



# Texas

Statewide Communication Interoperability Plan (SCIP)  
Implementation Report

October 2012

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## *Part 1 – SCIP Implementation Update*

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The following sections provide an update on the implementation of the Texas SCIP. Identified first is an overview of the current interoperability environment (“State Overview”), followed by the vision and mission statements (“Vision and Mission”). The remaining sections in Part I address progress along the five lanes of the SAFECOM Interoperability Continuum (Governance, Standard Operating Procedures [SOPs], Technology, Training and Exercises, and Usage).

For each lane of the Continuum, a brief narrative is provided explaining the efforts related to the lane. Both State and NECP initiatives associated with each lane are addressed in the accompanying tables.

*Communications is the fundamental capability within disciplines and jurisdictions that practitioners need to perform the most routine and basic elements of their job functions. They must have sufficient wireless communications to meet their everyday internal and emergency communication requirements before they place value on being interoperable.*

### *State Overview*

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#### *Overview of the State and its interoperability challenges*

More than 5,300 fire, police, and emergency medical service agencies respond daily to emergency and life-threatening incidents throughout Texas and adjacent states. Texas actively supports the national Governor’s interstate mutual aid compact, Emergency Management Assistance Compact (EMAC). During times of disaster and emergencies, and within hours of a request, Texas Department of Public Safety coordinates and deploys radio equipment and teams to the disaster. Operational communications and coordination is vital to efficient and effective emergency response.

With an area of 268,601 square miles and a population of almost 25 million, Texas is the second-largest state in both area (behind Alaska) and population (behind California). Texas is physically 850 miles east to west by 900 miles north to south, and is the southernmost state in the continental United States. Texas is bordered by four states—New Mexico, Oklahoma, Arkansas, and Louisiana. Texas shares a 1,240-mile international border with Mexico. The 367-mile Gulf of Mexico coast forms the southeast border.

The lack of communications in some areas, and



diverse systems in other areas, is providing Texas with numerous challenges to implementing statewide interoperable communications for all emergency responders. Significant progress has been achieved; however, there is still much more to do.

Texas is made up of:

- 254 counties.
- 1,208 incorporated cities.
- 24 Council of Governments (COGs)/State planning regions.
- Three DHS-designated UASIs.
- Two State-designated Urban Areas (previously designated DHS Tier II UASIs).
- Three tribal nations.

Texas is committed to an all-hazards approach to homeland security that addresses threats posed by natural disasters, criminal and terrorist attacks and catastrophic events; each has a potentially devastating impact on our state.

*There is no greater role or responsibility in government than protecting its citizens. The globalization and convergence of crime and terrorism; an unsecure border with Mexico, powerful and depraved Mexican Cartels, violent transnational and state-wide gangs, serial criminals; world- wide terrorist organizations and lone wolf actors, cyber intrusions and threats; the unpredictability of catastrophic natural disasters and pandemic diseases; the high loss of life from vehicle crashes; the large amount of critical infrastructure in Texas and the dramatic and continued increases in the state's population – all of these factors have resulted in an asymmetric threat environment in our state requiring constant vigilance and proactive, rather than reactive, strategies to minimize the danger to our citizens and their families.*

“Director’s Strategic Outlook”

Steven C. McCraw, Director, Texas Department of Public Safety, July 13, 2012

## ***Vision and Mission***

*Overview of the interoperable communications vision and mission of the State*

The Texas SCIP has a timeframe of two years (January 2012 – December 2014); however, minor revisions will be made as needed to ensure newly-identified communications gaps are recorded and addressed in annual funding programs.

### **VISION STATEMENT**

By the end of 2015, provide all public safety and critical infrastructure responders at all levels of government, including local, county, special districts, tribal, State, and Federal, with the highest level of real-time direct interoperable voice radio communications and Long Term Evolution (LTE) broadband data and video communications utilizing standards-based systems.

**SCIP Strategic, Overarching Initiatives are:**

- Ensure Operability
- Provide Interoperable Solutions
- Upgrade and expand Regional Shared Interoperable Communications Systems

**Statewide Interoperability Key Success Factors:**

- Governance to promote State legislation funding that enforces timely and cost-efficient execution of strategic plan initiatives which support statewide communications and interoperability.
- The agreement and commitment of public safety jurisdictions, agencies and disciplines to plan and work collaboratively with neighboring agencies.
- Creation of partnerships among emergency response agencies throughout Texas to build and maintain cost-effective interoperable communications networks using shared resources.
- Designing systems based on what is currently in place and what users need.
- Train in operational contexts to build flexible people and teams.
- Leverage all local, state, and federal resources to the enhancement of overall capabilities.

## ***Governance***

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### *Overview of the governance structure, practitioner-driven approaches, and funding*

**Goal 1- Governance:** 1) Achieve statewide interoperability by institutionalizing collaborative approaches across the state based upon common priorities and consensus at the regional level. 2) Secure consistent funding for ongoing development, capital replacement, operations and maintenance costs.

- **Target Objectives:** 1) Ensure a coordinated governance structure, with representation from all regions, all disciplines, state, Federal and nongovernmental agencies to plan and implement statewide communications interoperability for all stakeholders. 2) Develop a funding plan that will generate the funding resources necessary to acquire and sustain statewide voice and data communications interoperability.
- **Key Strategy:** Education, planning and legislative action

**Major Accomplishments, Lessons Learned and Best Practices:**

- The TxICC enacted a new SCIP Governance structure which incorporates the FirstNet requirements for implementation of a statewide Public Safety Long Term Evolution (PS LTE) broadband network. Regional and state agencies will elect representatives to the new SCIP Executive Council.
- The Texas Border Communications Coalition, consisting of regional governments from El Paso to Brownsville, collaborated with DPS to develop short-term solutions to immediate communications problems as well as a long-term plan for interoperability.
- The Communications Coordination Group (CCG), established by the Texas Legislature in 2009, currently facilitates public and private collaboration to plan and deliver

communications support during large-scale, multi-agency disaster responses.

- Capital Area Council of Governments (CAPCOG) and Coastal Bend Council of Governments (CBCOG) are implementing video conferencing capabilities to improve the ability of all jurisdictions to participate in monthly meetings.
- Central Texas Council of Governments (CTCOG) successfully established a committee to review and discuss a plan for 800 MHz integration with DPS.
- Houston-Galveston Area Council (HGAC) created the Regional Communications Advisory Committee.
- Lower Rio Grande Valley Development Council (LRGVDC) formed the Rio Grande Valley Communications Group in September 2010 with charter adoption in May 2011.

**Governance Structure:**



The Governor appointed the Texas Interoperable Communications Coalition (TxICC), (previously named the Texas Radio Coalition) as the Statewide Interoperability Governing Body for the Texas SCIP. The (TxICC) is a member of the Governor’s First Responder Advisory Council, designated by State law to advise the Governor on relevant Homeland Security issues. The primary purpose of the TxICC is to oversee public safety communications interoperability development across Texas.

**Texas SCIP State Governing Body**



Texas interoperable communication plans and governance is directed and approved by the Texas Governor. This organizational chart identifies support positions from the Governor’s Office down to the TxICC level.

