

# Governance of Information Technology and Public Safety Communications

Evaluation Report  
March 2008

Office of Performance Evaluations  
Idaho Legislature



Report 08-01

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Maxine T. Bell

Clifford R. Bayer

Donna Boe

Rakesh Mohan, Director  
Office of Performance Evaluations

# Governance of Information Technology and Public Safety Communications

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# Office of Performance Evaluations Idaho Legislature

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**Rakesh Mohan**  
Director

## **Joint Legislative Oversight Committee**

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Donna H. Boe

March 18, 2008

Joint Legislative Oversight Committee  
Idaho Legislature

Last July you directed us to review information technology within state government and public safety communications statewide. You were interested in how resources in these areas were being managed.

We conclude in this report that state governance of information technology and public safety communications has not been strategic and well integrated. Leadership responsibilities have generally been left to individual agencies, resulting in fragmented planning efforts with limited coordination. The state does not have the information it needs to ensure that information technology investments are cost effective, and it does not have the governance structure to ensure that efforts to improve public safety communications statewide are appropriately coordinated.

Recent organizational changes at the state level hold promise for clarifying leadership responsibilities, but important questions remain outstanding. Our report offers 23 recommendations to the Legislature, the Governor, the Office of the Chief Information Officer, the Information Technology Resource Management Council (IRTMC), the Public Safety Communications Governance Council (PSCGC), the Statewide Interoperability Executive Council (SIEC), and the Emergency Communications Commission (ECC) to help establish stronger governance, planning, and coordination efforts.

This study would not have been possible without the technical assistance and cooperation of many state and local agencies. Written responses from the Governor and eight state entities are included at the end of this report.

Sincerely,

A handwritten signature in blue ink that reads "Rakesh Mohan".

Rakesh Mohan

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## *Executive Summary*

# **Governance of Information Technology and Public Safety Communications**

*State governance of information technology and public safety communications has not been strategic and well integrated. Leadership responsibilities have generally been left to individual state agencies, resulting in fragmented planning efforts with limited coordination. The state does not have the information it needs to ensure that information technology investments are cost effective, and it does not have the governance structure to ensure that efforts to improve public safety communications statewide are appropriately coordinated. Recent organizational changes hold promise for clarifying leadership responsibilities, but important questions remain outstanding.*

## **Legislative Interest**

Information technology and public safety communication matters are of key legislative interest. Over the last three fiscal years, the state has spent an estimated \$428 million on information technology (IT) projects. Information technology leadership has proposed recent changes that may greatly affect the way technology is managed by the state. The ability of different public safety agencies at both the state and local level to communicate effectively during emergencies is of concern, as was demonstrated during Hurricane Katrina and the events of September 11, 2001. The rough cost estimates for a new statewide radio system are approximately \$298 million, to be shared among the state and local governments. Given the magnitude and complexity of these investments, the Legislature needs to know how these resources are being managed.

## **Information Technology: Clearer Leadership and Formalized Governance Processes Are Needed**

The state has not taken a coordinated approach to meeting its information technology needs. Although the Information Technology Resource Management Council (ITRMC) was created to facilitate a centralized approach to information technology planning and management, the council has only used its authority in a limited manner. As a result, IT resource planning has largely been left to

individual state agency management. Information is not currently available to answer the following essential questions:

- How much is the state spending on information technology?
- Are information technology investments helping state agencies provide improved services to the citizen of Idaho?
- Are IT processes properly planned and coordinated to avoid duplication of effort and ensure successful projects?

ITRMC has developed a state IT plan and established requirements for state agencies to complete individual IT plans that is consistent with leading industry practices. However, compliance with this planning requirement historically has been weak. Recent changes that link completion of agency IT plans with expenditure approval may help improve planning and collaboration efforts. To ensure these efforts are successful, leadership and governance processes need to be formalized.

