Fire and Emergency Medical Services Consolidation Feasibility Study

Camden County, Georgia
Kingsland, Georgia
St. Marys, Georgia

July 2013

FIRE/EMS OPERATIONS

CENTER FOR PUBLIC SAFETY MANAGEMENT

Submitted by and reply to:
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ICMA
Leaders at the Core of Better Communities

General Information

About ICMA

The International City/County Management Association (ICMA) is a 100-year-old nonprofit professional association of local government administrators and managers, with approximately 9,000 members located in 28 countries.

Since its inception in 1914, ICMA has been dedicated to assisting local governments in providing services to their citizens in an efficient and effective manner. Our work spans all of the activities of local government: parks, libraries, recreation, public works, economic development, code enforcement, brownfields, public safety, and a host of other critical areas.

ICMA advances the knowledge of local government best practices across a wide range of platforms, including publications, research, training, and technical assistance. Our work includes both domestic and international activities in partnership with local, state, and federal governments, as well as private foundations. For example, we are involved in a major library research project funded by the Bill & Melinda Gates Foundation and are providing community policing training in El Salvador, Mexico, and Panama with funding from the United States Agency for International Development. We have personnel in Afghanistan helping to build wastewater treatment plants and have teams working with the United States Southern Command (SOUTHCOM) in Central America on conducting assessments and developing training programs for disaster preparedness.

ICMA Center for Public Safety Management

The ICMA *Center for Public Safety Management* (ICMA/CPSM), one of four centers within ICMA's U.S. Programs Division, provides support to local governments in the areas of police, fire, emergency medical services (EMS), emergency management, and homeland security. In addition to providing technical assistance in these areas, we also represent local governments at the federal level and are involved in numerous projects with the U.S. Department of Justice and the U.S. Department of Homeland Security.

ICMA/CPSM is also involved in police and fire chief selection, assisting local governments in identifying these critical managers through original research, the identification of core competencies of police and fire managers, and assessment center resources.

Our local government technical assistance includes workload and deployment analysis, using operations research techniques and credentialed experts to identify workload and staffing needs and best practices. We have conducted approximately 140 such studies in 90 communities ranging in size from 8,000 population (Boone, Iowa) to 800,000 population (Indianapolis, Indiana).

Thomas Wieczorek is the Director of the Center for Public Safety Management. Leonard Matarese is the Director of Research & Project Development.

Methodology

The ICMA Center for Public Safety Management team follows a standardized approach to conducting analyses of fire, police, and other departments involved in providing services to the public. We have developed this approach by combining the experience sets of dozens of subject matter experts in the areas of police, fire, and EMS. Our collective team has several hundred years of experience leading and managing public safety agencies, and conducting research in these areas for cities in and beyond the United States.

The reports generated by the operations and data analysis team are based upon key performance indicators that have been identified in standards and safety regulations and by special interest groups such as the International Association of Fire Chiefs (IAFC), the International Association of Fire Fighters (IAFF), and the Association of Public-Safety Communication Officials International, and through ICMA's Center for Performance Measurement. These performance measures have been developed following decades of research and are applicable in all communities. For this reason, the data yield similar reporting formats, but each community's data are analyzed on an individual basis by the ICMA specialists and represent the unique information for that community.

The ICMA team begins most projects by extracting calls for service and raw data from a public safety agency's computer-aided dispatch system. The data are sorted and analyzed for comparison with nationally developed performance indicators. These performance indicators (e.g., response times, workload by time, multiple-unit dispatching) are valuable measures of agency performance regardless of departmental size. The findings are shown in tables and graphs organized in a logical format. Despite the size and complexity of the documents, a consistent approach to structuring the findings allows for simple, clean reporting. The categories for the performance indicators and the overall structure of the data and documents follow a standard format, but the data and recommendations are unique to the organization under scrutiny.

The team conducts an operational review in conjunction with the data analysis. The performance indicators serve as the basis for the operational review. The review process follows a standardized approach comparable to that of national accreditation agencies. Before the arrival of an on-site team, agencies are asked to provide the team with key operational documents (policies and procedures, asset lists, etc.). The team visits each city to interview fire agency management and supervisory personnel, rank-and-file officers, and local government staff.

The information collected during the site visits and through data analysis results in a set of observations and recommendations that highlight the strengths, weaknesses, and opportunities of—and threats to—the organizations and operations under review. To generate recommendations, the team reviews operational documents; interviews key stakeholders; observes physical facilities; and reviews relevant literature, statutes and regulations, industry standards, and other information and/or materials specifically included in a project's scope of work.

The standardized approach ensures that the ICMA Center for Public Safety Management measures and observes all of the critical components of an agency, which in turn provides substance to benchmark against localities with similar profiles. Although agencies may vary in size, priorities,

and challenges, there are basic commonalities that enable comparison. The approach also enables the team to identify best practices and innovative approaches.

In general, the standardized approach adopts the principles of the scientific method: We ask questions and request documentation upon project start-up; confirm accuracy of information received; deploy operations and data analysis teams to research each unique environment; perform data modeling; share preliminary findings with the jurisdiction; assess inconsistencies reported by client jurisdictions; follow up on areas of concern; and communicate our results in a formal written report.

ICMA/CPSM Project Contributors

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Executive Summary

The ICMA Center for Public Safety Management was retained by Camden County, Ga. to complete an operational study to determine the feasibility of consolidating fire services within the county. In addition to Camden County's fire services, the fire services of the cities of St. Marys and Kingsland were included in this study. The analysis is designed to provide the three jurisdictions with a thorough and unbiased review of current fire services and the feasibility of consolidating the three fire services either in part or in full. This report provides a benchmark of the three departments' existing response time service delivery performance as well as fire and emergency medical services (EMS) workload. Benchmark performance information can be found in the Data Analysis section of this report. During this study, ICMA analyzed performance data provided by the county and the two cities. ICMA also examined first-hand the fire operations of all three jurisdictions.

The ICMA team conducted site visits in March and April, 2013, for the purpose of observing fire department and agency-connected supportive operations, interviewing key fire department and county and city staff, and reviewing preliminary data and operations.

While reviewing information and discussing operations and administration of services with the three local governments, fire departments, and department members, ICMA sought first to understand existing operations, then to identify ways these departments can improve efficiency, effectiveness, and safety for both departmental members and the communities they serve. The primary focus of this project was to determine the feasibility of consolidation and to what extent fire services can be shared. ICMA found the three jurisdictions collectively seek to create a more efficient fire and EMS service within existing financial resources.

ICMA found it is feasible for a full consolidation of fire and emergency medical services in the southern portion of the county; this could create efficiencies for the county and both cities through a focused staffing and deployment of resources that includes comprehensive strategic planning and assessing of current and potential risks. Additionally, ICMA found that if the three jurisdictions choose not to fully consolidate these services, there are efficiencies in sharing services as well. These include training facilities, specialty apparatus (as automatic aid), fire prevention, and the full array of fire and EMS operational service delivery.

ICMA recommends the three jurisdictions strongly consider full consolidation as prescribed in this report. ICMA further recommends that the three jurisdictions consider shared services as depicted in this report should a full consolidation resolution not be reached. In either case, ICMA strongly recommends stations 10 and 14 be closed, and those response districts be absorbed into city response districts, with staff and assets from these stations repurposed to enhance and continue current services. ICMA further recommends emergency medical services in the southern portion of the county be enhanced as described in this report, to include the city of Kingsland EMS transport unit capacity.

Background

ICMA was retained by Camden County, Ga. in July, 2012 to conduct an operational analysis of Camden County Fire Rescue (CCFR). The county was seeking a review of its fire and emergency medical services, and also sought recommendations for efficiencies and improvements to organizational elements and service delivery.

During this analysis ICMA reviewed several administrative and operational components of the agency, and conducted an extensive analysis of incident data. ICMA provided the county with several recommendations to consider, which, if implemented, have the potential to create efficiencies and effectiveness of service delivery.

ICMA recognized in the report that providing services such as fire and EMS efficiently becomes difficult when the incorporated area(s) contain within their boundaries unincorporated areas, or noncontiguous unincorporated areas are created due to selective municipal annexation. When this occurs, enclaves or islands of unincorporated areas exist that remain the responsibility of the county for providing services. ICMA examined this situation within Camden County and recommended the county consider consolidating municipal and county fire and EMS services, so that these services can be more effectively and efficiently delivered.

In the November 2012 report delivered to the county, ICMA strongly recommended the county evaluate the potential consolidation/merger of the CCFR with the two municipal fire departments within Camden County—the St. Marys Fire Department and the Kingsland Fire Department. ICMA considered several factors when making this recommendation. These included:

- ✓ The county fire service is geographically challenged to provide optimum service due to the size of the county, the county's rural makeup, and unincorporated areas within or separated by incorporated areas and to which the county has to provide fire services. Although the CCFR does have some mutual and automatic aid with municipal fire departments, the county is still responsible to position units close to these unincorporated areas to provide timely fire services. Through consolidation in Camden County, some stations potentially may not be needed due to overlapping response and a more efficient service delivery system can be established.

- ✓ Consolidation of two or more fire agencies represents a viable option that enables the most efficient use of resources and programs where appropriate. When implemented properly, consolidation works to overcome jurisdictional boundaries, ensures that the closest unit responds after receipt of a 911 call, and potentially improves response times and mitigation efforts. Consolidation enables the involved jurisdictions the ability to deal effectively with issues that span some or all of the jurisdictions. Jurisdictions can also approach fire prevention and fire investigation through a common program with uniform policies, codes, and regulations. A properly implemented consolidation will potentially eliminate redundancy in capital investments—such as apparatus and fixed facilities—as well as personnel. Additional service delivery reductions and cost savings can be realized to include volume procurement, operations and maintenance, training, and large capital project

investments. At the same time, there is the potential for an increase in some costs, particularly if the long-term plans identify the need to relocate current facilities or the need for specialized apparatus to provide a more efficient deployment of resources.

After reviewing the ICMA report, the county administrator asked ICMA to provide a formal presentation to the county commission, which ICMA did in January 2013. During this presentation the CCFR geographical response challenges and efficiencies were discussed, as well as the potential positive outcomes consolidation may provide. After a methodical review and consideration of consolidation alternatives, the county commission along with the city council of the city of St. Marys retained ICMA to complete a feasibility study on the potential for consolidating fire and emergency medical services in Camden County. The city of Kingsland, at the direction of the city council, joined the project for the purpose of analyzing response and response data individually for the Kingsland Fire Department. The city of Kingsland also agreed to allow ICMA to utilize information gathered for Kingsland's response analysis in the consolidation study.

The purpose of this report is to provide Camden County and the cities of St. Marys and Kingsland information and recommendations on the consolidation of fire and emergency medical services in Camden County. ICMA appreciates the opportunity to contribute to this potential service model enhancement.

Characteristics of Study Area

General Characteristics

Camden County

Located in southeast Georgia, Camden County consists of 613 square miles (land mass) and includes the three incorporated cites of Woodbine, Kingsland, and St, Marys, as well as a number of smaller unincorporated communities. The Naval Submarine Base Kings Bay is also located in the county. The 2010 U.S. Census reports a total county population of 50,513. Influenced by employment opportunities the submarine base potentially offers, and expansion of available and planned communities, Camden County has been identified as the fastest growing county in the state of Georgia. Camden County has a commission-administrator form of government. This form of government combines the political leadership of elected officials in the form of a board of commissioners with the managerial experience of an appointed county administrator.[1]

City of St. Marys

The city of St. Marys, located in the southeastern portion of Camden County, consists of just over 18 square miles (land mass) and is the gateway to Cumberland Island National Seashore, the largest of the Georgia Coast's barrier islands. The 2010 U.S. Census reports a total incorporated population of 17,121. St. Marys has a council-manager form of government wherein the mayor serves as the as the chief executive officer of the city. The city manager serves as the chief administrative officer of the city and is appointed by the city council to administer the affairs of the city other than exceptions identified in the charter.[2]

City of Kingsland

The city of Kingsland, located in central-southern Camden County, is the second largest city in Camden County and consists of just over 44 square miles of land mass. According to the 2010 U.S. Census, the total incorporated population is 15,946. Kingsland has a council-manager form of government. The city charter establishes the mayor as the chief executive officer of the city and delineates the powers and duties of the office[3]. The city manager serves as the chief administrative officer and is appointed by the city council to administer the affairs of the city other than exceptions identified in the charter.

Fire Service Organizations

Camden County Fire Rescue Department

The CCFR is a combination (career and volunteer) fire department delivering fire suppression and certain technical rescue capabilities, EMS transport, fire prevention and investigation, and community support functions. CCFR has ninety-one full-time positions and fifteen volunteer

[1] Official Code of Camden County, Camden County, Georgia.
[2] Charter, Code of Ordinances, City of St. Marys, Georgia.
[3] Charter, Code of Ordinances, City of Kingsland, Georgia.

personnel. CCFR also employs part-time personnel to staff vacancies created by scheduled and unscheduled leave.

Operational services are deployed from nine county fire stations located throughout the unincorporated areas of the county, and two municipal fire stations (one in St. Marys and one in Kingsland) where EMS transport units are positioned. The CCFR provides EMS transport services countywide to include both the unincorporated and incorporated areas, whereas its primary responsibility for fire services includes only the unincorporated areas and the city of Woodbine. The CCFR is led by a fire chief who also serves as the director of public safety. The fire chief is assisted by three division officers and two administrative staff members.

The department deploys a separate operational officer (battalion officer-middle management level) for the purpose of command and control of incidents and management of assigned personnel. Minimum operational staffing is twenty-six per day (including the battalion chief). Operational personnel work a three-platoon system schedule, with a work schedule of 24 hours on duty and 48 hours off. Company officer-level staff (captain/lieutenant) supervise operational shift personnel and are also assigned programmatic collateral duties to support operational deliverables such as training and equipment maintenance. There is not an officer (supervisor) at every station. To support stations with no officers, neighboring station officers are tasked with overseeing those that do not have direct supervision. This creates a regional officer model, and this is an assigned responsibility to these officers.

St. Marys Fire Department

The St. Marys Fire Department (SMFD) is a combination (career and volunteer) fire department delivering fire suppression and certain technical rescue capabilities, emergency medical first response, hazardous materials response, fire prevention and investigation, and community support functions. The department has twenty-six budgeted full-time positions, twenty to twenty-five volunteer members (this number fluctuates), and several part-time employees who fill minimum staffing positions as well as vacancies created by scheduled and unscheduled leave.

The SMFD is led by a fire chief who is supported by an assistant chief. The SMFD has no additional administrative staff, uniform or civilian. Operational services are deployed from three stations within the incorporated area. Minimum operational staffing is nine per day. Operational personnel work a three-platoon system schedule, with a work schedule of 24 hours on duty and 48 hours off. Each operational shift has a shift officer assigned to a station and who has certain assigned responsibilities in support of daily operations. In addition, each shift at each station has an officer assigned (permanent or acting) to supervise individual company operations. Career staff at each station responds with a single primary fire apparatus. Additional apparatus housed in each station is responded as needed by volunteer or off-duty members so as to support on-scene operations.

Kingsland Fire Department

The Kingsland Fire Department (KFD) is a combination (career and volunteer) fire department delivering fire suppression and certain technical rescue capabilities, emergency medical first response and EMS transport, fire prevention and investigation, and community support functions.

The department has twenty-five budgeted full-time positions, thirty volunteer members, and several part-time employees who fill vacancies created by scheduled and unscheduled leave.

The KFD is led by a fire chief who is supported by an assistant chief. The department has no additional administrative staff, uniform or civilian. Operational services are deployed from three stations within the incorporated area. Minimum operational staffing is eight per day. Operational personnel work a three-platoon system schedule, with a work schedule of 24 hours on duty and 48 hours off. At stations 3 and 4 each shift has an officer assigned to supervise individual company operations. Station 5 has one officer on the "blue shift" who serves as the station officer. Each of the other two shifts at station 5 is supervised by on-duty officers at stations 3 and 4 as well as the assistant chief. Each station responds a single primary fire apparatus by the career staff. Additional apparatus housed in each station is responded as needed by volunteer members to support on-scene operations.

Tables 1, 2, and 3 compare various components of each organization.

Table 1: Countywide Staff Comparison

Department	Fire Chief	Assistant Chief	Company Officers	Civilian Administrative Staff	Part-Time Employees[3]	Volunteers[4]
Camden County	1	3	Yes[1]	Yes-3	Yes	Yes
St. Marys	1	1	Yes	No	Yes	Yes
Kingsland	1	1	Yes[2]	No	Yes	Yes

1. Company officers are not assigned to all stations/all shifts. Assignments include stations 2,3,10,11,14,17.
2. Company officers are not assigned to one station on two shifts. This station (5) has a station officer.
3. In all jurisdictions the number of part-time staff fluctuates.
4. In all jurisdictions the number of volunteer staff fluctuates.

Table 2: Countywide Fire-EMS Operational Comparison

Department	Number of Stations	Operational Career Field Staff[1]	EMS Transport	Tanker Apparatus	Aerial Apparatus
Camden County	9	84	Yes	Yes	No
St. Marys	3	22	No	No	Yes
Kingsland	3	23	Yes[2]	Yes	Yes

1. Field staff only-does not include uniform administrative staff.
2. KFRD deploys two ambulances that are not automatically dispatched as part of the overall EMS system.

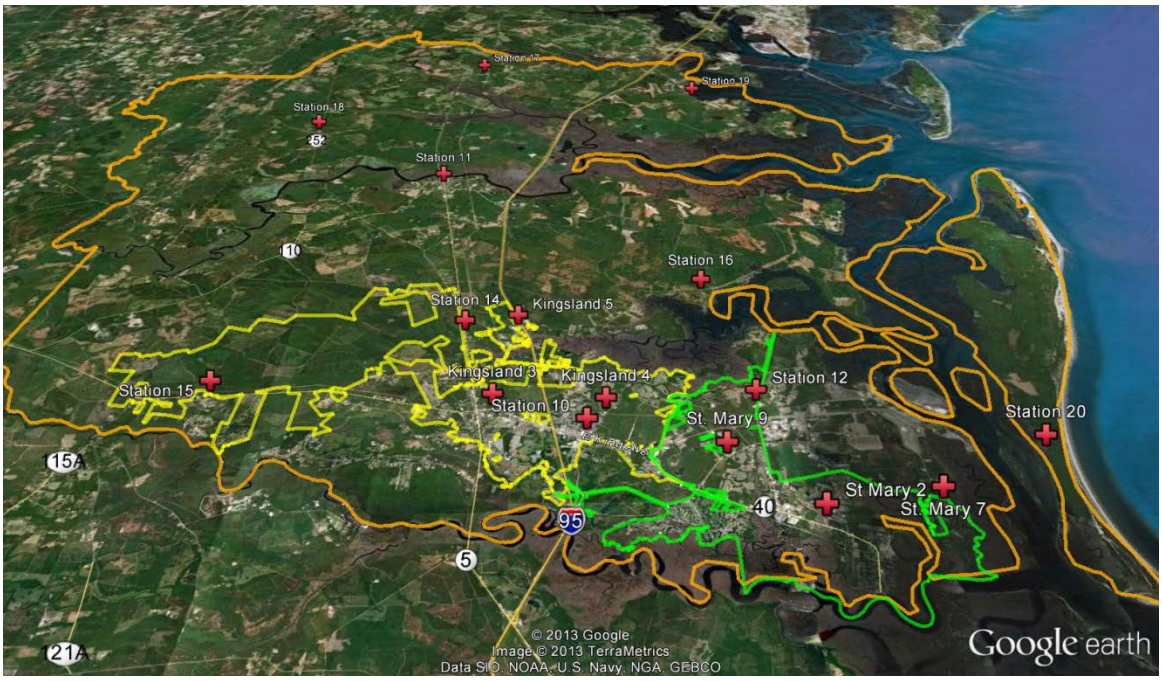
Table 3: Southern Camden County Fire-EMS System Comparison[1]

Department	Number of Stations	Operational Career Field Staff	EMS Transport	Tanker Apparatus	Aerial Apparatus
Camden County	5[2]	33[1]	Yes	Yes	No
St. Marys	3	22	No	No	Yes
Kingsland	3	23	Yes	Yes	Yes

1. Incudes all stations below Woodbine.
2. Does not include one station in Kingsland and one station in St. Marys where a county EMS transport unit is deployed from.

Figure 1 on the next page illustrates the location of staffed, fixed fire facilities in the county (includes county and city stations). Figure 2 on the next page focuses on the southern portion of the county where the opportunity for fire consolidation exists.

Figure 1: Fixed Fire Facilities-County and City



Note: Station 20 is not staffed

Figure 2: Southern Camden County Fixed Fire Facilities: Fire-EMS Consolidation Opportunity

Fire Services Organizational Overview

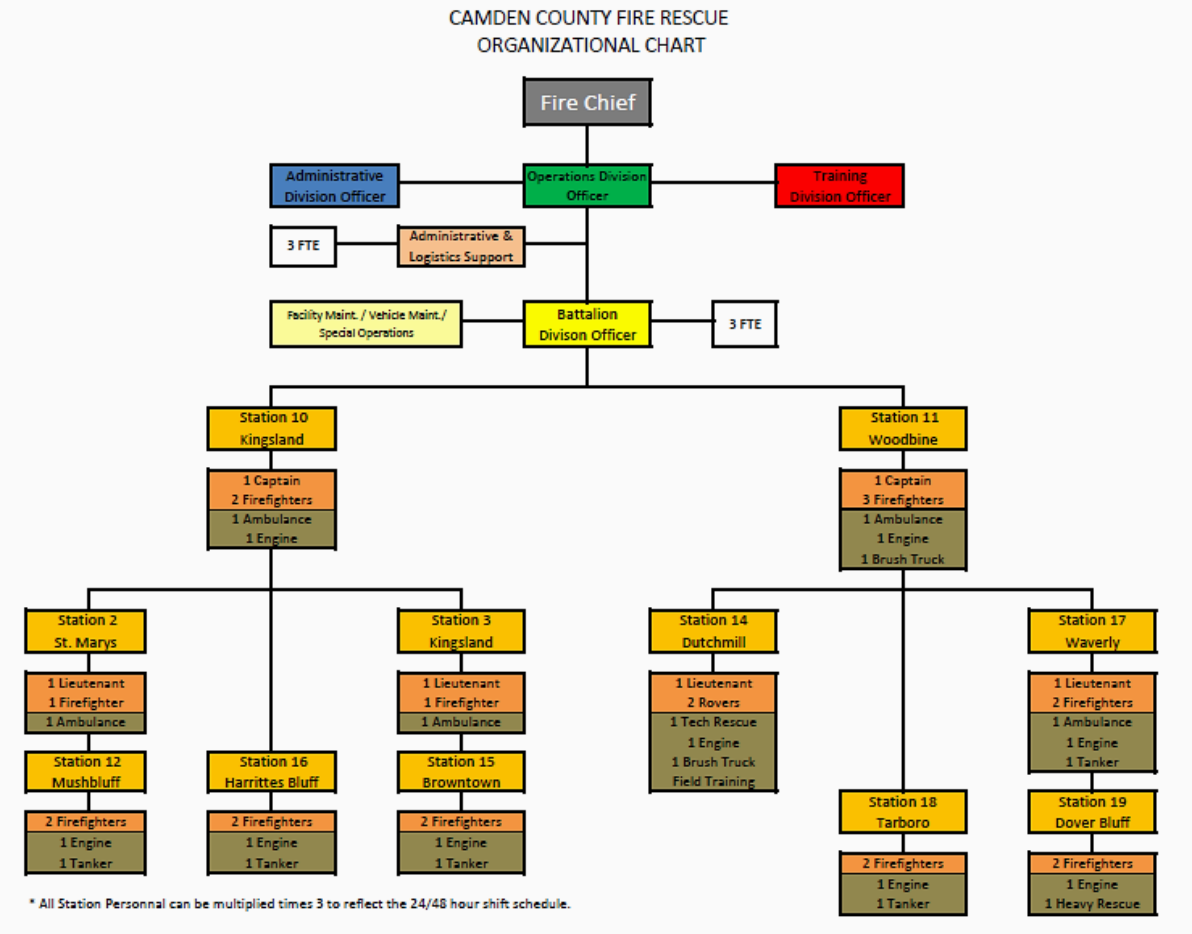
Agency Governance/Structure

Camden County Fire Rescue Department

Chapter 27, Section 27-1 of the County Code establishes a fire rescue department for the county and delineates the objectives of the department. These include but are not limited to providing fire suppression, emergency rescue, and medical services; enforcement of regulations essential to the fire protection and safety of life and property; and other duties as may be prescribed by the board of commissioners.

The CCFR utilizes a traditional organizational structure that focuses on the core mission of emergency services delivery. This structure provides a clearly defined division of responsibility for critical day-to-day functions, and identifies each functional division/program under the purview of the organization. Figure 3 on the next page illustrates the organizational structure of the CCFR. Stations 10, 11, 12, 14, 15, 16, 17, 18, and 19 are CCRFD stations. Stations 2 and 3 represent where CCRFD deploys EMS transport units from municipal fire stations in Kingsland (3) and St. Marys (2).

FIGURE 3: CCFR Organizational Chart

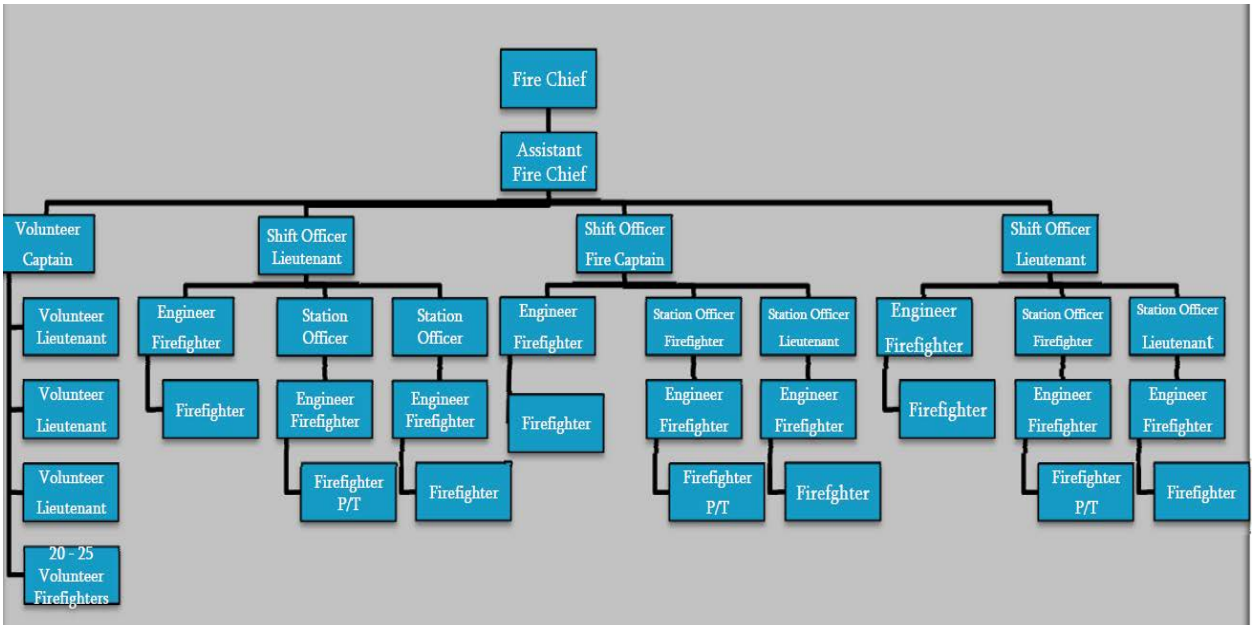


St. Marys Fire Department

Chapter 50, Article I, Section 50-1 of the Code of Ordinances (code) establishes the fire department and its responsibilities to include but not be limited to preventing and extinguishing fires, providing emergency medical services, conducting a fire prevention education program, and enforcement and other duties as may be prescribed by the city council. Sections 50-2, 50-3, and 50-4 of the code establish the position, powers, and duties of the fire chief.

The SMFD utilizes a traditional organizational structure that also focuses on the core mission of fire services delivery. This structure provides a clearly defined division of responsibility for critical day-to-day functions, and identifies each operational position under the purview of the organization. This chart of the organization also distributes authority so that service is delivered in a timely, orderly, and effective manner, with leadership and accountability identified from the top of the organization to company-level officers.[4] Figure 4 illustrates the organizational structure for the SMFD.