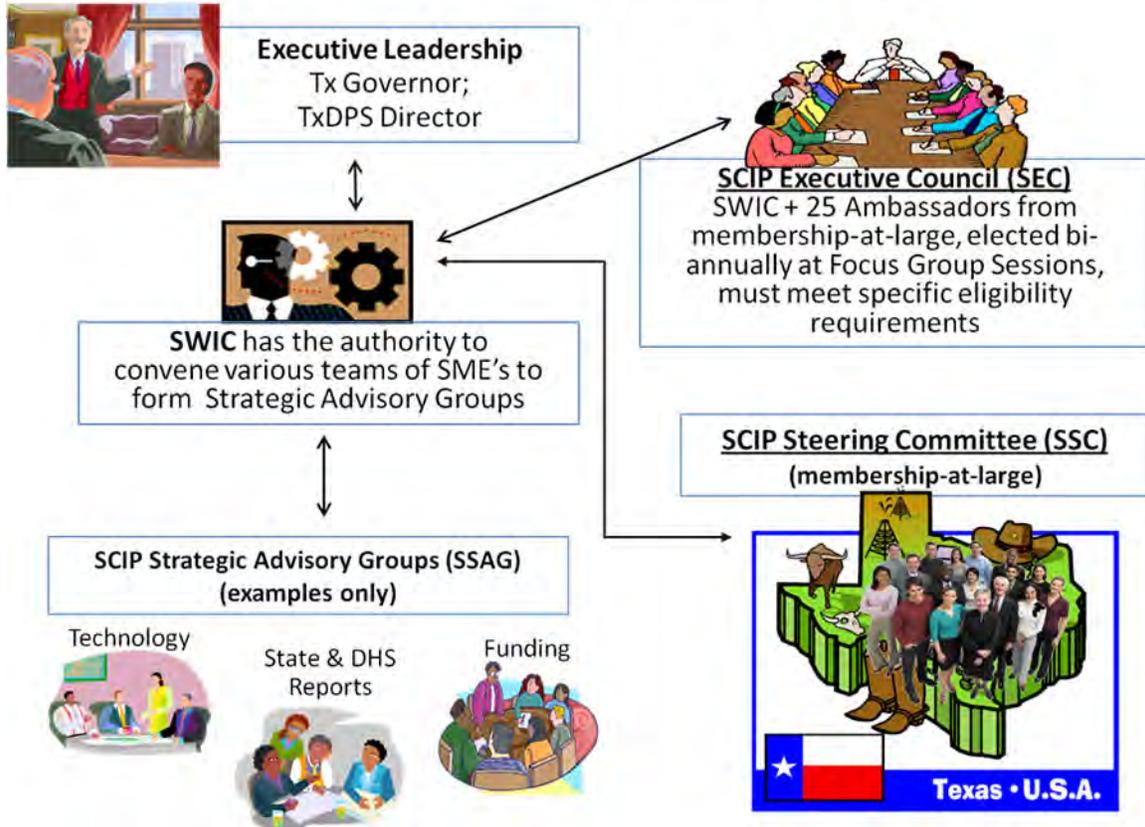
The primary working committees forming the TxICC governance structure are:

- a) The Texas SWIC
- b) The TxICC SCIP Executive Council (SEC)
- c) The TxICC SCIP Steering Committee (SSC) [consists of membership-at-large attending any meeting and/or call]
- d) The TxICC SCIP Strategic Advisory Groups (SSAG)

**Public Safety Broadband Communications Governance Structure:** Texas amended the existing TxICC governance structure to incorporate PS LTE broadband in the State. As LTE, as well as Land Mobile Radio (LMR), governance decisions are made at the National level, Texas and the TxICC will make adjustments accordingly.

The following graphic illustrates the dynamics and relationship of each TxICC group.

### SCIP Governance Structure



#### Governance Initiatives

The following table outlines the strategic governance initiatives, gaps, owners, and milestone dates Texas outlined in its SCIP to improve interoperable communications.

Initiative	Gap	Owner	Milestone Date	Status
<b>NECP Initiatives</b>				
Establish a full-time statewide interoperability coordinator or equivalent position.	Dedicated leadership	Director TxDPS & Governor's Office	October 2010 full-time SWIC and staff	Completed October 2010
Incorporate the recommended membership into the Statewide Interoperability Governing Body (SIGB/TxICC)	No formal governance agreement	Gov Working Group; TxICC	2/11/08	Completed February 2008

Initiative	Gap	Owner	Milestone Date	Status
<b>NECP Initiatives (continued)</b>				
Establish the SIGB/TxICC via legislation or executive order.	State Authority	Exec Committee & Gov Working Group; Governor's Office	2007	Completed February 2008
<b>Additional State Initiatives</b>				
Operation Texas Talks (OTT): Secure consistent funding for interoperable communications ongoing development, capital replacement, and maintenance costs.	No dedicated funding for emergency communications	SWIC & Regional OTT Champions	June 2013	In Progress
Develop the Texas Department of Public Safety Report on Interoperable Communications to the Texas Legislature	Annual status of interoperability and regional funding report	SWIC & Staff	September 1	On-going
Update the SCIP and TxICC Governance Structure to include responsibility for the Texas public safety LTE program	PS LTE Governance and Planning	SWIC, Regions	Q1, 2014	In Progress
Encourage State Legislature to establish a funding stream and legal communications authority for regionally operated systems to cover ALL public safety agencies.	No legal authority for funding and regulation of regional radio systems.	SWIC, Regional Champions	2015	In Progress
Provide WebEx meeting capability for all communications meetings and events	Timely input from members on significant items	SWIC & Staff	Q1, 2013	New
Prioritize Communications funds for immediate and critical communications needs including building out operability and complying with narrowband requirements by 2013.	Lack of funding	OTT Regional Champions	Annually	On-going
Conduct annual regional Focus Group Gap Analysis Sessions and annual Statewide Strategic Planning Conference.	Forum to voice operational requirements and prioritize initiatives	SWIC, TxICC; COGs; State Agencies	Annually	On-going
Assist regions with governance development for regional shared interoperable communications systems.	Planning and collaboration	SWIC & staff	RICP Vol 1 April 2010	On-going
NECP 6.4.76: Coordinate with RECCWG to ensure that all Federal, State, local, and tribal emergency response providers have developed and implemented communications continuity plans for maintaining or recovering and stabilizing operations during and following disaster events.	Communications continuity plans	SWIC & Regions	ID jurisdictions needing assistance by 3/1/2014; develop simple template by 6/1/2014	In progress
Work with newly formed FirstNet to define Texas needs, deployment, funding and timeframe for Public Safety LTE	Grants, policies and procedures for building nationwide LTE system	SWIC & Staff	Phase 1 2013 Phase 2 2014	In progress
Develop and deliver early outreach program to stakeholders and jurisdictions including information gathering and survey of broadband needs and plans	Work with jurisdictions to educate and determine interest and support for PS LTE system	SWIC and Regions	2012 thru 2014	In progress

## ***Standard Operating Procedures***

### *Overview of the shared interoperable communication-focused SOPs*

**Goal 2-Standard Operating Procedures (SOP):** Enhance use of interoperable communications systems with integrated, NIMS-compliant, regional SOPs.

- **Target Objective:** Improve coordination of first responder activities with integrated SOPs that are included in training programs and exercised routinely.
- **Key Strategy:** Facilitate regional integrated SOPs.

### **Major Accomplishments, Lessons Learned and Best Practices:**

- In 2010 each Council of Government developed a common Regional Standard Operating Procedure (RSOP). The RSOPs established routine procedures for testing all interoperable communications equipment and resources including gateways, mobile communications vehicles, deployable communications equipment, and alternative communications equipment. The RSOPs were exercised during the NECP Goal 2 demonstrations. Although the demonstrations were successful, there is a renewed effort and attention given to the importance of the RSOPs and training to ensure proper use of the various equipment and technology.
- Ark-Tex Council of Governments (Ark-Tex) provided communications RSOP education and training to the entire region.
- CAPCOG used SHSP and IECGP funds to create interoperable SOPs for the Western Counties project. The project delivered a training video and visor cards for end users along with the SOP document.
- MRGDC held local first responder meetings to explain SOP and interoperable capabilities.
- North Central Texas COG (NCTCOG) is developing regional system training materials which include utilization of RSOPs.
- South East Texas Regional Planning Commission (SETRPC): Weekly radio checks have been implemented with all jurisdictions participating on the regional system. Real life incidents of the IH-10 closure/Hazmat Incident and Martin Gas Fire tested Interop 1 and were successful.

