



Texas

Statewide Communication Interoperability Plan
(SCIP) Implementation Report
July 2009



**Homeland
Security**

Table of Contents

Successes and Challenges	1
State Overview	4
Vision and Mission	5
Urban Areas	7
Governance	7
Standard Operating Procedures	9
Technology	11
Training and Exercises	15
Usage	17
Funding	18
Texas SCIP Alignment with the NECP	19

Successes and Challenges

State evaluation of successes and challenges

OEC is required to report to Congress on progress on SCIP implementation and would like to highlight success stories and remaining challenges. In the table below, please highlight three to five SCIP Implementation success stories since your SCIP was approved in April 2008. In addition, please identify two to three challenges. Use as much space as needed to identify and describe the successes and challenges.

Please note that the information you submit on your successes and challenges will be made publicly available, unless this information is sensitive. If you wish to report on progress and/or challenges, but such information might be sensitive, please advise us so that we can consult with you on how it could be redacted from the public. Be advised that only the information contained in this table will be subject to being made available to the public.

Successes (3-5): Identify the success and describe why it is significant or important to overall statewide interoperability efforts.

The following Texas Radio Coalition-generated projects represent advances and achievements in statewide communications interoperability and the protection of life and property.

1. Texas Border Communications Coalition: The 1,240-mile Texas-Mexico border presents numerous homeland security concerns, many of which center on the lack of basic radio operability in parts of the region as well as poor interoperable communications among local, state, and federal law enforcement agencies. The Texas Radio Coalition (TxRC) organized regional governments from El Paso to Brownsville as the Texas Border Communications Coalition, which is now collaborating with the Texas Department of Public Safety (TxDPS) to develop short-term solutions to immediate communications problems as well as a long-term plan for interoperability. Their first major success was a 2007 Public Safety Interoperable Communications award of more than \$9 million.

2. Texas Coastal Communications Coalition: The TxRC called on TxDPS and the Federal Emergency Management Agency (FEMA) to help Texas coastal regions develop a plan to harden existing communications assets and to be ready to deploy additional assets for communications interoperability among first responders in an emergency such as a hurricane. Governor Perry established two "Logistics Staging Areas" to coordinate and track evacuation and response efforts. Each year, the 367-mile Texas coast is the target of tropical storms that often become major hurricanes, sometimes striking opposite ends of the coastline almost simultaneously. A quick and coordinated response by trained and properly equipped responders is vital to the preservation of life and property. The initial efforts of the TxRC greatly paid off during the response to Hurricane Ike, leading to the creation of the Texas Coastal Communications Coalition.

3. Disaster Communications Planning and Coordination:

a. Texas has the unfortunate distinction of leading the nation in Presidential Declared Disasters. Statewide, there is a critical need for mobile communications assets and trained first responders ready to deploy to support local communities in a disaster. In 2006, with \$5 million in Public Safety Interoperable Communications grant funding, TxDPS and Texas Military Forces

together purchased a cache of communications equipment known as the Strategic Technology Reserve, which deploys with trained technicians to oversee its operation. In collaboration with the TxRC, TxDPS and the Governor's Division of Emergency Management are updating the Disaster Communications Annex to the State Emergency Plan. With this plan in place, Strategic Technology Reserve equipment and support personnel, along with regional mobile command and communications vehicles, will be able to respond within hours to establish interoperable communications in any part of Texas hit by a disaster.

b. Communications Coordination Group (CCG): Established by the Texas Legislature in 2009, the CCG facilitates public and private collaboration to plan and deliver communications support during large-scale, multi-agency disaster responses. Its goal is to optimize the use and effectiveness of government and commercial communications systems and resources. The CCG is well-trained and stands ready to mobilize and coordinate resources wherever in Texas they are needed.

4. Regional Interoperable Communications Plan (RICP): RICP templates have been developed to assist regions in the planning, creation, and approval of governance structures, common standard operating procedures, and transitioning communication systems to P25 technology. Stakeholders provided input on the templates at statewide workshops facilitated by FEMA's Interoperable Communications Technical Assistance Program. Regions are currently developing their RICP's and will submit them to the State by December 15, 2009.

5. Best Practices in Project Management and Accountability: The TxRC is actively involved in helping its members improve contracting practices, ensure accountability, and reduce costs wherever possible in planning, developing, and funding improved emergency communications systems. By bringing technology advisors and subject matter experts into the planning process and creating public-private partnerships where feasible, Texas agencies saved more than a half-million dollars in 2008 alone.

Challenges (2-3): Identify the challenge and describe how it has/will make SCIP implementation difficult.

1. Need for Sustainment Funding: Led by the TxRC, emergency responders throughout Texas continue to promote legislative support for annual funding to build and maintain statewide interoperable communications systems. While such funding has yet to materialize, the Texas Legislature will next convene in 2011, when new sustainment legislation will be introduced.

2. Building New and Replacement Communications Towers: The useful life of much of the existing radio tower infrastructure in Texas is of serious concern. Both communications operability and interoperability are compromised throughout Texas due to aged and decomposing towers with unreliable antenna systems. Time necessary to acquire land, navigate the lengthy federal approval process, and finally construct towers may often exceed the performance periods of most grant programs.

3. Developing a Texas Data Interoperability Plan: Development of a statewide data interoperability plan depends upon both the availability of dedicated spectrum and development and ratification of national data interoperability standards.

4. Narrowbanding below 512 MHz: Many Texas jurisdictions and regions, as well as state agencies, will need assistance in meeting FCC-mandated “narrowbanding” requirements by 2013.

State Overview

Overview of the State and its interoperability challenges

Texas is a vast state covering 261,797 square miles that include coastal prairies, southeastern piney woods, a central hill country, and portions of the Great Plains and the southwestern desert. The international border with Mexico forms 1,248 miles of the western and southern border of Texas. The southeast border of Texas is formed by the 367 miles of coastline on the Gulf of Mexico. Texas is a major agricultural state and leads the nation in production of cattle, sheep and goat products, and cotton and cereal crop production, and provides a major portion of the nation's produce. Some 20 million Texans live in urban areas and 3 million reside in rural areas. There are three federally recognized Native American tribes in Texas.

