
# Annual Interoperability Report on Public Safety Communications in the State of South Dakota

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**Chairman, South Dakota Public Safety Communications Council**
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# Executive Summary

The South Dakota Public Safety Communications Council (SDPSCC) was created by Executive Order 2007-05 on March 14th 2007 with the following directive:

> *"The South Dakota Public Safety Communications Council shall foster collaboration among stakeholders at the local, federal, and state level."*

The communications landscape has been permanently changed with the construction of the statewide radio network. Previously the state-supported communications system primarily supported state users and traffic. The current system user base has 9% federal/tribal, 19% state, and 72% local participation by radio count. It has become more important that ever to integrate the views and needs of all users on the network.

Appointed to the PSCC are the following individuals:

Brandon Semmler (Platte Police Chief) -- SD Police Chiefs Association
Dave Ackerman (Sheriff, McPherson County) -- SD Sheriff's Organization **-- Executive Board**
Dan Satterlee -- SD Division of Criminal Investigation
Andy Albon -- SD Game, Fish, and Parks
Greg Fuller (Director of Operations) -- SD Department of Transportation
SSG David Goodwin-- SD National Guards
Harold Timmerman (Lincoln EM) -- SD Emergency Managers Association
Dennis Gorton (Pennington Co Fire Director) -- SD Firefighters Association
Rebekah Cradduck (Vice President) -- SD Association of Healthcare Organizations
Matt Tooley (Metro Communications) -- SD APCO/NENA Chapter **-- Chairman**
JD Geigle -- SD Emergency Medical Technicians Association **-- Vice Chairman**
Paul Reiter -- Great Plains Interagency Fire Center
Bob Wilcox -- SD Association of County Commissioners
Rick LaBrie -- SD Department of Health
Larry Jandreau (Facilities Director) -- Lower Brule Sioux Tribe
Federal -- Open
Jeff Pierce (Engineering Manager) SD BIT **-- Executive Board**
Jason Husby -- SD Department of Public Safety

The SDPSCC has met four times in Pierre during the 2014 calendar year: March, July, October, and December. The subject of long-term communications system planning and funding of that planning has had a priority item on each agenda. Other important agenda items covered included the Public Safety Broadband Network (FirstNet), prioritizing of additional system sites, encryption protocols, 700 MHz state plan, and upgrade status of the statewide system.

South Dakota can take pride in the fact that our state has one of the most comprehensive communications systems for first responders in the country. We have approximately 98% geographic coverage and nearly every local, tribal, federal, and state first responder has a radio capable of establishing communications instantly.

# Table of Contents

Executive Summary ..... 2
Table of Contents ..... 3
Purpose ..... 3
Introduction ..... 4
2014 SD Interoperable Communications System Report ..... 4
    Update Protocols and standards ..... 4
    Develop strategies and recommendations ..... 5
    Develop recommendations for legislation or other state action ..... 5
    Develop recommendations and strategies for best utilization of grant funding ..... 5
    Support Efforts of the 700 Mhz committee. ..... 5
    National Public Safety Broadband Network ..... 5
Statewide Radio Network ..... 5
Wireless Data Networks ..... 8
Regional Communications ..... 8
Conclusion ..... 9

# Purpose

As required by the bylaws of the SDPSCC: *(5) prepare and submit an annual report to the Governor, the BIT Commissioner, and others as necessary on the status of communications interoperability in the state;*

# Introduction

The State of South Dakota recognizes the importance of communications interoperability within our state. As a rural state, we rely upon multi-agency response and shared resources to cooperatively provide for the public's safety.

This report serves to update the Governor, BIT Commissioner, and others on the progress of the SDPSCC on the following charges outlined in Executive Order 2007-05.

- Update Protocols and standards for the operation and use of the South Dakota Interoperable Communications System
- Develop strategies and recommendations to improve current and future operations of the radio network
- Develop recommendations for legislation or other state action that may be required to further promote public safety communications in South Dakota
- Develop recommendations and strategies for best utilization of grant funding to improve communications in South Dakota.

