



PSAP Observation Overview

Public Safety Communications System Assessment and Design

Broome County, New York

Report

June 28, 2012



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Appendices

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1 PSAP Visits

1.1 Overview

As part of the Blue Wing study for Broome County and its PSAP operations, arrangements were made to visit several other PSAPs to review their operations and equipment. Primarily this was for the purpose of examining methods of operating with separate call takers.

Both Blue Wing and Broome County personnel attended the visits.

The following PSAPs were visited:

- Saratoga County, NY – 11/03/11
- Monroe County, NY – 11/07/11
- Lackawanna County, PA – 11/09/11
- Dutchess County, NY – 11/10/11
- Alexandria, VA – 12/05/11
- Arlington County, VA – 12/06/11

Prior to the visits, Blue Wing personnel spent three days at Broome County's emergency communications center from Oct. 26-28, 2011. The purpose of this visit was to observe and evaluate Broome County's operation. The primary Blue Wing personnel involved were Pat Calamari, Richard Frye and Lee Palmer.

Blue Wing met with Broome County's management staff comprised of Brett Chellis, Mike Ballard, Chuck Rogers, Neal Haight and Tom Vroman. Blue Wing spent time with each shift, observing operations at each time period throughout the day and night.

The results of that visit are contained in the operations and recommendations section of this report.



2 Saratoga County, NY

2.1 Overview

Nov 3, 2011

Blue Wing: Pat Calamari, Rich Frye, Lee Palmer

Broome County: Mike Ballard, Chuck Rogers, Tom Vroman

Saratoga County: Lt. Rick Castle, Sgt. Tom Breen

Main Center

6010 County Farm Rd.

Ballston Spa, NY 12020

Backup Center

County Complex, McMaster St.

Ballston Spa, NY 12020

2.2 Demographics

Size	809.98
Population	219,607
Population Density	271.1
Major Cities	Albany, Troy
Housing Units	98,656
Households	84,165
Persons per Household	2.52
Multi-Structure	22.9%
Median Income	\$66,634

Table 2-1: Saratoga County Demographics



2.3 Operation

Saratoga County’s operation is 9-1-1 for the county except the City of Saratoga Springs. The County PSAP also takes non-emergency calls for the sheriff. The county handles fire, EMS and the initial 9-1-1 calls for local police departments. They have full responsibility for the sheriff’s office. Saratoga Springs has its own PSAP, handling both police and fire. Mechanicville and Waterford have their own dispatch, as well as several smaller police departments. Saratoga dispatches EMS for the entire county.

2.4 Agencies

Fire	36
EMS	18
Local PD	Saratoga Springs, Waterford, Mechanicville, others
Other Law	Sheriff, NYSP

Table 2-2: Agencies Dispatched

2.5 Facility

Saratoga moved into its new dispatch center in 2007. It is located in the sheriff’s office, which shares the building with the prison. The building is fully secured due to the prison operations. The dispatch room is small and does not have space for expansion.

Saratoga has eight positions that are combined call taking and radio dispatch. Each position has four monitors: one for radio, one for phone, and two for CAD and mapping.



Figure 2-1: Saratoga County Communications Center and Jail

2.6 Equipment

Saratoga County has eight positions in the main dispatch center and four in the backup Center. The county operates on a new Motorola P25 trunking system that has an analog overlay for paging.

Center	2007
Furniture	Watson
Consoles	Motorola MCC 7500 (2007)
9-1-1	Moving to Cassidian Patriot
CAD	Impact

Table 2-3: Saratoga County Equipment

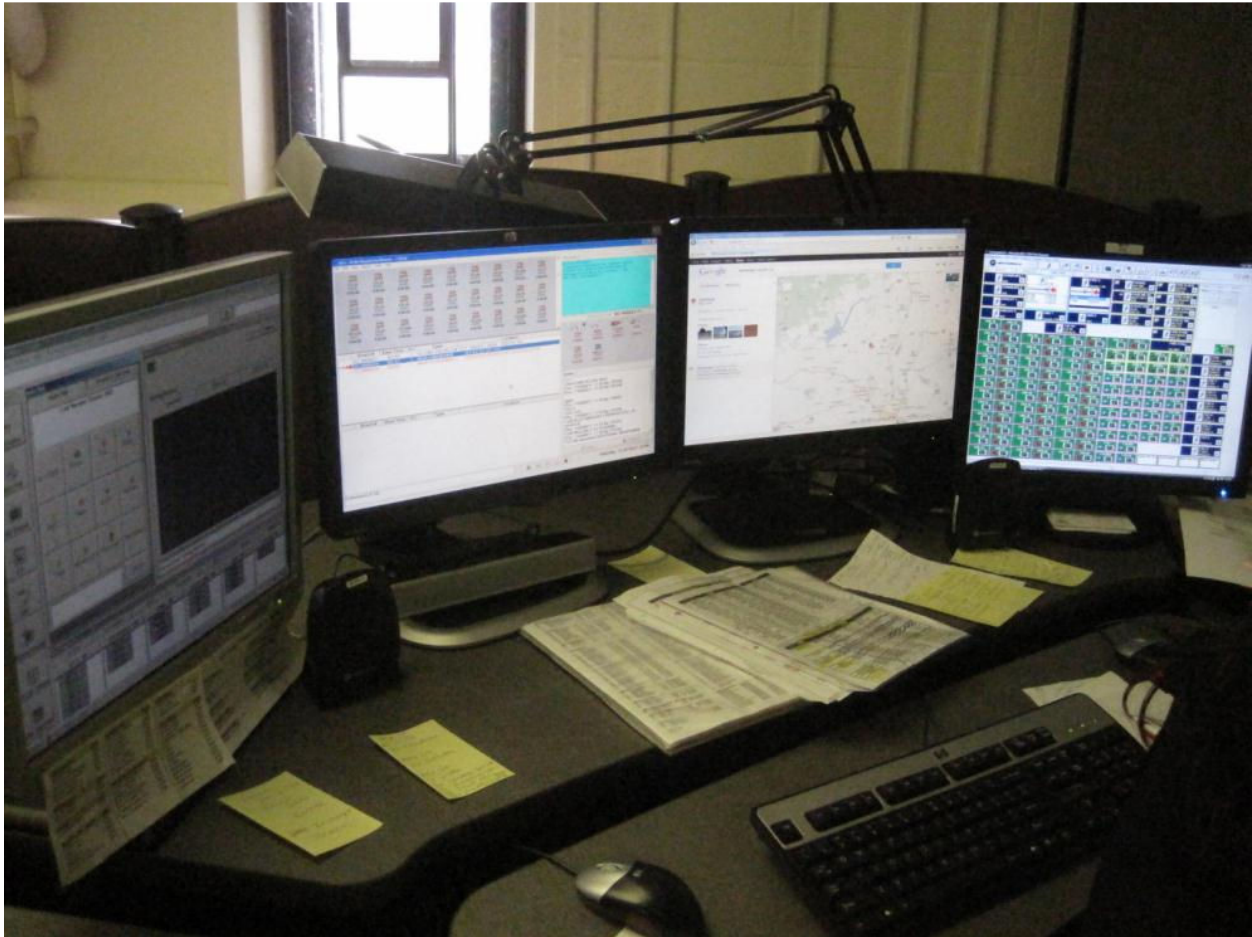


Figure 2-2: Typical Dispatch Position

2.7 Radio Equipment

The radio system is an 800 MHz Motorola P25 trunked system that was designed for 95 percent portable coverage. The system uses nine sites, connected by a new 150 MHz microwave system. According to the county, there are very few coverage problems. There is an analog VHF overlay used for paging. There is one encrypted dispatch group, and several encrypted TAC groups using AVP. There are 26 talk groups in use.



