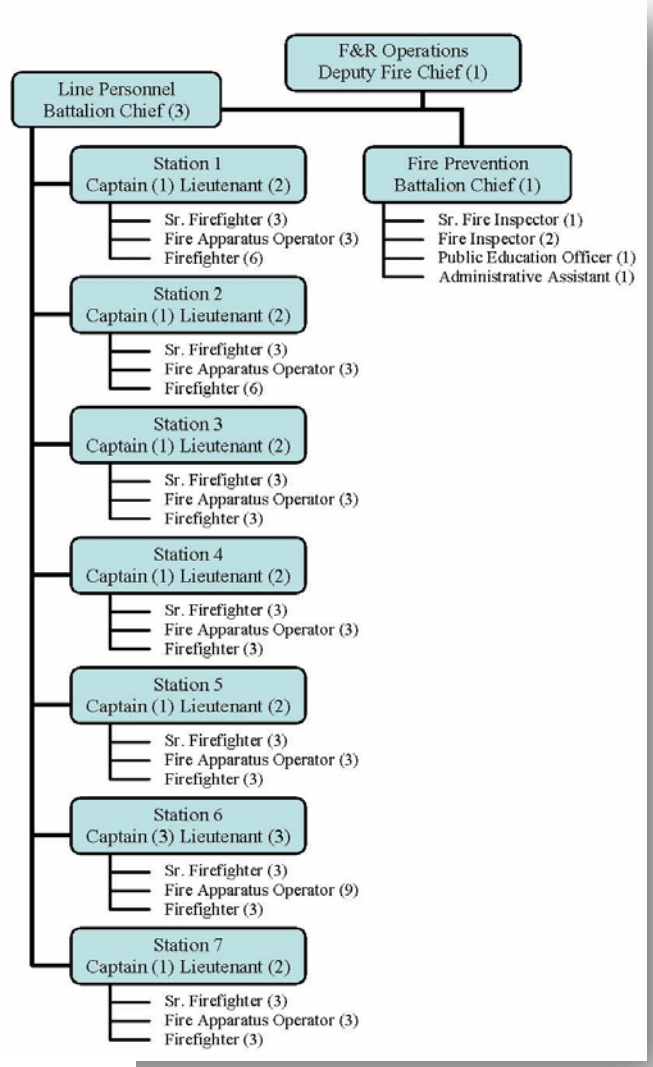
OPERATIONS DIVISION

Overview

The Hilton Head Island Fire & Rescue Operations Division is responsible for providing emergency response to the residents and visitors of Hilton Head Island. These responses occur daily and include responses for fire suppression, Advance Life Support (ALS) emergency medical treatment and transport, hazardous materials spills or leaks, technical rescue and other disaster responses as needed. Operations Division personnel also respond to a variety of non-emergency and community service calls.

The Operations Division (Fig 21) is comprised of the following functions:

Line Operations: These response personnel, across 3 shifts, are supervised by a Battalion Chief. They staff the fire apparatus and ambulances, provide services directly in the field, and are assigned to the 7 fire stations located across the island.



(Fig 21)

Each shift works 24 hours “on-duty” and then has 48 hours “off duty”. There are thirty five (35) personnel assigned to each shift with a minimum of twenty nine (29) personnel available each day.

Three (3) additional Operations Division personnel are assigned to the Coverage Company, which works forty (40) hours per week to cover fire stations when the personnel assigned to those locations are out of their normal response area due to incidents, training or other activities.

The Coverage Company also supplements normal resources during daytime hours when call volume is the greatest. All Operations Division personnel are trained as both firefighters and EMS providers with forty three (43) personnel trained to the ALS Paramedic level.

In addition to providing emergency response, Operations Division personnel are very busy on a daily basis maintaining and enhancing their skills and knowledge through continuous training and are also active conducting pre-incident fire plans, inspecting fire hydrants, participating in Public Education programs and maintaining the apparatus, equipment and fire stations.

Bureau of Fire Prevention: The Bureau provides fire inspection, works to reduce preventable deaths, injuries and property loss through inspections, plans review and code enforcement. The other major component is Public Education. The bureau provides a wide variety of services and educational programs to the community.

Training Division: The Hilton Head Island Fire & Rescue Training Division is responsible for providing frequent, innovative and high-quality training in order to prepare response personnel for the various emergencies they may encounter. This training is a mix of classroom and hands-on training that provide "up-to-date" knowledge which enhances the individual responder's skills and promotes overall team effectiveness.

The Operations Division is supervised by the Deputy Chief of Operations who reports directly to the Fire Chief.

The Battalion Chief of the Fire Prevention Bureau (Fire Marshal), the Battalion Chief of Training (Training Officer), and 3 Line Battalion Chiefs report directly to the Deputy Chief of Operations.

OPERATIONS STRATEGIC RECOMMENDATIONS

Standard of Cover

Fire & Rescue achieved initial five year accreditation in 2002 from CFAI, and reaccredited status on August 22, 2007, and again on March 6, 2012. Since that time, Fire & Rescue has completed Annual Compliance Reports (ACR) required for maintaining accreditation. These ACRs also include updates to the Standard of Cover each year.

The Standard of Cover document contains the following key elements:

- Introduction
- Risk Assessment
- Community Risk
- Time and On-Scene Performance Expectations
- Establishing an Effective Response Force
- Distribution of Resources
- Concentration of Recourses
- Response Reliability

- Historical Response Data

An updated Standard of Cover allows Fire & Rescue to re-evaluate the various policy, procedure and technology changes made within the organization in the last year. This document, and the research to complete it, allow for updating various "benchmarks" that were previously not captured. Annual updates to the SOC will be added to the strategic plan each year.

Recommendation: Fire & Rescue should evaluate and update as necessary its Standard of Cover each calendar year to insure compliance with the Commission on Fire Accreditation International (CFAI) *Standard of Response Cover* requirements. Ref: OPS-01

Customer Satisfaction

Fire & Rescue must evaluate and ensure that it is meeting the expectations of the residents and visitors in a manner consist with the Town's defined Customer Service Standards.

Many fire departments use customer surveys as a measure to obtain feedback and identify if customer service goals are being meet. The U.S. Fire Administration publication *Strategies for Marketing Your Fire Department Today and Beyond* identifies that co*nducting customer surveys is one of the most effective ways of finding out if your organization is meeting your customer's needs*. Likewise in the publication *Exceeding Customer Expectations: Quality Concepts for the Fire Service*, customer surveys are identified as a process to *analyzing how you are doing* in meeting the customers' needs and expectations

A new program of customer satisfaction surveys should be developed and implemented using modern technology in cooperation with the Town's IT Staff in order to evaluate customer satisfaction.

Recommendation: Fire & Rescue should implement a new customer satisfaction survey program utilizing all available Town technology to evaluate customer service perceptions of the public we serve. Ref: OPS-02

Emergency Scene Safety

During fire and other very hazardous incidents, the Incident Commander (IC) is taxed with a variety of responsibilities overseeing the entire emergency operation. Emergency scenes of this type can become very complicated and dynamic. The IC can

inadvertently become overly focused on resolving the conflict, becoming challenged to maintain command and control while at the same time concentrating on the safety of the emergency response personnel who are actively engaged. The DHS mandated incident management system requires that an Incident Safety Officer (ISO) be staffed as a part of the Command Staff and that the position report directly to the IC. The ISO has the responsibility to correct any unsafe acts that may lead to immediate danger without the IC's knowledge. This allows the IC to more closely focus on the strategy and tactics while the ISO focuses on fire-ground safety.

Recommendation: Fire & Rescue should implement a designated certified Incident Safety Officer (ISO) Program to provide on-scene safety oversight at emergency incidents. Ref: OPS-05

Paramedic Staffing

Fire & Rescue currently has 46 Paramedics distributed as follows:

41 Assigned to Fire Stations
1 Coverage Company
2 Administration
2 Line Battalion Chief's

The 2004 Master Plan recommended the number of Paramedics be increased to forty-eight (48). The intent of the previous recommendation was to ensure a minimum of 15 paramedics per shift. Therefore, the five (5) Paramedics not assigned to fire stations should not be counted in the total number of paramedics. Fire & Rescue currently has eight (8) Fire Engines and eight (8) Medic Units in service. To maintain staffing in order to insure that a Paramedic arrives on every Fire Engine or every Medic unit, the total Paramedic complement must be a minimum of 49 (16 per shift and one (1) Coverage Company paramedic).

As of the drafting of this document, Fire & Rescue is seven (7) persons short of having the required minimum. The existing 2004 Master Plan recommendation of forty-eight (48) or sixteen (16) per shift provides only two (2) Paramedics to cover when Paramedics are off for annual or sick leave. With one (1) Paramedic assigned to the Coverage Crew, the total complement of Paramedics should be forty-nine (49). In order to maintain enough Paramedics to staff each Fire Engine and Medic Unit, the ready reserve of 49 should be increased to fifty-two (52).

Recommendation: The Town of Hilton Head Island Fire & Rescue should maintain a minimum of forty-nine (49) and a maximum of fifty-two (52) nationally certified paramedics assigned to line positions in order to provide a minimum one (1) ALS provider on each engine and one (1) on each medic. Ref: OPS-06

Health and Wellness

A Health and Wellness Committee should become a standing committee that meets regularly. The primary purpose of the committee would be to improve the health and wellness of members and thereby reduce costs due to injuries and associated illnesses. This would be accomplished by research, development of recommendations, and the study and review of matters pertaining to occupational health and wellness within the organization.

The proposed Health and Wellness Committee should be a committee that oversees the health and wellness of all Town employees. The committee should be town-wide similar to the Town's Safety Committee and should work closely with the Town Safety Committee. However, the committee's specified purpose is to review health and wellness issues specific to the jobs being performed. Example: Health and wellness of a firefighter who wears Self Contained Breathing Apparatus is a much more complicated concern as compared to a Facilities Management employee whose primary concern may be overexertion due to lifting. One member of the committee should be defined as Fire & Rescue's Health and Fitness Coordinator. This would be an ancillary duty of an existing employee and not a newly created position.

Recommendation: Fire & Rescue should work with the Town to develop and implement a Town-wide Health and Wellness Committee for the purpose of improving the health and wellness of Fire & Rescue employees. Ref: OPS-07

Response Times

Fire & Rescue should have a standardized method to document and measure Fire & Rescue response data based on policy decisions that provide benchmarks for comparison against national standards and internal Fire & Rescue objectives. To achieve this goal, Fire & Rescue should set policy, establish procedures and identify persons of responsibility in acquiring the needed data. As a part of this policy making process the following should be implemented:

- Define time intervals for Communications and Operations personnel

- Identify the computer programs that will provide the data
- Identify report format
- Identify frequency of reports
- Identify personnel responsible for reports

The need for a standardized reporting system is required to provide accurate and consistent data that facilitates procedural decisions and provides monthly, quarterly, semi-annual and annual reports to the Town's policy makers. The reports would be utilized to benchmark performance against set response time criteria. The information would also be used for Accreditation reports and reports made to Town's Public Safety Committee by the Fire Chief.

It is important that data and benchmarking be accurately measured, so as to provide reliable data to the Town Manager, Town Council, and the citizens of the community. This is a critical component in justification of our services and resources and sets the expected standard of performance for the organization.

Recommendation: Fire & Rescue should develop a standardized reporting system for compiling and reporting on adopted response time objectives. Ref: PLNG-12

Beach and Water Operations

Incidents in which Fire & Rescue is unable to respond to emergencies can result in significant negative consequences for the Town. A failure to rescue a person in distress may result in a liability claim against the Town even if the person lives. Simply removing a person from the water does not imply that proper EMS care was provided appropriately for the injuries suffered by the person being rescued. Since Fire & Rescue has the responsibility to perform EMS within the Town limits, a failure to provide proper EMS care could result in a liability claim.

The Town of Hilton Head Island has adopted ordinances that place the responsibility on Fire & Rescue to provide for rescue, EMS care, and fire control within the Town limits including the approximately 21 square miles of waterways surrounding the Island. These ordinances, as well as other adopted plans and agreements clearly establish the responsibility on the Town for such services. Since there is no other agency to take control of these incidents, a fire-rescue boat is warranted.

In addition to EMS responsibilities, Fire & Rescue is legally responsible for the control of all fires within the Town limits of Hilton Head Island. When these events are

unreachable by land-based crews a boat capable of reaching the event may speed control of the situation. A fire in 2012 on a small island off Spanish Wells Road serves as a good example. It took 2 engine companies (7 firefighters) 3 full days to extinguish a relatively small brush fire. Having a boat capable of reaching the fire could have resulted in the fire being extinguished within 5 hours.

While it is a controversial issue, Fire & Rescue's administration believes that a boat capable of providing EMS, rescue, Haz-Mat control, and firefighting capabilities is needed. The 2004 Master Plan called for 2 boats based upon long response times required to reach all areas of the Town limits. While the previous recommendation of 2 boats is logical, 1 boat would provide a valuable resource even if response times are somewhat elongated.

The goal of this recommendation is to establish plans and procedures through a variety of activities and functions that provide basic water response capability for assistance during emergencies. At a minimum this would include the objectives of:

1. Establishing written Standard Operation Guidelines (SOGs) and Memorandum of Understandings (MOUs) with other public agencies on command and control, available assets, and response criteria that would support Fire & Rescue response to incidents in the water.

2. Involve the private sector to identify potential assets and develop working relationships to facilitate and support a Fire & Rescue response to incidents in the water.

3. Enhance current Fire & Rescue capabilities through effective planning and equipment purchases to provide the ability to initiate a minimal response to requests, often when no other public or private assets are available for use.

4. Conduct unified command exercises with both public and private entities that exercise the applicable SOGs and MOUs.

5. Work with Town staff, private communities, and businesses to provide more beach accesses with surfaces that support vehicle and/or stretcher movement onto and off of the beaches.

Recommendations: Fire & Rescue should evaluate and implement a variety of specific policies and procedures to enhance the organization's ability to respond to, provide rescue, initiate control measures, and

investigate emergencies in the waterways located with the Town's limits. Ref: OPS-11

Provide at least one boat capable of providing EMS care, hazardous materials spill control, rescue, and firefighting capability in order to protect the 21 square mile marine environment within the corporate limits of the Town of Hilton Head Island. Ref: SSRV-14

Dirt Roads

The condition of some dirt roads in the community have affected, and will continue to affect, the emergency response capability of Fire & Rescue. It is in the best interest of the public and the Town, to develop a standard procedure to address dirt roads that have been identified as being in such condition that emergency response is negatively impacted or access is potentially restricted altogether. The issues most regularly encountered are standing water, mud, sand, large potholes, and narrow widths. Rainy weather turns some roads impassable while dry weather turns other roads impassable. These roads, especially when rutted or when containing large holes, reduces travel speed which in turn increases response times. In addition, they increase patient discomfort, delay treatment during transport, and increase delivery time to the hospital.

There are various factors that impede the efforts to improve the roads, but the overriding issues are mostly legal impediments. The County on past occasions has repaired privately owned roads, but due to current budget restrictions this process has stopped. The Town, with no public works department, must work with the owners to have the owner grade and repair the roads. In some cases, portions of a road may be owned by different individuals. In many cases, heir's property issues result in no clear ownership. Without being able to determine true ownership, and with multiple owners, reaching an agreement to repair is difficult if not impossible.

The Town currently has a program to take ownership of dirt roads and transfer them to Beaufort County who would then become responsible for their repair. Considering the number of dirt roads and the current policy of transferring 2 per year, it would take 50 years to complete the project.

Recommendation: Procedures should be developed by the Town to address the condition and repair of dirt roads on Hilton Head Island so that emergency response is not compromised due to dangerously impassible roads. Ref: OPS-12

PLANNING

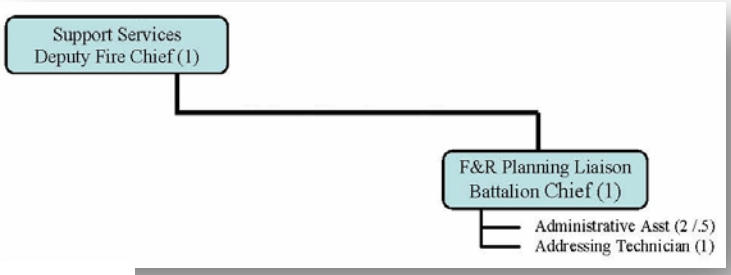
Overview

The Planning Division works to assist Fire & Rescue in providing the highest possible standard of service today, as well as to help assure any adjustments necessary will be made to continue to improve the level of service in the future. The Division evaluates and analyzes geographic information system (GIS) data and emergency incident and response statistics in order to maintain a clear picture of where Fire & Rescue is today, and combines this information with input on planned building projects, developments and ordinance changes received from other Town departments in order to appropriately map for tomorrow. These processes help determine what the risks are to the community and what the emergency response model should be in order to best handle these risks. Improving response times within gated communities through the identification of optimum locations for emergency access points is one example of the impact of the activities of the Planning Division.

The Division is also responsible for performing the comprehensive self assessment and for maintaining the plan for continuous improvement which Fire & Rescue must have in place in order to remain accredited by the Commission on Fire Accreditation International (CFAI).

Among the Planning Division's other duties are maintenance of the Fire & Rescue Strategic Plan, the compiling of all fire and medical response records, and providing copies of incident reports to the public upon request. The assignment or correction of street address numbers and the supplying of address data for the 9-1-1 dispatching system, a process critical to ensuring timely and accurate response to emergencies, is also managed by the Division.

The Planning Division (Fig 22) consists of 1 Battalion Chief of Planning, who reports to the Deputy Chief of Support Services, 2 part time administrative assistants, and 1 E911 Addressing Technician.