## **Technology Costs Are Not Reported Consistently**

We identified several concerns with the IT expenditure information available in the state's accounting system. Comprehensive information on how much is being spent on IT and how these funds are used is not readily available. State agencies use different methods of tracking their IT costs. As a result, certain expenditures are not reflected in the state's accounting system and actual costs for IT services provided from one agency to another are difficult to identify.

## **Oversight Process for Large-Scale IT Projects Is Not in Place**

Information technology projects within state government can be as large and complex as capital construction projects, yet they do not receive the level of coordinated oversight necessary to help ensure they are effectively planned and implemented. Although ITRMC was given the authority to review and approve large-scale projects, it has not carried out this responsibility. As a result, the state does not currently have the processes necessary to help ensure IT projects are cost-effective, aligned with long term needs, and appropriately managed.

Efforts are underway within ITRMC and the Office of the Chief Information Officer to develop large-scale IT project oversight procedures that align with widely accepted practices in the public and private sector. These efforts are still under development and the roles and responsibilities of the Office of the Chief Information Officer and ITRMC need to be defined.

## **Planning for Common IT Needs Should Be Improved**

State agencies share many of the same information technology needs, including the need for e-mail systems, computer networks, and desktop support. However, under ITRMC, planning efforts have not been undertaken to coordinate or consolidate delivery of these services. As a result, state officials do not have comprehensive information on the number of different IT systems in place across state agencies, to what extent duplication is occurring, and whether collaboration or sharing of services is possible.

Individual agencies have shown leadership to develop and share such services across state agencies. The practice of developing such consolidated services is consistent with leading practices. However, agencies are not required to use these services. Current IT leadership is in the early stages of developing plans to consolidate some of these common services.

## **Public Safety Communications: State Leadership and Coordination Are Needed**

The state is involved in an initiative to help develop a new public safety radio system for state government and statewide public safety agencies. Investments in a new radio system are needed to meet federal deadlines for changes to radio spectrum usage, as well as to meet the communication needs of local public safety agencies such as fire, police, and emergency medical services.

However, planning efforts for the new radio system have been dispersed across several state agencies without central leadership or coordination. Although planning by local public safety agencies and individual state agencies has proceeded through the work of the Statewide Interoperability Executive Council, state government itself has not effectively conducted its own planning effort. State agency planning efforts have not been coordinated, and the state has not developed a plan for state government as a whole. Leading practices highly recommend effective state government-level leadership for developing a statewide radio system and ensuring the efforts of the local and state agencies are effectively integrated. The absence of clear leadership for this project has impacted the progress of the planning efforts because the role of the state and its policy direction remains undefined.

## **Planning Efforts Should Be Strengthened for a Statewide Interoperable Radio System**

The state's creation of the Statewide Interoperability Executive Council was consistent with leading practices for developing a new statewide interoperable radio system, as well as the council's completion of high level planning.

However, important decisions have been based on these preliminary efforts without further analysis or planning. The Statewide Interoperability Executive Council selected its choice of radio system designs prior to completing a detailed analysis of user needs and comparing the costs and benefits of other alternatives. In addition, the council's decision to base its vision for a statewide radio system on one specific system design was not consistent with leading practices for maximizing local government acceptance. Broader policy goals for achieving interoperable communications that incorporate multiple radio system options should also be considered.

## **State and Statewide Interoperability Executive Council Efforts Need Improved Coordination**

The creation of the Public Safety Communications Governance Council for state government agencies holds promise to unify state leadership of public safety communications. However, neither the Statewide Interoperability Executive Council nor the state have yet developed a detailed plan for the new radio system and key questions remain unanswered:

- What are the respective roles of state government and the Statewide Interoperability Executive Council in planning and developing the new radio system?
- What are the statewide needs and goals for the new radio system and what are the options for meeting them?
- How much do the system alternatives cost and how will the costs be shared?