FIGURE 4: SMFD Organizational Chart



Kingsland Fire Department

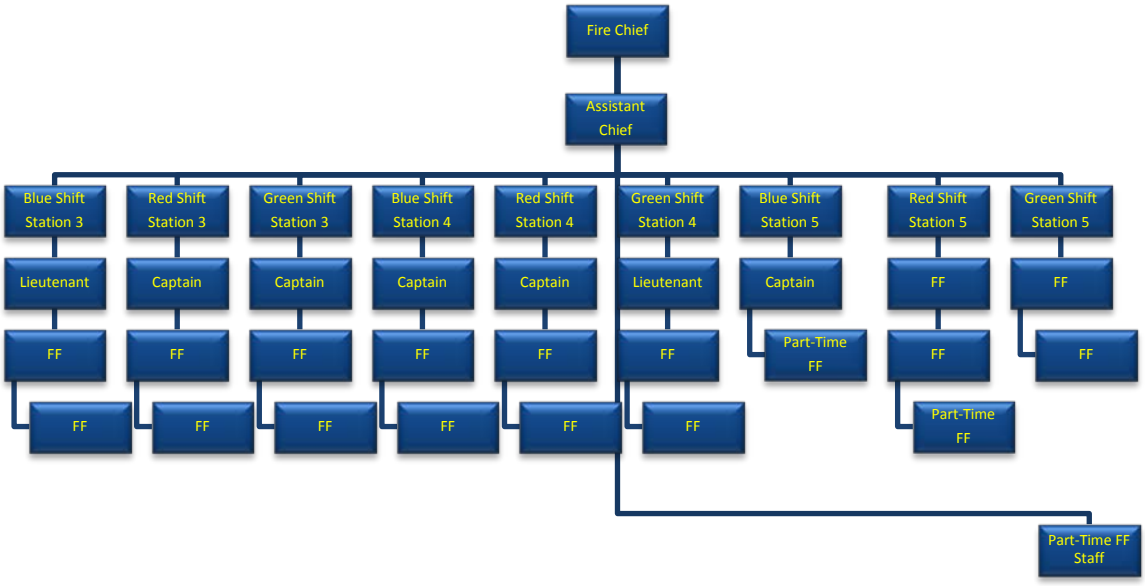
Section 63 of the City Charter establishes the authority of the city council to create a Fire Department. The responsibilities of the department include but aren't limited to preventing and extinguishing fires, providing emergency medical services, conducting a fire prevention education program, and enforcement and other duties as may be prescribed by the city council.

The KFD also utilizes a traditional organizational structure that focuses on the core mission of emergency services delivery. This structure, as with those described above, provides a clearly

[4] Dennis Compton and John Granito, eds., *Managing Fire and Rescue Services* (Washington, DC: International City/County Management Association, 2002), 115.

defined division of responsibility for critical day-to-day functions and identifies each operational shift of the organization. The department organizational chart also distributes authority so that service is delivered in a timely, orderly, and effective manner, with leadership and accountability identified from the top of the organization to company-level officers. Figure 5 illustrates the organizational structure for the KFD.

FIGURE 5: KFD Organizational Chart



Organizational Resources

Camden County Fire Rescue Department

CCFR uniform administrative staff is supported by three full-time civilian positions (two administrative-clerical/one logistics) that perform various administrative and organizational functions. The Camden County human resources director is responsible for administering the personnel policies for the county. The HR director also serves as the director of support services, with responsibilities that include information technology services and risk management.

When the decision to hire is approved by the Camden County administrator, the county advertises a position opening for a minimum of two weeks in local newspapers and on the county website. Applications are screened against posted qualifications and work experience. Applicants who are selected are required to take the Georgia Work Ready Assessment. Successful candidates then proceed through the remainder of the hiring process, which includes an oral interview, physical agility test, and medical screening.

Promotions are made through an oral interview board and a written test on department policy and procedures. There is no specific CCFR career path program; however, the department does suggest training opportunities and training certifications to achieve advancement. The department has also engaged a leadership development coach to work on company leadership and chief officer leadership skills.

St. Marys Fire Department

The SMFD does not have civilian administrative support for the uniform administrative staff. Administrative and organizational functions such as payroll, ordering/receiving of supplies and equipment, and coordination of logistical and organizational program support functions are handled by the fire chief and assistant fire chief. These duties may not allow these positions to focus on improving the system and creating the future for the organization.

The city of St. Marys human resources director is responsible for administering the personnel policies for the city. When the decision to hire is approved by the St. Marys city manager, the city advertises the position opening in local newspapers and on the city website. The city's best recruitment tool, however, is through its own volunteer firefighter program. Applications are screened against posted qualifications and work experience. The required knowledge, skills, and abilities (KSAs) for a firefighter position were developed by Slavin & Associates in 2001 and are currently being reviewed by Evergreen Solutions. Applicants who are selected are required to be registered firefighters by the state of Georgia.

The city contracts with a local private medical firm, Amelia Medical Care, to provide occupational health services for the department. The city requires that all fire department employees receive an annual physical as well as a stress test, and the city plans to launch a new wellness program in the summer of 2013.

Promotions are made through an extensive point-based work history review process, a written test, a performance-based series of exercises (written exercise, verbal exercise and role play/problem solving exercise), and an oral interview by an interview board that consists of three outside evaluators. Based on the results of the aforementioned process, a promotional roster is developed by the fire chief and then reviewed and validated by the human resource director. At this point, if the position is open, the fire chief may recommend to the city manager one of the top three promotional candidates on the list for promotion. The promotional roster remains valid for one year.[5]

Kingsland Fire Department

The KFD does not have civilian administrative support for the uniform administrative staff. Administrative and organizational functions such as payroll, ordering/receiving of supplies and equipment, and coordination of logistical and organizational program support functions are handled by the fire chief and assistant fire chief. These duties may not allow these positions to focus on improving the system and creating the future for the organization.

[5] St Marys Fire Department Promotional Procedures, April 2005.

The city of Kingsland human resources director is responsible for administering the personnel policies for the city and has final sign-off authority on the hiring of new personnel for the fire department. When there is a need to recruit and hire for new fire department personnel, the human resource director advertises the position openings in local newspapers, the city website and the Georgia Local Government Access Marketplace website. The KFD's best recruitment tool, however, is through its own volunteer firefighter program. Applications are screened against posted qualifications and work experience and a full a background check via LaborChex. The required knowledge, skills, and abilities (KSAs) for the firefighter position were developed by Evergreen Solutions in 2007 and adopted by the city in 2008. Applicants who are selected are required to be registered firefighters by the state of Georgia.

The KFD does not have a formal promotional process. The fire chief currently selects those who will be promoted to an available lieutenant or captain position. Both the fire department and human resources acknowledge that developing a valid promotional process is a priority for the department.

The city has an employee wellness program and has a contract with a local private medical firm, Amelia Medical Care, to provide occupational health services for the department. The city requires that all fire department employees receive a physical as well as a stress test annually. The city has a no-smoking policy on city property for its employees.

Training and Education

Camden County Fire Rescue Department

For CCFR, the training division officer establishes a training calendar based on the calendar year using Target Solutions. The online system includes a daily training log, the sharing of training resources between participating departments, and other helpful services that assist in managing the training program. The department requires that all firefighters have Georgia state certification and a Pro Board NPQ Fire 1 qualification. The department plans in the future to institute the requirements that lieutenants have a Fire Officer I certification, captains a Fire Officer II certification, battalion officers a Fire Officer III certification, and senior level officers a Fire Officer IV certification.

Although the department does not have an outlined career path training program, each fire and EMS job description lists the various certifications and course work required. CCFR does not have a training facility where live-burn activities and other practical evolutions and fire tower training can be fully executed. However, both the SMFD and the KFD do have this asset available for CCFR use. ***CCFR should incorporate these training assets into its current and regular schedule and ISO evaluation.***

St. Marys Fire Department

The SMFD assistant fire chief serves as the training officer for the department. The assistant chief and nine other fire officers in the department (including the fire chief), are certified instructors. Each month the assistant fire chief develops a training calendar for the following month. All

individual training records are kept on FIREHOUSE software, which the department has been using since 2009.

The SMFD is an approved testing site of the National Pro Board Firefighter I and II courses. SMFD, along with the Georgia Firefighters Training and Standards Council and the West Georgia Technical College, allows firefighters to receive their National Professional Qualification (NPQ) Firefighter I and II certifications, after the successful completion of these courses.

SMFD's paid firefighters are required to have and have received at minimum the NPQ Firefighter I certification, with most certified at the Firefighter II level. All career personnel are also trained as emergency medical first responders, with ten firefighters certified as emergency medical technicians and one as a paramedic. Eight firefighters are certified as National Wildland Firefighters. Fire officers and prospective officers are required to have successfully completed Incident Command (ICS) NIMS 300 and 400 training requirements.

The SMFD training facilities include a training tower, props for search and rescue training, live-burn, extrication training, and classroom training. Training under live-fire scenarios strictly adhere to the NFPA 1403 (2012 edition) *Standard on Live Fire Training Evolutions*.

The SMFD holds regular training sessions (at least quarterly) with the KFD on incident command and company fireground operations. The departments share each other's training facilities to accomplish this joint training. Both departments also require joint training as part the established automatic and mutual aid agreements between the two jurisdictions. Additionally, the SMFD specializes and trains in tactical hazmat response, as the department is part of a larger regional hazardous materials response group. Seventy-five percent of the personnel in the department are certified as NPQ Hazardous Materials Technicians.

Kingsland Fire Department

The KFD fire chief has appointed a lieutenant with thirty years of firefighting experience to serve as the training officer for the department. The lieutenant is highly qualified to serve in this position as he is certified as a fire instructor I and II, and has attained additional certifications as an EMS instructor, hazmat/paramedic instructor, and chemical emergency instructor. The training officer reports to the assistant chief and consults with the fire chief and the assistant chief regarding training topics and priorities. The department does not have a specific training budget.

The KFD training officer develops a four-month training calendar for the department every three months. Each week on this calendar includes a different set of training courses so that the full range of training is available over the four-month training schedule to ensure all KFD members can fulfill these training requirements. The training officer keeps and monitors individual training records on FIREHOUSE software; until recently (four months ago) the records were kept as paper files. KFD standard operating guidelines (SOG) provide specific policy guidelines for minimum training requirements for all firefighters (including probationary) and fire officers in the department. All firefighters must attend at least 70 percent of scheduled training sessions.

All probationary firefighters and incumbent firefighters must successfully complete Basic Firefighter I and Firefighter II certification in their first two years of service. These department

members are also expected to complete (within two years) training in SCBA use, emergency vehicle operations (EVOC), National Incident Command (NIMS) 700 and ICS 100 and 200, vehicle extrication, thermal imaging camera, CPR/AED, and first responder training.

Fire officers and prospective officers are required to have successfully completed Incident Command (ICS) NIMS 300 and 400 training requirements, as well as a series of courses on managing company tactical operations, building construction, introduction to fire department pumpers, and twenty-five hours of class time in the fire sciences offered by recognized county, state, or national institutions. All Kingsland fire officers have completed these training requirements.

The Kingsland training facilities include a training tower, props for search and rescue training, live-burn, extrication training, and classroom training. Training under live fire scenarios strictly adhere to the NFPA 1403 (2012 edition) *Standard on Live Fire Training Evolutions*.

As previously mentioned, the KFD holds regular training sessions (at least quarterly) with the St. Marys Fire Department on incident command and company fireground operations. The departments share each other's training facilities, and generally work very well together. The KFD specializes and trains in hazmat decontamination procedures.

Fire Prevention/Investigation/Public Education

Camden County Fire Rescue Department

A CCFR division officer currently serves as the fire marshal, fire inspector, and plan reviewer for the county. The fire chief serves as the department's principal fire investigator and peace officer. In case of a suspected arson, the fire chief works with the county sheriff's office, which has two deputy sheriffs trained as fire investigators. All arson investigation evidence and documents are retained in the sheriff's office. The department had a full-time fire marshal until October 2011 when that person resigned. As of this report, CCFR has not filled this position.

In August 2008 the Camden County Board of Commissioners adopted the Georgia State Minimum Fire Safety Standards as amended by chapter 120-3-3 of the Rules and Regulations of the State of Georgia. The division officer/fire marshal works closely with the county building department to ensure business and apartment complex inspections are completed twice per year as prescribed by fire safety standards. The fire prevention office uses a self-inspection checklist for all predesignated low-risk occupancies. Business owners complete the check list annually and submit it to the fire marshal's office. Inspection information is tracked manually.

The fire investigation/arson program includes a juvenile arson program that CCFR, in conjunction with the county's Department of Social Services, offers as an intervention to families when a juvenile has been caught setting a fire or is involved in dangerous fire behavior. The department also participates in the Southeast Arson Task Force, a task force that was initiated to improve wildland arson investigation, train forestry investigators, and share arson investigation resources.

The CCFR public education program works jointly with the county's city fire departments to sponsor fire prevention month each year in October. The program includes presentations at area schools and other special events. In conjunction with this month-long celebration, CCFR conducts free home safety inspections for residents who request them, and installs home smoke detectors and replaces dead batteries at no charge.

St. Marys Fire Department

The St. Marys fire chief and the assistant chief serve as the fire prevention inspectors for the city. Both the fire chief and the assistant chief have the professional qualifications to serve as fire inspectors. The fire chief serves as the city's fire marshal and is certified as a Fire Inspector III. The assistant chief is certified by the National Pro Board as a Fire Inspector I. The fire chief has also served as the president of the Georgia Public Safety Educators Association and is an adjunct instructor for the West Georgia Technical College, teaching strategy and tactics, fire instructor, and cause and origin fire investigations courses.

The city of St. Marys adopted the 2006 edition of the International Fire Code in 2007. In 2002 the St. Marys adopted the Georgia State Minimum Fire Safety Standards as amended by chapter 120-3-3 of the Rules and Regulations of the State of Georgia; city ordinance 50-42. Both the fire chief and the assistant fire chief complete plan reviews and they work closely with the city building division to ensure business and apartment complex inspections are completed twice per year as prescribed by fire safety standards. The fire chief is the building official.

The city has two assisted living facility, several over-55 residential homes, and a mobile home park. The city has four elementary schools, a middle school, and it shares a high school with Camden County and the city of Kingsland. These facilities are inspected regularly and provided with public fire education programs. Fire engine companies perform pre-fire planning twice a year on all industrial and commercial establishments.

The St. Marys Fire Department works jointly with the city of Kingsland and Camden County Fire-Rescue Department to conduct fire prevention month each year in October. The program includes presentations at area schools and other special events. In conjunction with this month-long observance, SMFD conducts free home safety inspections for residents who request them, and installs home smoke detectors and replaces exhausted batteries at no charge.

The St. Marys fire chief, a captain, and a lieutenant are certified as cause and origin fire investigators and work closely with a St. Marys police detective to investigate all suspicious fires. Juvenile fire setters have not been a problem in the city.

Kingsland Fire Department

The Kingsland fire marshal's office (located in the KFD) has primary responsibility for fire inspections for the city of Kingsland. The fire marshal's inspection responsibilities include reviewing fire code adoption and compliance; issuing permits for fire protection systems; overseeing and maintaining fire alarm systems, standpipes, fire pumps, underground storage tanks, hazardous materials installations, and other systems; conducting plan reviews for new construction and building renovations; and conducting inspections for fire occupancy and special events. The fire marshal/captain supervises another certified inspector, a firefighter who serves as assistant fire

marshal. Two certified arson investigators, who also work as EMT/firefighters, serve under his supervision. All of the inspectors and investigators are certified by the state of Georgia.

The city of Kingsland is primarily a residential and commercial community, and includes a number of hotels/motels, some which are not sprinklered and are of wood-frame construction. Interstate 95, with its heavy and various amount of interstate cargo traffic, also runs for seven miles through the city. Finally, a train line runs through the city (and St. Marys) to the Naval Submarine Base Kings Bay.

The city of Kingsland adopted in 2008 the 2006 edition of the International Fire Code and Georgia State Minimum Fire Safety Standards as amended by chapter 120-3-3 of the Rules and Regulations of the State of Georgia. The fire marshal is the plan reviewer for all blueprints for any new building in the city; he also goes to new constructions sites and signs off on the final occupancy permit before the structure is issued a certificate of occupancy. The fire marshal's office works closely with the city building official to ensure business and apartment complex inspections are completed twice per year as prescribed by fire safety standards.

Inspection records are retained on FIREHOUSE software, as are fire hydrant testing data, public education events, and arson investigation information. The office inspects/paints approximately 1,800 fire hydrants twice a year following NFPA 291 requirements.

Kingsland's public fire prevention and life safety program staff visit every school in the city to educate students from pre-K through 5th grade about fire and life safety. All of the fire personnel who teach fire safety are certified as fire safety educators by the state of Georgia. The fire department provides smoke detectors free to the citizens of Kingsland and if requested installs them at no charge. The fire department also offers to replace batteries in smoke detectors two times a year.

Emergency Management

Camden County Fire Rescue Department

The county's emergency management program is administered by the director of emergency management, who reports directly to the fire chief/ director of public safety. The emergency management director (EM director) has the primary responsibility for coordinating and monitoring the emergency planning activities of all county departments, the three cities in the county, the county school district, and the other allied agencies in the county. The EM director is also responsible for ensuring the readiness (equipment, stocked materials and supplies, situational awareness monitoring, etc.) within the emergency operations center (EOC).

The county dedicated a new EOC on September 15, 2012. Also in September 2012, the county updated the 2011 county commission-approved emergency operations plan (EOP) and an all-hazard mitigation plan. The principle hazard vulnerabilities of the county are hurricanes, tropical storms, and wildland fires. This plan is National Incident Management System (NIMS)-compliant and details the emergency support functions for each participating agency (fire, police, hospitals, animal shelters, etc.).

The chairman of the Camden County Commission, as the chief elected official, is the legally responsible emergency manager for the county. The chairman has, by state law, the authority to declare a disaster for the county and to request, if needed, a state disaster declaration and disaster assistance from the governor of Georgia. If needed, the governor can declare a state disaster, and as well can request from the President of the United States a federal emergency or disaster declaration. If the chairman of the county commission is unavailable or incapacitated, the emergency operations plan (EOP) clearly details who would have this responsibility (vice-chairman). The EM director holds regular meetings of the Executive Policy Committee whose members consist of the chief elected officials in the county, the superintendent of schools, the commanding officer of Naval Submarine Base Kings Bay, and the county administrator and respective city managers and their assistants.

The county and the incorporated cities in the county have also been designated by FEMA, "Storm Ready." This designation is conferred by the federal government if a jurisdiction has an approved hazard mitigation plan. This designation provides for a reduction in the local match share from 15 percent to 12.5 percent in a federally declared disaster, potentially saving millions of local matching share dollars.

St. Marys Fire Department/ Kingsland Fire Department

Emergency management for the cities of St. Marys and Kingsland is functionally consolidated with the county. As noted above, Camden County is responsible for managing the emergency management function. The cities of St. Marys and Kingsland both contract with Camden County to provide emergency management services and as stated in that contract, the chair of the county commission is the chief elected official who is the legally responsible emergency manager for the entire county, including the cities.

The chair of the county commission has, by state law, the authority to declare a disaster for each city and to request, if needed, a state disaster declaration and disaster assistance from the governor of Georgia. If needed, the governor can declare a state disaster, and if necessary, can request from the President of the United States a federal emergency or disaster declaration. If the chair of the commission is unavailable or incapacitated, the emergency operations plan (EOP) clearly details who would have this responsibility (vice-chair).

Emergency Communications

Emergency communications functions for the CCFR, SMFD, and KFD are provided by the Camden County Sherriff's Office (CCSO). The CCSO communications division serves as the primary public safety answering point (PSAP) for the county, including the incorporated cities of Kingsland, Woodbine, and St. Marys. The CCSO communications division handles in excess of 160,000 emergency and nonemergency incoming telephone calls per year. As a PSAP, the division handles in excess of 36,000 e-911 calls per year. An additional service the CCSO communications division provides is the handling of emergency and nonemergency calls for the Georgia State Patrol, Georgia Forestry, and Camden County Animal Control.

Hourly staffing for the CCSO communications division consists of one supervisor and three telecommunicators. The CCSO communications division has a future goal of adding an additional supervisory staff member without radio channel responsibilities and who can then supervise all operations of the center. The workload for the four on-duty staff is divided as follows:

Supervisor: Kingsland police channel and serves as floor supervisor

Telecommunicator: St. Marys police channel

Telecommunicator: CCSO channel

Telecommunicator: Fire channel (County, Kingsland, St. Marys)

The CCSO communications division utilizes VisionAir-TriTech computer-aided dispatch (CAD) software solutions. Additionally, the division utilizes the Medical Priority Dispatch System (MPDS) manual card system for its emergency medical dispatch (EMD) call screening program. The EMD program is essential in any communications center that dispatches EMS resources to ensure the right resources are dispatched, and to ensure the appropriate and sometimes life-saving pre-arrival instructions are delivered by trained telecommunicators.

All the local government agencies in the county began cooperating in June 2010 to meet by December 31, 2013 the new FCC public safety radio communications mandates. The cities of St. Marys, Kingland, and Woodbine, and Camden County, along with representatives from the Naval Submarine Base Kings Bay, Camden County School Board, and the South East Regional Radio Network, established a Communications Upgrade Committee charged with looking at all of the options to meet the FCC public safety communications requirements. The committee met weekly and in February 2011 the cities of St. Marys, Kingsland, Woodbine, and Camden County jointly resolved to migrate from their wideband bandwidth radio channels to narrowband in accordance with the FCC mandates. This was completed in November, 2011.

A critical future need is for a two repeater channel system. **Currently there is only one fire channel that has the ability to be "repeated," meaning the radio signal** can be received and retransmitted at a higher power to span greater distances. Additionally, each of the police channels is "repeated." Having only one repeated fire channel poses an issue for command and control during a multi-unit working incident, such as a wildland fire, automobile accident with entrapment, or building fire. On these incidents units are assigned a tactical channel away from the main dispatch channel; the tactical channel will not have the capability for being repeated, meaning units likely will only be able to communicate with those in line-of-sight. Additionally, units (including command officers) will have to switch back to the main fire channel to communicate with the dispatcher, thus decreasing full interoperability between units and the CCSO communications division.

External Relationships

Local governments use many types of intergovernmental agreements to enhance local fire protection and EMS services. It is important that fire departments be able to quickly access extra and/or specialized resources in the aftermath of a disaster or other large-scale event. In addition,

because these types of incidents do not respect jurisdictional boundaries, they often require coordinated response. In addition to those large-scale disasters or emergencies that may tax a locality's resources, it makes sense at times in terms of geographic reach to enter into agreements for one locality to serve another's response area, particularly if this arrangement is reciprocal.

Camden County Fire Rescue Department

CCFR has established several intergovernmental agreements or memorandum of understanding with municipalities in the county, the naval base, and adjoining counties in both Georgia and Florida. These include:

City of Kingsland: Intergovernmental agreement

- Establishes reciprocal coverage for specific areas whereby the city will cover certain unincorporated areas and the county will cover specific incorporated areas.
- No exchange of funds for these services.
- Establishes county ambulance space at fire station 3.

City of St. Marys: Mutual aid agreement

- For mutual aid: specific request for resources from jurisdiction to jurisdiction has to occur. Request has to be accepted and approved by jurisdiction providing the resources.
- Automatic aid/first response provision for certain areas as designated.
- Provision of aid is not mandatory.
- No exchange of funds for these services.

Naval Submarine Base Kings Bay: Memorandum of understanding

- For mutual aid only: specific request for resources from jurisdiction to jurisdiction has to occur. Request has to be accepted and approved by jurisdiction providing the resources.

Charlton County, Georgia, Volunteer Fire Department, Station 1: Mutual aid agreement

- For mutual aid when called upon.
- Discusses reciprocal levels of EMS delivery for which each jurisdiction is responsible.

Charlton County, Georgia, Emergency Medical Services: Mutual aid agreement

- For mutual aid.
- Subject to resources available.
- Establishes transport billing.

Nassau County, Florida: Mutual aid

- For mutual aid only: specific request for resources from jurisdiction to jurisdiction has to occur. Request has to be accepted and approved by jurisdiction providing the resources.
- Automatic aid/first response provision is not included.

- Provision of aid is not mandatory.
- No exchange of funds for these services.

Glynn County, Georgia: Mutual aid

- For mutual aid only: specific to disasters and large emergencies where resources required to mitigate the emergency are beyond the ability of the requesting agency.
- No exchange of funds for these services. Food, shelter, and fuel expected to be provided by requesting jurisdiction.

St. Marys Fire Department

St. Marys has a mutual aid and automatic aid agreement with Kingsland Fire Rescue. This agreement covers both the request for mutual aid by either city and automatic aid to a specific overlap area created between Kingsland's Station 4 and St Marys Station 9 response areas. The agreement clearly spells out the terms and conditions for each city as to which one bears the response cost. The cities provide each other immunity for a failure to respond and waive all claims against each other for losses and damages.

St. Marys has a similar agreement with Camden County except the automatic aid between the city and county is to the enclaves of unincorporated parts of Camden County that lie within five roadway miles of a St. Marys fire station (primary response areas). In addition, the agreement stipulates that a Camden County ambulance squad will be housed at St. Marys station 2 without cost to the county. In lieu of monetary reimbursement, Camden County agrees to respond with the ambulance squad as a first due unit to all fires in St. Marys city limits. As with the Kingsland agreement, the agreement requires joint training of both jurisdictions' volunteer and paid firefighters in incident command and in training response scenarios for both night and day. The agreement also articulates the terms and conditions of the agreement, waives all claims, and provides each other immunity.

St. Marys Fire Department has a memorandum of understanding with Naval Submarine Base Kings bay that provides each entity mutual support. This agreement, signed by the mayor of St. Marys and the commanding officer of the base, provides both the base and the city mutual aid in fire prevention, training, hazardous materials incident response, and fire firefighting. Because the naval base is adjacent all along St. Marys' eastern boundary, this agreement provides both entities with significant added resources, if specifically requested by either jurisdiction.

The state of Georgia has formed by state legislation a statewide Mutual Aid Resource Pact in which all of the political subdivisions in the state can join. The pact is administered by the state and allows participating jurisdictions to render or receive emergency suppression, prevention, and rescue/medical assistance during a major incident or a disaster. St. Marys signed an agreement to become a member of the Georgia Mutual Aid Group in September 2005. The fire chief serves as the current area representative of this organization.

Kingsland Fire Department

The city of Kingsland has several mutual aid and automatic aid agreements with its surrounding jurisdictions. Kingsland also has an intergovernmental fire protection agreement with Camden County, and it has a joint training agreement with the city of St. Marys.

Kingsland has a mutual aid and automatic aid agreement with SMFD that was signed in June 2011. This agreement covers both the request for mutual aid by either city and automatic aid to a specific overlap area created between KFD station 4 and SMFD station 9 response areas. As part of the agreement classroom training on incident command and response scenarios for night and day for both paid and volunteer firefighters from each city is required. Kingsland also has a mutual aid agreement with Nassau County, Florida, to render fire protection and emergency medical services when requested by either party. This agreement was initially signed in July 2002 and is updated every three years.

Kingsland has an intergovernmental fire protection agreement with Camden County to provide fire protection services to the unincorporated areas in the southern part of the county and receive fire protection services from the county in the western area of the city that was annexed in 2009. The agreement also stipulates that the county will house ambulances and paramedic staff at fire station 3 at no cost to the county. The agreement spells out that the number of county vehicles (1) and the number of county staff (2) housed in station 3 and that they will be supervised by KFD fire officers. The agreement also specifies that the county will hold the city harmless from any liabilities, claims, or losses and that the county will maintain insurance to protect its equipment and personnel. The agreement was initially signed in September 2009 and it is reviewed annually.

Fire Services Operational Overview

Staffing and Deployable Resources

Risk Assessment and Planning

Community risk and vulnerability assessment are essential elements in a fire department's planning process. According to a National Fire Protection Association (NFPA) paper on assessing community vulnerability, fire department operational performance is a function of three considerations: resource availability/reliability, department capability, and operational effectiveness.[6] These elements can be further defined as:

Resource availability/reliability: The degree to which the resources are ready and available to respond.

Department capability: The ability of the resources deployed to manage an incident.

Operational effectiveness: The product of availability and capability. It is the outcome achieved by the deployed resources or a measure of the ability to match resources deployed to the risk level to which they are responding.[7]

A community risk and vulnerability assessment evaluates the community as a whole, and with regard to property, measures all property and the risk associated with that property and then segregates the property as either a high, medium, or low hazard. According to the NFPA *Fire Protection Handbook*, these hazards are defined as:

High-hazard occupancies: Schools, hospitals, nursing homes, explosives plants, refineries, high-rise buildings, and other high life-hazard or large fire-potential occupancies.

Medium-hazard occupancies: Apartments, offices, and mercantile and industrial occupancies not normally requiring extensive rescue by firefighting forces.