2.8 Channel Usage

1 analog channel is used for paging both EMS and fire.

1 talk group for fire

1 talk group (COM2) for emergency only – monitored by FAST team

1 talk group for EMS

1 talk group for law

All other talk groups for TAC and ground operations

2.9 Operations

Fire is dispatched by department, not units. Daytime mutual aid uses five companies all on the same page. The county does not use or desire AVL, although it is available with the radio system. Saratoga does not use the extra features available with P25 such as private call, status, test, etc. A couple radios do use the private call feature. Dispatch is all plain English; 10 codes are not used anymore. 9-1-1 backup goes to Warren County, then to Washington County.

2.10 Staffing

Saratoga County has 32 full-time dispatchers. A minimum shift consists of one sergeant and four dispatchers. All staff is combined call taking and dispatch; separate call takers are not used. Saratoga does not use any part-time or hourly dispatchers. All staff is uniformed.

2.11 Loading

There are 27 sheriff cars normally on duty on Friday and Saturday, a bit less during the week. NYSP is available but rarely responds to calls. All local police departments handle their own incidents.

2.12 System Training

Saratoga has seven trainers for fire who meet weekly to discuss system and operations. The county has a three-hour program for training each fire department and EMS agency.



2.13 Procedures

Currently Saratoga does not have a system policy manual. The county has put this on hold until officials see how everything with the system shakes out.

2.14 External Organization

Saratoga County has a board of supervisors with two appointments on the FAB. Dispatch is operated under the sheriff's office. The sheriff basically runs the show and has final say over all decisions for dispatch. The FAB meets monthly. All fire services are represented, 19 towns and two cities.

2.15 Other

Fire pays for radio maintenance by the county's vendor. The county provided each fire and EMS agency with mobile and portable replacement. Additional units are paid for by the agencies. Law uses the APX model, while fire and EMS use the 1500.

2.16 Interesting Notes

Officials said scanning on the trunked radio systems is not reliable because it does not affiliate with the channel; therefore the zone does not come up during transmit. The radio project started in 1995, so it has been a long time to get it to completion.



Monroe County, NY

2.17 Overview

Nov 7, 2011

Blue Wing: Rich Frye, Lee Palmer

Broome County: Mike Ballard, Chuck Rogers, Neal Haight

Monroe County: John Merklinger

321 West Main St.

Rochester, NY 14608

2.18 Demographics

Size	657.21
Population	744,344
Population Density	1132.6
Major Cities	Rochester
Housing Units	320,593
Households	286,327
Persons per Household	2.45
Multi-Structure	30.8%
Median Income	\$50,283

Table 2-4: Monroe County Demographics

2.19 Operation

Monroe has responsibility for all law, county and local; all fire and EMS; and includes 9-1-1 and dispatch responsibility for the city of Rochester. The county also is responsible for other functions such as animal control.



2.20 Agencies

Fire	46
EMS	32
Local PD	16
Other Law	Sheriff, NYSP, other miscellaneous agencies

Table 2-5: Monroe County Agencies

2.21 Facility

The building is owned by the city of Rochester. The county pays for the dispatch operation. The building is self contained and secured. The center is fed by two different power feeds and has all diverse 9-1-1 routing. The staff runs a weekly generator test.

2.22 Equipment

Monroe County has 38 positions in main dispatch, 22 in the backup center, and 21 for training.

Center	2007
Furniture	
Consoles	Motorola Gold Elite
9-1-1	Cassidian Sentinel ECS-100
CAD	PRC moving to Tiburon

Table 2-6: Monroe County Equipment

Monroe County has a large dispatch system comprised of Gold Elite consoles with primary and secondary CEBs and an Embassy switch. The county is on its last update as this product is obsolete.

The CAD is currently a UNIX-based PRC. The county bought a new Tiburon CAD system three years ago, but is still waiting for all of the interfaces to be completed. Monroe has the five surrounding counties' units programmed into its CAD system. Ontario County is looking at sharing Monroe County's CAD system once it is installed.

The county is also looking at the possibility of partnering with Ontario on a new NG 9-1-1 system.



2.23 Radio Equipment:

Monroe County is moving to a new Harris Trunked 700/800 MHz trunked P25 simulcast system. The radio network should be running by the end of 2012, but it is not planned for usage by public safety until 2016. This system is shared with Ontario County with the controllers and towers. The radio network was bought for \$38 million and is comprised of 17 sites.

For law, they use 700 mobiles and 1800 portables. They also use digital paging.

2.24 Channel Usage

Rochester PD uses four channels for dispatch, zoned for east and west, with one channel each for dispatch and admin. County law uses three channels, with one primary channel for dispatch, and two channels zoned for east and west for admin. The county also has eight other local, sheriff and tactical channels. County law has three channels with one for dispatch, and zoned east and west for admin. The county has six of the national interop channels, and nine county channels for the PSIC consortium.

2.25 Operations

Monroe County uses separate call takers. They depend upon CAD to relay incidents and messages to the dispatchers. This has its downside in efficiencies and communication, but with the large dispatch operation, this is the only way possible. For fire, the county runs mutual assist from 6 a.m. to 6 p.m. With this large an operation, keeping run cards updated is taxing.

2.26 Staffing

Monroe County has a total staff of 198, with 192 dedicated to the operations. Shifts are eight hours, with two 15-minute breaks and 30 minutes for lunch. A typical shift is comprised of 30 members, with 12 call takers, 17 dispatchers, and three supervisors. Typically 13 call takers are on duty from 4 p.m. until midnight, dropping to 10 after midnight, and eight after 2 a.m. For the dispatchers, 11 are assigned to law, and six are assigned to fire/EMS. There are three supervisors on each shift. Shifts are assigned by seniority.



The typical pay grades are:

12 – Call Taker - \$42K

15 – Dispatcher - \$48K

17 – Dispatcher II - \$51K

21 – Supervisor - \$67K

The local union is ASME.