(Fig 22)

PLANNING STRATEGIC RECOMMENDATIONS

AED Distribution

Fire & Rescue has fourteen assigned staff vehicles. Fire & Rescue staff vehicles are typically located throughout the island, during workdays and on weekends, as a normal part of their assigned duties. All of the staff personnel and/or vehicles have two-way communications with the Communications Center via mobile or portable radios. Fire & Rescue staff members assigned to the vehicles are all certified in CPR and AED deployment and use. Having AEDs available in these vehicles while they are traveling around the island or while at various meetings, inspections, public events or other functions would greatly enhance life saving efforts in the event of cardiac emergencies.

In the event that someone's heart stops beating, irreversible brain damage can occur in as little as 4 to 6 minutes. It is critical that proper patient care be established before or during those 4 to 6 minutes. Care provided after the 6 minute mark is much less effective and may leave the individual with permanent disabilities even if the patient survives.

Recommendation: The Town of Hilton Head Island Fire and Rescue (Fire & Rescue) should proceed with installing Automated External Defibrillators (AEDs) in all Fire and Rescue staff vehicles for use in cardiac emergencies. Ref: PLNG-01

EMS Accreditation

The Commission on Accreditation of Ambulance Services (CAAS) was established to encourage and promote quality patient care in America's medical transportation system. Based initially on the efforts of the American Ambulance Association, the independent Commission established a comprehensive series of standards for the ambulance service industry.

Accreditation signifies that an EMS service has met the highest standards established by the ambulance industry to be essential in a modern emergency medical services provider. These standards often exceed those established by state or local regulation.

The process includes a comprehensive self-assessment and an independent outside review of the EMS organization. This independent process provides verification to department leaders, elected officials, the medical community, and others that quality care is provided to the community.

Fire & Rescue is currently accredited through the Commission on Fire Accreditation International (CFAI). CAAS accreditation standards are very similar to CFAI standards in that they both measure organizational issues involving:

- Emergency response
- Personnel, equipment
- Operational deployment
- Facilities
- Apparatus
- Maintenance
- Standard operating guidelines
- Strategic planning
- Training
- Recruitment and compensation
- Continuous quality improvement

Recommendation: It is recommended that the Fire & Rescue work toward compliance with the Commission on Accreditation of Ambulance Services (CAAS) and to review possibility of formal accreditation at the next Master Plan update. Ref: PLNG-02

Fire Service Accreditation

CFAI accreditation process provides a well-defined, internationally recognized benchmark system used to measure the delivery of fire and emergency services to the residents and visitors to Hilton Head Island. Participating in the CFAI self assessment and accreditation process has the following advantages:

- The process improves the ability of the fire department to readily recognize and understand potential fire risks, hazards and other emergency protection needs for the community
- The process helps determine the fire departments need for up-to-date resources and emergency service delivery systems
- The process focuses on continued improvements to service delivery in order to enhance the quality of life in the community
- The achievement of obtaining accreditation demonstrates to the public a commitment to excellence in service delivery and for continuous improvement of the agency

The CFAI program is a comprehensive self-assessment and evaluation model for fire and emergency service organizations. Using this program, fire and EMS sectors can improve their level of professionalism, while enhancing service delivery.

Hilton Head Fire & Rescue achieved full accreditation status from CFAI on August 22, 2002. Since that time, Hilton Head Island Fire & Rescue has been re-accredited in 2007 and in 2012.

Recommendation: Hilton Head Island Fire and Rescue should continue to maintain its accreditation status through the Commission on Fire Accreditation International (CFAI). Ref: PLNG-03

Emergency Access

Fire & Rescue has promoted the construction of emergency access gate construction for reducing emergency response times beginning with the *1998 Master Plan*. Since that time, seven (7) access gates have been constructed at the following locations:

- Access between Shipyard Drive in Shipyard Plantation to South Shore Drive in Palmetto Dunes Plantation across from the Marriott Grand Ocean Resort
- Access into Indigo Run Plantation from Marshland Road, across from Fire Station #7
- Access into Long Cove Plantation to Fife Lane from William Hilton Parkway via the Hargray Telephone Company parking lot
- Access into Palmetto Dunes Plantation to Yard Arm from William Hilton Parkway via the Robert Trent Jones golf course across from Shelter Cove Plaza
- Access into the Breakers complex from Coligny Circle adjacent to the Coligny Beach Park entrance
- Access into Port Royal Plantation to Ordnance Place from Union Cemetery Road, across from the Port Royal Golf Maintenance complex
- Access into Palmetto Hall Plantation to Tucker Ridge Court from Beach City Road, through the Fort Howell historic site

An emergency access gate is in development to connect Wexford Plantation with Haig Point Embarkation along Fairfax Lane. Fire & Rescue is currently studying the feasibility of a gate from William Hilton parkway into Palmetto Dunes onto Swing About, near the William Hilton Parkway and Queens Folly Road intersection.

A long term gate plan is contained in Appendix E of this document.

Recommendation: Fire & Rescue should continue the current emergency access gate installation program with the inclusion of additional gates and the removal of some gates based upon a “cost versus gain” evaluation. Ref: PLNG-04

Reporting Guidelines

The *2004 Fire & Rescue Master Plan* made the following recommendation related to reporting: *Provide quarterly progress/activity reports to the Town Council’s Public Safety Committee and an Annual Report to the Town Manager.* Due to senior staff changes over the past several years, this recommendation for quarterly reports was never fully implemented.

Each year, Fire & Rescue provides data on departmental activities and accomplishments for presentation at the annual Town Council retreat. Soon after that, Fire & Rescue produces documents and reports for the annual budget preparation process. Fire & Rescue must also provide specific reports mandated for maintaining accredited status, for national fire statistic reporting, national run survey comparisons, etc.

All of this reporting occurs at approximately the same time every year, usually from mid December of one year to mid March of the next year. By compiling specific data on a semi-annual basis, it would be much easier to produce reports at year’s end. Additionally, semi-annual reporting would allow for data to be compiled in various date range formats as needed, such as on a calendar year or fiscal year basis by simply selecting the appropriate semi-annual reports relative to the date range desired.

Recommendation: It is recommended that Fire & Rescue provide both an annual and semi-annual report to the Town Public Safety Committee on Fire & Rescue operations, activities, and Master Plan implementation. Ref: PLNG-06

Increasing Administrative Efficiency

Increasing administrative efficiency would involve the improvement of personnel, processes, hardware and software for the purpose of collecting, using, storing and recalling data for numerous purposes within Fire & Rescue. Increased administrative efficiency includes the following elements: personnel, training, policy, and programs.

Recommendation: Fire & Rescue should continue to increase administrative efficiency by improving data systems, providing additional training, enforcing existing policy and implementing programs that are innovative, cost effective and provide measurable improvements. Ref: PLNG-10

E-911 Addressing

Since the adoption of the 2004 Master Plan, much work has been done on improving inaccurate addressing on Hilton Head Island. Since that time, seventy eight (78) new street names have been added, one thousand nine hundred fifty-four (1954) "unique" address points have been created and two hundred forty-three (243) inaccurate addresses have been corrected.

It is recommended that Fire & Rescue continue to make addressing improvements by:

- Providing logical addressing plans for new developments as part of the development review process
- Identifying and correcting confusing addressing layouts where found on Hilton Head Island
- Continue naming access roadways, when appropriate, to facilitate the correction of inaccurate addresses and for the creation of new address points along these roadways
- Improving directional, building and address signage in multi-building complexes
- Making address corrections in the E9-1-1 database Master Street and Address Guide (MSAG) as required and coordinating those corrections with all pertinent entities (Fire & Rescue responders, Town staff, U.S. Postal Service, Beaufort County agencies, utility companies and others as required)
- Adding, correcting and enhancing Town Geographic Information System (GIS) data for maximizing usage by the Mobile CAD response system
- Work with the PUDs and other locations to mark all addresses in accordance with Fire Code and Land Management Ordinance (LMO) requirements in order to more rapidly locate addresses

Recommendation: It is recommended that the Town of Hilton Head Island continue to improve signage, location indicators, and street names to facilitate reduction in response times. Ref: PLNG-11

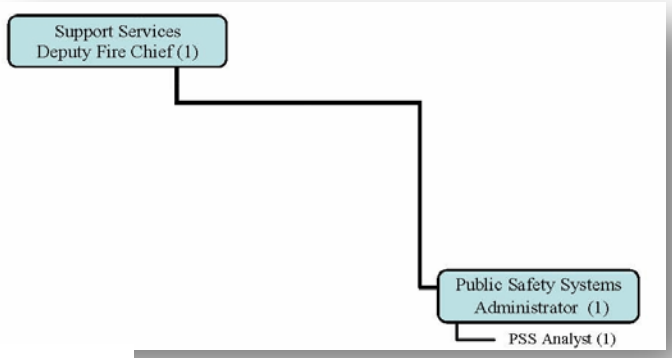
PUBLIC SAFETY SYSTEMS

Overview

The Support Services Division's Public Safety Systems Group is the least noticeable component of the Fire & Rescue organization, and certainly the newest. The development and implementation of sophisticated programs such as Computer Aided Dispatch (CAD) and the Automated Vehicle Location (AVL) technology which supports it have improved emergency response by ensuring the closest appropriate units are sent to incidents and wireless transmission of medical data from ambulances in the field to the hospital Emergency Room allows for better and faster patient care. Technology, in a public safety environment, must be extremely reliable; the primary mission of the Public Safety Systems Group is to ensure that reliability around the clock.

The personnel of the Group install, maintain, and update the hardware, software, and databases necessary for these programs to function, as well as having responsibility for the Fire & Rescue electronic Records Management System. This requires supporting not only the computers in the Communications Center, Fire Headquarters, and each Fire Station, but also the mobile installations in each fire apparatus and medic unit.

Public Safety Systems (Fig 23) consists of 2 individuals. One Systems Administrator who reports to the Deputy Chief of Support Services and 1 Systems Analyst who reports to the Administrator.



(Fig 23)

PUBLIC SAFETY SYSTEMS STRATEGIC RECOMMENDATIONS

CAD Technology

CAD is a resource management system for EMS and Fire responses. The CAD system is designed and implemented by Intergraph Public Safety and utilizes an Oracle database. Map data and fire apparatus location via automatic vehicle location (AVL) are considered part of CAD.

I/Pager, Pictometry®, and Skyline software should be added and upgraded to increase CAD capabilities. I/Pager software will enhance emergency response with emailing and paging capabilities. Pictometry® will provide dispatchers with aerial views of the Town. Skyline will allow the creation of 3D pre-fire plans and enhanced 3D responses in CAD.

Recommendation: Fire & Rescue should continue to invest in and upgrade the current Intergraph Computer Aided Dispatch (CAD) system so that it will never be more than 1 full version old. Ref: SSRV-05

Business Continuity of E-911 & Data Center

Business Continuity and Disaster Recovery for Fire & Rescue critical computer services and systems (Dispatch, 911 phones and data systems) could be best described as the ability to continue operating at the same capabilities in the event of a system or service disruption. Public Safety Systems (PSS) must maintain its service level in order to provide the highest level of support to Fire & Rescue. The E-911 dispatch center's data facility is the key processing center for all Fire & Rescue computer and record management systems. If this facility becomes inoperable or uninhabitable, it would be catastrophic for the operational effectiveness of Fire & Rescue.

Recommendation: Fire & Rescue should enhance its ability to provide E-911 services and to maintain accompanying data flow in the event the existing facility is lost. Ref: SSRV-06

Records Management Systems(RMS)

The current RMS systems consist of Zoll® FireRMS® and Commerx© electronic patient care reporting (ePCR) systems. The Zoll® FireRMS® system is an enterprise-class, National Fire Incident Reporting System (NFIRS) and National EMS Information System (NEMSIS) compliant RMS system for incident reporting, personnel records management, and resources management. It is based on Microsoft RDMS and Windows operating systems. Commerx© ePCR is a patient care records management system based on PostgreSQL and Linux operating systems.

Recommendation**:** Fire & Rescue should continue to improve its records management systems (RMS) to increase functionality and improve efficiency and reporting capabilities. Ref: SSRV-07

Public Safety Systems Hardware Infrastructure

The hardware infrastructure is the repository for the operating systems of the public safety systems which include Intergraph® CAD, Zoll® FireRMS®, Commerx© ePCR, and TeleStaff™. Other subordinate programs that interface radios, telephones, CAD and ANI/ALI reside there, as well as incident reports, inspection records, map layers, elements of the 911 telephone data base, AVL tracker data and more. In total, this

information is a little more than 1 Terabyte and growing each day. For purposes of perspective one terabyte (1,000,000,000,000 bytes) of audio recorded at 128,000 bit/s will contain about 17,000 hours of CD quality audio.

The information stored in these servers is critical to Fire & Rescue's mission in providing emergency service (response to fire and emergency medical), as well as daily routine business such as conducting fire inspections, maintaining training records and providing mandated documentation of emergency medical responses to South Carolina DHEC Division of EMS and Trauma. Many of these documents are necessary to facilitate the finance department process for emergency medical billing and to comply with FOIA. The data stored on these servers is essential to the Town as a whole and is sensitive and often protected information which must be securely stored as well.

Recommendation: Fire & Rescue should implement a scheduled replacement plan for its Public Safety Systems' hardware infrastructure to increase reliability and functionality and reduce costs over time. Ref: SSRV-08

PSS Mobile Network Infrastructure

The mobile network system was created 2 years ago to replace the obsolete radio data transfer. Presently the onboard Mobile Gateway (oMG) system carries GPS, AVL, ePCR and mobile CAD data between the data center hub and emergency vehicles. The system is operational, however; will require specific upgrades and enhancements necessary to improve its ability to carry increasing data and improve its reliability.

Recommendation: Fire & Rescue should continue to expand and improve its network infrastructure to increase reliability and functionality. Ref: SSRV-10

SUPPORT SERVICES

Overview

The Support Services Division is tasked with supporting the overall mission of Fire & Rescue and, operating largely behind the scenes, performing a variety of technical, administrative and supply functions necessary to position Fire & Rescue to conduct day to day operations and emergency response in an efficient and effective manner.

Among the Division's responsibilities are the compiling of all Fire and EMS incident records, the assignment of street address numbers and supplying of address data for

the 9-1-1 dispatching system, and the maintenance of the computer systems and technology that ensure timely and accurate response to emergencies. The Division also serves as the supply arm of Fire & Rescue, purchasing and distributing every item - from fire apparatus to protective gear, medical supplies to chain saws, uniforms to light bulbs - necessary for the operation of Fire & Rescue.

The Division is also charged with providing a means for reducing environmental damage due to the uncontrolled release of hazardous materials. As part of this mission, the division oversees the Fire & Rescue Hazmat Team, operates Fire & Rescue's recycling program, and conducts the annual Hazardous Materials Round-Up.

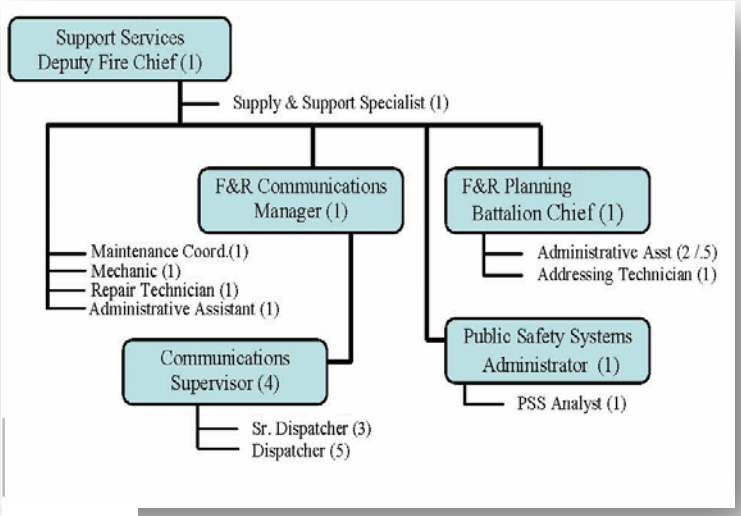
The Support Services Division is comprised of the following technical and administrative functions:

Communications (E911) is staffed by thirteen professionals who receive emergency calls for service and dispatch the appropriate apparatus through a sophisticated computer aided dispatch system.

Fleet Maintenance: Fleet Maintenance keeps a Town fleet of 140 vehicles, several hundred gas powered tools, more than 26,000 feet of fire hose and hundreds of other pieces of equipment in working order on a daily basis.

Planning: Long range planning is an essential part of the accreditation process. Planning is responsible for all records management, long and short term planning and quality assurance of all reporting and assures compliance with applicable regulations and mandates.

Supply and Support Specialist: Supplies uniforms, safety equipment and various other supplies for 140 personnel and seven fire stations.



(Fig 24)

Support Services (Fig 24) is supervised by the Deputy Chief of Support Services who reports to the Fire Chief. Reporting to the Deputy Chief of Support Services is 1 Supply

& Support Specialist, 1 Communication Manager, 1 Public Safety Systems Administrator, and 4 individuals assigned to Fleet Maintenance.

SUPPORT SERVICES STRATEGIC RECOMMENDATIONS

Environmental Protection

Fire & Rescue has employed a number of "green" initiatives beginning in 2008 to include, recycling of paper, aluminum/tin, plastics, and glass at all fire stations and Headquarters. Cleaner and more fuel efficient vehicles have been specified, ordered, and are now in service. The bulk of the fire apparatus fleet, 12 fire apparatus, are equipped with 2007 engine emissions components. These engines produce 60% less green house gasses, and 90% less particulate matter than the prior generation engines. Many administrative vehicles with V8 engines have been replaced with smaller more economical and efficient vehicles. Further enhancements like oil less pump primers and environmentally friendly firefighting foam, along with extended oil change intervals have helped Fire & Rescue to become greener.