# 2014 SD Interoperable Communications System Report

The progress of the PSCC is not limited to the responsibilities charged to it in the introduction above, but this report will concentrate on those points and then provide a general technical and statistical overview of the network, and other communications activities.

### Update Protocols and standards for the operation and use of the South Dakota Interoperable Communications System.

SCIP-- *Statewide Communications Interoperability Plan*. Each state is required by Public Law 110-53, part of the 911 Commission Act of 2007 to annually update and demonstrate conformity with the conditions and requirements set forth in 110-53. The SCIP is taking on a more encompassing scope including statewide and region-wide communications capabilities and protocols. South Dakota took advantage of Department of Homeland Security Technical Assistance to update the South Dakota SCIP. Changes to the 2014 SCIP include:

- ☐ Integrating broadband and the NPSBN project into our overall communications system planning and protocols.
- ☐ Updating of all perceived gaps and associated milestones.
- ☐ Specific alignment to the goals of the National Emergency Communications Plan.
- ☐ Providing a more strategic look at communications planning in South Dakota.

**Develop strategies and recommendations to improve current and future operations of the radio network.**

Radio System Upgrade. The current trunking network with the upgrades in 2013 and 2014 will provide equipment and software support through at least 2025. Prior to that date when support expires, South Dakota will need a plan for the next generation of communications in our state. At no time in the history of Land Mobile Radio technology has there been such so many changes that affect the view ahead. Advances in radio technology, the emergence of broadband wireless services with public safety applications, and other factors have challenged the council as we struggle to develop a technical and associated business plan for the next quarter century.

**Develop recommendations for legislation or other state action that may be required to further promote public safety communications in South Dakota.**

The council encouraged adoption of a budget in line with the previous budget to maintain infrastructure within the state. A recommendation adopted during the December 2014 meeting tasked BIT with a charge to look ahead and beginning budgetary planning for additional sites and an eventual upgrade to the network infrastructure itself.

**Develop recommendations and strategies for best utilization of grant funding to improve communications in South Dakota.**

Homeland Security grants are approximately 10% of the amount received in 2004. With that in mind, the council has been judicious in recommendations not only for the network, but also in any policies that affect users of the system who might rely on grant funds to meet those policies.

**Support Efforts of the 700 Mhz committee.**

Each state is tasked with the responsibility of developing a statewide plan for the 700 MHz spectrum allocated to each state. The SDPSCC is acting as the governance body for that committee. Activities for this responsibility should conclude in 2015.

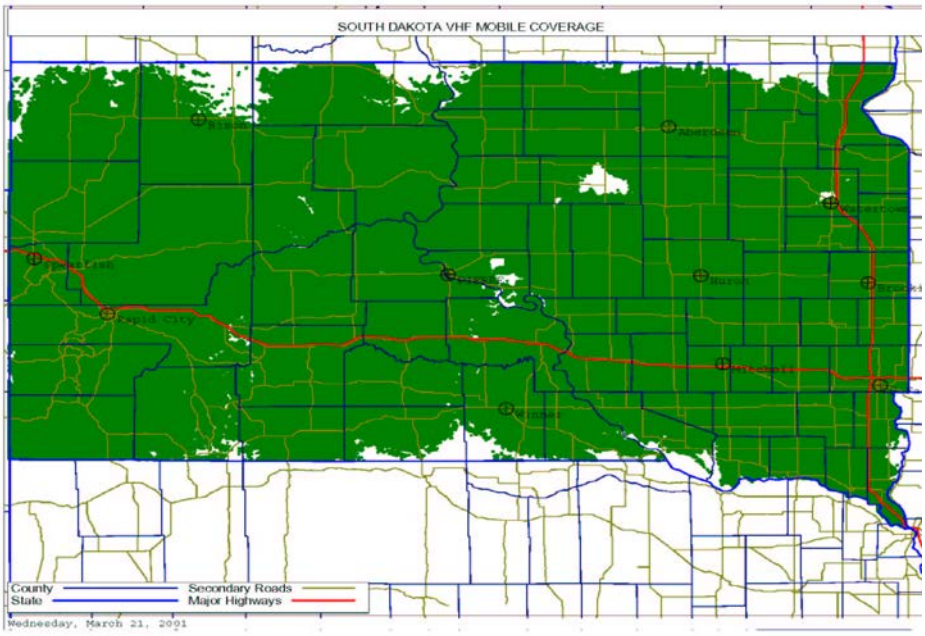
**National Public Safety Broadband Network**