Texas shares state borders with New Mexico, Oklahoma, Arkansas, and Louisiana and has close working relations with those states. The five states compose the Federal Emergency Management Agency's Region VI and participate in regularly scheduled meetings to confer on emergency preparedness, response, and recovery activities and homeland security programs. Border counties in Texas routinely provide mutual aid assistance to neighboring counties in other states and firefighting assistance to neighboring cities in Mexico.

Texas has 34 Critical Infrastructure/Key Resources identified under the Buffer Zone Protection Plan, which have a direct and vital impact to the state and nation. Among them are 23 international ports of entry, 13 major sea ports (the Port of Houston is the seventh largest port in the world, and ranked first in the United States in foreign waterborne tonnage and second in the United States in total tonnage). There are more than 270 commercial and general aviation airports in Texas. Major international transportation hubs in Texas include the Dallas Fort Worth International Airport, Houston Bush Intercontinental Airport, Dallas Love Field, and Union Station in Dallas. Texas has the nation's largest highway system with more than 300,000 miles of highways. Texas also has the nation's largest rail system, serving 45 rail companies. It has the nation's largest oil and gas production facilities, massive refining and petrochemical production complexes, plus more than 300,000 miles of pipeline. Two nuclear power plants are located in Texas as well as the U.S. Department of Energy's Pantex Nuclear Weapons Plant. In addition, 18 major military bases and extensive defense industrial production facilities are located in Texas. The state also has a very large banking and insurance industry.

Texas leads the nation in federal disaster declarations and has for some years. Texas has the largest number of tornado impacts of any state and leads the nation in the occurrence of flash flooding and deaths caused by such flooding. Texas is number two in the nation for hurricane and tropical storm impacts and, ironically, is regularly affected by large-scale and persistent drought and related wildfires. Because massive quantities of oil, gas, and hazardous materials are produced, used, stored, and transported throughout Texas, the state experiences large numbers of fires, explosions, and hazardous material accidents at both fixed facilities and during transportation operations.

Due to the lengthy and porous Mexican border, a sizeable coastline, the large number of international air, highway, rail routes and major highways that exist in Texas, and the great number of potential targets in the state, Texas is considered to have a significant risk of trans-national organized crime and a potential terrorist threat, particularly in its major urban areas and areas adjacent to the Texas – Mexico border.

More than 5,000 Texas public safety agencies and organizations provide emergency services to Texas' 23,507,783 residents. Public safety communications operability and interoperability are being compromised throughout the State due to aged and decomposing towers with unreliable antenna systems. The useful life of much of the existing radio tower infrastructure in Texas is a real concern.

Many Texas state and local public safety agencies still operate on 10 to 20 year-old wideband radio systems. Another significant concern for Texas is assisting public safety agencies in transitioning to narrowband communications by 2013.

Our major gaps in statewide interoperability are: 1) Towers that are aging and decomposing throughout the state; 2) Communications systems that must be narrowbanded by 2013; 3) Gulf Coast and Texas-Mexico border areas that lack reliable communications; 4) Limited operable and interoperable communications on primary evacuation routes; 5) Insufficient training/exercises to meet specific needs.

The Texas Statewide Communications Interoperability Plan (SCIP) prioritized strategic initiatives to achieve interoperability are: ensure operability, provide interoperable solutions, and upgrade and expand regional shared systems. The critical success factors are:

- Governance - to "promote state legislation that enforces timely and cost-efficient execution of strategic plan initiatives which support state-wide communications and interoperability."
- Funding - to "identify new and existing sources of funding for interoperable communications equipment, infrastructure, backhaul, upgrades, on-going maintenance and call center expenses" and to establish "consistent funding for on-going development, capital replacement, and maintenance costs."
- The agreement and commitment of public safety agencies to plan collaboratively with neighbor agencies before buying communications equipment.
- Design connections and systems based on what is now in place and what users need.
- Having talented people and agility across the continuum.
- Multi-agency, multi-jurisdiction command communications capabilities.

Vision and Mission

Overview of the interoperable communications vision and mission of the State

The Texas SCIP has a long-term timeframe of **three years (January 2008-December 2010)**. However, due to the critical and urgent need for disaster emergency communications, the Texas SCIP will be reviewed, updated and re-aligned as needed. This will provide regions and/or agencies the opportunity to voice and prioritize new concerns.

Texas' long-term goal is to reach the optimal level of interoperability through a "high degree of leadership, planning, and collaboration among areas with commitment to and investment in sustainability of systems and documentation" as stated in the SAFECOM Interoperability Continuum.

SCIP Vision: By January 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 P25 standards based voice and future standards based data radio communications utilizing standards-based systems and incorporating the 700 MHz public safety frequencies.

SCIP Mission: 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: 1) Building a governance structure of regional committees working with a statewide interoperability committee; 2) Developing SOP's where the National Incident Management System (NIMS) is integrated into the SOP's; 3) Expanding and/or implementing technology for regional shared systems; 4) Requiring training and exercises that are regular, comprehensive, and regional; and 5) Encouraging daily use of interoperable communications systems throughout the regions.

The SCIP goals and objectives are consistent with the Texas Homeland Security Strategic Plan as well as the Texas Emergency Management Plan, the Texas Department of Public Safety (DPS) Agency Strategic Plan, and the Urban Area Tactical Interoperable Communications Plans (TICP's).

