

*Department of Information Technology*

## 70-09-Radio Communications

Fund/Agency: 001/70	Department of Information Technology	
Personnel Services	\$712,183	<p><b>CAPS Percentage of Agency Total</b></p> <p>2.7%</p> <p>97.3%</p> <p>■ Radio Communications ■ All Other Agency CAPS</p>
Operating Expenses	\$379,771	
Recovered Costs	\$0	
Capital Equipment	\$0	
<b>Total CAPS Cost:</b>	<b>\$1,091,954</b>	
Federal Revenue	\$0	
State Revenue	\$0	
User Fee Revenue	\$0	
Other Revenue	\$791,597	
<b>Total Revenue:</b>	<b>\$791,597</b>	
<b>Net CAPS Cost:</b>	<b>\$300,357</b>	
Positions/SYE involved in the delivery of this CAPS	15/15	

### ► CAPS Summary

Radio Communications provides design, engineering, acquisition, deployment, system administration, maintenance, and emergency restoration services for the County's Public Safety Radio System used by the Police, Fire and Rescue, and Sheriff's Departments, for the Public Service Radio System used by general government agencies, including the Public Schools, Public Works and Environmental Services, Transportation, etc., and for the 9-1-1 Emergency Telephone System utilized at the Public Safety Communications Center. In addition, the work program provides oversight and assistance to Information Technology projects related to Public Safety Communications applications, and further acts as the DIT liaison to the County's Emergency Management Section.

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The Radio and Emergency Services work program provides two distinct functions for the County, as follows:

**Technical Program Management** – Technical staff provides work program supervision and engineering, consulting, and logistical expertise to users of the County’s radio and 9-1-1 systems. Essential tasks include overall Radio Service program management, and participation in local and regional frequency use committees; the licensing and ownership responsibilities for the many radio frequencies assigned to the County, as dictated by the Federal Communications Commission; the management responsibilities that are associated with owning and/or leasing of radio tower and transmitter sites; frequency analysis, and the review and evaluation of other public or private sector communications systems which may impact or interfere with the County’s radio communications capabilities; the administration of the County’s Public Safety and Public Service radio system networks, 9-1-1 System infrastructure, and other associated components and services; and developments and issues associated with new technology which may meet County agency needs and/or have an impact on program staff. The group recently completed the oversight and acceptance of a new digital trunked simulcast radio system for over 3,000 public safety users (County Police, Fire and Rescue, and Sheriff’s Departments, as well as the police departments for the City of Fairfax and the Towns of Herndon and Vienna), and is currently planning for future growth of this system. In addition, this group is now beginning the first phases of planning the replacement of the 3,000 subscriber Public Service Radio System (Schools, Public Works, FASTRAN, Water Authority, etc.). Staff members are also managing the replacement of the “9-1-1” Call Answering System at the County’s Public Safety Communications Center (PSCC).

**Technician-Level Services** – Radio Services Center staff provides for the daily customer service activities of the work program, and for emergency restoration response or other after-hours support for County agencies. Center staff provides hands-on service, installation, and repair of portable (handheld), mobile (vehicle-mounted), and fixed site (some base stations and transmitters) radio equipment. Program staff maintains a mixture of old radio equipment (board-level maintenance) but have also trained and are migrating to the service and support of CPU-based programmable portable and mobile radios. Other tasks include installation and troubleshooting of mobile computer terminals (MCTs or laptop PCs) and data radios in public safety vehicles, maintenance of some audio and paging systems for fire stations and other County facilities and functions, and the certification of handheld radar units for the County and area police departments.

The program is currently focusing on replacement for the Public Service Radio system. This project is funded in the Fund 104. The project will consider other wireless communications technologies that may have converged to provide a flexible, reliable and state-of-the-art solution for both County operations and fleet, and school bus fleet needs. This project has the potential to take advantage of part of the infrastructure established for the Public Safety radio project.

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### ► Method of Service Provision

Until recent years, all maintenance for portable and mobile radios, and for most of the base stations and transmitters, was performed by County employed technicians. The County is finishing its migration to a new vendor-maintained Public Safety Radio System, encompassing about one-half of the "fleet" (and which allowed for the elimination of 5/5.0 SYE positions from the Radio Services Center). County technicians continue to maintain all components of the large Public Service Radio System, and will do so until its eventual replacement. Other County staff has completed the transition from "bench-tech" type work to administration and management of the integral data and software applications in 24-hour use by the new Public Safety Radio System (most installation work and hands-on maintenance in the field are done by private contractors). A private consultant is also used for higher-level radio system engineering work.

### ► Performance/Workload Related Data

Title	FY 1998 Actual	FY 1999 Actual	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate
Radio Work Tickets	4,822	4,856	4,503	4,582	4,600
PSCC Calls Received	1,286,402	1,468,182	1,503,396	1,892,861	2,122,218

The embedded base of subscriber equipment has remained fairly constant for the older Public Service Radio System, currently at 3,317 mobile, portable, and desktop-console radios. The implementation of the newer Public Safety Radio System, however, has resulted in a dramatic increase in supported equipment. In FY 2000, an estimated total of 2,574 subscriber units were in use by the County's public safety agencies. At the end of FY 2001, following new system implementation, 4,999 mobile and portable radios, and 900+ MCT (Mobile Computer Terminals or ruggedized laptop PCs and associated data radios) units make up the current public safety "fleet".

The workload handled by County radio technician staff has not reduced significantly, even though approximately half of the supported "fleet" is of much newer generation. The workload (indicated by work tickets opened for each service job) is remaining about the same as the older Public Service System continues to have maintenance problems, and the newer Public Safety System has more radios and more features to maintain than before.

This work program continues to be called upon to provide a higher level of technical assistance, service management, and contractor oversight in order to maintain telecommunications services for the PSCC. The increase in the volume of citizen calls requires that all services be operational 24 hours a day, 7 days a week, that data base configurations are reliable and user-friendly, that features allowing for dynamic call handling and management are the best available, and that contingency preparations and backup systems are on "hot" standby and readily available.

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Although services provided to customers are not mandated by Federal or State law/regulation, staff is required to administer FCC licenses and associated frequencies assigned to Fairfax County, ensure technical conformance with broadcast specifications, and investigate complaints and/or issues with interference to other radio systems, as required by the Federal Communications Commission (FCC). In addition, the County's ownership of a radio tower requires that staff maintain compliance with other regulations from the FCC and from the Federal Aviation Administration (FAA).

Finally, the nature of the services provided, particularly in the case of "9-1-1" and public safety radio services, bring their own mandate - that they be operational, available, and reliable 100 percent of the time.