In keeping with the mission of the SDPSCC and its service to Public Safety Communicators across the state, the council is also serving as the governance for the National Public Safety Broadband Network (NPSBN), also known as the FirstNet project. The council has been providing oversight and guidance for outreach and data-collection activities within the state.

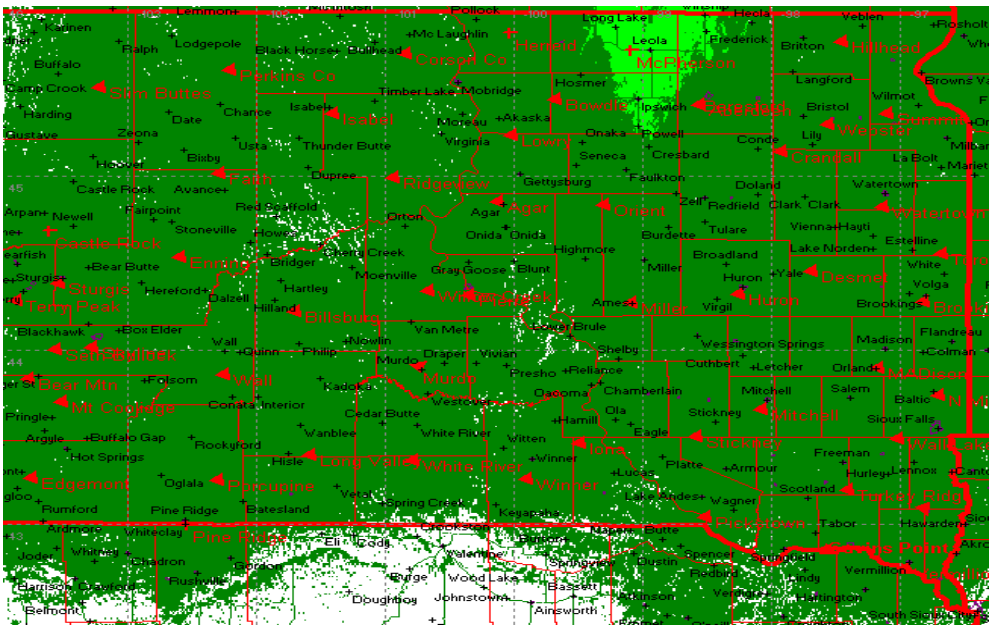
## Statewide Radio Network

System

The current radio system serving the State of South Dakota was offered for service in October of 2002. The system at that time had 35 regional sites, approximately 9,000 radios, and covered 90% of the geography of the state. (See below map)




Over the course of the past12 years, and additional 23 sites have been installed, and over 14,000 radio ID's have been added to the network. The current system has 58 sites on line, 268 voice repeaters, and now exceeds 98% of the geography of the state. (See below map)