2.27 Loading

Statistics:

- 138 calls per eight-hour shift
- 44 minutes out of each hour
- 96 seconds average call length
- 96 percent of calls answered in first 10 seconds
- Typically 80 units are operating in the city

2.28 Training

Monroe County has 38 certified trainers. The backup system can be put in test mode for training. Monroe County has a quarterly debrief. Quarterly shift meetings include training. Meetings start an hour before the shift begins and are mandatory for all on-duty personnel. Off-duty personnel must review the videos. New directives are given at the shift meetings. All in-service training is while on duty, and uses the public safety group. Monroe provides CDE training. The in-service training team ties the training to errors and problems. All supervisors get a monthly test on procedures. There is also a medical director for the communications center. Monroe County also publishes a quarterly newspaper.

QC/QA – Monroe County has two full-time EMD, and 3 percent of all calls are reviewed. Call takers are videotaped and reviewed for compliance. A 10-question check sheet for call takers is done by the supervisor.



2.29 Procedures

Standardized procedures are used throughout the county. Small fire departments use call in, but county doesn't do off-duty call in.

2.30 Organizational

Job descriptions are all current and published.

2.31 External Organization

Law Enforcement Council – meets monthly

Fire Advisory

EMS Advisory

Communications Advisory

Fire Advisory board has a communications manual. Communications keeps hammering on radio procedures but still gets complaints from fire and EMS.

2.32 Other

The county has two full-time IT employees dedicated to the operation. The county owns the radio shop and performs all service for the county.

2.33 Interesting Notes

The five surrounding counties are loaded into the CAD. The backup system can be put in test mode for training purposes. Monroe County provides most of its information on its website including job descriptions and full postings for compliance, and complete statistics, as well as general FAQs. They also have a 9-1-1 incident report in real time on the web site.



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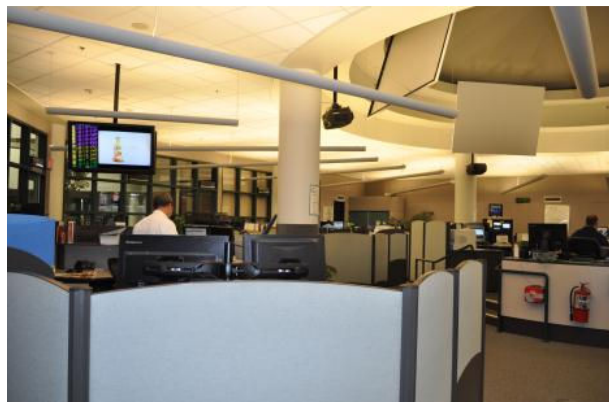
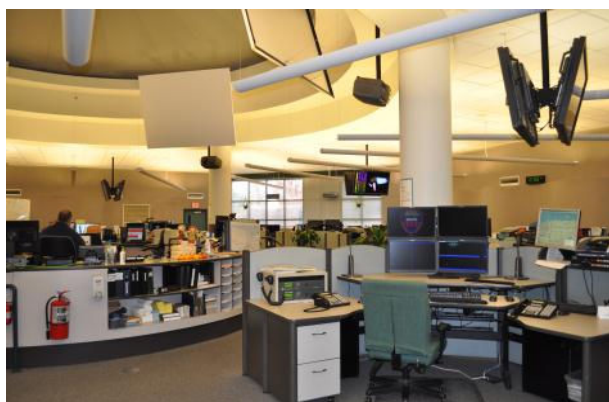
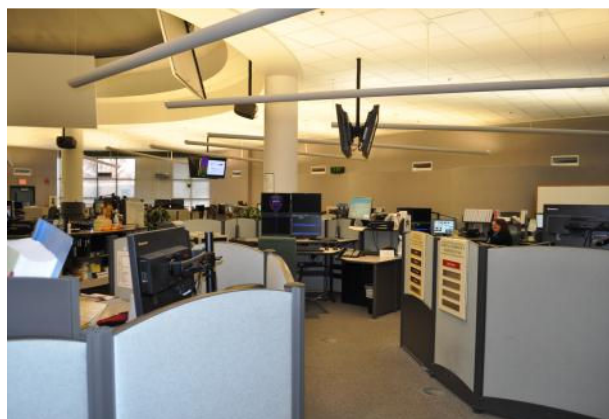


Figure 2-3: Monroe County EOC



3 Lackawanna County, PA

3.1 Overview

Nov 9, 2011

Blue Wing: Pat Calamari, Rich Frye, Lee Palmer

Broome County: Mike Ballard, Neal Haight

Lackawanna County: Rich Barbolish, Al Kearny

Lackawanna County Center for Public Safety

30 Valley View Business Park

Jessup, PA 18434-1147

3.2 Demographics:

Size	459.08
Population	214,437
Population Density	467.1
Major Cities	Scranton
Housing Units	96,832
Households	86,924
Persons per Household	2.3
Multi-Structure	30.4%
Median Income	\$43,715

Table 3-1: Lackawanna County, PA Demographics

3.3 Operation

Lackawanna County is responsible for all fire, EMS and law within the county. The county is also responsible for the City of Scranton. Although Vanding is within Lackawanna County, it is dispatched by Susquehanna County, as Vanding is on the border.



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3.4 Lackawanna County Agencies

Fire	57 companies, 30 departments
EMS	17
Local PD	28

Table 3-2: Lackawanna County Agencies



Figure 3-1: Lackawanna County, PA Communications Center



3.5 Facility

Lackawanna moved into its new facility in 2007. A better description would be the communications complex as it is self sufficient and is not a shared use. The grounds are surrounded by a moat and barbwire. A glass is bullet proof, and exterior doors are prison type. The walls are 18 inches. The building is quite secure. This is a huge complex, and besides dispatch having a huge EOC room, there is a large training room, a fully stocked warehouse/garage area, an over-sized equipment room, large well-equipped kitchen, large locker rooms with showers, four bunks for males and four bunks for females, and a workout room. The building has redundant over-sized generators with tanks large enough to run the generators for several weeks.

3.6 Equipment

Lackawanna County has 20 positions in the main dispatch center, 13 used in the main dispatch room. These are comprised of 10 dispatch positions and three call taker positions in the main dispatch room, four call takers and two dispatch positions in the training room, and one position in the EOC. Lackawanna County has a backup center in Scranton.

Lackawanna County Equipment

Center	2007
Furniture	Xybix, Concept Seating chairs
Consoles	Zetron ACOM
9-1-1	Cassidian Vesta
CAD	New World MSP
Additional	Pictometry

Table 3-3: Lackawanna County Equipment



Figure 3-2: Typical Dispatch Position

Lackawanna is having some trouble interfacing AVL to its CAD upgrade to MSP.

Lackawanna uses its mobile van for temporary operation if there is a switch over to Scranton for backup. The county also has the capability to switch operations to Luzerne County.

3.7 Operations

The call taking uses ACD with the priority set to first the call taker, then to fire/EMS, then to law, and then to the supervisor. The EMD was written by local doctors. All EMS units are equipped with AVL, but the upgrade to the New World MSP did not integrate well. Some fire agencies use I am responding. The county gets the local feeds, but it is not part of dispatch protocol. Dispatch has mandatory headset usage, both wired and wireless.



3.8 Radio Equipment:

The radio system is a mixed-band analog conventional system. Fire, EMS and law enforcement are on VHF high band, and the city law enforcement and fire are on UHF. The system is a five-site simulcast system with seven receiver only sites.