On August 19, 2008, at the Texas SCIP annual Strategic Planning Conference, members met to begin SCIP revisions. One major outcome was to restructure the goals to align with the NECP and SAFECOM Continuum. Because funding is a high priority for Texas, the practitioners choose to add a specific goal and initiatives for funding. The "restructured" goals and objectives are:

- ◆ **Goal 1: Governance** - Achieve statewide interoperability by institutionalizing collaborative approaches across the state based upon common priorities and consensus at the regional level.
 - Objective: Ensure a coordinated governance structure, with representation from all regions, all disciplines, state, federal, and non-governmental agencies to plan and implement statewide communications interoperability for all stakeholders.
 - Key Strategy: Education and planning.
 - Milestone: Statewide Governance Charter adopted February 11, 2008; Regional Governance Charters to be adopted by 12/15/09.

- ◆ **Goal 2: Standard Operating Procedures** - Enhance use of interoperable communications systems with integrated NIMS compliant regional standard operating procedures (SOP's).
 - Objective: Improve coordination of first responder activities with integrated SOP's that are included in training programs and exercised routinely.
 - Key Strategy: Facilitate regional integrated SOP's.
 - Milestone: A common integrated SOP template developed by June 2009; and to be adopted by regions by 12-15-09.

- ◆ **Goal 3: Technology** - Build a statewide "system-of-systems" network consisting of regional standards-based shared voice and data communications systems. Voice systems will adhere to the APCO Project 25 (P25) suite of standards. Data systems will adhere to a suite of standards still to be defined.
 - Objective: Ensure operability while leveraging investments in existing communications infrastructure and systems when designing and implementing regional interoperability.
 - Key Strategy: Planning and project management.
 - Milestone: Adopted P25 standard for interoperable voice communications; Regional Interoperable Migration Plan (RIMP) template developed by June 2009 and to be adopted by regions by 12-15-09.

- ◆ **Goal 4: Training & Exercises** - Ensure integrated local and regional training & exercise opportunities are available to all emergency responders.
 - Objective: Ensure first responders at all levels are trained and routinely exercise communications equipment, procedures and coordination.
 - Key Strategy: Multiple training and exercise opportunities.
 - Milestone: Pilot program planning underway for regional online interoperability training.

- ◆ **Goal 5: Usage** - Accelerate use of regional P25 shared voice communications systems for daily operations as well as all-hazards emergency communications.
 - Objective: Expand and/or transition voice communications systems to P25 regional shared (fixed and mobile) systems.
 - Key Strategies: Planning and project management.

- Milestone: Communication Asset Survey & Mapping (CASM) database 80% complete by 12/15/09.
- ◆ **Goal 6: Funding** – Secure consistent funding for ongoing development, capital replacement, and operations and maintenance costs.
 - Objective: Develop a funding plan that will generate the funding resources necessary to acquire and sustain statewide voice and data communications interoperability.
 - Key Strategies: Planning, support and legislative action.
 - Milestone: Developed and adopted the SCIP funding plan.

Urban Areas

Overview of the Urban Areas in the State and to what extent they are mentioned in the SCIP

Texas has five DHS designated Urban Areas Security Initiative (UASI) regions. Houston is a Tier 1 UASI; Austin, Dallas/Fort Worth/Arlington, El Paso and San Antonio are Tier 2. The SCIP lists each of the urban areas individually, and provides details on the Tactical Interoperable Communications Plan (TICP) scorecard recommendations by category, and the progress of implementing said recommendations. The state's urban areas provided leadership along with their invaluable experience gained by the development of their TICP's, exercises and scorecard recommendations in the development of the SCIP.

The SCIP indicates that interoperable communications has been incorporated into the regimen of regional UASI exercises, and describes the interoperable communications strengths and weaknesses of each Urban Area in significant detail. It describes efforts underway to coordinate and integrate SOP's and training programs throughout the urban areas as well as statewide.

All Urban Areas are collaborating with their region in the development of the Regional Interoperable Communications Plan (RICP). This plan will describe the migration strategy to achieve regional P25 standards based voice interoperability by 2015. The plan will include initiatives, cost estimates, milestones and a timeline.

Governance

Overview of the governance structure and practitioner-driven approaches

The Governor appointed the Texas Radio Coalition (TxRC) as the governing body for the Texas SCIP. The TxRC is a member of the Governor's First Responder Advisory Council and thus designated by state law, Texas Government Codes 391 & 421, to advise the Governor on relevant homeland security issues. The TxRC membership is comprised of various state agencies and associations and the 24 regions that represent the local first responder perspective, a critical element that allows the TxRC to serve as a voice for that community. The Texas SCIP governance charter is based on the SAFECOM/Department of Homeland Security (DHS) template. The governance charter was adopted February 11, 2008.

The SCIP established governance structure is made up of the three bodies of the TxRC that includes a variety of State and local stakeholders and organizations. These groups are:

- **Executive Committee:** An oversight body composed of higher-level administrators who will be vested with final decision-making authority by the Governor of Texas. Members of this group include Federal, State, regional, and local representatives.
- **Steering Committee:** This advisory group has regular monthly planning and review meetings, plus Web-based conferences when needed. The group consists of inter-disciplinary, inter-jurisdictional representatives from across the State who have a broad knowledge of wireless communications and hold a formal or informal leadership position within their agency. Members of this group include Federal, State, local, and tribal representatives.
- **Working Groups:** Temporary, narrowly chartered Working Groups are formed for specific tasks, such as conducting research and collecting data.

Jurisdictions, state agencies and organizations in each of the 24 regions have established various Memoranda of Understanding (MOU)/Interlocal Agreements which include communications for mutual aid/emergency services during disaster situations. The Texas Interoperability Channel Plan established a Channel Plan MOU specifically for mutual aid communications.

The TxRC worked under the direction of former Texas Homeland Security Director Steve McCraw to develop the SCIP. Texas Radio Coalition Coordinator Mike Simpson was designated as the interim Texas Interoperability Coordinator until the position is filled on a full-time permanent basis.

