TEXAS

Statewide Communications Interoperability Plan (SCIP) Implementation Report

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Table of Contents

SCIP Implementation Report Overview 3
Part 1. SCIP Implementation Update 4
State Overview 4
Vision and Mission 7
Governance 8
Standard Operating Procedures 12
Technology 13
Training and Exercises 20
Usage 22
Current Status of Voice Communications Interoperability (as of COG County Survey 8/8/11) 22
Part 2 - County Communications Interoperability Capabilities Assessment Grid 25

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SCIP Implementation Report Overview

The Texas Statewide Communications Interoperability Plan (SCIP) Implementation Report provides an annual update on the State's progress in achieving the initiatives and strategic vision identified in the SCIP. Further, this information will provide the Office of Emergency Communications (OEC) with a clearer understanding of Texas's capabilities, needs, and strategic direction for achieving interoperability statewide.

- **Part 1, "SCIP Implementation Update,"** is completed by the Statewide Interoperability Coordinator (SWIC) and the SCIP point of contact (POC). As required by Congress, updates and changes to the status of the Texas SCIP are provided in this section. Texas created a SCIP in 2007 and has submitted regular updates. The template sections match those required in the original SCIP, and extensive instructions were provided to the States to understand the requirements of these sections and assist in the development of the SCIPs. The initiatives within each report include milestones identified in the National Emergency Communications Plan (NECP) which will be standardized, as well as State-specific efforts.
- **Part 2, "County/County-Equivalent Interoperability Communications Assessment,"** is completed by the designated county (or county-equivalent) and submitted to the SWIC or SCIP POC. Goal 2 of the NECP states that by the end of 2011, 75 percent of non- Urban Areas Security Initiative (UASI) jurisdictions are able to demonstrate response-level emergency communications within one hour for routine events involving multiple jurisdictions and agencies. This section of template will provide OEC with broader capability data across the lanes of the SAFECOM Interoperability Continuum, which are key indicators of consistent success in response-level communications.

Part 1. SCIP Implementation Update

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 identified lane. For each lane of the Continuum, Texas also addressed initiatives identified in the NECP as well as any additional initiatives identified within the State. NECP-related initiatives appear in the "NECP Initiatives" section of each table. Additional initiatives identified by the State are addressed in the "Additional State Initiatives" section of each table.

State Overview

Overview of the State and its interoperability challenges:

Whether responding to a natural calamity, man-made disaster, or act of terrorism, experience demonstrates that no operation can be implemented successfully without a reliable communications network that ties together every public safety participant from tactical to strategic operations. 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 has a rapidly growing population of 25,145,561 (2010 U.S. Census). This indicates a 20.6 percent growth since 2000. Texas is the second most populous State in the U.S., with California being the first. Texas covers 268,601 square miles, and is the second largest State in land mass after Alaska. Texas is bordered by the States of New Mexico, Oklahoma, Arkansas, and Louisiana. The 367-mile Gulf of Mexico coast forms the southeast border, and the 1,254-mile international border with Mexico forms the Texas south-southwest border. Coordinating and supporting response operations over the State's vast distances creates extreme challenges in the areas of emergency communications, information sharing, resource sharing, and interagency/multi-jurisdictional teaming.

Texas consists of:

- 254 counties: The most populated county, Harris County, has more than four million residents; Loving County, the least populated, has 82. This naturally creates vast differences in the emergency response forces and services available to the residents of the different counties.
- 1,208 incorporated cities: Three of the ten most populous cities in the United States; 83 percent of Texas cities have a population less than 5,000. The smallest communities often have no security assets and rely on volunteers or county-level forces.
- 24 Council of Governments (COGs)/State planning regions: Established by State law, serving as: regional emergency management organizations, COGs, and Disaster Districts that share boundaries.
- Two DHS-designated Tier I UASIs:
  - The Houston Urban Area, located on the Texas Gulf Coast.
  - The Dallas/Fort Worth/Arlington Urban Area (these three areas operate as a single metro urban area), located in north-central Texas.
- Three State-designated Urban Areas (previously designated DHS Tier II UASIs):
  - The Austin Urban Area, located in central Texas.

  - The San Antonio Urban Area, located in south-central Texas.
  - The El Paso Urban Area, located in far west Texas, adjoins the international border with Mexico.
- Three tribal nations:
  - The Alabama-Coushatta Tribe of Texas has a population of approximately 500 and is located on a 4,600-acre Indian Reservation near Livingston, Texas in Polk County.
  - The Kickapoo Traditional Tribe of Texas is located near Eagle Pass in Maverick County on the international border with Mexico.
  - The Ysleta del Sur Pueblo Tribe is located near El Paso in El Paso County.
- More than 5,300 public safety entities. These entities include: 254 Sheriff's Offices, 254 County Emergency Management Directors/Coordinators, 464 Municipal Police Departments, 823 Special Law Enforcement Agencies (Tribal Law Enforcement, Constables, Airports, Independent School Districts, Colleges/Universities, Fire Marshals, etc.), 2,058 Career and Volunteer Fire Departments, 1,371 (2011) Emergency Medical Services (EMS) Provider Organizations, 125 Designated Trauma Facilities, and 34 State Public Safety Agencies. This list is not all-inclusive as many tribes, commercial agencies, parks, nonprofit hospitals, EMS organizations, and public utility companies have staff or contract public safety personnel. [Sources: (most data as of 2007) - The Texas Division of Emergency Management, the Texas Police Chiefs Association, the Texas Fire Marshal's Office, the Texas Department of State Health Services and the U.S. Census Bureau.]

Threats:

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 operations over large geographical areas under rapidly escalating conditions. This requires a high degree of interoperability among all on-scene communications assets.

Texans face a broad array of man-made and natural threats. The principal threats include criminal enterprises, illegal entry, industrial-related incidents, public health threats on the Texas-Mexico border, and natural disasters. The most significant natural hazards facing Texas on an annual basis are:

- Hurricane and Tropical Storm
- Tornado
- Drought
- Wildfire
- Inland Riverine Flooding (prior to 2010, average 13 deaths each year)
- Local Windstorm
- Hailstorm

Texas Drought and Wildfires: October 2010 through August 2011 was the driest 11-month period in Texas since 1895. The 2011 summer in Texas has been the hottest in the State's history, according to the National Weather Service. The dying trees in rangeland and pastures, extremely dry soils with little to no forage, surface water supplies depleted from evaporation, and communities under serious water restrictions provide above normal conditions for both city and rural fires.

