

Interoperable Communications Technical Assistance Program (ICTAP)

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Tactical Interoperable Communications Plan
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Planning and Tools



- Tactical Interoperable Communications Plan
- Communications Asset System Mapping-CASM tool



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Tactical Interoperability (Elements)



- Must be rapidly deployable at any time (24/7)
- Should be fully operational within an hour of an incident occurring.
- Requires oversight by trained Communications Unit Leaders, as defined within the NIMS, to support equipment deployment.
- May be provided through the use of common equipment (common channels, cached radios or shared systems) or a gateway between dissimilar systems and/or radio frequency bands.
- Should always be in support of long-term interoperability by building upon or accelerating long-term strategies and efforts.



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Tactical Plan Components



- **Site Overview**
- **Governance Structure**
- **Interoperable Equipment**
- **Equipment Policies and Procedures**
- **Incident Communications Resource Plan**
 - Based on Exercise Scenario
- **Trained Communications Unit Leaders**

U.S. Department of Homeland Security
Office of State and Local Government
Coordination and Preparedness
Tactical Interoperable Communications
Planning Guidance and Template



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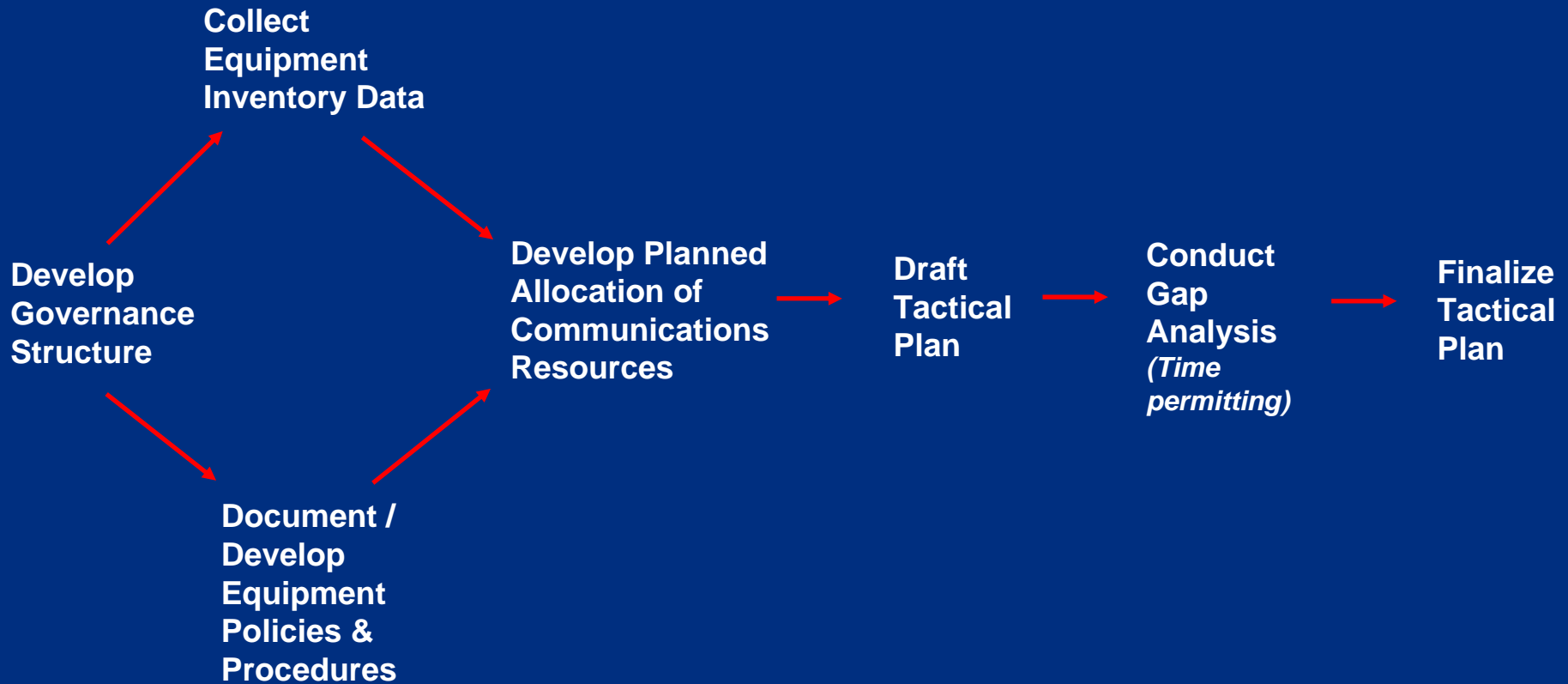
March 2005



