Communications Interoperability- Current Status

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Abstract

Over the past decade, the public-safety community in partnership with local, state, and federal agencies have worked to develop interoperable communications plans to improve radio communications between law enforcement agencies and other first responders. Local, state, and federal agencies have identified and designated funding to assist in the purchase and implementation of a variety of technological solutions which are intended to provide law enforcement agencies with interoperability. The purpose of this research is to quantify the current status of communications interoperability as it relates to each of the Sheriff's Offices within the State of Florida. It will examine the various solutions associated with interoperability which are being utilized by each of these agencies. It will also explore the effectiveness of several statewide solutions such as the Statewide Law Enforcement Radio System (SLERS) and the Florida Interoperable Network (FIN) as solutions to improve interoperability between the law enforcement and other public-safety agencies at the local, regional, and statewide level.

Introduction

Law enforcement and other public-safety agencies throughout our state share one issue that is of utmost concern not only to the safety of our citizens but to the first responders themselves and that is the ability to easily communicate with each other via their respective radio systems. A two-way radio is perhaps one of the most critical tools utilized by all first responders on an everyday basis; it is their life line to information.

Access to information and the sharing of information in real time is critical for first responders as they execute their duties. In the private sector of today's society access to information utilizing wireless communications is commonplace and a necessity. The use of cellular telephones to access information from the internet, send and receive emails, photos, and text messages are actions that occur on a daily basis for most individuals.

The ability of law enforcement officers however to simply communicate with each other across jurisdictional boundaries utilizing their respective radios is a topic which has been discussed for as long as there have been two-way radio systems. Interoperable communications is required on a day to day basis during incidents in which multiple law enforcement agencies are responding or where one agency is called to assist another agency when an incident crosses jurisdictional boundaries.

This paper will focus on the current status of interoperability as it relates to the sixty-seven (67) Sheriff's Offices within the State of Florida. It will examine the programs which have been developed by each Sheriff's Office towards achieving interoperable

communications between their office and other public-safety agencies within their respective county. It will also examine what programs and strategies the State of Florida has developed and implemented to address this critical issue. The paper will also examine the progress being made by the agencies to purchase new radio equipment and systems which incorporate the new digital standards described in the Association of Public-Safety Communications Official (APCO) Project 25. Project 25 began in 1989 as a joint effort between APCO and the National Association of State Telecommunications Directors (NASTD) to develop a series of open standards within the communications industry and public-safety community to develop and produce interoperable digital radio systems and equipment (Hawkins, 2007).

Literature Review

The lack of a single, clear, and concise solution towards achieving interoperable communications within law enforcement and public-safety in general can be attributed to several issues including incompatible radio frequencies, cooperation and coordination among agencies, incompatible radio equipment, and a lack of common language (U.S. Department of Justice, February 2003).

The future however looks more promising as interoperable strategies are being developed at the local, regional, and state levels. The telecommunications industry is also producing network solutions such as IP network based audio gateways which enable Sheriff's Offices and other public-safety agencies to communicate across existing disparate networks at a local, regional, or state level. In addition, new digital radio systems and equipment will enable agencies to achieve interoperable communications by utilizing open protocol standards. (Careless, 2007).

Incompatible Radio Frequencies

The radio frequencies which have been assigned by the Federal Communications Commission (FCC) for voice communications use within the various disciplines of the public-safety community are divided into several different frequency bands. They are found within the following frequency bands:

VHF Low (30-40 MHz)   VHF High (152-174 MHz)
UHF (406-512 MHz)   700 MHz and 800 MHz

Prior to the 1980's most Sheriff Offices within the State of Florida operated their respective radio systems either in the VHF (152-174 MHz) or the UHF (406-512MHz) frequency bands. Communications between a Sheriff's Office and a local police department often were difficult to achieve since each operated on a different frequency. Early efforts to facilitate mutual aid radio communications included the establishment of common frequencies shared by several agencies (Ferrell & Wells, 1999).

In 1983, the FCC recognized many of the problems associated with the lack of available spectrum for public-safety agencies with frequencies which were scattered

throughout the VHF and UHF bands and acknowledged a need for interoperable communications between public-safety agencies. As part of the Federal Communications Act of 1983, the FCC allocated frequencies within the emerging 821-824MHz / 866-869 MHz bands to be utilized by Public-Safety and Special Emergency Radio Service.

As part of the allocation of these new frequencies, the FCC required that a national plan be developed for the use of the new frequencies. As a result, the FCC established the National Public Safety Planning Advisory Committee (NPSPAC) to develop a plan for the use of the frequencies throughout the United States. As a part of their overall plan, NPSPAC divided the United States into different regions to enable the local regions to develop and control the new frequencies within their respective region (Florida Region 9 Plan, 2004).

Within the national plan, the State of Florida was designated as Region 9. Within Region 9 a committee was assembled to coordinate the assignment and use of the new frequencies. Through the Region 9 Committee a comprehensive plan was developed for the State of Florida which addressed the use of the new 821-824MHz /866-869MHz frequencies. Within these frequencies, NPSPAC recommended that the FCC should allocate at least five radio channels nationwide which would be available only for mutual aid operations and which could be utilized by public-safety participating in those operations (Ferrell & Wells, 1999).

Coordination and Cooperation

In accordance with the Region 9 Plan, the State of Florida worked with local governmental entities to establish Network Control Centers (NCCs) on a regional basis. The NCCs are responsible for monitoring, controlling, and activating the mutual aid channels which had been constructed as part of the plan. The NCCs act as the central points of contact for all first responders regardless of agency while in the area of a regional NCC. Once a first responder contacts a regional NCC on the Mutual Aid Hailing or Calling Channel and requests assistance, the NCC locates the appropriate resource and directs the caller to appropriate Mutual Aid Tactical radio channel and the two-way communications is achieved (Florida Region 9 Plan, 2004).