Texas wildland fires routinely cause major damage and, sometimes, loss of life. From 2005 through 2009, over 48,000 Texas wildfires killed 23 people, injured scores of others, and resulted in 1,222 homes lost and 4.1 million acres burned. The 2011 fire season was the worst year by far. Through October 2011, Texas responded to more than 25,000 fires that killed ten people and burned nearly four million acres and

almost 8,000 structures, including 2,800 homes. Texas wildfires accounted for more than half of the acreage burned across the United States in 2011.

To meet this challenge, resources from across Texas and the country are called upon to respond. Firefighting efforts bring together Federal, State, and local first responders, who require interoperable communications to be effective. The Texas long-term strategy must include planning and investment in air-to-ground communication systems, common radio programming protocols, mobile gateway units and communications platforms, subscriber equipment, and training to improve operability and interoperability for all responding agencies. Vernon Cook, the current president of the Texas Association of Counties and County Judge in Roberts County, described a fire scene like this: *"We had about half of the county ablaze with fire trucks from 25 jurisdictions, but only had interoperable communications with four of them."* He went on to say, *"Without effective communications, there is no emergency management."*

With prolonged drought predicted to become the rule rather than the exception across much of Texas, the threat of annual wildfires will continue to grow. Texas must plan for, and invest in, improved interoperable public safety communications systems, equipment, and training to better save lives and protect property.

Hurricanes: Since Hurricanes Katrina and Rita in 2005 and Hurricane Ike in 2008, more emphasis has been placed on coordinating emergency response to hurricanes in Texas. During Ike, major evacuations occurred along the Texas coast, including hospitals and other care facilities. Ambulance crews brought in from across the State and nation to assist with this effort found that interoperable radio communications were either limited or completely non-existent. In some cases, law enforcement, firefighting, and EMS responders could not communicate within their respective disciplines or with other agencies, primarily because there were few interoperable solutions available. To achieve interoperability, emergency responders must either acquire radio capability in three separate frequency bands: VHF, UHF, and 700/800 MHz, or integrate gateway ("patching") devices that can be limited in capability and not provide effective range. This inability to communicate resulted in greater expense, loss of operational efficiency, and wasted time switching between the radios and channels.

Border Communications: The 1,254-mile Texas-Mexico border hosts 26 official-regulated land ports from El Paso to Brownsville. The remaining border area is mostly unregulated and presents numerous concerns. Many concerns center on the lack of basic radio operability in parts of the region, as well as poor interoperable communications among, State, local, and tribal public safety agencies. Daily incidents occur along and across the border when law enforcement officers, fire departments, EMS, health departments, and other emergency responders are unable to communicate with their counterparts in Mexico. Border counties in Texas are authorized by law to provide firefighting assistance to neighboring cities in Mexico. The U. S. Department of Health and Human Services has a Memorandum of Understanding (MOU) with the Secretariat of Health of the Mexican States for cooperation on public health emergency preparedness and response; the detection, surveillance, and reporting of infectious and chronic diseases; and other public-health areas.

At the June 2011 DHS-Office of Emergency Communications Southwest Border Communications Working Group meeting, attendees cited the lack of integrated training and exercises and common Standard Operating Procedures (SOPs) as being problematic when multi-jurisdictional/multi-agency teams respond to an incident.

An effort is underway involving the U.S. Department of State, the OEC, and the Mexican government to pursue a cross-border communication capability between U.S. and Mexico public safety agencies, but full realization of cross-border interoperable communications is still some distance away.

Solutions:

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

- Additional air-to-ground communications equipment for disaster response aircraft,
- Common subscriber unit programming protocols,
- Additional integrated training programs,
- Additional mobile gateway units, and
- Additional subscriber equipment.

The above solutions are needed to increase communications operability and interoperability for emergency responding agencies statewide. Interoperability common to all responders is the key to effective response to a significant threat.

Vision and Mission

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

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

Priorities: The communications priorities for implementing public safety communications statewide, and achieving interoperability, as established by Texas emergency responders in the SCIP, are to:

1. Ensure operability
2. Provide interoperable solutions
3. Upgrade and expand regional shared systems

In their annual Focus Group Sessions, COGs identify and report on agencies and areas that lack communications operability and/or interoperability along with the specific communication gaps in the region. These identified gaps are then captured in the SCIP Implementation Report and documented in the SCIP as appropriate.

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.

MISSION STATEMENT

Achieve the optimal level of voice and data communications interoperability, including growth, sustainability, and documentation of systems, through a high degree of leadership, planning, and collaboration with commitment to and investment in:

- Building a Governance Structure of Regional Committees Working with a Statewide Interoperability Committee;
- Developing Standard Operating Procedures (SOPs) where the National Incident Management System is Integrated into the SOPs;
- Expanding and/or Implementing Technology for Regional Shared Systems;
- Requiring Training and Exercises that are Regular, Comprehensive, and Regional;
- Encouraging Daily Use of Interoperable Communications Systems throughout the Regions.

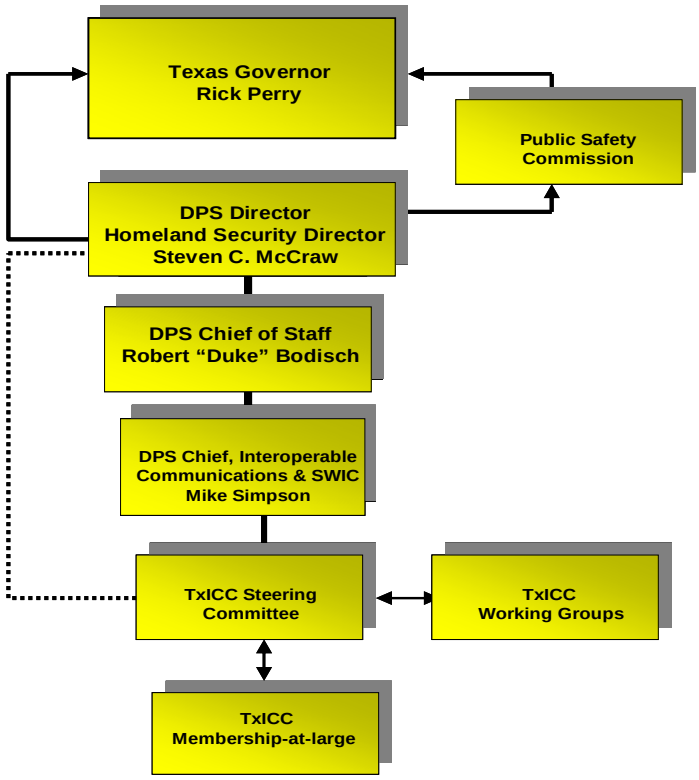
The Texas SCIP has a timeframe of two years (January 2012 – December 2014); however, minor revisions will be made as needed to ensure newly-identified communications gaps are recorded and addressed in annual funding programs.