Low-hazard occupancies: One-, two-, or three-family dwellings and scattered small business and industrial occupancies. [8]

Linking a fire department's operational performance functionality to the community risk and vulnerability assessment further assists fire personnel in the planning process by increasing their understanding of the community risk with regard to property and life-hazard potential. By plotting the rated properties on a map, fire administrators can better understand how current and future resource capabilities relate to specific risks and vulnerabilities, and then can identify potential gaps in service delivery.

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[6] Fire Service Deployment, Assessing Community Vulnerability: From http://www.nfpa.org/assets/files/pdf/urbanfirevulnerability.pdf.
[7] National Fire Service Data Summit Proceedings, U.S. Department of Commerce, NIST Tech Note 1698, May 2011.
[8] Cote, Grant, Hall & Solomon, eds., *Fire Protection Handbook* (Quincy, MA: National Fire Protection Association, 2008), 12.

The CCFR, SMFD, or KFD have not completed a comprehensive community risk and vulnerability assessment for their respective response jurisdictions. Each has risks, particularly central to state road 40, which serves as a major transportation and commercial corridor in the southern portion of the county. These agencies have identified target hazards to include industrial, roadway, commercial, educational, residential, and recreational hazards. However, these occupancies have not been classified according to NFPA classification, or plotted on a map for planning purposes, and formally linked to staffing and deployment of resources.

To demonstrate the criticality of the planning process, we will first reiterate where fire stations are located (Figure 6). Figure 7 illustrates fire call demand and Figure 8 illustrates EMS call demand in the county to include the cities of Kingsland and St. Marys. These figures were plotted utilizing Camden County Sheriff's Office computer-aided dispatch (CAD) data provided to ICMA. In Figure 7, as you move from white to red, and in Figure 8, as you move from white to blue, the more concentrated the call demand is. In addition, the call count is included in each census block.

It is important to understand call demand (fire and EMS) and community risk, and then link resource deployment to these factors. As fire department operational performance is a function of three considerations—resource availability/reliability, department capability, and operational effectiveness—it is critical that call demand is monitored and community risk is defined and understood. As one can see, however, until a risk analysis is completed to include all risks and vulnerabilities and is then plotted on a map, the planning process is incomplete. By adding the community risk analysis and vulnerability assessment to the planning methodology, and linking this to call demand and response time (to be discussed later in this report), a fire department can better plan for and meet strategic planning benchmarks and established performance measures, as well as community expectations.

Figure 6: Fire Station Locations: County and City

Figure 7: Fire Call Demand by Census Block

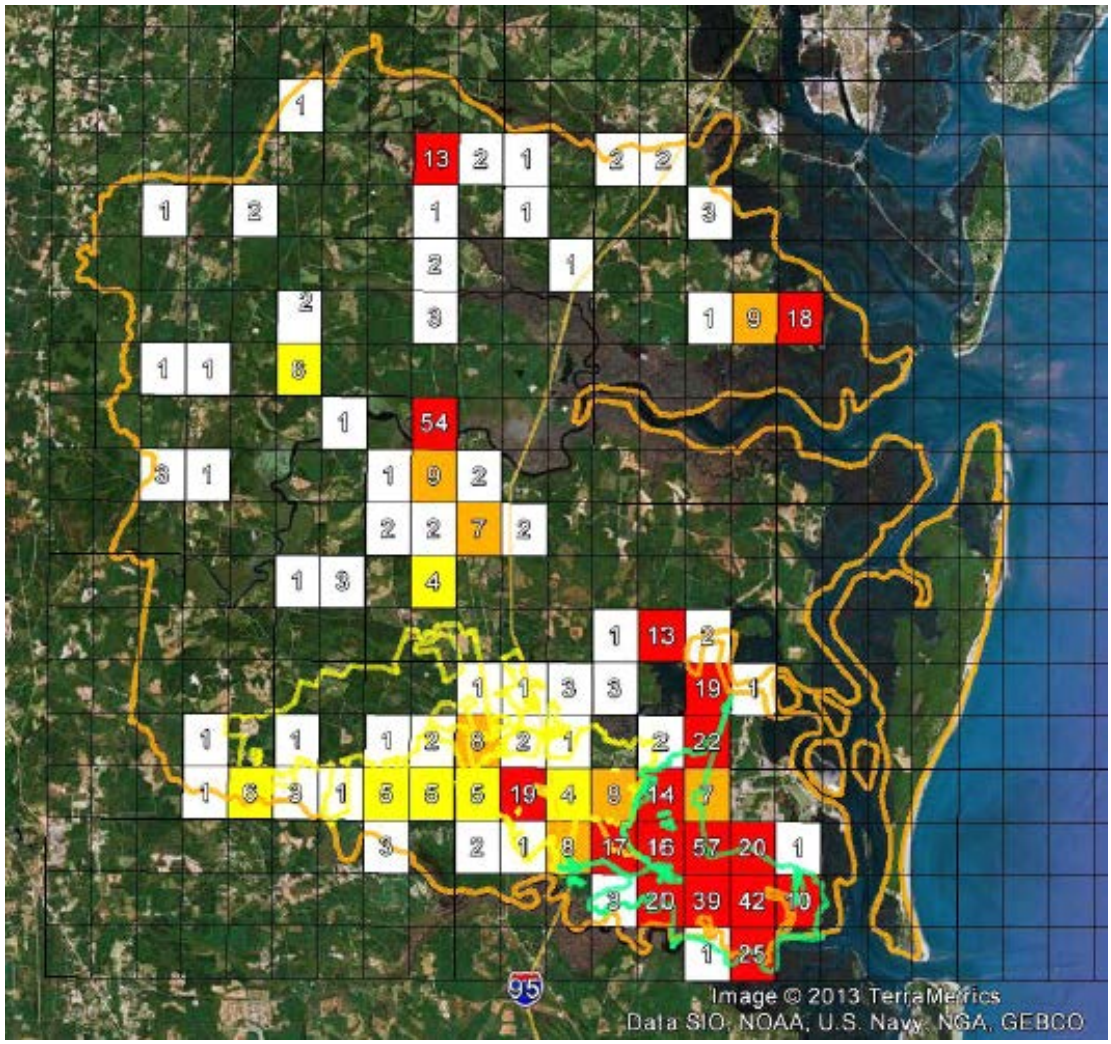
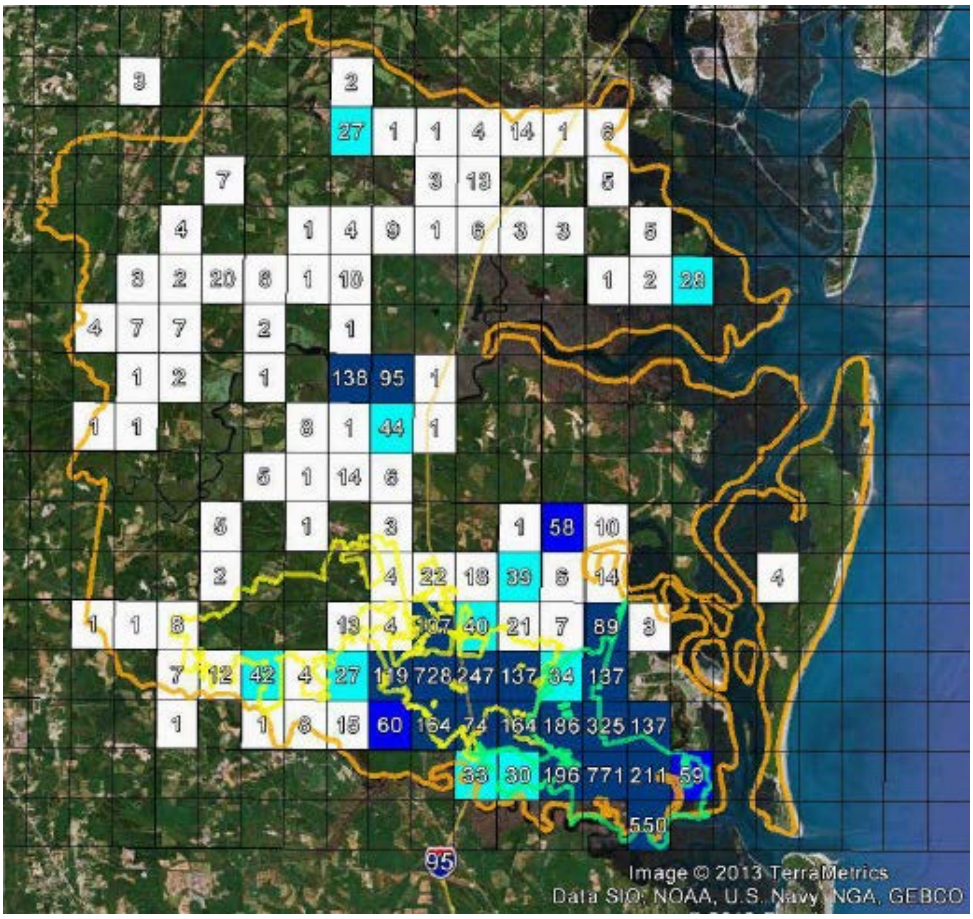


Figure 8: EMS Call Demand by Census Block



Figures 9, 10, and 11 look further into the consolidation opportunity by illustrating station location in southern Camden County (Figure 9), as well as call demand (fire and EMS) (Figures 10 and 11).

Figure 9: Southern Camden County Fire Station Location

Figure 10: Fire Call Demand: Southern Camden County

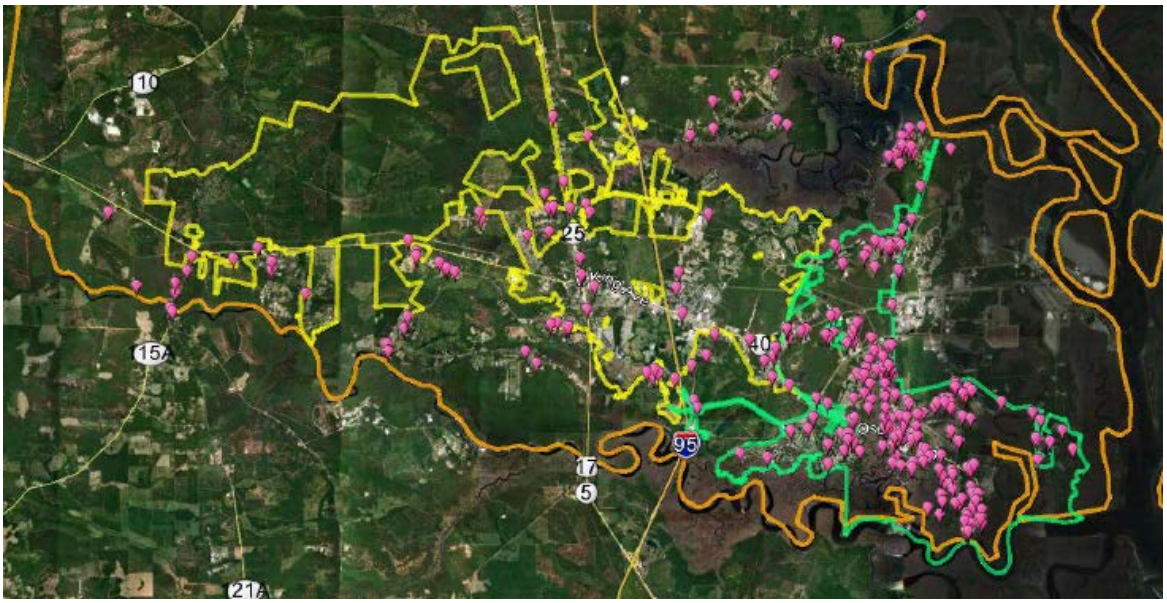
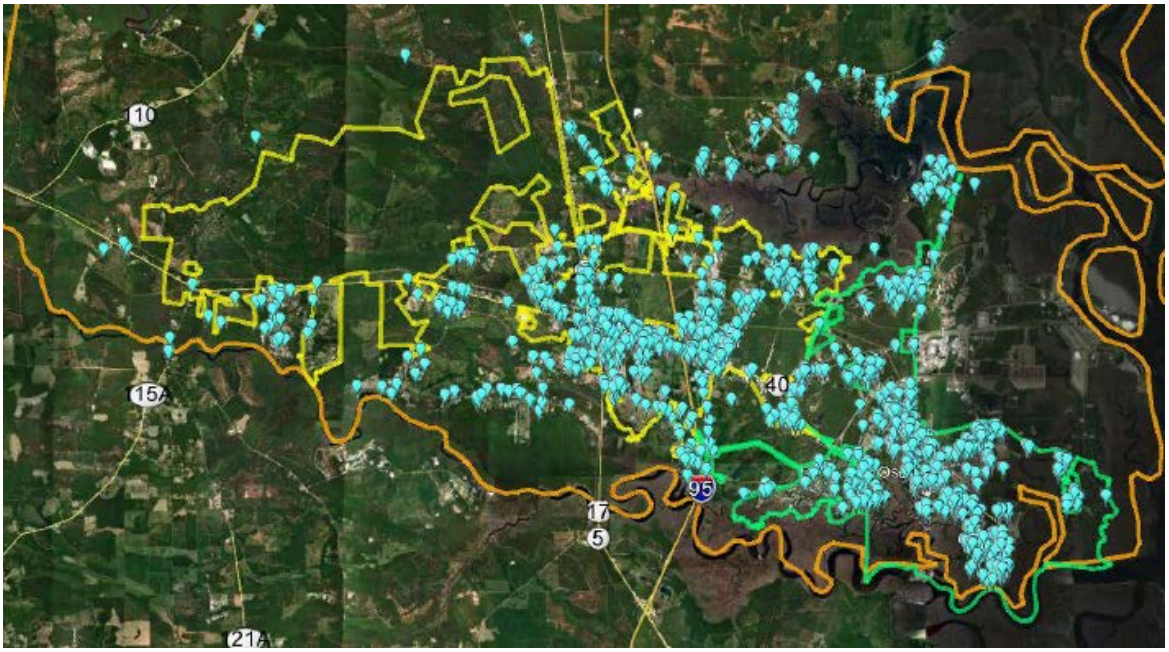


Figure 11: EMS Call Demand: Southern Camden County



Staffing and Deployment

Each department in this study staffs and deploys resources primarily with full-time equivalent employees. St. Marys and Kingsland utilize part-time staff to fulfill current minimum staffing. All three departments utilize part-time personnel to backfill vacancies created by scheduled and unscheduled leave. Each department deploys full-time staffing on 24-hour shifts, seven days a week. In each department, employees work a rotational 24 hours on and have 48 hours off.

Additionally all three departments deploy volunteer members in various capacities, such as fulfilling minimum staffing of apparatus; deploying additional apparatus such as tankers, aerial apparatus, and brush trucks; and staffing apparatus to increase capacity. The utilization of trained volunteer staff is critical to expanding capacity in each department and should continue to be sustained as such.

Table 4 further breaks down minimum staffing for a 24-hour shift by department by station in the southern portion of the county. Figure 12 illustrates available resources by station in the southern portion of the county.

Table 4: Southern Camden County Fire-EMS Shift Staffing Comparison

Department	Station Number	Full Time Staff	Part-Time Staff Utilized for Minimum Staffing	Total Staff
Camden County	10	3	Only for leave vacancies	3
Camden County	12	2	Only for leave vacancies	2
Camden County	14	1[1]	Only for leave vacancies	1
Camden County	15	2	Only for leave vacancies	2
Camden County	16	2	Only for leave vacancies	2
St. Marys	2	3	Only for leave vacancies	3
Camden County	2	2[2]	Only for leave vacancies	2
St. Marys	7	2	1[4]	3
St. Marys	9	3	1[5]	3
Kingsland	3	3	Only for leave vacancies	3
Camden County	3	2[3]	Only for leave vacancies	2
Kingsland	4	3	Only for leave vacancies	3
Kingsland	5	2	1[6]	2

1. Two full time positions also assigned to this station for the purpose of filling vacancies created by scheduled and unscheduled leave. If one or both are not utilized for this purpose, they remain at this station as additional capacity staffing.

2. Life Safety Squad assigned to this station for EMS response and transport.

3. Life Safety Squad assigned to this station for EMS response and transport.

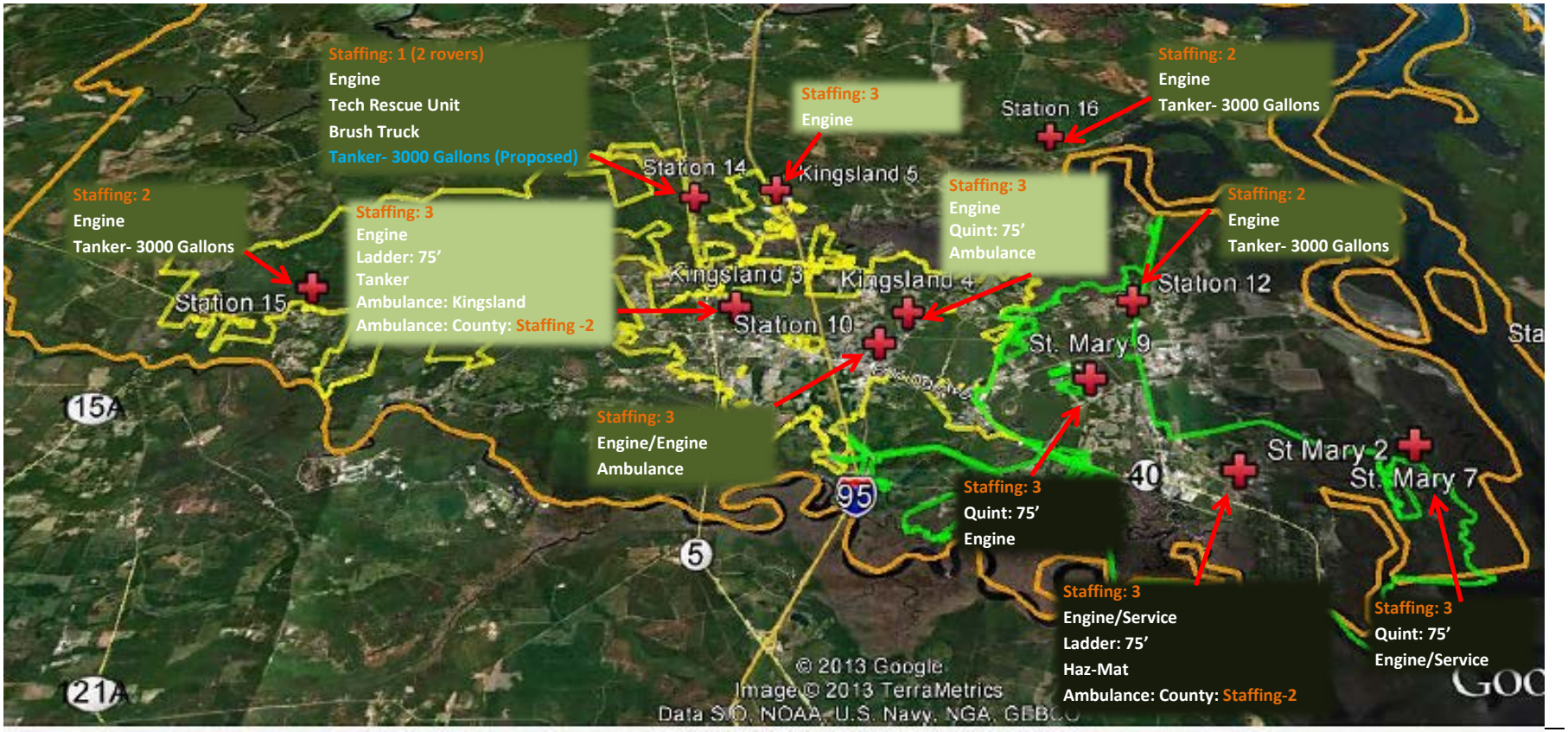
4/5. Part-time staff utilized for leave vacancies as well.

6. One part-time staff utilized to fill minimum staffing on blue shift only. One part-time staff utilized to increase staffing capacity from two to three on red shift.

As can be seen in Table 4, each department staffs each station with at least two personnel at a minimum, with the exception of station 14. Each city station with the exception of KFD station 5 deploys with a minimum staffing of three personnel. During the ICMA review, ICMA found that SMFD staffed two stations with grant funded positions. Funding for these positions was provided through a federal grant that expired in April 2013. As of this report, current funding for personnel in one of these stations is supported through the general fund.

Collectively, each 24-hour shift deploys 31 personnel; 29 are full-time and 2 are part-time (3 are part-time every third day). Of the 31 personnel, 6 are dedicated to EMS services and are assigned to CCFR life squads. These personnel and the EMS units are available for deployment to fire incidents if they are available. Linking staffing and deployable resources as well as volunteer surge capacity to call demand and risk assessment is critically important, and becomes more evident when including response times and call types in the planning process as consolidation is further considered.

Figure 12: Southern Camden County Apparatus Deployment (Current)



Current staffing (minimum staffing) and deployable first-out (staffed) resources available in southern Camden County each 24-hour shift from 11 stations includes: 31 personnel, nine engines, two (or three) quints,[9] three tankers, and three ambulances. Available resources deployed by volunteer members or career staff depending on call type (not regularly staffed and immediately available) include two ladder trucks, two ambulances (Kingsland), two engines, one tanker, and other ancillary support vehicles.

Call Types

For analysis purposes, and to be consistent with the initial CCFR report, the data analysis covers all calls for service between July 1, 2011, and June 30, 2012, as recorded by the Camden County Sheriff's Office communications center. During this period, the three departments aggregately responded to 5,262 calls, including 20 mutual aid calls outside of Camden County. The three agencies responded to 269 structure fire calls and 209 outside fire calls, which together made up 9 percent of the overall call workload. Emergency medical services responses (4,109) represent the largest percentage (78 percent) of the total call workload. The following sections further break down call type, response time, and individual unit workload for the three departments. The following tables and figures break down further calls by type and jurisdiction.

Table 5 breaks down calls by type aggregately for all jurisdictions.

TABLE 5: Call Types

Call Type	Number of Calls	Calls per Day	Call Percentage
Cardiac and stroke	392	1.1	7.4
Seizure and unconsciousness	439	1.2	8.3
Breathing difficulty	493	1.3	9.4
Overdose and psychiatric	128	0.3	2.4
MVA	355	1.0	6.7
Fall and injury	681	1.9	12.9
Illness and other	1,621	4.4	30.8
EMS Total	**4,109**	**11.2**	**78.1**
Structure fire	269	0.7	5.1
Outside fire	209	0.6	4.0
Hazard	64	0.2	1.2
False alarm	241	0.7	4.6
Good intent	97	0.3	1.8
Public service	197	0.5	3.7
Fire Total	**1,077**	**2.9**	**20.5**
Mutual aid	20	0.1	0.4
Canceled	56	0.2	1.1
Total	**5,262**	**14.4**	**100.0**

[9] Kingsland station 4 may respond either a quint or engine depending on alarm type.

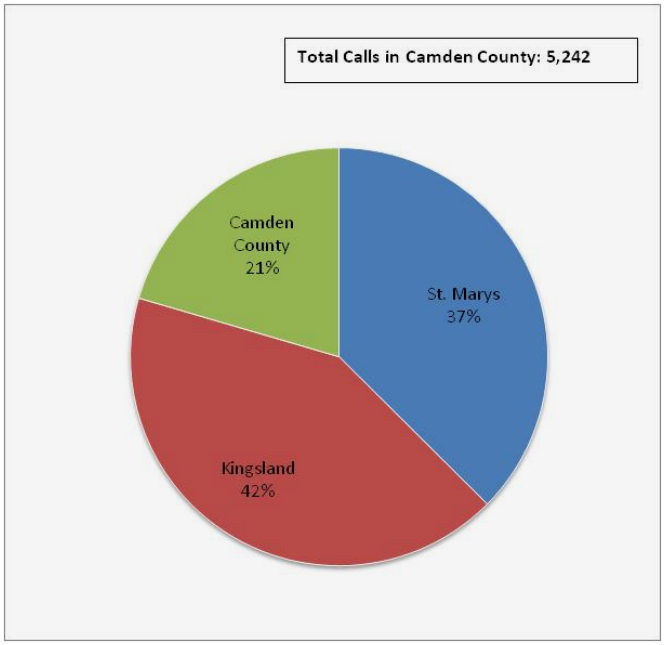
The three departments together responded to 5,262 calls during the study period, an average of just over 14 per day. Of these calls, EMS calls for service averaged 11 per day, with fire-related calls for service averaging 3 per day. Illness and other EMS call types represented the greatest percentage of EMS calls for service (31 percent), with an average of just over four calls per day. Structure fire calls represented the largest percentage of fire- related calls for service (5 percent) and averaged just less than one call per day. Of all calls, 65 percent were responded to by two departments (CCFR and SMFD or CCFR and KFD) and just over 1 percent was responded to by all three departments. Calls responded to by two departments were mainly EMS calls.

Table 6 depicts call type dispersion by department, with Figure 13 illustrating the overall percentage of aggregate calls by department. CCFR call counts include the city of Woodbine.

TABLE 6: Calls by Type and Department

Call Type	St. Marys	Kingsland	Camden County	Outside Camden
Cardiac and stroke	143	159	90	0
Seizure and unconsciousness	194	173	72	0
Breathing difficulty	191	214	88	0
Overdose and psychiatric	55	51	22	0
Motor Vehicle Accident	37	219	99	0
Fall and injury	269	300	112	0
Illness and other	624	681	316	0
EMS Total	**1,513**	**1,797**	**799**	**0**
Structure fire	148	72	49	0
Outside fire	118	69	22	0
Hazard	14	23	27	0
False alarm	73	125	43	0
Good intent	32	42	23	0
Public service	57	59	81	0
Fire Total	**442**	**390**	**245**	**0**
Mutual aid	0	0	0	20
Canceled	8	19	29	0
Total	**1,963**	**2,206**	**1,073**	**20**
Calls per Day	**5.4**	**6.0**	**2.9**	**0.1**
Percentage	**37.3**	**41.9**	**20.4**	**0.4**

FIGURE 13: Call Percentage by Department



Note: The 20 mutual aid calls which are outside Camden County are not included.

Camden County Fire Rescue includes calls in Woodbine and unincorporated areas.

In review of Table 6 and Figure 13, it can be seen that the KFD responded to the greatest percentage of EMS calls for service (48 percent) and the SMFD responded to the greatest percentage of fire-related calls (41 percent). SMFD also responded to the greatest percentage of fire calls (structure/outside) at 56 percent. Overall, KFD responded to the largest percentage of the aggregate calls for service (fire/EMS) at 42 percent.

Unit Workload

The time a unit is deployed on a single call is referred to as deployed time on a call for service and indicates the workload of that particular department, unit, or station. This can be measured as productive emergency response time over a shift period. In the case of each department in this analysis, the career shift is twenty-four hours.

During the year-long analysis period, in the aggregate all department units were deployed 8,264 hours, or an average of 22.4 hours per day. Fire-related calls accounted for 26 percent of deployed time. Structure and outside fire calls accounted for 10 percent of the total fire workload. The average deployed time for structure fire calls was 42 minutes, and the average deployed time for outside fire calls was 21 minutes. EMS calls accounted for 73 percent of the total workload. The average deployed time for EMS calls was 41 minutes. The deployed hours for all units spent on EMS calls averaged 16.4 hours per day. Tables 7 and 8 further break down workload by department.