Specific recommendations for future consideration for inclusion in an Environmental Protection Plan should include:

- LEED certification of all future buildings (where possible)
- Retro-fitting present stations to include motion sensitive light switches
- Replacing all current appliances with Energy star appliances when they need replacement or when their energy use warrants replacement
- Education to encourage personnel to reduce, re-use, and recycle
- Continued purchasing of higher efficiency automobiles and powered equipment
- Continued improvement in the use of paperless solutions
- Addition of internet conferencing and training solutions to reduce apparatus movement for classroom training events, meetings, and discussions
- Continued research and purchasing of recycled products like step chocks made from recycled plastic
- Installing motion sensitive light switches where practical to reduce instances of "forgotten lights left on"
- Continued refinement in the purchase and use of environmentally friendly cleaners
- Replacing incandescent light bulbs, when practical, with compact florescence lights.
- Replacing thermostats with those that automatically lower AC and heat settings for unused portions of buildings at night and on weekends

- Continued purchase of more efficient and alternative fuel vehicles for administrative use

Recommendation: Fire & Rescue should develop a specific Environmental Protection Plan to minimize the impact of Fire & Rescue operations on the local environment. Ref: SSRV-01

Security of Fire & Rescue Facilities

Presently a number of Fire & Rescue facilities utilize “card access” to secure and open doors. This includes all “man doors” that enter the outer perimeter or shell of the building and doors that lead to work, office, living and sleeping areas. Card access is also employed on access gates such as the training center. This smart system creates a log of all entries made and allows or denies entry to a specific area based on credentials. The system notifies the administrator (at login) that an attempt has been made by a specific person to unauthorized area.

Other security improvements for future consideration should include upgraded security of Knox-Box® keys and narcotic safes carried on Fire & Rescue apparatus. The use of card access or other technology could provide a better method to secure and maintain the “Chain of Custody” for drugs and other controlled substances. Improved security of Knox-Box® Keys is being developed and should be considered as well.

The Town employs surveillance cameras at several of its facilities to discourage vandalism and theft. This video record also serves as evidence and assists with the apprehension and prosecution of the crimes well. Fire & Rescue should be prepared to employ video surveillance at all Fire & Rescue facilities when necessary.

Recommendation: Fire & Rescue should continue to improve and enhance security at all Fire & Rescue facilities through relevant technology and policy improvements to include increased use of card access and video surveillance of key facilities. Ref: SSRV-02

ISO Public Protection Class

Municipalities and other defined geographical areas are routinely evaluated on three (3) criteria which are the:

- E911 Emergency Dispatch Center
- Fire Department

- Water Supply System

Fire & Rescue was last rated by ISO in 1994 and received a Public Protection Class (PPC) rating of 3. There were significant operational and procedural changes in Fire & Rescue that occurred since the 1994 evaluation.

Beginning in 2009, steps were taken to combat deficiencies that had occurred since 1994 to include:

- Re-organization of the collection and categorization of training records to include the establishment of minimum training hours per session
- Re-organization of the fire hydrant inspection program conducted jointed by the water system owners and Fire & Rescue
- Re-organization of the pre-incident (pre-fire) survey program to meet the requirements of ISO
- The purchase of necessary firefighting equipment was identified and purchased in order to maximize credit
- Fire & Rescue re-deployed personnel as much as possible to reduce the number of fire station closures and reduce the hours that fire engines are not staffed

ISO evaluated Fire & Rescue in July of 2011 and conducted a complete and thorough evaluation. In August of 2012 a final report was released which stated the Town would maintain a PPC of 3 by only .48 of one point based upon:

- E911 Communications Center received 100% of all possible points
- Fire & Rescue Training and Pre-Incident Planning received 96% of all possible points
- The Water Supply (Hilton Head PSD, Broad Creek PSD, & South Island PSD) collectively received 85% of all possible points
- Fire & Rescue received only 62% of all possible points primarily due to ISO's perception that the:

    1. Number of personnel on duty is less than desired
    2. Number of in-service fire apparatus is less than desired
    3. Number of fire stations is less than desired

Recommendation: Fire & Rescue should maintain its current Insurance Services Office (ISO) Public Protection Class rating of 3. Ref: SSRV-03

Scheduling and Alerting of Staff

Current scheduling and alerting systems consists of TeleStaff™ critical staff scheduling system and Zetron® alerting system. TeleStaff™ is based on Microsoft SQL® and windows operating systems. It has four outside lines to the Public Switched Telephone system (PST) for alerting staff via phone calls. Zetron® is the current station alerting system in use by Fire & Rescue which integrates into the Computer Aided Dispatch (CAD) system. The system allows for almost instantaneous alerting of multiple stations. The current version operates on radio frequencies (RF) and, while reliable and consistent, some upgrades are prudent in the future. As technology ages it may not be adequate for Fire & Rescue's needs and become un-supported, making it necessary to replace or upgrade.

Recommendation: Fire & Rescue should continue to evaluate current and available technologies that refine and improve scheduling and alerting processes and replace those that become un-supported or ineffective and implement new technology when practical. Ref: SSRV-09

Replacement for Firefighting and Medical Equipment

The National Fire Protection Association (NFPA), Occupational Safety & Health Administration (OSHA), Department of Transportation (DOT), and other entities as well as the manufacturer, recommend or mandate, the replacement of firefighting and medical equipment based upon different criteria. Cost effectiveness, reliability, and the responsiveness of the equipment to department use and needs are considered as well in determining when to replace items.

Scheduling the replacement of the above noted items allows Fire & Rescue and the Town to appropriately budget and forecast costs into the future. It further allows Fire & Rescue to budget for and to some extent predict service necessary to maintain these items in their best condition for the life of the equipment. Planned replacement affords Fire & Rescue the opportunity to begin the process of investigation and evaluation of products prior to requesting quotations through approved procurement methods.

Recommendation: Fire & Rescue should implement a scheduled replacement plan for the firefighting and medical equipment that has a defined or anticipated life cycle. Ref: SSRV-11

Replacement for Fire & Rescue Vehicles

In FY07, new fire apparatus was purchased that complied with numerous safety mandates and improved emissions standards. These apparatus are safer, more effective and have less impact on the environment than the prior generation apparatus they replaced. Cost effectiveness, reliability, and the responsiveness of apparatus to Fire & Rescue use and needs are considered as well in determining when to replace vehicles.

A concerted effort to standardize the fleet has occurred since 2008. This has resulted in improved efficiency for Fire & Rescue, a reduction in parts and simplified training processes for personnel. Group purchasing of apparatus has facilitated the standardization process and cost per unit savings have been realized as well.

Recommendation: Fire & Rescue should continue with a scheduled replacement plan for Fire & Rescue vehicles and further reduce and reconfigure the overall fleet for maximum efficiency. Ref: SSRV-12

Government Access Channel (GAC)

The goal of every government should be the promotion of an open government, educating the public about the governing body's services and events, and providing public safety education. The development of a government access channel by the Town would help Fire & Rescue achieve those goals.

Educating the public on the services provided by the Town of Hilton Head Island would increase the public's awareness as to the values of these services. Even though an argument could be made that most of the town's 37,000 permanent residents understand what the town's services are, the town receives over 2.5 million visitors each year, and a GAC would be invaluable in educating them.

Recommendation: Fire & Rescue, in conjunction with the Town of Hilton Head Island should establish a government access channel (GAC) with all cable providers within the Town of Hilton Head Island. Ref: SSRV-13

TRAINING

Overview

The Hilton Head Island Fire & Rescue Training Division is responsible for providing frequent, innovative and high-quality training in order to prepare response personnel for

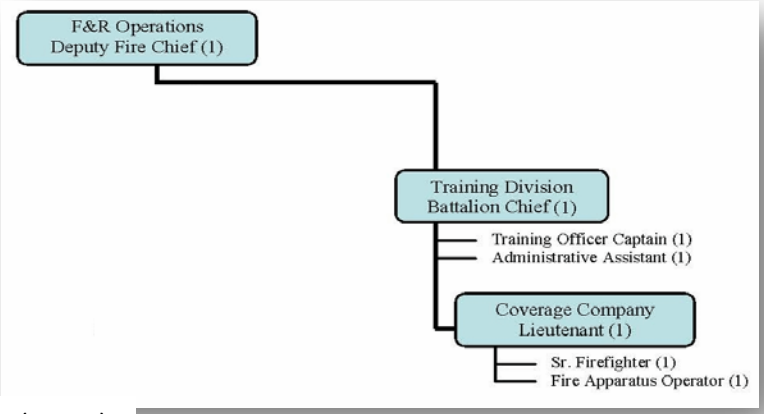
the various emergencies they may encounter. This training is a mix of classroom and hands-on training that provide “up-to-date” knowledge which enhances the individual responder’s skills and promotes overall team effectiveness.

The programs offered by the Training Division include the basic skills and qualifications necessary to extinguish fires, deliver medical assistance, and rescue distressed persons from a variety of hazardous environments. The Training Division also administers programs for personnel to obtain and maintain advanced medical, rescue and hazardous materials certifications.

Additionally, The Training Division also prepares firefighters to drive and operate apparatus and equipment safely and efficiently and conducts continuing education and promotional testing to ensure that candidates are adequately prepared to take the next step in their career.

The Training Division also operates the Training Center. This facility provides realistic, “live fire” training scenarios to Fire & Rescue personnel without negatively impacting surrounding residents, businesses or the environment.

The Training Division (Fig 25) is supervised by the Training Division Battalion Chief who reports directly to the Deputy Chief of Operations. The Training Division Battalion Chief is also responsible for supervising the Coverage Crew as well as (1) Training Officer (Captain) and one (1) Administrative Assistant.



(Fig 25)

TRAINING DIVISION STRATEGIC RECOMMENDATIONS

Training Center

The Training Center has created a tremendous improvement in Fire & Rescue training. It allows live fire training in a way that is safe and environmentally responsible. Virtually every structure and prop has multiple uses. For example, the Graham Training Tower doubles as a live burn facility and as the structure housing several search and rescue, ventilation, salvage, and rescue props. The QUAD prop doubles as a flammable liquids and flammable gases firefighting pit. The Extrication Prop doubles as an emergency

vehicle driver training pad, as does the Drafting Pit parking space. The Training Quarters serves the function of quarters for Engine 8 and Medic 8 and also serves as a storage space for firefighting props, hazardous materials training suits and props, and the Training Division's breathing apparatus. Even the drainage ditches serve multiple purposes; they drain water and firefighting foam runoff and also provide a place to build hazardous materials overflow and underflow training dams.

The Training Center is an extremely valuable facility, but it could provide even more training value with the addition of the proposed enhancements.

- Add an outdoor classroom at the South end of the existing extrication pad
- Add a burn room to the second floor of the Graham Training Tower and increase landing size
- Add water resistant interior lighting inside the Graham Training Tower
- Add a training maze prop

Recommendation: Enhance the functionality of the Fire & Rescue Training Center by upgrading the existing structure and adding additional features. Ref: TRNG-02

Computer Based Training

While some computer-based training is available at fire stations, improved use of electronic technology can improve training efficiency. The Training Center is the best location for most company drills and firefighting skills training, but some in-station training will always be necessary. These training types include medical, administrative, safety training, and in-station "quick drills". Computer-based training offers the ability to conduct fire and rescue tactical simulations, after-action reviews, and officer's training without moving firefighters from place to place. Keeping units in service in their primary service areas will improve Fire & Rescue's response capability.

Recommendation: Fire & Rescue should improve computer-based training capabilities in all Fire & Rescue facilities to include DVD based training Programs, internet based training, and video conferencing capabilities. Ref: TRNG-03

Safety Training Officer

The *2004 Fire & Rescue Master Plan Ordinance No. 2005-7*, adopted April 5, 2005, called for consideration for staffing an additional Training Officer position, based on

future needs. With a new Comprehensive Training Program implementation, and the EMS Quality Assurance program growth, the Training staff has been assigned additional duties. Training Staff members routinely work hours in excess of the normal staff schedule, particularly when covering required night drills. Staffing the Training/Safety Officer position would improve how personnel health and safety are managed, help manage the increasing Training Division workload, reduce line overtime, and allow more focus on improving areas with identified training needs. Staffing the Training/Safety position would help Training address these additional duties.

The Training/Safety Officer would have the responsibility to develop and implement training programs to address identified hazards in the workplace, ensure that employees are aware of the hazards, and communicate hazard abatement methods to other employees. This Officer would recommend safety “Best Practices” to reduce the risk to employees, which would help provide a safer environment for its employees, visitors and patients. As a dedicated Fire & Rescue Risk Manager, this Officer would help reduce hazards that add to the bottom-line costs of doing business and improve protection of the Town and Fire & Rescue’s physical and financial assets.

Recommendation: Fire & Rescue should fund and staff a Safety Training Officer position to concentrate on safety related training and function as the Fire & Rescue Safety Officer. Ref: TRNG-07

2004 Master Plan Recommendation Status

SECTION 1 - INTRODUCTION

1	The Master Plan was developed with a 10 year life expectancy with a recommendation to perform a comprehensive review and course correction at the mid point of the life of the plan.	Completed with modifications
2	Provide quarterly progress/activity reports to the Town Council's Public Safety Committee and an Annual Report to the Town Manager.	Completed with modifications
3	Maintain International Accreditation compliance through continuous self-assessment evaluation of the department's efforts and activities and update as required.	Completed as written

SECTION 3 - DEPARTMENT OVERVIEW

1	Use a 3% growth rate as the basis for projections of future response levels.	Completed with modifications

SECTION 4 - COMMUNITY RISK

1	It is recommended that the fire risk for the Town of Hilton Head Island be considered as a Low Risk.	Completed as written
2	It is recommended that the emergency medical risk for the Town of Hilton Head Island be considered as a Moderate Risk.	Completed with modifications

SECTION 5 - RESPONSE TIME

1	The recommendation for performance criteria standard for driving times for emergency fire and medical calls be established as follows: a. The first arriving fire truck or ambulance shall be established as 5 minutes 90% of the time. b. The last arriving fire truck shall be established as 9 minutes 90% of the time. c. The long term goal for the first arriving fire truck or ambulance shall be established as 4 minutes 90% of the time. d. The long term goal for the last arriving fire truck shall be established as 8 minutes 90% of the time.	In Progress
2	The Fire Department shall staff an additional ladder truck at station 5 located on Whooping Crane Road and move the existing ladder truck to station 1 located on Cordillo Parkway once station 5 construction is completed	Withdrawn
3	It is recommended that the Town of Hilton Head Island promote the development and use of new technology to further reduce response times. These technologies include: Instantaneous Station Alerting, Radio Controlled Gate Access and further enhancements to the CAD (Computer Aided Dispatch) system.	Completed as written
4	It is recommended that the Town of Hilton Head Island require improved address signage and location indicators, and enforce address corrections to facilitate reduction in response times.	Completed with modifications
5	It is recommended that the Town of Hilton Head Island improve the existing road network by constructing new roads where possible and through the promotion and the installation of additional Emergency Access roads with fire department controlled gates.	Completed as written

6	It is recommended that the Town of Hilton Head Island adopt a gate ordinance to require all property owners associations and Planned Unit Developments to install a Fire Department controlled gate opening system to provide emergency access to all current and future gates located in the Town.	Completed with modifications

SECTION 6 - FIRE STATION LOCATIONS

1	The Fire Department shall use existing facilities located at fire department head quarters to staff an additional fire truck/ambulance 12 hours a day to equalize services provided to the Beach City, Dillon, and Fish Haul Roads, and areas in Port Royal, Palmetto Hall and Hilton Head Plantation PUDs.	Completed with modifications
2	The Fire Department shall reevaluate the 12 hour services after 5 years of providing these services to determine if 24 hour services are warranted.	Completed as written
3	The Fire Department shall provide to the Town Council or Manager an annual report that will evaluate the level of service, deployment delivery and the achievement of each response time objective for each geographic area with the Town.	Completed with modifications
4	The Fire Department shall provide to the Town Council a quadrennial report that combines the annual reports and summarize improvements made or deficiencies observed.	Delayed
5	It is recommended that Fire Station 1 and Fire Station 6 undergo significant updating or replacement.	In progress

SECTION 7 - STAFFING

1	Increase the number of authorized paramedics within the department from 42 to 48.	In Progress
2	Utilize a phased approach in adding staff to implement recommendation for Day Crew.	Completed as written
3	Utilize a phased approach in adding staff to implement recommendation for second ladder truck.	Withdrawn

SECTION 8 - ADMINISTRATION

1	A single point of entry medical records management system that will download data between the state required medical records, the fire incident reporting system and the medical billing system should be implemented.	Completed with modifications
2	A new fire department headquarters building should be built near the intersection of Dillon Road and Gateway Circle at the time of the creation of a Town Public Works Department.	Withdrawn

SECTION 9 - OPERATIONS

1	Implement alternative methods of service delivery for non-life threatening incidents.	Withdrawn
2	Obtain and strategically locate equipment to improve efficiency and effectiveness in responding to beach related emergencies.	Completed with modifications
3	Continue to develop joint service delivery methods with outside emergency agencies.	Completed as written
4	Participate in mutual aid agreements to stand ready to assist other jurisdictions in emergency situations.	Completed as written
5	Provide two 25 to 30’ fire boats, capable of providing an appropriate dive platform and can effectively flow 1,000 to 1,500 gallon of water per minute for firefighting operations.	Delayed

