



## Chapter 3

# METHODOLOGY

Primary responsibility for initial development of Illinois' SCIP in 2007 rested with the ITTF Communications Committee and, secondarily, with the SIEC. Together, these committees represent all state and local public safety agencies and mutual aid organizations, every community in Illinois, private sector interests, and non-governmental agencies. While the ITTF was delegated to develop the plan, the SIEC provided governance oversight of the process in what proved to be a successful collaboration of the state's two principal interoperability bodies. Today, responsibility for revising the SCIP has been transferred to the Statewide Interoperability Coordinator (SWIC).

Illinois' SCIP is applicable to all public safety agencies, regardless of governmental affiliation. Volunteer agencies, most notably fire departments, are prevalent in a substantial number of the rural communities in southern Illinois. These agencies are routinely afforded the same opportunities to receive grant-funded interoperable equipment and training as their government-sponsored counterparts. Representatives from these volunteer agencies participate in intra-discipline mutual aid organizations, attend public safety conferences, and make their voices heard in the public safety community to ensure their unique needs are met despite many challenges, including their communities' lack of resources to monetarily support them.

Illinois' legacy radio systems are a critical, active component of the state's interoperability platform as evidenced by their featured inclusion in the standard operating procedure governing usage (see Section 4.5). STARCOM21, as the next generation of interoperability, can, when necessary, create a bridge to merge legacy radios on some frequencies. STARCOM 21 is the command and control resource for all inbound units assigned to a disaster or mutual aid response as well as day-to-day operations for many jurisdictions. On-scene interoperable communications are handled through the legacy VHF, UHF (Ultra High Frequency), and 800 MHz radios and systems as well as some STARCOM 21 talk groups. The following pages will explain the how the legacy interoperable systems and STARCOM21 will operate.

The ongoing rollout of the STARCOM 21 radio platform is evidence of Illinois' commitment to its public safety interoperable communications. Systems (*a set of radio hardware owned by a particular agency or organization and used on a particular radio band*) on the STARCOM 21 radio platform currently encompass more than 18,000 subscriber units. The ITTF, for example, offered STARCOM 21 radios at no cost to all police, fire, emergency management, and public health agencies in Illinois. In 2008, more than 2,800 of these radios were distributed to government and non-government agencies in these disciplines, providing each agency with an interoperable network for communications at major events. All federal funds under the direction of the SAA expended on interoperable equipment must meet the SIEC and ITTF statements of commitment to the APCO P25 interoperability standards.

In a similar vein, all fire, police, public health/hospitals, and emergency management agencies in Illinois were offered VHF (Very High Frequency/High Band) mobile/portable radios through the State of Illinois to promote communications interoperability. These radios were pre-programmed with all NPSTC national interoperable pool VHF channels (V-TAC-x / VCALL Very High Frequency Tactical Channel) frequencies in addition to the IREACH (Illinois Radio Emergency Assistance Channel) and discipline-specific VHF frequencies to provide interoperable communications capabilities in field "tactical" applications. The following series of charts illustrates the VHF mobile interoperability radio configurations programmed into these devices.

**BASIC VHF INTEROPERABLE RADIO - DISTRIBUTED BY THE  
ILLINOIS EMERGENCY SERVICES MANAGEMENT AGENCY (IESMA)**

CHANNEL	NAME	TX FREQ	RX FREQ	TONE	TONE RX/TX	WB/NB	NOTES
1	IREACH	155.05500	155.05500	CS	CS	WB	Requires Local License
2	V-CALL	155.75250	155.75250	156.7	TX/RX	NB	
3	V-TAC-1	151.13750	151.13750	156.7	TX/RX	NB	
4	V-TAC-2	154.45250	154.45250	156.7	TX/RX	NB	
5	V-TAC-3	158.73750	158.73750	156.7	TX/RX	NB	
6	V-TAC-4	159.47250	159.47250	156.7	TX/RX	NB	
7	BLANK						
8	BLANK						
9	BLANK						