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Developing a Tactical Plan



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Site Overview

- Provide a brief overview of the metropolitan area and its efforts in addressing interoperable communications. Consider all communications interoperability goals and objectives included in the any strategic planning done prior. Any challenges faced to date with communications should also be included
- List all agencies represented in the Tactical Interoperable Communications Plan.



Governance Structure



Steering Committee

Operational Working Group:

Responsible for determining operational and training requirements

- Reviewing existing SOPs and apply as appropriate to anticipated incidents.
- Developing formal written guidelines and checklists (SOPs), preferably by type of incident
- Ensuring that SOPs and checklists follow ICS/NIMS standards.
- Coordinating agency participating in NIMS Communication Unit Leader training.
- Coordinating with Technical Working Group as appropriate to include technical guidelines and checklists into written plans.

Technical Working Group:

Responsible for identifying existing interoperable equipment and methods

- Evaluating alternative solutions to address unmet needs for communications interoperability during potential incident types.
- Reviewing potential solutions with the Operational Working Group to identify the most appropriate ones for anticipated types of incidents
- Prepare solution recommendations and budgets for adoption by the Governance Group.



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Interoperable Equipment

- Collect pertinent information on interoperable equipment
 - *Cached Radios*
 - *Gateways*
 - *Shared Channels*
 - *Shared Systems*
- ICTAP can meet with agency POCs to confirm the required data have been have collected.
- Following TICP development, data can be updated as needed to keep the plan current



Equipment Policies & Procedures



- Should be documented / developed for all interoperable equipment in the jurisdiction
- Policies will address operational aspects such as:
 - *Rules of Use*
 - *Interoperable Communications Request*
 - *Equipment Activation*
 - *Equipment Deactivation*
 - *Problem ID and Resolution*
- ICTAP can facilitate meetings to develop policies and provide examples from other agencies.



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Incident Communications Resource Plan



- Detail what method or specific interoperability resources will be used for multi-agency communications during an incident
- Plan will address communications for the following specific ICS subdivisions
 - *Incident Command and General Staff*
 - *Operations Section*
 - *Planning Section*
 - *Logistics Section*
- ICTAP can facilitate meetings to develop plan based on analysis of equipment lists and policies/procedures.



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Trained Communications Unit Leaders