Mike Simpson
TxRC Statewide Communications Interoperability Coordinator
 Wireless Communication Services Manager
 City of Austin
 Communications and Technology Management
 Wireless Communication Services Division
 1006 Smith Road, Austin, TX 78721
 (512) 927-3209
 Email: mike.simpson@ci.austin.tx.us

Governance Initiatives

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

Initiative	Gap	Owner	Milestone Date	Status <i>(Complete, In Progress, Not Started)</i>
Hire a full-time SCIP Interoperability Coordinator and support staff	Dedicated leadership	Executive & Governance Committees; Governor's Office	Jan 2009 State Coordinator for Operable Communications working w/interim SCIP Coordinator; 2010 hire full-time SCIP Coordinator and staff	In Progress
Finalize the Texas SCIP Governance Charter	No formal	Governance	SCIP	Complete

Initiative	Gap	Owner	Milestone Date	Status (Complete, In Progress, Not Started)
based on the SAFECOM/DHS template. Tasks: Research, evaluate, draft, confirm.	governance agreement	Working Group; TxRC	Governance Charter adopted 2/11/08.	
Conduct annual Focus Group Sessions and annual Statewide Strategic Planning Conference.	Forum to voice operational requirements and current concerns	TxRC; Regions; State Agencies	Regions completed Focus Group Sessions by July 2009; Annual Conference 8/25/09.	Complete and on-going
Promote State legislation that enforces timely and cost-efficient execution of strategic plan initiatives.	Lack of interoperability and funding	Executive & Funding WG's	Begin meeting with legislators by May 2008. Adopt legislation within two years.	In Progress
Assist regions with governance development for regional shared interoperable communications systems. Tasks: 1) Request ICTAP assistance.	Planning and collaboration	Governance WG	Template & workshop completed 6/2009; Regional Governance adopted by 2010.	In Progress
Develop project accountability policies and procedures to ensure successful implementation and that "taxpayer's get maximum value for their dollars." Tasks (T): 1) develop and require project management and cost analysis reports; 2) provide project management training; 3) update vendors on accountability measures.	Lack of funding; robust accountability; project management	Technology Advisors & SAA	T-1,2 & 3 completed Sept 2008; On-going	Completed with on-going training

Standard Operating Procedures

Overview of the shared interoperable communications-focused SOPs

In 2005, all 24 state planning regions were directed to assess regional communications interoperability and submit a regional interoperability plan for approval by the Texas Office of Homeland Security. Most local government communications operations are guided by a combination of emergency plans, the communications annexes to those plans, and local and regional communications interoperability operating procedures. UASI areas and densely populated cities and counties have structured SOP's for communications interoperability. Most State agencies have documented standard procedures for emergency communications operations.

Governor Perry signed Executive Order RP40¹ on February 23, 2005, requiring NIMS as the state standard. The State Administrative Agency (SAA) requires agencies to certify NIMS compliance to be eligible for federal grant funding.

The TxRC SOP and Governance Working Groups developed a common regional template for integrated state and local agency SOPs for interoperable communications. Each Council of Governments (COG) will work with the state and local agencies within the region to adapt the SOP to regional requirements. The SOP follows the guidelines established by NIMS for incident command. State and local public safety agencies and all agencies responding to incidents within a region will be expected to comply with the regional SOP or provide other applicable documentation by December 15, 2009. As regional SOP's are developed, practitioners will have access to them via a web site.

SOP's will be revised when major changes are needed due to enhancements or other changes in the communications environment. Each COG and/or county emergency management coordinator will provide regional public safety agencies and personnel copies of the SOP and ongoing access to the SOP's for training purposes.

Texas is a subscriber to the Emergency Management Assistance Compact (EMAC). EMAC is a national governor's interstate mutual aid compact that facilitates the sharing of resources, personnel, and equipment, across state lines during times of disasters and emergencies. EMAC provides administrative oversight and support staff and formal business protocols, solves problems upfront with provisions in the compact including continuity of operations with SOP's, and integrates into existing command and control structures. Additional interoperability with adjacent states is provided by executing the TSIEC MOU and using the licensed Texas Interoperability Channels.

Urban Areas with major transit and bus service companies have provided these organizations with interoperable equipment or have established interfaces with the organizations' communications systems. SOPs and future exercises will include transit organizations.

The U. S. State Department is currently finalizing a communications interoperability agreement with Mexico, which will include the United States/Mexico border from Brownsville, Texas, to San Diego, California. The plan includes microwave links to the DHS Customs and Border Patrol's sector headquarters in the affected areas. Agencies operating along the border will have access to interoperable communications via these microwave linkages when completed.

SOP Initiatives

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

Initiative	Gap	Owner	Milestone Date	Status (Complete, In Progress, Not Started)
Each region will develop a SOP for response to emergencies. Tasks: 1) Develop a template for the common regional integrated State and local agency	Clear coordination and responsibility procedures	SOP & Governance Working	T-1 Template completed by 06/2009; T-2	In Progress

¹ Executive Order RP40, (<http://governor.state.tx.us/news/executive-order/3690/>).

Initiative	Gap	Owner	Milestone Date	Status (Complete, In Progress, Not Started)
SOOP; 2) Regions adopt common integrated SOP by 12/15/2009. 3) Review and post SOPs by 6/2010.		Groups; All regions	Regional SOPs adopted by 12/15/2009; T-3 Post SOPs by 6/2010.	
Evaluate and coordinate Mutual Aid Interoperability Channels in the 800 MHz and VHF frequency bands. Fund infrastructure improvements for implementation of all recognized mutual aid channels (800 MHz, 700 MHz, VHF, and UHF).	Mutual Aid channels are overloaded in metro and urban areas.	Governance and SOP/Training & Exercise WG's	2008- DPS to provide on-going coordination; Implement solutions by December 2010	In Progress
Promote a communications interoperability plan/agreement with Mexico.	Unable to communicate when providing/receiving mutual aid	Governance WG	Research and correspond w/State Dept. by 2010.	In progress

Technology

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

Texas communications systems vary greatly and many areas are impacted by limited operability of public safety radio communications systems. Much of rural Texas has few telephone lines and less cellular telephone service because of sparsely populated areas, as well as barren regions and piney forest wilderness areas. In addition, Texas has the longest international border and the most traffic across the border. This is a problem area for communications because a significant portion of the international border between El Paso and Brownsville lacks communications operability and interoperability. Much of this area is very rural with no terrestrial radio or cellular communications of any kind. Parts of the Texas coastline from the Louisiana border to Brownsville have similar operability problems, e.g. little to no radio coverage in some areas, aged infrastructure, proprietary systems, and lack of capacity to add users and lack of frequencies to add channels. These circumstances often prevent responding local, state, and federal agencies from maintaining internal and/or interoperable communications during an incident and response. Because interoperability is essential for disaster emergency communications and the possibilities of catastrophic events along the Texas coastline and Mexico border are prominent, these areas remain a major concern for Texas.