Another enhancement towards improving coordination and cooperation as it relates to communications between the various law enforcement and public-safety agencies within the State was in the creation of seven Regional Domestic Security Task Forces (RDSTF). One of the objectives of each Regional Task Force is the creation of a Tactical Interoperability Communications (TIC) plan for its respective region. The United States Department of Homeland Security provided a template for the development of a TIC plan. Most regions utilize this document as a guide as they develop their respective plans. The TIC plans include an inventory of each agency's communications equipment, mobile command centers, and other specialized equipment which could be mobilized and shared by other agencies within each region. The development of policies and procedures for the use of the equipment along with training and exercises are incorporated into each region's TIC plan (Tactical Interoperable Communications Planning Guidance Template, 2005).

Incompatible Radio Equipment

Unfortunately, even as steps are being taken to improve interoperable communications among the counties which comprise the seven RDSTF, the reality is that approximately half of the sixty-seven Sheriff's Offices are operating on radio systems which still operate in the VHF or UHF frequency bands while the other half operate in the 800 MHz band (Florida Region 9 Plan, 2004).

Next, the state developed a new strategy which was intended to dramatically improve the radio communications for all first responders throughout the state. The first phase of the plan included the construction of a Statewide Law Enforcement Radio System (SLERS) which operated in the 800 MHz frequency band. Building a statewide emergency communications system is one of the most valuable and important investments that a state government can make (Bender 2007). As part of SLERS, the state also included the implementation of the 800 MHz mutual aid channels. In doing so, they effectively enabled about half of the sixty-seven Sheriff's Offices which are currently operating on an 800 MHz communications system within the state to communicate directly with state agencies (Florida Mutual Aid Component, 2005).

In addition to the SLERS, the state developed and implemented the Florida Interoperability Network (FIN). The FIN is comprised of a network of audio gateways which are utilized to interconnect law enforcement agencies and other public-safety agencies which are operating on dissimilar radio systems and frequencies. The primary objective of the FIN is to provide a resource for those first responders who are out of their local radio service area and to enables those Sheriff's Office and other public-safety agencies to achieve communications interoperability without the purchase of a new system (Florida Interoperable Network, 2005).

Lack of Common Language

Another one of the barriers towards achieving interoperability between Sheriff's Offices and other public safety disciplines within the same jurisdiction is the lack of a common language. Many law enforcement agencies utilize a list of 10-codes and or signal codes to communicate via the radio. Unfortunately, the 10-codes or signal codes in one jurisdiction are not the same as those used in another jurisdiction. In an emergency there is no room for misunderstanding. The use of plain language without the use of agency specific codes is the preferred method (SAFECOM 2006).

As part of the strategy of the National Incident Management System (NIMS), plain text is required during incidents involving multiple agencies and multiple disciplines at multi-jurisdictional events. Unfortunately, in instances involving multiple agencies, individuals will inherently revert back to what they are trained to use on a daily basis. Efforts should be made to implement everyday terminology into the dispatch function in order that the second nature to those first responders when they are needed in an emergency (SAFECOM 2006).

Project 25 is intended by the various members of the telecommunications industry and public-safety community to develop and produce interoperable digital radio equipment and systems. Phase 1, of Project 25 was designed to develop a series of standards which dealt with Common Air Interfaces as it related to equipment. Phase 2, of the project is intended to develop standards for increasing channels within the current spectrum. The most lasting legacy of Project 25 will not be the digital radio technology but rather the model of standards development that it built (Hawkins 2007).

Method

The research is designed to quantify the current status among the sixty-seven (67) Sheriff's Offices within the State of Florida as it relates to implementing solutions towards achieving communications interoperability. The Sheriff's Offices were selected since they are considered as the primary public-safety agency within each county. The questions contained within the survey were developed in a manner to obtain an unbiased response from each agency as it relates to this topic.

Interoperable radio communications is often difficult to achieve since the frequency spectrum assigned to law enforcement agencies by the FCC encompasses a variety of radio frequencies and technologies which span the VHF, UHF, and 800/700 MHz frequency spectrums. The responses from the surveys contributed to defining the various system designs and frequency spectrums utilized by each of the Sheriff's Office's and identified the respective Sheriff's Office's ability to communicate with other public-safety agencies within their respective county.

The surveys quantified how many Sheriff's Offices have developed a Tactical Interoperable Communications Plan (TICP) with other public-safety agencies towards achieving interoperable communications within their respective county and within their respective region of FDLE's Regional Domestic Security Task Force.

The data collected identified the different types of communications equipment being utilized by the Sheriff's Offices to achieve communications connectivity with the other agencies and determined if scheduled exercises were being conducted to define the effectiveness of the respective communications plan.

The information identified those agencies within the state who are utilizing the Statewide Law Enforcement Radio System (SLERS) or the Florida Interoperable Network (FIN) as an option towards achieving communications interoperability.

The survey also sought to quantify those Sheriff's Offices which were planning to upgrade or replace their existing communications systems within the next five (5) years. The information provided by each agency describes their plans to fund the new communications systems and to migrate towards the new digital radio standards (Project 25) which have been developed for public-safety radio systems.
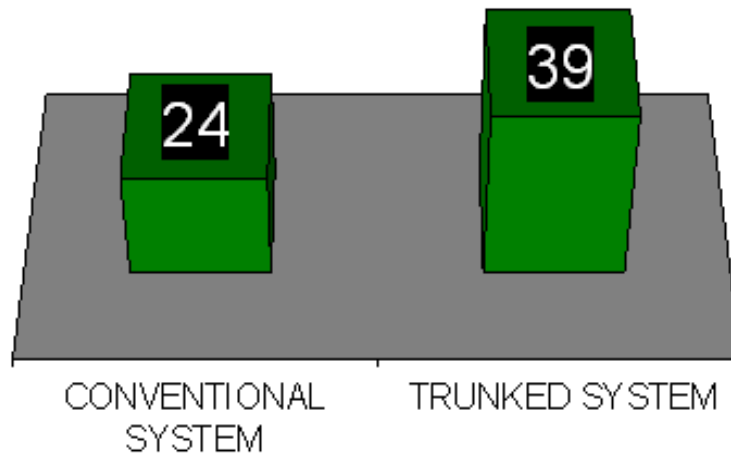
This survey received a 94 % response rate with 63 of the 67 Sheriff's Offices participating. The 94% response to the surveys was achieved through return mail, e-mail, and follow-up telephone calls to each agency.