### ***SOP Initiatives***

*The following table outlines the SOP strategic initiatives, gaps, owners, and milestone dates Texas outlined in its SCIP to improve interoperable communications.*

<b>Initiative</b>	<b>Gap</b>	<b>Owner</b>	<b>Milestone Date</b>	<b>Status</b>
<b>NECP Initiatives</b>				
Tactical planning among Federal, State, local, and tribal governments occurs at the regional interstate level.	Clear coordination and responsibility procedures	SWIC and all COGs	RSOPs adopted Mar 1, 2010	On-going
All Federal, State, local and tribal emergency response providers within UASI jurisdictions implement the Communications and Information Management section of the NIMS.	Incident Management	SWIC & staff	Executive Order RP 40 September 2006	Complete

Initiative	Gap	Owner	Milestone Date	Status
<b>NECP Initiatives (continued)</b>				
Incorporate the use of existing nationwide interoperability channels into SOPs.	Lack of interoperability	SWIC	RSOPs adopted Mar 1, 2010	Complete
Update SCIP to reflect plans to eliminate coded substitutions throughout the Incident Command System (ICS).	Clear communications	TSICP and RSOP WG	2008-2010 SCIP and TSICP	Complete
Define alternate/backup capabilities in emergency communications plans.	COOP	RSOP WG	RSOPs Mar 1, 2010	Complete
<b>Additional State Initiatives</b>				
Update, educate and train jurisdictions on RSOPs and proper communications procedures and Texas Forest Service (TFS) Interoperability Training Program	SOPs are not being used in daily operations or with regular use of interoperability equipment.	COGs, TFS	Aug 2014	New
Post RSOPs on website for availability to regional and mutual aid emergency responder agencies. Develop and distribute educational materials announcing the availability of the RSOPs and how to access them.	RSOPs unavailable to public safety mutual aid responding agencies	SWIC & staff, COGs	June 1, 2013	In progress
To the extent possible, develop and adopt common subscriber unit programming protocols per TFS training program.	Interoperability, knowledge of ICS channels	TxICC and COMLs	Jan 1, 2014	In progress
Promote a communications interoperability plan/agreement with Mexico.	Lack of mutual aid communications	Gov Working Group, DPS	BIDP December 2010	Interoperability Plan Complete; 800MHz Agreement Complete; 700MHz Agreement in progress
Exercise Regional SOP	Clear understanding of roles, responsibilities, policies, procedures	DPS Technical Asst. Unit	2011 Goal 2 Demonstrations	Complete
Assist in the Development and submission of 700 & 800 MHz Regional Communications Plans for the 6 Texas Regional Planning Committees	Spectrum planning	RPCs and DPS	Q2, 2013	800 MHz complete, 700 MHz in progress
Ensure State Agencies are involved in RSOP development, validation and After Action Report (AAR)	Clear understanding of roles, responsibilities, policies, and procedures	COGs, COMLs, T&E SSAG	Q3, 2014	New

## ***Technology***

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### *Overview of the technology approaches, current capabilities, and planned systems*

**Goal 3-Technology:** Build a statewide, standards-based (P25) shared Land Mobile Radio voice radio system, and a statewide, standards-based Long-Term Evolution broadband data communication network.

- **Target Objective:** Ensure operability while leveraging investments in existing communications infrastructure and systems when designing and implementing regional interoperability.
- **Key Strategy:** Planning and project management.

### **Major Accomplishments, Lessons Learned and Best Practices:**

- SETRPC EMS agencies, the City of Orange and some volunteer fire departments (VFDs) are merging into the regional radio system.
- ARK-TEX educated local agencies on the Texas Statewide Communications Interoperability Plan (TSICP) and a large percentage have become compliant.
- The HGAC "RECIPE" committee developed and implemented methods for mobile command response vehicles to communicate with each other for information sharing and standardization of command vehicles in the region.
- Permian Basin Regional Planning Commission (PBRPC) purchased and/or upgraded public safety mobile radios for the region. The infrastructure build-out of eleven P25 repeater sites is nearly completed with two sites remaining. The regional system is operational with local, state, and federal users.
- Texas Department of Transportation (TXDOT) completed agency wide reprogramming of mobile and portable radios with narrow band frequencies, TSICP channels and standardized templates; and deployed VHF trunk sites for use in the Middle Rio Grande regional communications system, and upgraded participation in other regional systems.
- Texas Alcoholic Beverage Commission (TABC) placed approximately 50 new multi-band subscriber units in and along the border region.
- Texas A&M Fire Service (TA&MFS) proposed and successfully created nationwide VHF interoperable repeater pairs which were added to the TSICP and the NIFOG.
- Texas Military Forces (TMF) loaded all TXMF (2500+) LMRs with the current version of TSICP.
- CAPCOG implemented microwave systems for trunked site connectivity.
- Harris County constructed "BIGNET" (broadband system) and is the only licensed and operational 700 MHz Public Safety Broadband Network system in the country.
- Brazos Valley Council of Governments (BVCOG) 700/800 MHz Brazos & Washington Counties systems are at 100% capability. Narrowband (NB) pagers were furnished to all counties.

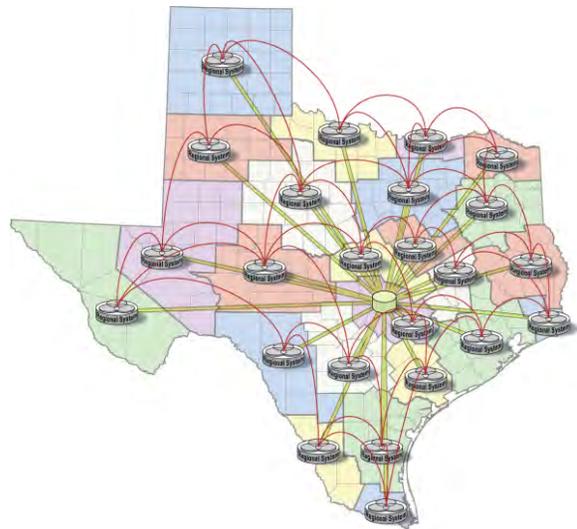
### Texas Statewide Communications Interoperability Plan (TSCIP)

The State of Texas has licensed frequencies for Mutual Aid channels listed in the TSCIP for all agencies providing public safety services in the State. Use of the interoperability channels is prioritized:

- Emergency or urgent operation involving imminent danger to life or property.
- Disaster or extreme emergency operation requiring extensive interoperability and inter-agency communications.
- Special event, generally of a pre-planned nature.
- Joint training exercises.
- Inter-agency and en-route communications in accordance with local and regional policies and procedures.

### Texas System-of-Systems for Voice Radio:

Texas has adopted a system-of-systems approach to build-out statewide interoperable voice radio communications. A system-of-systems exists when a group of independently operating systems – comprised of people, technology, and organizations – are connected, enabling emergency responders to effectively support day-to-day operations, planned events, or major disasters. Regional systems will operate independently, and will also have the ability to communicate with other regions and agencies, as needed, through a State-hosted gateway solution and other interoperable solutions. The Texas system-of-systems will enable agencies and regions to meet their specific needs while connecting to a broader network of resources.



**Leverage Existing Resources:** Federal, State, local, and private sector agencies continue to work with local emergency response agencies across the State to leverage existing communication equipment, systems, and other resources to build the statewide voice radio system-of-systems. This approach has, and will continue to, save time and funding and minimize recurring maintenance costs.

### Public Safety LTE Broadband Approach:

Texas has become a leader in pursuing early deployment of PS LTE Broadband. Texas has identified the following objectives for PS LTE:

- To create an effective and interoperable 700 MHz interoperable mobile public safety broadband network, which, when fully deployed, will enable public safety users operating in Texas to be safer, more responsive, and more effective in the saving of lives and property.
- To enable early deployments of interoperable 700 MHz PS LTE network layers in Texas.

- To facilitate an open, standards-based (3GPP) LTE environment which supports a healthy, competitive, multi-vendor procurement environment for network infrastructure and terminal devices, while enabling LTE suppliers to innovate and produce sustainable products and services.
- To support the eventual deployment of a Nationwide Public Safety Broadband Network.
- To pursue public/private partnerships in order to leverage existing commercial capabilities and associated economies of scale. Among the more urgent areas for this partnership is the need to leverage commercial 3GPP Conformance and Interoperability Testing (IOT) programs.