Many Texas public safety agencies, regardless of the geography, operate on conventional wideband VHF systems. This allows for some interoperability in coverage areas; however, it is not spectrally efficient and there is a need for additional public safety radio channels in regions adjacent to suburban and urban areas. Due to the age and unreliability of some of these systems they only provide partial operability and limited if any interoperability. In addition, some areas such as Houston and Dallas/Fort Worth/Arlington use several different and aged radio systems within the cities for emergency communications.

The focus statewide was to achieve interoperability by providing gateways and patches where needed. We found that this process can be time consuming and somewhat confusing when seconds count and lives are at stake. The new goal is to provide seamless interoperability by building out standards-based shared systems to form a system of standards-based systems. This will be accomplished by leveraging existing infrastructure and systems and with standards-based communications system purchases. Texas's approach

is to support multi-agency regional systems and link them to provide expanded statewide coverage as needed, on demand, and as authorized.

The metropolitan areas typically operate on proprietary 800 MHz trunking systems with few P25 systems. Some of the proprietary systems are from 10 to 20 years old and system owners are experiencing problems finding adequate sources and supplies of replacement parts to keep the systems operable. Many system managers are unable to expand the capacity and coverage of systems because of a lack of available radio channels. Most regions operating on proprietary radio systems are equipped with audio gateways or console patching solutions to provide interoperability with adjacent cities and counties. Some of regions have mobile communications equipment with various types of interoperability components.

Local & Regional Data Capabilities: Many private radio systems and most regional radio systems currently have some data capability. This ranges from integrated voice and data on a voice radio system to mobile data operating on 800 and 900 MHz frequencies and mesh broadband systems. Applications include text messaging, mapping and database searches, and access to TLETS (Texas Law Enforcement Telecommunications System) and NCIC (National Crime Information Center).

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

State System Name	Description	Status
Texas Department of Public Safety	<p>The Texas Department of Public Safety (DPS) operates a state-wide digital VHF Project 25 compliant conventional radio system through 32 Communications Facilities strategically located throughout the State across the 254 counties. The Department has begun to migrate toward a hybrid trunked radio system utilizing 700 MHz where feasible. The first 700 MHz trunked radio intelli-repeater (IR) site was placed at the State Capitol and integrated with the City of Austin's Regional Radio System. DPS has also integrated five communications facilities into the Harris County Regional Radio System. These interfaces provide immediate interoperability for all users utilizing these systems. The Department will leverage existing radio infrastructure throughout the State by partnering with the regional radio systems and State Agencies to build the state-wide system of systems.</p> <p>The Department is working closely with the Texas Border Communications Project representatives to provide the equipment to connect the border radio systems together.</p> <p>The Department is the primary public safety first responder agency during catastrophic incidents. DPS is partnering with the regional planning areas in an effort to improve disaster emergency communications specifically along the Texas coastline. Through the State strategic reserve, DPS is able to provide interoperability equipment to establish immediate interoperability for disaster emergency communications dependent upon the size and scale of the events.</p> <p>Funding has recently been authorized for laptops/data terminals in all DPS Highway Patrol units. This equipment will operate on commercial networks to provide officers with text messaging capability for coordination of operations across multiple counties. It will also provide direct mobile access to TLETS. TLETS provides access to a variety of local, state, and federal criminal data base systems, e.g. NCIC.</p>	Existing and planned improvements
Austin-Travis County Regional Radio System	The Austin-Travis County Regional Radio System shares its system controller with the newly-upgraded Williamson County system, a trunked VHF system serving the Middle Rio Grande Valley, and a 700 MHz system built by Texas DPS in Austin. The combined systems serve more than 100 agencies and 15,000 users. Future projects will connect	Existing and Planned Improvements and expansions