**FIRE VHF INTEROPERABLE RADIO –  
DISTRIBUTED BY THE MUTUAL AID BOX ALARM SYSTEM (MABAS)**

CHANNEL	NAME	TX FREQ	RX FREQ	STONE	STONE RX/TX	WB/NB	NOTES
1	IREACH	155.05500	155.05500	CS	CS	WB	Requires Local License
2	V-CALL	155.75250	155.75250	156.7	TX/RX	NB	National
3	V-TAC-1	151.13750	151.13750	156.7	TX/RX	NB	National
4	V-TAC-2	154.45250	154.45250	156.7	TX/RX	NB	National
5	V-TAC-3	158.73750	158.73750	156.7	TX/RX	NB	National
6	V-TAC-4	159.47250	159.47250	156.7	TX/RX	NB	National
7	BLANK						
8	BLANK						
9	BLANK						
10	IFERN	154.26500	154.26500	210.7	TX	WB	Blanket MABAS License
11	IFERN2	154.30250	154.30250	67.0	TX/RX	NB	Blanket MABAS License
12	FG-RED	153.83000	153.83000	69.3	TX	WB	Blanket MABAS License
13	FG-WHITE	154.28000	154.28000	74.4	TX	WB	Blanket MABAS License
14	FG-BLUE	154.29500	154.29500	85.4	TX	WB	Blanket MABAS License
15	FG-GOLD	153.83750	153.83750	91.5	TX/RX	NB	Blanket MABAS License
16	FG-BLACK	154.27250	154.27250	94.8	TX/RX	NB	Blanket MABAS License
17	FG-GRAY	154.28750	154.28750	136.5	TX/RX	NB	Blanket MABAS License
18	BLANK						
19	BLANK						

**POLICE VHF INTEROPERABLE RADIOS –  
DISTRIBUTED BY THE ILLINOIS LAW ENFORCEMENT ALARM SYSTEM**

CHANNEL	NAME	TX FREQ	RX FREQ	TONE	TONE RX/TX	WB/NB	NOTES
1	IREACH	155.05500	155.05500	CS	CS	WB	Requires Local License
2	V-CALL	155.75250	155.75250	156.7	TX/RX	NB	National
3	V-TAC-1	151.13750	151.13750	156.7	TX/RX	NB	National
4	V-TAC-2	154.45250	154.45250	156.7	TX/RX	NB	National
5	V-TAC-3	158.73750	158.73750	156.7	TX/RX	NB	National
6	V-TAC-4	159.47250	159.47250	156.7	TX/RX	NB	National
7	BLANK						
8	BLANK						
9	BLANK						
10	ISPERN	155.47500	155.47500	CS	TX/RX	WB	Blanket ISP License

Recipients of radios may add local frequencies into their radios based on the following options:

- Option 1 – If the radio allows zones, then Zone “A” should be left for the interoperable frequencies above. Additional frequencies may be added in any higher zone, i.e., Zones B, C, D, etc.
- Option 2 – If the radio does not allow zones, local frequencies may be added from Channel 20 and higher.

The State of Illinois, using federal homeland security grant monies, purchased 1,950 mobile radios, 180 portable radios, 201 hospital (MERCİ) base stations, and 20 IREACH base stations which were distributed to local public health agencies, hospitals, local emergency management agencies, and law enforcement and fire departments in 2005 and 2006. Recipients of those VHF radios could exercise the option to add their local frequencies to the units, promoting the use of and familiarity with the instruments within the user communities through day-to-day use.

Common Name	Mobile Transmit Frequency	Mobile Receive Frequency	W/N	DCS / CTCSS
MERCİ 160 <sup>1</sup>	155.16000	155.16000	W	Varies
MERCİ 220 <sup>2</sup>	155.22000	155.22000	W	Varies
MERCİ 280 <sup>3</sup>	155.28000	155.28000	W	D156
MERCİ 340	155.34000	155.34000	W	210.7 <sup>4</sup>
MERCİ 400 <sup>5</sup>	155.40000	155.40000	W	Varies
AMB TACT 1	458.02500	458.02500	W	Varies
AMB TACT 2	458.07500	458.07500	W	Varies
AMB TACT 3	458.12500	458.12500	W	Varies
AMB TACT 4	458.17500	458.17500	W	Varies
MED 1	468.00000	463.00000	W	Varies
MED 2	468.02500	463.02500	W	Varies
MED 3	468.05000	463.05000	W	Varies
MED 4	468.07500	463.07500	W	Varies
MED 5	468.10000	463.10000	W	Varies
MED 6	468.12500	463.12500	W	Varies
MED 7	468.15000	463.15000	W	Varies
MED 8	468.17500	463.17500	W	210.7
MED 9	467.95000	463.95000	W	Varies
MED 10	467.97500	463.97500	W	Varies

<sup>1</sup> MERCİ 160 use is limited to Edwardsville/Collinsville/Belleuille area.