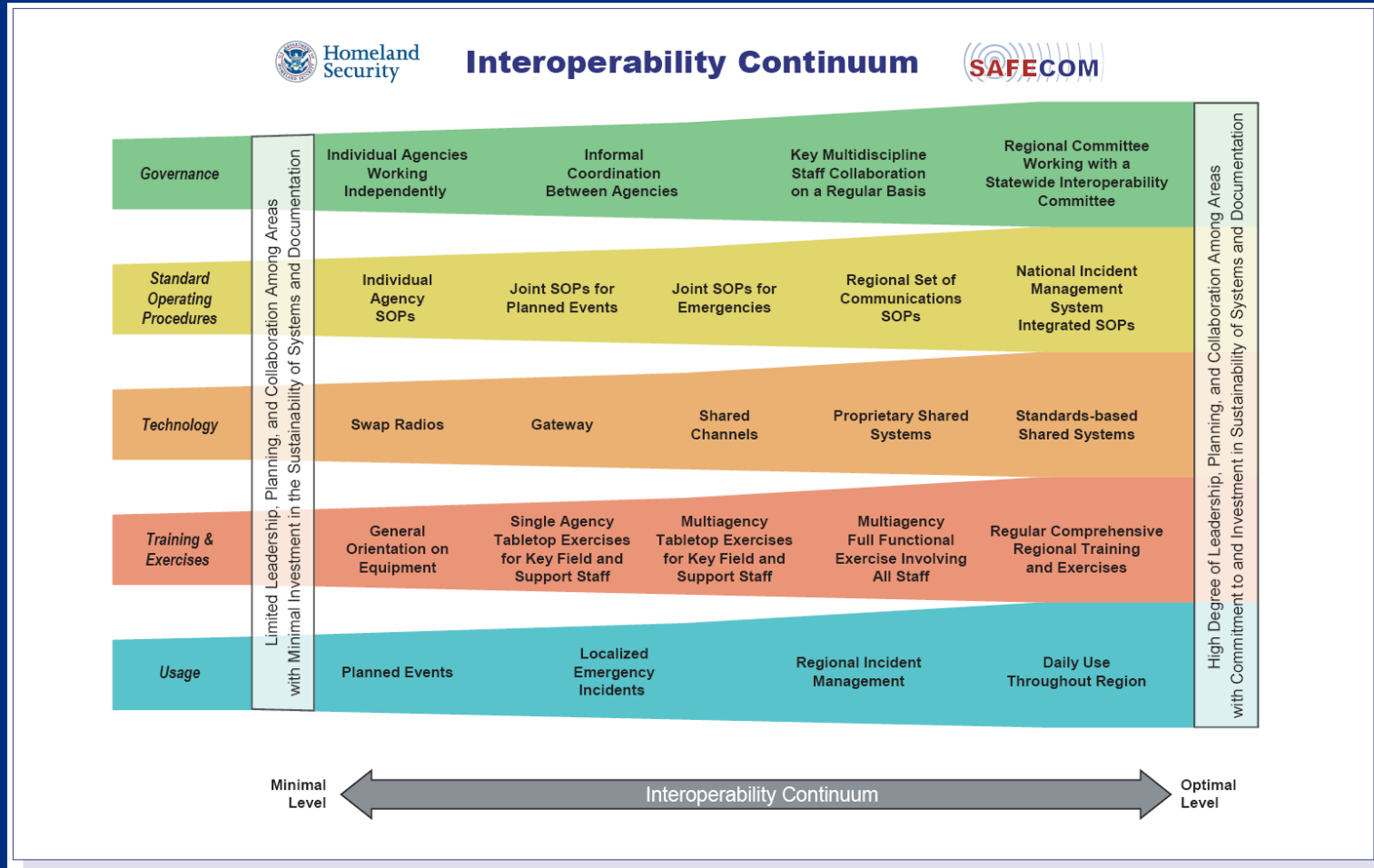
- National Incident Management System (NIMS) - compliance
- Currently only National Wildfire Coordinating Group (NWCG) training available for this function
- All-hazards training under development by
 - Office of Grants and Training
 - SAFECOM
 - NIMS Integration Center



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SAFECOM Interoperability Continuum



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Interoperability Performance Measures



	<i>Baseline Assessment Sub-Element</i>
Governance	Leadership
	Decision-making Groups
	Agreements
	Interoperability Funding
	Strategic Planning
Standard Operating Procedures	Policy, Practices, and Procedures
	Command and Control
Technology	Approaches
	Implementation
	Maintenance and Support
Training and Exercises	Operator Training
	Exercises
Usage	Frequency of Use and Familiarity





Interoperable Communications Technical Assistance Program ICTAP

Communication Asset Modeling Tool (CASM) Overview



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CASM Functionality

- Inventory existing interoperable communications equipment, procedures, and capabilities
- Map interoperable communications capabilities and methods
- Conduct a communications gap analysis
- Model current & proposed interoperable communications



Needs Analysis
Services



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CASM

- **USERS:** 45 urban areas and states, and more than 730 accounts, covering over 2,500 jurisdictions and 5,000 agencies at local, state and federal levels
- **IMPACT:** One example is the aftermath of Hurricane Katrina. The data collected for CASM was the single readily available source of information on communications antenna towers.