State System Name	Description	Status
	agency-owned systems in counties adjacent to Austin-Travis County to the Austin-Travis switch, with the goal of creating a shared standards-based system that covers the entire 10 county planning region. Austin-Travis are currently pursuing integrated voice and data to provide short text messaging and global positioning information over the voice radio system. They're also working with Harris County and LCRA to provide connectivity and interoperability from Houston, Galveston, and Corpus Christi back to Austin.	
City of Bryan	Mixed mode, 800 MHz trunked system. Partnered with the City of College Station, Brazos County, Texas A & M University, the City of Brenham, and Washington County to form the Brazos Valley Wide Area Communications System (WACS) which is seeking funding for a P25, 700/800 MHz, shared system that will encompass the entire area, and be expandable into the remaining five counties of the Brazos Valley COG. The system will be linked to the adjoining regional shared systems of the Harris County Regional Radio System and the Austin-Travis County/Williamson County Regional Radio System.	Existing and Planned Improvements
Dallas, Dallas/Fort Worth/ Arlington Urban Area	<p>Dallas proposed upgrade of an analog trunked 800 MHz communications system to include 700 MHz will provide interoperability to the Dallas public safety agencies as well as public works agencies. This system will serve a population of 1.25 million persons and provide communications for approximately 3,500 first responders and about 4,000 support and public works personnel. Dallas has set up some wireless video surveillance in a few areas; this may be expanded with available funding.</p> <p>The goal for the UASI area is to have seamless interoperability among all Metroplex systems. There are 15 to 20 proprietary 800 MHz trunked systems in the area. A multi-phased approach is being considered, due to the high cost of implementing new systems in the UASI area. The project currently being evaluated is the installation of a 700 MHz P25 system overlay of the Region (3-6 channels) for agencies to roam outside their jurisdictional boundaries</p>	Existing and Planned Improvements
East Texas Medical Center (ETMC) System	Covers 15 counties, providing primary communications for 250 local and volunteer, governmental and non-governmental public safety agencies and 5,000 users. Operates an 800 MHz analog trunked system through rural counties in east Texas. System is no longer supported by the vendor and must be transitioned to P25. The new ETMC sites will tie into the Harris County/H-GAC Regional P25 System extending that coverage from Galveston to Dallas to Louisiana. The joining of the systems will create a P25 standards-based system that uses 700/800 MHz trunking technologies covering 25 counties.	Existing and planned improvements
El Paso	In the process of upgrading to a standards-based interoperable communications system. This will provide interoperability and coverage for the UASI area (City of El Paso and County of El Paso). This portion of the plan includes interoperable communications in both 800 MHz and VHF frequencies. Officials are planning to build out interoperable communications coverage in Region 8's six counties, and linking the El Paso system to the Texas Border Communications project.	Existing and Planned Improvements
Harris County Regional Radio System	<p>A regional system with a coverage area larger than most states; Harris County has 11 counties on the system, 35,000 subscriber units, and about 550 agencies on the system; the system is operational in both the 800MHz and 700MHz bands using P25 compliant trunk technologies.</p> <p>Regional subscribers to the system include: Federal, State and Local Public safety and Law Enforcement Agencies, Fire Departments, Public Works Departments, Cities, Counties, public schools and University systems, in addition to the Texas Medical Center and several private air ambulance services.</p>	Existing and planned expansion
City of Houston	In the process of building a new interoperable voice P25, 700 MHz trunked system that will be linked to regional radio systems across Texas; @ 20,000 subscriber units expected. This system will provide in-building public safety radio coverage for multiple agencies in and around the City of Houston. The system will have between 45-50 sites and cost between \$100 - \$150 million.	Planned (in the final stages of contract negotiations)

State System Name	Description	Status
	Current data capability includes: WEB EOC with up to 1000 users dependent upon event; Houston CAD handles 5000+ calls per day; Fire RMS with 1000+ users; OLO (On-Line Offense) Houston PD RMS with approximately 5000 users; and voice logger that records 10,000+ calls.	
Lower Colorado River Authority	900 MHz trunked system covering 37,000 square miles and 54 counties. Implementing 700 MHz overlay to existing LCRA system. This equipment will allow for a seamless integration into existing regional systems, as well as the agencies' existing conventional systems for interoperability. • Completed 13 of the 49 900 MHz that are in service at this time. With additional funding we will be able to complete the overlay of the existing 900 MHz system with gateway communications for interoperability to existing regional systems as well as legacy conventional system as required.	Existing and planned improvements
Middle Rio Grande Development Council Regional Radio System	Multi-phase VHF P25 trunking system supporting the multi-agency and multi-discipline jurisdictions along the Texas-Mexico border area which include 9 counties, 51 membership agencies, the Kickapoo Traditional Tribe of Texas, plus federal and state users.	Existing and planned improvements
San Antonio Area	Intend to enhance the existing 800 MHz coverage area by consolidating several non-simulcast sites into new simulcast sites. In addition, plan to improve system interoperability by creating 700 MHz interoperability overlays and establish switch-to-switch connections with several public safety and critical infrastructure agencies (LCRA, VIA Transit, Corpus Christi / Nueces County, AEP, etc.) locally and regionally. These overlays and connections will leverage existing 800 MHz and 900 MHz coverage areas, existing infrastructure, and resources throughout multiple regions but especially along major coastal evacuation routes, logistical support corridors, and between regional medical centers. Currently implementing a regional emergency communications information sharing and mobile data system providing record management system (RMS), and Field Reporting Systems. All public safety answering points (PSAP's) within Bexar, Comal, and Guadalupe counties will soon be connected with dedicated fiber.	Existing and Planned Improvements

Technology Initiatives

The following table outlines the short-term technology strategic initiatives, gaps, owners, and milestone dates to improve interoperable communications in Texas.

Initiative	Gap	Owner	Milestone Date	Status (Complete, In Progress, Not Started)
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 Working Groups	Complete CASM data entry by 12/15/09; ID gaps by 2011; Implement solutions by 2013	In Progress

Initiative	Gap	Owner	Milestone Date	Status (Complete, In Progress, Not Started)
Assist regions in the development of plans to migrate radio assets to a standards-based, shared System of Systems. Task: 1) Establish and mandate the technology standard for Texas public safety communications; 2) Form regional working groups to leverage existing systems and infrastructure when building new or upgrading and expanding systems; 3) Identify solutions that incorporate existing technologies and allows for new technologies and functionality in the future.	Regional interoperability, Aged equipment	TxRC, Technology Working Group, All Regions, State Agencies	Task 1 & 2 completed 1Qtr 2008; Task 3 to be completed by 2010.	In Progress
Develop a detailed plan for operability and interoperable communications along the Texas coast from Louisiana to Mexico. Tasks: 1) Participate with DHS OEC and FEMA as they further develop the Gulf Coast Communications Interoperability System concept to support disaster communications from Florida to Texas; 2) Build on existing regional systems and incorporate new technologies; 3) build-in resilience and add redundancy and surge requirements throughout regional systems; 4) include interstate interoperable communications with Louisiana and Mexico;	Coverage, operability, Aged equipment, Interoperability, Disaster communications	TxRC; Regions 15, 16, 17, 20 & 21; State Agencies	T-1 Workshop w/ DHS, OEC, FEMA, State and Local Agencies held 12/2008; Created the Communications Coordination Group (CCG) to provide coordinated responses during disasters 1Qtr 09; ID gaps and requirements by 2011; Implement T-2, 3 & 4 solutions by 2013.	In progress
Develop a plan for operability and interoperable communications along the Texas/Mexico Border from El Paso to Brownsville. Tasks: 1) Engage with DHS OEC and CBP to further develop the Border Communications capabilities; Plan to include 2) Build on existing regional systems and incorporate new technologies; 3) Interstate interoperable communications with New Mexico; 4) Disaster Emergency Communications surge requirements; 5) Coverage, capacity and console connectivity along the entire coast.	Coverage, operability, Aged equipment, Interoperability, Disaster communications	TxRC; Border Radio Coalition; BSOC; State Agencies	T-1 Completed: workshop of State, local & Federal agencies Dec. 2008; Plan w/ T-2, 3, 4 & 5 to be completed by 2011.	In Progress
Develop a process to address frequency coordination, radio interference, and conflict mediation.	Insufficient channel availability; Interference	Texas Radio Coalition, DPS	DPS staffed position July 2009.	Completed