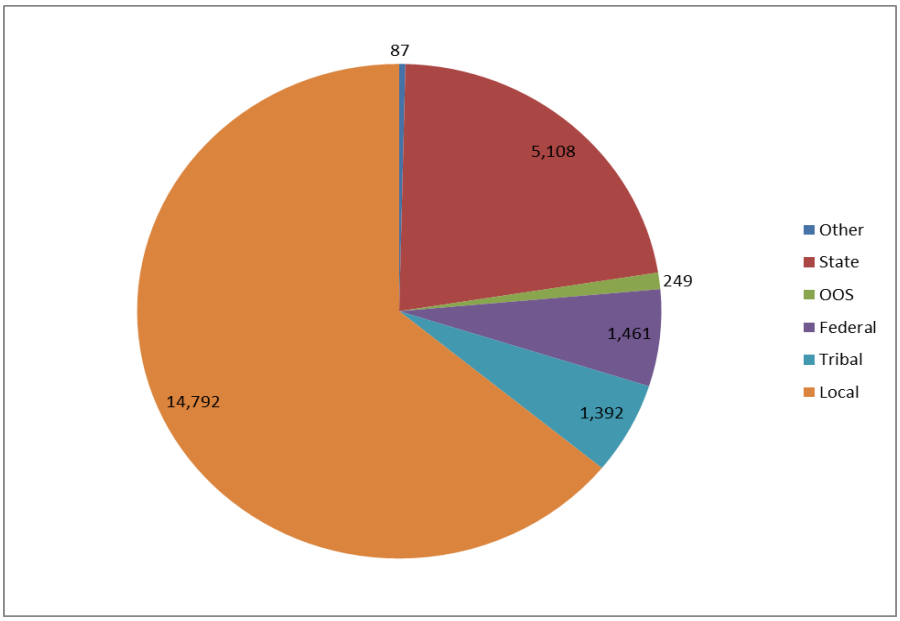
During the course of the current calendar year (January -November) the system has shown:

- 23,512,796 radio calls over the network.

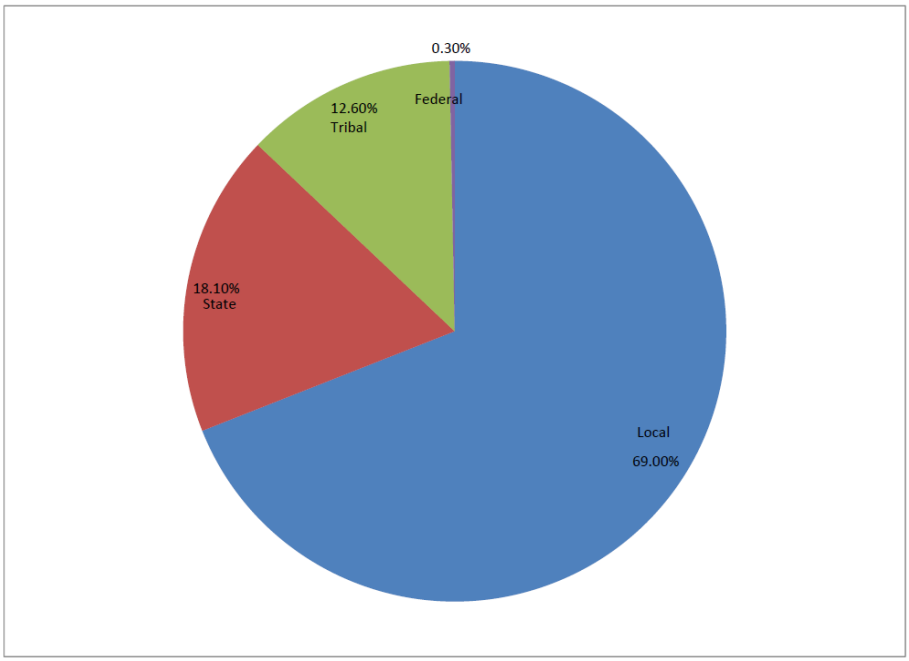
- 70,397 radio calls on the average per day.
- 2,200,209 radio calls over the busiest site -- Sioux Falls Simulcast.
- 5,329 radio calls per month on the least busy site -- Slim Buttes (Harding County)
- 2,325,225 radio calls during the busiest month -- August (Sturgis Rally)

System Statistics

**Radio Users (23,089 Total Radio ID's)**




**System Use**




Improvements made in 2014 to the network:

- McPherson Site. Installed a new site west of Leola that significantly improved coverage in McPherson, northern Edmunds, and western Brown counties.