Governance

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

The Texas Interoperable Communications Coalition (TxICC) – previously named the Texas Radio Coalition (TxRC) – was formed in 2006 and represents more than 5,300 Texas public safety and emergency response agencies. The Governor appointed the TxICC as the governing body for the Texas SCIP. The primary purpose of the TxICC is to oversee public safety communications interoperability across Texas. 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.

Governance Structure:



Texas interoperable communication plans and governance is directed and approved by the Texas Governor. The organizational chart (Figure 1) identifies support positions from the Governor's Office down to the TxICC level.

Figure 1. State Governance Structure.

The primary working committees forming the TxICC governance structure are the Steering Committee and the Membership-at-Large.

Steering Committee: This group consists of inter-disciplinary, inter-jurisdictional representatives from across the State who accepted a leadership role for implementing interoperable communications throughout Texas. These individuals have a broad knowledge of wireless communications and hold a formal or informal leadership position within their agency. The group meets as needed to review and make recommendations to planning endeavors, implementation progress, gap analysis, funding priorities, and interoperability reports.

Membership-at-Large: Membership in the TxICC is open to representatives of Federal, State, local, and tribal government agencies; public safety, health, and emergency management organizations; critical infrastructure; and public utility and transportation entities. Other organizations which may become involved in critical incident responses or government agency responses to "calls for assistance" from the public are also invited to join the TxICC. Temporary working groups are formed out of this faction for narrowly-chartered specific tasks, and advise the TxICC Steering Committee.

Practitioner-driven approaches and funding:

Strategy: The strategy to achieve interoperable communications for all responders across Texas is to

create partnerships among emergency response agencies throughout Texas to build and maintain a cost-effective interoperable communications network using shared resources.

Shared Responsibility: The responsibility for planning, developing, and ensuring that Texas emergency responders have reliable interoperable communications rests with the Governor, Texas Legislature, SWIC, COGs, individual jurisdictions, public safety agencies, and emergency responders themselves.

Funding: To provide effective public safety communication across Texas, ***$420 million in State funding, plus $393 million in Federal and local monies, will be required to build a statewide system-of-systems, a network of local and regional public safety communication systems connected together to provide interoperability.***

Total Projected Interoperability Funding Need	**$813 M[1]**
Estimated Funding from Federal Government through 2015	**$393 M[2]**
Funding Needed from the State of Texas	**$420 M**

Challenges to Grant-Funded Project Implementation: Grant funding is necessary and very much appreciated for communications projects and initiatives. However, in many cases, there are numerous challenges to using grants for project implementation within the specified grant period. Larger communications projects, which may take five or more years to build-out normally, require multiple funding sources including a variety of Federal and State grants. Agencies may find their projects in jeopardy of losing funding from grant programs due to the lengthy processes to comply with statutory, regulatory, and other governmental requirements. The regulations established in most grant guidelines add to this process. Grant requirements may consist of:

- Environmental review studies
- National Environmental Policy Act approval
- Environmental Planning and Historic Preservation Compliance
- Environmental Protection Agency regulations
- Federal Aviation Administration approval for new tower construction
- Federal Communications Commission (FCC) License requirements
- FCC Radio Frequency emission studies

The timeline is often lengthened due to site acquisition issues. Locating tower sites and negotiating land purchases and leases often takes an inordinate amount of time due to local regulations. It is not uncommon for site acquisition to take two to three years.

[1]The $813 million requirement for a basic level of interoperable communications infrastructure statewide was a finding of the Texas Radio Coalition Funding Working Group in the fall of 2008.

[2] $137.91 million has been spent from FY 2007 through May FY 2011 in Federal funding and local funding match, as administered and tracked by TxDPS.

Governance Initiatives

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

Initiative	Gap	Owner	Milestone Date	Status
NECP Initiatives				
Establish a full-time statewide interoperability coordinator.	*Dedicated leadership*	*Director TxDPS and Governor's Office*	*Oct 2010 SWIC and staff*	*Completed Oct 2010*
Incorporate the recommended membership into the Statewide Interoperability Governing Body (SIGB/TxICC)[3].	*No formal governance agreement*	*TxICC*	*Feb 11, 2008*	*Completed Feb 2008*
Establish the SIGB/TxICC via legislation or executive order.	*State Authority*	*Governor's Office*	*2007*	*Completed Feb 2008*
Additional State Initiatives				
Conduct annual Statewide Strategic Planning Conference.	Discuss and confirm initiatives and implementation	TxICC; COGs; State Agencies	Annual SCIP requirement	Ongoing
Assist COGs with agency compliance to Regional Interoperable Communications Plan (RICP), Texas Statewide Interoperability Plan (TSICP, and SCIP prioritized initiatives.	No regional authority exists to police compliance with RICP, TSICP, & SCIP	COGs, SWIC, and SAA	Jan 1, 2012	Ongoing
Provide teleconference capability for regional meetings to increase agency/jurisdictions' participation.	Stakeholder involvement/ commitment from all jurisdictions	COGs	Annual review each June	Ongoing
Develop project accountability policies/procedures to ensure successful implementation.	Robust accountability; project management	Technology Advisors and SAA	Annual review each June	Ongoing training
NECP 6.4.76: Coordinate with Regional Emergency Communications Coordination Working Groups (RECCWGs) to ensure that Federal, State, local, and tribal emergency response providers have developed and implemented communications continuity plans (COOP) for maintaining or recovering and stabilizing operations during and following disaster events.	COOP	SWIC and staff	June 1, 2012 –ID and assist jurisdictions needing assistance	In progress
Secure consistent funding for interoperable communications, ongoing development, capital replacement, and	No dedicated funding mechanism for communications efforts	SWIC and Technology Advisors	Annual reports	Ongoing

[3] The Texas Interoperable Communications Coalition (TxICC), previously known as the Texas Radio Coalition (TxRC), includes representatives from the Governor's office, State and local elected officials, State and local emergency medical services, State and local health officials, State and local fire response services, State and local law enforcement, State and local emergency management, State and local homeland security offices, tribal governments, State and local transportation agencies, military organizations, Federal agencies that need to be interoperable with State and local emergency responders, Urban Areas Security Initiative (UASI) regions, critical infrastructure, non-government organizations, response and recovery organizations, and regional planning committee chairpersons.