SHERIFF'S OFFICES REPORTING

67 Counties Statewide
63 Counties Reporting
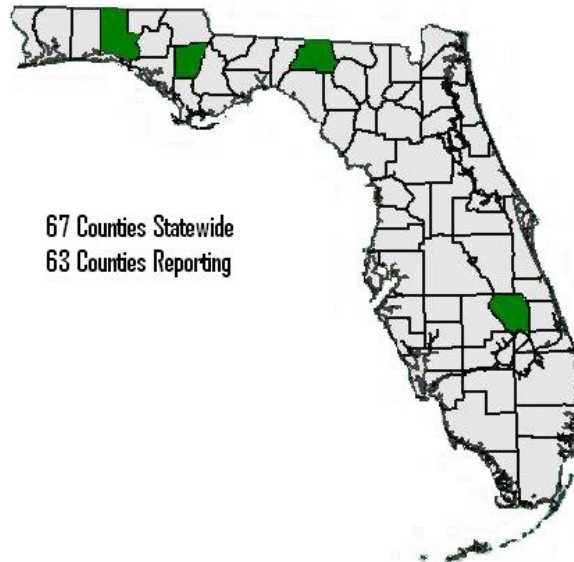
ARCHITECTURE OF SYSTEM DESIGN

24
CONVENTIONAL SYSTEM

39
TRUNKED SYSTEM

The survey results revealed that 38% of the responding Sheriff's Offices are operating their respective radio communications systems in a conventional mode of operation; the remaining 62% of the agencies indicate there are operating their respective radio communications systems in a trunked mode of operation. The use of trunked communications systems by their design affords the agencies and the end users with a more efficient means of communications utilizing the available radio spectrum.

MODE OF OPERATION
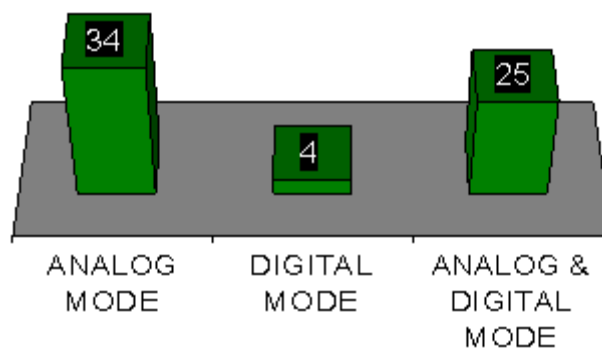
The results of this portion of the survey revealed that 54% of the agencies operate their radio communications systems on a day-to-day basis in the analog mode. Another 6% of the agencies operate solely in a digital mode of operation while the remaining 40% utilize a combination of both analog and digital operations.

INTEROPERABILITY WITH LOCAL AGENCIES
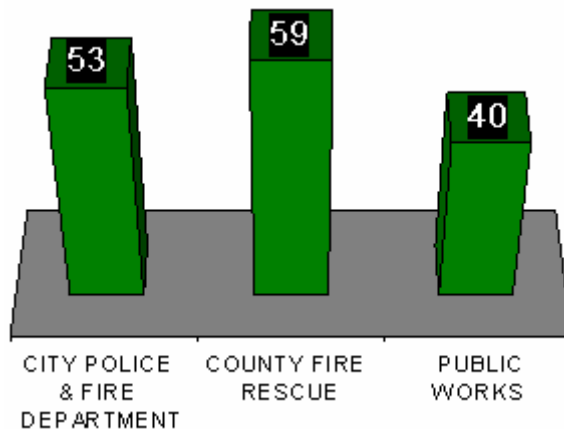
The responses received as it relates to this question revealed that 84% of the Sheriff's Offices have radio communications connectivity to the City Police and Fire Departments within their respective counties. 93% of the agencies report they have communications connectivity to County Fire and Emergency Medical Services (EMS) while 63% of the agencies share access to the Public Works components within their respective counties.

FREQUENCY SPECTRUM

| 800 MHz	VHF	UHF
34	24	5
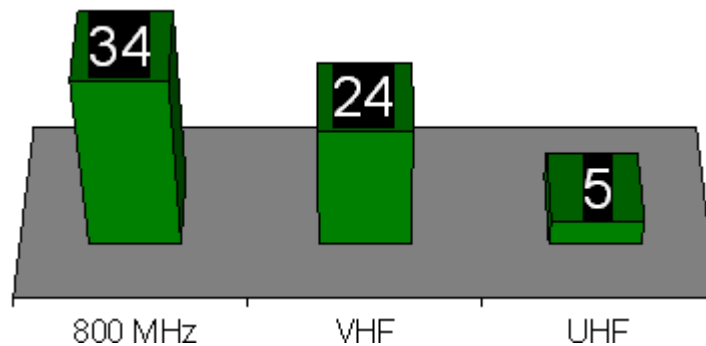
The responses which were received regarding this question reveals that 54% of the Sheriff's Offices operate their communications systems utilizing radio frequencies within the 800 MHz spectrum, while 38% operate in the VHF frequency spectrum, while the remaining 8% of the agencies operate in the UHF frequency spectrum.