- Upgraded the Master Site controller in Pierre to 7.13 (latest release), which will be supported by vendor through 2025.
- Replaced RF equipment at all sites ensuring vendor support through 2025.
- Continuing process of upgrading tower lighting.

Areas underserved that need to be addressed at some point:

- Union County, southern part of county is not well served by current sites.
- Chamberlain, Presho, Kennebec areas.
- Hot Springs area, work to improve coverage.

State Radios

Most radios in used by state agencies have been upgraded and will have continued vendor support for the foreseeable future.

Local Radios

Most Motorola radios in used by local agencies have been upgraded and will have continued vendor support for the foreseeable future. Many EF Johnson radios that were originally issued are either still in use or being returned and re-issued to other agencies needing additional radios.

Tribal/Federal Radios

The BIT State Radio staff does provide limited technical assistance with the federal and tribal radios operating on the statewide system, but generally are self-maintained.

## Wireless Data Networks

The passage of the Middle Class Jobs Creation Act of 2012 included an outline and initial funding for a nationwide public safety high-speed data (broadband) network, or the National Public Safety Broadband Network (NPSBN). When implemented the system will use commercial standard technology (LTE), and will offer a standard data platform for users across the country. An organization (FirstNet) has been set up under the US Department of Commerce to administer the system.

South Dakota has been preparing for the network by establishing a Point of Contact and backup (Jeff Pierce and Matt Tooley), and designation of the South Dakota Public Safety Communications Council as the representative governance. Mike Waldner has moved over from the State Broadband Initiative (SBI) and will be functioning as project manager. South Dakota was awarded a grant in the amount of $1,217,103, with an expected match amount of $309,708 to provide outreach, education, and data collection over the next three years for the ultimate rollout of the nationwide public safety broadband system. A significant amount of time was spent during 2014 to identify users, build a contact list, and attending association meetings explaining the process.

## Regional Communications

State technical staff has been engaged with bordering states for many years working on cross-border communications. State Radio technicians have been installing repeaters along

the border which will enable at minimum dispatch to dispatch communications with the intent on improving unit to unit communications.

The States of Wyoming, Montana, North Dakota, Minnesota, and Iowa have all installed or are in the process of installing networks that would be compatible to the system upgrade being considered in South Dakota. Cross-border interaction of first responders in the Emergency Medical Service, fire, and law-enforcement disciplines is routine and better communications will only improve public safety.

First responders from across the state are participating in a FEMA Region 8 working group on interoperable communications. John McQuillan from the Brown County dispatch center and Jeff Pierce with the Bureau of Information & Telecommunications are representing our state well in this group.

Public Law 110-53 also requires each state to have a full-time interoperability coordinator or equivalent. Jeff Pierce from the SD Bureau of Information & telecommunications is currently serving this function and is part of a national group working on communications both in-state and nationally.

# Conclusion

South Dakota maintains one of the more comprehensive communications systems from a coverage and participation standpoint in the nation. It has taken the trust of our entire first-responder community, and a willingness to understand that in a rural state such as ours that nobody operates alone to accomplish this in our state.

We do have challenges ahead.

- The technology path future is not clear at this time. With the growing influence of broadband in the public-safety sector, there may be some voice options if and when the broadband coverage is commensurate with our current radio system. Our current system has support for the next 10 years, but the design and finance planning for any upgrade needs to be completed and in place before we end up with an obsolete system. A significant challenge for the council and state ahead.
- Our tower infrastructure is aging, with many sites constructed in the 1970's under significantly lower engineering standards. We will be replacing two towers during 2015 at an estimated cost of $250,000, but considering the size of our network and that these towers are regularly inspected, we may find more that are deficient.

The PSCC is pleased to report that interoperability in South Dakota is meeting the needs of our first responder community, and is advanced both regionally and nationally. We have challenges ahead to maintain that standing, and will need to maintain this as a priority within our state. Our council will strive to ensure that this progress continues.