Numerous significant changes to Public Safety Broadband have happened in the last year. These include:

- Legislation: The “D-Block” legislation was passed February 22, 2012 as the “Middle Class Tax Relief and Job Creation Act of 2012”. This established “FirstNet”, the governing authority, which officially stood up in August, and is working toward a single operable PS LTE system across the country. Two key constructs of the legislation are the D-Block going to Public Safety and Federal match funding. This additional 10 MHz (5 MHz up + 5 MHz down) doubles the available bandwidth, easing LTE congestion in urban areas, and provides significant funding for planning and implementation over the next several years. While some initial deployments may be delayed, significant effort will be expended by FirstNet, the State and local jurisdictions to plan out FirstNet in Texas.
- Submission of the Texas Interoperability Showing: On May 12, 2011, the State of Texas became the 22nd 700 MHz public safety broadband waiver recipient in the United States. Since then, the State has submitted nine versions plus many related filings as part of the effort to achieve authority to operate on behalf of Harris County ITC. Texas received approval of the interoperability showing by the FCC on July 31, 2012. In that same Order (12-85), the FCC declared all waiver authorizations ineffective as of September 2, 2012 and outlined the criteria for entities to apply to the FCC for a Special Temporary Authority (STA) to obtain authority to operate a 700 MHz public safety broadband system. On August 28, 2012, the State of Texas submitted a final STA application to the FCC requesting authority to operate which was subsequently approved on August 31, 2012 granting the State of Texas and Harris Co ITC the authority to operate 14 sites within Harris County for 180 days commencing September 3, 2012.
  - The State has received interest from San Antonio (another waiver holder), Harris County, the cities of Amarillo, Corpus Christi, Ft. Worth and Irving, DFW International Airport and initial inquiries from other jurisdictions.
  - The State continues to be a leader in support of National LTE working groups.
  - The State continues to participate in regional and local PS LTE forums.
- Next Steps: The State will start a broad based outreach and education program in the near future. This program seeks to meet with all jurisdictions, explain the options, issues, requirements and advantages of FirstNet, looking for input from the

jurisdictions, and building the requirements to present to FirstNet for build-out of the Texas based network.

### System Partnerships and Collaboration:

State agencies partnered with local organizations to operate on the following Regional Radio Systems:

- DPS: Austin/Travis County, Harris County, Rio Grande Valley RRS, Middle Rio Grande Valley RRS, Parker County, East Texas EMS;
- TXDOT: Austin/Travis County, Harris County, LCRA, Middle Rio Grande, DFW Overlay, Permian Basin, Concho Valley systems and South Texas Development Council;
- TABC: Austin/Travis County, LCRA, LRGV, MRGV, El Paso PD, Houston/Harris County; Brazos River Authority: Parker County P25 System;
- TMF-Austin/Travis County, Houston/Harris County, LRGV;
- Texas Parks & Wildlife Department (TPWD): Lower Colorado River Authority (LCRA), Middle Rio Grande Valley (MRGV).

### Major Systems

*The following tables list the major systems in Texas and include those used for solely interoperable communications, large regional systems specifically designed to provide interoperability solutions, and large wireless data networks.*

Texas has achieved many accomplishments in support of statewide interoperability as shown in the following list of regional and State radio systems.

Shared Statewide System <sup>1</sup>	Description	Status
Texas Department of Public Safety	VHF P25 narrowband and Internet Protocol (IP) Gateway system to interconnect disparate systems provide radio communications to multiple State and local agencies.	Planned and currently being executed
Lower Colorado River Authority	900 MHz proprietary trunked system and 700 MHz P25 trunked overlay system with interoperability into Austin and San Antonio's 800 MHz systems; total coverage: 60 central Texas counties.	14 sites deployed; future deployment based on funding
Texas Department Of Transportation	Statewide VHF narrowband analog and P25, regional VHF/700/800/900 MHz trunking in various areas, HF SSB Network, and IP Gateway system to interconnect selected sites and agencies.	Existing, planned, and currently being installed

The individual State Agency systems listed below may support alternate radio communications during the aftermath and recovery of disasters which may affect primary interoperable communications systems.

<sup>1</sup> Shared statewide radio systems are typically designed to consolidate the communications of multiple State agencies onto a single system, thereby providing strong interoperability. Many States also make these systems available to Federal, local, and tribal agencies on a voluntary basis. In this case, local governments either chose to use the shared statewide radio system as their primary system, or they decided to interface their system to the shared statewide radio system creating a system-of-systems.

State Agency Systems	Description	Status
Texas Department of Public Safety (DPS)	Statewide coverage, VHF Narrowband, and P25. DPS owns and operates a statewide P25 VHF radio system used by DPS units for daily operations with radio coverage over approximately 95% of Texas. This system is also designed for use during emergency operations to provide interoperable communications between various State agencies and local responders; shared used of VHF/700/800 MHz regional trunked systems.	Existing
Texas Department Of Transportation	Statewide VHF narrowband analog and P25, regional VHF/700/800/900 MHz trunking, HF SSB Network.	Existing
Texas Juvenile Justice Department (TJJD)	Central Office + 3 facilities – proprietary 700 MHz, 3 facilities - VHF Narrowband.	Existing – planning addition to 4 (700 MHz) sites to provide P25 compliance + migrate remaining 3 VHF sites to 700 MHz w/P25 Compliance.
Lower Colorado River Authority	900 MHz proprietary trunked system: covers 46,000 square miles and 60 counties;  700 MHz P25 Overlay system: provides seamless integration into regional systems and conventional systems.	Existing and planned: 900 MHz trunked system covers 60 counties is in place. 700 MHz: completed 17 of 56 700 MHz overlay sites. Trunked system provides interoperability between the 700 MHz and 900 MHz systems.
Texas Alcoholic Beverage Commission (TABC)	None	None; TABC is not replacing its repeater systems due to very limited areas of use. TABC has agreements to operate via local, county, and other State agency systems.
Texas Parks and Wildlife	Statewide coverage, VHF Wideband	Planned: conversion to narrowband when funded.
Brazos River Authority	Partial regional coverage - Three major reservoirs; Possum Kingdom, VHF conventional/700 MHz trunked repeaters, Narrowband/P25, gateway connection into Parker County switch; Lake Granbury, single channel 100 watt VHF Analog conventional repeater; Lake Limestone, VHF conventional repeater, Narrowband / P25; Currently no link between sites. Waco central office and basin treatment plants lack any communications infrastructure.	All locations will be narrowband by the FCC deadline; based on future funding, the goal is to upgrade all locations in the basin with VHF, Narrowband/P25 infrastructures and connect into the system-of-systems. Not all locations will have 700 MHz
Texas Military Forces (TMF) (National Guard) J6	TMF J6 operates 17 emergency communications platforms linked to the Department of Defense (DOD) network via dedicated, private Ku-band satellite service. Each platform provides at least six Voice Over IP (VoIP) phones and six computers, internet/WiFi, DOD network, printer/fax, onboard air conditioner, and diesel generator. Each trailer hosts P25 radios on all bands with rooftop antennas, or base station antennas on a 40ft mast. All radios are linked to Cisco IPICS to bridge on site, between sites, or operated remotely via VoIP phone. TMF J6 has a cache of over 600 P25 radios along with eight deployable repeaters. TMF J6 manages a network control facility at Camp Mabry, in Austin. TMF J6 is currently planning integration of deployable cellular phone sites operating in DOD spectrum accessible by most existing cell phones.	Existing and expanding

