

# **Regional Communications Plan**



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**HOTCOG  
Regional Communications Plan**

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# **Heart of Texas Council of Governments Regional Communications Plan January 2006**

## **Introduction**

The 2005 Texas Radio Communications Interoperability Plan mandates its Councils of Governments to achieve SAFECOM Level 4 Interoperability Status by January 2007. While the State developed a top-level plan, the State's Councils of Governments (COGs) have also been actively developing their own detailed regional plans. The Heart of Texas Council of Governments is on the cusp of achieving this level of Interoperable Communications and has developed its own regional communications plan. This "HOTCOG Regional Communications Plan" (HRCP) has been developed to serve as a roadmap and ongoing guide for HOTCOG agencies to achieve not only the mandates laid out by the State but to create effective interoperable communications vital and unique to the needs of its first responder agencies.

## **Strategic Overview**

The goals of HOTCOG are to achieve Level 4 Interoperability as defined in the Texas Radio Communications Interoperability Plan and to improve upon communications and interoperability by addressing the needs and requirements of first responders. The strategies to achieve these goals are multi-fold. HOTCOG intends to comply with the Texas Interoperability Channel Plan (TICP) as appropriate and as it applies to each agency, augmented by the utilization of the mobile communication trailers purchased through prior year projects, completing the implementation of the HOTCOG-wide Emergency Wireless Networks (EWN's), and insuring that all user equipment has the technical capability and channel capacity to be fully compliant and programmed to be fully operational in accordance with this plan.

Although the mobile communications trailers purchased in prior years have been obtained and equipped, their integration into the HOTCOG Interoperability Plan may not

be fully complete, yet they are operational to some extent. The implementation of the EWN equipment is nearing completion and its integration into the HOTCOG Interoperability Plan is ready to begin.

In order to fully implement the TICP, all user equipment and temporary base stations must be capable of operating in narrowband (NB) mode. There is also a requirement to fully integrate the EWN's into the HOTCOG Interoperability Plan. Part of this Regional Communications Plan Update is an attempt to identify what portion of the first responder user base has this capability and can be programmed on the NB interoperability channels (VCALL, VTAC's and EWN's) and what portion of the user base must be replaced to attain this level of operation.

Subsequent to a majority of the equipment being Narrowband-capable and possessing the capacity to support the total complement of interoperability channels in addition to their required daily functional channels, HOTCOG and its constituent agencies can make a push for full implementation of Level 4 Interoperability. In order to possess full Level 4 Interoperability, all equipment upgrades and implementations must be complete, all operating procedures and guidelines must be developed and all first responders should be trained in the use and limitations of the facilities provided.

### **Historical Activities**

The HOTCOG has been active the last few years assessing and improving their interoperable communications. The demographics of the HOTCOG mirror those of the State of Texas where a majority of the geography in the HOTCOG is serviced by communications systems in the VHF radio band while a majority of the population is serviced by an 800 MHz system owned and operated by the City of Waco. VHF will remain the primary operating frequency for the majority of public safety entities in the HOTCOG.

During the HOTCOG's prior interoperable communication improvements, five counties in the HOTCOG purchased communications trailers to be utilized as field command posts and mobile radio gateways with the ability to create audio patches between multiple frequency bands, modes, and systems. The trailers function as in-band and cross-band repeaters for all mutual aid tactical channels. From the COG's previous analysis, the current VHF repeater coverage provided in the various counties was insufficient. Therefore, the COG initiated a plan to implement six new VHF repeater systems (single-site, single channel), which provide VHF repeater coverage throughout the six counties. The six systems comprise the COG's Emergency Wireless Network (EWN). In essence, the EWN is the COG's own unique VHF mutual aid repeater network, providing reliable coverage and system-wide roaming throughout the HOTCOG Region, without relying solely on the VHF mutual aid frequencies specified in the TICP. The EWN channels are utilized with the same priority usage levels designated by the State for their VHF Mutual Aid channels.

Through the use of the COG's fixed and mobile gateways and the deployment of the Emergency Wireless Network, the COG has developed a communications infrastructure able to operate at Level 4 status.