Training and Exercises

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

Training

Texas has incorporated interoperable communications training into all of the Governor’s Division of Emergency Management state sponsored training programs. Texas is implementing regional training programs that include:

- Providing stand-alone single discipline and multi-discipline interoperable communications training courses through existing State and regional training academies and organizations.
- Providing a basic multi-disciplinary interoperable communications course online.

The State has a number of specialized communications teams who all have training curriculum, requirements, and annual required training hours.

In addition, standard communications personnel training curricula will be modified to include interoperability training modules, so that new dispatchers are schooled in the fundamental procedures prior to assuming their duties on live systems. The State’s SOP’s will be updated to reflect the training for primary and back-up communication unit leaders. First responders will be provided detailed instruction on radio interoperability as well as regular hands-on "refresh" training. Vendors will be encouraged to provide electronic copies of detailed training materials and programs for mass distribution and local customization. Clear-cut processes will be implemented to test and exercise SOP's on a routine and cost-efficient basis.

Exercises

The Governor's Division of Emergency Management (GDEM) is conducting regional exercises to test regional plans and interoperable communications equipment and identify needed improvements in plans, procedures, equipment, and training. These exercises include responders from federal, state, local, and tribal agencies.

All GDEM training and exercise programs are NIMS compliant. On February 23, 2005, Governor Perry issued Executive Order RP 40 adopting NIMS as the statewide system to be used for emergency prevention, preparedness, response, recovery, and mitigation activities, as well as in support of all actions taken to assist local entities.

Training and Exercises Initiatives

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

Initiative	Gap	Owner	Milestone Date	Status (Complete, In Progress, Not Started)
Enhance training and exercise programs. Tasks: 1) Have individuals trained and certified as COM -L trainers; 2) Identify regional Communications Unit Leaders and provide necessary training; 3) Develop templates for drills that can be incorporated into and augment, the State's existing training and exercise programs.	Lack of local training and education on current interoperability capabilities and structure	TxRC & GDEM	T-1 ID DPS COMLs by Mar.2010; Complete T-2&3 by 2011.	In Progress

Initiative	Gap	Owner	Milestone Date	Status (Complete, In Progress, Not Started)
Provide online training programs with testing and certifications. Tasks: 1) Develop a regional pilot program to be tested and evaluated; 2) Expand the pilot to multiple regions; 3) Expand the pilot statewide.	Multiple training venues	TxRC, CAPCOG, SOP & Training and Exercise WG's	T-1 Complete 1 st Pilot by 2010; Complete T-2 by 2013; Complete T-3 by 2015.	In Progress
Develop and exercise CCG emergency disaster communications capabilities.	Reliable coordinated communications for emergency disaster response.	TxRC, Governor's Division of Emergency Management (GDEM), State, Federal & Local agencies, private industry.	ID and develop capabilities by June 2009; Start exercises by June 2009; ongoing quarterly exercises	Completed and on-going

Usage

Overview of the testing of equipment and promotion of interoperability solutions

Regular usage of interoperable communications procedures and equipment will be required and made uncomplicated by providing templates for simple drills that exercise capabilities (e.g., console patches, gateways). Communications personnel will be expected to voice-test calling channels with subscribers in the field regularly. Remote enabling/disabling of mutual aid repeaters as well as simple console patches (e.g., 8TAC-91 patched to a law enforcement sector channel) likewise will be practiced regularly.

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 (Complete, In Progress, Not Started)
------------	-----	-------	----------------	--

Initiative	Gap	Owner	Milestone Date	Status (Complete, In Progress, Not Started)
Develop and keep current an interactive statewide communications assessment database. Task: 1) Enter 80 percent of statewide communications assets into the CASM tool to validate agency radio communications capabilities and survey results. 2) Jurisdictions must routinely update CASM information to show commitment to adhere to the SCIP and to receive grant funding.	Capabilities assessment	Regions & State Agencies	Complete T-1 by 2010; T-2 is on-going.	In Progress
Implement programs to require routine use of interoperability equipment. Tasks: 1) Provide templates for regular usage of interoperable communications procedures and equipment that exercise capabilities (e.g., console patches, gateways); 2) Voice-test calling channels with subscribers in the field.	Knowledge of equipment	SOP & Training & Exercise WG	T-1 completed June 2009; T-2 on-going from Jan. 2010.	In Progress
90% of UASI areas provide response-level emergency communications within one hour for routine events involving multiple jurisdictions and agencies.	Interoperability	TxRC, UASI's, state agencies	ICTAP workshop by Jun 2009; Test w/ICTAP Tool by 2010.	In Progress
75% of non-UASI jurisdictions provide response-level emergency communications within one hour for routine events involving multiple jurisdictions and agencies.	Interoperability; response-level emergency communications in rural Texas	TxRC, state agencies Panhandle RPC, Permian Basin RPC, West Central Texas COG	Develop methodology and performance metrics to achieve NECP Goal 2 statewide by Mar 2010; Test w/ICTAP tool by 2011.	In Progress
75% of all jurisdictions provide response-level emergency communications within three hours in the event of a significant incident.	Interoperability	TxRC, All regions and state agencies	Start CCG exercises by June 2009; Test w/ICTAP tool by 2013.	In Progress