Our survey of local public safety organizations showed that concern exists among local governments over the lack of a detailed plan to assist them with their own radio system planning and a perception that the Statewide Interoperability Executive Council did not represent local interests. In addition, the council and the state's recent process to award local grant funding for interoperability projects was not done in an open manner and did not provide adequate notice or information on the grant evaluation criteria. Although the federal grant program intended for award decisions to be made in the context of a detailed statewide plan, such a plan has not yet been developed.

## **State Has Not Provided Strong Leadership for 911 Service Delivery**

The state has not taken a direct role to improve the delivery of 911 capabilities across the state. The Emergency Communications Commission was created by the state to facilitate the planning of 911 services and has taken appropriate first steps to initiate its planning activities. However, the commission was not

provided with the authority or funding to lead a statewide 911 effort, as recommended by national 911 organizations.

Idaho's delivery of 911 services is well behind that of most states. According to national statistics, Idaho ranks among the bottom three states in its delivery of wireless 911 services to its counties. All states that neighbor Idaho, except Wyoming, have better 911 service delivery.

## **Current Funding Method Does Not Provide for Statewide Planning or Accountability**

Idaho is only one of six states that does not have a central authority to oversee or manage the collection and distribution of statewide 911 revenues. These fees, totaling \$40.8 million over the past three fiscal years, are collected and distributed to public safety agencies solely at the county level. With the creation of 911 fees, the state intended to improve public safety by strengthening the capabilities of 911 systems across the state. For the achievement of these goals, appropriate oversight must be in place to ensure that the funds are being collected and used for their intended purpose.

Because the 911 funds do not flow through the Emergency Communications Commission, the commission cannot currently verify whether all of the funds are being collected. Counties are required to have these funds audited annually, but the commission has not requested documentation to ensure the audits are occurring. Inconsistent with leading practices, the commission has not had the funds to support the needs of small, rural counties that lack the resources to invest in their 911 equipment.

## **Future Direction for Information Technology Management and Public Safety Communications**

Changes in technology are affecting both the operations and the governance needs of information technology and telecommunications. These changes have blurred the line between the historically distinct communications functions of 911 operations, public safety radio, and broadband, which will soon be using much of the same infrastructure. Idaho's governance structures for information technology and public safety communications need to adapt to these changes to ensure that efforts are appropriately coordinated and to avoid costly duplication of communications infrastructure.

## **Recommendations**

### ***Chapter 2***

- 2.1 The Legislature should formally create the Office of the Chief Information Officer and clearly define its role, responsibilities, and decision-making authority with respect to the Information Technology Resource Management Council (see recommendation 2.2).
- 2.2 The Office of the Chief Information Officer should provide leadership for state information technology operations and initiatives, with the assistance of Information Technology Resource Management Council subcommittees. Council input and approval should continue to be required for matters that concern all state agencies, such as establishing information technology standards, providing processes for approving large-scale information technology projects, and creating the state information technology strategic plan.
- 2.3 The Governor should formalize through executive order the recently established process requiring the Department of Administration to ensure information technology funding requests are aligned with state and agency plans prior to approving the requests.
- 2.4 The Office of the Chief Information Officer should work with the Office of the State Controller to ensure that state agencies use the features of the statewide accounting system to its fullest extent in order to comprehensively track the overall state and project-related information technology costs.
- 2.5 The Office of the State Controller should conduct further training for accounting staff in all state agencies to provide for more consistent coding of information technology expenditures into the statewide accounting system.

### ***Chapter 3***

- 3.1 The Office of the Chief Information Officer should work collaboratively with the Information Technology Resource Management Council to develop clear roles and responsibilities, as well as policies, procedures, and criteria for the review and approval of large-scale information technology projects. This process should include a formal assessment as to whether projects meet the established criteria and whether projects are recommended for approval.
- 3.2 The Office of the Chief Information Officer and Information Technology Resource Management Council should ensure that project evaluation criteria include compliance with agency and state information technology

plans, agency strategic plans, and council standards, as well as sound analyses of lifecycle costs, benefits, risks, and project alternatives.