DURATION: Development of CASM began in August 2004; it was released for initial use July 18, 2005.



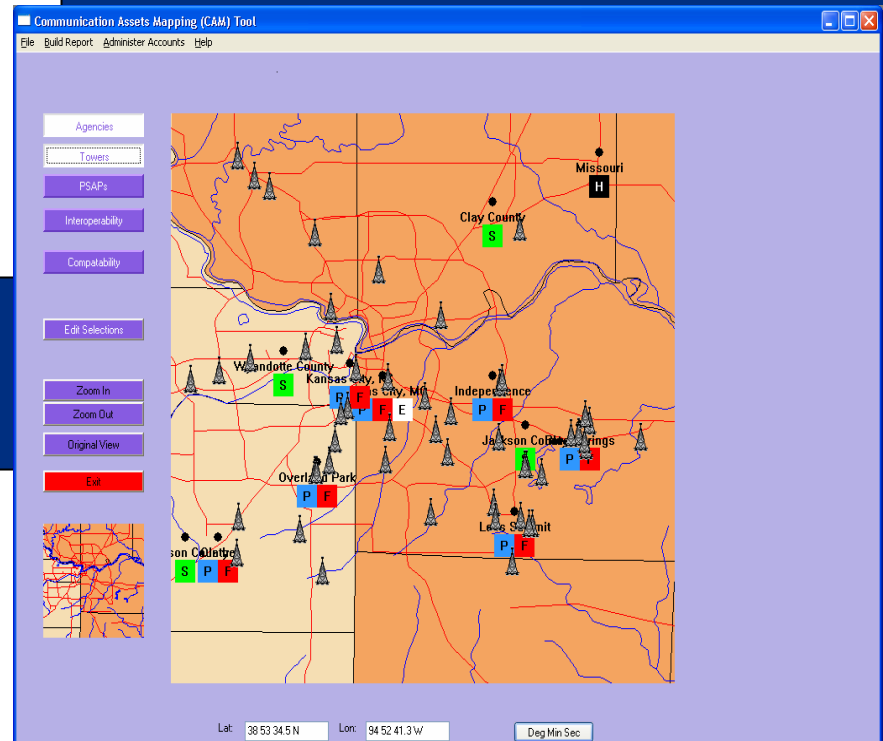
Communication Asset System Mapping (CASM) Tool

Developed For:

- Urban Area
- Spawar System Center - SD
- Site Leads/Engineers & ODP

Functionality

- Ease of use
- Display of Asset Inventory
- Display Interoperability



CASM – Features

Features / Benefits:

- Visualization of Agencies, Radio Systems and Tower locations for an Urban Area in a geographic map representation.
- Agency icons reflect the highest level of interoperability they utilize.
- Agency's interoperability status uses the SafeCom Interoperability Continuum.
 - Swap radios, mutual aid channels, gateways, etc.



CASM – Features

Features / Benefits:

- Pop-Up windows provide detailed information about agencies, radio systems, towers and interoperability for each icon.
- Compatibility Tool shows communication interoperability between two selected agencies.
 - A pop-up window will identify the potential method(s) of interoperability.
- UA Interoperability Matrix showing highest level of interoperability that is possible between all agencies in a matrix presentation.



CASM – Purpose and Access



Needs Addressed:

- Inventory Display
- Geophysically review radio system information
- Quick view of Interoperability Status
- Display of agency interoperability



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CASM – Purpose and Access

Delivery Mechanism:

- Web-enabled Application
- Application downloads to user
- Requires an internet connection
- Application connects to SSC-SD
 - Database and map server at SSC-SD
 - Requires user ID and password
- Standalone PC version is also being considered/evaluated



CASM – Initial View

Communication Assets Mapping (CAM) Tool

File Build Report Administer Accounts Help

Urban Area: Kansas City
 User Name: Neil Hoff

Agencies

- Towers
- Radio Systems
- Interoperability
- Compatability
- Edit Selections
- Zoom In
- Zoom Out
- Original View
- Exit