Funding

Funding Initiatives

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

Initiative	Gap	Owner	Milestone Date	Status (Complete, In Progress, Not Started)
Operation Texas Talks: Secure consistent funding for ongoing development, capital replacement, and maintenance costs. Tasks: 1) Develop funding plan; 2) Identify new and existing sources of funding; 3) Promote legislative action for public safety communications funding.	No dedicated funding mechanism for communications and interoperability efforts	Executive Committee & Funding WG; Regions	Completed T-1 by Aug 2008; T-2 is on-going; T-3 Activities on-going until legislative action is successful.	In Progress

Initiative	Gap	Owner	Milestone Date	Status (Complete, In Progress, Not Started)
Develop and distribute a report on the status of public safety emergency communications throughout Texas regions, based on annual Focus Group Surveys.	Statewide operability and interoperability	Funding WG	Complete report and distribute to regions and Texas Legislators by Jun 2010.	In Progress
Prioritize Public Safety Interoperable Communications (PSIC), DHS and State funds for immediate and critical communications needs. Tasks: 1) Distribute grants, as available, to build out operability and statewide interoperability. 2) Assist regions and state agencies in complying with the FCC mandated "narrowbanding" requirements by 2013. 3) Identify and fund ongoing operations, maintenance and back-haul expenses to support statewide system of systems.	Lack of funding	Working Groups; Regions	Provided SAA input on PSIC priorities by Oct 2007; T-1 ongoing as grants are announced; T-2 to be completed by 2012; T-3 to be completed by 2015.	Completed and In Progress.

Texas SCIP Alignment with the NECP

- **NECP Milestone 1.1.2:** By 7/31/09, establish a full-time statewide interoperability coordinator or equivalent positions.
 - **Supports Initiative 1.1:** Facilitate the development of effective governance groups and designate emergency communication leadership roles.
- ☑ Texas has an interim Interoperability Coordinator. The TX SCIP includes an initiative to hire full-time Interoperability Coordinator by 2010.
- **NECP Milestone 1.1.5:** By 7/31/09, the Statewide Interoperability Governing Body (SIGB) should incorporate the recommended membership as outlined in the SCIP Guidebook and should be established via legislation or executive order by an individual State's governor.
 - **Supports Initiative 1.1:** Facilitate the development of effective governance groups and designate emergency communication leadership roles.
- ☑ The Governor appointed the Texas Radio Coalition (TxRC) as the governing body for the Texas SCIP. The Texas SCIP governance charter is based on the SAFECOM/DHS template. It was adopted February 11, 2008.
- **NECP Milestone 1.3.11:** By 7/31/09, tactical planning among Federal, State, local, and tribal governments occurs at the regional interstate level.
 - **Supports Initiative 1.3:** Integrate strategic and tactical emergency communications planning efforts across all levels of government.
- ☑ All 24 State planning regions were directed to assess regional communications interoperability and develop communications SOPs and COG TICPs. Each region also identified interoperability needs to be addressed within the next three years.
- **NECP Milestone 3.1.37:** By 1/31/10, emergency response agencies program an appropriate set of frequency-band-specific nationwide interoperability channels into all existing emergency responder radios and incorporate the use of the channels into SOPs, training, and exercises at the Federal, State, regional, local, and tribal levels.

- **Supports Initiative 3.1:** Standardize and implement common operational protocols and procedures.
- ☑ The TX Interoperability Channel Plan (TICP) is being used as the foundation for interoperability within TX. The TX Statewide Interoperability Executive Committee (TSIEC) will utilize the naming conventions as detailed in the NPSTC consensus plan as the basis for updating the existing TICP.
- **NECP Milestone 3.1.38:** By 7/31/10, SCIP reflects plans to eliminate coded substitutions throughout the Incident Command System (ICS), and agencies incorporate the use of existing nationwide interoperability channels into SOPs, training, and exercises at the Federal, State, regional, local, and tribal levels.
 - **Supports Initiative 3.1:** Standardize and implement common operational protocols and procedures.
- ☑ The TX Interoperability Channel Plan and Channel Plan MOU require agencies to use “plain language” without 10-codes or agency-specific codes/jargon.
- **NECP Milestone 3.2.39:** By 7/31/09, all Federal, State, local, and tribal emergency response providers within UASI jurisdictions have implemented the Communications and Information Management section of the NIMS.
 - **Supports Initiative 3.2:** Implementation of the NIMS and NRF (National Response Framework) across all levels of government.
- ☑ On February 23, 2005, Governor Rick Perry issued Executive Order RP 40 adopting the National Incident Management System (NIMS) as the statewide system to be used for emergency prevention, preparedness, response, recovery, and mitigation activities, as well as in support of all actions taken to assist local entities.
- **NECP Milestone 7.2.84:** By 7/31/10, complete disaster communications training and exercises for all 56 States and territories.
 - **Supports Initiative 7.2:** Implement disaster communication planning and preparedness activities.
- ☑ TX SCIP identifies the need to provide and require interoperable communications training, along with any and all emergency response and disaster management training, and exercises, at the regional level. This training is to be made available to all responders through various means such as classroom training, table-top drills, on-line and/or distributed workbooks, etc.
- **NECP Milestone 7.2.85:** By 7/31/10, all Federal, State, local, and tribal agencies in UASIs will have defined alternate/backup capabilities in emergency communications plans.
 - **Supports Initiative 7.2:** Implement disaster communication planning and preparedness activities.
- ☑ TX SCIP identifies three different redundancies in communication: 1)The Radio Amateur Civil Emergency Service 2) The TX Regional Response Network and 3) A Strategic Technology Reserve. Redundancies are in place on a State, regional, urban level.