- 3.3 The Office of the Chief Information Officer should create a project management office to provide oversight and assistance for large-scale information technology projects. Criteria should be developed to determine the level of oversight and assistance required for each large project, based on state agency project management needs and skills.

## **Chapter 4**

- 4.1 The Office of the Chief Information Officer and the Information Technology Resource Management Council should develop policies to articulate the process they will use to select which systems will be consolidated or shared and clearly identify their respective roles and responsibilities.
- 4.2 The Office of the Chief Information Officer, with support and final approval from the Information Technology Resource Management Council, should develop a detailed plan for consolidating common IT services that should include the following:
  - Steps for collecting and verifying information and cost data for identified consolidation or shared services projects
  - An evaluation of the costs and benefits of building on the existing infrastructure of shared services and consolidations
  - Development of requirements and criteria for reviewing and approving consolidation initiatives that are aligned with leading practices for reviewing and approving large-scale IT projects

## **Chapter 5**

- 5.1 The Public Safety Communications Governance Council should provide a leadership role in ensuring that state agencies are appropriately informed and their radio system needs are appropriately integrated into planning efforts for a new interoperable communications system.
- 5.2 The Statewide Interoperability Executive Council and Emergency Communications Commission, in collaboration with the Public Safety Communications Governance Council, should develop a communications plan to ensure their planning efforts are closely coordinated.

## **Chapter 6**

- 6.1 The Emergency Communications Commission should develop a comprehensive strategic plan that establishes statewide goals and timelines for phase II compliance throughout Idaho and identifies specific strategies it will use to help local governments achieve these goals. This plan should be updated annually and presented to the Legislature.
- 6.2 The Legislature should consider providing the Emergency Communications Commission with additional dedicated funding so that it can directly support the improvement of E911 capabilities statewide. The commission should present to the Legislature a detailed plan explaining how much money is needed and for what specific purposes.
- 6.3 The Legislature should strengthen accountability over the collection, distribution, and expenditure of 911 fees. This may be accomplished by either:
  - replacing the current local fee collection system with a central system within the Emergency Communications Commission and requiring local governments to the commission to report on their use of 911 funds; *or*
  - authorizing the Emergency Communications Commission to require that local governments submit annual reports to the commission with the results of their 911 fund audits, detailing the amount of the fees collected, funds expended, and use of the funds.

## **Chapter 7**

- 7.1 The Public Safety Communications Governance Council and the Statewide Interoperability Executive Council should continue efforts to formally establish their respective policy authority, roles, and responsibilities. These efforts should specify what authority each council will have in the planning effort for the statewide interoperable radio system and how decisions will be made for planning, construction, maintenance, and funding the new system.
- 7.2 Following completion of the current needs assessment, the Public Safety Communications Governance Council and the Statewide Interoperability Executive Council should complete a clear, detailed analysis of the project options (e.g., 700 MHz or hybrid system). This analysis should include the following elements:
  - A detailed analysis of how the projects options meet the Statewide Interoperability Executive Council's strategic goals and the operational needs of both state and local public safety agencies

- A detailed analysis of the life cycle costs, benefits, and risks of each project alternative
- 7.3 The Public Safety Communications Governance Council and the Statewide Interoperability Executive Council should clearly articulate how the planning, construction, funding, and maintenance of the new interoperable communications system will be divided among state and local governments. The lead planning entity should build on the planning work completed to date (Interoperable Communications Technical Assistance Program, I-C-A-WIN) and develop a detailed strategic plan for the selected interoperable radio system. The strategic plan should identify goals, objectives, schedules, roles, responsibilities, and strategies for planning, constructing, funding, and maintaining the statewide system. This plan should also have measures to track achievement of the plan goals, such as goals for reaching specific levels of interoperability within identified timeframes.
- 7.4 The Public Safety Communications Governance Council has two members (director of Idaho State Police and director of Bureau of Homeland Security) serving on the Statewide Interoperability Executive Council. The Interoperability Council should add one additional state representative who can represent state government policy—not a state agency perspective—to the membership of the Statewide Interoperability Executive Council.
- 7.5 The Statewide Interoperability Executive Council should add additional representation from local public safety agencies in smaller jurisdictions so stakeholder input is evenly balanced among large and small local governments.
- 7.6 The Public Safety Communications Governance Council and the Statewide Interoperability Executive Council should continue to actively engage the federal government agencies operating within Idaho and the state’s Native American tribal governments in the planning process.