TABLE 7: Aggregate Call Workload by Call Type

Call Type	Average Deployed Minutes per Run	Annual Hours	Percent of Total Hours	Deployed Hours per Day	Annual Number of Runs	Runs per Day
Cardiac and stroke	42.8	600	7.3	1.6	842	2.3
Seizure and unconsciousness	40.5	655	7.9	1.8	970	2.7
Breathing difficulty	42.6	756	9.1	2.1	1,065	2.9
Overdose and psychiatric	36.4	170	2.1	0.5	280	0.8
Motor Vehicle Accident	46.7	705	8.5	1.9	907	2.5
Fall and injury	36.4	892	10.8	2.4	1,468	4.0
Illness and other	39.9	2,220	26.9	6.1	3,338	9.1
EMS Total	**40.6**	**5,999**	**72.6**	**16.4**	**8,870**	**24.2**
Structure fire	42.3	473	5.7	1.3	671	1.8
Outside fire	21.0	360	4.4	1.0	1,027	2.8
Hazard	32.5	120	1.4	0.3	221	0.6
False alarm	27.9	183	2.2	0.5	394	1.1
Good intent	55.7	383	4.6	1.0	412	1.1
Public service	55.7	643	7.8	1.8	693	1.9
Fire Total	**37.9**	**2,161**	**26.2**	**5.9**	**3,418**	**9.3**
Mutual aid	86.7	38	0.5	0.1	26	0.1
Canceled	26.8	66	0.8	0.2	148	0.4
Total	**39.8**	**8,264**	**100.0**	**22.6**	**12,462**	**34.0**

TABLE 8: Annual Deployed Hours by Call Type and Department

Call Type	Annual Deployed Hours			
	St. Marys	Kingsland	Camden County	Outside Camden
Cardiac and stroke	202	231	167	NA
Seizure and unconsciousness	278	244	133	NA
Breathing difficulty	285	300	171	NA
Overdose and psychiatric	68	66	36	NA
Motor Vehicle Accident	50	387	268	NA
Fall and injury	348	353	190	NA
Illness and other	828	875	516	NA
EMS Total	**2,059**	**2,457**	**1,482**	NA
Structure fire	272	121	80	NA
Outside fire	199	114	47	NA
Hazard	27	45	48	NA
False alarm	67	75	41	NA
Good intent	173	114	95	NA
Public service	179	157	306	NA
Fire Total	**918**	**626**	**617**	NA
Mutual aid	NA	NA	NA	38
Canceled	6	17	43	0
Total	**2,983**	**3,101**	**2,143**	**38**
Daily Average	**8.2**	**8.5**	**5.9**	**0.1**
Percentage of Total Hours	**36.1**	**37.5**	**25.9**	**0.5**
EMS %	**69.0**	**79.2**	**69.2**	NA

Note: Camden County Fire Rescue includes calls in Woodbine and unincorporated areas.

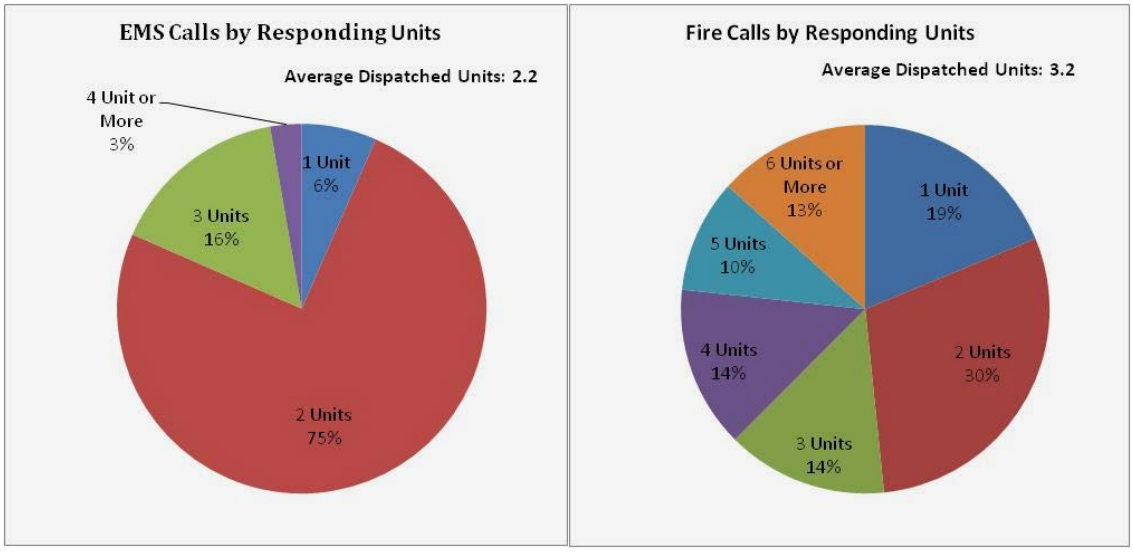
Table 8 reveals that the SMFD accounted for 36 percent of the total aggregate workload, averaging 8.2 hours per day with EMS calls accounting for 69 percent of that workload. The KFD accounted for 38 percent of the total workload, averaging 8.5 hours per day with EMS calls accounting for 79 percent of its workload. The CCFR accounted for 26 percent of the total aggregate workload, averaging 5.9 hours per day with EMS calls accounting 69 percent of that workload.

Another measure of workload is a measure of runs and number of units responding to calls for service. A dispatch of a unit is defined as a run; thus a call might include multiple runs (stations/units/departments). Table 9 depicts total number of runs by call type for each department, while Figure 14 illustrates number of units dispatched to both EMS- and fire-related calls for service.

TABLE 9: Total Number of Runs, by Call Type and Department

Call Type	Annual Number of Runs			
	St. Marys	Kingsland	Camden County	Outside Camden
Cardiac and stroke	323	338	181	NA
Seizure and unconsciousness	445	375	150	NA
Breathing difficulty	430	450	185	NA
Overdose and psychiatric	126	108	46	NA
Motor Vehicle Accident	88	558	261	NA
Fall and injury	610	626	232	NA
Illness and other	1,308	1,395	635	NA
EMS Total	3,330	3,850	1,690	NA
Structure fire	374	185	112	NA
Outside fire	529	374	124	NA
Hazard	62	89	70	NA
False alarm	132	204	58	NA
Good intent	146	178	88	NA
Public service	211	213	269	NA
Fire Total	**1,454**	**1,243**	**721**	NA
Mutual aid	NA	NA	NA	26
Canceled	22	47	79	NA
Total	**4,806**	**5,140**	**2,490**	**26**
Daily Average	**13.1**	**14.0**	**6.8**	**0.1**
Percentage of Total Runs	**38.6**	**41.2**	**20.0**	**0.2**
EMS %	**69.3**	**74.9**	**67.9**	**NA**

FIGURE 14: Number of Units Dispatched to Calls



Observations:

- Overall, one unit was dispatched 9 percent of the time, two units were dispatched 66 percent of the time, three units were dispatched 15 percent of the time, four units were dispatched 5 percent of the time, five units were dispatched 2 percent of the time, and six units or more were dispatched 3 percent of the time.
- On average, 3.2 units were dispatched per fire category call.
- For fire category calls, one unit was dispatched 19 percent of the time, two units were dispatched 30 percent of the time, three units were dispatched 14 percent of the time, four units were dispatched 14 percent of the time, five units were dispatched 10 percent of the time, and six units or more were dispatched 13 percent of the time.
- For structure fire calls, one unit was dispatched 8 percent of the time, two units were dispatched 57 percent of the time, three units were dispatched 22 percent of the time, and four or more units were dispatched 13 percent of the time.
- Four or more units responded to the majority of **outside fire** calls (87 percent). Three or fewer units were dispatched 13 percent of the time, four units were dispatched 29 percent of the time, five units were dispatched 23 percent of the time, and six or more units were dispatched 34 percent of the time.
- On average, 2.2 units were dispatched per EMS call.
- For EMS category calls, one unit was dispatched 7 percent of the time, two units were dispatched 75 percent of the time, three units were dispatched 16 percent of the time, and four or more units were dispatched 3 percent of the time.

Underlined information signals that a review of dispatch protocols (call screening) and individual department response procedures should occur. As an example, an efficient emergency medical dispatch can reduce some of the EMS workload responded to by fire units through a more efficient screening of incoming calls in the emergency communications center. It was noted that each department responds a fire unit to almost all EMS calls for service, with exception to specific locations, and certain calls that are downgraded to nonemergency. A more efficient call processing would be required in the CCSO dispatch center to only send CCFR, SMFD, and KFD fire units to the more emergent EMS calls for service. A system where call takers are trained to screen incoming calls for service in order to properly type and prioritize the call by chief compliant, and then provide information to the caller prior to responders arriving on the scene, creates a more efficient service delivery system.

According to Geoff Cady,[10] an expert in medical dispatch systems: "The most visible features of an EMD system is its ability to identify the need for pre-arrival instruction and prioritize an EMS response." Prioritizing EMS calls and sending the units and responders that are required, based on the severity of the call, is the most efficient system the CCSO can use to process and dispatch in conjunction with each fire department responding to calls for service.

[10] Geoff Cady, "The Medical Priority Dispatch System:-A System and Product Overview," http://www.emergencydispatch.org/articles/ArticleMPDS (Cady).html.

Response Time

Response time analysis includes call processing time in the emergency communications center; turn-out time or the time it takes alerted crews to properly assemble and mount the apparatus and respond; and travel time, which is the time from turning out to arrival on scene. Aggregately, this represents total response time. Given that different terms are used to describe the components of response time, for this analysis times are calculated as such: **dispatch processing time** is the difference between the earliest dispatch times of all units responding to the call and call-received time recorded in the dispatch center; **turnout time** is the difference between the unit time en route and the earliest unit dispatch time; and **travel time** is the difference between the unit on-scene arrival time and the time en route. **Response time** is the difference between the on-scene arrival time and call-received time.

Nationally there are benchmark standards against which fire departments (in the case of the three departments in this study, predominately career) can measure such things as response time. One such benchmarking standard is the National Fire Protection Agency (NFPA) 1710 standard, which is the *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Departments, 2010 Edition.* In this standard, where the primary public safety answering point (PSAP) is the communications center, the alarm processing time or dispatch time should be less than or equal to 60 seconds 90 percent of the time.[11] This standard also states that the turnout time should be less than or equal to 80 seconds for fire and special operations 90 percent of the time, and travel time shall be less than or equal to 240 seconds for the first arriving engine company 90 percent of the time. The standard further states the initial first alarm assignment should be assembled on scene in 480 seconds 90 percent of the time.

For the analysis period of this study, a total of 3,991 calls that had valid dispatch, turnout, and travel times are used for this section. This accounts for 77 percent of the three department's aggregate EMS and fire category calls within Camden County. The average response time for calls in SMFD was 7.1 minutes, the average response time for calls in the KFD was 7.2 minutes, and the average response time for calls for CCFR was 9.4 minutes. The longer average response time for calls for CCFR are the result of longer average travel times in the rural response areas.

Tables 10 and 11 depict response time analysis by each department (Table 10) and by call type (Table 11).

[11] NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Departments*, 2010 Edition, 7.

TABLE 10: Average Dispatch, Turnout, Travel, and Response Times of First Arriving Unit, by Department

Location	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size
St. Marys	2.0	1.5	3.6	7.1	1,475
Kingsland	2.1	1.4	3.7	7.2	1,815
Camden County	2.1	1.4	5.9	9.4	701
Total	**2.1**	**1.4**	**4.0**	**7.5**	**3,991**

TABLE 11: Average Response Time of First Arriving Unit, by Call Type and Department

	St. Marys		Kingsland		Camden County	
Call Type	Response Time	Sample Size	Response Time	Sample Size	Response Time	Sample Size
Cardiac and stroke	6.5	123	6.9	146	8.1	61
Seizure and unconsciousness	6.2	153	6.4	154	8.1	60
Breathing difficulty	6.9	171	6.8	194	9.7	73
Overdose and psychiatric	8.0	53	8.0	48	10.5	14
Motor Vehicle Accident	8.2	25	6.4	163	10.8	64
Fall and injury	7.2	215	7.4	262	9.4	85
Illness and other	7.4	458	7.3	536	9.1	215
EMS Total	**7.1**	**1,198**	**7.1**	**1,503**	**9.2**	**572**
Structure fire	7.2	92	7.5	54	8.4	33
Outside fire	7.0	85	6.9	60	10.7	13
Hazard	6.6	10	7.5	20	12.0	13
False alarm	8.8	26	8.1	100	10.0	13
Good intent	6.0	28	8.3	30	10.6	11
Public service	7.5	36	7.2	48	10.8	46
Fire Total	**7.2**	**277**	**7.6**	**312**	**10.2**	**129**
Total	**7.1**	**1,475**	**7.2**	**1,815**	**9.4**	**701**

A stricter analysis of response time components is the 90th percentile response time, which is what the discussed NFPA benchmark is measured against. In this analysis for example, a total response time of ten minutes indicates that the total response time was less than 10.0 minutes for 90 percent of all calls. Unlike averages, the 90th percentile response time is not equal to the sum of 90th percentile of dispatch time, turnout time, and travel time. Table 12 depicts 90th percentile response time components for the three departments.

TABLE 12: 90th Percentile Dispatch, Turnout, Travel, and Response Times of First Arriving Unit, by Department

Location	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size
St. Marys	4.1	2.1	5.8	10.0	1,475
Kingsland	4.2	2.0	6.5	10.4	1,815
Camden County	3.9	1.9	11.2	14.9	701
Total	**4.1**	**2.0**	**7.3**	**11.1**	**3,991**

As discussed in the CCFR individual report, there are two factors with regard to response times a fire department and local jurisdiction have an abundance of control over, and those are dispatch time and turnout time. Each department has direct control over turnout time and should always focus on improvement in this area. Call processing and dispatch time is also an area that requires constant review with a subsequent goal of improvement. In this component both the average times and 90th percentile times for the department are in excess of the national standard (NFPA 1710), and in some instances, in extreme excess. Both the dispatch and turnout times, if improved upon, will enhance the overall response time countywide.

Figures 15, 16, and 17 illustrate response time bleeds from each station in the county, and are represented aggregately to illustrate coverage. In a rural setting, such as what Figure 16 primarily represents, 240- and 360-second travel times are central to the fire station due to limited road network. 600-second or more travel times are not unrealistic. Figures 16 and 17 illustrate a much more even flow of 240- and 360-second travel times, as well as 480-second travel times if benchmarked against NFPA 1710.

For each map that follows: red =240 seconds; green =360 seconds; blue = 480 seconds; purple = 600 seconds.

Figure 15: Camden County Fire-Rescue Stations

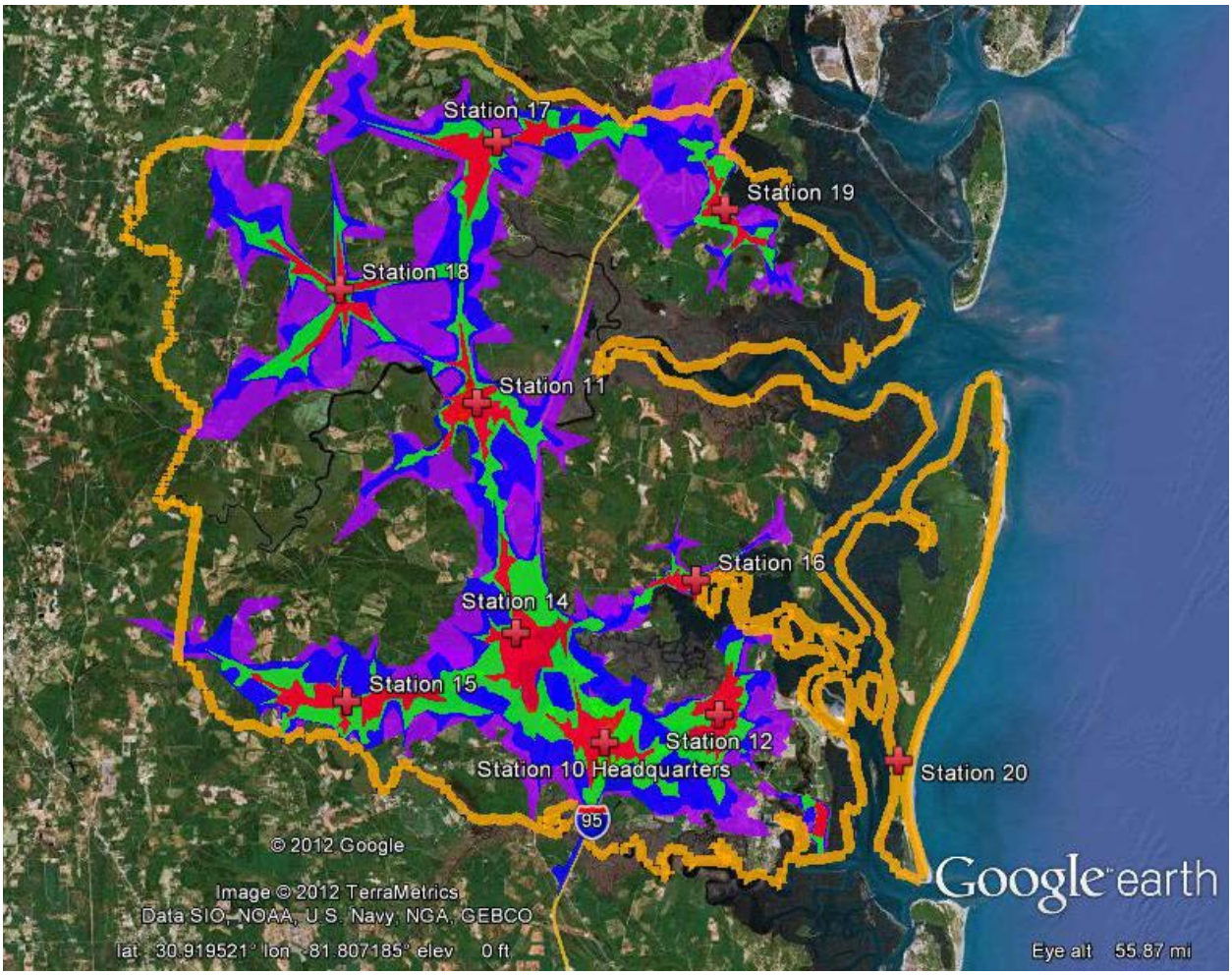


Figure 16: Fire Rescue Stations: Southern Camden County–Kingsland/Southern County Focused

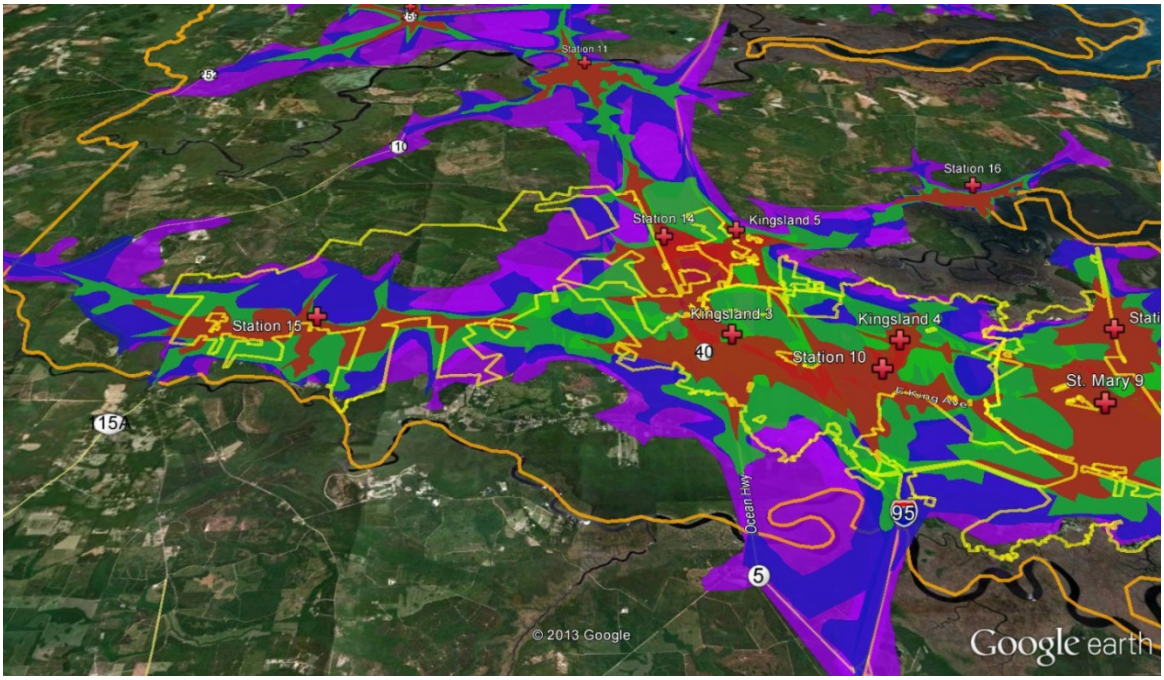
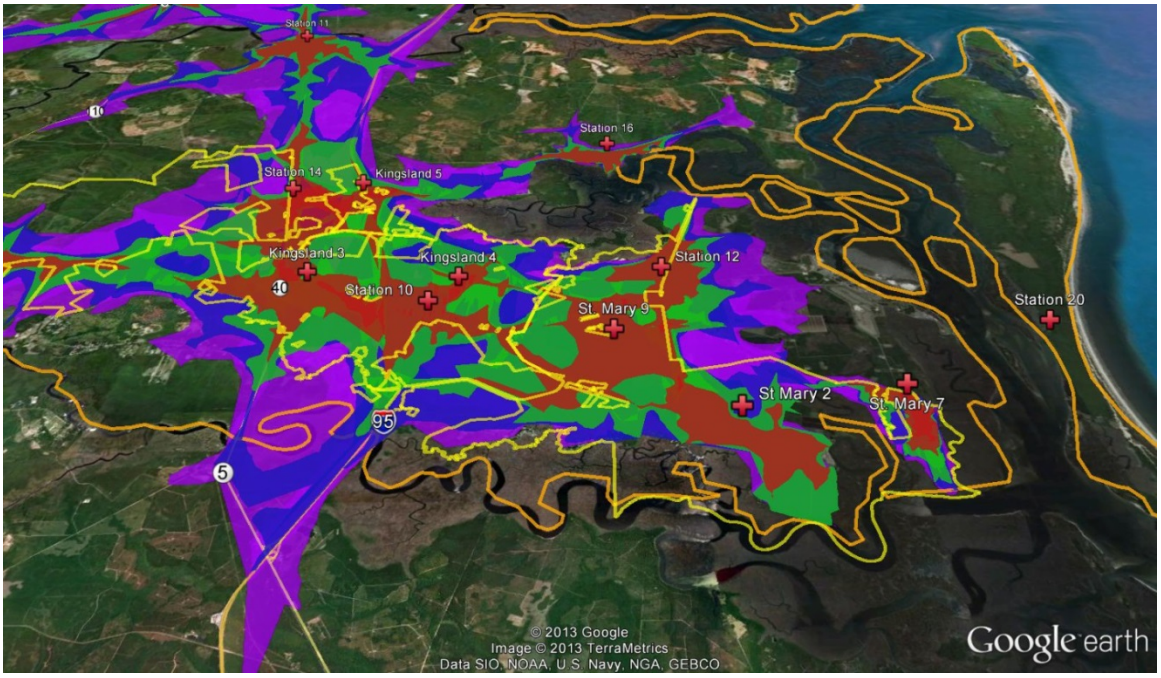


Figure 17: Fire Rescue Stations: Southern Camden County–St. Marys/Southern County Focused



Consolidation of Services

Feasibility of Camden County Fire Services Consolidation

ICMA visited each department as part of this analysis. Initially, ICMA conducted a full operational and data analysis for Camden County Fire Rescue in late 2012. In March 2013, ICMA visited the St. Marys Fire Department and conducted an on-site visit with the Kingsland Fire Department in April 2013. Additionally, in April 2013, ICMA returned for meetings with the three fire chiefs, their immediate senior staff, and each jurisdiction's finance director. ICMA has also conducted a comprehensive data analysis for each jurisdiction as depicted in this report. Lastly, ICMA also held several conference calls with key jurisdiction officials and as well has maintained contact with each jurisdiction's chief administrative officer.

ICMA has concluded, based on the data analysis and operational reviews conducted, **it is feasible to either fully consolidate or operationally consolidate the three fire departments located within Camden County.** ICMA found that there are two distinct fire and EMS service areas in Camden County: One is a northern and predominately rural fire and EMS service delivery system, and the other is a southern, predominately suburban and more densely populated fire and EMS service delivery system (Figure 18 on the next page illustrates this).[12] **ICMA further found that any consolidation alternative offered in this analysis is focused primarily on the southern portion of Camden County.**

Figure 18: Fire and EMS Service Area Dichotomy in Camden County

[12] CCFR water tender apparatus (tankers) in the southern response service area do link to rural water supply strategies and deployment in the northern response service area.

There are four county fire stations (County stations 11, 17, 18, 19) in the northern response area. Although Woodbine is incorporated, the area around the city is predominately rural, as are the other three stations and response areas. Table 13 depicts the workload for these stations.

Table 13: Station Workload for Northern Rural Response Service Area

Station	Unit Type	Unit ID	Annual Number of Runs	Annual Hours	Runs per Day	Deployed Hours per Day
11	Ambulance	LS1	567	559	1.56	
	Brush truck	B11	36	79		
	Engine	E11	458 **(341 EMS)**	293	1.25	
	Station 11 Total		**1,061**	**931**	**2.9**	**2.5**
17	Ambulance	LS7	283	288	.78	
	Engine	E17	111 **(72 EMS)**	72	.30	
	Tanker	T17	54	41	.15	
	Station 17 Total		**448**	**401**	**1.2**	**1.1**
18	Engine	E18	106 **(73 EMS)**	88	.29	
	Tanker	T18	36	39	.10	
	Station 18 Total		**142**	**127**	**0.4**	**0.3**
19	Engine	E19	134 **(83 EMS)**	126	**0.4**	**0.3**

Station 11, the busiest in the northern response area, averages just fewer than three runs per day. Broken down further, the engine averages just over one run per day (1.25) and the ambulance just over 1.5 runs per day (1.56). Aggregately, these units average 2.5 hours of deployed time on calls for service per twenty-four hour shift. Conversely, the least busy two companies average less than one-half run per day and less than one-half hour a day deployed time on calls for service.

A further analysis shows that combined, engines in the northern response area responded to 809 runs for service, of which 569 or 70 percent were EMS-related first response runs for service. Further, the two tankers aggregately averaged .25 runs per day, the four engines averaged just under two runs per day (1.88), and the two ambulances averaged just over two runs per day (2.34). The two county ambulances deployed in the northern response area aggregately responded to 850 runs, of which 156 or 18 percent were fire calls.

Because of the vast land mass and low population density that rural fire departments are charged with serving, numbers such as these are not uncommon***; however seeking efficiencies should always be priority. This was pointed out in the individual Camden County fire and EMS operational analysis, and can be reviewed in that report on pages 44-48. ICMA continues to strongly recommend that CCFR research and deploy combination units (fire suppression/EMS transport) in a consolidated fire and EMS service delivery model.***

There are five CCFR (county) fire stations in the southern response area of the county, and six city fire stations (three in Kingsland and three in St. Marys) for a total of eleven stations from which an array of fire and EMS staffing and assets are deployed. CCFR deploys three ambulances from one

county and two city (one in Kingsland and one on St. Marys) fire stations. Table 14 depicts the workload for these stations.

ICMA found that Kingsland deploys two ambulances from two of its three stations; however, they are not considered automatically in the current EMS deployment system and are only utilized in a mutual aid situation. Instead, the county repositions ambulances from the northern response area closer to the southern response area when the southern ambulance units deploy on calls. CCFR utilizes a risk-based approach to prioritize coverage of the greatest risk with the most resources, which is delineated by policy (CCFR 304-011 *Move Up Assignments*). The premise for this suggested operating guideline is the lower call volumes in the northern part of the county, which on balance allows for a shift of resources to the southern portion of the county when resources are reduced due to increase in call demand.

As KFD has capacity, and is willing to deploy an ambulance in the city of Kingsland automatically when EMS demand surges, ***ICMA recommends as part of any consolidated service delivery model that the city of Kingsland and Camden County partner and process the KFD and deployable EMS transport assets through the Georgia Department of Public Health EMS ground ambulance licensing, and the Southeast Georgia Regional EMS Zoning Plan requirements. This will avail at minimum one ambulance and at maximum two additional ambulances available for use in southern Camden County for use in surge capacity situations.***

It is not recommended in this study that KFD add additional personnel to accomplish this increase in deployment of resources. In discussion with KFD leadership, there is an understanding that deployable fire suppression staff is reduced when the ambulance is deployed, and that this may be more frequent than current ambulance deployment is. The KFD leadership remained supportive of assisting the county-wide EMS service. KFD fire suppression workload supports this concept.

Station 10, the busiest in the southern response area, averages just fewer than five runs per day. Broken down further, the engine in this station averages less than one-half run per day (.38) and the ambulance just over four runs per day (4.2). Aggregately, these units average 3.3 hours of deployed time on calls for service per twenty-four hour shift. The busiest engine company in the southern response area is St. Marys engine 21. Engine 21 averaged 3.0 runs per day. Conversely, the least busy two companies again average less than one-half hour per day of deployed time.

A further analysis shows that combined, the engines (or quint responding in an engine capacity) in the southern response area responded to 4,907 runs for service, of which 3068 or 63 percent were EMS first response runs for service.[13] Further, the four tankers aggregately average. 0.22 runs per day, the fourteen engines/quints averaged just under thirteen runs per day (12.71), the two ladders averaged just under one-half run per day, the three county ambulances (LS2, LS3, LS4) averaged just under twelve runs per day (11.7), and the two KFD ambulances averaged just under one call per day (.65). The three county ambulances deployed in the southern response area aggregately responded to 4,265 runs, of which 760 or 18 percent were fire calls.