3.9 Channel Usage

3 Channels are used for police comprised of three zones – north, middle and south.

1 Channel for the sheriff (not used as law enforcement in PA)

2 channels for Scranton – primary and code red

1 channel for county fire

1 channel for Scranton fire

1 channel for EMS (some agencies are on the fire channel)

3 Fire ground channels

3.10 Staffing

Lackawanna County has a total staff of 29 dispatchers, 11 supervisors and two part-time employees. They are waiting for the part-time employees to retire so the entire staff will be full time. Four of the dispatchers are qualified as relief dispatchers. Three are senior dispatchers who are used as acting supervisors. They are compensated as supervisors when used in that capacity.

The shifts are eight hours with typically eight on a shift. The typical shift has two call takers, two fire/EMS dispatchers, two county law, one city police department and one supervisor. They need a third call taker and prefer to have two supervisors on duty. Shifts are bid by seniority. Shifts are fixed with fixed days off. They do not have on-call dispatchers. The dispatchers get a 30-minute break for meals. Typically they do not backfill, and some dispatchers eat at their positions.

Two of the supervisors handle mapping and CAD. CAD entry is a full-time operation. One supervisor maintains the ALI database. Lackawanna County uses a private database, not the phone company. All supervisors are TAC dispatchers.



Pay Scale:

New dispatcher (starts at lowest level) – \$26K

Dispatcher – \$26 to \$31K

Supervisor – \$36.5K

Trainees are paid \$10 per hour while training for a dispatcher position.

Dispatchers belong to the SEIU union.

Civil service testing is not used for hiring; Critical is used.

The county is currently experiencing a high turnover, having recently lost six to seven dispatchers.

3.11 Loading

Lackawanna has heavy seven-digit and administrative usage. The county is responsible for all seven-digit calls to the local police departments. The dispatchers do NCIC entry. NCIC checking is done by the local police department, and all departments have access to the CAD system. Lackawanna does not use mobile data. Typically Lackawanna has about 20 units per police department channel, and 12 units for Scranton. There are about 50 units total per shift, averaging about 15 to 20 per channel.

From April to November, the county also takes all calls for Penn DOT between 4 p.m. and 7 a.m. The duty is to complete the request and fax a form to Penn DOT. There is no policy on wreckers, and no rotation. City fire does its own recalls.

3.12 Training

QA/QC was developed in house. Each dispatcher is reviewed, using 2 percent of 9-1-1 calls, which equates to about five calls a month. There are also two radio reviews per year.

Staff meetings are held every other Thursday for administrators and supervisors. Shift communications come through supervisors. There is an all-hands staff meeting on annual basis.



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Public Safety Communications System Assessment and Design

Broome County, New York

PSAP Observation Overview

3.13 Procedures

Lackawanna is in the process of writing a policy and procedures document. There are no uniforms, but staff wears collared shirts during the week, and weekends shorts and T-shirts can be worn.

3.14 External Organization

PEMA is the top agency, then the three county commissioners. Fire chiefs go to the commissioners. There is a police advisory board. The fire services are not well organized with regard to communications system.



3.15 Interesting Notes

There is no cleaning staff. One dispatcher does 32 hours a week of cleaning, as well as shoveling, mowing grass, snow plowing, etc.



Figure 3-3: Large Equipment Room



Figure 3-4: Large EOC Center



4 Dutchess County, NY

4.1 Overview

Nov 10, 2011

Blue Wing: Rich Frye, Lee Palmer

Broome County: Mike Ballard, Chuck Rogers, Neal Haight

Dutchess County: Pat Calamari

392 Creek Road

Poughkeepsie, New York 12601

4.2 Dutchess County Demographics

Size	795.63
Population	297,488
Population Density	373.9
Major Cities	Poughkeepsie
Housing Units	118,638
Households	102,856
Persons per Household	2.66
Multi-Structure	27.6%
Median Income	\$68,891

Table 4-1: Dutchess County Demographics

4.3 Operation

Dutchess County is a 9-1-1 only PSAP (like Saratoga County). The county is responsible for all fire and EMS, as well as the initial dispatch for law. Poughkeepsie dispatches its own fire.



4.4 Dutchess County Agencies

Fire	36
EMS	5
Local PD	17
Other Law	Sheriff, NYSP

Table 4-2: Dutchess County Agencies

4.5 Facility

Dutchess moved to this facility in 1998. It is part of a small complex with other county buildings. Besides the dispatch area, Dutchess has a large EOC room in the building.

4.6 Equipment

Dutchess County has 13 positions in the main dispatch, and five positions in the backup center in Poughkeepsie. The backup center is call takers only with a couple mobiles used for radio access. Mobile data and RMS are at the sheriff's office, but are not used by dispatch. Dutchess uses Knox boxes. These are not built into the console, but use separate encoders at the positions.

4.7 Dutchess County Equipment

Center	1998
Furniture	
Consoles	Motorola Gold Elite
9-1-1	Cassidian Sentinel
CAD	New World MSP

Table 4-3: Dutchess County Equipment



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Public Safety Communications System Assessment and Design

Broome County, New York
PSAP Observation Overview

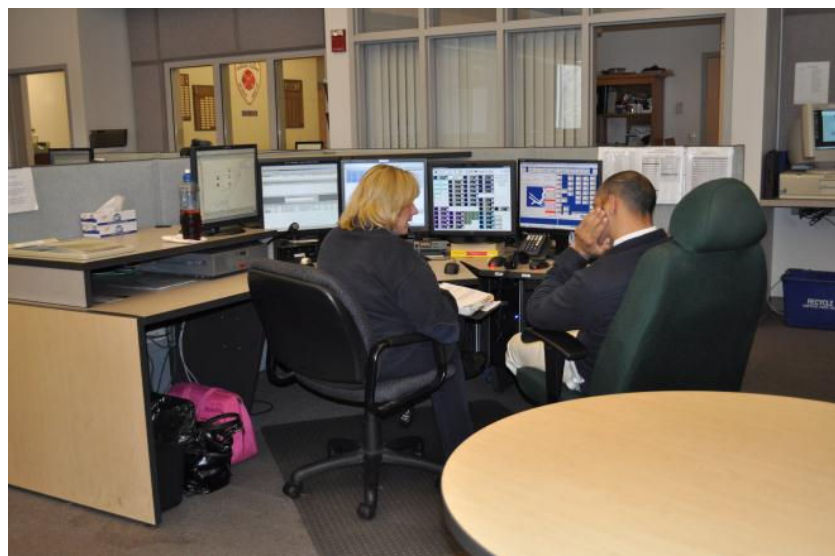
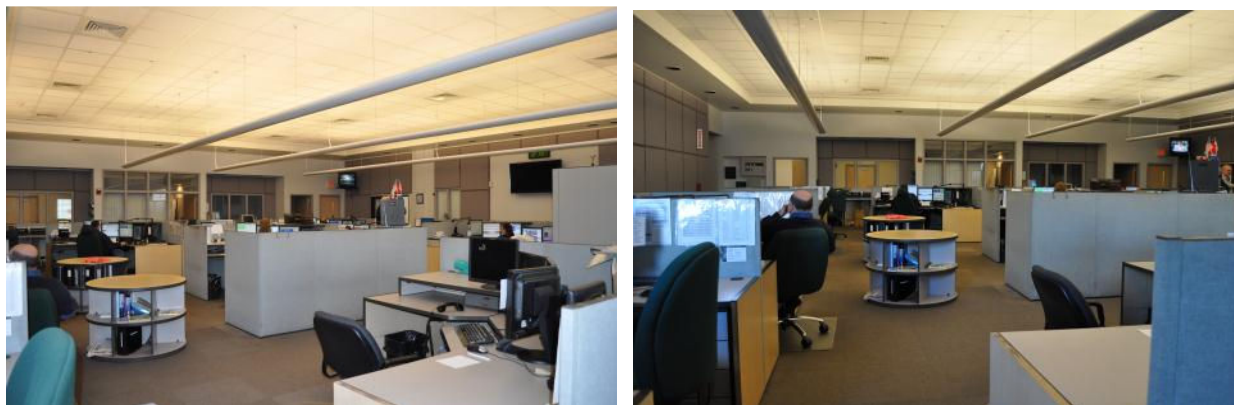