Regional Systems	Description	Status
AACOG Radio Communications	Regional trunked P25 700 MHz and P25 VHF communications systems	Existing/planned: provide 11 counties 700 MHz P25 trunked radio service; interoperability with San Antonio's 8,000 users, Austin's 14,000 users, and 8,000 LCRA system users.
ARK-TEX COG	Cass, Franklin, Hopkins, Lamar, Morris, and Red River Counties and Cities of Sulphur Springs, Atlanta, and Clarksville all use VHF P25 systems. Bowie, Delta, and Titus Counties use VHF analog systems. The City of Texarkana utilizes an 800mhz trunked system, and the City of Paris utilizes a dual-band VHF and UHF P25 system. All entities in the region have obtained interoperability with each other.	Existing/planned
CAPCOG: Greater Austin-Travis Co. RRS (GATRRS)	GATRRS is 700/800 MHz trunked P25; provides system controller for: Williamson, Caldwell, Bastrop, and Lee Counties, South Texas Development Council's four VHF counties, Middle Rio Grande Valley Developments Council's nine VHF counties, and a 700 MHz Texas DPS State Capitol trunked site. Combined systems serve more than 100 agencies and 15,000 users.	Existing/planned
Brazos Valley Wide Area Communications System (BVWACS)	P25, 700 MHz, 7-site trunked system in Brazos and Washington Counties; shares controller with the TxWARN system.	Existing/planned expansion: remaining five counties of the Brazos Valley COGs area.
Concho Valley COG	P25 VHF MHz trunked system: connected by 4.9 GHz point-to-point links.	Existing/ planned: build-out of VHF trunked sites through the remainder of the 13-county CVCOG region.
Deep East Texas COG	Conventional VHF P25 mixed mode repeater system replacing 25 legacy city/county dispatch repeater channels in the 12 counties; secure IP network links 25 repeaters and 30 dispatch consoles that enables wide-area roaming and interoperability.	Existing/planned
East Texas COG	Thirteen of the fourteen counties use VHF for their primary public safety communications. Approximately 90% of the region has converted to narrowband compliance. In recent years, there has been a push to migrate everyone to P25 compliance and this continues with new purchases. Attainment of this goal is approximately 50% in the region. Smith County and the City of Longview operate 800 MHz systems as part of the East Texas Medical Center / TxWARN system.	<u>Existing:</u> 75% of the COG is covered by TxWARN system partnership w/East TX Medical Ctr.  <u>Planned:</u> Utilize existing TxWARN infrastructure to create an overlay for ETCOG connectivity via ISSI routing.
El Paso City and County Regional Radio System	Voice: 800 MHz proprietary trunked system; 4 sites. Data: Automatic Vehicle Locator and CAD.	Existing planned: P25 800 MHz trunked System city-wide with gateway to VHF users.
Harris County P25 TxWARN	Proprietary and P25 700/800 MHz trunked voice and data regional network; coverage over 24 counties, approximately 80,000 subscriber units, and more than 600 agencies on the system.	Existing/planned
Harris County BIGNet (broadband)	Broadband Interoperability Gateway-Network (BIGNet) 700 MHz LTE Public Safety Broadband Network. Projected go-live date for Harris County is August 1, 2012.	Existing/planned
Heart of Texas COG (HOTCOG)	Waco uses a proprietary analog trunked system, but is migrating to the P25 TxWARN trunked network (partners: Harris Co. and East TX Medical); expect to be fully migrated by mid-2013.	Existing/planned
Houston, City of	Land Mobile Voice: P25, 700 MHz trunked system; @20,000 subscriber units expected; 45-50 sites. Mobile Data: current capability: WEB EOC with up to 1000 users; CAD handles 5000+ calls per day; Fire RMS with 1000+ users; OLO (On-Line Offense) PD RMS @5000 users; and voice logger that records 10,000+ calls. City of Houston will be a partner with P-25 TxWARN.	Existing/planned

Regional Systems	Description	Status
Laredo, City of	P25 700/800 MHz Simulcast trunked System; 3 sites, ten (10) channels. Provides voice communication for 24 City departments, including public safety, police, and fire. Approximately 2,200 subscribers. Used by DPS, TABC, and CBP, during combined operations (interoperability), 65 subscribers.	Existing/planned;
LCRA	900 MHz proprietary trunked system: covers 46,000 square miles and 60 counties; provides primary communications for public safety agencies within the area. 700 MHz P25 trunked Overlay system: provides seamless integration into regional systems and conventional systems.	Existing/planned: Completed 14, 700 MHz overlay sites of 56 sites.
LRGVDC Regional Radio	P25 700/800 MHz trunked with a P25 core. Hidalgo, Cameron, and Willacy counties share this system consisting of 9 sites across the region. Combined sites serve more than 100 agencies and 8,000 users. Currently installing 10 <sup>th</sup> site. 2 to 7 additional 700/800 MHz P25 sites planned as well as VHF overlay.	Existing/planned: 9 sites active, 10th site under construction, 2 to 7 additional sites planned.
MRGDC Regional Radio System	VHF P25 trunked, 19 site system; serves 9 counties, 51 agencies, and the Kickapoo Traditional Tribe along the Texas-Mexico border area.	Existing/planned
Communications Network Overlay for North Central Texas (CONNCT)	P25 700 MHz trunked Communications Overlay System active (ISSI between DFW Airport Harris brand and City of Dallas Motorola Cores)	Existing / planned
North Central Texas Municipal Systems	McKinney: P25 trunked System. Plano/Allen/Wylie/Murphy: P25 trunked System. Frisco: P25 800 MHz trunked system. DFW Airport: P25 700 MHz trunked site connected to its P25 core. Dallas: P25 core. Dallas Area Rapid Transit (DART): Proprietary trunked radio system. Parker County: P25 VHF trunked system Hurst: P25 700 MHz trunked system (single site) White Settlement: P25 800 MHz trunked system (single site) Nine additional proprietary shared trunked radio systems in the UASI.	Existing and planned: Fort Worth/Tarrant County/Johnson County-initial planning for a multi-site, multi-county P25 700/800 MHz trunked radio system; Dallas hiring consultant for County wide RFP and system development for new 700/800 MHz radio system; Irving final decision stages of system migration from existing 800 MHz proprietary to P25; Richardson 800 MHz P25 system (replacing proprietary) to be on air in last quarter of 2011.
Panhandle Regional Interoperable Communication System (PANCOM)	Conventional VHF P25 repeater system replacing 60 legacy county dispatch repeater channels in the 26 counties; secure IP network links 130 repeaters and 60 dispatch consoles that enables wide-area roaming and interoperability.	Existing/planned: 24 of 26 counties are operating on PANCOM equipment. 5 additional sites have been identified to integrate the two remaining counties. The microwave backhaul system connecting 42 VHF tower sites is almost complete.

Regional Systems	Description	Status
PermianLink (PBRPC)	P25 VHF/800 MHz trunked system: connected by 4.9 GHz point-to-point links.	Existing and planned: continue the build-out of VHF trunked sites through the remainder of the 17-county PBRPC region. The P25 trunked repeater site in Andrews County is our 10 <sup>th</sup> site of 11 sites and is 50% completed and awaits the installation of field network equipment by 1 Sept 2012. The eleventh and final site in Jeff Davis County on Gomez Peak is awaiting FEMA EHP approval for the installation of a new tower. The regional system is "live" and has over 200 trunked radio subscribers from around the Permian Basin, including local, state, and federal agencies.
San Antonio-Bexar County Regional 800 MHz Trunked Radio System (SA-BCRRS)	Proprietary 800 MHz Trunked Radio System: provides service to more than 40 county-wide local, State, and Federal public safety agencies; serving a total of over 8,000 subscribers; interconnected to LCRA 900 MHz proprietary trunked radio system and the City of Corpus Christi/Nueces County Regional Radio System (proprietary) providing interconnectivity along the emergency evacuation routes; 19 channel simulcast sites provide radio coverage for the core of the metropolitan area, with six additional remote multicast sites providing extended coverage in outlying areas of Bexar County.	Existing and planned: expanding with a two site P25 Conventional VHF overlay system; and a 5 site 700 MHz P25 layer.
South East Texas Regional Planning Commission (SETRPC)	Jefferson, Hardin, and soon the City of Orange in Orange County is a proprietary 800 MHz Trunked Radio System. In process of upgrading to a 7X (P25) system with Smart X switch. Orange County seeking to add 700 MHz simulcast system in Orange County through new regional 7X switch. All Jefferson & Hardin County Public Safety on SETRRS. Shared talk groups with Orange County Public Safety.	Existing/planned merger of Orange systems to SETRRS and P25 compliance.
South Texas Development Council (STDC)	Four -Site VHF P-25 trunked system; 4 repeaters at each site and connected to the Greater Austin Travis County Area Regional Radio System P25 core; wide-area testing completed and successful.	Existing/planned: pending installation of consoles and programming of subscriber units
Victoria, City of	P25 800 MHz digital 11 channel trunked system serving City of Victoria PD, Fire & EMS, Victoria Sheriff's Office, Victoria County Fire, TABC, and Victoria College Police Department.	Existing, no planned expansion now; possibly to the remaining six counties of the Golden Crescent area
West Central Texas System (19 Counties)	19 county shared systems: VHF wideband conventional; P25 repeaters. City of Abilene: a proprietary non-P25 800 MHz trunked system with non-trunked VHF radios on key deployable assets that routinely respond in support of surrounding jurisdictions. 18 of 19 dispatch centers upgraded to multi-channel and multi-band (VHF, UHF, 700, and 800 MHz) patching capability	Existing/planned: interconnect all county dispatch centers and the City of Abilene dispatch center into a VoIP/RoIP network comprising a system-of-systems for the region.