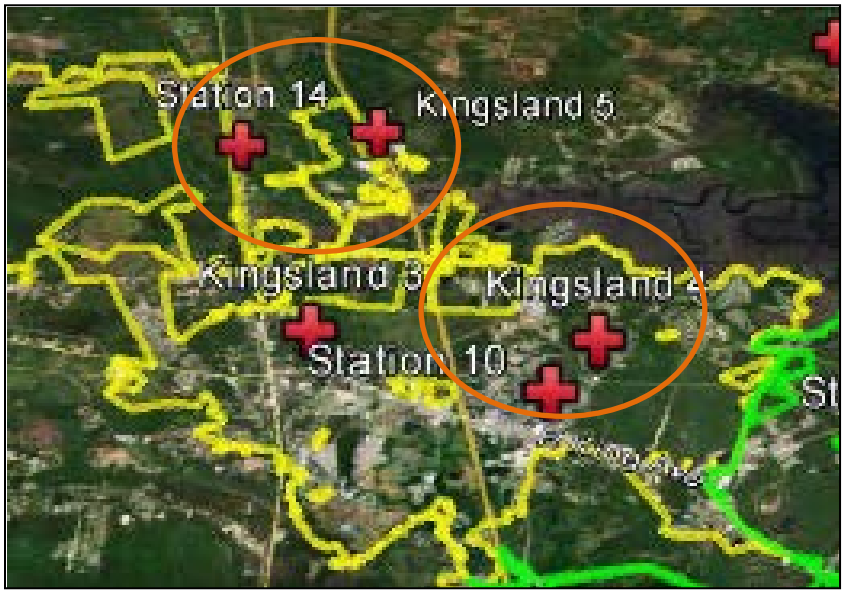
[13] KFD utilizes a light vehicle at station 3 (rescue 3) to respond to EMS first response calls for service. This unit responded to 887 EMS runs in lieu of an engine company for efficiencies. St. Marys ran a similar comparison and found that there rescue unit was comparable to their front-line heavy apparatus.

Table 14: Station Workload for Southern Rural Response Service Area

Station	Unit Type	Unit ID	Annual Number of Runs	Annual Hours	Runs per Day	Deployed Hours per Day
CCFR 10	Ambulance	LS4	1,543	1,098	4.2	
	Engine	E10	138	93	.38	
	Station 10 Total		**1,681**	**1,190**	**4.6**	**3.3**
CCFR 12	Engine	E12	255	137	.70	
	Tanker	T12	21	9	.06	
	Station 12 Total		**276**	**147**	**0.8**	**0.4**
CCFR 14	Brush truck	B14	15	36		
	Pumper	P 14	328	210	.90	
	Medium rescue	R1	44	31		
	Station 14 Total		**387**	**277**	**1.1**	**0.8**
CCFR 15	Engine	E15	331	219	.90	
	Tanker	T15	36	20	.10	
	Station 15 Total		**367**	**239**	**1.0**	**0.7**
CCFR 16	Engine	E16	142	101	.39	
	Tanker	T16	23	17	.06	
	Station 16 Total		**165**	**118**	**0.5**	**0.3**
KFD 3	Ambulance	MED3	79	97	.22	
	Brush Truck	BRU3	22	33		
	Engine	ENG3	249	120	.68	
	Ladder	LAD3	74	34	.20	
	Rescue	R3	887	428	2.4	
	Tanker	TANK3	4	3		
	Station 3 Total		**1,315**	**715**	**3.6**	**2.0**
KFD 4	Ambulance	MED4	157	194	.43	
	Engine	ENG4	728	318	2.0	
	Quint	Q4	146	53	.40	
	Station 4 Total		**1,034**	**566**	**2.8**	**1.5**
KFD 5	Engine	ENG5	301	123	.82	
	Station 5 Total		**312**	**124**	**0.9**	**0.3**
SMFD 2	Brush truck	BRU2	22	29		
	Engine	ENG21	1,088	513	3.0	
	Ladder	LAD2	94	47	.26	
	Station 2 Total		**1,204**	**589**	**3.3**	**1.6**
SMFD 7	Engine	ENG2	158	80	.43	
	Quint	Q7	280	163	.77	
	Station 7 Total		**438**	**243**	**1.2**	**0.7**
SMFD 9	Engine	ENG9	40	23	.11	
	Quint	Q9	723	369	2.0	
	Rescue	R2	13	19		
	Station 9 Total		**776**	**411**	**2.1**	**1.1**

When considering the feasibility for consolidation, ICMA considers station placement, particularly those stations from different jurisdictions in close proximity of one another. In the case of this analysis, ICMA finds two such instances and these are the pairing of KFD station 5 and CCFR station 14, and the pairing of KFD station 4 and CCFR station 10. Figures 19, 20, and 21 illustrate this proximity more closely.

Figure 19: Proximity View: Stations 14 & 5; Stations 10 & 4



The workload and staffing for stations 14 and 5 are depicted below in Table 15.

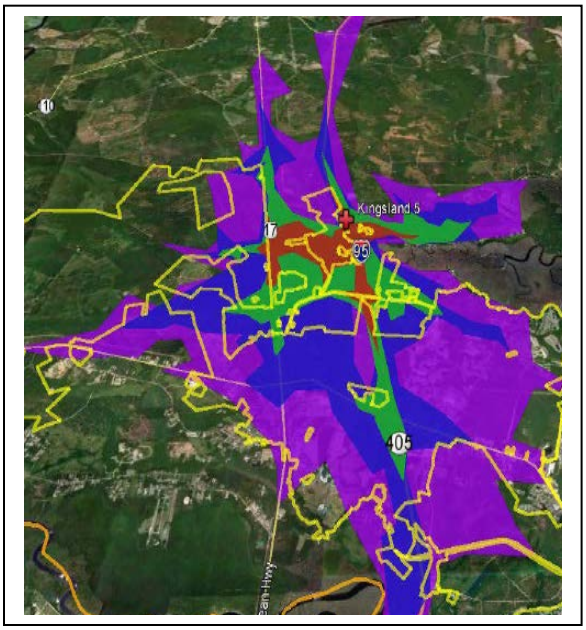
Table 15: Workload and Staffing for stations 14 and 5

Station	Unit Type	Unit ID	Annual Number of Runs	Annual Hours	Runs per Day	Deployed Hours per Day
CCFR 14	Brush truck	B14	15	36		
Staffing: 1	Pumper	P 14	328 **(190 EMS)**	210	.90	
	Medium rescue	R1	44	31		
	Station 14 Total		**387**	**277**	**1.1**	**0.8**
KFD 5	Engine	ENG5	301 **(107 EMS)**	123	.82	
Staffing: 3	**Station 5 Total**		**312**	**124**	**0.9**	**0.3**

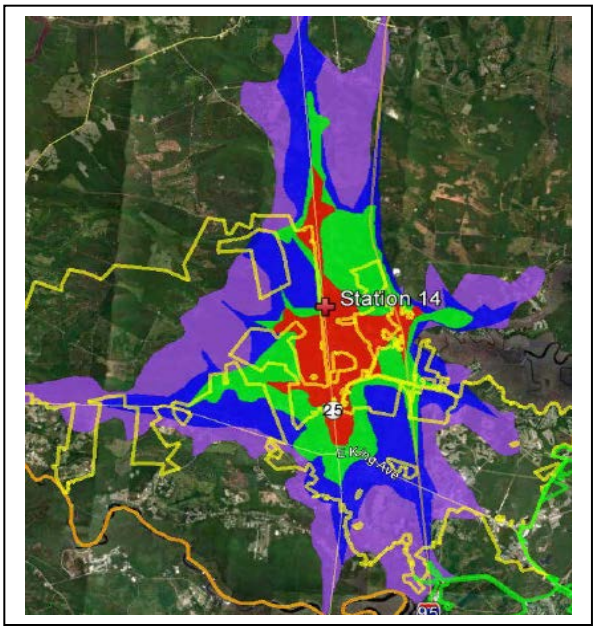
Note: Station 14 also has two rovers assigned for countywide use as backfill for scheduled and unscheduled leave.

Figure 20: Travel Time Bleeds from Stations 14 and 5

KFD Station 5



CCFR Station 14



Red=240 seconds Green = 360 seconds Blue = 480 seconds Purple = 600 seconds

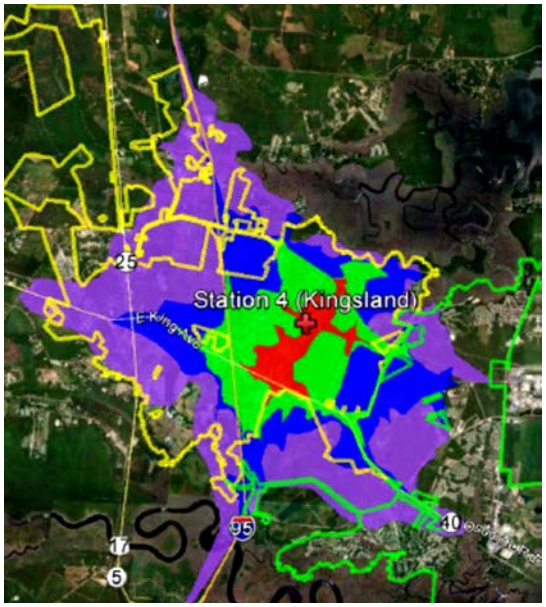
The workload and staffing for stations 10 and 4 are depicted below in Table 16.

Table 16: Workload and Staffing for stations 10 and 4

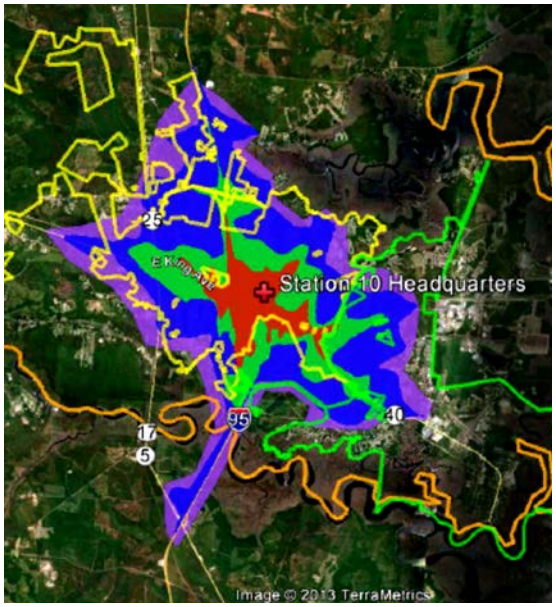
Station	Unit Type	Unit ID	Annual Number of Runs	Annual Hours	Runs per Day	Deployed Hours per Day
CCFR 10	Ambulance	LS4	1,543	1,098	4.2	
Staffing: 3	Engine	E10	138	93	.38	
1:Fire 2:Ambulance	**Station 10 Total**		**1,681**	**1,190**	**4.6**	**3.3**
KFD 4	Ambulance	MED4	157	194	.43	
Staffing: 3	Engine	ENG4	728	318	2.0	
	Quint	Q4	146	53	.40	
	Station 4 Total		**1,034**	**566**	**2.8**	**1.5**

Figure 21: Travel Time Bleeds from Stations 10 and 4

KFD Station 4



CCFR Station 10



Red=240 seconds Green = 360 seconds Blue = 480 seconds Purple = 600 seconds

Based on station location, call demand for fire apparatus, and available staffing for fire apparatus, ICMA recommends the closing of CCFR stations 14 and 10. In this scenario the KFD will assume the unincorporated engine company fire response district(s) served by these two stations. *Impacts potentially may include some addresses being affected by an ISO rating change; however, ICMA cannot fully determine this effect until the KFD is evaluated by ISO should and after this proposed change in response districts occurs.* ICMA recommends these station closings in both consolidation alternatives, which is discussed in the next section.

Consolidation Alternatives

Local communities across the country are considering a variety of joint government ventures to provide the most efficient and effective level of public service to meet their communities' needs, while matching appropriate levels of service against available fiscal resources. Today, local governments are applying a broad brush of approaches to service delivery in the face of an unstable economy. Approaches range from entering into interlocal agreements to fund and provide services to the formal consolidation of agencies across jurisdictional lines.

Public safety services are not immune to the fiscal issues affecting local government. As fiscal resources continue to be stretched for essential local government services and maintaining municipal infrastructure, the funding for public safety services has become in most cases, sparse. For fire and EMS departments, demands for services are increasing at a steady rate, particularly for emergency medical services (which most fire departments provide today) as revenues to fund more services are decreasing.

Consolidation of two or more fire agencies represents a viable option that enables the most efficient use of resources and programs where appropriate. When implemented properly, consolidation works to overcome jurisdictional boundaries, ensures that the closest unit responds after receipt of a 911 call, and potentially improves response times and mitigation efforts. Additionally, consolidation enables the involved jurisdictions the ability to deal effectively with issues that span some or all of the jurisdictions. As an example, jurisdictions can also approach training, fire prevention, and fire investigation through a common program with common policies, codes, and regulations.

A properly implemented consolidation may potentially *in the long-term* eliminate redundancy in capital investments—such as apparatus and fixed facilities—as well as personnel. Additional service delivery reductions and cost savings can be realized through the consolidation planning process to include volume procurement, operations and maintenance, training, and large capital project investments. At the same time, there is the potential for an increase in some costs, particularly if the long-term plans identify the need to relocate current facilities or the need for specialized apparatus to provide a more efficient deployment of resources.

In order to evaluate the consolidation question, certain assumptions must be made concerning the level of fire protection and emergency services desired by the community as a whole. In the absence of a comprehensive master plan for service provision in each of the three agencies, and understanding the importance of the ISO community rating each jurisdiction has strived to achieve and maintain, ICMA developed two alternatives for consolidation/shared services following these basic principles:

- The proposed consolidated fire department or an alternative which shares services should not reduce the level of service currently provided by each jurisdiction or place any jurisdiction at a higher risk.

- The service levels in the proposed consolidation or shared services alternative should not place additional costs upon each jurisdiction.

- Shared resources may alleviate pressure points (operationally and financially) on a given jurisdiction to meet ISO requirements and current community ratings.

Alternative 1: Full Consolidation

Under this scenario, the three departments will fully merge into one agency serving the incorporated areas of Kingsland, St. Marys, and Woodbine, and the unincorporated area within the boundaries of Camden County.

Under full consolidation ICMA recommends the closing of two county fire stations (10 and 14), the repurposing of county personnel from the two closed fire stations, the redistribution of one county ambulance and two county tanker apparatus, and expansion of EMS transport capabilities utilizing current and available assets and resources. Program functions such as comprehensive planning, training, fire prevention and investigation, procurement, and other administrative functions would naturally be consolidated as well.

Table 17 on the next page depicts these proposed changes.

Table 17: Full Consolidation Staffing and Deployment Changes

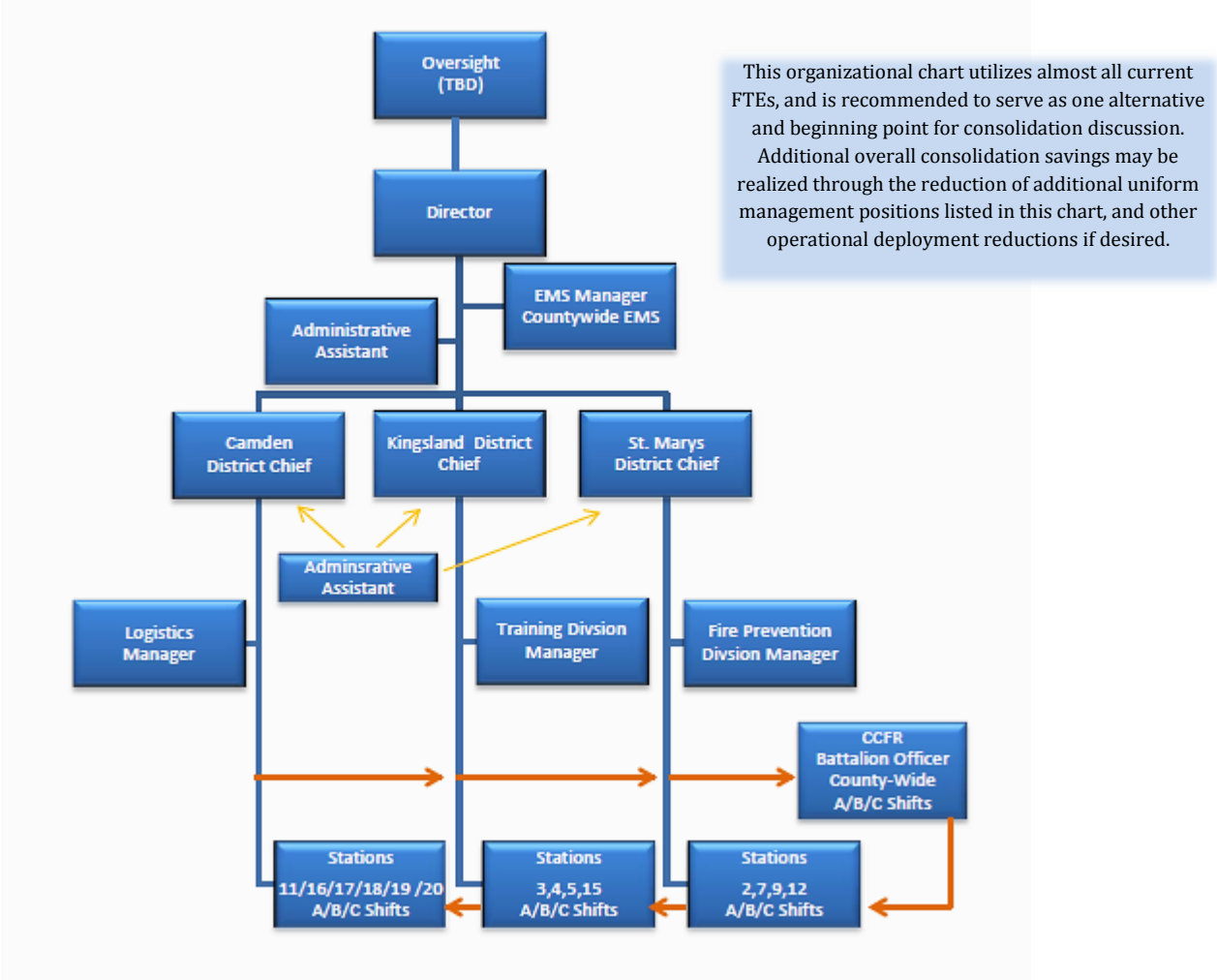
Proposed Change	Impact	Repurpose of Staff	Repurpose of Equipment
Close Station 10	KFD Station 4 assumes unincorporated fire response area (1st, 2nd, and 3rd due). Potential ISO classification changes for some addresses in station 10 response area.	Repurpose 1 FTE from each shift (3 total) from CCFR station 10 to a northern response area station (recommend station 17).	LS4 ambulance moves to SMFD station 9 with current staff. Reassign Tanker 12 to SMFD station 9 to facilitate higher response potential due to available staffing levels (LS4-2, SMFD-3)
Close Station 14	KFD Station 5 assumes unincorporated fire response area (1st, 2nd, and 3rd due). Potential ISO classification changes for some addresses in station 14 response area.	Repurpose 1 FTE from each shift (3 total) from CCFR station 14 to KFD station 5.	Reassign proposed tanker placement from station 14 to station 5 (from CCFR fire chief proposed tanker plan). Reassign Pumper 14, Rescue 1 and Brush Truck to appropriate CCFR station locations as determined by CCFR fire chief.
Include KFD Medics 3 and 4 as additional capacity in Camden County EMS System	Increases capacity of ambulances in Camden County EMS system utilizing current resources. Decreases movement of CCFR ambulances away from the northern response area. Increases demand on KFD stations 3 and 4.	None	None

Under full consolidation, ICMA further recommends as one alternative an organizational structure that merges the three departments as "fire districts," with one fire chief/director responsible for the overall organization. This new director/fire chief may be hired from a national search. Each fire district and the personnel assigned to it then would be commanded by a current chief, whose title would be District Fire Chief.

The fire chief/director of the consolidated fire department would report to an oversight committee/authority or as to be determined, which could be composed of elected officials,

appointed officials of local government, and the community. The new, consolidated fire department could take on the formal name of Southeastern Georgia Fire-Rescue Department, with each district retaining its individual name (Kingsland District, St. Marys District, and Camden County District). Figure 22 illustrates the organizational chart recommended for the consolidated fire department.

Figure 22: Consolidated Fire Department Organizational Chart



In this organizational chart, the director/fire chief is either a new position, or a repurposed position that is vacant or may become vacant through CCRR reorganization. (*Currently there are three CCFR division officers; ICMA recommends the elimination of two of these positions. One position is then repurposed as the Director/Fire Chief*). The administrative assistants are current and repurposed administrative positions from CCFR. The logistics manager is a current position in CCFR. The training division manager is the current assistant chief of the KFD. The fire prevention/investigation manager is the current assistant chief of the SMFD. The battalion officers (three FTEs) are current CCFR positions. It is recommended the EMS manager report directly to the director, as this is a county-wide program and not isolated to a particular district. Table 18 on the next page shows the recommended staffing levels for the consolidated fire department.

Table 18: Recommended Staffing Levels–Consolidated Fire Department

Position/Station	Current	Proposed
Director/Fire Chief	0	1-repurposed CCFR Division Officer
Camden District Chief	1-Camden Fire Chief	1
St. Marys District Chief	1-St. Marys Fire Chief	1
Kingsland District Chief	1-Kingsland Fire Chief	1
Assistant Fire Chief-KFD	1	0
Assistant Fire Chief-SMFD	1	0
EMS Division Chief	1-CCFR Division Officer	1-CCFR Division Officer
Training Division Chief	0	1-KRFD Assistant Chief
Fire Prevention/Investigation Division Chief	0	1-SMFD Assistant Chief
Operations Division Officer	1-CCFR	0
Training Division Officer	1-CCFR	0
Battalion Division Officer	3-CCFR	3
Administrative Assistants	2-CCFR	2
Logistics Manager	1-CCFR	1
Station 3-KFD	3 per shift (9 total)	3 per shift (9 total)
Station 4-KFD	3 per shift (9 total)	3 per shift (9 total)
Station 5-KFD	2 per shift (6 total)	3 per shift (1 FTE repurposed from CCFR Station 14) (9 total)
Station 2-SMFD	3 per shift (9 total)	3 per shift (9 total)
Station 7-SMFD	3 per shift (9 total)	2 per shift (6 total)
Station 9-SMFD	3 per shift (9 total)	3 per shift (9 total)
Station 10-CCFR (fire only)	1 per shift (3 total)	0
Station 11-CCFR (fire only)	2 per shift (6 total)	2 + 2 leave relief positions per shift (from station 14) (12 Total)
Station 12-CCFR	2 per shift (6 total)	2 per shift (6 total)
Station 14-CCFR	1 + 2 leave relief positions per shift (9 total)	0
Station 15-CCFR	2 per shift (6 total)	2 per shift (6 total)
Station 16-CCFR	2 per shift (6 total)	2 per shift (6 total)
Station 17-CCFR (fire only)	1 per shift (3 total)	2 per shift (1 repurposed from station 10 closing) (6 total)
Station 18-CCFR	2 per shift (6 total)	2 per shift (6 total)
Station 19-CCFR	2 per shift (6 total)	2 per shift (6 total)
CCFR LS1-Station 11	2 per shift (6 total)	2 per shift (6 total)
CCFR LS2-Station 2	2 per shift (6 total)	2 per shift (6 total)
CCFR LS3-Station 3	2 per shift (6 total)	2 per shift (6 total)
CCFR LS4-Station 10	2 per shift (6 total)	2 per shift (reassigned to SMFD station 9) (6 total)
CCFR LS7-Station 17	2 per shift (6 total)	2 per shift (6 total)
Totals	**146**	**142**

The primary benefits of consolidation often occur in two different time phases. There are often short-term (immediate) cost savings opportunities, and there is also efficiency, attrition, and planning opportunities that may only reduce costs in the long-term after the consolidated department is established, and a comprehensive plan has been established. Each stakeholder community will have a different perspective for the phasing of cost savings potential, and will have to weigh that in the balance with improvements in potential organizational and operational efficiency. The success of consolidation will be judged on whether the consolidation plan results in a long term sustainable department that provides high-quality services to the citizens of the three jurisdictions. *It should not be viewed only as simply a way to balance next year's budget.*

Cost savings potential usually results from eliminating overlapping costs when budgets are combined. A lower overall cost is then spread over a combined assessed valuation or other contribution model which may yield a new tax rate. Depending on how the dollars were allocated previously, the tax rates may decrease due to the lower budget, but the tax rates also may increase due to some tax shifts. Thus, even with lower overall budgets, tax rates may not be reduced. A stronger financial position for fire and EMS service delivery may be realized however in the long term through consolidation, and jurisdictional contribution levels or millage rates can be sustained or lowered. This is discussed further in this report.

Lastly the most often stated and commonly recognized concern for any consolidation is the potential loss of local control. Closely tied to this is the potential loss of department identity. Each of the three jurisdictions impacted by the consideration of consolidation has a proud history, and takes personal ownership of their facilities and their equipment, and each takes great pride in keeping their local community and/or response area safe. ICMA understands this and designed the initial organizational chart with this in mind, and as well the governance of the consolidated fire department that includes elected officials and community members.

Alternative 2: Operational Consolidation

Under this scenario, the three departments would enter into full automatic aid agreements designed to effectively and efficiently serve the incorporated areas of Kingsland, St. Marys, and Woodbine, and the unincorporated area within the boundaries of Camden County. The three departments would remain legally separate and reside under the umbrella of their governmental jurisdiction, but join together operationally and in some program areas administratively to deliver seamless fire and EMS services.

With operational consolidation ICMA recommends the closing of two county fire stations, the repurposing of county personnel from the two closed fire stations, the redistribution of one county ambulance and two county tanker apparatus, and expansion of EMS transport capabilities utilizing current and available assets and resources. Program functions such as comprehensive planning training, fire prevention and investigation, procurement, and other administrative functions can be consolidated as well either in part or in totality.

Table 19 on the next page reiterates benefits and impacts of this.