Figure 4-1: Dutchess County Dispatch

4.8 Radio Equipment:

Dutchess County uses a seven-site UHF system for fire/EMS, and a four-site VHF high band system for law enforcement.



4.9 Channel Usage:

Fire/EMS are dispatched over the same channels.

1 channel for fire/EMS paging

1 channel for fire/EMS dispatch

1 channel for operations (response channel)

1 command channel (used by fire chiefs when operating on the ground channel)

Several fire ground channels (not monitored)

1 wide-area channel – used only for special situations, field ops and by Knox

1 Inter-county

1 SEMO

1 channel for law – simulcast

1 primary channel

1 backup channel

4.10 Operations

Headsets are not mandatory. The consoles do not have a radio/telephone interface, so headsets if used are primarily for radio. Handsets are used for phones. Dutchess County uses ACD programmed to go to call takers only. Dutchess still patches ambulance to hospital for EMS calls. As a 9-1-1 only center, all local police departments have their own dispatch and handle all operations after the initial dispatch. Calls for NYSP are transferred to Beacon and Poughkeepsie.

4.11 Staffing

Dutchess County has a staff of 44, with 40 full time, four hourly (up to 39 hours per week), one supervisor and one acting supervisor. Their shifts are comprised of a 10-hour day shift and a 14-hour night shift. There is only one job title, and all members of the dispatch staff rotate. A typical shift mans between seven and nine positions.



4.12 Loading

Typical law enforcement dispatch is comprised of 25 percent sheriff's office, 25 percent NYSP and 50 percent local police departments. There are typically 50 units per shift. Dispatch is broadcast, waiting for response. There are no roll calls or preloading.

4.13 Training

The QA position was lost in budget cuts, and now the supervisors are doing QA. They are currently in the process of implementing the procedures. Dutchess has one full-time trainer on staff. For a new hire, training is usually one week of APCO training, two to three days of CAD training, then call taking training. Training time is up to eight weeks.

4.14 External Organization:

9-1-1 Oversight Board

4.15 Interesting Notes

When a call is received, the call takers ring a bell, one ring for EMS, two rings for law.

The bell not used during major incidents.

Dutchess does not have Internet access in the main room. There is a separate computer in the adjoining training room that can be used for Internet access.

Central Hudson has a position in the training room.



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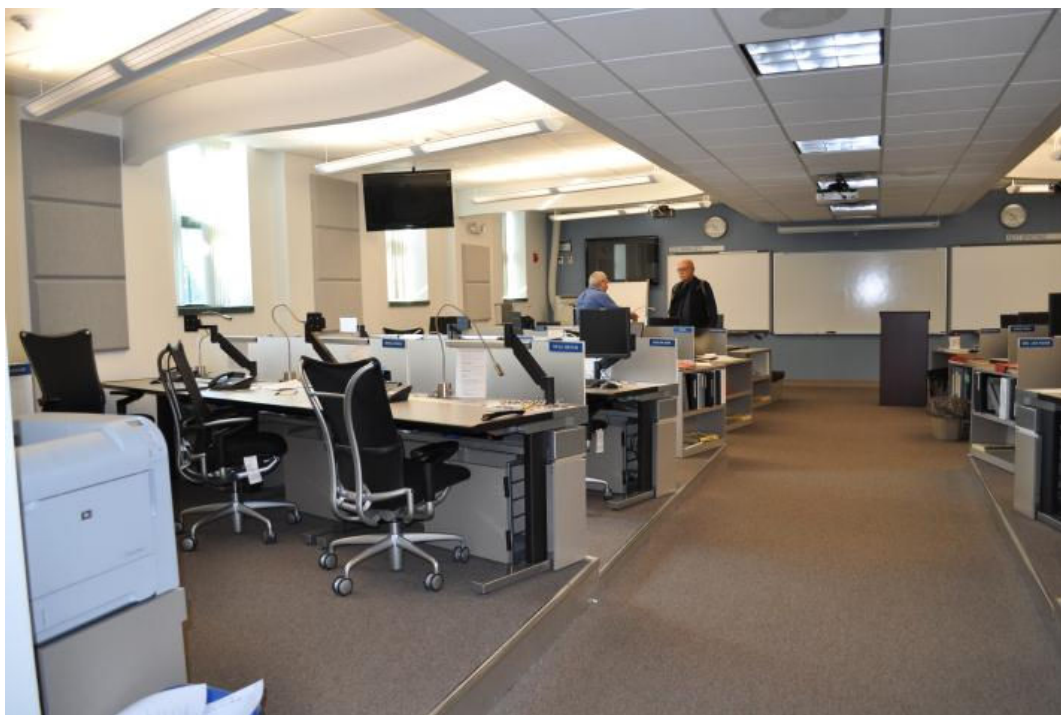
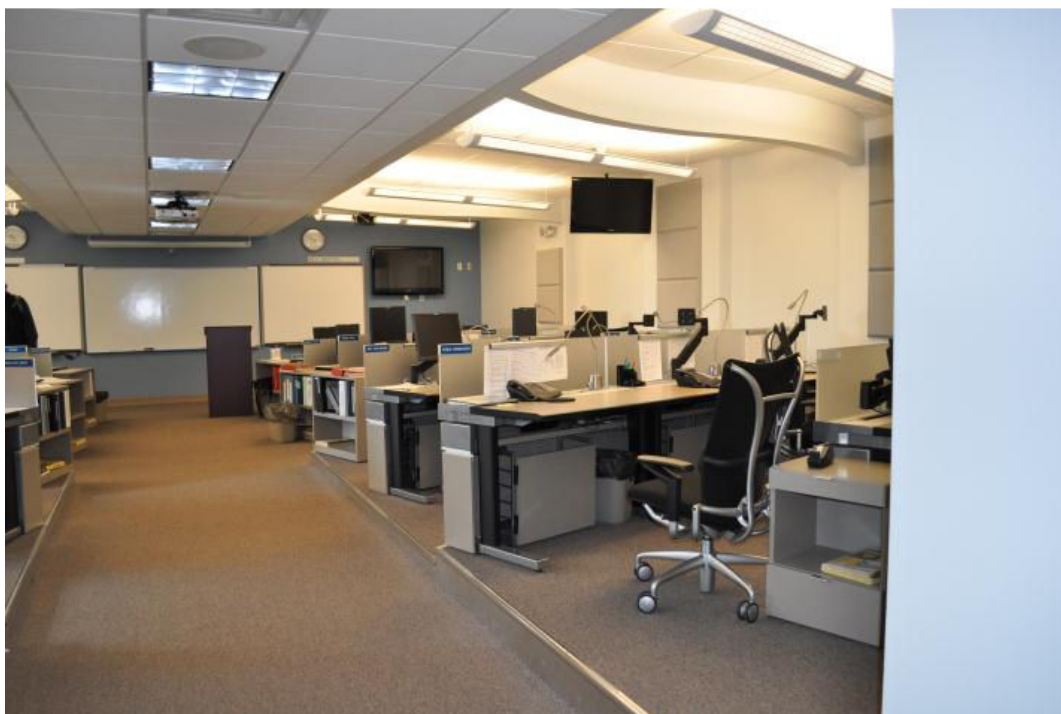