Agency Icon Legend

- P Police
- S Sheriff
- E EMS
- H Highway Patrol
- F Fire
- P25
- Proprietary
- Gateway
- Shared Channels
- Shared Radios
- No Interoperability
- 700MHz Radio System
- 800MHz Radio System
- UHF Radio System
- VHF Radio System
- Gateway
- Tower

Cursor Position

Lat: 39 25 37.7 N Lon: 94 44 20.4 W

Deg Min Sec

Public Safety Sensitive

Map Layer and Tool Options

Map Context Reference (when using Zoom Feature)

Cursor Position



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CASM – Agency Detail

Communication Assets Mapping (CAM) Tool

File Build Report Administer Accounts Help

Urban Area: Kansas City
 User Name: Neil Hoff

Agencies
 Towers
 Radio Systems
 Interoperability
 Compatability
 Edit Selections

Zoom In
 Zoom Out
 Original View
 Exit

Cursor select Agency Icon, and Detail Information Popup appears.

Agency Information Public Safety Sensitive

- Agency Name: **Kansas City, KS Police**
- Serves: Kansas City, KS
- Interoperability Methods Currently In Use**
 - Proprietary Shared Systems
 - Gateway
 - Shared Channels
- Radio Systems:

System Name	Number Mobile	Number Handheld
Kansas City, KS 800MHz	Unknown	Unknown
NPSPAC 800MHz Mutual Aid Repeated	Unknown	Unknown
Total	Unknown	Unknown

Public Safety Sensitive

Close

Bolded info can be selected to launch additional Info Popups.

Agency Layer (Default)



CASM – Agency Detail Pop-up (Interoperability Methods Info)

Agency Interoperability Information Public Safety Sensitive

- Agency Name: Kansas City, KS Police
- Interoperability Methods Currently In Use
 - P25 Standards Based: Not Supported
 - Proprietary Shared Systems:
 - Kansas City, KS 800MHz
 - Gateway Systems:
 - Kansas City, MO Police JPS ACU-1000
 - Shared Channels:
 - NPSAPAC 800MHz Mutual Aid Repeated
 - Swap Radios: Not Supported

Agency Information Public Safety Sensitive

Interoperability Methods Currently in Use selected to launch popup.

- P Police
- S Sheriff
- E EMS
- H Highway Patrol
- F Fire
- P25

Interoperability Methods' listed in order of Interoperability Continuum hierarchy. Systems in use by Agency are listed next to IC Method.

Public Safety S

Lat: Lon:

Agency Information Public Safety Sensitive

- Agency Name: Kansas City, KS Police
- Serves: Kansas City, KS
- Interoperability Methods Currently In Use
 - Proprietary Shared Systems
 - Gateway
 - Shared Channels
- Radio Systems:

System Name	Number Mobile	Number Handheld
Kansas City, KS 800MHz	Unknown	Unknown
NPSAPAC 800MHz Mutual Aid Repeated	Unknown	Unknown
Total	Unknown	Unknown

Close



CASM – Agency Detail Pop-ups (Radio System and Tower Info)

Radio System Information Public Safety Sensitive

- System Name: **NPSPAC 800MHz Mutual Aid Repeated**
- Agencies Served by System:
 - System Owner
 - Kansas City, MO Police
 - Overland Park, KS Fire
 - Kansas City, KS Police
 - Kansas City, KS Fire
 - Olathe, KS Fire
 - Johnson County, KS Sheriff
 - Wyandotte County, KS Sheriff
 - Kansas State Highway Patrol
- System Details:

Mfg:	Unknown	Analog / Digital:	Analog
Frequency Band:	800 MHz	Simplex / Repeated:	Repeated
Trunked / Conventional:	Conventional	Voting:	No
Trunking Kind:	None	Simulcast:	No
P25:	None	Encryption:	None

Number of Channels	Number of Handheld Radios	Number of Mobile Radios
5	0	0

Agency Information Public Safety Sensitive

- Agency Name: Kansas City, KS Police
- Serves: Kansas City, KS
- Interoperability Methods Currently In Use:
 - Proprietary Shared Systems
 - Gateway
 - Shared Channels
- Radio Systems:

System Name	Number Mobile	Number Handheld
Kansas City, KS 800MHz	Unknown	Unknown
NPSPAC 800MHz Mutual Aid Repeated	Unknown	Unknown
Total	Unknown	Unknown

Radio System Detail Popup with scroll to view all data.