Initiative	Gap	Owner	Milestone Date	Status
maintenance costs.				
Prioritize communications funding for critical communications needs including building out operability and complying with narrowband requirements by 2013.	Lack of funding	SWIC, SSA, and COGs	Annual State Homeland Security Grant Programs (SHSGP)	Ongoing

Standard Operating Procedures

Overview of the shared interoperable communications-focused SOPs

Developing regional integrated SOPs requires stakeholder collaboration and coordination throughout the planning process among and between agencies and jurisdictions at every level. Public safety agencies in each of the 24 COGs developed common, shared regional standard operating procedures (RSOPs) in 2009-2010. The RSOPs were part of the State's Regional Interoperable Communications Plan (RICP) Round 1 effort. These 24 RSOPs were exercised and validated as part of the NECP Goal 2 demonstrations. The current challenge is posting the RSOPs on a secure site that is also available to regional and mutual aid emergency response agencies. Since each COG is responsible for updating the RSOPs and distributing them to public safety agencies, the plan is for the SWIC office to assist the COGs in creating a space on the DHS First Responder Communities of Practice site. The TxICC will also assist in distributing educational materials announcing the availability of the Texas RSOPs and how to access them.

The RSOP for each COG includes sections on the use of interoperability channels, regional gateway equipment, and mobile communications units. Also included is contact information for Regional Emergency Resource Personnel, including Incident Communications Center Managers (INCMs), Communications Unit Leaders (COMLs), and Communications Centers.

SOP Initiatives

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

Initiative	Gap	Owner	Milestone Date	Status
NECP Initiatives				
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*	*Completed*
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 and Staff*	*Executive Order RP 40 Sep 2006*	*Complete*
Incorporate the use of existing nationwide interoperability channels into SOPs.	*Lack of interoperability*	*SWIC*	*RSOPs Mar 1, 2010*	*Complete*
Update SCIP to reflect plans to eliminate coded substitutions	*Clear communications*	*TSICP and RSOP WG*	*2008-2010 SCIP and*	*Complete*

Initiative	Gap	Owner	Milestone Date	Status
throughout the incident command system ICS.			*TSICP*	
Define alternate/backup capabilities in emergency communications plans.	*COOP*	*SOP WG*	*RSOPs Mar 1, 2010*	*Complete*
Additional State Initiatives				
Exercise Regional SOPs.	Clear understanding of roles, responsibilities, policies, and procedures	DPS Technical Asst. Unit	2011 Goal 2 Demonstrations	Complete
Post RSOPs on DHS Communities of Practice site for availability to regional and mutual aid emergency responder agencies.	RSOPs unavailable to public safety mutual aid responding agencies	Texas COGs	Dec 1, 2012	In Progress
Develop and distribute educational materials announcing the availability of the RSOPs and how to access them.	RSOPs unavailable to responding public safety agencies.	SWIC and Staff	Dec 1, 2012	In Progress
To the extent possible, develop and adopt common subscriber unit programming protocols.	Interoperability; knowledge of ICS channels	TxICC and COMLs	Jan 1, 2013	In Progress

Technology

Overview of the technology approaches, current capabilities, and planned systems:

As shown in the list of regional and State interoperable systems below, Texas has achieved many accomplishments in support of statewide interoperability. However, Texas still faces many technology challenges to achieving interoperable communications for all emergency responders. Some small agencies still lack basic communications operability. The annual regional gap analyses identified the public safety organizations and agencies that are unable to meet narrowband compliance by 2013.

Technology Principles and Approach:

Operability for All**:** As agencies purchase communications equipment to become operable, they are encouraged to ensure that the equipment purchased will build interoperability with relevant disciplines and jurisdictions.

Operability/Interoperability Layered Approach: A layered approach to achieve both operability and interoperability statewide supports the SCIP's three communications priorities: 1) ensure operability; 2) provide interoperable solutions; and 3) upgrade and expand regional shared systems. The layered approach will include the use of:

- "Talk-around" channels using standard analog or Project 25 conventional technology to facilitate communications without an available radio system infrastructure.
- The Texas Statewide Interoperability Channel Plan (TSICP) channels with regional, standards-based shared systems through gateways.
- Regional systems providing seamless communications across multiple COGs, utilizing IP gateways where necessary.

Leverage Existing Resources: Federal, State, local, and private sector agencies continue to work with 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 can minimize recurring maintenance costs.

Coordinated Approach: By coordinating with one another, agencies from different disciplines and jurisdictions at the Federal, State, local, tribal, and regional levels are able to leverage existing resources, coordinate purchases, and share infrastructure.

Texas System-of-Systems for Voice Radio: Texas has adopted a system-of-systems approach to build-out statewide interoperable voice radio communications. Defined by the U.S. DHS SAFECOM program, 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.

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

To meet these objectives, noted below are some of the broadband-related accomplishments the State of Texas and TxDPS has achieved over the past year.

- *FCC Broadband Waiver to the State of Texas:* On May 12, 2011, the State of Texas (by way of TxDPS) became the 22nd 700 MHz public safety broadband waiver recipient in the United States. A Texas jurisdiction ("Applicant") wishing to host a public safety LTE broadband layer in a given geographic area of Texas shall make application to TxDPS in a manner prescribed in an application package to be completed and published by December 1, 2011. Texas has executed a spectrum lease with the Public Safety Spectrum Trust, and has filed the required "Interoperability Showing" with the Federal Communications Commission.
- *Harris County and Potential Other TxDPS Broadband Partners:* Harris County, partnering with TxDPS and Texas A & M University, has installed a full LTE core and has started to build out the network in Harris County. Harris County hopes to go-live by August 1, 2012 with its initial deployment. Working under the auspices of TxDPS, Harris County hopes to partner with other parties to extend its LTE coverage.
- *Texas Participation in National LTE Working Groups:* TxDPS is participating in the major national LTE-related working groups, composed of representatives from various government and public safety organizations, as well as representatives from the commercial sector.
- *Region VI Public Safety LTE Interoperability Forum*: TxDPS brought together public safety representatives from the five States (Arkansas, Louisiana, Oklahoma, New Mexico, and Texas), Federal government officials, and LTE industry leaders in an effort to:

- Collaborate to ensure optimal interoperability and problem resolution,
- Identify key issues, order of discussion, and meeting schedule, and
- Avoid duplication of other efforts.