Figure 4-2: Dutchess County EOC Room



Alexandria, VA

4.16 Overview

December 5, 2011

Blue Wing: Pat Calamari, Rich Frye, Lee Palmer

Broome County: Brett Chellis, Mike Ballard, Chuck Rogers, Neal Haight

Alexandria: Jo-Anne Monroe, Dale Johnson

Main Center (New)

3600 Wheeler Ave.

Alexandria, VA 22304

Main Center (Current)

2003 Mill Road

Alexandria, VA 22314

4.17 Demographics

Size	15.03
Population	139,966
Population Density	9,312.4
Major Cities	Alexandria
Housing Units	72,376
Households	62,860
Persons per Household	2.24
Multi-Structure	62.4%
Median Income	\$80,186

Table 4-4: City of Alexandria, VA Demographics



4.18 Operation

Alexandria’s communications center is responsible for all fire, EMS and police within the city. The fire company has nine stations. Being in close proximity to Arlington and Fairfax counties, mutual aid is used quite often. Alexandria has five EMS agencies. Agencies are often shared between the city and the surrounding counties. There is one police department for the city.

4.19 Alexandria, VA Agencies:

Fire	1 and mutual aid with Arlington and Fairfax
EMS	5
Local PD	1
Other Law	VASP, federal

Table 4-5: Alexandria, VA Agencies



Figure 4-3: Alexandria Communications Center and Police Department



4.20 Facility

Alexandria is moving into a new building that is part of a new police building. The project costs \$81 million, with \$50 million for the building, \$20 million for the 9-1-1 center, \$13.5 million for the radio system and \$2 million for new 9-1-1 equipment.

The space used by the communications center is quite large. Besides the new dispatch room, the city has new locker rooms, a break room with outside seating, a kitchen area with four commercial refrigerators with outside tables and a quiet room.

The dispatch room has two shift supervisor offices, electronically controlled blinds, and a large 14-monitor screen across the front of the room.

Equipment is in four separate rooms, each with a separate FM227 fire suppression system. There is one room for radio equipment, one for computer equipment, one for telecommunications and security equipment, and one for UPS equipment. All cables are color coded for CAD, 9-1-1, etc. The facility has dual UPS and dual generators, and a hook up for a trailer-mounted generator.

4.21 Equipment

Alexandria has built a new dispatch center, but has not moved in yet. The new center has 23 positions in the main dispatch room. They are also buying new equipment for a new backup facility, but the location has not been chosen.

Alexandria, VA Equipment

Center	2012
Furniture	Bramic
Consoles	Motorola MCC 7500
9-1-1	Cassidian Sentinel Patriot
CAD	Sunguard (moving to TBD)
Additional	Pictometry, Smart Phone EMD

Table 4-6: Alexandria, VA Equipment

The 23 positions are comprised of 18 call taker/dispatch positions, two supervisor positions and two training positions. All computers are 64-bit workstations, with a separate computer for CAD, radio, phone and Internet using a KVM for CAD and 9-1-1. Each position uses six monitors, three for CAD/mapping, one for radio, one for phone and one for Internet. There is also a large video screen across the front of the room comprised of 14 monitors, as well as two other screens on each side of the room. Each position also has four headset jacks, two for radio/telephone and one for phone only.



The new Bramic furniture (Bramic also did the design) is quite nice. All of the computers are enclosed. There is a separate box (drawer) for personal storage. There are USB ports in a separate locked outlet for ease in upgrades.



Figure 4-4: Typical Dispatch Position



4.22 Radio Equipment

Alexandria uses a Motorola SmartZone trunked system operating on 700/800 MHz. The city is currently upgrading the system from 4.1 to 7.9. The system uses four sites, each with 11 channels. Two of the sites also have the national interop channels (I-CALL/I-TAC). All of the sites are interconnected by fiber; microwave is not used. There are no towers in the city, just building sites. The 11 channels support about 1,600 radios.

The system is designed for 98 percent street coverage, and 94 percent in-building coverage. Bidirectional amplifiers (BDAs) are required in buildings by ordinance.

4.23 Channel Usage

Twenty-two talk groups are used for fire/EMS, and 30 talk groups are used for police. All are encrypted except for three. The city also has PMARS and FMARS 800 MHz conventional channels.

4.24 Operations

All dispatch is done by MDT except for priority one/officer safety type calls. All police and fire vehicles are equipped with AVL. One talk group is used for primary dispatch. Once fire is dispatched, the incident commander manages the operation, and dispatch does not monitor.

An interesting part of the operation is that even though Alexandria and Arlington and Fairfax counties have different CAD systems, they are all interconnected to have the fire/EMS units available to each. When a call is put in, the CAD searches all three databases for units. Currently, Alexandria does not have AVL in its database, so available units only show in station when available.

Because the area is heavily used by the federal government and the close proximity to each other, the radio systems use Raytheon ACU-1000 gateways for interoperability. This is set up through cross patching, with the local agency owning the channel being responsible to set up the patch. This allows roaming from all three jurisdictions.



4.25 Staffing

Alexandria has a full time staff of 55. All shifts are 12 hours. The typical shift has nine personnel comprised of five call takers, one fire/EMS dispatch and one police dispatch. There are two supervisors for each shift, one for fire and one for police. Police dispatchers rotate with the call takers so that the dispatcher only spends two hours dispatching per shift. Alexandria is funded to increase the staff to 12 per shift. According to a study, the city really needs 16. Positions are not civil service.