Select Radio System

Map Legend:

- Radio System
- VHF Radio System
- Gateway
- Tower

Lat: 39 25 37.7 N Lon: 94 44 20.4 W Deg Min Sec

Public Safety Sensitive



CASM – Tower View

The screenshot displays the 'Communication Assets Mapping (CAM) Tool' interface. At the top, it shows the title bar and menu options: File, Build Report, Administer Accounts, and Help. Below the menu is a header area with logos for the U.S. Department of Homeland Security, ICTAP, and SPAWAR Systems Center San Diego. The main content area is divided into a left sidebar, a central map, and a right legend.

Left Sidebar (Tower Layer): A vertical list of buttons for navigation and filtering. The 'Towers' button is highlighted, and an arrow labeled 'Tower Layer' points to it. Other buttons include Agencies, Radio Systems, Interoperability, Compatibility, Edit Selections, Zoom In, Zoom Out, Original View, and Exit.

Central Map: A map of the Kansas City urban area showing numerous tower locations marked with black triangle icons. A yellow callout box with the text 'Displays tower locations' points to the map. At the bottom of the map, the coordinates are displayed: Lat: 39 25 56.1 N, Lon: 94 24 07.0 W, and a 'Deg Min Sec' label.

Right Legend: A list of symbols and colors corresponding to different communication assets. The legend includes: Police (P), Sheriff (S), EMS (E), Highway Patrol (H), Fire (F), P25, Proprietary, Gateway, Shared Channels, Shared Radios, No Interoperability, 700MHz Radio System, 800MHz Radio System, UHF Radio System, VHF Radio System, Gateway (GW), and Tower (represented by a black triangle icon). An arrow labeled 'Tower Icon' points to the triangle symbol.

At the bottom center of the interface, there is a red banner that reads 'Public Safety Sensitive'.



CASM – Tower Detail Pop-up



Communication Assets Mapping (CAM) Tool

File Build Report Administer Accounts Help

Urban Area: _____
User Name: _____

Agencies
Towers
Radio Systems
Interoperability
Consolidability
Edit Selections
Zoom In
Zoom Out
Original View
Exit

Select Tower Icon and Tower Detail Pop-up appears.

Tower Information Public Safety Sensitive

- Tower Site Johnson County TS**

Site Address: 19100 West 119th Street, Olathe, KS 66061

Site Owner: Unknown

Site Type: Tower Receive Only: No

Latitude: 38°54'49" N Tower Ht: 152.4 m

Longitude: 94°48'21" W Elevation: 306.3 m
- System: Johnson County, KS 800**

Tx Frequency	Rx Frequency	Call Sign	Power (W)	ERP (W)	Ant Ht (m)
856.9625	811.9625	WNSS508	150	250	152.4
857.9625	812.9625	WNSS508	150	250	152.4
858.9625	813.9625	WNSS508	150	250	152.4
859.9625	814.9625	WNSS508	150	250	152.4
860.9625	815.9625	WNSS508	150	250	152.4
866.2625	821.2625	WPIX532	150	250	152.4
866.5375	821.5375	WPIX532	150	250	152.4
866.8875	821.8875	WPIX532	150	250	152.4

Close

Radio System
GW Gateway
Tower

Lat: 39 25 56.1 N Lon: 94 24 07.0 W Deg Min Sec

Public Safety Sensitive



CASM – Radio Systems View



Radio System Layer

Communication Assets Mapping (CAM) Tool

File Build Report Administer Accounts Help

Urban Area: Kansas City
User Name: Neil Hoff

Agencies
Towers
Radio Systems
Interoperability
Compatibility
Edit Selections
Zoom In
Zoom Out
Original View
Exit