## **Chapter 8**

- 8.1 The Office of the Chief Information Officer, with guidance provided by Information Technology Resource Management Council, should lead the effort to develop a detailed strategic plan to integrate the state’s current and future broadband networks. The Chief Information Officer should closely collaborate with the Idaho State Military Division and the Public Safety Communications Governance Council to ensure that unique public safety communication needs are met.
- 8.2 The Information Technology Resource Management Council should establish a subcommittee (in consultation with the Office of the Chief Information Officer and the Public Safety Communications Governance Council) that is charged with monitoring changes in communications

technology, assessing the long-term impact of changes on the state's communications systems, and integrating the changes into the strategic plan.

- 8.3 The Public Safety Communications Governance Council should establish a joint workgroup with the Statewide Interoperability Executive Council and Emergency Communications Commission to study the common communications needs of public safety answering points and the proposed public safety interoperable radio system in light of impending changes in communications technology. This joint workgroup should prepare a state-level plan that includes recommendations for state governance of, and planning for, all current and future 911 communications functions. One objective should be to determine if the Statewide Interoperability Executive Council and the Emergency Communications Commission should be combined.

## Acknowledgments

We appreciate the assistance we received from the Office of the State Controller, the Department of Administration (including the Office of the Chief Information Officer), the Department of Health and Welfare (primarily the Emergency Medical Services Bureau), the Idaho State Police, the Idaho Transportation Department, and the Military Division (including the Bureau of Homeland Security, the State Interoperability Executive Council, and the Emergency Communications Commission). We also appreciate the input received from the legislative divisions of Budget and Policy Analysis and Legislative Audits, and the Division of Financial Management.

Jeff Shinn, Jennifer Hill, and Jessica Betley of the Office of Performance Evaluations conducted the study. Brekke Wilkinson assisted with conducting the survey and desktop publishing the report, and Margaret Campbell was copyeditor.

Four consultants made significant contributions to the study:

- Liz DuBois, Bellevue, Washington, conducted the study as project lead
- Mike Huddleston, Seattle, Washington, provided technical assistance for public safety communications
- Richard Hitch of RWH Consulting, Mercer Island, Washington, provided technical assistance for technology information
- Kathleen Sullivan, Ph.D., Oxford, Mississippi, performed a quality control review

# Chapter 1

## Introduction

*Technology developments constantly change how government conducts business. This report evaluates how the state is governing and planning for its information technology and public safety communications needs. The report also examines how technological advancements are requiring the state to modify its historical approach to governing information technology and public safety communications.*

### Legislative Interest

At its July 2007 meeting, the Joint Legislative Oversight Committee directed us to conduct an evaluation of information technology management (within state government) and public safety communications (statewide). The Governor supported the evaluation and asked for an assessment of the overall efficiency of technology management throughout state government.

The Executive Branch had proposed several changes to information technology management and structure within state agencies. In addition, the Governor had recently moved the state's public safety communications planning and operations functions to the Military Division. With these changes, procurement, infrastructure, and the overall management of information technology and public safety communications emerged as relevant and timely topics.

For the purposes of this report, the term *information technology* (IT) means the development, maintenance, and use of computer systems, software, and networks for processing and distributing data. The phrase *public safety communication* means public safety two-way radio systems, including dispatch centers and transmission methods such as radio, microwave, and fiber optics.