Texas Goals/Next Steps: TxDPS will ensure early public safety LTE deployments in the State are developed to be consistent with the intended overall nationwide plan for interoperability. TxDPS will continue to serve as the State's single interface with the Public Safety Spectrum Trust (the holder of the nationwide public safety broadband license) and the FCC's Emergency Response Interoperability Center (ERIC).

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.

Shared Statewide System[4]	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.

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

[4] 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 Transportation	Statewide VHF narrowband analog and P25, regional VHF/700/800/900 MHz trunking, HF SSB Network.	Existing
Texas Youth Commission	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 14 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
Austin, Travis County Greater Austin-Travis Co. RRS (GATRRS) CAPCOG region	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	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.	Existing: 75% of the COG is covered by TxWARN system partnership w/East TX Medical Ctr. Planned: 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 Locater 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
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 O\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 10th 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
North Central Texas COG Communications Systems Dallas/Fort Worth/Arlington UASI	P25 700 MHz trunked Communications Overlay System active (ISSI between DFW Airport Harris brand and City of Dallas Motorola Cores) 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 MHs proprietary to P25; Richardson 800 MHz P25 system (replacing proprietary) to be on air in last quarter of 2011.
Panhandle Regional Interoperable Communication	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

System (PANCOM)		
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.
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 talkgroups 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
NECP Initiatives				
Program nationwide interoperability channels into all existing emergency responder radios.	Mutual aid interoperability	COGs	6/1/12 confirm w/narrowband programming	In progress
Additional State Initiatives				
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	Technical Assistant Unit – DPS, COGs	June 30, 2011 RICPs	Complete

Initiative	Gap	Owner	Milestone Date	Status
Provide operability throughout the State by implementing solutions to close gaps found through regional gap analysis.	No operability in parts of Texas	SWIC and COGs	2013	In Progress
Ensure all emergency response agencies have submitted TSICP MOU and programmed Texas interoperability channels in responder radios.	Mutual aid interoperability	COGs, Public Safety Agencies	June 2012	In Progress
Ensure FCC licenses are modified to meet narrowband compliance.	Narrowband compliance by 2013	COGs, Public Safety Agencies	June 1, 2012	In Progress
Ensure infrastructure, pagers, and subscriber equipment are narrowband compliant.	Narrowband compliance by 2013	COGs, Public Safety Agencies	June 1, 2012	In Progress
Ensure firefighter aircraft is properly equipped with air-to-ground communications equipment.	Disaster communications	SWIC	June 1, 2012	In Progress
Planning for building a Texas Public Safety LTE broadband system.	LTE Interoperability	SWIC and staff	Jan 2015	In Progress

Training and Exercises

Overview of the diversity, frequency, and inter-agency coordination of training and exercises:

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.)

During 2010, 100% of the five Texas UASIs successfully demonstrated response-level emergency communications during a planned event monitored by the State and OEC, achieving NECP Goal 1.

During 2011, NECP Goal 2 response-level emergency communications was successfully demonstrated by 99% of the 254 counties covering 268,601 square miles during live incidents, State-monitored exercises, or past events through after action reports.

These exercises required:

- Participation from emergency responders from State, local, and possibly, Federal public safety agencies within the region.
- Involvement of multiple jurisdictions, responder disciplines, two State agencies, and management under a National Incident Management System (NIMS)-compliant Incident Command System.
- Participants from law enforcement, fire, and EMS.
- A SWIC-appointed COML representative as an evaluator.
- The integrated Regional SOP (Volume II of the RICP) to be exercised during the event.
- Technical connectivity and capabilities of regional communications assets recorded in the RSOP to be validated, including: Incident Command to Emergency Operations Center, gateways, and mobile communications vehicles and/or trailers.
- An After-Action Report that identified strengths and weaknesses and an Improvement Plan.

- Completion of the "Response-Level Emergency Communications Evaluation Report" provided by OEC.

In addition to the NECP demonstrations, more than 1,300 multi-agency emergency exercises have been conducted in Texas since 2002 to test emergency plans, procedures, communications, training, equipment, and facilities and to identify necessary improvements.

Most COGs and some major cities have training academies that provide both general and specialized training programs in courses such as Intermediate Incident Command (ICS-300), Advanced Incident Command (ICS-400), and Homeland Security tabletop exercises. However, no standardized communications curriculum or delivery method of emergency responder communications training is presently available in Texas. This is inconsistent with other programs of public safety and emergency response training, which are supported by standardized coursework and organized methods of delivery. Significant effort will be dedicated to closing this gap as quickly as possible.

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
NECP Initiatives				
Incorporate the use of existing nationwide interoperability channels into training and exercises.	Mutual aid interoperability	TDEM; SWIC	June 1, 2012 TSCIP & RSOPs	In Progress
Complete disaster communications training and exercises.	Reliable coordinated communications for emergency disaster response	SWIC, DPS, and COGs	2011 Goal 2 demonstrations	Completed
Additional State Initiatives				
Develop formal communications curriculum and delivery programs for use by responders and academies statewide.	Knowledge of radio systems, equipment, and SOPs	SWIC, TDEM, DPS, and TFS	Jan 2013	In Progress
Develop short, simple drills which exercise interoperability channels and equipment that individual agencies (dispatchers and end users) can incorporate into daily operations.	Interoperability training	TxICC and COMLs	Jan 2013	In Progress
Ensure each COG has assigned COMLs and COMTs skilled in deployment, setup, and operation of gateway equipment.	Basic skills in setup, and operation of interoperable resources	SWIC and COGs	June 1, 2012	In Progress
Develop detailed statewide requirements (instructions) for NECP Goal 2 demonstrations.	Interoperability exercises	Goal 2 WG	Sept 2010	Completed
NECP Goal 1 emergency communications demonstrations.	UASI Interoperability; Capabilities Assessment	UASIs, State Agencies, and SWIC	Oct 1, 2010	Completed
NECP Goal 2 emergency communications demonstrations.	Non-UASI Interoperability; Capabilities Assessment	COGs, State Agencies, and SWIC	Aug 2011	Completed

Initiative	Gap	Owner	Milestone Date	Status
NECP Goal 3: 75% of all jurisdictions provide response-level emergency communications within three hours in the event of a significant incident.	Statewide Interoperability	UASIs, COGs, State Agencies, and SWIC	Aug 2013	Not Started

Usage

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

Public safety agencies are encouraged to use shared regional interoperable systems for daily operations as well as when responding to emergency calls. By using these systems on a daily basis, responders become proficient at manipulating the radios and channels prior to emergency incidents. In this optimal solution, users are familiar with the operation of the system and routinely work in concert with one another.

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.