MUTUAL AID CHANNELS

| AGENCIES WITH MUTUAL AID CHANNELS	NO MUTUAL AID CHANNELS	MUTUAL AID CHANNELS IN PROGRESS
46	12	5
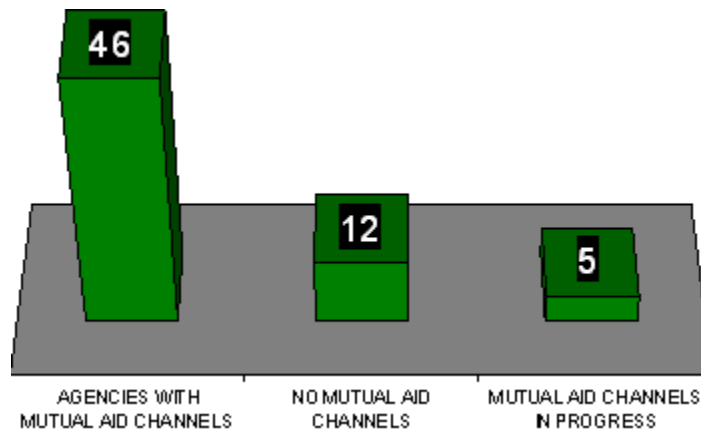
The results revealed that 73% of the agencies utilize Mutual Aid radio frequencies within their respective communications systems, while 19% of the agencies reported not having any Mutual Aid capabilities, with 8% reporting that they are in the process of adding Mutual Aid to their respective communications systems.

LIFE CYCLE STATUS
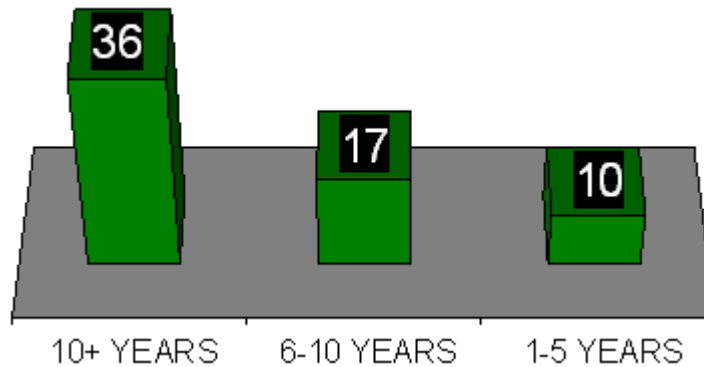
The information provided by each of the respondents revealed that 57% of the agencies currently operate communications systems which have been in service for over ten (10) years while 27% of the agencies report their communications systems have been in service between six and ten years. The remaining 16% of the agencies report their communications systems have been in service five years or less.

COMMUNICATIONS INTEROPERABILITY
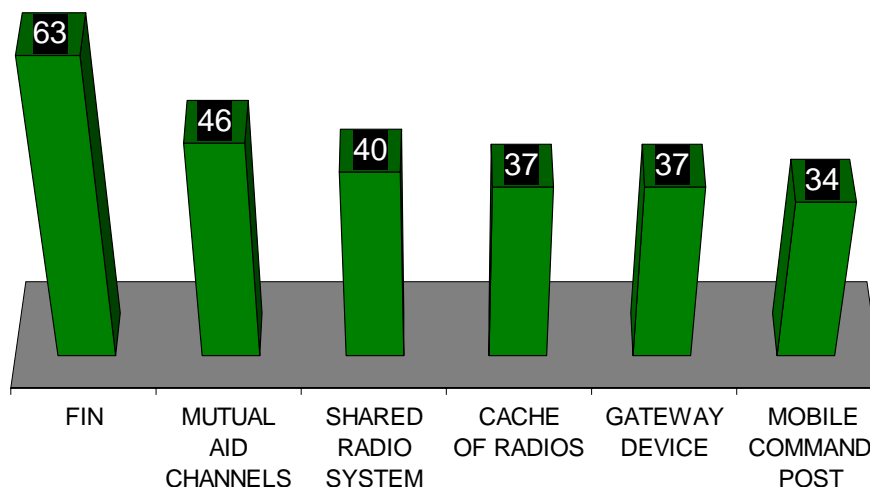
The results of this question reveal that the primary means utilized by Sheriff's Offices to achieve communications interoperability is through the use of the Florida Interoperable Network, 100% of the agencies responding utilize this network. The agencies reporting the use of Mutual Aid radio channels as an option to achieve interoperability equaled 73%. The use of a common radio systems is reported by 63% of the agencies while the practice of exchanging a cache of similar radios to achieve interoperability are the methods reported by 59% of the agencies. The use of another gateway other than the FIN was reported by 38% of the agencies while 54% indicated they have a Mobile Command Post that is utilized for interoperability purposes.

REGIONAL DOMESTIC SECURITY TASK FORCE – REGION 1
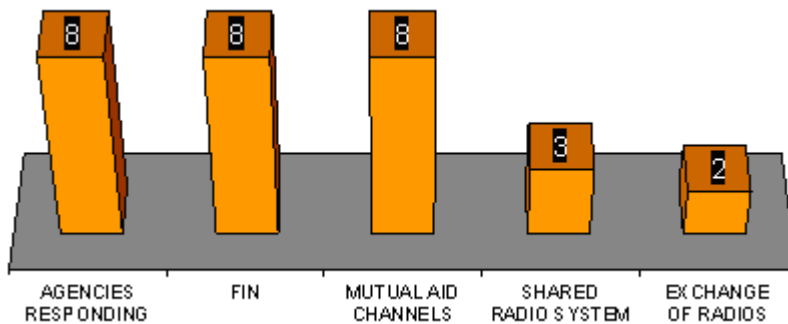
Region 1: Of the eight (8) Sheriff's Offices responding from Region 1, 38% of the agencies indicate they rely on a Shared Radio System within their respective county in order to achieve interoperability, while 100% have access to the Florida Interoperable Network (FIN) and Mutual Aid Radio Channels, and 25% report they exchange radios to coordinate interoperable communications.