### Study Scope

The evaluation focuses on the following areas:

- How does the state manage public safety communications and information technology?

- What entities are responsible for managing the statewide public safety and information technology efforts? What are the roles and responsibilities of these entities?
- Are the state's public safety communications and information technology functions structured in a manner that allows them to operate effectively?
- How have other states approached public safety communications and information technology management? What are the leading practices in public safety communications and information technology management?

## **Evaluation Methodology**

Because there are two distinct sections to the report, we have summarized our methods separately.

### ***Information Technology***

This part of the study looked at state agency information technology governance and decision making, including procedures for planning, approving, and reviewing large-scale projects and delivering services common to multiple state agencies. Time constraints prevented a broader scope that would have included the IT costs of smaller agencies.

Our review of information technology included the following tasks:

- Interviewed officials of the state departments of Administration (including the Office of the Chief Information Officer), Correction, Education, Fish and Game, Health and Welfare, Labor, Police, Transportation, and the Office of the State Controller, the Military Division, and the State Tax Commission.
- Attended meetings and reviewed minutes of the Information Technology Resource Management Council (ITRMC) and the Information Technology Executive Advisory Council (an ITRMC subcommittee).
- Reviewed expenditure and appropriation documents of state agency IT activities, including large-scale projects.
- Engaged an experienced information technology consultant to assist the team with research into leading management practices for both the private and public sectors. The consultant also performed a review of the cost tracking practices used by state agencies with the largest information technology expenditures.

- Researched leading practice literature of information technology projects in government and private industry.
- Reviewed the leading practices of Idaho's neighboring states, as well as other states that are considered to be leaders in the field of information technology.
- Consulted with staff of the Legislative Audits Division.

### **Public Safety**

This part of the study evaluated the state's governance and planning for public safety communications systems in state agencies and local governments. We researched current literature on 911 communications and radio interoperability and studied the governance and planning practices of two state-level entities that have state and local government responsibilities: the Emergency Communications Commission (ECC) and the State Interoperable Executive Council (SIEC). We also monitored development of the new Public Safety Communications Governance Council (PSCGC).

To address the questions raised by legislators, our methodology included these tasks:

- Interviewed legislators, state agency directors and senior technical and policy staff, and local government organization heads who have first responder emergency responsibilities.
- Reviewed leading practice literature and national trends of governance and planning for public safety communications interoperability efforts and contracted with a consultant to assist our evaluation of Idaho's interoperability efforts.
- Attended several meetings of the State Interoperability Executive Council and the Emergency Communications Commission.
- Used a web-based electronic format to survey 241 police chiefs, county sheriffs, fire chiefs, and county emergency coordinators for their opinions and levels of satisfaction with current interoperability planning efforts in the state.
- Reviewed relevant legislative history, budget requests, and appropriation documents.
- Reviewed leading practices of states surrounding Idaho and several other states on governance of 911 systems and interoperable radio systems. For the purpose of comparing projected costs of these radio systems, we compared the states of Colorado, Michigan, Oregon, Pennsylvania, Washington, and Wyoming. These states have been cited as leaders in implementing interoperable public safety radio communications systems.

- Consulted with staff of Legislative Audits and Budget and Policy Analysis, the Office of the State Controller, and the Division of Financial Management.

## **Report Organization**

Information technology is discussed in chapters 2–4, and the topic of public safety communications is discussed in chapters 5–7. Chapter 8 describes overlapping characteristics of information technology and radio interoperability.

## Chapter 2

# Information Technology Governance and Costs

*The state has not historically taken a coordinated approach to meeting its information technology needs. Resources have been managed on an agency-by-agency basis with a limited amount of governance and coordination. As a result, the state lacks comprehensive, reliable information on how much it is spending on information technology, how these funds are being spent, and whether resources are used cost-effectively. Recent changes in policy and management practices are positive and consistent with leading industry recommendations. However, the overall information technology governance structure needs to be clarified and strengthened to ensure that individual state agency resources and expenditures are aligned with the state's long-term needs and goals in a cost-effective manner.*

### What Is Information Technology?

Idaho Code § 67-5745A defines information technology as computer hardware, computer software and services used or required for automated data processing, computer-related office automation or telecommunications. Information technology can also refer to large computer systems and networks (hardware) that are needed to run state agency computer applications (software). Exhibit 2.1 provides examples of the state's main information technology systems and the state agencies that manage them.

