

CITY OF LOS ANGELES  
CALIFORNIA

INFORMATION TECHNOLOGY  
AGENCY

THERA G. BRADSHAW  
GENERAL MANAGER

ASSISTANT GENERAL MANAGERS  
CLIFFORD K. ENG  
KAMTON M. JOE



ROOM 1400, CITY HALL EAST  
200 NORTH MAIN STREET  
LOS ANGELES, CA 90012  
(213) 485-2892  
FAX (213) 847-3512

WWW.LACITY.ORG/ITA

ANTONIO R. VILLARAIGOSA  
MAYOR

October 31, 2005

REF: OPS-753-05

Honorable Members of the City Council  
City of Los Angeles  
Room 395, City Hall  
Los Angeles, CA 90012

Attention: Public Safety Committee  
Budget and Finance Committee

Subject: **EMERGENCY COMMUNICATIONS INTEROPERABILITY  
COUNCIL FILE NO. 04-1473-S1**

Dear Councilmembers:

This report is being submitted in response to the Motion – Parks/Smith (Council File No. 04-1473-S1) wherein the Information Technology Agency (ITA), the Los Angeles Police Department (LAPD), and the Los Angeles Fire Department (LAFD) were instructed to submit reports to the Public Safety and Budget and Finance Committees regarding the communications interoperability system for the City's public safety agencies. The Motion requested reports regarding interoperability solutions implemented to date, the progress of the needs assessments, and options and cost data identified to date.

Attachment A to this transmittal reflects interoperability solutions implemented to date in the voice radio system area.

The Los Angeles Fire Department has contracted with RCC Consultants to conduct a radio interoperability study on the City's radio communications systems. By the end of 2005, RCC Consultants will submit a detailed report that includes the needs assessments, recommendation of options, and estimated costs for the options. ITA recommends that the City defer planning any new interoperability systems until after RCC's report is reviewed.

Respectfully submitted,

Thera G. Bradshaw TGB  
General Manager

Attachment

Honorable Members of the City Council  
October 31, 2005  
Page 2

cc: William R. Bamattre, Fire Chief  
William J. Bratton, Chief of Police  
Tim Riley, CIO, LAPD  
Dennis Keane, Deputy Chief, LAFD

## CITY OF LOS ANGELES EXISTING CAPABILITY FOR VOICE RADIO INTEROPERABILITY

### City Voice Radio Systems

There are three (3) separate and distinct voice radio systems that currently serve the Council-controlled departments of the City of Los Angeles. The three voice radio systems are:

1. **LAPD Voice Radio System**

This radio system consists of 56 digital channels (APCO-25 compliant) and one analog channel. This system is configured in the conventional mode operating in the 450-512 MHz UHF frequency band. This radio system currently supports over 10,000 portable/mobile radios used by the LAPD officers.

2. **LAFD Voice Radio System**

This radio system consists of 18 analog channels configured in the conventional mode operating in the 800 MHz frequency band. This radio system currently supports over 2,000 portable/mobile radios used by the LAFD firefighters.

3. **Simulcast Trunked Radio System (STRS)**

This radio system consists of 41 analog channels configured in the trunked mode operating in the 800 MHz National Public Safety Planning Advisory Committee (NPSPAC) frequency band. This radio system currently supports over 5,500 portable/mobile radios used by employees from 19 City departments, elected offices, and Emergency Operations Organization.

### Internal Interoperability

The three voice radio systems operate in different frequency bands using different configurations. However, procedures and hardware connections have been established to allow the users to communicate with one another.

### Interoperability between LAPD and LAFD

- LAFD has currently assigned over 500 UHF portable radios to their apparatus (fire engines, ladder trucks, etc.). These radios allow the firefighters to communicate directly with the police officers in the field using the LAPD voice radio infrastructure.
- LAFD is in possession of four Transportable Radio Interconnect Systems (JLS ACU-1000) donated by the federal government. These systems are capable of cross-connecting any mobile radio to another mobile radio, and therefore allows the LAFD to communicate with the LAPD or other agencies.
- LAPD has deployed three (3) Raytheon vehicles equipped with Transportable Radio Interconnect Systems (JLS ACU-1000) which can be used to cross-connect LAPD and

LAFD radio channels.