REGIONAL DOMESTIC SECURITY
# TASK FORCE – REGION 2
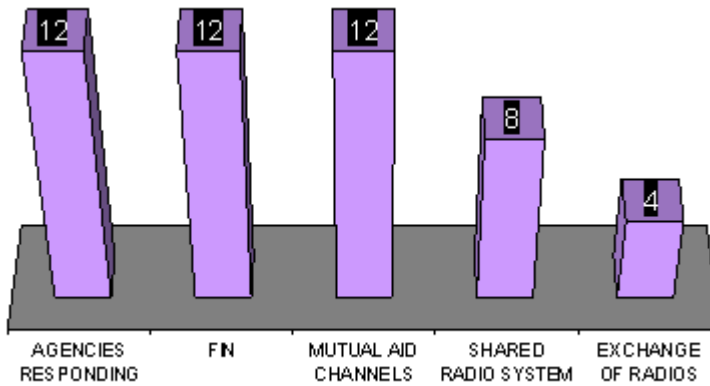
Region 2: Of the twelve (12) agencies that responded from Region 2, 67% indicate they utilize Shared Radios Systems, 100% of the agencies report utilizing the Florida Interoperable Network and the Mutual Aid Channels, and 33% of the agencies report exchanging radios as a means to achieve interoperability within this region.
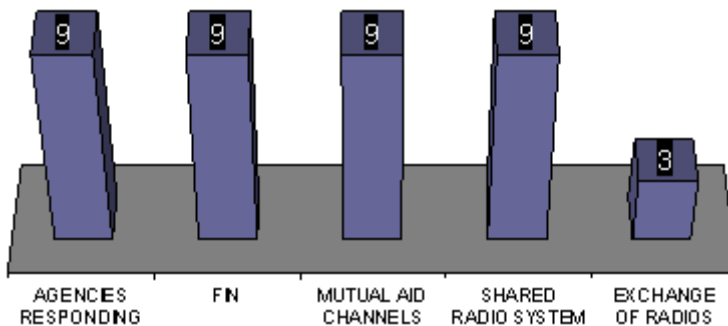
REGIONAL DOMESTIC SECURITY
TASK FORCE – REGION 3
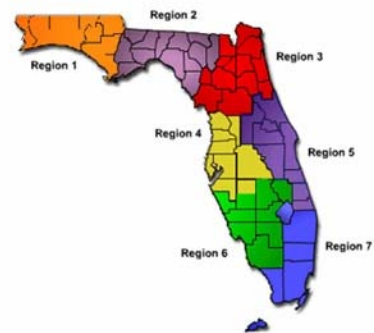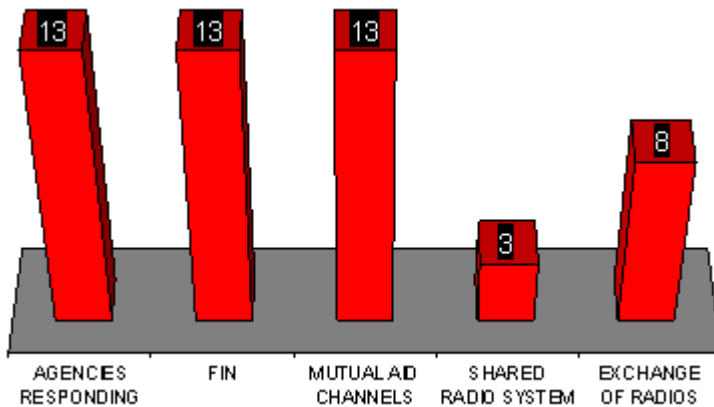
Region 3: Of the thirteen (13) agencies that responded from Region 3, 23% indicate they utilize Shared Radio Systems, 100% of the agencies report having access to the Florida Interoperable Network and the Mutual Aid Channels, and 62% acknowledge the capacity of exchanging radios in order to achieve interoperability within the region.

REGIONAL DOMESTIC SECURITY
## TASK FORCE – REGION 4
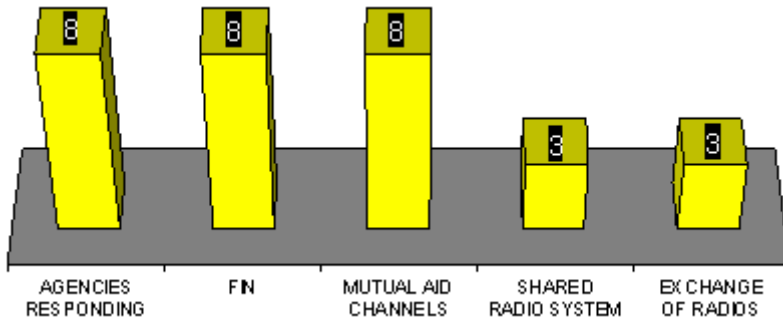
Region 4: Of the eight (8) agencies that responded from Region 4, 38% report utilizing a Shared Radio System, 100% report access to the Florida Interoperable Network and Mutual Aid Channels, and 38% indicate they have the capability of exchanging radios in order to achieve interoperability within the region.

REGIONAL DOMESTIC SECURITY
TASK FORCE – REGION 5

Region 5: Of the nine (9) agencies that responded from Region 5, 67% of the agencies report a Shared Radio System, 100% confirm access to both the Florida interoperable Network and the Mutual Aid Channels, and 33% indicate the ability to exchange radios in order to reach interoperability within this region.

REGIONAL DOMESTIC SECURITY
# TASK FORCE – REGION 6
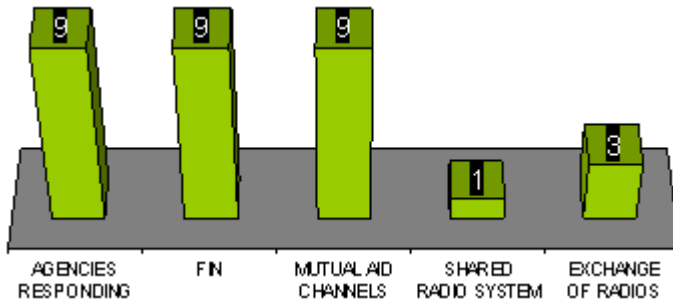
Region 6: Of the nine (9) agencies responding to the survey from Region 6, 11% of the agencies indicate they utilize a Shared Radio System, 100% of the agencies report access to the Florida Interoperable Network and Mutual Aid Channels, and 33% of the agencies report the capability to exchange radios in order to attain interoperability within the region.