For purposes of this report:

The **state** refers to state government

**Statewide** refers to state and local governments

### Leading Governance Practices

We looked at information technology governance in the nearby states of Montana, Oregon, Utah, and Washington based on their recognized use of leading practices in IT governance, proximity to Idaho, and similarities in state government. In addition, Michigan and North Dakota were included in the analysis because they are routinely recognized as leaders in the IT field.

In conducting our research into effective information technology management practices, we show there is substantial uniformity with leading governance practices. The practices described below are very well established and are

### Exhibit 2.1: Examples of State Information Technology Systems

<u>IT System</u>	<u>System Description</u>	<u>Primary Agency Responsible for Management</u>
STARS	Financial accounting for all state agencies	State Controller
IDANET	Transfers data and voice information among offices within a state agency and among agencies	Administration, Labor, and ITRMC
Access Idaho	State of Idaho's web portal supporting e-government applications such as licensing, filing, and renewals	Administration and ITRMC
Statewide microwave backbone	Communications network for public safety radio, the Internet, and public television	Military
State agency radio system	Radio communications for state agencies	Military
Telecommunications	State agency telephone systems	Administration
E-mail	Storage and forwarding method of composing, sending, storing, and receiving messages over an electronic communication system	Agency specific
Data centers	Process and storage facility of critical computer systems and associated components	Agency specific

Source: Office of Performance Evaluations.

consistently cited by numerous sources, including the US Government Accountability Office, the National Association of State Chief Information Officers, the National Governor's Association, and the Center for Digital Government. These practices are also well established within the private sector.

Our research of leading governance practices for information technology shows substantial agreement on the practices that should be followed. A key principle in governing information technology is that IT should be viewed as an investment in improving the operations of state agencies and ultimately the quality and cost-effectiveness of services provided to the people. Information technology is integral to the core functions of state government, from delivering services to the public, to supporting internal management needs such as budgeting, financial management, payroll, and human resources. State employees rely on desktop computers, software, e-mail, and internet access to perform their daily work. The high costs and relatively high risks of failure for large-scale IT projects increase the importance of our awareness of how these resources are used.

Another principle of leading practice is using a coordinated, strategic approach to managing IT resources. Information technology policies, choices, and expenditures should be closely integrated with state agency operational needs and long-term goals of the state. This integration requires that IT investments are not considered on a project by project basis, but are evaluated for how they can complement each other. The following sections summarize leading principles and practices of IT governance.

### ***Central Governance and Coordination***

Information technology governance and management are becoming increasingly coordinated and centralized in the nation. In the past, IT decisions were made on an ad hoc basis by individual state agencies. This unplanned approach often resulted in duplications of effort, systems that were not compatible, and investments in projects that did not support the long-term needs of the agencies or the states. Central coordination of investments can prevent such inefficiencies. It will also help to ensure that the IT resources of states are being used to support central coordination of agencies' long-term goals for delivering and improving services.

Information technology projects are costly and inherently contain a lot of risks because of their complexity. In 2006, national statistics showed that IT projects had a success rate of only 35 percent. Failures are often due to inadequate planning and lack of project management controls and oversight. As a result, central oversight of large-scale projects has evolved as a leading practice.

Increased coordination will help ensure that state agencies can work effectively and efficiently together and IT investments are effectively helping agencies achieve long-term goals for improving government services. This national approach includes clear leadership, well-defined decision-making responsibilities, and the ability to set and ensure that statewide standards and policies are being followed. According to a 2004 survey by the Center for Digital Government, most states (86 percent) have a chief information officer (CIO) with policy making authority for IT investments, and somewhat fewer states (76 percent) also have an IT board that shares that authority.