6	Maintain the ability to be flexible in responding to homeland security issues.	Completed as written

SECTION 10 - BUREAU OF FIRE PREVENTION

1	Implement a wireless mobile data application for the inspection process to increase the proficiency within the Bureau.	Completed as written
2	Enhance the public awareness and education program to include Fire Prevention Programs, Accident Prevention, Risk Watch, File of Life, and the Public CPR and AED training.	Completed as written
3	Develop a multi-jurisdictional Fire Investigation Task Force to provide better and more consistent investigations.	Withdrawn
4	Implement a computerized records management system to maintain fire investigation records.	Completed with modifications

SECTION 11 - TRAINING

1	Construct a Training Facility that will allow practical "hands on" training to include a four story drill tower, an incorporated "burn room", a driving training area, a drafting pit, a rescue training area, a storage building, and an emergency access road to Dillon Road.	Completed as written
2	Provide regional recruit academies at a cost recovery basis.	Withdrawn
3	Provide regional training opportunities at a cost recovery level.	Withdrawn
4	Develop facilities and/or programs to add computer based training in all fire stations to provide more consistent and controllable classroom training to all personnel.	In progress
5	Evaluate the future need for a second Training Officer position in the Training Division based on need and outside use of the Training Facility.	Delayed

SECTION 12 - COMMUNICATION

1	It is recommended that all communications equipment (Computer Aided Dispatch software, recording equipment, radio system, and telephone system) be upgraded as industry enhancements are introduced.	Completed as written
2	It is recommended that all communications software for our Computer Aided Dispatch system be updated regularly and that at no time should the version we own be older than two versions.	Completed as written
3	It is recommended that the Fire Department investigate the need for Mobil Data Communications to reduce voice communications and increase capabilities.	Completed as written

SECTION 13 - FLEET MAINTENANCE

1	The plan for refurbishment of our existing fleet of Fire Trucks rather than replacing them with new vehicles should be a cost saving high priority for the Fire Department.	Completed with modifications
2	Provide a new computer software data processing system capable of interfacing with the Financial Management System. This system should have the capability to evaluate and enhance tracking repairs and have the ability to bill Town Departments for service.	In progress
3	Future consideration should be given to additional staffing to reduce the ratio of vehicles and equipment to employees.	Completed as written

SECTION 14 - EMERGENCY MANAGEMENT

2004 Master Plan Recommendation Status

1	Complete tasks identified in the Towns' Disaster Recovery Plan.	Completed with modifications
2	Develop a Disaster Mitigation Plan. (Volume I of our CEMP)	Completed with modifications
3	Complete a Capability Assessment for Readiness (CAR). (Volume II of our CEMP)	Withdrawn
4	Develop and schedule bi-annual training exercises to test operational disaster related plans.	Completed with modifications
5	Improve the Town's Alert and Warning System.	Completed with modifications
6	Maintain a computer training section in the Emergency Operations Center to be used jointly for training by the Town's Training and Communications Departments.	Completed with modifications
7	Explore the feasibility of purchasing mobile data pads to be used in the field for damage assessment.	Delayed

Hilton Head Island Fire & Rescue Accomplishments
2005-2011

2005 ACCOMPLISHMENTS

- A Household Hazardous Waste Round-Up was designed and hosted during the spring of 2005 and, because of its success; it has became an annual event.
- 5 emergency access points were designed and constructed to enhance response times, and 18 radio-controlled gate opening devices were installed to allow access to communities that have gates blocking access roads.
- The new 911 Communications Center and EOC was designed, constructed and became operational on August 12, 2004. With the opening of this new center, policies and procedures were updated to accommodate the new equipment and location.

2006 ACCOMPLISHMENTS

- A total of 336 addresses were corrected to enhance response and enforce a standard addressing system.
- The second Annual Household Hazardous Waste Round-Up was hosted in the Spring of 2006.
- To reduce response time, the Fire and Rescue department designed and constructed the Long Cove emergency access point. Six (6) additional radio controlled gate openers were installed on existing gates.
- A new communications tower was constructed and placed in service improving communication abilities.
- A Town wide Emergency Notification System was implemented along with a new community bulletin board phone number to improve citizen notification in the event of a disaster.

2007 ACCOMPLISHMENTS

- During 2006-07 Fire Rescue mailed customer service surveys to 2,502 recipients of its services. Forty-four percent of the delivered surveys (984) were completed and returned. Ninety-eight percent of respondents indicated they were satisfied or completely satisfied with the service provided by Fire Rescue.
- The Fire Prevention Bureau in partnership with Lowe's distributed fire and life safety boxes to a segment of the senior population (85 boxes) and the Latino population (100 boxes) on the island. The third Annual Household Hazardous Waste Round-Up was held on April 7th. Approximately 50,000 pounds of dangerous household chemicals were collected and recycled keeping them out of our waste stream and waterways.
- Eight (8) additional radio controlled gate openers were installed on existing and new gates throughout the community.

2008 ACCOMPLISHMENTS

- Provided and completed hurricane protection and upgrade to Stations 3, 4 and 7, along with training in the proper deployment of hurricane screening and shutter systems.
- Underwent smooth management change involving the promotions of 1 Fire Chief, 2 Deputy Chiefs, 3 Battalion Chiefs, 4 Captains, 4 Lieutenants, a part-time administrative assistant, a Public Safety System Analysis, an Emergency Management Coordinator, and an Emergency Management Planner.
- Maintained a 98% overall satisfaction rating from citizens receiving service.
- July 1, 2007 through December 31, 2007 totals for EMS forms completed equaled 2,149 forms processed with a 3% error rate.
- Household Hazardous Waste Round-Up was held on April 5, 2007
- Completed submission and subsequent peer review with the International Accreditation program and received reaccreditation for another five years.
- More than doubled the number of child safety seats inspected and installed; continued the partnership with Lowe's distributing carbon monoxide detectors; and added additional programs to include the diverse population on the island with the Boys & Girls Club and the Latin American Council.

- Purchased and implemented a mobile fire and life safety inspections program to provide more consistent fire prevention inspections while at the same time reducing the paperwork processes for the fire inspectors resulting in more inspections.

2009 ACCOMPLISHMENTS

- Continued a high level of publication activities by teaching 300 CPR/Fire Aid students, installing 50 car seats, distributing 1,300 File of Life ®, documents, and conducting 2,500 fire safety inspections, etc.
- Received 8 new Crimson pumpers and 2 new Frazer ambulances and placed all 10 units into service.
- Complete re-staffing of all line positions following promotional transitions begun in November 2007 by hiring 9 Firefighters, promoting 5 Fire Apparatus Operators, and 6 Senior Firefighters.
- Collected 21,600 pounds of recyclable materials from Fire & Rescue facilities as well as conducted 2 Household Hazardous Waste Round-Up events.
- Redeveloped line promotional policies to include promotional processes for Fire Apparatus Operator, Senior Firefighter, Lieutenant, and Captain.

2010 ACCOMPLISHMENTS

- Redeployed existing personnel to reduced fire engine "Out of Service" occurrences at Station 1 by 42.5%, Station 2 by 47%, Station 3 by 3.8%, Station 4 by 10.5%, Station 5 by 52.9% and Station 6 by 38.7% as compared to 2008.
- Conducted 2,318 Fire Safety Inspections, installed 20 Knox boxes, presented 644 Public Education programs, taught 320 CPR/First Aid students, installed 121 car seats and assumed the responsibility for Fire Code Plans review for new and renovated construction projects from the Town's Community Development Department.
- Provided 225 scheduled vehicle maintenance inspections throughout the year on 87 Town owned vehicles.
- Made improvement to EMS patient data collection which provided $95,000 more income for EMS billing over a 4 month period as compared to the same time frame in 2008.
- Completed construction of the new Training Facility. Achieved South Carolina Fire Academy Regional Training status in August 2009.
- Fire & Rescue personnel completed 35,603 training hours in 2009.
- Adopted a Continuity of Operations (COOP) Plan and created a Pandemic Influenza Plan as well as developed an All-hazards public information folder (Citizen's Guide to Emergency Preparedness) and distributed over 3000 copies.
- Collected approximately 144K lbs of recyclable materials from fire stations and other Town facilities and also collected approximately 12,000 lbs. of E-Waste and approximately 50,000 lbs. of Household Hazardous Waste during the Spring Hazmat Round-up.

2011 Accomplishments

- Construction of Fire Station 5 at 20 Whooping Crane Way was completed.
- Fire Station 1 at 70 Cordillo Parkway was demolished as part of the Town's fire station replacement program and a new Station 1 was completed at the end of 2011.
- The installation of two new emergency access gates at Port Royal Plantation and Palmetto Hall Plantation was completed.
- Fire & Rescue received Assistance to Firefighters Grant (AFG) funding for the replacement of the aged and unreliable breathing air compressor at Fire Station 4.
- Fire & Rescue completely updated all EMS protocols in conjunction with the medical control physicians and physicians from the Hilton Head Hospital

- Fire & Rescue continues to refine the ST-Segment Elevation Myocardial Infarction (STEMI) Code Protocol. This program has been so successful that it has been copied as a template by other communities and has been identified as a “Best Practice” by the Society of Chest Pain Centers.

- Fire & Rescue implemented a “Code ICE” protocol, or therapeutic hypothermia, a revolutionary treatment for sudden cardiac arrest.

- Fire & Rescue continues participation in the Cardiac Arrest Registry to Enhance Survival CARES registry program to measure the results of bystander CPR, early Automatic External Defibrillator (AED) use, patient care therapies, and how each improves cardiac arrest survival. Hilton Head Island Fire & Rescue is the only South Carolina EMS system to be enrolled in this Registry

2013 STANDARD OF COVER

Overview

This document serves as Hilton Head Island Fire & Rescue's (Fire & Rescue) Standard of Cover. It is as a critical element of the Accreditation process of the Center for Public Safety Excellence's Commission on Fire Service Accreditation (CPSE/CFAI), and a requirement under the National Fire Protection Association (NFPA) Standard 1710 (*Standard for the Organization and Development of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by career Fire Departments*).

Fire & Rescue's Standard of Cover are those written procedures that determine the distribution and concentration of the fixed and mobile resources of a fire and EMS organization. The Standard of Cover document is developed through the evaluation of Fire & Rescue's present practices, historical responses data, and a comprehensive risk analysis conducted by Fire & Rescue. The results of these analyses are then used to make formal statements of the level of service the Fire & Rescue could be expected to provide.

These analyses also assist Fire & Rescue in determining how its resources, in terms of fixed, mobile, and personnel, should be deployed, types and numbers of emergency response equipment, the demand for service in each station's service area, and where any future facilities may need to be located.

For purposes of this document this Standard of Cover applies to all areas within Fire & Rescue's legal jurisdiction. Fire & Rescue's Standard of Cover is reviewed and updated on an annual basis.

PURPOSE

In general, the purpose of this Standard of Coverage document is to answer the following questions:

- What are the major risk factors within Fire & Rescue's jurisdiction?
- What is the risk profile of the District, and are the current resources adequate based on Community expectations and best industry practices?
- How does Fire & Rescue's retrospective performance compare with community expectations, national standards, and previously established goals?
- If there are performance deficiencies, what are they and how might they be best addressed?

COMMUNITY OVERVIEW

The Town of Hilton Head Island was formed on September 26, 1983 and has a Council-Manager form of government. The Mayor is elected at large and there are 6 council persons elected from 6 wards.

Hilton Head Island Fire & Rescue (Fire & Rescue) provides Fire, EMS, Rescue, Hazardous Materials and Special Operations responses, Emergency Management, Fleet Maintenance, and Dispatching services, to an area of approximately 54 square miles, within which reside 37,099 people (2010 Census). In addition to the residents, Hilton Head Island's population increases greatly during the summer months as some 2.5 million people visit or vacation on Hilton Head Island each year in addition to the thousands of people who work on the Island each day.

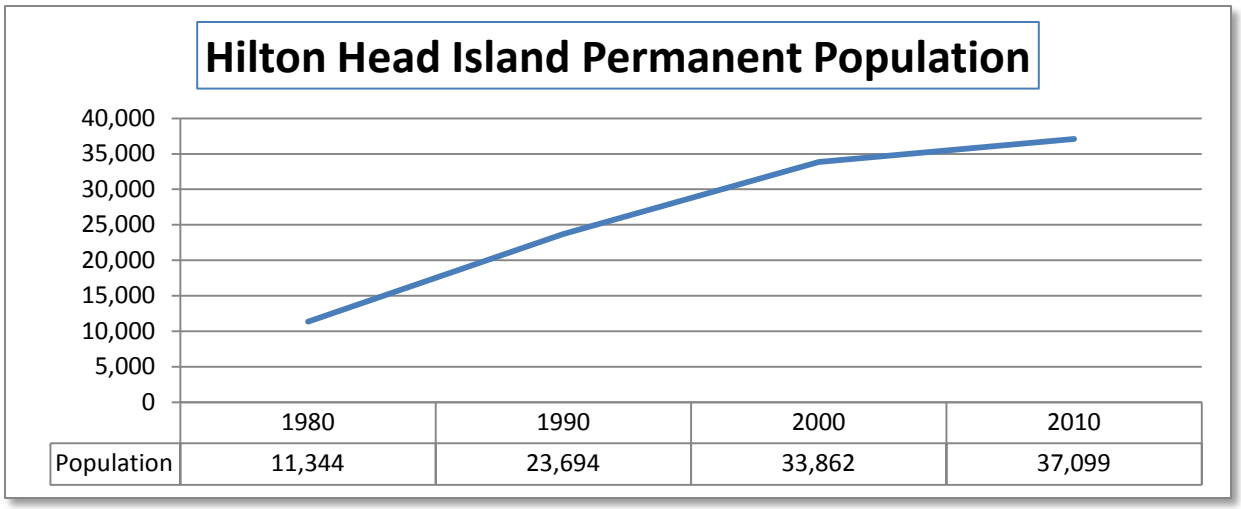
The Town is renowned as a first class tourist destination. The Town encompasses more than 54 square miles, of which 34.16 are considered usable land. The Town boasts 13 miles of beaches, and in excess of 60 miles of dedicated leisure or bike pathways for the enjoyment of residents and visitors alike. Fire & Rescue protects real property with an assessed valuation $918,193,351 (source *Town of Hilton Head Island CAFR FY 2011*). Fire & Rescue currently has an ISO rating of 3.

Population

An accurate description of the population of the Town of Hilton Head Island is often difficult to determine. As a world renowned resort destination, Hilton Head Island is not a typical "town" in the aspect of its population. Visitor population can skew the total population numbers on any given day. For the sake of this report two sections will be defined, permanent population and seasonal population. The Town's geographical mild climate, nature, ocean frontage, history, and unique recreational facilities are a few of the reasons people chose to live and retire here. All population and density information in this document is based and compared to data from the 2000 Census, the 2010 Census, the Hilton Head Island Chamber of Commerce Visitor Survey, the 2006-2008 American Community Survey, and the Beaufort County 2010 Comprehensive Plan.

Permanent Population

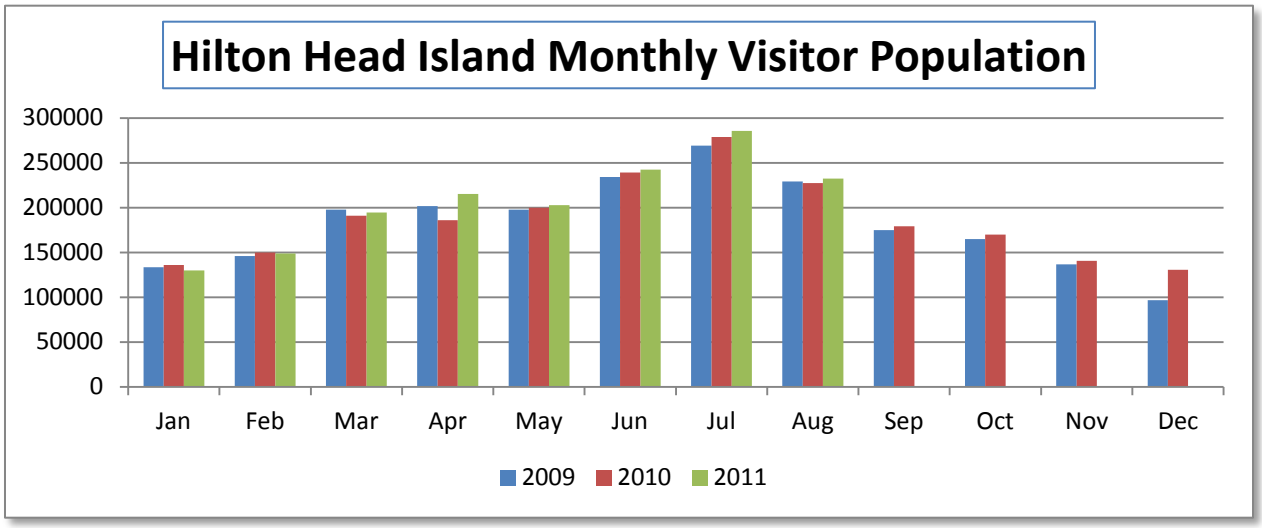
The total permanent resident population (Fig 1) of the Town of Hilton Head Island according to the 2010 Census is 37,099 persons. When compared to the 2010 population of Beaufort County, the Town's population comprises nearly 22 percent of the county's population.



(Fig 1)

Visitor Population

Data for the permanent population of Hilton Head Island does not tell the complete story of the number of people that occupy the island at different times of the year (Fig 2). As a community with four large resort hotels, numerous other hotels and rental properties, recreational activities and a retirement component there is a considerably higher actual number of persons on the Island than what is reported in the census information. Visitors are increasing in the off months of April and May as well as September and October.