Lat: 39 13 14.1 N Lon: 94 40 53.5 W Deg Min Sec

Public Safety Sensitive

- P Police
- S Sheriff
- E EMS
- H Highway Patrol
- F Fire
- P25
- Proprietary
- Gateway
- Shared Channels
- Shared Radios
- No Interoperability
- 700MHz Radio System
- 800MHz Radio System
- UHF Radio System
- VHF Radio System
- GW Gateway
- Tower

Radio System Icon Legend



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CASM – Radio System Detail Pop-Up

The screenshot shows the 'Communication Assets Mapping (CAM) Tool' interface. At the top, it displays 'Urban Area: Kansas City' and 'User Name: Neil Hoff'. The main area is a map with various radio system icons. A legend on the right lists categories: Police (P), Sheriff (S), EMS (E), Highway Patrol (H), Fire (F), P25, and Proprietary. A yellow callout box with an arrow points to a 'VHF' icon on the map, stating: 'Select Radio System Icon and Radio System Detail Popup appears.' Below the map, a 'Radio System Information Public Safety Sensitive' window is open, displaying details for 'Platte County, MO VHF'. The details include: System Name, Agencies Served by System, System Details (Mfg: Motorola and Micro, Analog/Digital: Analog, Frequency Band: VHF, Simplex/Repeated: Repeated, Trunked/Conventional: Conventional, Voting: Yes, Trunking Kind: None, Simulcast: Yes, P25: None, Encryption: None), a table of radio counts (2 channels, 0 handheld, 0 mobile), Towers (Platte County HWY 371 Tower, North Tower, South Tower), and Frequencies. A yellow callout box with an arrow points to the tower list, stating: 'Select Individual Radio System Tower and Tower Detail Popup will appear.'

Urban Area: Kansas City
User Name: Neil Hoff

Agencies
Towers

Radio System Information Public Safety Sensitive

- System Name: **Platte County, MO VHF**
- Agencies Served by System: Platte County, MO Sheriff
- System Details:
 - Mfg: Motorola and Micro
 - Analog / Digital: Analog
 - Frequency Band: VHF
 - Simplex / Repeated: Repeated
 - Trunked / Conventional: Conventional
 - Voting: Yes
 - Trunking Kind: None
 - Simulcast: Yes
 - P25: None
 - Encryption: None

Number of Channels	Number of Handheld Radios	Number of Mobile Radios
2	0	0

- Towers:
 - [Platte County HWY 371 Tower](#)
 - [Platte County North Tower](#)
 - [Platte County South Tower](#)
- Frequencies:

	Rx Frequency
155.250	
155.000	

700 Radio System
800MHz Radio System
UHF Radio System
VHF Radio System
GW Gateway
Tower

Deg Min Sec



CASM – Interoperability View



Communication Assets Mapping (CAM) Tool

File Build Report Administer Accounts Help

Urban Area: Kansas City
User Name: Neil Hoff

Agencies
Towers
Radio Systems
Interoperability
Comptability
Edit Selections
Zoom In
Zoom Out
Original View
Exit

Color Displayed is for the Highest Level of Interoperability used by Agency.

P Police
 S Sheriff
 E EMS
 H Highway Patrol
 F Fire
 P25
 Proprietary
 Gateway
 Shared Channels
 Shared Radios
 No Interoperability
 700 700MHz Radio System
 800 800MHz Radio System
 UHF UHF Radio System
 VHF VHF Radio System
 GW Gateway
 Tower

Interoperability Continuum Icon Legend

Lat: 39 16 36.1 N Lon: 94 32 32.6 W Deg Min Sec

Public Safety Sensitive

Interoperability Layer



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CASM – Compatibility Matrix (Selection)

Communication Assets Mapping (CAM) Tool

File | Build Report | Administer Accounts | Help

Urban Area: Kansas City
User Name: Neil Hoff

SPAWAR Systems Center San Diego

Legend:

- P Police
- S Sheriff
- E EMS
- H Highway Patrol
- F Fire
- P25
- Proprietary
- Gateway
- Shared Channels
- Shared Radios
- No Interoperability
- 700MHz Radio System
- 800MHz Radio System
- UHF Radio System
- VHF Radio System
- GW Gateway
- Tower

Map Labels: Platte County, Missouri, Clay County, Wyandotte County, Kansas City, Independence, Jackson Park, Overland Park, Johnson County, Kansas, Lees Summit.