- LAPD, LAFD and ITA have been working closely with the other federal, state and local public safety agencies in the Los Angeles basin and have completed the interim implementation of the “Los Angeles Regional Tactical Communications System.” As implemented, there are five 800 MHz mutual aid channels cross-connected to five UHF mutual aid channels. Five VHF channels will be connected to this system for mutual aid purposes in the near future. LAPD officers (operating in the UHF band) and LAFD firefighters (operating in the 800 MHz band) can communicate with one another through this regional communications system.

#### Interoperability between LAPD and STRS Users

- LAPD has allocated one analog channel known as the “LAPD Access Channel” for communicating with other governmental entities. This channel is cross-connected over-the-air with an assigned talkgroup on the STRS system. Authorized users of the STRS system (such as Park Rangers and GSD Police) can communicate with the LAPD via this cross-patch system.
- LAPD can use the Transportable Radio Interconnect Systems in the Raytheon vehicles to cross-connect the LAPD radio channels to the STRS talkgroups to achieve interoperability between the LAPD and the other City departments.

#### Interoperability between LAFD and STRS Users

- All portable/mobile radios on the STRS system can be programmed to include all the LAFD voice channels if authorized by LAFD management. STRS radios programmed with LAFD channels can communicate directly with the firefighters on these channels.
- There are seven (7) 800 MHz mutual aid channels set up in the region for interoperability.
- The LAFD’s Transportable Radio Interconnect Systems can be cross-connected, if desired by the LAFD, to a STRS mobile radio to achieve interoperability between the LAFD and the other City departments.

#### **Interoperability with Non-City Agencies**

It is very important for the LAPD and the LAFD to be able to communicate with non-City police and fire agencies in the Southern California region.

#### Interoperability between LAPD and non-City law enforcement agencies

- Over 90% of the law enforcement agencies in Los Angeles County operate in the UHF frequency band (450-512 MHz). The LAPD Astro portable radios are capable of communicating with most law enforcement agencies in this band.
- LAPD currently has frequency sharing agreements with approximately 20 law enforcement agencies that authorize the LAPD officers to communicate directly with

officers from other agencies on their radio channels.

- LAPD has allocated one analog channel known as the "LAPD Access Channel" that other law enforcement agencies may utilize to contact the LAPD.
- A cross-connect capability has been established between the LAPD radio console and the LA County Sheriff Department radio console. This capability allows up to two LAPD radio channels to be cross-connected to two Sheriff radio channels.
- LAPD can use the Transportable Radio Interconnect Systems in the Raytheon vehicles to cross-connect LAPD radio channels to the radio channels of other agencies.
- LAPD can also communicate with other federal, state and local public safety agencies through the "Los Angeles Regional Tactical Communications System."

#### Interoperability between LAFD and non-City fire departments

- LAFD apparatus are equipped with the 800 MHz radios as well as the 450-512 MHz UHF radios. LAFD is also planning to procure VHF radios. Most of the fire departments in the Southern California region operate in one of these frequency bands. LAFD has the ability to communicate directly with other fire departments using these radios.
- The LAFD's Transportable Radio Interconnect Systems are capable of cross-connecting any LAFD radio channel to the radio channels from other fire departments.
- A cross-connect capability has been established between the LAFD radio console and the LA County Fire Department radio console. This capability allows up to four LAFD radio channels to be cross-connected to four County Fire Department radio channels.
- LAFD can also communicate with other federal, state and local public safety agencies through the "Los Angeles Regional Tactical Communications System."

#### Interoperability between STRS users and non-City agencies

- The County of Los Angeles Internal Services Department (ISD) has implemented an 800 MHz trunked radio system that is very similar to the City's STRS system. The radios used by the City can be programmed to communicate on the County's infrastructure if authorized to do so.
- Currently, the City's STRS users have not expressed any interest in communicating directly with non-City agencies.

**NOTE:** All LAPD and LAFD command vans and trucks are equipped with multiple radios to communicate with other agencies in the region.