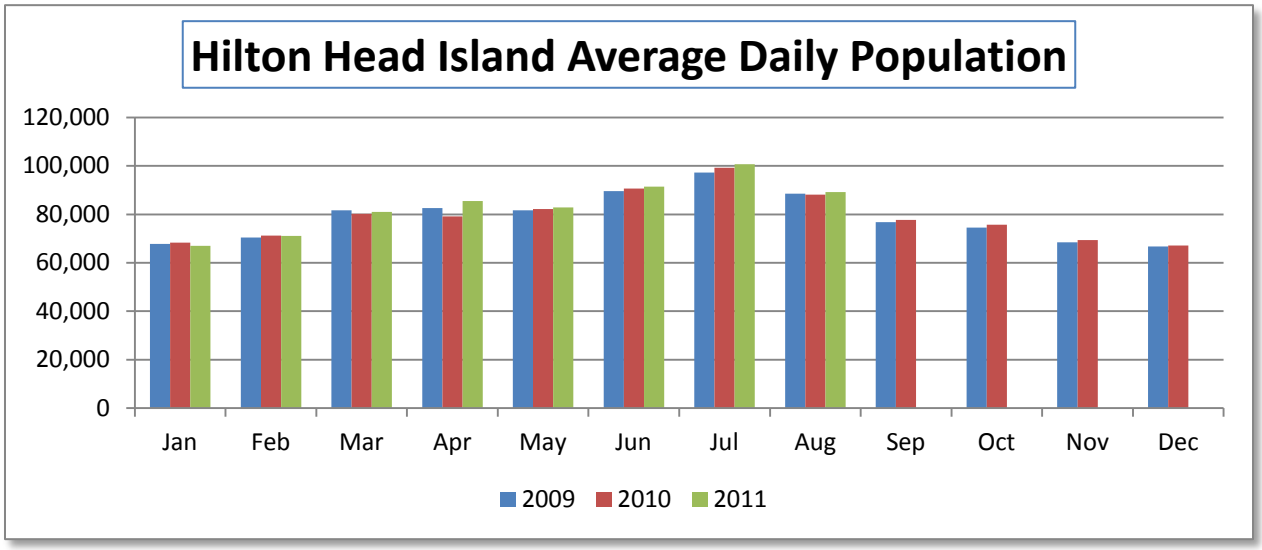


(Fig 2)

Average Daily Population

The island's labor force has the effect of increasing the daytime population of the Island as a large percentage of workers commute from the mainland. It is shown that 8,200

commuters travel to the island daily. Visitor population, daily commuters, and the permanent population all combine to make the daily population served much higher than the permanent population. The island population fluctuates according to the season, making the actual number of persons not only greater than the permanent population, but also inconsistent throughout the year. According to figures from the 2010 Beaufort County Comprehensive Plan, and the Hilton Head Island Chamber of Commerce Visitor Survey, the average daily population on Hilton Head Island approached or exceeded 100,000 in July of the last three years (Fig 3).



(Fig 3)

Age Distribution

Hilton Head Island has a large population of older adults. The median age for island residents is 51 years old which is an increase from 46 years old in 2000, according to the 2010 Census information. 2010 Census information also indicates that the population 45 years of age or older makes up 54.8% percent of all island residents. Available and current data shows that the population of the Town of Hilton Head Island has progressively grown older from 2000 to 2010. No significant inferences can be made from the 2000 Census to the 2010 Census except for a major jump in the 85 years of age and older group. This specific group increased an astonishing 111% from the 2000 Census. (Fig 4)

Permanent Population	2010 Census	% of Population
Under 5 years of age	1694	4.6
5 to 9	1676	4.5
10 to 14	1650	4.4

15 to 19	1681	4.5
20 to 24	1640	4.4
25 to 34	3719	10
35 to 44	3839	10.4
45 to 54	4567	12.4
55 to 59	2535	6.8
60 to 64	3395	9.2
65 to 74	5733	15.4
75 to 84	3493	9.5
85 and over	1477	4
Totals	37,099	100%

(Fig 4)

Households

The 2006–2008 American Community Survey reported for the Town of Hilton Head Island a total of 29,182 housing units on the island. Statistics for average household size on Hilton Head Island show there to be smaller households in comparison with Beaufort County and South Carolina. This fact is consistent with the age statistics for Hilton Head Island, which indicate smaller than average percentages of children and teenagers among the population. The 2006–2008 American Community Survey showed an average household size to 2.26 persons per household. (Note: Chart includes second homes)

Type of Structure	Number of Structures	Percent of total
Single Family Dwellings	16,005	55%
Multi-Family Dwellings	12,248	42%
Mobile Homes	929	3%
Total	29,182	100%

(Fig 5)

Households by Age and Condition

Approximately 70 percent of the housing stock was built within the past 20 years. According to data compiled by the Town's Community Development Department, the total number of residential units existing on the Island at the end of 2000 was 30,439.

Comparing the total permits issued between 1990 and 2000 (4,691) to the number of units on the Island at the end of 2000 (30,439) about 15 percent of the housing stock has been added during the 1990's. In general housing on Hilton Head Island is safe and of good quality. The classic definitions of blighted housing conditions cannot be applied to any of the communities on the Island.

Future Housing Needs

The population element of the Beaufort County Comprehensive Plan states that by the year 2020 there could be as many as 64,846 residents on the Island. Assuming that the 2000 figure of 2.32 persons per household remains the same, the number of projected occupied housing units could be assumed to grow as high as 27,950 housing units. According to projections calculated by the Town of Hilton Head Island Planning Department in 2000, the most likely build-out of the Island could be 36,984 total units, an increase of 26%. The Town's build-out figure is not defined in terms of a definitive year. Instead, this figure represents what the Island can support given current zoning regulations, development patterns and economic and market conditions.

Geography

The geography of Hilton Head Island is unique in many ways. As a coastal community, Hilton Head Island is virtually isolated from the rest of the surrounding communities by the large bodies of water surrounding the island (Fig 6). There is only one roadway connection to the island from the mainland (US-Highway 278). This connection depends on the integrity of the roadways and bridges along this route (Fig 7). Since there is essentially only one way to access the island from the mainland, Fire & Rescue has limited capability for receiving aid from other emergency response agencies.

(Fig 6)

(Fig 7)

The municipal limits of the Town of Hilton Head Island covers approximately thirty-four square miles of land area on the island and also covers approximately twenty square

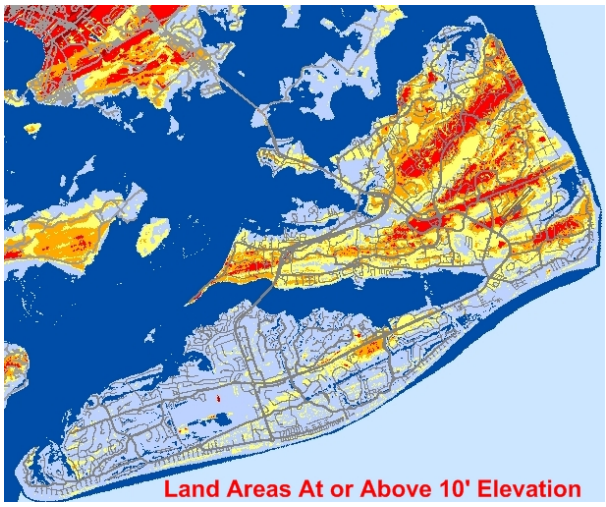
miles of the waterways surrounding the island. These waterways stretch well into Calibogue Sound, Skull Creek and Port Royal Sound and also include the waters one mile offshore into the Atlantic Ocean.
Hilton Head Island is almost “split” by Broad Creek in the middle of the island (Fig 8).

It should be noted that portions of Jenkins Island, at the foot of the bridges leading to the mainland, are not in the municipal limits of the Town of Hilton Head Island. This area contains the residential communities of Windmill Harbor, Blue Heron Point, Mariners Point and Outdoor Resorts (Fig 9).

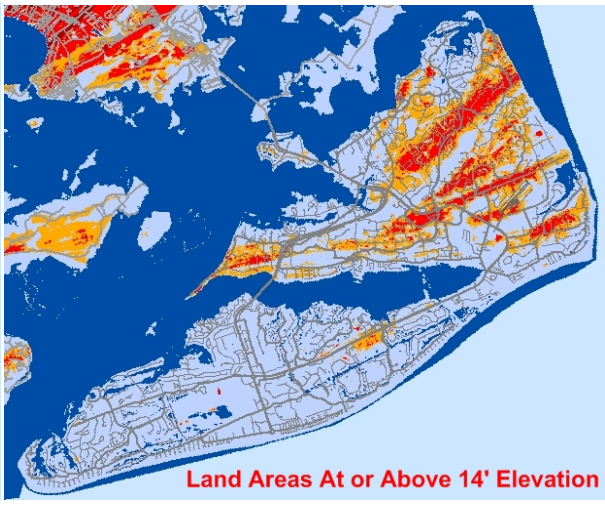
(Fig 8)

(Fig 9)

Hilton Head Island has very low elevations. Few areas on the south end of the island are at or above ten foot elevation (Fig 10). Areas that are at or above fourteen feet of elevation are predominately located on the north end of the island (Fig 11).

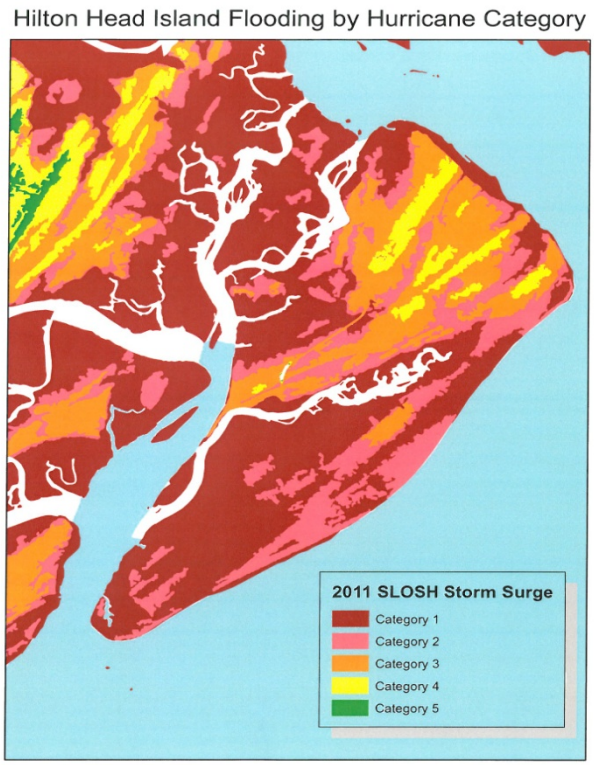


(Fig 10)



(Fig 11)

Low elevations will contribute greatly to the potential for flooding in the event of a Hurricane strike to the community. The following graphic (Fig 12) depicts the extent of flooding to be expected by each category of Hurricane.



(Fig 12)

NFPA STANDARD #1710

All of the data reported in this section is based on National Fire Protection Association (NFPA) standard 1710 (*Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*).

This guideline provides a national standard for response times and minimum staffing levels. NFPA 1710 calls for a minimum of fourteen personnel to be dispatched to the scene of a structure fire, and for the first arriving apparatus to arrive within four minutes driving time 90% of the time. This standard also calls for all subsequent fire equipment to arrive in eight minutes driving time 90% of the time.

To reach fourteen personnel typically requires Fire & Rescue to dispatch one Battalion Chief (one person), one ladder truck (four persons), three fire engines (nine persons), and an ambulance (cross-staffed by third due engine). This response requires resources from a minimum of three, and possibly as many as five stations.

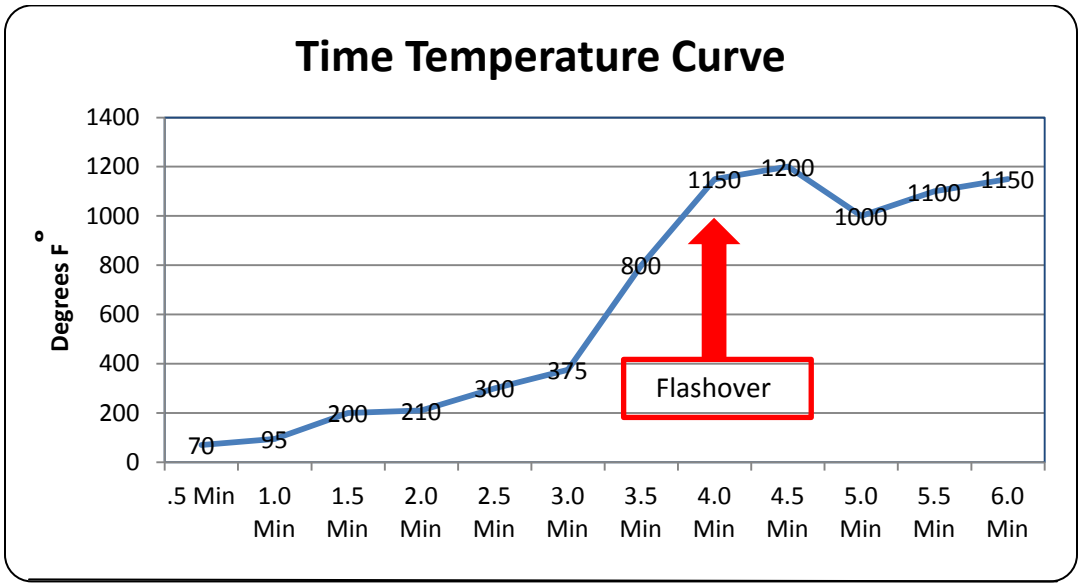
Effective Response Force

Before an effective Standard of Cover can be determined, the tasks, staffing, and equipment needs for various types of incidents must be determined. Fire & Rescue has developed an Effective Response Force (ERF) for a variety of incident types based upon expected task analysis, and departmental SOG's. Fire & Rescue is expected to

deliver an effective response force to the community's "typical" incidents, which include fire suppression and emergency medical service.

Fire Suppression

The primary objective of fire suppression is to provide sufficient firefighters and equipment in strategic locations so that an effective response force can respond to and reach fire scenes to mitigate the problem before flashover occurs, after which it is unlikely an occupant can survive. Studies conducted by the National Institute of Standards and Technology have shown that flashover (Fig 13), the near simultaneous ignition of all combustible materials in an enclosed area, generally occurs around the 4.5 minute mark, see graphic below. An effective response force is defined as the minimum amount of staffing and equipment that must reach a specific emergency zone located within a maximum prescribed travel or driving time.



(Fig 13)

An effective response force should be able to handle fires that are reported shortly after they start and are within the maximum prescribed travel time for the full assignment of fire companies according to the risk level of the structure. In any staffing and response study, the staffing, equipment and travel times that accompany each of the risk categories should be based upon that premise.

A single-family residential house fire requires at a minimum, fourteen (14) personnel to safely and effectively perform adequate fire and rescue operations at a "typical" house fire. As the size of the structure and complexity of the situation increases, the amount of required personnel grows exponentially.

The table below (Fig 14) illustrates a structure fire response and associated tasks delineated in this established Standard of Cover.

Apparatus Response Assignments

Call Type	Response Matrix
Aircraft Call	
Alert Level 1/Minor-Aircraft, Minor Emergency	CFR
Alert Level 2/Major-Aircraft, Major Emergency *If declared Working Incident	CFR, Engine, Medic, B1 *Send additional Engine & Medic
Alert Level 3/Crash, Aircraft Crash or Potential Crash *If declared Working Incident	CFR, 2 Engines, 2 Medics, Truck, B1 *Send additional Engine and Medic
Crash-Aircraft Crash	CFR, 2 Engines, 2 Medics, Truck, B1
Aircraft Fire w/o Crash	CFR, Engine, Truck, B1
Aircraft Fire Inside Structure	CFR, 3 Engines, Tag Medic, Truck, B1
Aircraft Fire Outside Structure	CFR
In-flight Emergency Standby	CFR
Landing Zone Setup	Engine
Alarm-Activated Alarm:	
AED Alarm	Engine, Medic
Carbon Monoxide Alarm	Engine
Fire Alarm (St. 2 – Tag Medic w/1FF)	2 Engines
Medical Alarm	Medic
Fire Related Emergencies:	
Arcing Power Line	Engine
Assistance or Lockout	Engine
Boat Fire	3 Engines, Tag Medic, Truck, B1
Bomb Threat	B1 via phone
Brush Fire	Engine
Brush Fire-Endangering Structure	3 Engines, Tag Medic, Truck, B1
Down Power Line	Engine
Dumpster Fire	Engine
Dumpster Fire-Endangering Structure	3 Engines, Tag Medic, Truck, B1
Explosion	3 Engines, Tag Medic, Truck, B1
Fire Misc-Misc Other Fires (Grills, Tents, Signs, etc)	Engine
Illegal Burning	Engine
Large or Multiple Vehicles Involved	2 Engines, B1

Structure Fire	3 Engines, Tag Medic, Truck, B1
Transformer Fire	Engine
Trash Fire	Engine
Trash Fire Endangering Structure	3 Engines, Tag Medic, Truck, B1
Vehicle –Single Vehicle	Engine
Haz Mat Hazmat-Chlorine Leak	Engine, B1
Hazmat-Level 1, Spill or Leak less than 20 Gallons	Engine
Hazmat-Level2, Spill or Leak greater than 20 Gallons	Engine, Medic, B1
Medical: Assistance	Medic
Cardiac Arrest, Un-Witnessed *Witnessed Cardiac Arrest, CPR in progress	Engine, Medic *Send next closest Engine or Medic, B1
Transport-Inter facility/Transfer	Medic
Unconscious	Engine, Medic
Mutual Aid: Mutual Aid Response	Send requested unit type Send requested unit type
Motor Vehicle Accident: Entrapment-Person Trapped in Vehicle	Engine, Medic, Truck, B1
MVA with Fire & Injury	Engine, Medic
Hazard Only, No Injuries	Engine
Hazard with Injuries	Engine, Medic
Hit and Run w/Injuries*	Medic
MVA w/Injuries*	Medic
Overturned Vehicle	Engine, Medic, Truck, B1
Submerged Vehicle	Engine, Medic, Truck, B1
*(Per AP 5.003, Section F) MVA on WHP or any road that intersects WHP …	*Send next closest Engine
Odor: Gas or Propane Odor Inside Structure	3 Engines, Truck, B1
Gas or Propane Odor Outside Structure	Engine
Smoke or Electrical Odors Inside Structure	Engine
Smoke Outside Structure-Smoke In Area	Engine

Water or Smoke Removal:	
Smoke Removal from Building/No Fire	Truck, Engine
Water Removal from Structure	Truck, Engine
Rescue:	
Building Collapse	Engine, Medic, Truck, B1
Elevator Rescue	Engine
Search On-Shore	B1 via phone
Trapped-Trench, Roof, Tower, Machinery, Confined Space	Engine, Medic, Truck, B1
Water Rescue	Engine, Medic, Truck, B1
Smoke:	
Visible Smoke Inside Structure	3 Engines, Tag Medic, Truck, B1
Visible Smoke Outside Structure	Engine
Standby:	
Bomb Removal Standby	Engine
Special Event Standby	Send requested unit type
Flight Crew Standby	Medic, CFR
Washdown:	
Cleanup of Spilled Materials	Engine

(Fig 14)

Structure Fire

Fire & Rescue's standard structure fire response is 3 Engines (the third due to also bring their Medic unit), 1 Truck and the Battalion Chief. Under normal staffing (Fig 15) this response provides a minimum of 14 personnel to complete the assigned tasks.