Coordinates: Lat: 39 28 41.3 N Lon: 95 16 16.9 W

Public Safety Sensitive

Access the Compatibility Matrix from the 'File' Menu.



CASM – Compatibility Matrix

When Compatibility Matrix is selected from the File Menu, the Matrix window appears showing level of compatibility between Agencies.

The Urban Area Agencies appear on both top and side.

Compatibility Matrix -- Public Safety Sensitive

	Blue Springs, MO Police	Central Jackson County Fire Protection District	Clay County, MO Sheriff	Independence, MO Fire	Independence, MO Police	Jackson County, MO Sheriff	Johnson County, KS Sheriff	Kansas City, KS Board of Public Utilities	Kansas City, KS Fire	Kansas City, KS Police	Kansas City, MO Fire	Kansas City, MO Police	Kansas State Highway Patrol	Lees Summit, MO Fire	Lees Summit, MO Police	Metropolitan Ambulance Services Trust	Missouri State Highway Patrol	Olathe, KS Fire	Olathe, KS Police	Overland Park, KS Fire	Overland Park, KS Police	Platte County, MO Sheriff	Wyandotte County, KS Sheriff
Blue Springs, MO Police	White	Yellow	Grey	Grey	Grey	Grey	Grey	Red	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Central Jackson County Fire Protection District	Yellow	White	Yellow	Red	Yellow	Blue	Red	Red	Red	Red	Red	Red	Red	Red	Red	Yellow	Red	Red	Red	Red	Red	Yellow	Red
Clay County, MO Sheriff	Grey	Yellow	White	Grey	Grey	Grey	Grey	Red	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Independence, MO Fire	Red	Red	Grey	White	Grey	Grey	Grey	Red	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Independence, MO Police	Yellow	Yellow	Grey	Grey	White	Grey	Grey	Red	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Jackson County, MO Sheriff	Blue	Blue	Grey	Grey	White	White	Grey	Red	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Johnson County, KS Sheriff	Red	Red	Red	Red	Red	Red	White	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Kansas City, KS Board of Public Utilities	Red	Red	Red	Red	Red	Red	Red	White	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
Kansas City, KS Fire	Red	Red	Red	Red	Red	Red	Red	White	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
Kansas City, KS Police	Red	Red	Red	Red	Red	Red	Red	White	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
Kansas City, MO Fire	Red	Red	Red	Red	Red	Red	Red	Red	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
Kansas City, MO Police	Red	Red	Red	Red	Red	Red	Red	Red	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
Ka Hi	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Lees Surr	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Lees Summ	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Metropolitan	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Se Mi	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Hi	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Olathe	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Overland	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Overland Pa	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Platte Count	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Wyand	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey

The Intersection of agency rows is color coded according to the level of interoperability between agencies (see the Interoperability Legend on the Map).

- Shown here are:
- Blue - Proprietary
 - Grey - Gateway
 - Yellow - Shared Channels
 - Red - No Interoperability
 - White - intersection of agency with itself.

The details of the Inter-Agency Interoperability can be viewed if you select the intersecting cell.

Interoperability Methods: Public Safety Sensitive

Missouri State Highway Patrol can communicate with Central Jackson County Fire Protection District via:

- P25 Standard Systems: Not Supported
- Proprietary Systems: Not Supported
- Interconnect Device: Not Supported
- Shared Channels
 - Missouri Law Mutual Aid
- Shared Radios: Not Supported

Questions/Comments?

- Thank you