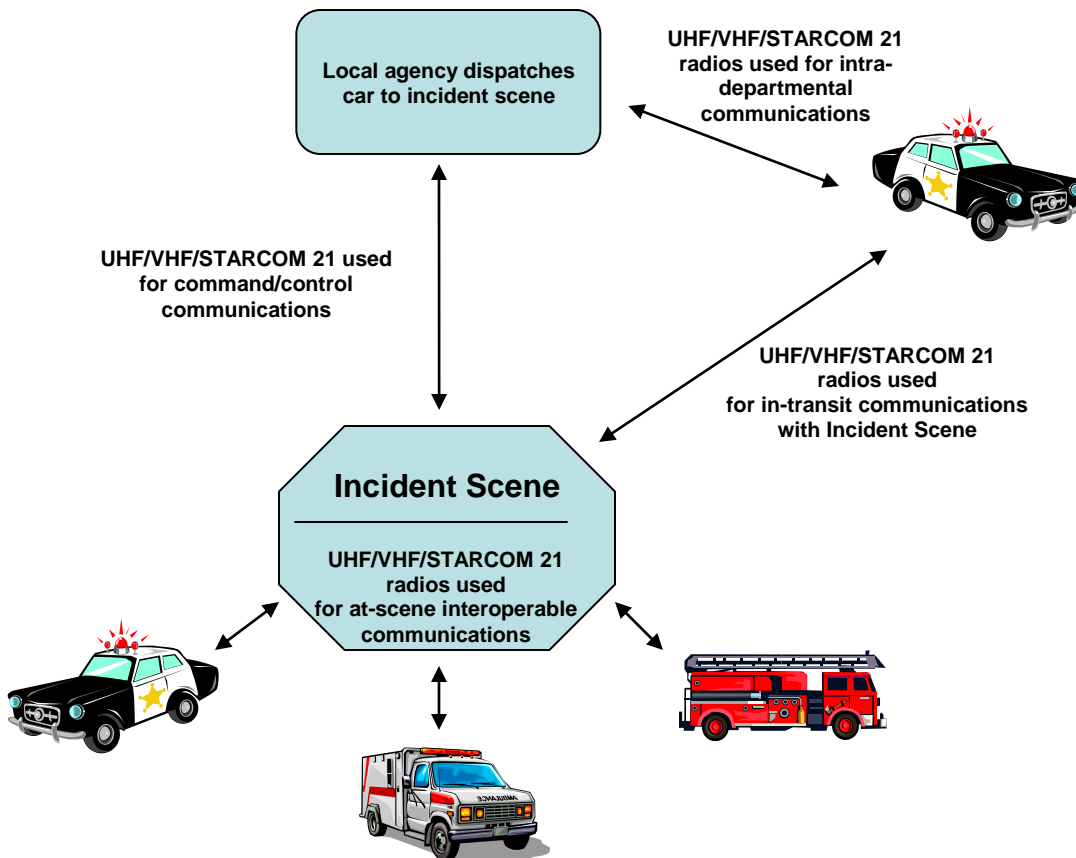
<sup>2</sup> MERCİ 220 is designated as a dispatch channel.

<sup>3</sup> MERCİ 280 is designated for hospital point to point and disaster-related communications.

<sup>4</sup> CTCSS Code 210.7 Hz is used for statewide communications during disaster or mutual aid incidents.

<sup>5</sup> MERCİ 400 use is limited to northeastern Illinois, generally north of North Avenue in the Chicago metro area.

Illinois' legacy radio systems are a critical, active component of the state's interoperability platform as evidenced by their featured inclusion in the standard operating procedure governing usage (see Section 4.5). STARCOM21, as the next generation of interoperability, can, when necessary, create a bridge to merge legacy radios on some frequencies. STARCOM 21 is the command and control resource for all inbound units assigned to a disaster or mutual aid response as well as day-to-day operations for many jurisdictions. On-scene interoperable communications are handled through the legacy VHF, UHF (Ultra High Frequency), and 800 MHz radios and systems as well as some STARCOM 21 talk groups as illustrated below.



The availability of monies through the Public Safety Interoperable Communications (PSIC) grant program allowed Illinois agencies to acquire additional STARCOM 21 radios or install gateways (subject to approval by the STARCOM 21 Oversight Committee) to access Illinois' 700/800 MHz interoperability platform, expanding the use of this breakthrough technology while decreasing the state's dependence on its legacy interoperable communications systems.

STARCOM 21 is truly a statewide communications platform with operational talk groups for first responders that provide local, regional, and statewide coverage. In addition to the use of STARCOM 21 radios, Illinois' public safety agencies continue to use their legacy VHF, UHF, and 800 MHz radios and systems for daily operable communications. Interoperable communications is achieved through a combination of legacy communication systems and the statewide platform.

As with the development of the SCIP, both the ITTF Communications Committee and the SIEC share responsibility for sustaining the viability of this plan. Members of both committees serve as informational conduits by actively soliciting input from their constituencies. Under the managerial auspices of the Office of the SWIC, the plan is reviewed bi-annually, and modifications to its strategies and time lines are made to keep its programmatic objectives on target for completion prior to the established deadlines.