Position	Personnel Assigned	Normal Response
Incident Command	1	Battalion Chief
Water Supply	1	First Due Eng Co
Attack Line in Service	2	First Due Eng Co
Backup Attack Line	2	Second Due Eng Co
Support for Attack Line/Hydrant	1	Second Due Eng Co
Search and Rescue	2	Truck Co
Ground ladder/Vent Team	2	Truck Co
IRIC Established	2	Third Due Eng Co
Safety Officer	1	Staff Chief Officer

(Fig 15)

Response Time

Responding to calls for service is the most vital part of the delivery of emergency services to a community. Making sure equipment, personnel and the necessary resources arrive on the scene in the safest, quickest manner should be a department's top priority. There is an expectation from the community on how quickly these services should be delivered. When someone calls 9-1-1 they expect an almost instantaneous response from the nearest available unit.

Several factors are applied in analyzing if the response time for a department is adequate. All response times are based on a travel speed of 27 miles per hour, which is the average response speed based on a comparison of estimated response times, compared to actual response times. These figures were taken from actual emergency responses, and the results have been borne this 27 mph figure out.

Time has the greatest controllable impact on the outcome of a fire or medical emergency event and is the most critical component of judging success or failure. Today we have the ability to collect and record time segments to better evaluate performance.

Indirectly Manageable Time (Detection and Reporting)

- For an emergency, there are two time elements which cannot be managed by a fire department, because they depend upon elements outside of their direct control; they are the Detection of the Emergency and Reporting of the Emergency.

Medical Emergency Detection

Detection and reporting medical emergencies can be improved by educating the public and by providing and maintaining a modern (E9-1-1) means of communication between the public and the Town's emergency services. For Hilton Head Island, educating the public on medical topics includes teaching the early warning signs of a heart attack and other true emergencies.

Most people believe that they are never going to be seriously sick and are generally surprised when informed they are. Not only do people think they won't become sick, they usually go through a denial stage if they begin exhibiting warning signs that something is wrong. Public education presented through a unified front of medical help organizations is perhaps the best method to assure prompt recognition of medical problems by the public. Fire & Rescue encourages the elderly community to have medical alarms as well.

Fire Detection

While fire is easy to diagnose once it presents itself, it never gives the fire fighters advance notice of its next appearance. This makes early detection very important. Strong fire codes strictly and fairly applied over a long period will reduce many of the causes of fire, just as good eating and exercise habits, practiced on a daily basis, could help reduce a person's medical problems. Early detection of a fire, through the use of smoke detectors and monitored sprinkler systems, will reduce this detection time; however, to require these types of systems in existing buildings is very controversial, and may be costly to the property owner. Consequently, the element that has the most immediate benefit to most communities is an effective and targeted awareness and education program. From a fire viewpoint, Fire & Rescue will encourage the public to install built in warning devices, and continue to educate the public to promptly report a small fire before it becomes a big fire.

By maintaining a strong public education program, Fire & Rescue will continue to:

- Reduce the number of fires in the community by creating fire safe behavior, and by helping people recognize and correct potential fire causes.
- Reduce fire detection time through public awareness of the problem, and recognition that built in fire protection is the most cost effective method of fire suppression.
- The same type of approach is recommended for detecting medical problems.

Report of Alarm

The reporting side of this indirectly manageable time is based on educating the public to use E9-1-1, and making sure that those E9-1-1 calls accurately list the address of the call origin. The Town of Hilton Head Island utilizes a three digit enhanced (E9-1-1) telephone number to facilitate the report of an emergency incident or situation requiring response by a public safety agency. Continuing improvements on the E9-1-1 system combined with a solid public education program will result in prompt notification of a medical or fire emergency.

The unique setting and number of visitors to the Island create an environment perfect for the implementation of enhanced 9-1-1. This system which includes ANI: Automatic Number Identification and ALI: Automatic Location Identification provides pertinent information immediately, resulting in the reduction of dispatch time.

Currently Fire & Rescue is working with local phone companies to rectify ANI/ALI issues regarding cell phones (Fig 16). Being able to find the exact location of the caller and dispatching units to their location in the quickest manner is a top priority of the communications division.

Error Type	Occurrences
911 Area Code	130
911 Prefix	31
Lower Case Address	118
Phase 2 Error	19
Invalid ANI	1
Landline	26
No ANI or ALI	34
Primary PSAP misroute	7
Total YTD	366

(Fig 16)

Definitions for ALI Errors:

911 Area Code: Instead of a valid state area code, 911 displays in the field. The error prevents dispatch from calling the number back, i.e. (911) 555-1411. This type of error is most frequently seen from cell phone calls.

911 Prefix: There appears to be a valid state area code followed by 911 in the prefix field. The error prevents dispatch from calling the number back, i.e. (843) 911-1411. This type of error is sometimes associated with PBX phones.

Lower Case Address: While the NENA standard format requires capital letters, the location was provided in lower case. This type of error is in the delivery of cell phone tower information. It is crucial because the lower case information does not transfer through all systems.

Phase 2 error: The carrier indicates the cell phone is phase 2 capable, but does not provide the latitude and longitude of the caller within the 50-300 meters required.

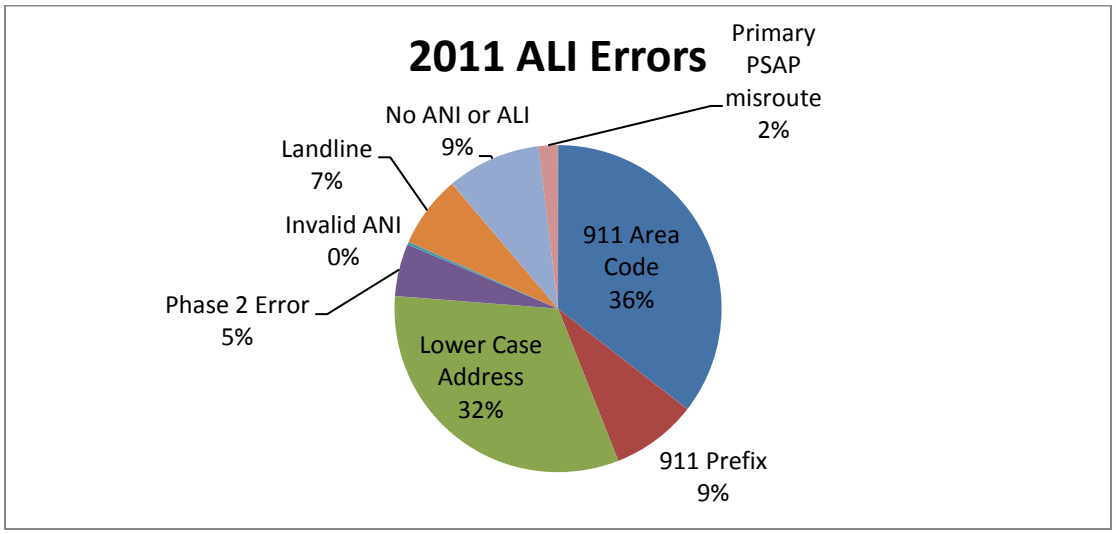
Invalid ANI: The number displayed is not in the correct format. It often appears the number has been shifted one or more places, i.e. (184) 355-5141 when the number should display (843) 555-1411.

Landline: The address displayed on the 911 screen does not match the stated address. This error can occur with new service or when a customer moves and retains their phone number.

No ANI or ALI: No information is displayed on the screen. This type of error is sometimes associated with a telephone company central office error.

Primary PSAP misroute: The call was not directed to the closest Primary Public Safety Answering Point. This type of error occurs with both landline and cell phone calls for numerous reasons.

The following chart (Fig 17) lists the ANI/ALI errors for 2011. Fire & Rescue's Communications Division works diligently to report and correct all ANI/ALI mistakes.



(Fig 17)

Directly Manageable Time Elements

The three manageable elements of Fire Growth, Time, and Patient Survivability, are areas which are directly controllable by the Town. These elements are:

- The amount of time required to dispatch the emergency forces. (Call Processing Time)
- The amount of time it takes emergency forces to become aware of the need for service, and begin to respond in their vehicles. (Turnout Time)
- The time it takes the emergency forces to respond to the scene of the emergency. (Response Time)
- The time necessary to setup the tools and equipment to work with. (Set Up Time)

Call Processing Time
The activities associated with the time it takes to dispatch units are, the receipt of the call, identification of the nature of the call, clarification of the problem, location of the call, identification of the resources required to respond to the call for help, and finally, the notification of the appropriate resources to respond. A lot of time, money and resources have been spent in reducing the call processing time.

Turnout Time
This time segment is the time that emergency forces take to become ready to respond to the need for service, and includes items like putting on clothing or protective equipment, and readying the vehicle to depart.

Response Time
While each factor is equally important, a minute saved in one area is as valuable as one saved in another. The one factor that has the greatest potential for change is response time.

Response time levels are in direct relation to the number and the geographic location of fire stations, the types of medical and fire apparatus responding, and the road network, which provides the access routes. The proper balance for a community lies somewhere between having a fire station on every corner and having only one centrally located fire station. The size of the community in square miles, street accesses, natural and man-made barriers and traffic congestion, are among the most important factors which have to be considered when locating facilities. As noted previously the recommended response time for EMS calls and Fire calls is five minutes.

Set up Time
Once a fire or medical unit has arrived at the scene of a fire or medical incident the time it takes to prepare to take action is considered set-up time. Actions such as laying hose lines, determining the appropriate course of action, selecting and positioning the appropriate equipment and apparatus, all take valuable time. Minutes and seconds can be reduced with the purchase of specialized tools, as well as standardizing equipment, and having properly trained personnel. On EMS calls this includes locating the patient, arriving at their side, and gathering initial information.

Establishing a Target
Figures developed for each of the time periods during a response, indicate that only 3 to 6 minutes of manageable time exist for dispatch procedures, emergency response and then set-up at the EMS cardiac arrest or fire scene. Through experience, a response time limit of between 3 and 5 minutes should be found to be acceptable. The Time

Temperature Curve chart (Fig 13, page 9) supports establishing a target response time somewhere in the three to five minute range.

Based upon significant medical data and multiple field surveys, the American Heart Association has recommended a four minute response time for cardiac emergency medical services. Longer response times can lead to greater damage to the brain from oxygen deficiency, and markedly reduced chances of long term survival.

Times shorter than the 3 to 5 minutes mentioned previously are unrealistic, as they do not allow for the set-up time factor. Longer times can result in almost no chance for the cardiac arrest patient to survive, and also allow the fire the possibility to reach flashover intensity before the arrival of Fire & Rescue. Therefore, what is reasonable to cover the risk potential?

Because Hilton Head Island has areas of dense commercial development, and large multi-family complexes scattered throughout the geographical area, Hilton Head Island has the potential for both a large loss of life and a large property loss due to fire. While EMS risk is spread all over the Island, it too has several areas, which experience more calls than other areas, but generally only involve one or two patients per incident.

Other factors such as station location, access roads and traffic also influence the target response time. It would not make sense to establish a target response time the public couldn't bear to pay for. On the other end of the spectrum it would not make sense to establish a target response time that wouldn't allow the firefighters to intervene with enough time to save lives and protect property.

In establishing a target for response times it must be remembered that the target time becomes a goal to attain. Areas that do not fall within the established target response times are receiving service in as rapid a manner as possible.

Given the type of building construction found in the Town of Hilton Head Island, it would appear reasonable to adopt the bottom limit of 5 minutes as the "target response time" for a reasonable level of service to one and two family residential areas. The portions of Hilton Head Island having the heaviest concentration of commercial and multi-family structures require greater levels of medical and fire services, therefore planning for station locations is very important.

Establishing a 5 minute "target response time" combined with proper station location, allows Fire & Rescue to reach nearly all of the Island's dense commercial and multi-

family developments and most of the light commercial and single family developments, in time to make a difference.

Call Reliability and Data

Data paints a picture of where we have been, where we are currently, and where we are going. When analyzing data there are a few questions that must be addressed to determine whether the department is meeting the goals they are setting. Data is useless unless it is completely understood. Looking at this data the following questions are relevant:

1. Does the agency meet its goal of doing something within X minutes, Y percent of the time? If not, why?
2. Does the system have sufficient depth to provide coverage for the call for service?
3. Does the agency frequently see multiple calls for service that degrade their performance?
4. Are there predictable times of the day, week or year that most of the department's calls for service occur?
5. What is the department doing to reduce this probability?
6. How much of the Department's capacity is left in the system or particular unit?

The Town of Hilton Head Island Fire and Rescue has made tremendous strides since its inception in 1993. Response times are decreasing; calls are being processed more quickly, and Fire & Rescue is able to handle larger and more complex emergency situations.

In analyzing the data in the 2004 Strategic Plan, it appears that 8 years later most of that data is remaining consistent. As mentioned earlier, call volume increases on Friday, Saturday and Sunday. A piece of interesting data came when comparing call amounts to previous years. In the 2004 Strategic Plan it was projected that calls both for EMS and Fire would increase two percent in the year 2010. In 2010 Fire & Rescue was seven hundred calls short of meeting that two percent mark.

The next two pages of information focus on call reliability. The first set of information includes all the calls in a five-year period. Outlined is the number of calls in a certain time frame as well as the percent total. Highlighted in green, yellow and red tells whether or not the department is meeting goals set forth in previous documents.

Fire & Rescue's goal in 2004 was to have the first fire truck or ambulance established within five minutes 90% of the time. Fire & Rescue is currently meeting that goal 84% of

the time (Fig 18). Finally, the second set of information helps to see how long the last arriving fire truck took to establish at the scene.

First Arriving Unit

Response (Travel) Time	Calls	Percent Arriving Within Target	Cumulative Percent Arriving Within Target
4 minutes or less	18120	70.71%	70.71%
5 minutes or less	3622	14.14%	84.85%
6 minutes or less	2028	7.91%	92.76%
7 minutes or less	934	3.65%	96.41%
8 minutes or less	444	1.73%	98.14%
8 minutes or longer	476	1.86%	100.00%

Meets Standard = Below Standard = Does Not Meet Standard =

(Fig 18)

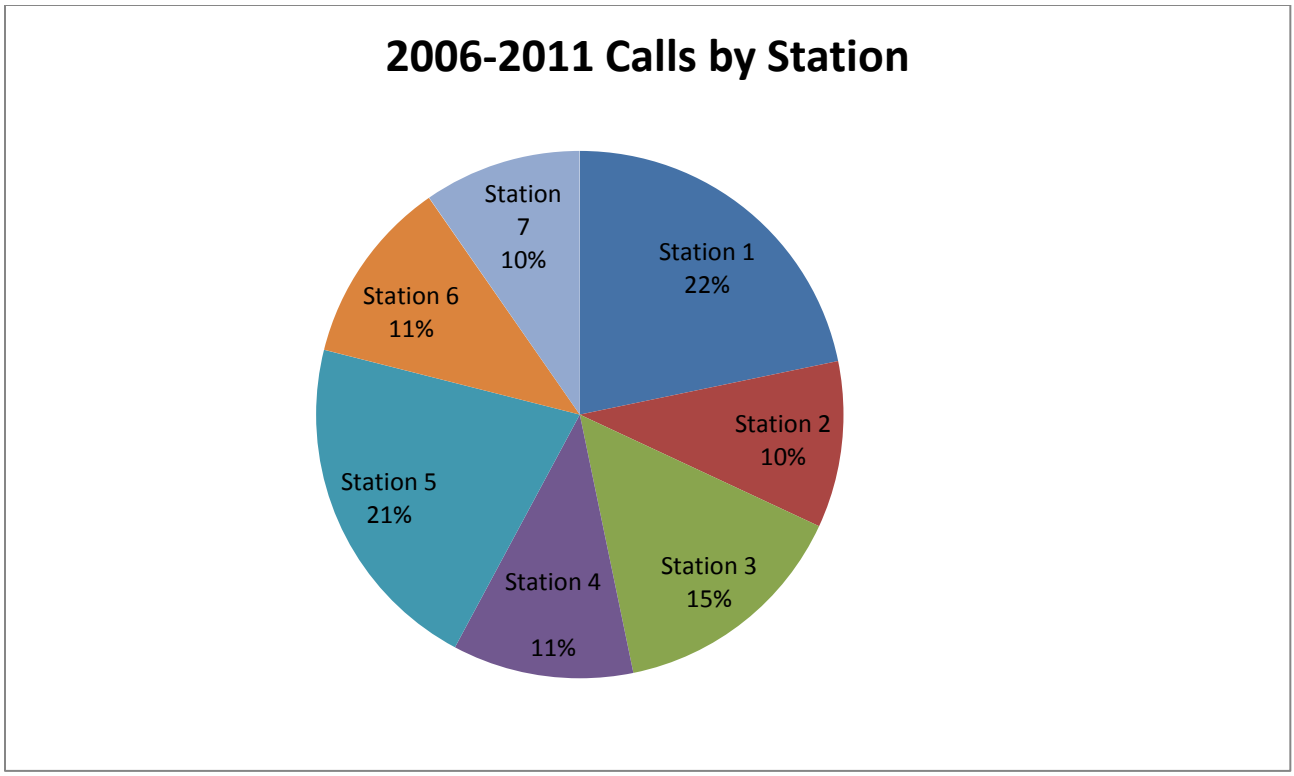
In the 2004 Strategic Plan the recommendation was to have the last arriving fire truck established in 9 minutes 90% of the time. Fire & Rescue is currently meeting this goal 68% of the time (Fig 19).