### Technology Initiatives

*The following table outlines the technology strategic initiatives, gaps, owners, and milestone dates Texas outlined in its SCIP to improve interoperable communications.*

Initiative	Gap	Owner	Milestone Date	Status
<b>NECP Initiatives</b>				
Program nationwide interoperability channels into all existing emergency responder radios.	Mutual aid interoperability	Regions	Included in TX Interoperability Channel Plan Rev. April 2011	Channel Plan – Complete Implementation – Ongoing
<b>Additional State Initiatives</b>				
Regions develop plans to migrate radio assets to a standards-based, shared System-of-Systems, including a conceptual system design and required funding (RICP Round 2)	Coverage, Disaster Comms, Interoperability, Aged equipment	Tech Assist Unit - DPS; Regions	Revised RICPs due 6/30/11	Complete
Encourage regions to prioritize funding for narrowband requirements or other alternative solutions to resolve interoperability.	Narrowband equipment by 2013	SWIC & SAA	12/31/2012	In Progress
Provide operability throughout the State by implementing solutions to close gaps found through user surveys and CASM data analysis. Tasks: 1) Identify gaps; 2) Implement solutions.	No operability in parts of Texas	Technology & Funding WGs	2011,2013	In Progress
Ensure emergency communications capability statewide with deployable equipment and teams positioned throughout the state.	Emergency communications capability for all areas of Texas.	SWIC, DPS	Q1, 2014	New

## *Training and Exercises*

### *Over of the diversity, frequency, and inter-agency coordination of training and exercises*

**Goal 4-Training and Exercises:** Ensure integrated local and regional training and exercise opportunities are available to all emergency responders.

- **Target Objective:** Ensure that first responders at all levels are trained and routinely exercise communications equipment, procedures and coordination.
- **Key Strategy:** Multiple training and exercise opportunities.

### **Major Accomplishments, Lessons Learned and Best Practices:**

- CAPCOG facilitated multiple exercises which included communications during 2011.
- ETCOG conducts annual exercises with IC components.
- HGAC developed online training for introduction to interoperability in the region.
- NCTCOG is planning a 2013 full-scale exercise; various committee members have been assigned from the communications community to help ensure that interoperability will be included in the exercise.
- DPS provided statewide training: 4 COML, 1 COML TtT, 3 COMMT and 1 COMT TtT courses have been offered.
- TA&MFS developed and distributed a self-paced presentation on narrowband and interoperability to all fire departments throughout the state and made a presentation on this at the state Homeland Security Conference. In addition, TA&MFS led the effort to enact more checks-and-balances to regional communications exercises and evaluations by requiring certain criteria to be met and to require at least two state agencies to be

involved with each local regional exercise as participants and evaluators.

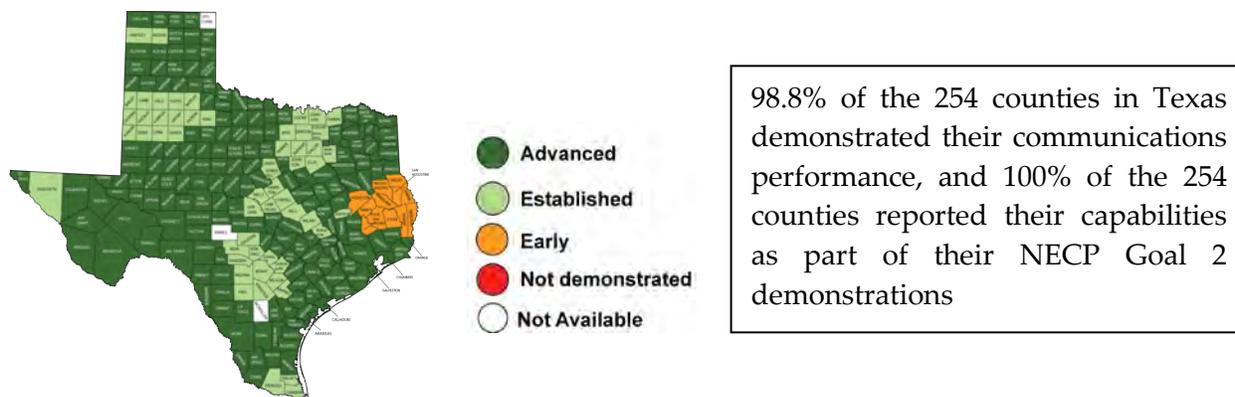
- TMF hosted the State COM-L, COM-T exercise at Camp Mabry in 2011. In 2010 and in 2011, TXMF conducted a 4-day Annual TICE (Texas Interoperable Communications Exercise) in multiple iterations to train and re-validate satellite communications platform teams (14 TICP in 2010, and 16 TICP and 3 JISCC in 2011) , and 2 repeater teams based upon COM-T standards. Provided HF w/Email equipment to the Texas Army MARS Detachment in TXSG who conducted daily statewide on-the-air HF nets 364 days/year (3-4 times per day), monthly Statewide on-the-air exercises, two large scale field training exercises, and two FEMA Region Regional on-the-air exercises for 6-14 deployable HF teams and two fixed sites in conjunctions with many dozens of Texas Army MARS member sites across the State.
- Emergency managers, local responders, and State and Federal agencies representing 254 Texas counties, meet routinely to train, identify and prioritize gaps in capabilities. Communications is a common capability vital to Operational Coordination (core capability) in each mission area.
- All Texas public safety agencies have adopted and trained on NIMS procedures. Ongoing focused training and exercise programs for responders are necessary to continue to improve the ability to employ NIMS as the Statewide Standard Incident Command System for addressing all hazards. In addition, state gap analyses have identified specific training needs to improve capabilities and maximize regional resources, e.g. short drills to incorporate into daily operations and curriculum to incorporate into academies.

Combining resources and people is a complex endeavor that cannot be first attempted during an actual emergency. Experience shows that success requires a foundation of common processes, policies, interoperable equipment, and cooperative training and exercises. The public is best served when officials at every level train to a common standard and exercise their emergency roles routinely. Interoperability, integration, and mutual support must be the daily norm – not the exception.

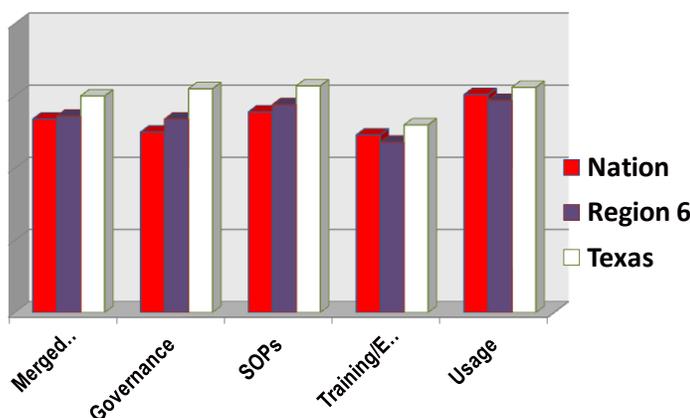
(Source: Texas Homeland Security Strategic Plan 2010-2015.)

**NECP Goal 2 Results:** To verify emergency communications capabilities in a State with 254 counties required many events and exercises. During 2011, 99% of the 254 counties covering 268,601 square miles successfully demonstrated response-level emergency communications using the NECP Goal 2 process. The 24 COGs and the Office of the Texas SWIC planned, reviewed, and/or attended 49 separate events. Twenty exercises and planned events were used by 14 COGs, and 29 past events and actual incidents including wildfires and hurricanes were used to verify capabilities in 11 COGs. (Some COGs had multiple events, other COGs grouped events.)

The following illustrates the NECP Goal 2 demonstrated emergency response communications capabilities for each of the 254 Texas counties.



The following illustrates the NECP Goal 2 demonstrated emergency response communications capabilities comparison of Texas / FEMA Region 6 / Nation.