## **Regional Plan Development**

The Texas Radio Communications Interoperability Plan of 2005 has identified Level 4 Interoperability as the minimum requirement that all regions should attain by 2007. Based upon its knowledge of its Region, capabilities and requirements, HOTCOG has decided to go above and beyond those minimum requirements. In order to supplement the state plan, it has established an objective to overcome the inherent limitations of the state plan as it specifically applies to the HOTCOG Region. Concurrent with the development of the Regional Communications Plan, HOTCOG has commissioned a study to identify its current status and its effectiveness at achieving Level 4 Interoperability.

This Regional Communications Plan is intended to conform to the Texas Radio Communications Interoperability Plan's timeline by striving to achieve Level 4 Interoperability by the end of 2006 at the Command Post level and at the dispatch level by the end of 2007. Therefore, this plan establishes short term goals and objectives in the 1-2 year timeframe and long term ideals at 3 years and beyond. HOTCOG anticipates that this plan and goals, and HOTCOG's accomplishments, will be re-evaluated on an annual basis and adjustments made according to its findings. The full implementation of the EWN will establish basic Level 5 status for VHF first responders within HOTCOG's six counties.

### **Short-Term Tasks**

First responder 800 MHz user equipment is currently programmed for the TICP 800 MHz mutual aid frequencies (NPSAC mutual aid frequencies). The next step to achieve full Level 4 interoperability is the programming and/or replacement of VHF public safety first responder user equipment to support TICP mutual aid frequencies and HOTCOG's own EWN channels.

**Task 1** The current task of the HOTCOG is the inventory of all first responder user radio equipment and classification based upon its adaptability to the overall goal of Level 4 Interoperability as envisioned by HOTCOG. Some of the radio equipment is not capable of supporting narrowband operations; therefore it cannot be utilized on the HOTCOG's EWN's and the TICP VCALL and VTAC channels. Some of these and others have limited channel capacity, and therefore, cannot simultaneously support all required mutual aid channels, EWN's and its department's own channel complement.

**Task 2** Concurrent with Task 1 above, HOTCOG is making a push to have all agencies within the Region complete and execute the Memorandum of Understanding (MOU) with the State of Texas concerning the use of the State Mutual Aid channels with the intent of being fully compliant by the end of 2006.

**Task 3** Once Task 1 above (user equipment inventory) is complete, HOTCOG will develop a funding plan, implementation plan and schedule to

replace all user equipment not capable of fully supporting its Regional Communications Plan. The programming of existing equipment that is capable of narrowband operation will be included in the implementation plan and schedule. Narrowband equipment with limited channel capacity will be replaced last and a limited channel set will be utilized in the interim.

**Task 4** HOTCOG intends to have the full complement of EWN's operational by the beginning of 2006. This will complete the tasks associated with the 2005 plan. The short term task for 2006 is the full implementation and integration of the EWN's including operational first responder equipment, development of written policies and procedures for the use of the EWN and completion of a Mutual Support Agreement (MSA) similar in nature to the State's MOU.

**Task 5** Although the communications trailers exist with the 5 participating counties, there is some question whether they are fully operational and available for their intended purpose. As part of HOTCOG's 2006 tasks, these trailers will be completed with all required programming, configuration, and maintenance.

**Task 6** HOTCOG will develop written policies and procedures to implement and utilize the regional communications and interoperability facilities provided to the first responder user and agencies as part of its 2006 short-term tasks. These policies and procedures will incorporate the following items:

- 1. Utilization of EWN**
- 2. Deployment and operations of communications trailers**
- 3. Monitoring and utilization of TICP calling channels**
- 4. First Responder Training**
- 5. Utilization of City of Waco NPSPAC Stations**
- 6. Operation of fixed gateways with the City of Waco**
- 7. Development and adoption of a Mutual Support Agreement**

**Task 7** The City of Waco is currently implementing three conventional 800 MHz repeaters on NPSPAC mutual aid frequencies per the TICP. Construction of the repeater infrastructure is expected to be complete in January 2007. HOTCOG will incorporate these facilities into the overall regional operational plans and work with the City to establish procedures for monitoring and utilization of the NPSPAC mutual aid channels per the TICP.