Complete Assignment Arrival

Response (Travel) Time	Number of Calls	Percent of total
Arrival 9 min or less	137	68.16%
Greater than 9 min	64	31.84%
Total	201	100.00%

Meets Standard = Does Not Meet Standard =

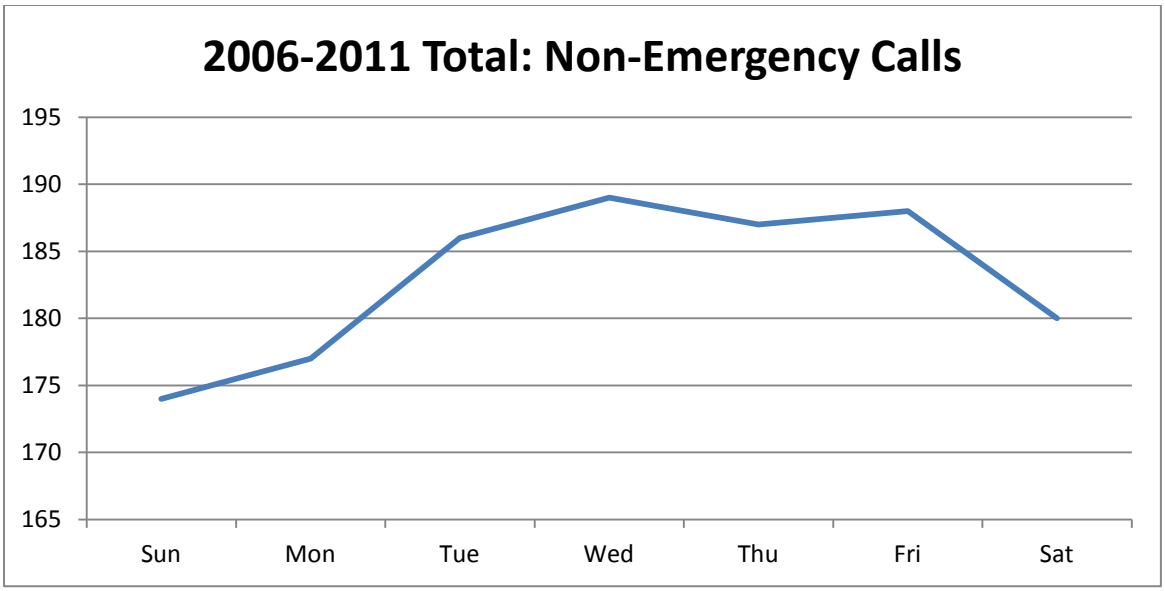
(Fig 19)



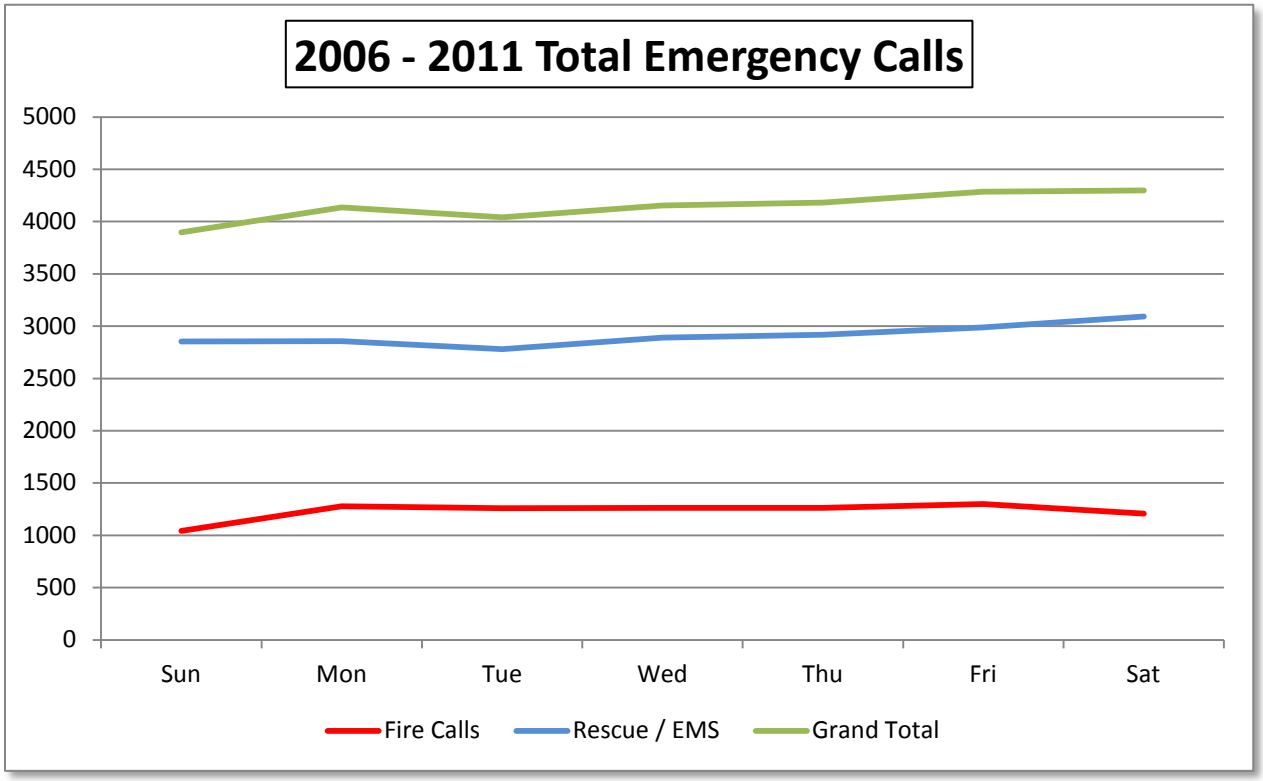
(Fig 20)

The above chart (Fig 20) shows the call percentage by stations on the island. This data shows that stations one and five make up roughly 43% of the calls for service on the island. This is partly due to station ones location near the beach and the high density of seasonal visitors and rental property units located in the district. Station five has a majority of the assisted living facilities on the island in its jurisdiction, in turn yielding more EMS calls for service than some of the other stations.

The following charts show the current 5-Year Call volume by day of week for emergency calls (Fig 21), and non emergency calls (Fig 22) for service on Hilton Head Island. These charts encompass both EMS and fire calls. Both of these graphs are very comparable to the graphs and data that were analyzed in 2004 for a ten year period.

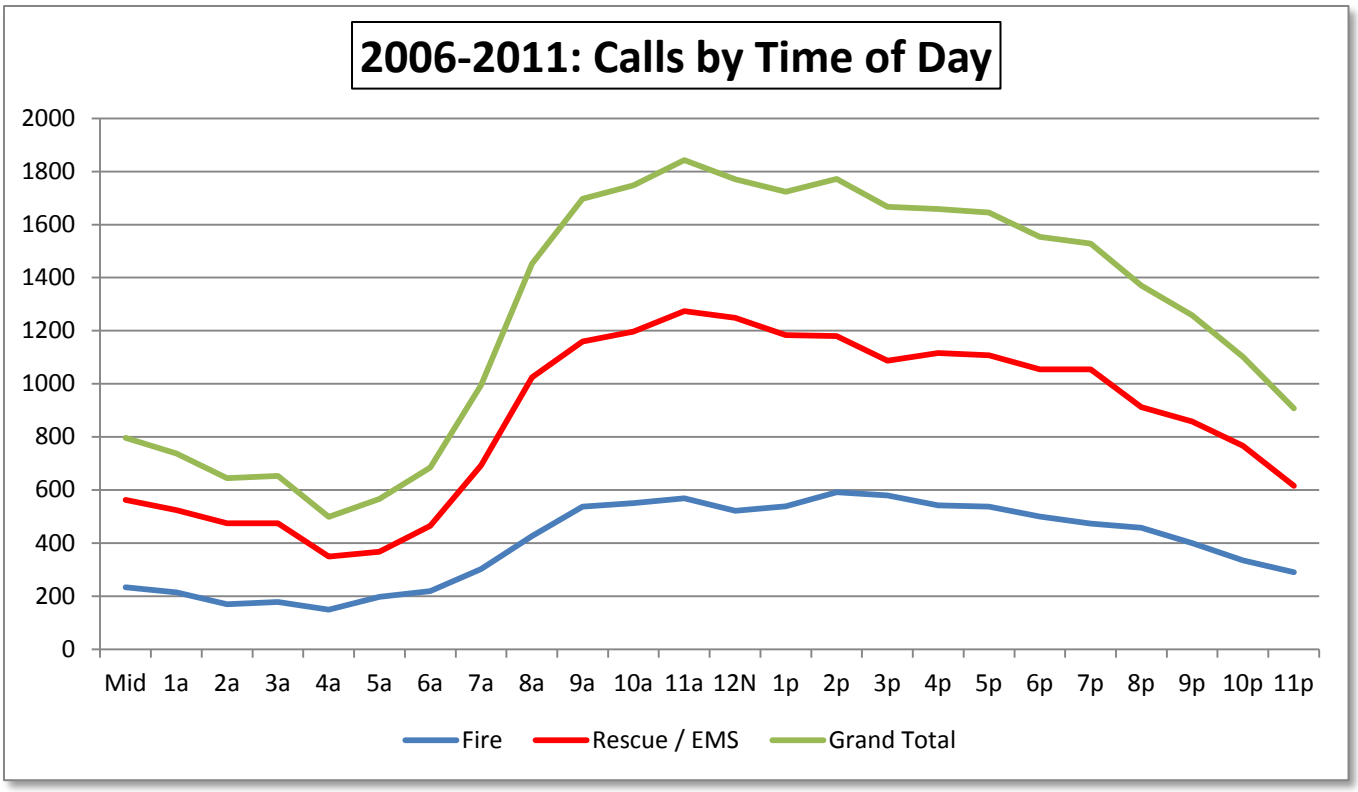


(Fig 21)



(Fig 22)

The graphic on the following page (Fig 23) clearly shows the distribution of calls for service by the time of day for the last five years.



(Fig 23)

With a clearly defined set of standards to measure success, or the need for improvement; Fire & Rescue can compile the data into a valid decision making tool for the department, Town Council and the citizens of the community. Planning efforts must consider response times; providing equal services to all areas within the Town's corporate boundaries, whether developed or undeveloped; and the future development of neighborhoods based on current zoning.

Making sure resources are properly distributed is a large undertaking for any fire department whether personnel, equipment or both. Station reliability is a vital part of making any fire service agency work. The follow chart, *First Due by Station* (Fig 24) defines each station and the nine different call types and how often that station was first to respond in their respective primary response area.

Time is the greatest controllable factor impacting the outcome of a fire or medical emergency and therefore is the most critical component in judging success or failure of the system. The number and location of fire stations has the greatest impact on response times, therefore, having the correct number of fire stations strategically located throughout the Town is the most fundamental factor required to accomplish the mission of the Department.

First Due by Stations

Apparatus	Fires	Rescue and EMS	Hazardous Conditions	Service Call	Good Intent	False and Alarms	Weather	Special Incident	Total % of Time
Station 1	95.24%	91.74%	77.78%	91.25%	93.33%	82.64%	0.00%	100.00%	90.26%
Other	4.76%	8.26%	22.22%	8.75%	6.67%	17.36%	100.00%	0.00%	9.74%
Apparatus	Fires	Rescue and EMS	Hazardous Conditions	Service Call	Good Intent	False and Alarms	Weather	Special Incident	Total % of Time
Station 2	90.00%	94.23%	100.00%	97.78%	100.00%	89.01%	N/A	N/A	94.12
Other	10.00%	5.77%	0.00%	2.22%	0.00%	10.99%	N/A	N/A	5.88%
Apparatus	Fires	Rescue and EMS	Hazardous Conditions	Service Call	Good Intent	False and Alarms	Weather	Special Incident	Total % of Time
Station 3	36.84%	76.46%	78.95%	77.42%	76.19%	75.00%	N/A	100.00%	75.31%
Other	63.16%	23.54%	21.05%	22.58%	23.81%	25.00%	N/A	0.00%	24.69%
Apparatus	Fires	Rescue and EMS	Hazardous Conditions	Service Call	Good Intent	False and Alarms	Weather	Special Incident	Total % of Time
Station 4	93.33%	84.15%	66.67%	95.92%	70.00%	83.02%	0.00%	N/A	84.66%
Other	6.67%	15.85%	33.33%	4.08%	30.00%	16.98%	100.00%	N/A	15.33%
Apparatus	Fires	Rescue and EMS	Hazardous Conditions	Service Call	Good Intent	False and Alarms	Weather	Special Incident	Total % of Time
Station 5	80.00%	83.84%	100.00%	86.67%	84.62%	85.44%	0.00%	N/A	84.11%
Other	20.00%	16.16%	0.00%	13.33%	13.38%	14.66%	100.00%	N/A	15.89%
Apparatus	Fires	Rescue and EMS	Hazardous Conditions	Service Call	Good Intent	False and Alarms	Weather	Special Incident	Total % of Time
Station 6	76.92%	93.16%	100.00%	92.31%	84.62%	92.65%	66.67%	N/A	92.46%
Other	13.08%	6.84%	0.00%	7.69%	5.38%	7.35%	33.33%	N/A	7.54%
Apparatus	Fires	Rescue and EMS	Hazardous Conditions	Service Call	Good Intent	False and Alarms	Weather	Special Incident	Total % of Time
Station 7	75.00%	79.33%	77.78%	77.78%	61.54%	57.14%	100.00%	N/A	76.18%
Other	25.00%	20.67%	22.22%	22.22%	38.46%	42.86%	0.00%	N/A	23.82%

(Fig 24)

The Community expects a certain level of service from all public agencies. The fire department is no different. But judging and rating the department's service from every resident and visitor to the island would be a very cost prohibitive task. Therefore the

department has performance criteria standards for driving times for emergency fire and medical calls. They are established as follows:

Response Standards

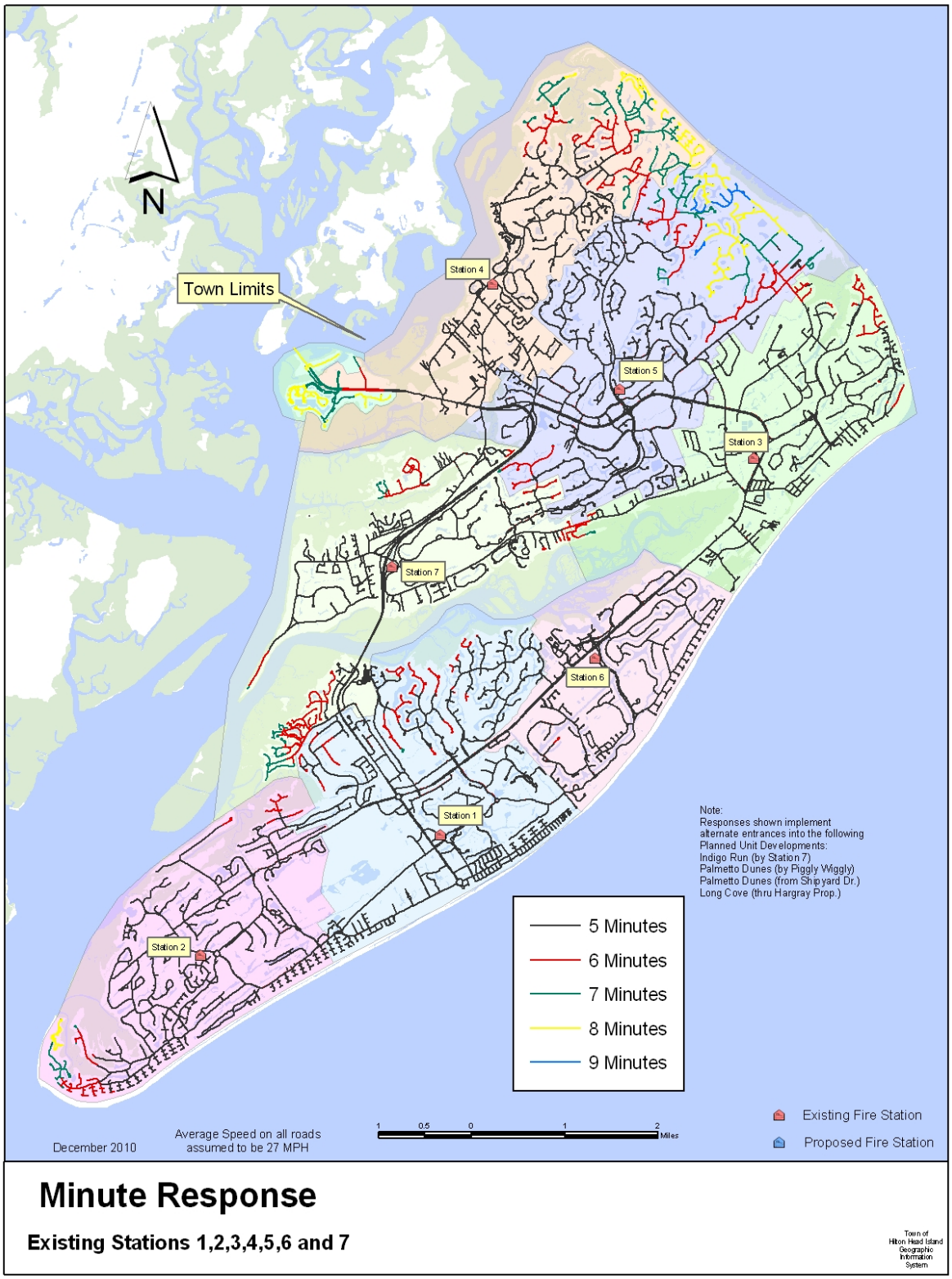
Fire Responses

1. For Fires the first arriving unit should arrive within 5 minutes 90% of the time.
2. The last arriving fire truck should arrive in 9 minutes 90% of the time.