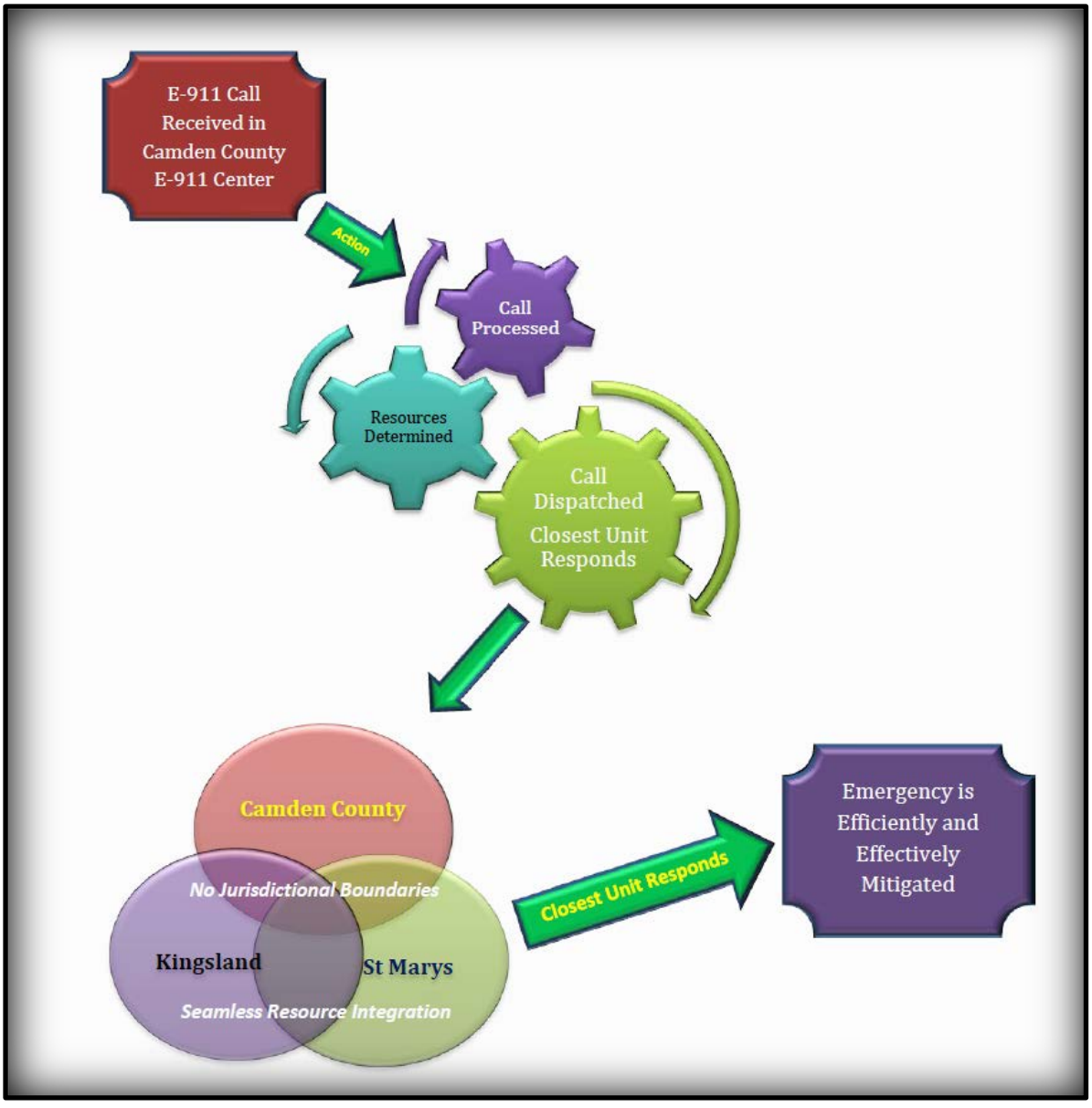
Table 19: Operational Consolidation Staffing and Deployment Changes

Proposed Change	Impact	Repurpose of Staff	Repurpose of Equipment
Close Station 10	KFD Station 4 assumes unincorporated fire response area (1st, 2nd, and 3rd due). Potential ISO classification changes to some addresses in station 10 response area.	Repurpose 1 FTE from each shift (3 total) from CCFR station 10 to a northern response area station (recommend station 17).	LS4 ambulance moves to SMFD station 9 with current staff. Reassign Tanker 12 to SMFD station 9 to facilitate higher response potential due to available staffing levels (LS4-2, SMFD-3)
Close Station 14	KFD Station 5 assumes unincorporated fire response area (1st, 2nd, and 3rd due). Potential ISO classification changes to some addresses in station 14 response area.	Repurpose 1 FTE from each shift (3 total) from CCFR station 14 to KFD station 5.	Reassign proposed tanker placement from station 14 to station 5 (from CCFR Fire Chief proposed tanker plan). Reassign Pumper 14, Rescue 1 and Brush Truck to appropriate CCFR station locations as determined by CCFR fire chief.
Include KFD Medics 3 and 4 as additional capacity in Camden County EMS System	Increases capacity of ambulances in Camden County EMS system utilizing current resources. Decreases movement of CCFR ambulances away from the northern response area. Increases demand on KFD stations 3 and 4.	None	None

Under operational consolidation each department maintains its respective organizational chart, leadership, and legal governance. In this alternative, however, there are no jurisdictional boundaries. Through agreed-upon automatic aid agreements, fire services cross jurisdictional boundaries as the closest unit(s) respond (s) to calls for service, regardless of jurisdiction. Efficiencies are found in the closing of two fire stations, the consolidation of some or all program functions such as training and fire prevention activities, and the expansion in fire and EMS system capacity utilizing current assets and resources.

Figure 23 illustrates a fully operational consolidation where the closest units (s) respond (s) to the call for service.

Figure 23: Automatic Aid Model



The key to the above model is the seamless response of the closest unit across jurisdictional lines regardless of agency. In this model the closest unit responds and mitigates the incident. Should the incident require the response of multiple units (for example, a structural fire), the closest units are still dispatched and may include two or all three jurisdictions, depending on the geographical location of the incident. This model creates efficiencies for each agency and provides timely response of emergency apparatus to the customer. Table 20 on the next page depicts staffing changes under this model.

Table 20: Recommended Staffing Levels–Operational Consolidation

Position/Station	Current	Proposed
Camden Fire Chief	1	1
St. Marys Fire Chief	1	1
Kingsland Fire Chief	1	1
Assistant Fire Chief-KFD	1	1
Assistant Fire Chief-SMFD	1	1
EMS Division Officer	1-CCFR	1
Operations Division Officer	1-CCFR	1
Training Division Officer	1-CCFR	1
Battalion Division Officer	3-CCFR	3
Administrative Assistants	2-CCFR	2
Logistics Manager	1-CCFR	1
Station 3-KFD	3 per shift (9 total)	3 per shift (9 total)
Station 4-KFD	3 per shift (9 total)	3 per shift (9 total)
Station 5-KFD	2 per shift (6 total)	3 per shift (1 FTE repurposed from CCFR Station 14) (9 total)
Station 2-SMFD	3 per shift (9 total)	3 per shift (9 total)
Station 7-SMFD	3 per shift (9 total)	2 per shift (6 total)
Station 9-SMFD	3 per shift (9 total)	3 per shift (9 total)
Station 10-CCFR (fire only)	1 per shift (3 total)	0
Station 11-CCFR (fire only)	2 per shift (6 total)	2 + 2 leave relief positions per shift (from station 14) (12 Total)
Station 12-CCFR	2 per shift (6 total)	2 per shift (6 total)
Station 14-CCFR	1 + 2 leave relief positions per shift (9 total)	0
Station 15-CCFR	2 per shift (6 total)	2 per shift (6 total)
Station 16-CCFR	2 per shift (6 total)	2 per shift (6 total)
Station 17-CCFR (fire only)	1 per shift (3 total)	2 per shift (1 repurposed from station 10 closing) (6 total)
Station 18-CCFR	2 per shift (6 total)	2 per shift (6 total)
Station 19-CCFR	2 per shift (6 total)	2 per shift (6 total)
CCFR LS1-Station 11	2 per shift (6 total)	2 per shift (6 total)
CCFR LS2-Station 2	2 per shift (6 total)	2 per shift (6 total)
CCFR LS3-Station 3	2 per shift (6 total)	2 per shift (6 total)
CCFR LS4-Station 10	2 per shift (6 total)	2 per shift (reassigned to SMFD station 9) (6 total)
CCFR LS7-Station 17	2 per shift (6 total)	2 per shift (6 total)
Totals	**146**	**143**

Financial Aspects

Methodology

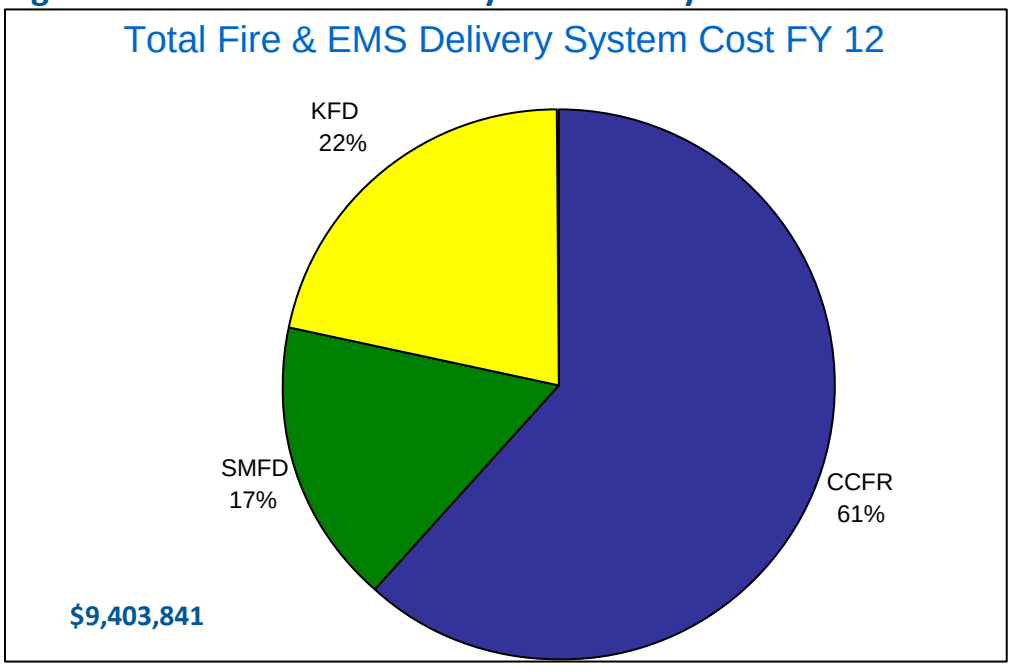
The total cost of providing fire and EMS service to Camden County in fiscal year (FY) 2012 was estimated from data provided by each jurisdiction as well as information available from the Comprehensive Annual Financial Reports (CAFRs). Adjustments were made to include all costs associated with providing the services, even if the costs are centrally funded and not specifically identified as fire department expenditures. Table 21 and Figure 24 explain this information.

Table 21: Fiscal Year 2012 Expenditures for Fire and EMS by Jurisdiction

Expenditure Type	Camden County FY end 6/30/12	Kingsland FY end 6/30/12	St. Marys FY end 9/30/12	Total
Salary & Wages	$3,572,917	$1,213,406	$1,050,580	$5,836,903
Other Personnel Expenses	$1,562,880[1]	$444,965	$357,107	$2,364,952
Operating Expenses	$595,310[2]	$218,969	$166,748	$981,027
Debt Services	$62,657	$147,446	$10,856	$220,959
Total	**$5,793,764**	**2,024,786**	**1,585,291**	**$9,403,841**

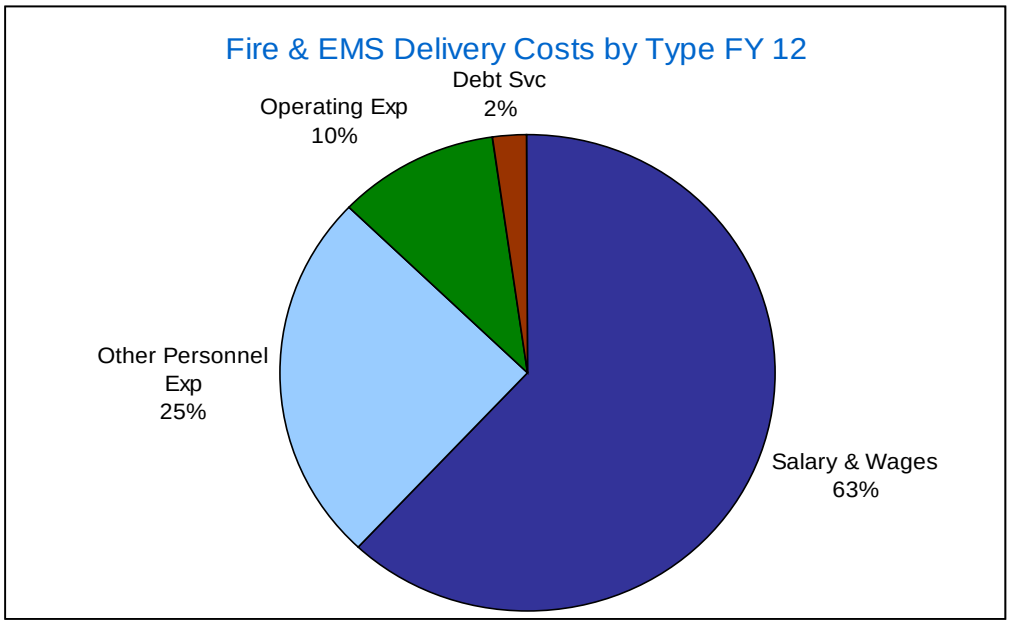
[1] includes estimate of $1,038,112 in centrally funded expenses for CCFR employee health insurance, worker's compensation insurance and medical clearance expenditures
[2] includes estimate of $10,566 in centrally funded insurance expenses for CCFR.

Figure 24: Total Fire and EMS System Cost by Jurisdiction



In FY 12, and including all jurisdictions, 88% percent of the total fire and EMS service delivery expenditures are related to personnel. Further, ten percent of expenditures are targeted for operational use and an additional two percent of expenditures are service debt related to fire and EMS services. Figure 25 illustrates the expenditure breakdown.

Figure 25: Total Fire and EMS System Cost Breakdown by Expense



Local tax funding either through general fund tax assessments, defined ad valorem tax, or a special taxing assessment generally funds fire and EMS service across the country. This remains consistent in Camden County with each of the jurisdictions included in this study. The following table estimates the current tax millage necessary to fund the current fire and EMS system.

Table 22: Current Fire and EMS

	Current Fire & EMS Delivery Costs					
	Camden County CCFR EMS	**Camden County Fire District**	**Camden County Other Fire Costs**	**Kingsland**	**St. Marys**	**Sum**
Assessed Value[1]	$1,420,417,985	$ 440,880,342	$1,420,417,985	$415,397,412	$ 574,024,600	
Imputed Millage[2]	2.6148	0.67	0.7935	5.126	2.9697	
Calculated Gross	$ 3,714,109	$295,390	$1,127,102	$2,129,327	$1,704,681	
Est. Uncollectible	7.0%	7.0%	7.0%	7.0%	7.0%	
Expected Revenue	$3,454,121	$ 274,713	$1,048,129	$1,980,286	$1,585,291	
EMS Revenue[3]	$807,000			$44,500	n/a	
Other Revenue[4]		209,801				
Total	$5,793,764			$2,024,786	$1,585,291	$9,403,841

[1] Assessed value provided by city and county finance departments
[2] The current hypothetical millage needed in each jurisdiction to cover Fire and EMS related expenses
[3] Assumes all EMS revenue is retained by the system.
[4] Includes grants, insurance premium tax and other miscellaneous taxes

The highest overall millage for fire and EMS is paid by the citizens of Kingsland, who aggregately (city and county fire/EMS millage) pay an estimated 8.5343 mills for fire and EMS coverage. Residents of St Marys pay an estimated 6.378 mills (aggregate city and county fire/EMS millage), and residents of the unincorporated area pay an estimated 4.0783 mills for fire and EMS services (aggregate general fund and unincorporated fire millage). It should be noted that if CCFR did not have EMS transport collections of $807,000, it would need to increase the general fund millage by approximately 0.61 mills. Strong management of EMS billing and collections directly offsets the need for local tax funding. In addition, if Camden County did not allocate $209,801 of insurance premium tax and other miscellaneous taxes to the Camden County fire district, then the required millage would increase from .67 to 1.1817 (an increase of .5117 mills).

Alternative 1: Fully Consolidated Fire and EMS System

Table 23 breaks down current and estimated expenditures for a consolidated fire/EMS service delivery system (Alternative 1 above). Full consolidation offers some short term cost savings and is estimated to be $220,810 for the first year.

Table 23: Consolidated Fire/EMS Department Expenditure Breakdown

Expenditure Type	Current	Consolidated	Difference
Salary & Wages	$5,836,903	$5,680,073	$156,830
Other Personnel Expenses	2,364,952	2,323,685	41,267
Operating Expenses	981,027	958,314	22,713
Debt Services	220,959	220,959	0
Subtotal	$9,403,841	$9,183,031	$220,810
EMS Revenue (CCFR & KFRD)	(851,500)	(851,500)	
Net Cost	$8,552,341	$8,331,531	**$220,810**

Ninety percent of the savings ($198,000) is personnel related. Savings have been estimated using the average wage and benefits for eliminated positions, and assuming part time hours at straight time will be reduced, and excess full-time employees will be converted to floaters to cover leave requests. Average savings for retirement, health insurance, ancillary insurances, worker's compensation, uniform expenses and a cell phone have been included for the one proposed eliminated division chief position.

As fire district chiefs retire (current fire chiefs), or other alternatives for organizing the consolidated department are implemented, a consolidated system could redistribute the district chief's responsibilities to the director/fire chief, and/or division managers (see Figure 21 for detail). For each fire district chief position thus eliminated through attrition or organizational decisions, the system could save an additional $104,000 in the short or long term.

Ten percent of the savings ($22,700) is directly related to the closure of Stations 10 and 14, and includes repair and maintenance costs, utilities and insurance.

Although more difficult to quantify, a consolidated system will enjoy enhanced greater bargaining power with suppliers of equipment, uniforms, station supplies, protective clothing and apparatus, some of whom already service multiple jurisdictions. Savings for supply chain management and equipment can be realized in both the short term and long term. In a similar ICMA study, it was

estimated these savings to be $50,000 to $250,000 (includes supplies, equipment and apparatus) depending on the procurement (s) in the fiscal year.

Administrative tasks such as processing payroll and benefits, paying invoices and processing insurance claims would be assumed by the consolidated agency, freeing up additional administrative time and costs in the current agencies.

ICMA looked at what an estimated general fund millage for a consolidated fire and EMS department would be ***only*** as a beginning point for funding such an agency. This method of funding may be allowable under the Georgia Service Delivery Strategy Act (O.C.G.A. § 36-70-20) should the consolidated department be created as a county agency.

To raise the estimated $ 8,331,661 needed to fund a consolidated system, an estimated millage of 6.3071 would be needed. In this scenario, the millage is a general fund, county-wide fire /EMS millage. Further, and because this is a consolidated fire department, the Camden County unincorporated fire district millage is absorbed into the overall fire/EMS county-wide millage general fund. Table 24 depicts the proposed millage as described above would be.

Table 24: Current and Proposed Consolidated Fire/EMS Millage

	Camden County	Kingsland	St Marys
Current Fire & EMS Millage[1]	4.0783	8. 5343	6. 3780
Hypothetical Consolidated Fire & EMS Millage	5.7954[2]	6.3071	6.3071
Difference	1.7171	(2.2272)	(0.0709)

[1] Refer to Table 22 for breakdown of millage associated with the current Fire & EMS system.
[2] Assumes Camden County continues its current policy of allocating a portion of insurance premium tax and other miscellaneous taxes to the unincorporated area for fire services.

It should be noted that over the long term, efficiencies gained from consolidation as discussed above and in this report could potentially further reduce the required millage.

An additional alternative for funding a consolidated fire department that includes both incorporated and unincorporated areas and in accordance with O.C.G.A. § 36-70-24 (3)(B) may be "a special service district created by the county in which property taxes, insurance premium taxes, assessments, or user fees or levies are imposed or through such a mechanism agreed upon by the affected parties."

In any case, funding a consolidated service delivery that includes both incorporated and unincorporated areas in Georgia must meet the intent of O.C.G.A. § 36-70-24 (3) (A), which states "the strategy shall ensure that the cost of any service which a county provides primarily for the benefit of the unincorporated area of the county shall be borne by the unincorporated area residents, individuals, and property owners who receive the service. Further, when the county and one or more municipalities jointly fund a county-wide service, the county share of such funding shall be borne by the unincorporated residents, individuals, and property owners that receive the service."

Some communities have developed contribution models to fund consolidated services. In these models there are agreed upon inputs that determine the final dollar outcome for a jurisdiction. Table 25 offers three inputs and dollar outcomes other than millage rate, should a contribution model be considered to fund the consolidated fire department at the estimated cost of $9,183,031. As with the millage rate model, Table 25 utilizes EMS transport revenue as a fee offset to the overall cost of the consolidated fire department.

Table 25: Consolidated System Funding Alternatives

	Funding Alternatives					
Variable	**Camden County** Includes Woodbine	**Kingsland**	**St. Marys**	**EMS Revenue**	**Total**	**Variance**
By Population	17,446	15,946	17,121		50,513	
Population Percent	*34.5%*	*31.5%*	*34.0%*		*100%*	
Contribution based on Population	*$ 2,877,514*	*$ 2,630,108*	*$ 2,823,910*	*$ 851,500*	*$ 9,183,031*	*$ 247,406*
By Call Count	1,073	2,206	1,963		5,242	
Calls Percent	*20.5%*	*42.1%*	*37.4%*			
Contribution based on Calls	*$ 1,705,405*	*$ 3,506,173*	*$ 3,119,953*	*$ 851,500*	*$ 9,183,031*	*$ 1,800,768*
By Assessed Value	430,995,973	415,397,412	574,024,600		1,420,417,985	
Assessed Value Percent	*30.3%*	*29.3%*	*40.4%*			
Contribution based on Assessed Value	*$ 2,528,028*	*$ 2,436,534*	*$ 3,366,969*	*$ 851,500*	*$ 9,183,031*	*$ 930,435*

Alternative 2: Operationally Consolidated Fire and EMS System

While improving the overall current system, the financial impact of operational consolidation is limited as there are limited changes in staffing numbers. Utilities, insurance, and maintenance of Stations 10 and 14 are estimated at $22,700 annually. The costs savings for the closed stations would reduce the total millage needed to support CCFR by 0.0761 mills. In St. Marys, it is proposed that station 7 staffing is reduced from three to two, as it is currently staffed. This would essentially reduce the three part-time positions that were funded through a grant to maintain minimum staffing at three per shift at each of the three St. Marys' stations. This savings is estimated to be $112,000. Table 26 depicts staffing levels recommended in an operationally consolidated fire and EMS system.

Table 26: Operationally Consolidated Fire and EMS System Staffing

Position/Station	Operational Consolidation
Camden Fire Chief	1
St. Marys Fire Chief	1
Kingsland Fire Chief	1
Assistant Fire Chief-KFD	1
Assistant Fire Chief-SMFD	1
EMS Division Officer	1-CCFR
Fire/Prevention Training Officer-County Wide	1-CCFR
Battalion Division Officer	3-CCFR
Administrative Assistants	2-CCFR
Logistics Manager	1-CCFR
Station 3-KFD	3 per shift (9 total)
Station 4-KFD	3 per shift (9 total)
Station 5-KFD	2 per shift (6 total)
Station 2-SMFD	3 per shift (9 total)
Station 7-SMFD	2 per shift (6 total)
Station 9-SMFD	3 per shift (9 total)
Station 10-CCFR (fire only)	1 per shift (3 total)
Station 11-CCFR (fire only)	2 per shift (6 total)
Station 12-CCFR	2 per shift (6 total)
Station 14-CCFR	1 + 2 leave relief positions per shift (9 total)
Station 15-CCFR	2 per shift (6 total)
Station 16-CCFR	2 per shift (6 total)
Station 17-CCFR (fire only)	1 per shift (3 total)
Station 18-CCFR	2 per shift (6 total)
Station 19-CCFR	2 per shift (6 total)
CCFR LS1-Station 11	2 per shift (6 total)
CCFR LS2-Station 2	2 per shift (6 total)
CCFR LS3-Station 3	2 per shift (6 total)
CCFR LS4-Station 10	2 per shift (6 total)
CCFR LS7-Station 17	2 per shift (6 total)
Totals	**142**

As recommended in the consolidated model, there is potential in the operational consolidation model for CCFR to reduce the number of division officers, and some common program functions can be centralized either in a county or a city program area, creating opportunity for shared services. ICMA recommends in the consolidated model retaining one of the division officer positions (EMS Division Officer). In operational consolidation programmatic functions such as logistics, fleet maintenance, training and fire inspection/prevention can also be consolidated utilizing current staff, and redistributing work from current positions to existing staff (such as CCFR operational management from a division officer to the battalion officers). Given the number of senior staff positions and operational workload across the three jurisdictions, it is recommended that the same programmatic model be implemented utilizing the same number of senior staff positions. Estimated savings (1 division officer, centralizing training and fire prevention activities) are $65,000-$85,000.

Further, and as in a fully consolidated department, in an operationally consolidated fire services system, a greater bargaining power with suppliers of equipment, uniforms, station supplies, protective clothing and apparatus can be realized through economy of scales procurement practices. Savings for supply chain management and equipment can be realized in both the short term and long term. As noted in a similar ICMA study, it was estimated these savings to be $50,000 to $250,000 (includes supplies, equipment and apparatus) depending on the procurement (s) in the fiscal year. These potential savings can be spread across each jurisdiction in the operationally consolidated service delivery system.

One consideration in an operational consolidation model (and as well full consolidation) is the seamless integration of response protocol and the dispatching of the most appropriate units. A standard approach to the dispatching of emergency units is critical. In operational consolidation, as each jurisdiction remains independent, it is as critical that response personnel train together and carry out scene functions in a systematic manner for maximum effectiveness.

To accomplish seamless integration of agreed upon (by each jurisdiction) dispatch response protocol, Camden County **needs a computer aided dispatch solution** that automatically dispatches the appropriate unit (s) to calls for service. Currently the Camden communications center does this manually by station, and not by unit. The integration of a box area run-card builder software program for instance allows dispatch run cards to be built for geographic areas of a jurisdiction, where specific units are recommended for response to specific call types. The run-card builder allows for single jurisdiction and multi-jurisdictional response recommendations, and is able to go several layers deep in these recommendations.

To further insure integrated jurisdictional response is carried out in a systematic manner for maximum effectiveness, it is important that response protocols and guidelines be developed, trained on, and continually practiced across jurisdictional lines for various operational responses such as residential, commercial and mid-rise structural fires. Incident command and incident accountability should be included as well as other high risk, low frequency responses that will include more than one jurisdiction under operational consolidation. While these are the more common examples of response protocols in place where automatic aid routinely occurs, the three jurisdictional chiefs and their staff may include others germane to the study jurisdictions, and should expand past these more routine responses and responsibilities. Additionally, it is imperative that jurisdictions remain in constant contact with each other regarding the movement of apparatus from their normal response area, or if an apparatus is out of service for mechanical work for example, as this impacts the planned and systematic response of apparatus.

Variables to Consolidation

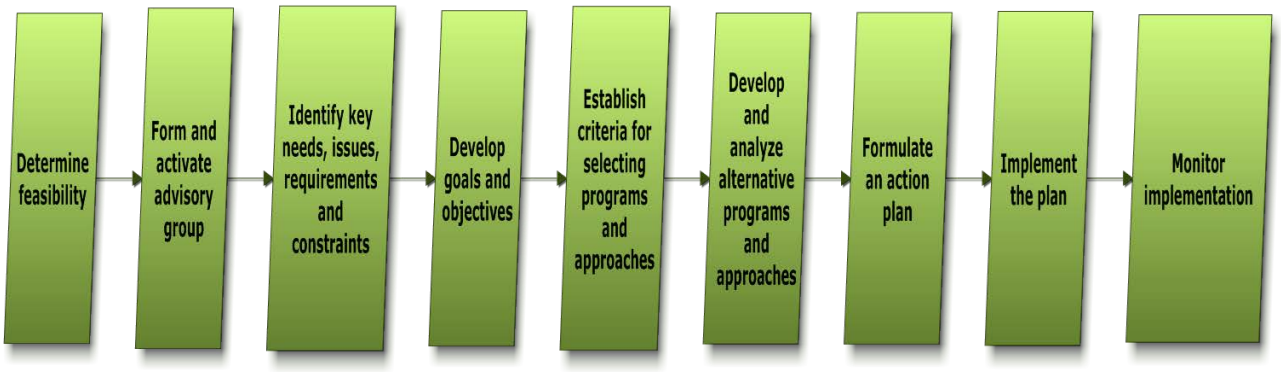
There are many variables that drive a consolidation decision for a community. What are the financial costs? What service enhancements would my community realize, or would service decline? What is the best option for my community? When considering costs, funding mechanisms, and service deliverables, there are several variables that drive the financial outcomes.

Until a consolidation option is chosen (full consolidation or shared service areas), and all communities wishing to participate have been determined, ICMA is only able to provide assumptive costs or funding alternatives. Key variables used to consider consolidation herein are not meant to be all inclusive, but rather to stimulate further conversation and considerations regarding consolidation and service delivery alternatives contained in this report.

- If full fire department consolidation is chosen:
  - What community will serve as the lead agency?
  - How will the new agency be governed?
  - Who will be the Director?
  - What will happen to the current fire chiefs/chief officers, etc.?
  - How are redundant FTEs reduced or absorbed from the new consolidated department? Attrition, reduction in force, absorbed into other positions?
- Under a functional fire consolidation alternative, what agency takes the lead on training, fire prevention, and other operational areas to realize efficiency advantages?
- If county tanker apparatus are placed in city fire stations and staffed by city firefighters, how is the cost-share, if any, determined?
  - Would those communities that benefit from this apparatus contribute to the replacement investment?
- Is it more functional to maintain the current county fire-based EMS service as is?
  - Should Kingsland be afforded an opportunity to be added more automatically into the EMS service delivery system when county ambulances are tied up on calls for service, thereby adding capacity to the current EMS system rather than the county adding additional ambulances in the southern portion of the county?

As these and other variables are answered, a more defined cost for the selected alternative (s) can be determined. A range of costs have been identified regarding the two fire consolidation/shared services alternatives. Once consolidation is chosen as a desired outcome, then the proper processes and steps to achieve these processes must be put in place. Figure 26 on the following page illustrates one way to accomplish this.

Figure 26: Steps to Consolidation



Key Performance Measures

As communities engage in consolidation, in this case fire and EMS, there are key performance measures that should be considered. These performance measures will link to the planning process of how the consolidated services will be measured, and in some cases, what the cost will be.