4.26 Loading

The Alexandria Police Department has 134 units, but only about 35 are involved in functions that need dispatch. There are also usually four state troopers per shift.

4.27 Training

Training was comprised of about two weeks in the classroom for police. Fire had no formal training. Previously dispatch was bringing in police, fire and EMS personnel to fill in for sick and to supplement the staff. All supervisors are APCO trained. Alexandria has one full time training coordinated for police only. Currently, Alexandria does not have a QA/QI program.

4.28 External Organization

9-1-1 Advisory Board (not active)

4.29 Interesting Notes

It is estimated that 65,000 radios are in use in the metro area. It would cost \$224 million to upgrade everyone in the area to P25 AES encryption.



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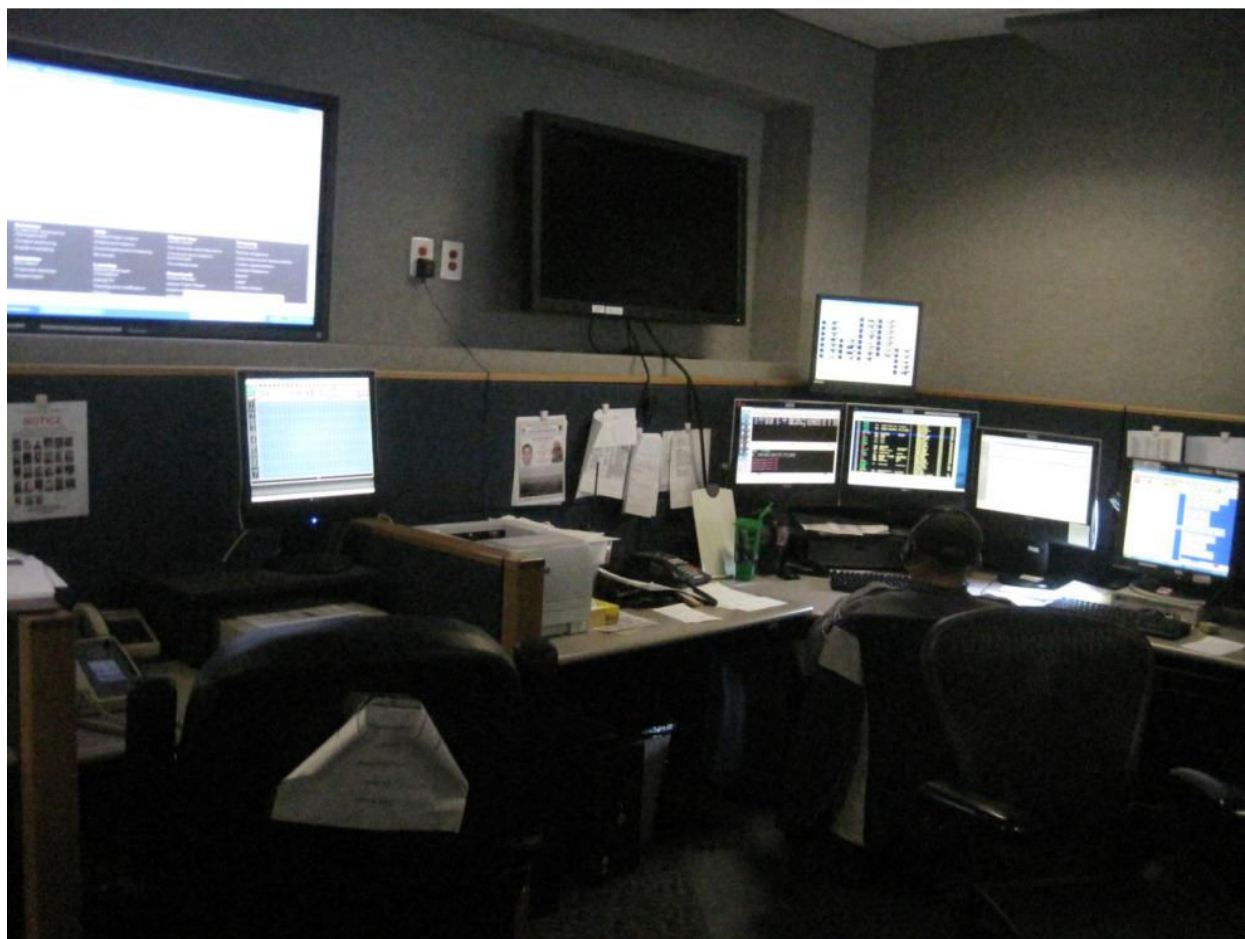


Figure 4-5: Old Dispatch Center



Arlington County, VA

4.30 Overview

December 6, 2011

Blue Wing: Pat Calamari, Rich Frye, Lee Palmer

Broome County: Brett Chellis, Mike Ballard, Chuck Rogers, Neal Haight

Arlington County: John Brown, John Crawford, Don Winsock, Roger Weller, Vanessa Gaymon and others

Main Center

1425 N. Courthouse Road, 7th Floor

Arlington, VA 22201

Backup Center

1400 North Uhle St.

Arlington, VA 22201

4.31 Demographics:

Size	25.97
Population	207,627
Population Density	7,994.9
Major Cities	DC Metro
Housing Units	105,404
Households	90,303
Persons per Household	2.24
Multi-Structure	59.9%
Median Income	\$92,703

Table 4-7: Arlington County, VA Demographics



4.32 Operation

The county is responsible for all police, fire and EMS in the county with the exception of Falls Church, which dispatches its own police. The staff take all 9-1-1, seven-digit and administrative calls. There is one fire department with 10 stations. The county is looking at the possibility of adding 3-1-1 operations to its center.

4.33 Arlington County, VA Agencies:

Fire	1 mutual aid with Alexandria, Fairfax
EMS	1
Local PD	1
Other Law	Federal Interop

Table 4-8: Arlington County, VA Agencies



Figure 4-6: Arlington, VA Communications Center



4.34 Facility

Arlington County moved into its new facility in 2008. It cost \$38 million for the building, \$9.6 million for the ECC facility, and \$18 million for the new radio system. The old facility is across the street and is used as a backup. The county is looking to move it to a more diverse location.

The dispatch center has a separate VCIN/Teletype room, a watch desk that can function as an in-house command post, and a notification desk for paging, reverse 9-1-1 and the WAVES outdoor speaker mass notification system.

The facility was designed to use a Flywheel UPS. The design has problems; it doesn't cut over well, and there is no redundancy or batteries.

4.35 Equipment

Arlington County has 30 positions in the main dispatch center and 16 in the backup center.

Arlington County, VA Equipment

Center	2008
Furniture	Bramic
Consoles	Motorola MCC 7500
9-1-1	Cassidian Vesta
CAD	Tiburon
Additional	Pictometry

Table 4-9: Arlington County, VA Equipment

The 30 positions are configured as seven police positions, six fire positions, two supervisory positions, seven call taker positions, and another eight call positions located off the main room. There are 22 workstations — seven CT, seven police, six fire and two supervisor stations.