Emergency Medic Responses

1. The first arriving unit should arrive in 5 minutes 90% of the time.

The following map, *Minute Response* (Fig 25), depicts the travel times and areas covered by resources deployed in the Department's Stations.


N
Town Limits
Station 4
Station 5
Station 3
Station 7
Station 6
Station 1
Station 2
Note:
Responses shown implement
alternate entrances into the following
Planned Unit Developments:
Indigo Run (by Station 7)
Palmetto Dunes (by Piggly Wiggly)
Palmetto Dunes (from Shipyard Dr.)
Long Cove (thru Hargray Prop.)
5 Minutes
6 Minutes
7 Minutes
8 Minutes
9 Minutes
Existing Fire Station
Proposed Fire Station
December 2010
Average Speed on all roads
assumed to be 27 MPH
1 0.5 0 1 2
Miles
Minute Response
Existing Stations 1,2,3,4,5,6 and 7
Town of
Hilton Head Island
Geographic
Information
System

(Fig 25)

2013 Strategic Plan Recommendations

Recommendation	Target Date
Section 1 - Administration	
It is recommended that a revision, by Town Council ordinance, of Chapter 11, Title 2 of the Municipal Code of the Town of Hilton Head Island occur to formally establish the name of Fire & Rescue as "Hilton Head Island Fire & Rescue". ADM-01	2013
It is recommended that Fire & Rescue adopt a new Mission Statement as well as create a Vision Statement, Core Values Statement, and a Motto. ADM-02	2013
It is recommended that Fire & Rescue seek a revision, by Town Council ordinance, of Chapter 11, Title 2 of the Municipal Code of the Town of Hilton Head Island which will cause the enabling legislation governing Fire & Rescue to more accurately reflect the current structure, responsibilities and operational procedures of the organization. ADM-03	2013
Fire & Rescue (F&R) should implement the following changes which resulted from the internal Charleston Review Committee review including only specified recommendations in the 2013 Fire & Rescue Master Plan. ADM-05	On-Going

Section 2 - Bureau of Fire Prevention	
It is recommended that the Town of Hilton Head Island should work with the Public Service Districts to utilize the hydrant color schemes recommended by NFPA 24 *Installation of Private Fire Service Mains and their Appurtenances* and NFPA 291 *Recommended Practice for Fire Flow Testing and Marking of Fire Hydrants* . BFP-01	2014
The Town should establish regulations requiring all new speed control devices (commonly referred to as speed bumps or humps), and any existing devices when replaced or repaired, to be constructed in accordance with SC DOT guidelines as Flat Top Speed Humps (commonly referred to Speed Tables) while discouraging use on public roadways. BFP-02	2014
It is recommended that Fire & Rescue support the adoption of an ordinance to allow a property tax rebate enacted by the 2008 Fire Sprinkler Incentive Act 357 which amended Article 25, Chapter 6, Title 12 of the 1976 code of Laws. BFP-04	2014
The Town of Hilton Head Island Fire & Rescue should partner with someone like the Sand Box to develop an interactive fire and life safety children's exhibit for the benefit of residents and visitors of Hilton Head Island. BFP-05	2015
It is recommended that Fire & Rescue bring forth a nuisance alarm ordinance to the Town Council for adoption into the Municipal Code. BFP-06	2014
The Town of Hilton Head Island should adopt an ordinance to prohibit residential open burning in order to reduce the risk of wildland fires and provide a healthier environment to our citizens. BFP-07	2013
Fire and Rescue should continue to cultivate a heart safe community by increasing public education and enhancement of technology to further strengthen the chain-of-survival. BFP-09	On-Going
A procedure should be developed by the Town to address tree limbs overhanging the roadways on Hilton Head Island so the limbs do not become an obstruction to emergency response vehicles. BFP-10	2014
The Town of Hilton Head Island should enact an ordinance prohibiting the retail sale and the discharge of fireworks within town limits except when permitted for public display by a licensed pyrotechnician. BFP-12	2013

Increase the number of fire inspectors within the Bureau of Fire Prevention from 3 to 4 in order to provide more thorough and timely inspections of commercial occupancies. BFP-13	2015

Section 3 - Communications	
Fire and Rescue should work closely with the Beaufort County Emergency Management Division (BCEMD) to pursue implementation of a new 911 database that will allow for proper addressing of Private Branch Exchange (PBX) phone systems to make location data transfers to the 911 database. COM-01	2013
The Town of Hilton Head Island should encourage Beaufort County and private vendors to improve the delivery of 911 cell phone calls that are not FCC Phase II compliant and to make the best possible use of Voice over Internet Protocol (VOIP) while preparing to receive Next Generation (NG911) calls and data. COM-03	On-Going

Section 4 - Emergency Management	
It is recommended that Fire & Rescue seek improvements to the portions of the *Municipal Code of the Town of Hilton Head Island* which deal with Continuity of Government (COG) and administrative procedures during emergencies. EM-01	2014
It is recommended that Fire & Rescue work toward compliance with the Emergency Management Accreditation Program (EMAP) and to review possibility of formal accreditation at the next Strategic Plan update. EM-02	>2017
It is recommended that Fire and Rescue seek formal establishment of the Emergency Management Division by Town Council ordinance, and encourage, through the Town Council Intergovernmental Relations Committee and our local legislators, a change at the state level which recognizes voluntarily created local emergency management organizations. EM-03	>2017
It is recommended that Fire & Rescue cease consideration of developing a siren-based Community Warning System, and instead explore other options and continually evaluate emerging technology with an eye towards identifying a means of transmitting emergency warnings which is more appropriate to our community. EM-04	2013
It is recommended that Fire and Rescue continually evaluate emerging technology with an eye towards identifying a means of transmitting emergency warnings which is more appropriate to our community. EM-05	2015
It is recommended that Fire and Rescue pursue the acquisition or development of an off-island facility of suitable size, construction and elevation for use during hurricanes as a public safety evacuation site/base camp for Fire & Rescue personnel and key Town staff. EM-06	>2017
It is recommended that Fire and Rescue pursue structural improvement (storm hardening) of the Headquarters/Maintenance Shop facility to make the building more resistant to wind damage and flooding. EM-07	2014
It is recommended that Fire and Rescue and the Town's Information Technology Division actively pursue options to sustain critical IT systems during emergency operations, evacuations, or other unforeseen events. EM-08	2013

Section 5 - Fleet Maintenance	
Update the Town of Hilton Head Island's existing optically operated emergency vehicle pre-emption system (EVP) with an advanced Global Positioning System (GPS) pre-emption system. MAINT-01	2015
Fire & Rescue in conjunction with the Town's Administrative Services Division should replace the current fleet maintenance program (i-Maint®) with a system having the capability to evaluate and enhance tracking repairs and inventory. MAINT-02	2013

Section 6 - Operations Division	
Fire & Rescue should evaluate and update as necessary its Standard of Cover each calendar year to insure compliance with the Commission on Fire Accreditation International (CFAI) *Standard of Response Cover* requirements. OPS-01	On-Going
Fire & Rescue should implement a new customer satisfaction survey program utilizing all available Town technology to evaluate customer service perceptions of the public we serve. OPS-02	2013
Fire & Rescue should implement a designated certified Incident Safety Officer (ISO) Program to provide on-scene safety oversight at emergency incidents. OPS-05	2014
The Town of Hilton Head Island Fire & Rescue should maintain a minimum of forty-nine (49) and a maximum of fifty-two (52) nationally certified paramedics assigned to line positions in order to provide a minimum one (1) ALS provider on each engine and one (1) on each medic. OPS-06	2015
Fire & Rescue should work with the Town to develop and implement a Town-wide Health and Wellness Committee for the purpose of improving the health and wellness of Fire & Rescue employees. OPS-07	2013
Fire & Rescue should develop a standardized reporting system for compiling and reporting on adopted response time objectives. PLNG-12	2013
Fire & Rescue should evaluate and implement a variety of specific policies and procedures to enhance the organizations ability to respond to, provide rescue, initiate control measures, and investigate emergencies in the waterways located with the Town's limits. OPS-11	2013
Procedures should be developed by the Town to address the condition and repair of dirt roads on Hilton Head Island so that emergency response is not compromised due to dangerously impassible roads. OPS-12	2014

Section 7 - Planning Division	
The Town of Hilton Head Island Fire and Rescue (Fire & Rescue) should proceed with installing Automated External Defibrillators (AEDs) in all Fire and Rescue staff vehicles for use in cardiac emergencies. PLNG-01	2013
It is recommended that Fire & Rescue work toward compliance with the Commission on Accreditation of Ambulance Services (CAAS) and to review possibility of formal accreditation at the next Master Plan update. PLNG-02	>2017
Hilton Head Island Fire and Rescue should continue to maintain its accreditation status through the Commission on Fire Accreditation International (CFAI). PLNG-03	On-Going
Fire & Rescue should continue the current emergency access gate installation program with the inclusion of additional gates and the removal of some gates based upon a "cost versus gain" evaluation. PLNG-04	2017
It is recommended that Fire & Rescue provide both an annual and semi-annual report to the Town Public Safety Committee on Fire & Rescue operations, activities, and Master Plan implementation. PLNG-06	On-Going
Fire & Rescue should continue to increase administrative efficiency by improving data systems, providing additional training, enforcing existing policy and implementing programs that are innovative, cost effective and provide measurable improvements. PLNG-10	On-Going
It is recommended that the Town of Hilton Head Island continue to improve signage, location indicators, and street names to facilitate reduction in response times. PLNG-11	On-Going

Section 8 - Public Safety Systems

Fire & Rescue should continue to invest in and upgrade the current Intergraph Computer Aided Dispatch (CAD) system so that it will never be more than 1 full version old. SSRV-05	On-Going
Fire & Rescue should enhance its ability to provide E-911 services and to maintain accompanying data flow in the event the existing facility is lost. SSRV-06	2014
Fire & Rescue should continue to improve its records management systems (RMS) to increase functionality and improve efficiency and reporting capabilities. SSRV-07	2014
Fire & Rescue should implement a scheduled replacement plan for its Public Safety Systems' hardware infrastructure to increase reliability and functionality and reduce costs over time. SSRV-08	2013
Fire & Rescue should continue to expand and improve its network infrastructure to increase reliability and functionality. SSRV-10	2014

Section 9 - Support Services Division	
Fire & Rescue should develop a specific Environmental Protection Plan to minimize the impact of Fire Rescue operations on the local environment. SSRV-01	2015
Fire & Rescue should continue to improve and enhance security at all Fire & Rescue facilities through relevant technology and policy improvements to include increase use of card access and video surveillance of key facilities. SSRV-02	2015
Fire & Rescue should maintain its current Insurance Services Office (ISO) Public Protection Class rating of 3. SSRV-03	On-Going
Fire & Rescue should continue to evaluate current and available technologies that refine and improve scheduling and alerting processes and replace those that become un-supported or ineffective and implement new technology when practical. SSRV-09	2013
Fire & Rescue should implement a scheduled replacement plan for the firefighting and medical equipment that has a defined or anticipated life cycle. SSRV-11	2013
Fire & Rescue should continue with a scheduled replacement plan for Fire & Rescue vehicles and further reduce and reconfigure the overall fleet for maximum efficiency. SSRV-12	On-Going
Fire & Rescue in conjunction with the Town of Hilton Head Island should establish a government access channel (GAC) with all cable providers within the Town of Hilton Head Island. SSRV-13	2016
Provide at least one boat capable of providing EMS care, hazardous materials spill control, rescue, and firefighting capability in order to protect the 21 square mile marine environment within the corporate limits of the Town of Hilton Head Island. SSRV-14	2016

Section 10 - Training Division	
Enhance the functionality of the Fire & Rescue Training Center by upgrading the existing structure and adding additional features. TRNG-02	2014
Fire & Rescue should improve computer-based training capabilities in all Fire & Rescue facilities to include DVD based training Programs, internet based training p, and video conferencing capabilities.TRNG-03	2014
Fire & Rescue should fund and staff a Safety Training Officer position to concentrate on safety related training and function as the Fire & Rescue Safety Officer. TRNG-07	2014

Emergency Access Gate

Site Selection and Construction

November 2012 – Status

Gate Location	Improvement Noted	Expected Cost	Const. In FY	Status
Marshland Road to Pond Drive (Indigo Run near St. 7 on Marshland Road)	St. 7 7.21 min less travel time to back of Indigo Run. Secondary access point	*$60k est	FY2004	Completed
William Hilton Parkway to Yard Arm (WHP to PD)	St. 6 to Yard Arm area 3.54 less travel time. St. 3 to Yard Arm area 7.78 less travel time. Secondary access point.	$72K	FY 2005	Completed
William Hilton Parkway to Fife Lane (WHP into Long Cove)	St. 6 5.52 min less travel time to back of Long Cove club. St. 1 .25 min less travel time to back of Long Cove Club. Secondary access point.	$73K	FY2006	Completed
North Forest Beach Drive to Breakers (NFB at Beach Market area)	St. 1 and 2 .33 min less travel time to Breakers. Secondary access point.	$62K	FY2010	Completed
Union Cemetery Road into Ordnance Place (Port Royal Plantation)	St. 5 1.75 min less travel time to Port Royal. St. 3 .88 min less travel time into Port Royal. Secondary access point.	$27K	FY2012	Completed
Beach City Road into Palmetto Hall (169 Beach City Road)	St. 3 2.16 min less travel time to back of Palmetto Hall. St. 5 1.45 min less travel time to back of Palmetto Hall. Secondary access point.	$36K	FY2012	Completed
Haig Point Embarkation to Fairfax Lane (Wexford)	St. 1 to back of Wexford .56 min less travel time. St. 7 to back of Wexford 5.57 min. less travel time. Secondary access point.	$60K	FY2012	Under Construction
LaMotte Drive to Crooked Pond Drive (HHP)	2.32 min. less travel time to the ER from HHP, and vice versa.	$40K	FY2011	Proposed
Muddy Creek Road to Wide Water Road (Spanish Wells)	St. 7 to Spanish Wells/Widewater 2.13 min. less travel time.. Secondary access point.	$100K	FY2012	Proposed

William Hilton Parkway to Swing About (Palmetto Dunes)	St. 6 to Swing About area 4.05 min. less travel time.. Secondary access point.	$100K	FY2013	Proposed
Barcelona Road (Port O Call) to North Forest Beach	St. 1 to end of NFB 1 min. less travel time. St. 6 to end of NFB 5.4 min. less travel time. 4.6 min. reduction for back-up response. Back entrance into Shipyard.	$50K	New Not Scheduled	Proposed
Bird Song Way to Cypress Marsh Drive (Bear Creek Golf Maint.)	St. 4 to Crooked Pond area 2.4 min. less travel time. St. 5 to Bird Song Way 3.7 min. less travel time. Cypress to the ER 4.3 or 6.1 min. less travel time.	$50K	Not Scheduled	Proposed
Point Comfort Road to Sea Pines	Very little response advantage. Unpopular with residents.	$70K	FY2012	Recommended Removal
Mitchellville Road to HHP	Minimal response advantage, high cost to improve access roadway.	$175K	FY2014	Recommended Removal
Shipyard to Lagoon Road	Little response advantage (.24 minutes to Coligny) & high cost to improve access roadway.	$175K	FY2015	Recommended Removal
Fish Hall Road to Palmetto Hall	Very little response advantage, high cost to improve access roadway.	$50K	FY2016	Recommended Removal
Arrow Road to Wexford	Very little response advantage, high cost to improve access roadway.	$50K	FY2016	Recommended Removal
Grass Lawn Avenue to Port Royal	Very little response advantage.	$60K	FY2013	Recommended Removal
Dillon Road to Oak Creek Drive in Port Royal	Minimal response advantage (.9 minutes only to the most northern areas of PR Plantation, high cost.	$70K	FY2016	Recommended Removal

* Marshland Road to Pond Drive gate costs are estimated. Costs were included with the construction of Station 7.