1. Ratio of fire code violations cited/corrected within 30 day period. (*Fire Prevention–measure effectiveness of fire prevention program*).

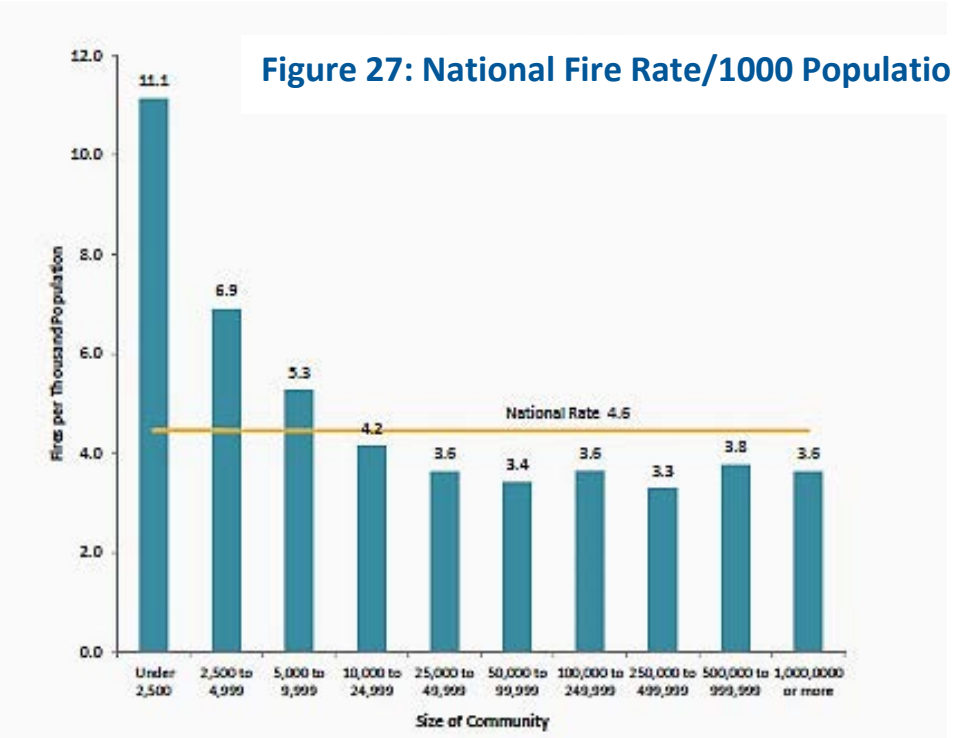
Fire suppression and response, although necessary to protect property, have little impact on preventing fire deaths. It is rather public fire education, prudent building codes, construction materials, fire prevention, and built-in fire protection systems that are essential elements in protecting citizens from death and injury due to fire.

Effective fire prevention efforts depend on the ability of a fire department or agency within a local government to conduct fire prevention inspections through a code enforcement program. One measurement of this program is the correction of code violations found. When a code violation is discovered, a suitable period to correct the violation is established through a written report.[14] In this measurement 30 days is recommended, as this a norm in fire departments ICMA has studied and that the ICMA team is familiar with. This measure links to alternatives 1 and 2.

2. Number of reported fires/1,000 population (*Fire Prevention–measure effectiveness of fire prevention program*).

This measure links with measure 1. As discussed in this measure, fire suppression and response, although necessary to protect property, have little impact on preventing fire deaths. It is rather public fire education, fire prevention, and built-in fire protection systems that are essential elements in protecting citizens from death and injury due to fire. This measure links to alternatives 1 and 2. Figure 27, from the *NFPA Fire Analysis and Research Division*, illustrates the national fire rate (structure and outside fires) per 1000 population of varying sized communities (2007-2011).

[14] Swain, J., *A Practical Guide for Local Government*. 2009, p.344.



3. Average response time per fire incident call (*Fire Suppression–measures effectiveness of fire station location and efficiency of road networks, e-911 center call processing, and crew turnout time*).

Response time and station location is discussed in previous sections in this report. This measure links directly to measures 3 and 11, and as well the fire propagation curve.

The location of responding units is one important factor in response time; reducing response times, which is one of the key performance measures in determining the efficiency of department operations, often depends on this factor. The goal of having a network of responding fire stations in a single community is to optimize coverage with short travel distances while giving special attention to natural and manmade barriers, and response routes that can create response-time problems.[15] Additionally, a community's fire risk analysis and the agency's pre-incident planning process will contribute to determining the number and type of fire and EMS units needed to adequately respond to a reported fire.[16]

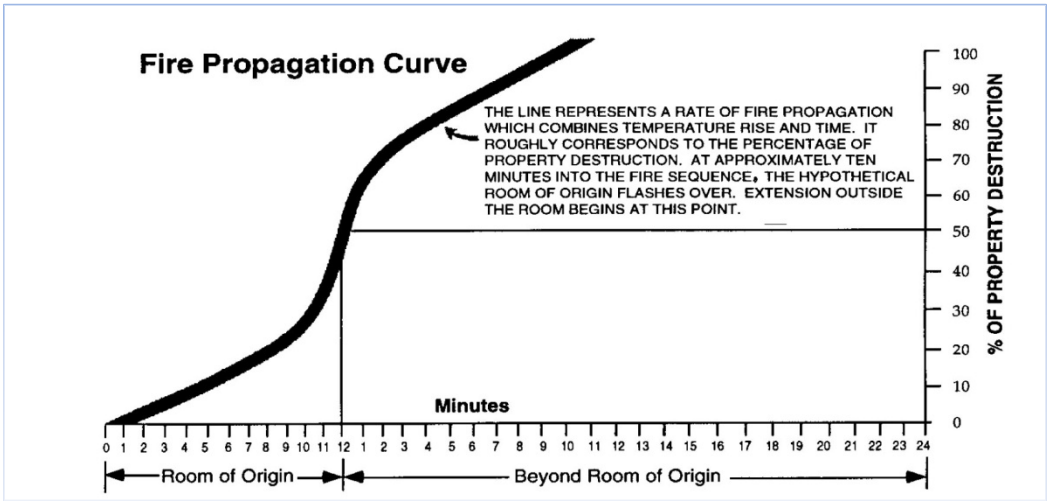
Meeting NFPA-recommended standards for travel time can increase a fire service agency's cost, which raises two questions: what are the added costs and what is the evidence supporting these recommendations? For fire suppression, NFPA travel times are established primarily due to the risk of flashover as shown in the fire propagation curve (Figure 28).

[15] NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Departments,* 2010 Edition, 122.
[16] Compton and Granito, eds., *Managing Fire and Rescue Services*, 52.

According to fire service educator Clinton Smoke, the fire propagation curve establishes that temperature rise and time within a room on fire corresponds with property destruction and potential loss of life.[17] At approximately the 10-minute mark of fire progression, the fire flashes over (due to superheating of room contents and other combustibles) and extends beyond the room of origin, thus increasing proportionately the destruction to property and potential endangerment of life. The ability to quickly deploy adequate fire staff before flashover thus limits the fire's extension beyond the room or area of origin.

Figure 28 shows the fire propagation curve.

FIGURE 28: Fire Propagation Curve



From John C. Gerard and A. Terry Jacobsen, "Reduced Staffing: At What Cost?" *Fire Service Today* (September 1981), 15–21.

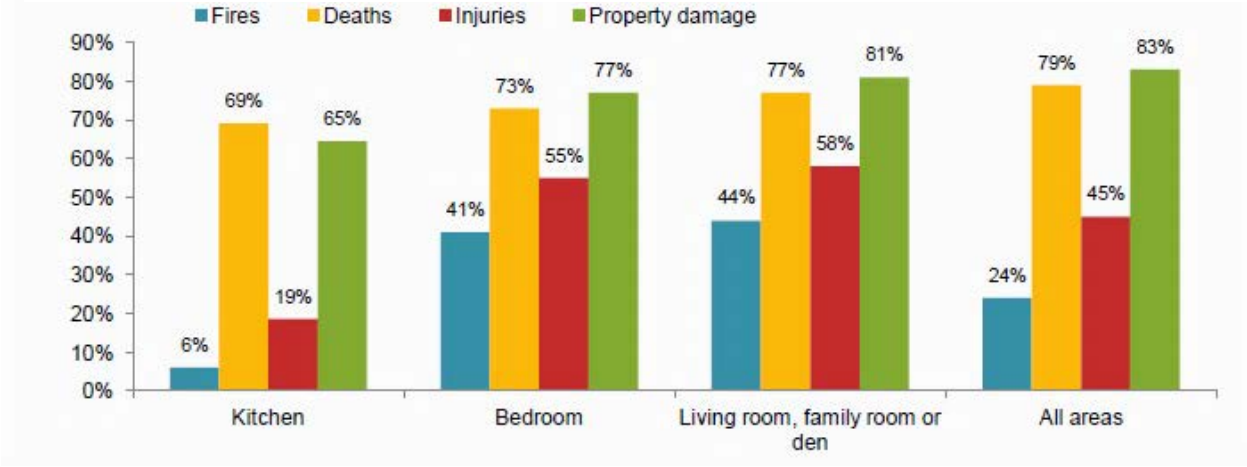
This measure links to consolidation alternatives 1 and 2.

4. Percent of fires responded to that spread beyond room of origin after fire department arrival (*Fire Suppression–measures effectiveness of fire station location, response times, training, and crew effectiveness*).

This measure has a direct link to the measure #3, and as well the fire prevention and training performance measures contained herein. The ability to quickly place well-trained fire suppression forces on the scene to aggressively attack an active fire reduces property loss. As well an aggressive fire prevention and public education (such as a residential smoke alarm or sprinkler program) effort shares in the positive increase in this measure. **Figure 29, from the NFPA Fire Analysis and Research Division, illustrates the impacts (nationally 2006-2011) that occur when this happens.** This measure links to consolidation alternatives 1 and 2.

[17] Clinton Smoke, *Company Officer* (Clifton Park, NY: Delmar Learning, 2004).

Figure 29: Fire Spread Beyond the Room Of Origin by Area of Origin: 2006-2011



5. Percent of firefighters with completed, up-to-date training (*Training–measures the effectiveness of the training program and the preparedness of the workforce*).

Preparing the workforce for the delivery of emergency services is a critical component of any fire department. Response to emergencies and subsequent deployment of critical tasks to mitigate the emergency should be second nature, deliberate, and sharpened through continuous training. This measure links to response and mitigation measures contained in this report. This measure links to consolidation alternatives 1 and 2.

6. Number of EMS responses per 1,000 service population *(EMS–identifies the demand for EMS services based on workload and patient data. Benchmarks appropriately deployed resources*).

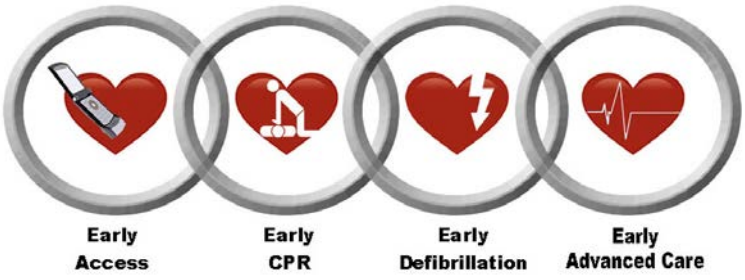
This measure links to demand for the service and workload to each department providing this service. Additionally, how and where units are deployed as compared to population densities can be benchmarked against this measure as well. This measure links to consolidation alternatives 1 and 2.

7. Average response time per EMS call (*EMS– measures effectiveness of unit location and efficiency of road networks, e-911 center call processing, and crew turnout time).*

As already discussed in the fire suppression response time measurement, there are many key factors that enhance or abate acceptable response times for a community. This applies to EMS response time as well.

As mentioned earlier, meeting NFPA-recommended standards for travel time can increase a fire service agency's costs. For EMS, NFPA travel times are primarily established to address situations of sudden cardiac arrest, where brain damage and permanent brain death occur in 4 to 6 minutes (Figure 30). Figure 30 illustrates the chain of survival, a series of actions that, when put in motion, reduce the mortality of sudden cardiac arrest. Adequate fire and EMS response times coupled with community and public-access defibrillator programs potentially can have positive effects on the survival rate of sudden cardiac arrest victims.

FIGURE 30: Sudden Cardiac Arrest Chain of Survival



From "Chain of Survival," http://en.wikipedia.org/wiki/Chain_of_survival.

In addition to cardiac arrest, there other medical emergencies that require quick response times, aggressive prehospital emergency care, and rapid transport to a receiving hospital emergency department. These advanced life support calls are also recommended as a component of this measurement. This measure links to consolidation alternatives 1 and 2.

8. Percent of patients who required BLS transport (*EMS–identifies the demand for EMS services based on workload and patient data. Benchmarks appropriately deployed resources*).

Staffing and deploying EMS services can be managed in a variety of ways. Some departments choose to deploy an all-ALS system wherein all EMS transport units are staffed and equipped to deliver ALS care (may include fire suppression apparatus as well). Other departments may choose to deploy some BLS transport units, as they have found through an analysis of transport data that they transport more BLS patients than ALS patients. This measure will assist in making any staffing and deployment decisions, as well as the development of community EMS educational and preventive health programs. This measure links to consolidation alternatives 1 and 2.

9. Percent of patients who required ALS transport (*EMS–identifies the demand for EMS services based on workload and patient data. Benchmarks appropriately deployed resources*).

For the reasons discussed above regarding percentage of BLS patients requiring transport, ALS transports should be measured in the same way. This measure links to consolidation alternatives 1 and 2.

10. The percentage of total EMS fees billed that are collected as revenue (*EMS–measures the effectiveness of EMS billing services and the ability to offset certain EMS cost*).

The cost of public services, particularly those that do not generate revenue and demand constant resources, can be burdensome on a local government budget. One source of revenue that can be realized is EMS transport fees. The one city and one county agency discussed in this report that provides EMS transport have implemented EMS billing for these services. It is critical that the performance of these billing systems be monitored closely with a goal of collecting revenues as efficiently as possible. Any decrease in collections should be examined and where possible corrected, as generated revenues can be utilized as an offset to these services.

11. The average time in seconds from the receipt of a call until emergency dispatch is issued to a response unit and the emergency unit is responding (*Emergency Communications–measures efficiencies of staff*).

Call processing time and turnout time both have a direct impact on how quickly emergency units respond to a call for assistance, are components of the overall response time of an emergency unit, and are components of response time that can be controlled directly. As discussed in this report, where the primary public-safety answering point is the communications center, the alarm processing time or dispatch time should be less than or equal to 60 seconds 90 percent of the time.[18] Additionally, turnout time should be less than or equal to 80 seconds for fire and special operations 90 percent of the time. Monitoring these components is important as it directly links to measures discussed such as response time and the percent of fires contained/not contained to the room of origin. This measure links to consolidation alternatives 1 and 2.

13. The number of emergency communications center incoming calls answered. Includes all calls that might be related to one incident (*Emergency Communications–measures workload and effectiveness for emergency communications staff*).

This workload measure directly links to number of telecommunicators and call takers (or those that perform both duties) and the workload they are asked to handle. The effectiveness directly links to the ability to process e-911 incoming calls properly and in a timely fashion, dispatch the appropriate units, provide pre-arrival emergency medical dispatch directions to the caller, monitor active public safety radio channels, and other duties as assigned. This measure links to consolidation alternatives 1 and 2.

14. The average number of emergency response dispatches that are initiated by each dispatcher (FTE) (*Emergency Communications–measures workload and effectiveness for emergency communications staff*).

This workload measure directly links to the previous measure and directly links to the number of telecommunicators and call-takers (or those that perform both duties) and the workload they are asked to handle. As discussed, the effectiveness directly links to the ability to process e-911 incoming calls properly and in a timely manner, dispatch the appropriate units, provide pre-arrival emergency medical dispatch directions to the caller, monitor active public safety radio channels, and other duties as assigned. This measure links to consolidation alternatives 1 and 2.

[18] NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Departments*, 2010 Edition, 7.

Conclusion

ICMA began this fire and EMS feasibility study for Camden County, the city of St. Marys, and the city of Kingsland in March 2013 by first obtaining response and workload data, as well as administrative and operational documents from the three agencies. This information, along with a series of on-site visits by both the operational and financial analysis teams where agency staff were interviewed and engaged in discussion, as well as conference calls and follow-up emails that included fire and local government staff, was utilized by the ICMA analysis team to compile this report.

ICMA was asked by the county and each city to provide analysis on the feasibility of consolidation, and as well to provide each city with a comprehensive data analysis of response times and workload, which ICMA has done. Where appropriate, ICMA includes recommendations in the body of the report, as well as alternative service delivery methods to include a full consolidation alternative and a shared service (operational consolidation) alternative.

ICMA has provided two consolidation alternatives in this report that focus on process improvement, efficiencies in the manner in which services can be delivered, and efficiencies in the manner in which certain components of a department can be managed, which will improve the effectiveness of the overall service delivery of fire and EMS in Camden County.

ICMA appreciates the opportunity to provide Camden County and the cities of St. Marys and Kingsland this report, and appreciates the cooperation extended by the staff of each agency and local government.

Data Analysis

This report covers all calls for service between July 1, 2011, and June 30, 2012, as recorded by the Camden County Sheriff's Communications Center. This consolidation report is to evaluate the total number of calls responded by any of the three agencies, the deployed hours of all units of the three agencies, and the response time of first on scene unit of any of the three agencies.

During this period, the three agencies (Camden County Fire Rescue, Kingsland Fire Department, and St. Marys Fire Department) responded to 5,262 calls, including 20 mutual aid calls outside Camden County. The three agencies responded to 269 structure fire calls and 209 outside fire calls. A total of 12,462 units of the three agencies were dispatched to all calls. The total combined yearly workload (deployed time) for all units of the three agencies was 8,264 hours. The average estimated response time was 7.5 minutes and the 90th percentile response time was 11.1 minutes.

This report is divided into four sections: the first section focuses on call types and dispatches; the second section explores time spent and workload of individual units; the third section presents analysis of the busiest hours in a year; and the fourth section provides a response time analysis.

Methodology

In this report, we analyze calls and runs. A call is an emergency service request or incident. A run is a dispatch of a unit. Thus, a call might include multiple runs.

We merged the data used in the three individual jurisdictional reports. For this consolidation report, we took the following steps to assign call types. First, we identified mutual aid calls, which were outside Camden County and were identified as mutual aid calls by all responding agencies. Next, we identified canceled calls, which were identified as canceled calls by all responding agencies. For the remaining calls, if they were classified as the same type of call in individual reports, we used those call types. There were cases in which different responding agencies assigned a different call type for the same call. This happened particularly often when Camden County ambulances responded to calls in St. Marys and Kingsland. In these situations, we used the call type assigned within the NFIRS system of the primary agency depending upon the call's location.

ICMA has analyzed the three agencies and submitted three separate data analysis reports that focused primarily on one agency at a time. Since 3,372 calls (64 percent of total calls) involved multiple responding agencies, the total number of calls within this report is significantly smaller than what might appear to be the total if the calls within each individual report are added together. Nevertheless, the total number of runs and deployed hours within this report should match the combined sum of runs and hours found in the three individual reports. In the response time analysis, we used the first arriving units of any of the three agencies, and then focused the analysis on those units. In other words, the average response times in this consolidation report are less than response times reported in the individual reports that focused primarily on one agency at a time.

Aggregate Calls, Deployed Hours and Dispatches

During the year studied, the three agencies (Camden County Fire Rescue, Kingsland Fire Department, and St. Marys Fire Department) responded to 5,262 calls. Of these, 269 were structure fire calls and 209 were outside fire calls. There were 4,109 emergency medical service (EMS) calls. A total of 20 calls were outside Camden County and identified as mutual aid calls.

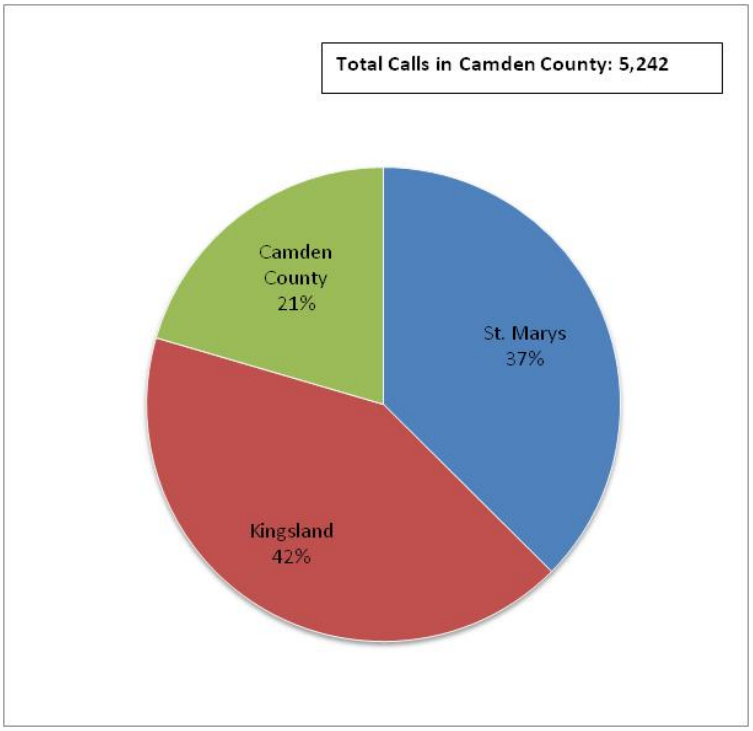
TABLE 25: Call Types

Call Type	Number of Calls	Calls per Day	Call Percentage
Cardiac and stroke	392	1.1	7.4
Seizure and unconsciousness	439	1.2	8.3
Breathing difficulty	493	1.3	9.4
Overdose and psychiatric	128	0.3	2.4
MVA	355	1.0	6.7
Fall and injury	681	1.9	12.9
Illness and other	1,621	4.4	30.8
EMS Total	**4,109**	**11.2**	**78.1**
Structure fire	269	0.7	5.1
Outside fire	209	0.6	4.0
Hazard	64	0.2	1.2
False alarm	241	0.7	4.6
Good intent	97	0.3	1.8
Public service	197	0.5	3.7
Fire Total	**1,077**	**2.9**	**20.5**
Mutual aid	20	0.1	0.4
Canceled	56	0.2	1.1
Total	**5,262**	**14.4**	**100.0**

Observations:

- The three agencies responded to a total of 5,262 calls, averaging 14.4 calls per day.
- EMS calls for the year totaled 4,109 (78 percent of all calls), averaging 11.2 per day.
- Fire category calls for the year totaled 1,077 (20 percent of all calls), averaging 2.9 per day.
- Structure and outside fires calls combined accounted for 478 calls, an average of 1.3 calls per day.
- A total of 1,720 calls were responded to by both Camden County and St. Marys; 1,713 calls were responded to by both Camden County and Kingsland; and61 calls were responded to by all three agencies.

FIGURE 31: Calls by Location



Note: The 20 mutual aid calls which are outside Camden County are not included. Camden County Fire Rescue includes calls in Woodbine and unincorporated areas.

TABLE 26: Calls by Type and Location

Call Type	St. Marys	Kingsland	Camden County	Outside Camden
Cardiac and stroke	143	159	90	0
Seizure and unconsciousness	194	173	72	0
Breathing difficulty	191	214	88	0
Overdose and psychiatric	55	51	22	0
MVA	37	219	99	0
Fall and injury	269	300	112	0
Illness and other	624	681	316	0
EMS Total	**1,513**	**1,797**	**799**	**0**
Structure fire	148	72	49	0
Outside fire	118	69	22	0
Hazard	14	23	27	0
False alarm	73	125	43	0
Good intent	32	42	23	0
Public service	57	59	81	0
Fire Total	**442**	**390**	**245**	**0**
Mutual aid	0	0	0	20
Canceled	8	19	29	0
Total	**1,963**	**2,206**	**1,073**	**20**
Calls per Day	**5.4**	**6.0**	**2.9**	**0.1**
Percentage	**37.3**	**41.9**	**20.4**	**0.4**

Note: Camden County Fire Rescue includes calls in Woodbine and unincorporated areas.

Observations:

- A total of 1,963 calls were in the city of St. Marys, which accounted for 37 percent of the total and averaged 5.4 calls per day.
- A total of 2,206 calls were in the city of Kingsland, which accounted for 42 percent of the total and averaged 6.0 calls per day.
- A total of 1,073 calls occurred in Woodbine and unincorporated areas under the jurisdiction of Camden County Fire Rescue, which accounted for 20 percent of the total and averaged 2.9 calls per day.

TABLE 27: Call Workload by Call Type

Call Type	Average Deployed Minutes per Run	Annual Hours	Percent of Total Hours	Deployed Hours per Day	Annual Number of Runs	Runs per Day
Cardiac and stroke	42.8	600	7.3	1.6	842	2.3
Seizure and unconsciousness	40.5	655	7.9	1.8	970	2.7
Breathing difficulty	42.6	756	9.1	2.1	1,065	2.9
Overdose and psychiatric	36.4	170	2.1	0.5	280	0.8
MVA	46.7	705	8.5	1.9	907	2.5
Fall and injury	36.4	892	10.8	2.4	1,468	4.0
Illness and other	39.9	2,220	26.9	6.1	3,338	9.1
EMS Total	**40.6**	**5,999**	**72.6**	**16.4**	**8,870**	**24.2**
Structure fire	42.3	473	5.7	1.3	671	1.8
Outside fire	21.0	360	4.4	1.0	1,027	2.8
Hazard	32.5	120	1.4	0.3	221	0.6
False alarm	27.9	183	2.2	0.5	394	1.1
Good intent	55.7	383	4.6	1.0	412	1.1
Public service	55.7	643	7.8	1.8	693	1.9
Fire Total	**37.9**	**2,161**	**26.2**	**5.9**	**3,418**	**9.3**
Mutual aid	86.7	38	0.5	0.1	26	0.1
Canceled	26.8	66	0.8	0.2	148	0.4
Total	**39.8**	**8,264**	**100.0**	**22.6**	**12,462**	**34.0**

Note: Each dispatched unit is a separate "run." As multiple units are dispatched to a call, there are more runs than calls. Therefore, the department recorded 14.4 calls per day and 34.0 runs per day.

Observations:

- Total deployed time for the year, or deployed hours, was 8,264 hours. This is the total time of all the units of the three agencies (Camden County, Kingsland, and St. Marys fire departments) deployed on all type of calls. The deployed hours for all combined averaged 22.6 hours per day.
- There were 12,462 runs, averaging 34 runs for all units of the three agencies combined.
- Fire category calls accounted for 26 percent of the total workload.
- There were 1,698 runs for structure and outside fire calls, with a total workload of 833 hours. This accounted for 10 percent of the total workload. The average deployed time for structure fire calls was 42 minutes, and the average deployed time for outside fire calls was 21 minutes.
- EMS calls accounted for 73 percent of the total workload. The average deployed time for EMS calls was 41 minutes. The deployed hours for all units spent on EMS calls averaged 16.4 hours per day.

TABLE 28: Annual Deployed Hours by Call Type and Location

Call Type	Annual Deployed Hours			
	St. Marys	Kingsland	Camden County	Outside Camden
Cardiac and stroke	202	231	167	NA
Seizure and unconsciousness	278	244	133	NA
Breathing difficulty	285	300	171	NA
Overdose and psychiatric	68	66	36	NA
MVA	50	387	268	NA
Fall and injury	348	353	190	NA
Illness and other	828	875	516	NA
EMS Total	**2,059**	**2,457**	**1,482**	NA
Structure fire	272	121	80	NA
Outside fire	199	114	47	NA
Hazard	27	45	48	NA
False alarm	67	75	41	NA
Good intent	173	114	95	NA
Public service	179	157	306	NA
Fire Total	**918**	**626**	**617**	NA
Mutual aid	NA	NA	NA	38
Canceled	6	17	43	0
Total	**2,983**	**3,101**	**2,143**	**38**
Daily Average	**8.2**	**8.5**	**5.9**	**0.1**
Percentage of Total Hours	**36.1**	**37.5**	**25.9**	**0.5**
EMS %	**69.0**	**79.2**	**69.2**	NA

Note: Camden County Fire Rescue includes calls in Woodbine and unincorporated areas.

Observations:

- The deployed hours for calls in the city of St. Marys accounted for 36 percent of the total and averaged 8.2 hours per day. EMS calls accounted for 69 percent of the workload.
- The deployed hours for calls in the city of Kingsland accounted for 38 percent of the total and averaged 8.5 hours per day. EMS calls accounted for 79 percent of the workload.
- The deployed hours for calls in the city of Woodbine and unincorporated areas accounted for 26 percent of the total and averaged 5.9 hours per day. EMS calls accounted 69 percent of the workload.