Regional Certified COMLs and Communications Technicians (COMTs)
The roles of the COML and the COMT are critical functions that require adequate training above and beyond the basic knowledge of communications systems as they prepare emergency responders to manage the communications components of larger interoperability incidents. The COML manages the technical and operational aspects of the communications functions during an incident or event; develops the NIMS ICS Form 205 Incident Radio Communications Plan; and supervises the communication unit. The COMT reports to and assists the COML in establishing reliable emergency communications as needed. Each COG is identifying individuals to serve and be certified as COMLs and COMTs.

The COML will compile a complete inventory of all regional, jurisdictional, and agency interoperable equipment. All regional interoperability equipment will be exercised on a routine basis by multiple and various emergency responders.

Preparedness Measures of the COML and COMT:

- Communications systems support on-demand, real-time interoperable equipment and resources.
- Communications SOPs that conform to NIMS are in place and are used in routine multiple jurisdictional responses.
- Plans and procedures are in place to ensure appropriate levels of communications prior to an incident.

Current Status of Voice Communications Interoperability *(as of COG County Survey 8/8/11)*
The Texas Statewide Communications Interoperability Maturity Model (TSCIMM), which appears below, is based on the SAFECOM Interoperability Continuum.[5] 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

[5] 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

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.

Level One = The lowest level of interoperability, which is accomplished by physically exchanging radios to communicate with other agencies (swap radios)
Level Two = Minimal interoperability, which is accomplished with the use of gateway devices (electronically interconnecting two or more disparate radio systems through gateways)
Level Three = Mid-range interoperability through the use of shared channels
Level Four = Improved interoperability through the use of shared proprietary system(s)
Level Five = The optimal level of full interoperability through the use of P25 standards-based shared system(s) to communicate with other agencies

The color-coded map reflects a snapshot of each county's status of voice communications interoperability. This information was obtained directly from the 24 COGs through a survey submitted to DPS as of August 8, 2011. As the map indicates, for the most part, Texas has achieved slightly above Level Three (mid-range) wireless communications interoperability.

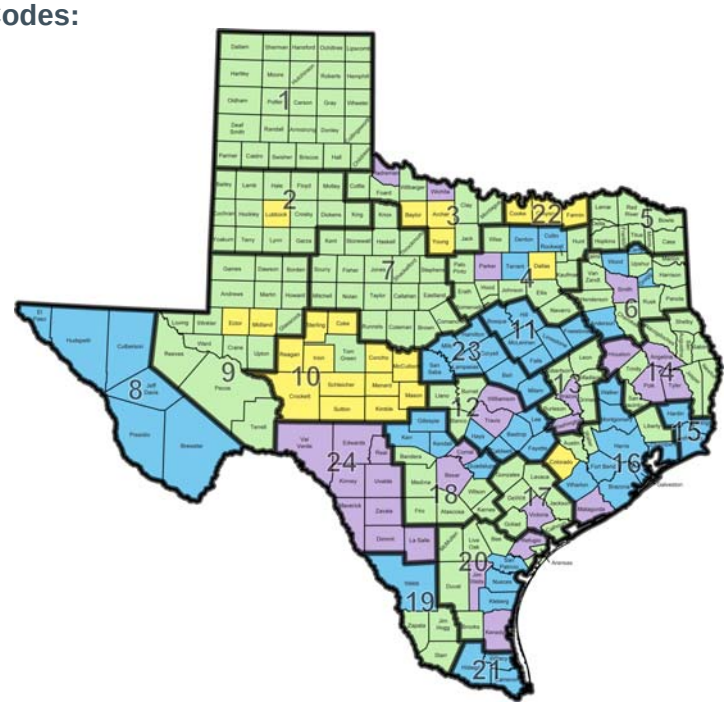
Texas Statewide Communications Interoperability Maturity Model Color Codes:

- Level One (least interoperable) 0 County
- Level Two 23 Counties
- Level Three 150 Counties
- Level Four 53 Counties
- Level Five (most interoperable) 28 Counties

TOTAL: 254 Counties

Average Statewide Interoperability: Level 3.33

(Up from a level of 3.2 in 2010)



Usage Initiatives

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
Conduct annual Focus Group Sessions to identify gaps and mitigation strategies.	Forum to voice operational requirements and current concerns	TxICC; COGs; State Agencies	Annual RICP requirement	Ongoing
Develop and keep current an interactive statewide communications assessment database (CASM).	Capabilities assessment	COGs and State Agencies	Annual April-June	Ongoing
Test regional interoperability equipment each quarter.	Knowledge of equipment	COGs and COMLs	Jan, April, July, Oct	Ongoing
Require dispatchers and end users to exercise interoperability channels and equipment in daily operations.	Interoperability training	TxICC and COMLs	June 2012	In Progress
Develop usage matrix for mutual aid channels, integrated with NIMS structure.	Pre-planned ICS Form 205	COMLs	June 1, 2012	In Progress
Explore alternative solutions that reflect simple technologies to achieve statewide interoperability at a lower cost.	Statewide interoperability by 2015	COGs and the SWIC	Jan 1, 2013	In progress

Part 2 - County Communications Interoperability Capabilities Assessment Grid

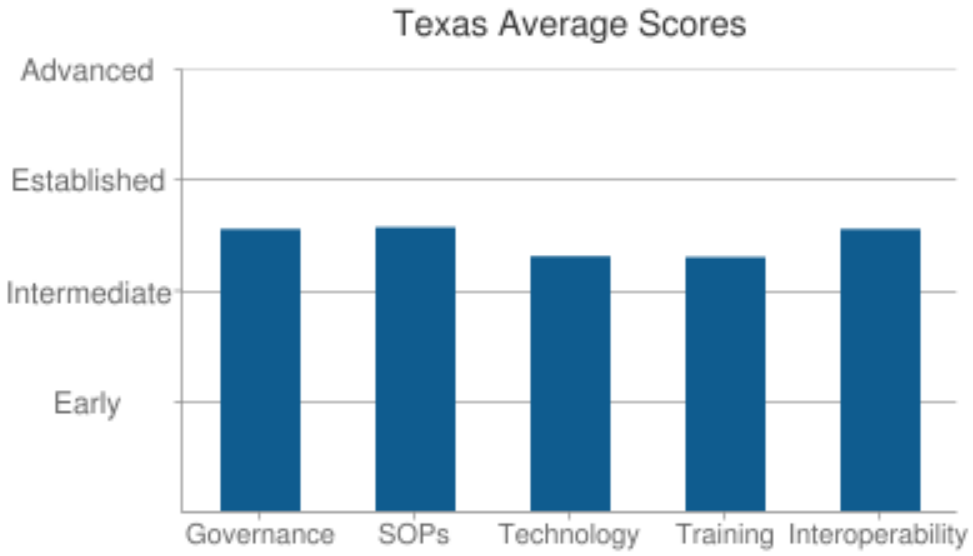
The "Capabilities Assessment Grid" was completed by the designated county or county-equivalent and submitted to the SWIC or SCIP POC.