Arlington County is using Bramic furniture. There is a separate pod in each console group that has managed Internet access. There are also two standalone stations off to the side of the room for full Internet access.



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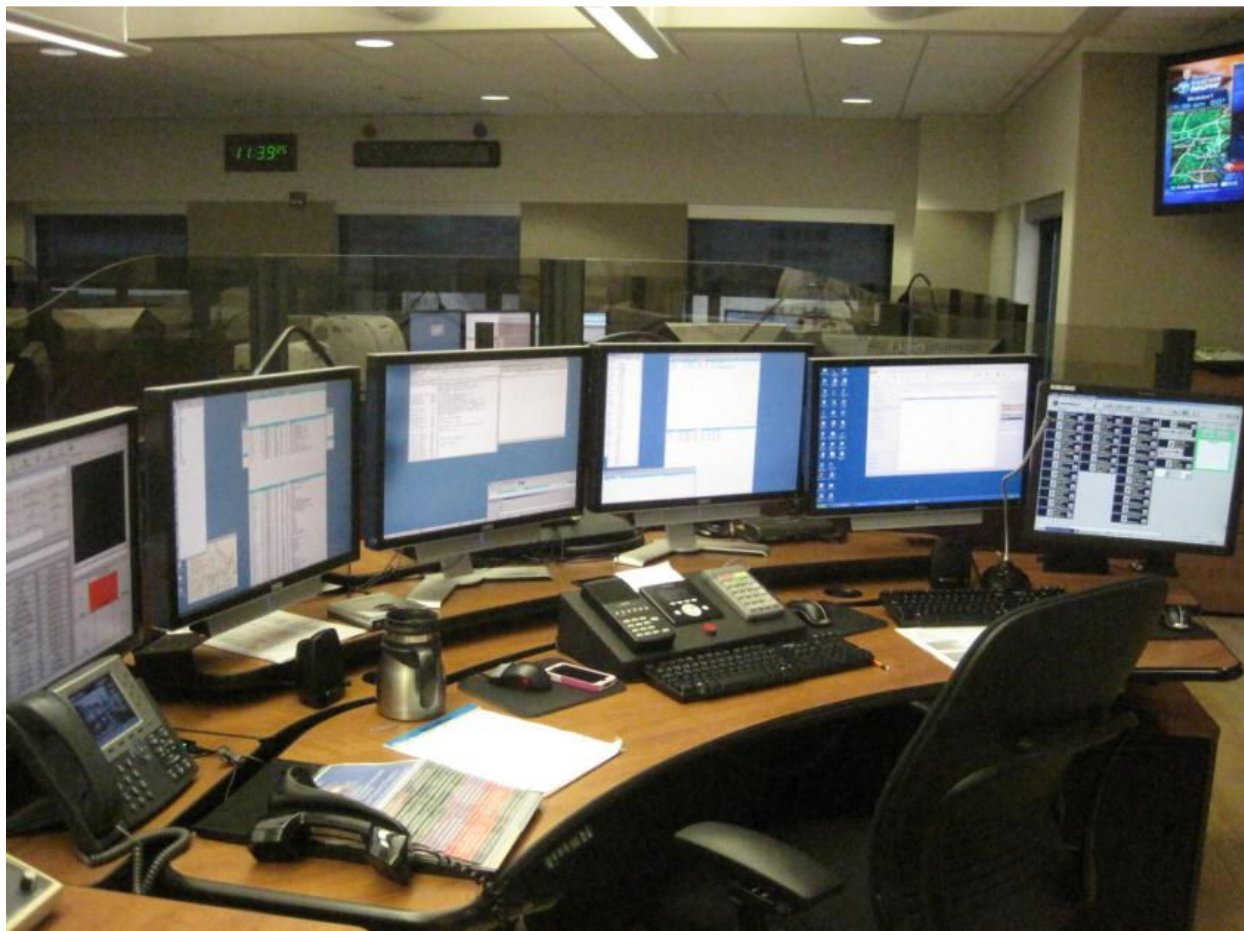


Figure 4-7: Typical Dispatch Position

There is a large (115 square foot) video wall across the front of the room using 14 50-inch monitors. There are 50 cameras located around the county that can be monitored. Arlington also has a countywide PA system.



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Figure 4-8: Typical Dispatch Position

4.36 Radio Equipment

Arlington County uses a Motorola trunked P25 system and is upgrading to version 7.5. The system has one zone and one controller with 18 channels. Fourteen of the channels are used for trunking, and four are used for analog conventional to be turned off in 2012. This is a six-site system currently connected by microwave. The county will be doing a fiber project and using the microwave system as a backup. Portable radio coverage is virtually 100 percent, and the county does not get any complaints about coverage.



4.37 Channel Usage

- 1 talk group – police primary
 - 1 talk group – police admin
 - 1 talk group – fire/EMS primary
 - 1 talk group – fire/EMS admin
 - 1 talk group – operations (fire ground – monitored)
- Multiple TAC talk groups are available for large incidents.

4.38 Operations

Arlington County still does voice dispatch. (Fairfax is pure MDT, and Alexandria is mostly MDT). The county uses the same CAD-to-CAD sharing agreement as Alexandria and Fairfax. Arlington County also uses APCO EMD. The county's 9-1-1 does not roll over, because none of the surrounding areas have the capacity.

4.39 Staffing

Arlington County has 52 full-time dispatchers. The county also has 17 administrative positions as part of the staff. Each shift is 13 dispatchers, one supervisor and one assistant supervisor.

There is no bidding on shifts; everyone works the same rotating shift of two days, two nights and four days off. The shift moves one day each week, so everyone is the same. Senior management balances each shift to ensure the proper number of qualified dispatchers is available on each shift. Each shift is 12.25 hours. This allows extra time for roll call, training, debriefing, etc. There is a separate room for roll call. During the shift, everyone shifts positions every four hours. Currently Arlington uses some police and firefighters who come in for overtime due to short staffing. This is a temporary arrangement until fully staffed.

There are five job titles available.

- ECT 1 – call taker and Teletype (NCIC) starts at \$34K
- ECT 2 – call taker and Teletype and dispatch
- ECT 3 – all disciplines
- ECT 4 – assistant supervisor
- ECT 5 – supervisor



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There are 18 pay steps in each discipline and typically a 3.5 percent COLA every year. There is a one-year probation at each grade. A stipend is paid if a staff member is a trainer or speaks Spanish.

All promotions are from within, adding continuity and an upward migration path for the dispatchers. Dispatchers are not civil service. Arlington is looking at getting dispatchers public safety status so that they'll receive benefits, retirement, etc.

4.40 Loading

Typically there are 50 to 75 units, but only 16 are pure law. There are 10 fire stations and 10 police beats.

4.41 External Organization

Arlington has quarterly meetings with police and fire departments. Because the county is one police department and one fire department, there aren't any problems.

4.42 Interesting Notes

Dispatchers sell their own snacks, which pays for a recognition dinner.



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Figure 4-9: Roll Call Room