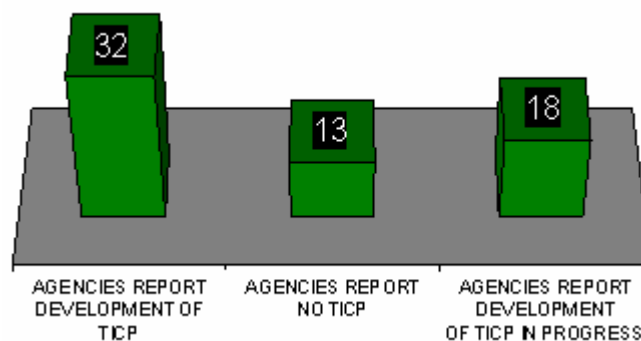# REGIONAL DOMESTIC SECURITY
TASK FORCE – REGION 7
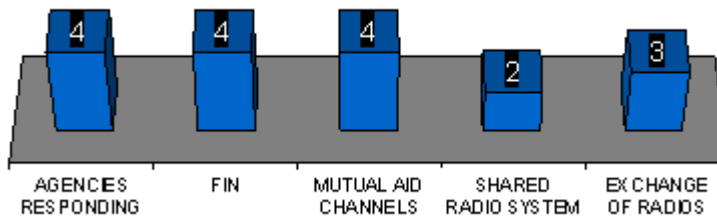
Region 7: Of the four (4) agencies responding to the survey, 50% of them utilize a Shared Radio System, 100% of the agencies utilize the Florida Interoperable Network and the Mutual Aid Channels and 75% report they exchange radios in order to achieve interoperability within the region.

SCHEDULED TESTING
OF EQUIPMENT

40	23
TESTING	NO FORMAL TESTING
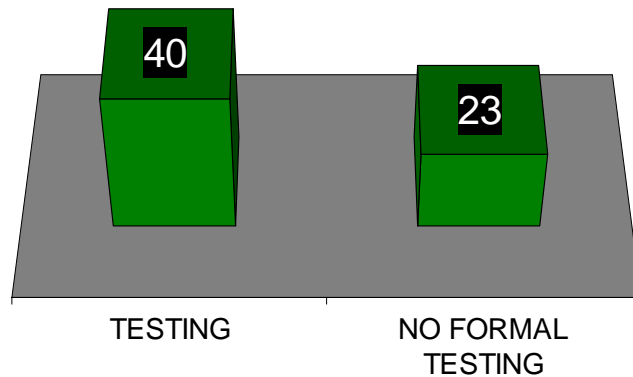
Of the Sheriff's Offices reporting, 63% report some form of scheduled testing of their systems with other public safety agencies within their respective counties while 37% of the agencies responding report no formal or scheduled testing of their equipment.

TACTICAL INTEROPERABILITY
COMMUNICATIONS PLAN

32	13	18
AGENCIES REPORT DEVELOPMENT OF TICP	AGENCIES REPORT NO TICP	AGENCIES REPORT DEVELOPMENT OF TICP IN PROGRESS

Of the 63 Sheriff's Offices responding, 51% of the Sheriff's Offices reported that they have developed a Tactical Interoperable Communications Plan (TICP) which is designed to enhance communications within the county and the respective region. While 21% of the agencies indicated they have not yet developed a comprehensive plan with the remaining 28% indicating they are in the process of developing a plan.

FREQUENCY OF TESTING

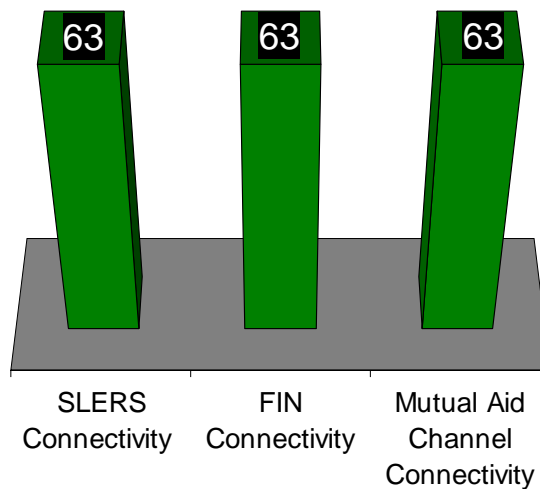MONTHLY   QUARTERLY   ANNUALLY
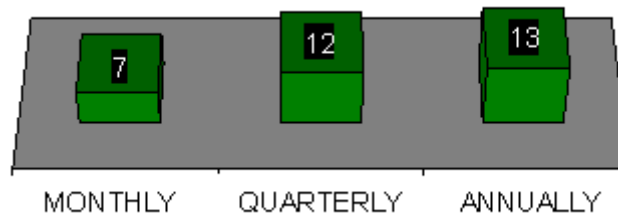
Of the 32 Sheriff's Offices which report that they have developed a TICP, 22 % of them test the plan on a monthly basis, 38% test it on a quarterly basis, while the remaining 40% test their plan on an annual basis.

STATEWIDE LAW ENFORCEMENT RADIO SYSTEM (SLERS)

SLERS Connectivity   FIN Connectivity   Mutual Aid Channel Connectivity

This segment of the survey is designed to quantify the method utilized by the Sheriff's Offices to access the Statewide Law Enforcement Radio System. Of the 63 agencies who responded to the survey, all reported connectivity to the Statewide Law Enforcement Radio System (SLERS) utilizing the Florida Interoperable Network (FIN). The survey revealed that 11% of the agencies have indicated they utilize the Third Party Interoperability Option as a method of achieving interoperability with the State. The survey indicates 100% of the agencies have access to the Mutual Aid Calling while 47% report access to the remaining 800 MHz Mutual Aid Tactical Channels 2-4, as a method of connectivity to SLERS.