**All-Hazards Communication Unit Leader training:** The roles of the communications leader (COML) and the communications technician (COMT) are critical functions that require training above and beyond the basic knowledge of communications systems as they prepare emergency responders to manage the communications components of larger interoperability incidents. A statewide procedure, supported by DPS, for the delivery of statewide COML training is in place.

In conjunction with the US Department of Homeland Security Office of Emergency Communications (OEC), Interoperable Communications Technical Assistance Program (ICTAP) and the State of Texas:

- Four Communications Exercises (COMMEX) are being conducted in Denton and Houston during August and September 2012.
- Six regional communications training workshops were conducted in July 2012 to identify training gaps and coordinate and integrate training programs.

**Training and Exercises Initiatives**

*The following table outlines the training and exercises strategic initiatives, gaps, owners, and milestone dates Texas outlined in its SCIP to improve interoperable communications.*

Initiative	Gap	Owner	Milestone Date	Status
<b>NECP Initiatives</b>				
Incorporate the use of existing nationwide interoperability channels into training and exercises.	Mutual aid interoperability	DPS, SWIC	June 1, 2012 TSICP & RSOPs	In Progress
Complete disaster communications training and exercises.	Reliable coordinated communications for emergency disaster response.	SWIC, DPS, and COGs	2011 Goal 2 demos	Complete
<b>Additional State Initiatives</b>				
COML: Enhance training and exercise programs. Tasks: 1) Have individuals trained and certified as COML trainers; 2) Identify regional Communications Unit Leaders and provide necessary training;	Interoperability training	DPS; TDEM; T&E WG	COML classes, 2011-3 2012-4 COML TTT-1 COMT classes, 2011-1 2012-3 COMT TTT-1	Complete & Ongoing
NECP Goal 1 emergency communications demonstrations.	UASI Interoperability Capabilities Assessment	UASIs, State Agencies, and SWIC	Oct 1, 2010	Complete
NECP Goal 2 emergency communications demonstrations.	UASI Interoperability Capabilities Assessment	COGs, State Agencies, and SWIC	Aug 2011	Complete
Develop short, simple drills which exercise interoperability channels and equipment that individual agencies (dispatchers and end users) can incorporate into daily operations. Train all end-users and dispatchers on radio operation and interoperability at the local level on a regular basis.	Interoperability training	TxICC, SSAG, COMLs T&E and	June 2013, Q1, 2014	In Progress
Establish regular regional comprehensive training /exercise programs. Evaluate regional standard operating procedures during all training and exercises. Schedule quarterly training programs in different geographic areas throughout the state. Schedule and establish training sessions within jurisdictions where necessary.	Interoperability training	CCG, SSAG, Regions T&E & COMLs	Q3, 2014	In Progress
Develop formal communications curriculum and delivery programs for use by responders and academies statewide.	Knowledge of radio systems, equipment, and SOPs	SWIC, DPS, and TFS	Jan 2014	In Progress
Develop and provide training for regional leadership	Lack of familiarity with planning documents. Difficulty in understanding the direction of change in communications.	SWIC	Aug 2013	New

**Usage**

*Overview of the testing of equipment and promotion of interoperability solutions*

**Goal 5-Usage:** Accelerate use of regional data and P25 shared voice communications systems for daily operations as well as all-hazards emergency communications.

- **Target Objective:** Expand and/or transition voice communications systems to P25 regional shared (fixed and mobile) systems.
- **Key Strategies:** Planning and project management

**Major Accomplishments, Lessons Learned and Best Practices:**

- CAPCOG Greater Austin/Travis County Regional Radio System Interoperability Coordinators created ICS205's for a variety of events; communications plans are implemented almost weekly by public safety agencies.
- ETCOG region tests and upgrades gateways during exercises as needed.
- SETRPC agencies, EMCs, and industry partners test the interoperability channel at 9:00am on Tuesday mornings.
- During the 2010-2011 drought-related Texas wildfire season TA&MFS established a new precedent: from November 15, 2010 to October 31, 2011, the TA&MFS used interoperable communications on over 3,400 wildfires which contributed to the saving of over 24,700 homes and over 5,300 other structures on fires that burned almost 3 million acres. Interagency resources from all 50 states, Washington D.C. and Puerto Rico, and included 16,690 personnel, 126 20-person hand crews, 244 bulldozers, 986 fire engines and 255 aircraft were mobilized during that period.
- Lower Colorado River Authority continued the deployment of the 700 MHz system in to Kendall and Gillespie Counties.
- Texas Military Forces completed rebanding on 800 including GATRRS, Harris County and selected portions of RGV.

**Emergency Disaster Communications:** DPS is the State's First Responder Agency and provides vital communications during natural disasters and emergencies with multiple units and teams quickly deployable throughout Texas that specialize in interoperable communications, intelligence and information sharing, counter-terrorism, and disaster rescue and recovery. Deployable interoperability assistance includes teams and equipment providing:

- Internet Protocol (IP) based network solution that allows first responders to communicate and exchange information with radio interoperability, live streaming video, wireless Internet, and voice over IP (VoIP) services.
- Surveillance cameras allow commanders to assess the scene and make decisions using real-time pictures.

**Funding:** *Due to reduced funding, Public Safety communications will suffer significantly, and in many locations, may become handicapped and unreliable.* Since 2009, federal funding for Texas public safety communications has decreased by more than 70%. Many public safety agencies have depended on this funding for more than 10 years to sustain their emergency communications systems. Much of this lost funding was dedicated to emergency communications between command centers and firefighters, law enforcement, and EMS. Without on-going funding, existing communications will be hindered by:

- Lack of radio coverage in some areas, which means responders are not able to communicate with anyone when they are in these areas.

- Lack of basic communication (operability) between agency command staff and emergency responders.
- Lack of communication between multiple agencies (interoperability) responding to major fires, highway incidents, hurricanes, and other disasters.
- Lack of training on how to use radio equipment during day-to-day incidents and during larger incidents that require communication with multiple agencies.

Additional funding sources must be developed. Work is underway to educate the Texas Legislature on the critical need for establishing a sustained funding mechanism for communications operations and maintenance. The Executive Leadership, SWIC and funding champions will actively seek state legislation that enforces timely and cost-efficient execution of strategic plan initiatives and mission critical communications.

Texas is currently focusing on immediate communications needs including:

- Operability and narrowband compliance.
- Sustainment of existing public safety communications systems.
- Focus on building core capabilities – back to the basics.

### Usage Initiative

*The following table outlines the usage strategic initiatives, gaps, owners, and milestone dates Texas outlined in its SCIP to improve interoperable communications.*

Initiative	Gap	Owner	Milestone Date	Status
Develop and keep current an interactive statewide communications assessment database (CASM)	Capabilities assessment	Regions & State Agencies	1/1/2010	Completed / Biannually
Implement programs to require routine use of interoperability equipment.	Knowledge of equipment	Regions & COMLs	June 2011	Completed / Biannually
90% of UASI areas provide response-level emergency communications within one hour for routine events involving multiple jurisdictions and agencies.	UASI Interoperability; Capabilities Assessment	UASIs, State Agencies, SWIC	10/1/2010	Completed
75% of non-UASI jurisdictions provide response-level emergency communications within one hour for routine events involving multiple jurisdictions and agencies.	Non-UASI Interoperability; Methodology; Capabilities Assessment	Regions, State Agencies, SWIC	August 2011	Completed
75% of all jurisdictions provide response-level emergency communications within three hours in the event of a significant incident.	Statewide Interoperability	UASIs, Regions, State Agencies, SWIC	August 2013	Not Started
Develop a tower upgrade program	Tower maintenance	SWIC, COGs	Aug 2013	New
Educate jurisdictions and agencies on the critical need for training and exercises.	Locals look at exercises as a low priority	SWIC	Aug 2013	New
Build SOP and exercise planning / preparation, and evaluation teams.	Regions lack teams to develop/ plan exercise scenario, exercise training/ controller staffing /and after action documentation, and SOP validation	SWIC, T&E SSAG, Regions & COMLs	Aug 2013	New

*The NECP vision for emergency responders is to have the ability to communicate as needed, on demand, and as authorized; at all levels of government; and across all disciplines.*

*The target for Texas statewide communications interoperability is the aforementioned NECP vision.*

## ***Appendix A: Substantial Risks & Threats***

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A large-scale response to any disaster or incident brings together varied agencies, jurisdictions, and disciplines that often do not share a common communications infrastructure. Incompatible equipment, frequencies, and procedures hinder interoperability among responding agencies. First responders are often faced with organizing and supporting these operations over large geographical areas under rapidly escalating conditions. This requires a high degree of interoperability training on all on-scene communications assets.