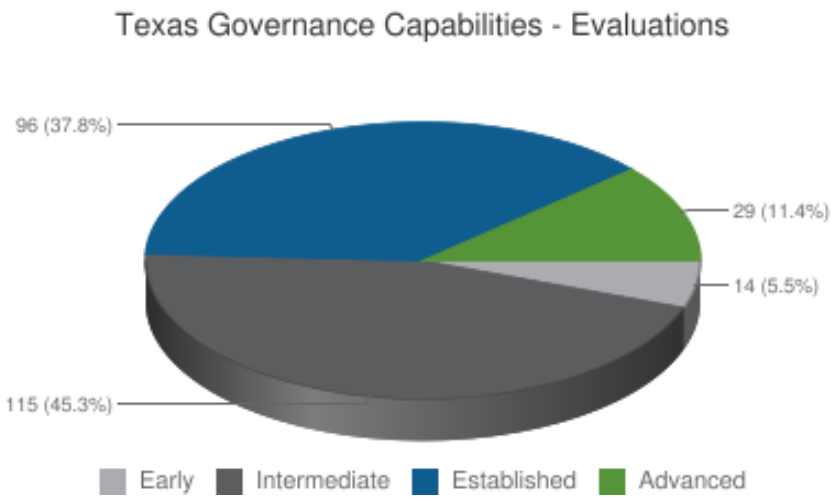
For each lane of the Interoperability Continuum (Governance, Standard Operating Procedures [SOPs], Technology, Training and Exercises, and Usage), the county selected the one row that best describes the assessed area. While multiple descriptions applied, counties identified the one row that most closely describes their highest level of capability achieved. (Commercial Networks that operate at or above 128K; also includes use of broadband devices such as smart phones, mobile e-mail devices, or wireless air cards.)

During 2011, 99% of the 254 counties covering 268,601 square miles successfully demonstrated response-level emergency communications. Texas was able to quantify and verify its readiness of interoperable communication capability using the NECP Goal 2 process established in its methodology. Many of these capabilities were demonstrated in real-life incidents, including the ***29,915*** wildfires that have burned ***3,852,575*** acres across Texas this season.

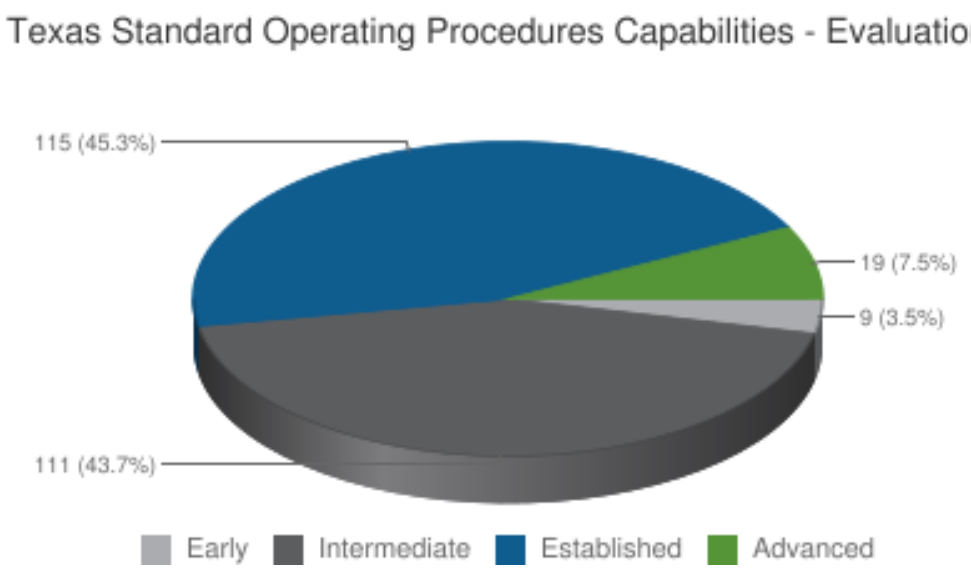
To verify capabilities in a State with 254 counties and a straight line distance of 773 miles East to West, and 801 miles North to South, even the regional approach required many events and exercises. The 24 COGs and the Office of the Texas SWIC planned, reviewed, and/or attended 49 separate events. 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. The results of the exercises were submitted to OEC via the "Response-Level Emergency Communications Evaluation Report" online tool.

The NECP Goal 2 - Emergency Communications Capabilities Assessment Summary Report for Texas follows:

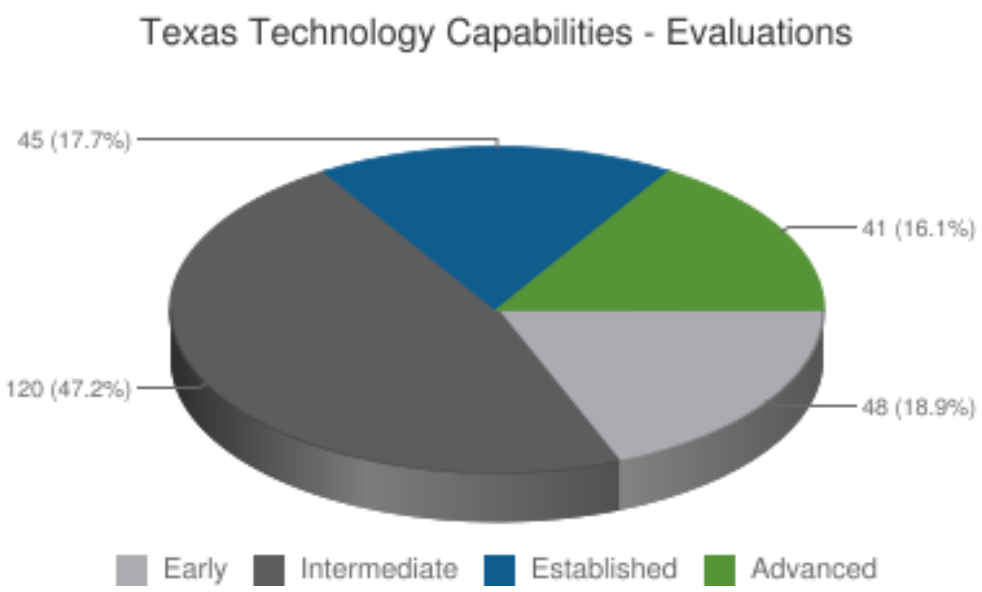




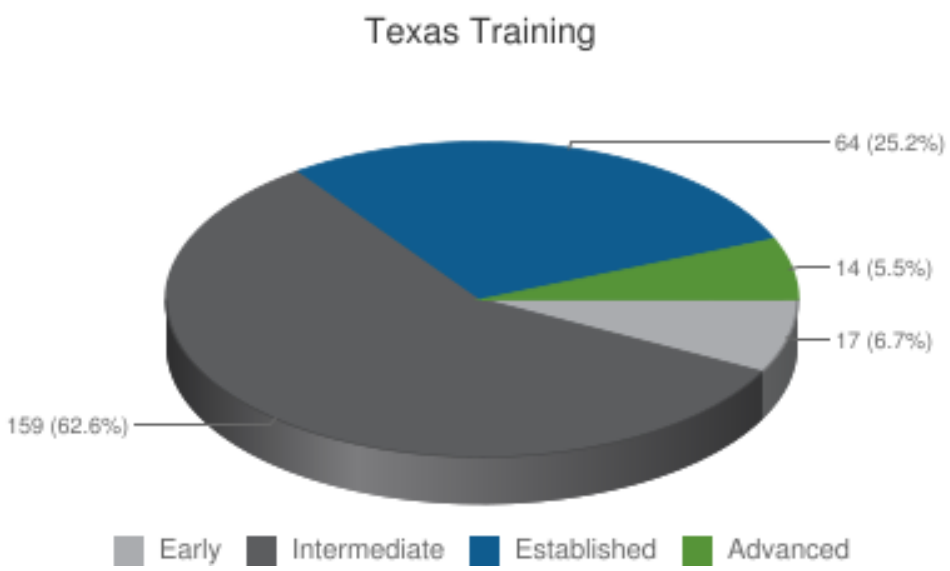
Early	County decision-making groups are informal and do not yet have a strategic plan to guide collective communications interoperability goals and funding.
Intermediate	Some *formal* agreements exist and *informal* agreements are in practice among members of the decision making group for the area; strategic and budget planning processes are beginning to be put in place.
Established	Formal agreements outline the roles and responsibilities of an area-wide decision making group, which has agreed upon strategic plan that addresses sustainable funding for collective, regional interoperable communications needs.
Advanced	County-wide decision making bodies proactively look to expand membership to ensure representation from broad public support disciplines and other levels of government, while updating their agreements and strategic plan on a regular basis.



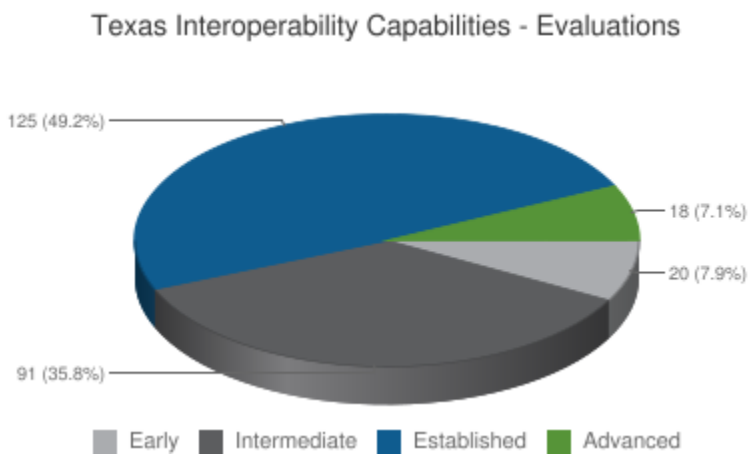
Early	County-wide interoperable communications SOPs are not developed or have not been formalized and disseminated.
Intermediate	Some interoperable communications SOPs exist within the area and steps have been taken to institute these interoperability procedures among some agencies.
Established	Interoperable communications SOPs are formalized and in use by all agencies within the area. Despite minor issues, SOPs are successfully used during responses and/or exercises.
Advanced	Interoperable communications SOPs within the area are formalized and regularly reviewed. Additionally, NIMS procedures are well established among all agencies and disciplines. All needed procedures are effectively utilized during responses and/or exercises.



Early	Interoperability within the area is primarily achieved through the use of gateways (mobile/fixed gateway, console patch), shared radios, or use of a radio cache.
Intermediate	Interoperability within the area is primarily achieved through the use of shared channels or talk groups.
Established	Interoperability within the area is primarily achieved through the use of a proprietary shared system.
Advanced	Interoperability within the area is primarily achieved through the use of standards-based shared system (e.g., Project 25)



Early	County-wide public safety agencies participate in communications interoperability workshops, but no formal training or exercises are focused on emergency communications.
Intermediate	Some public safety agencies within the area hold communications interoperability training on equipment and conduct exercises, although not on a regular cycle.
Established	Public safety agencies within the area participate in equipment and SOP training for communications interoperability and hold exercises on a regular basis.
Advanced	Area public safety agencies regularly conduct training and exercises with communications interoperability curriculum addressing equipment and SOPs that is modified as needed to address the changing operational environment.



Early	First responders across the area seldom use solutions unless advanced planning is possible (e.g., special events)
Intermediate	First responders across the area use interoperability solutions regularly for emergency events, and in limited fashion for day-to-day communications.
Established	First responders across the area use interoperability solutions regularly and easily for all day-to-day, task force, and mutual aid events.
Advanced	Regular use of solutions for all day-to-day and out-of-the-ordinary events across the area on demand, in real time, when needed, as authorized.

Sources:

- Memorandum of Understanding between the Department of Health and Human Services of the United States of America and the Secretariat of Health of the United Mexican States on Cooperation in the Fields of Public Health and Science
- National Emergency Communications Plan July 2008
- SCIP 2011 Focus Group Session Gap Analyses
- Target Capabilities List
- Texas Commission on State Emergency Communications Next Generation 9-1-1 Master Plan
- Texas Department of Public Safety Report on Interoperable Communications to the Texas Legislature – August 2011
- Texas Hazard Mitigation Plan 2010 – 2013
- Texas Homeland Security Strategic Plan 2010-2015
- Texas Statewide Interoperability Channel Plan
- U. S. Census Bureau