PROJECT 25

PLANNING TO UPGRADE TO P25 STANDARDS — 40

NO PLAN TO UPGRADE TO P25 STANDARDS — 23
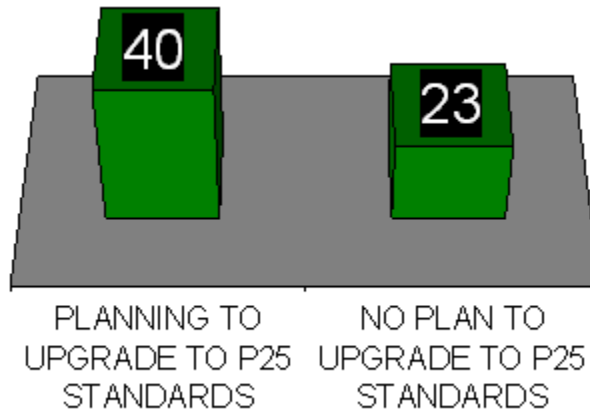
Of the 63 agencies responding to this segment of the survey, 63% indicate they were planning to upgrade their current system to the Project 25 standards within the next five years while the remaining 37% of the agencies indicated they had no plans to migrate towards the Project 25 standards.

FUNDING P25 PROJECT

SEEKING FEDERAL GRANT — 19

LOCAL BUDGET FUNDING — 13

SEEKING STATE FUNDING — 6

LEASE PURCHASE AGREEMENT — 2
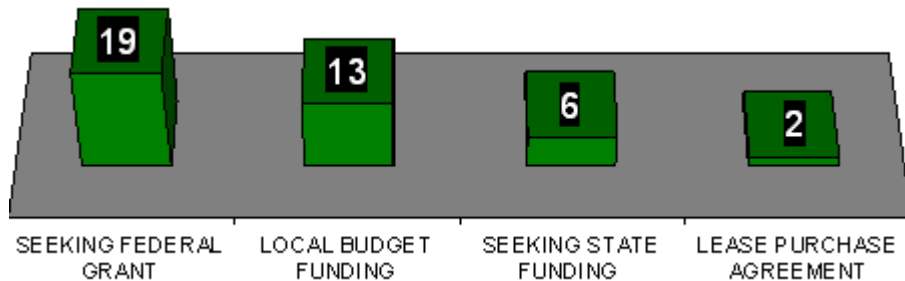
Of those agencies indicating a plan to upgrade their system to P25 standards, 48% were dependent upon federal funding to support the upgrade while 32% of the agencies were going to fund the upgrade through their respective budgets and 14% were going to seek funding from the state, while 6% indicated a plan to lease to purchase.

Discussion

The information compiled from the 63 Sheriff's Offices who responded to the survey reveals that approximately 92% of the Sheriff's Offices have communications interoperability with County Fire and EMS agencies within their respective counties while 83% of the Sheriffs Offices report communications interoperability with the local City Police and Fire Departments within their respective jurisdictions. The reported high percentage of interoperable communications within the local jurisdiction affords the public-safety agencies with the ability to easily communicate with each other on a day-to-day basis as they respond to critical incidents.

The information provided by the Sheriff's Offices confirmed the fact that the Sheriff's Offices within the State operate on a variety of radio communications frequencies. The information revealed that approximately 53% of the agencies indicate their primary communications systems operate in the 800 MHz frequency spectrum while 38% of the agencies operate in the VHF spectrum and 9% operate in the UHF spectrum. With this type of disparity in the frequency spectrum between agencies, it often makes it more difficult to communicate with other Sheriff's Offices when an incident requires them to cross jurisdictional boundaries. The information also revealed that 56% of the agencies have communications systems which have been in service ten (10) years, while 27% of the agencies reported their systems in service between six (6) and ten (10) years. This information indicates that 56% of the Sheriff's Offices will likely be upgrading or replacing their radio systems within the next five (5) years.

The data which has been compiled from each of the responding agencies indicates that significant progress has been made within the State as it relates to achieving interoperable communications. The State has developed three (3) significant strategies aimed at improving communications interoperability within the state. First, they constructed a statewide law enforcement radio system (SLERS) which enabled state agencies and other local public safety agencies to achieve radio coverage throughout the state over a single radio system. Second, they have implemented the Florida Interoperability Network (FIN) as a solution to those Sheriff's Offices which operate on dissimilar radio systems and frequencies and third they have committed to building out the Mutual Aid radio frequencies throughout the state in the VHF, UHF, and 800 MHz spectrums.

Of the sixty-three (63) agencies responding to the survey, all report connectivity to the SLERS through the use of the Florida Interoperability Network. The use of the Mutual Aid radio system was reported by thirty-four (34) of the agencies as their secondary means of achieving communications interoperability with other Sheriff's Offices and state agencies. Access to the SLERS network through a third-party agreement was reported by seven (7) of the Sheriff's agencies as a method of achieving interoperability statewide.

The Regional Domestic Security Task Forces (RDSTF) which were created within the state in 2001, have also had significant impact on the Sheriff's Offices towards achieving interoperability and sharing resources. One of the objectives of the RDSTF was to develop Tactical Interoperability Communications (TIC) plans within each of the respective regions of the state. The TIC plans are intended to develop policies and procedures for achieving communications interoperability within each of the

seven regions through the sharing of resources. The survey responses indicated some progress with approximately 50% of the agencies within the seven regions having developed a plan with 30% in the process of finalizing their respective plans, while the remaining 20% report they have not yet started to develop a plan within their respective region.

Ensuring that training is provided to the appropriate personnel, as it relates to the policies and procedures which have been developed as part of the TIC plans, is essential towards its success. Although practical exercises are often seen as time consuming it is essential that the end users are knowledgeable in the use and functionality of their assigned equipment and the technological resources which are at their disposal. The responses found in the survey indicated only 50% of the agencies responding were actually testing their TIC plans as part of a practical training exercise.

The final series of questions of this survey were associated with the potential purchase and implementation of interoperable digital radio equipment and systems which meet the standards developed by the various members of the telecommunications industry and public-safety community and identified as Project 25. Project 25 is comprised of two phases, the 1st phase of Project 25 is designed to develop a series of Common Air Interfaces which would enable public-safety agencies to procure user equipment, mobile and portable radios, which would operate across all P25 standards based infrastructure. The 2nd phase of the project is intended to develop standards which will increase the number of available radio channels while utilizing the current frequency spectrum. The intent is to utilize time division multiple access (TDMA) to double the capacity of an existing single channel. Although this technology is new in public-safety applications it is commonly utilized in the private sector with cellular telephones.