TABLE 29: Total Number of Runs, by Call Type and Location

Call Type	Annual Number of Runs			
	St. Marys	Kingsland	Camden County	Outside Camden
Cardiac and stroke	323	338	181	NA
Seizure and unconsciousness	445	375	150	NA
Breathing difficulty	430	450	185	NA
Overdose and psychiatric	126	108	46	NA
MVA	88	558	261	NA
Fall and injury	610	626	232	NA
Illness and other	1,308	1,395	635	NA
EMS Total	3,330	3,850	1,690	NA
Structure fire	374	185	112	NA
Outside fire	529	374	124	NA
Hazard	62	89	70	NA
False alarm	132	204	58	NA
Good intent	146	178	88	NA
Public service	211	213	269	NA
Fire Total	**1,454**	**1,243**	**721**	NA
Mutual aid	NA	NA	NA	26
Canceled	22	47	79	NA
Total	**4,806**	**5,140**	**2,490**	**26**
Daily Average	**13.1**	**14.0**	**6.8**	**0.1**
Percentage of Total Runs	**38.6**	**41.2**	**20.0**	**0.2**
EMS %	**69.3**	**74.9**	**67.9**	**NA**

Note: A dispatch of a unit is defined as a run; thus a call might include multiple runs.
Camden County Fire Rescue includes calls in Woodbine and unincorporated areas.

Observations:

- The number of runs for calls in the city of St. Marys accounted for 39 percent of the total and averaged 13.1 runs per day.
- The number of runs for calls in the city of Kingsland accounted for 41 percent of the total and averaged 14.0 runs per day.
- The number of runs for calls in the city of Woodbine and unincorporated areas accounted for 20 percent of the total and averaged 6.8 runs per day.

FIGURE 32: Number of Units Dispatched to Calls

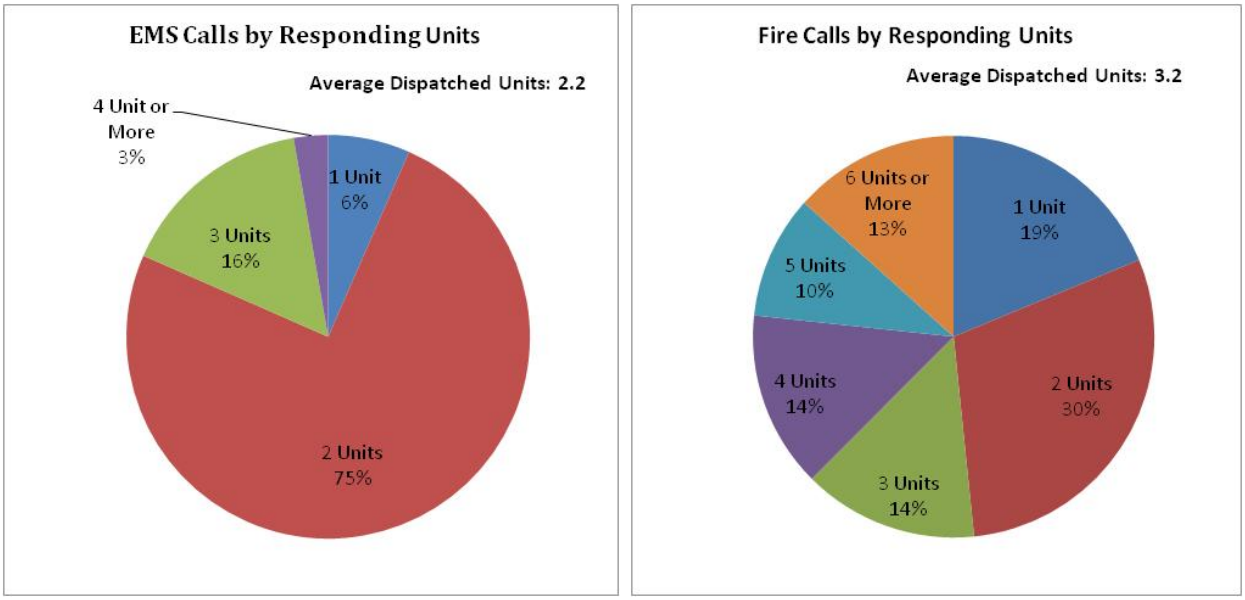


TABLE 30: Number of Units Dispatched to Calls

Call Type	Number of Units						Total
	One	Two	Three	Four	Five	Six or More	
Cardiac and stroke	9	322	56	4	1	0	392
Seizure and unconsciousness	4	351	73	10	1	0	439
Breathing difficulty	6	409	71	7	0	0	493
Overdose and psychiatric	2	102	22	2	0	0	128
MVA	14	197	104	22	12	6	355
Fall and injury	12	565	92	10	2	0	681
Illness and other	223	1,136	226	26	4	6	1,621
EMS Total	**270**	**3,082**	**644**	**81**	**20**	**12**	**4,109**
Structure fire	21	153	60	22	7	6	269
Outside fire	7	15	6	60	49	72	209
Hazard	11	15	11	10	5	12	64
False alarm	131	87	9	10	3	1	241
Good intent	14	12	12	14	14	31	97
Public service	18	37	54	37	29	22	197
Fire Total	**202**	**319**	**152**	**153**	**107**	**144**	**1,077**
Grand Total	**472**	**3,401**	**796**	**234**	**127**	**156**	**5,186**
Percentage	**9.1**	**65.6**	**15.3**	**4.5**	**2.4**	**3.0**	**100.0**

Note: This table includes responding units except administrative vehicles from three agencies.

Observations:

- Overall, one unit was dispatched 9 percent of the time, two units were dispatched 66 percent of the time, three units were dispatched 15 percent of the time, four units were dispatched 5 percent of the time, five units were dispatched 2 percent of the time, and six units or more were dispatched 3 percent of the time.
- On average, 3.2 units were dispatched per fire category call.
- For fire category calls, one unit was dispatched 19 percent of the time, two units were dispatched 30 percent of the time, three units were dispatched 14 percent of the time, four units were dispatched 14 percent of the time, five units were dispatched 10 percent of the time, and six units or more were dispatched 13 percent of the time.
- For structure fire calls, one unit was dispatched 8 percent of the time, two units were dispatched 57 percent of the time, three units were dispatched 22 percent of the time, and four or more units were dispatched 13 percent of the time.
- Four or more units responded to the majority of outside fire calls (87 percent). Three or fewer units were dispatched 13 percent of the time, four units were dispatched 29 percent of the time, five units were dispatched 23 percent of the time, and six or more units were dispatched 34 percent of the time.
- On average, 2.2 units were dispatched per EMS call.
- For EMS category calls, one unit was dispatched 7 percent of the time, two units were dispatched 75 percent of the time, three units were dispatched 16 percent of the time, and four or more units were dispatched 3 percent of the time.

Workload by Individual Unit—Calls and Total Time Spent

In this section, the actual time spent by each unit on calls is reported in two types of statistics: workload and runs. A dispatch of a unit is defined as a *run*; thus a call might include multiple runs.

TABLE 31: Call Workload by Agency and Unit

Agency	Station	Unit Type	Unit ID	Annual Number of Runs	Annual Hours	Runs per Day	Deployed Hours per Day
Camden County	10	Ambulance	LS4	1,543	1,098		
		Engine	E10	138	93		
		Station 10 Total		**1,681**	**1,190**	**4.6**	**3.3**
	11	Ambulance	LS1	567	559		
		Brush truck	B11	36	79		
		Engine	E11	458	293		
		Station 11 Total		**1,061**	**931**	**2.9**	**2.5**
	12	Engine	E12	255	137		
		Tanker	T12	21	9		
		Station 12 Total		**276**	**147**	**0.8**	**0.4**
	14	Brush truck	B14	15	36		
		Pumper	P 14	328	210		
		medium rescue	R1	44	31		
		Station 14 Total		**387**	**277**	**1.1**	**0.8**
	15	Engine	E15	331	219		
		Tanker	T15	36	20		
		Station 15 Total		**367**	**239**	**1.0**	**0.7**
	16	Engine	E16	142	101		
		Tanker	T16	23	17		
		Station 16 Total		**165**	**118**	**0.5**	**0.3**
	17	Ambulance	LS7	283	288		
		Engine	E17	111	72		
		Tanker	T17	54	41		
		Station 17 Total		**448**	**401**	**1.2**	**1.1**
	18	Engine	E18	106	88		
		Tanker	T18	36	39		
		Station 18 Total		**142**	**127**	**0.4**	**0.3**
	19	Engine	E19	134	126	**0.4**	**0.3**
	2	Ambulance	LS2	1,307	947	**3.6**	**2.6**
	3	Ambulance	LS3	1,415	1,114	**3.9**	**3.0**

Agency	Station	Unit Type	Unit ID	Annual Number of Runs	Annual Hours	Runs per Day	Deployed Hours per Day
Kingsland	3	Ambulance	MED3	79	97		
		Brush Truck	BRU3	22	33		
		Engine	ENG3	249	120		
		Ladder	LAD3	74	34		
		Rescue	R3	887	428		
		Tanker	TANK3	4	3		
		Station 3 Total		**1,315**	**715**	**3.6**	**2.0**
	4	Ambulance	MED4	157	194		
		Ambulance	MED5	1	0		
		Engine	ENG4	728	318		
		Engine	ENG5A	2	1		
		Quint	Q4	146	53		
		Station 4 Total		**1,034**	**566**	**2.8**	**1.5**
	5	Engine	ENG5	301	123		
		Engine	ENG6	9	1		
		HazMat Trailer	HZMT3	2	0		
		Station 5 Total		**312**	**124**	**0.9**	**0.3**
St. Marys	2	Brush truck	BRU2	22	29		
		Engine	ENG21	1,088	513		
		Ladder	LAD2	94	47		
		Station 2 Total		**1,204**	**589**	**3.3**	**1.6**
	7	Engine	ENG2	158	80		
		Quint	Q7	280	163		
		Station 7 Total		**438**	**243**	**1.2**	**0.7**
	9	Engine	ENG9	40	23		
		Quint	Q9	723	369		
		Rescue	R2	13	19		
		Station 9 Total		**776**	**411**	**2.1**	**1.1**

Note: Since some units are back-up or reserve units, and units in each station are cross-staffed, daily averages are reported at the station level.

Observations:

- Units in Station 10 of Camden County Fire Rescue were deployed the most often and had the most deployed hours. On average, the units in Station 10 had 4.6 runs per day and were deployed 3.3 hours per day.
- Units in Station 14 of Camden County Fire Rescue were deployed 387 times and were busy 277 hours, averaging 1.1 runs and 0.8 hours per day.
- Units in Stations 16, 18, and 19 of Camden County Fire Rescue were deployed the least often. The total number of runs of any of the three stations was less than 165 times. On average, all units in any of the three stations were dispatched less than 0.5 times per day.

TABLE 32: Fire Equipment: Total Number of Runs by Call Type

Agency	Station	Unit	EMS	**Structure Fire**	**Outside Fire**	Hazard	False Alarm	Good Intent	Public Service	Mutual Aid	Canceled	**Total**
Camden County	11	E11	341	**6**	**34**	26	15	10	9	0	17	**458**
	15	E15	244	**18**	**25**	14	8	5	6	1	10	**331**
	14	P 14	190	**23**	**53**	13	23	7	8	0	11	**328**
	12	E12	187	**7**	**12**	16	10	3	14	1	5	**255**
	16	E16	105	**8**	**7**	5	9	2	3	0	3	**142**
	10	E10	76	**12**	**14**	8	10	6	0	1	11	**138**
	19	E19	83	**2**	**19**	5	4	11	4	1	5	**134**
	17	E17	72	**3**	**8**	8	9	4	0	3	4	**111**
	18	E18	73	**2**	**12**	8	6	2	0	0	3	**106**
	17	T17	4	**4**	**22**	5	8	4	1	2	4	**54**
	14	R1	29	**2**	**8**	1	2	0	0	0	2	**44**
	11	B11	6	**0**	**23**	0	1	3	2	1	0	**36**
	15	T15	10	**9**	**4**	1	7	4	0	0	1	**36**
	18	T18	7	**3**	**14**	1	7	1	0	0	3	**36**
	16	T16	5	**7**	**6**	1	2	1	0	0	1	**23**
	12	T12	4	**4**	**4**	0	6	2	0	0	1	**21**
	14	B14	6	**1**	**8**	0	0	0	0	0	0	**15**
Kingsland	3	R3	768	**12**	**14**	40	17	10	26	0	0	**887**
	4	ENG4	544	**23**	**24**	24	72	16	24	0	1	**728**
	5	ENG5	107	**17**	**14**	12	66	11	74	0	0	**301**
	3	ENG3	101	**25**	**27**	19	60	11	6	0	0	**249**
	4	Q4	49	**13**	**5**	6	59	11	3	0	0	**146**
	3	LAD3	11	**9**	**0**	4	44	4	1	1	0	**74**
	3	BRU3	3	**2**	**15**	0	0	2	0	0	0	**22**
	5	ENG6	5	**0**	**0**	0	1	0	3	0	0	**9**
	3	TANK3	1	**0**	**3**	0	0	0	0	0	0	**4**

Agency	Station	Unit	EMS	**Structure Fire**	**Outside Fire**	Hazard	False Alarm	Good Intent	Public Service	Mutual Aid	Canceled	**Total**
	4	ENG5A	0	**0**	**2**	0	0	0	0	0	0	**2**
	5	HZMT3	2	**0**	**0**	0	0	0	0	0	0	**2**
St. Marys	2	ENG21	825	**25**	**38**	71	93	7	27	0	2	**1,088**
	9	Q9	435	**27**	**33**	76	112	11	26	0	3	**723**
	7	Q7	109	**24**	**24**	18	85	6	13	0	1	**280**
	7	ENG2	80	**8**	**8**	10	28	0	22	0	2	**158**
	2	LAD2	51	**2**	**8**	6	14	3	10	0	0	**94**
	9	ENG9	16	**1**	**2**	5	6	2	8	0	0	**40**
	2	BRU2	1	**0**	**19**	0	0	0	1	0	1	**22**
	9	R2	4	**1**	**5**	2	1	0	0	0	0	**13**

Note: A dispatch of a unit is defined as a run; thus a call might include multiple runs.

Observations:

- Of all fire equipment from the three agencies, Engine 21 of St. Marys Fire Department was dispatched most often. It made 1,088 runs during the year. However, the vast majority of runs were not fire calls. Structure and outside fire runs accounted for just 63 of the runs.
- Rescue 3 of Kingsland Fire Department was dispatched the second most often. It made 887 runs during the year. Structure and outside fire runs totaled 26 runs in a year.
- Engine 4 of Kingsland Fire Department was dispatched the third most often. It made 728 runs during the year. Structure and outside fire runs totaled 47 runs in a year.
- There are five tankers in Camden County Fire Rescue and one tanker in Kingsland Fire Department. The six tankers combined were deployed 174 times in a year, averaging 0.5 runs per day.

TABLE 33: Medical Units: Total Number of Runs by Call Type

Agency	Station	Unit	Cardiac and Stroke	Seizure and Unconsciou-sness	Breathing Difficulty	Overdose and Psychiatric	MVA	Fall and Injury	Illness and Other	Structure and Outside Fire	Fire Other	Mutual Aid	Canceled	**Total**
Camden County	10	LS4	117	148	126	44	153	210	452	66	214	6	7	**1,543**
	3	LS3	99	121	136	38	133	198	436	84	151	2	17	**1,415**
	2	LS2	99	131	161	39	23	202	400	61	184	1	6	**1,307**
	11	LS1	57	43	53	10	61	51	175	36	61	3	17	**567**
	17	LS7	24	14	30	4	36	33	71	28	31	2	10	**283**
Kingsland	4	MED4	5	5	6	1	25	5	85	11	14	0	0	**157**
	3	MED3	2	3	0	0	0	7	43	5	18	1	0	**79**
	4	MED5	0	0	0	0	0	1	0	0	0	0	0	**1**

Note: A dispatch of a unit is defined as a run; thus a call might include multiple runs.

Observations:

- The eight medical units of three agencies accounted 43 percent of the total dispatches of all units (44 units).
- The ambulances of Camden County Fire Rescue made the majority medical responses in the county. It accounted 96 percent of responses of medical units.

Analysis of Busiest Hours

There is significant variability in the number of calls from hour to hour. One special concern relates to the fire and EMS resources available for hours with the heaviest workload. We tabulated the data for each of 8,784 hours in the year. Approximately once every 1.3 days (31 hours), the three agencies responded to three or more calls in an hour. This is 3.2 percent of the total number of hours. This section of the report also presents the top ten hours with the most calls received.

TABLE 34: Frequency Distribution of the Number of Calls

Number of Calls in an Hour	Frequency	Percentage
0	5,013	57.1
1	2,645	30.1
2	845	9.6
3	215	2.4
4	53	0.6
5	10	0.1
6	2	0.0
8	1	0.0

Observations:

- During 281 hours (3.2 percent of all hours), three or more calls occurred; in other words, the three agencies responded to three or more calls in an hour roughly once every 1.3 days (31 hours).
- During 66 hours (less than 1 percent of all hours), four or more calls occurred.

TABLE 35: Top 10 Hours with the Most Calls Received

Hour	Number of Calls	Number of Runs	Total Deployed Hours
5/27/2012, 9:00–10:00 p.m.	8	11	6.1
5/23/2012, 3:00–4:00 p.m.	6	14	7.4
5/27/2012, 10:00–11:00 p.m.	6	11	9.0
5/27/2012, 8:00–9:00 p.m.	5	16	5.6
9/23/2011, 5:00–6:00 p.m.	5	14	7.9
11/19/2011, 10:00–11:00 p.m.	5	12	7.3
10/7/2011, 4:00–5:00 p.m.	5	12	5.1
5/17/2012, 5:00–6:00 p.m.	5	12	4.1
10/12/2011, 8:00–9:00 p.m.	5	12	3.8
7/26/2011, 9:00–10:00 a.m.	5	11	7.6

Note: The combined workload is the total deployed minutes spent responding to calls received in the hour, and which may extend into the next hour or hours.

Observations:

- The hour with the most calls received was 9:00 to 10:00 p.m. on May 27, 2012. The eight calls involved eleven individual dispatches. These eight calls included one cardiac-and-stroke call, one illness-and-other call, one hazardous-condition call, and five public-service calls. Of the eight calls, five were in unincorporated areas, one was in St. Marys, and two were in Kingsland.
- On May 23, 2012 between 3:00 and 4:00 p.m., six calls involved fourteen individual dispatches. These six calls included four EMS calls, one false alarm, and one public-service call. Of the six calls, three were in St. Marys, two were in Kingsland, and one was in unincorporated areas.
- Three of the top four hours were from 8:00 to 11:00 p.m. on May 27, 2012.

Dispatch Time and Response Time

This section presents dispatch and response time statistics for different call types and cities. We first identified first arriving units of any of the three agencies, and then focused on the analysis on those units.

Different terms are used to describe the components of response time: **Dispatch processing time** is the difference between the earliest dispatch times of all units responding to the call and call-received time recorded in the dispatch center. **Turnout time** is the difference between the unit time en route and the earliest unit dispatch time. **Travel time** is the difference between the unit on-scene arrival time and the time en route. **Response time** is the difference between the on-scene arrival time and call-received time.

In this section, a total of 3,991 calls that had valid dispatch, turnout, and travel times are used in the analysis. This accounts for 77 percent of the EMS and fire category calls within Camden County. The average response time for calls in St. Marys was 7.1 minutes, the average response time for calls in Kingsland was 7.2 minutes, and the average response time for calls in Woodbine and unincorporated areas was 9.4 minutes. The longer average response time for calls in Woodbine and unincorporated areas are the result of longer average travel times. The average response times in this report are less than response times reported in earlier reports that focused primarily on one agency at a time.

FIGURE 33: Average Dispatch, Turnout, and Travel Times of First Arriving Unit, by Location

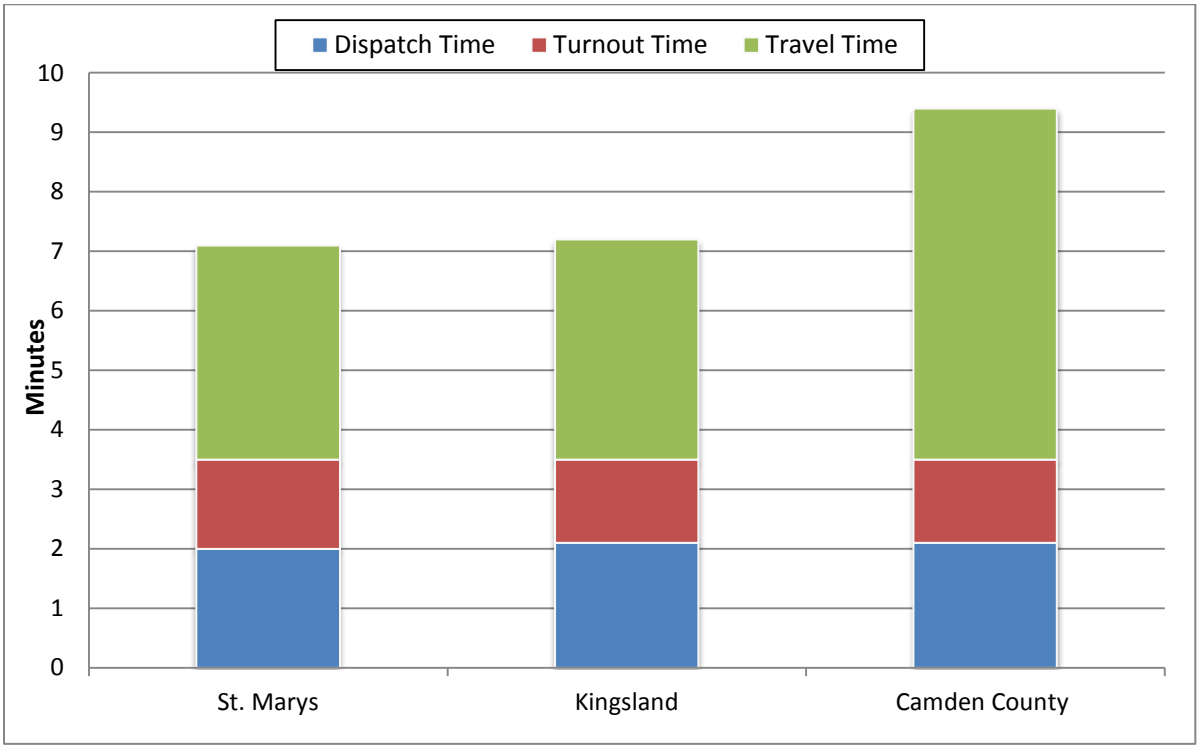


TABLE 36: Average Dispatch, Turnout, Travel, and Response Times of First Arriving Unit, by Location

Location	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size
St. Marys	2.0	1.5	3.6	7.1	1,475
Kingsland	2.1	1.4	3.7	7.2	1,815
Camden County	2.1	1.4	5.9	9.4	701
Total	**2.1**	**1.4**	**4.0**	**7.5**	**3,991**

Observations:

- The average response time for calls in St. Marys was 7.1 minutes.
- The average response time for calls in Kingsland was 7.2 minutes.
- The average response time for calls in Woodbine and unincorporated areas was 9.4 minutes.
- The longer response time for calls in Woodbine and unincorporated areas is the result of longer travel times.

TABLE 37: 90th Percentile Dispatch, Turnout, Travel, and Response Times of First Arriving Unit, by Location

Location	Dispatch Time	Turnout Time	Travel Time	Response Time	Sample Size
St. Marys	4.1	2.1	5.8	10.0	1,475
Kingsland	4.2	2.0	6.5	10.4	1,815
Camden County	3.9	1.9	11.2	14.9	701
Total	**4.1**	**2.0**	**7.3**	**11.1**	**3,991**

Note: A 90th percentile response time of 10.0 for calls in St. Marys indicates that the total response time was less than 10.0 minutes for 90 percent of all calls in St. Marys. Unlike averages, the 90th percentile response time is not equal to the sum of 90th percentile of dispatch time, turnout time, and travel time.

Observations:

- The 90th percentile response time for calls in St. Marys was 10.0 minutes.
- The 90th percentile response time for calls in Kingsland was 10.4 minutes.
- The 90th percentile response time for calls in Woodbine and unincorporated areas was 14.9 minutes.
- The 90th percentile travel time for calls in Woodbine and unincorporated areas was longer than 90th percentile travel times in St. Marys and Kingsland.

TABLE 38: Average Response Time of First Arriving Unit, by Call Type and Location

Call Type	St. Marys		Kingsland		Camden County	
	Response Time	Sample Size	Response Time	Sample Size	Response Time	Sample Size
Cardiac and stroke	6.5	123	6.9	146	8.1	61
Seizure and unconsciousness	6.2	153	6.4	154	8.1	60
Breathing difficulty	6.9	171	6.8	194	9.7	73
Overdose and psychiatric	8.0	53	8.0	48	10.5	14
MVA	8.2	25	6.4	163	10.8	64
Fall and injury	7.2	215	7.4	262	9.4	85
Illness and other	7.4	458	7.3	536	9.1	215
EMS Total	**7.1**	**1,198**	**7.1**	**1,503**	**9.2**	**572**
Structure fire	7.2	92	7.5	54	8.4	33
Outside fire	7.0	85	6.9	60	10.7	13
Hazard	6.6	10	7.5	20	12.0	13
False alarm	8.8	26	8.1	100	10.0	13
Good intent	6.0	28	8.3	30	10.6	11
Public service	7.5	36	7.2	48	10.8	46
Fire Total	**7.2**	**277**	**7.6**	**312**	**10.2**	**129**
Total	**7.1**	**1,475**	**7.2**	**1,815**	**9.4**	**701**

Note: First arriving units with valid dispatch, turnout, and travel times were used in this analysis.

Observations:

- The average response time for EMS calls in St. Marys and Kingsland was 7.1 minutes.
- The average response time for EMS calls in Woodbine and unincorporated areas was 9.2 minutes.
- The average response time for fire category calls in St. Marys was 7.2 minutes.
- The average response time for fire category calls in Kingsland was 7.6 minutes.
- The average response time for fire category calls in Woodbine and unincorporated areas was 10.2 minutes.

TABLE 39: 90th Percentile Response Time of First Arriving Unit, by Call Type and Location

Call Type	St. Marys		Kingsland		Camden County	
	Response Time	Sample Size	Response Time	Sample Size	Response Time	Sample Size
Cardiac and stroke	8.9	123	10.1	146	13.0	61
Seizure and unconsciousness	8.7	153	9.2	154	14.4	60
Breathing difficulty	9.5	171	10.4	194	16.8	73
Overdose and psychiatric	10.3	53	13.8	48	16.3	14
MVA	11.3	25	9.8	163	16.9	64
Fall and injury	10.1	215	10.7	262	14.3	85
Illness and other	10.3	458	10.7	536	13.9	215
EMS Total	**10.0**	**1,198**	**10.4**	**1,503**	**14.5**	**572**
Structure fire	8.4	92	13.6	54	14.8	33
Outside fire	10.7	85	11.7	60	16.7	13
Hazard	10.4	10	10.7	20	13.4	13
False alarm	9.9	26	8.8	100	21.4	13
Good intent	8.3	28	11.3	30	18.2	11
Public service	11.6	36	10.3	48	14.7	46
Fire Total	**10.3**	**277**	**10.7**	**312**	**16.4**	**129**
Total	**10.0**	**1,475**	**10.4**	**1,815**	**14.9**	**701**

Note: A 90th percentile value of 8.4 for structure fire calls in St. Marys indicates that the total response time was less than 8.4 minutes for 90 percent of structure fire calls (82 calls). Unlike averages, the 90th percentile response time is not equal to the sum of 90th percentile values for dispatch time, turnout time, and travel time.

Observations:

- The 90th percentile response time for EMS calls in St. Marys was 10.0 minutes.
- The 90th percentile response time for EMS calls in Kingsland was 10.4 minutes.
- The 90th percentile response time for EMS calls in Woodbine and unincorporated areas was 14.5 minutes.
- The 90th percentile response time for fire category calls in St. Marys was 10.3 minutes.
- The 90th percentile response time for fire category calls in Kingsland was 10.7 minutes.
- The 90th percentile response time for fire category calls in Woodbine and unincorporated areas was 16.4 minutes.

Appendix I

Workload of Administrative Units

Agency	Administrative Units	Annual Number of Runs
St. Marys	200	112
	201	289
Kingsland	FIRE3	94
	FIRE4	50
Camden County	BATT1	166
	CAR10	2
	CHF1	54
	CHF2	79
	CHF3	17
Total		**863**