**Task 8** Since McLennan County primarily relies upon a fixed gateway rather than mobile (communications trailer) gateway, HOTCOG will work with the County to establish a fixed gateway between the TICP VHF calling and tactical channels through the use of a VHF Mutual Aid Base Station.

**Task 9** HOTCOG will work with McLennan County and its contract dispatch center, the City of Waco, to establish Fixed Gateways between the McLennan County EWN, the state's TICP interoperability channels, including VHF and NPSPAC.

**Task 10** HOTCOG will re-evaluate the Texas Radio Communications Interoperability Plan, State of Texas Interoperability Channel Plan and the state's position on VHF wideband and narrowband frequencies on a regular basis.

### **Long-Term Tasks**

If future HOTCOG progress assessments indicate that any of these above short-term tasks are not completed by the end of 2007 for logistical or funding reasons, these tasks should be added to the top of the list for long-term tasks in 2007/2008. In addition, these plan re-assessments may indicate a necessary redirection of efforts based upon future conditions placed upon HOTCOG and/or its constituent agencies.

**Task 1** Completion of any unfinished short term tasks identified above.

**Task 2** Identification of new tasks required or conditions requiring a redirection of efforts. This should be identified as part of the annual reassessment of progress and re-establishment or re-direction of goals and objectives.

**Task 3** During 2005, HOTCOG has funded a pilot program to establish a COG-wide data network. Although the initial application is Law Enforcement oriented, its long-term use could support additional functions, such as Emergency Management or first responder coordination and information sharing. HOTCOG will continue supporting and funding the deployment and integration of this data network throughout the Region.

**Task 4** HOTCOG will track the status of the State's narrowband VHF TICIP frequencies and incorporate into HOTCOG's capabilities at a time consistent with the State's Plan and implementation schedule. The state's TICIP and MOU recommend that the wideband VHF Calling Channels be monitored at Incident Command Posts in January 2006 and narrowband VHF Calling Channels be monitored at Dispatch Centers by January 2008. As a result of implementing the communications trailers in 2005, HOTCOG is compliant with the January 2006 recommendation. In order to be compliant with the 2008 recommendation, HOTCOG will develop a plan, policies and procedures for Dispatch Center monitoring of calling channels as part of the Short Term Tasks and will implement that plan as part of these Long Term Tasks in 2007.

**Task 5** Since the 800 MHz trunked radio system utilized by the City of Waco is nearing 20-years old, the City has instituted plans to eventually replace all or a large portion of the system and upgrade its performance and capabilities based upon current requirements. Any changes in the City's configuration will most likely be accompanied by a change in the NPSPAC mutual aid channels implemented by the City. Although the HOTCOG does not directly utilize the City system as part of its COG-wide interoperability plan, it will utilize the NPSPAC mutual aid channels implemented by the City. HOTCOG recognizes that any change or upgrade will have an impact upon first responder operations and the use of the communications trailers employed by HOTCOG for regional interoperability. Progress by the City in its upgrade quest will be tracked by HOTCOG and an assessment of the impact made on a regular basis.

**Task 6** HOTCOG will coordinate with the neighboring COG's and/or their constituent counties to develop long-term interoperability goals and planning, including mutual support agreements. This is intended to integrate the required capabilities into the HOTCOG's facilities and capabilities.

### **Progress Review**

This Regional Communications Plan is intended to be a "Living Document" whereby HOTCOG annually assesses its progress and shortcomings. Any tasks or activities not completed are reassessed, efforts redirected as appropriate, and added to the subsequent year's plan. Each year's plan will include appropriate prioritization and scheduling. In

addition, the operational environment is reassessed and new tasks required or conditions requiring a redirection of efforts are identified.

This annual reassessment of status and direction will assist HOTCOG and its constituent agencies in keeping itself on the forefront of functional interoperability, while taking advantage of new technologies and opportunities.