When considering moving towards Project 25 (P25) standards, an agency must make a significant capital investment in their respective system. An average sized P25 based system for a Sheriff's Office could easily cost between $35 and $40 million to implement. Of those agencies responding to the survey 64% indicated they were planning to upgrade their equipment to the P25 standards within the next five (5) years while 36% of the agencies surveyed indicated they had no current plans to upgrade their equipment to the P25 standards during the next five years. Of those agencies indicating they would upgrade their system, 73 % indicated they would seek federal funding to support the purchase of a new system while the remaining 27% of the agencies indicated they would budget for the P25 upgrade through their respective agency's budget.

Recommendations

Upon a review of the information collected from the surveys, some recommendations which can be made to improve communications interoperability are as follows:

- In order to achieve communications interoperability, it would be beneficial if all Sheriff's Offices operated within a common frequency spectrum. For the 29 Sheriff's Office which are still operating their radio communications systems in the VHF and UHF frequency spectrums, migration plans should be developed which will enable their agency to operate in the 800 MHz frequency spectrum. For those agencies where funding may prohibit a complete replacement of their current communications system an alternative solution to consider would be to "partner" with the State of Florida as a member of the Statewide Law Enforcement Radio System (SLERS).

- The development of a Tactical Interoperable Communications Plan (TICP) is essential in the effort to improve communications interoperability. Developing a comprehensive plan which establishes policies and procedures for the use of communications equipment within these respective counties is essential. This writer believes that assistance should be provided to the 31 Sheriff's Office who have not yet or are in the process of finalizing their respective TICP. Assistance should initially be coordinated by the respective Regional Domestic Security Task Force representatives and if necessary seek assistance from the State of Florida's Department of Management Services.

- On-going training and scheduled exercises in the proper use of equipment associated with interoperable communications is essential. Practical exercises are a necessity towards ensuring that deputies and other first responders are familiar with their equipment, the technology that supports it and the procedures and protocol for the specific event or emergency they are responding to. Of the agencies responding to the survey 31 agencies report no formal testing of personnel or equipment. This writer believes that the Regional Domestic Task Forces should develop a strategy to ensure that practical exercises in the use of interoperable communications equipment occurs on a more frequent basis throughout the respective regions of the state.

Director Stephen Mitchell has been a member of the Hillsborough County Sheriff's Office for 34 years. He started his career in 1975 as an electronic technician within the Services Division. He has worked in several areas within the Services Division and is currently the Director of the General Services Bureau. He is responsible for managing the Sheriff's Office vehicle fleet, the county-wide radio communications system and the agency's warehouses. Steve has an Associates Degree in Management/Marketing from Tampa College.

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Appendix A

SURVEY QUESTIONS

Agency Name:	
Respondent's Name:	

(please place an "X" to the right of your selections)
Once completed, please save and forward email back to sender as an attachment.

System Design

1. What type of two-way radio communications system is utilized by your agency?

Conventional		Trunked	

2. Which mode of operation does your radio communications system operate in on a daily basis?

Analog ☐   Digital ☐   Both ☐

3. Does your agency's current communications system support multiple public-safety
agencies within your county?

City Police Department	
City Fire Rescue	
County Fire Rescue	
EMS	
Public Works	

4. What frequency spectrum does your agency's communications system operate in?

VHF		UHF		800 MHz		Other	

5. Does your agency's communications system include all available mutual aid equipment in the
frequency spectrum selected in Question 4?

Yes		No		In Progress		

6. How long has your current radio communications system been in service?

1-5 years	
6-10 years	
10 + years	

Communications Interoperability

1. How does your agency achieve communication interoperability via your radio system with other public-safety agencies within your county and how is the connectivity accomplished?

Florida Interoperable Network (FIN)	
ACU 1000 (Fixed Gateway)	
Mutual Aid Radio Channels	
ACU-T (Mobile Gateway)	
Shared System (designated talk groups)	
Mobile Command Post	
Cache of Radios	
Other	

2. How does your agency achieve communications interoperability via your radio system with the other Sheriff's Offices within your respective region of the FDLE's Regional Domestic Security Task Force and how is the connectivity accomplished?

Shared Radio System	
Florida Interoperable Network (FIN)	
Mutual Aid Radio Channels	
Exchange of Radios	
Other	

3. Does your agency conduct scheduled tests of the equipment/systems with other law enforcement agencies within your county?

Yes		No

4. Has your agency developed a Tactical Interoperable Communications Plan (TCIP) with the other public safety agencies within your region as defined by the FDLE's Regional Domestic Security Task Force?

Yes		No		In Progress		

5. If the answer to Question 4 is yes, how frequently is the plan tested by all parties?

Monthly		Quarterly		Annually		Other

Statewide Law Enforcement Radio System (SLERS)

1. In CY 2006, the State of Florida completed construction of the Statewide Law Enforcement Radio System (SLERS). Does your agency have connectivity to this network?

Yes		No		In Progress		

2. If your agency has connectivity to the Statewide Law Enforcement Radio System (SLERS) describe the method of connectivity.

Member of SLERS	
Florida Interoperable Network (FIN)	
Third Party (Interoperability Subscriber) to SLERS	
800 MHz Mutual Aid Radio Channels	

3. If your agency's communications system is an 800 MHz trunked communications system, please indicate which Mutual Aid channels are installed in your county and are part of your agency's communications system

Florida Mutual Aid		Mutual Aid Tac 3	
Mutual Aid Calling		Mutual Aid Tac 4	
Mutual Aid Tac1		All Channels	
Mutual Aid Tac 2			

Project 25

1. Does your agency have plans within the next five (5) years to upgrade your agency's communications system to meet the digital radio standards which have been developed by the Association of Public-Safety Communications Officials (APCO) Project 25 as it relates to facilitating interoperable radio communications?

Yes		No		Other	

2. If your agency is considering upgrading your system and equipment to P25 standards how would you envision funding the upgrade?

Sheriff's Office Budget		State Budget	
Federal Grant		Lease to Purchase	