### **Substantial Terrorism Risks:**

- Three Department of Homeland Security Terrorism Target areas are located in Texas: Houston, Dallas-Fort Worth, and San Antonio.
- Texas DPS reported that cartels have been recruiting Texas school children to be used in criminal activities such as drug, human, currency and weapon smuggling. “The Mexican cartels value Texas teenagers for their ability to serve as expendable labor in many different roles and they have unlimited resources to recruit our children,” said DPS Director Steve McCraw.

### **Risk Factors Defined by Texas Department of Public Safety:**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>▪ 1,240 miles of international border with Mexico and 23 ports of entry</li> <li>▪ 367 miles of coastline with 13 major ports</li> <li>▪ 23 commercial airports and ≥ 250 general aviation airports</li> <li>▪ Largest highway system in the U.S. – 300,000+ miles</li> <li>▪ Largest U. S. rail system: 45 rail companies operate in Texas</li> </ul> | <ul style="list-style-type: none"> <li>▪ More than 2,500 critical infrastructure facilities</li> <li>▪ Nation’s largest oil and gas production facilities and massive refining and petrochemical production complexes</li> <li>▪ More than 3,000 miles of pipeline</li> <li>▪ Two nuclear power plants and Pantex nuclear weapons plant</li> <li>▪ 18 major military bases</li> <li>▪ Extensive defense industrial production facilities</li> </ul> |
|---|---|

### **Natural disasters:**

Texas continues to be designated the state with the most hazardous events and losses due to natural disasters. The most significant natural hazards facing Texas on an annual basis are:

- Hurricane and Tropical Storm (Since Hurricanes Katrina and Rita in 2005 and Ike in 2008, more emphasis has been placed on coordinating emergency response to hurricanes in Texas.)
- Tornado (The NOAA Amarillo NWS shows a 2011 ten year average for tornados as 23, with a high count of 65 in 2007.)
- Drought (In 2011 Texas experienced the worst single-year drought in its history. The drought has fueled wildfires, ruined crops and strained the state’s electric grid.)
- Wildfire (2005, 2006, 2008, and 2009 resulted in 48,150 wildfires causing 23 fatalities, numerous injuries, 1,222 homes lost, and 4.1 million acres burned. In 2006, fires burned 1.7 million acres and drought caused more than \$6 billion in agricultural losses. Since

November 15, 2010 thru 10/10/2011, Texas responded to 25,865 fires that burned 3,888,171 acres (Approximately 6,075 sq. miles).

- Inland Riverine Flooding (prior to 2010, average 13 deaths each year)
- Local Windstorm
- Hailstorm

**Other Significant Natural and Man-Made Risk Factors:**

- The Dallas-Fort Worth International Airport is the second largest airport in the U.S., the fourth largest in the world, and the third busiest in the U.S., and sixth busiest in the world.
- Texas is home to two of the U. S. Army's largest facilities, Fort Hood and Fort Bliss.
- The Port of Houston ship channel is the largest in the United States in international commerce and the sixth-largest port in the world.
- Texas is the leading crude oil-producing state in the nation.
- Texas's 26 petroleum refineries account for more than one-fourth of all U.S. refining capacity.
- More than one-fourth of all U.S. natural gas production occurs in Texas, making it the nation's leading natural gas producer.

**Solutions:**

The threat to Texas from natural and man-made disasters can be mitigated by a long-term investment strategy for communications systems, equipment, and training which includes:

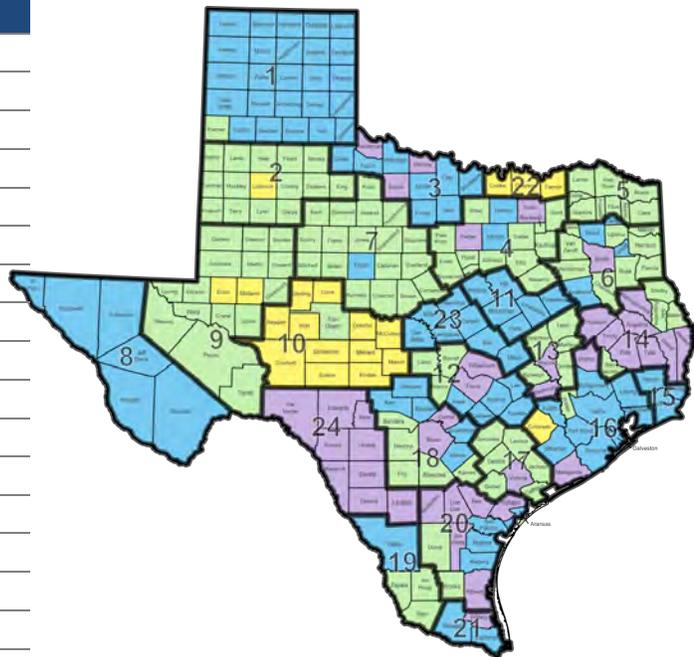
- Providing all responding agencies with operable communication equipment.
- Ensuring all responder communications equipment is narrowband compliant.
- Ensuring responder agencies have the ability to sustain existing core capabilities and emergency communications capabilities.
- Providing all emergency responders with effective communications training.
- Ensuring responders develop collective, local abilities to withstand the potential impacts of natural disasters and terrorist threats, and respond quickly and recover in a way that sustains or improves the community's overall well-being.
- Integrate preparedness activities across disciplines, agencies, and all levels of government, including State, territorial, local, and tribal units of government.

***Appendix B: County / COG Level of Interoperability***

The Texas Statewide Communications Interoperability Maturity Model (TSCIMM) is based on the SAFECOM Interoperability Continuum.<sup>2</sup> The TSCIMM outlines the evolution from the lowest level to the highest level of communications interoperability (Level One – least interoperable to Level Five – most interoperable). The following map of Texas highlights the current status of each county regarding their level of interoperability in the “Voice Technology” lane of the TSCIMM. The status is indicated by the individual colors associated with the five levels of interoperability in the TSCIMM.

**Texas Statewide Communication Color Coded Interoperability Map by COGs and Counties**  
*(As of 6/18/12)*

#	Region Name
18	Alamo Area Council of Governments
5	Ark-Tex Council of Governments
13	Brazos Valley Council of Governments
12	Capitol Area Council of Governments
23	Central Texas Council of Governments
20	Coastal Bend Council of Governments
10	Concho Valley Council of Governments
14	Deep East Texas Council of Governments
6	East Texas Council of Governments
17	Golden Crescent Regional Planning Commission
11	Heart of Texas Council of Governments
16	Houston-Galveston Area Council
21	Lower Rio Grande Valley Development Council
24	Middle Rio Grande Development Council
3	Nortex Regional Planning Commission
4	North Central Texas Council of Governments
1	Panhandle Regional Planning Commission
9	Permian Basin Regional Planning Commission
8	Rio Grande Council of Governments
15	South East Texas Regional Planning Commission
2	South Plains Association of Governments
19	South Texas Development Council
22	Texoma Council of Governments
7	West Central Texas Council of Governments



**Texas Statewide Communications Interoperability Maturity Model Color Codes:**

Level One (least interoperable)	..... 0 Counties
Level Two	..... 19 Counties
Level Three	..... 108 Counties
Level Four	..... 88 Counties
Level Five (most interoperable)	..... 39 Counties
<b>Total:</b>	<b>..... 254 Counties</b>

**Average Statewide Interoperability Level: 3.58**

<sup>2</sup> For additional information about the U.S. Department of Homeland Security’s SAFECOM Interoperability Continuum developed by the SAFECOM program, see <http://www.safecomprogram.gov/oecguidancedocuments/continuum/Default.aspx>