Effective IT governance includes the following leading practices:

- Formally designate a central point of leadership for governance, either a chief information officer, a committee, or a combination
- Empower this central point to set standards and policies for effective and efficient delivery of statewide information technology services and to provide oversight of large-scale investments
- Establish a governance structure and oversight process that provide central coordination of common statewide information technology needs,

while allowing enough flexibility to ensure the unique needs of state agencies are met

- Link information technology expenditure decisions to (1) the mission-related strategic goals of state agencies, (2) the state's IT strategic plan, and (3) the budget and policymaking process

Those states recognized as leaders in IT management have both a chief information officer and an IT board. States in proximity to Idaho, including some that are considered to be leading practice states, typically have a statutorily established chief information officer with specific delegated authority to govern information technology. In addition, these states have some form of governing body to oversee all phases of an IT project, from approval to completion. For example, Michigan and Washington have a cabinet-level chief information officer who oversees a department broken down into organizational areas or divisions. In Montana, North Dakota, Oregon, and Utah, a statutorily-created chief information officer and an advisory board or council govern information technology.

Michigan charges its department of information technology with replicating IT leading practices. The department requires the approval of all IT budget requests submitted by state agencies. The state's budget office grants that approval only when the request conforms to the state's strategic management plan.

### ***Strategic Planning***

Public and private sectors widely accept the governance standard that IT expenditures should be viewed as an investment—improving the delivery of services to citizens. Operations, projects, and systems should be designed to support defined state and state agency operational needs and long-term goals. They should demonstrate how IT investments will enable the state to provide better services to the citizens of Idaho. Individual state agency efforts should also be coordinated to the extent possible, particularly within certain functions. For example, criminal justice agencies (law enforcement, courts, and corrections) often have similar information requirements for offenders as they move through the criminal justice system. State agency information systems should be effectively coordinated and compatible to provide for effective interagency information sharing.

Effective planning for IT investments includes the following leading practices:

- Strategic planning at the state and state agency level
- Integration of plans with strategic mission-related goals
- Oversight mechanisms to assist collaboration among state agencies with similar goals and needs

Two states—Montana and North Dakota—offer good examples of how to implement these leading practices. By statutory code, each state agency in Montana must complete an IT strategic plan and send it to the state’s department of administration for approval and alignment with the state strategic information technology plan. A state agency strategic plan must explain how the state agency’s mission, goals, and objectives support and conform to the state strategic information technology plan, and it must also indicate how the plan supports the state agency’s business needs. Furthermore, the plan must align with the biennial budget process of the state to ensure proper risk assessment and oversight.

In North Dakota, each state agency is required to appoint an IT coordinator who maintains a liaison with the overarching state information technology department. State agencies must submit a written request to the department for all acquisitions. The department reviews the request for conformance with state policies and procedures and may reject it if there is noncompliance. In addition, the department must take the strategic plan submissions of the individual agencies and develop long-term strategic goals and objectives for information technology that are applied at the state level. The department must also know the status of all major IT projects in process and document the investment benefits to the state.

### ***Access to Comprehensive, Reliable Cost Information***

For effective on-going governance and management of information technology investments, government entities should comprehensively understand their IT costs. The ability to accurately capture and monitor these costs is essential for ensuring accountability and effective budgeting practices. Cost tracking systems should be able to distinguish different types of costs, such as ongoing technology costs, the costs of one time projects, and personnel costs. This information allows state agency management and state decision makers to see where their expenditures are going, monitor trends, and plan for the future.

## **State Information Technology Governance Structure in Idaho**

In 1996, Idaho Code established the Information Technology Resource Management Council (ITRMC) within the Department of Administration. The council’s primary purposes are two-fold:

- Facilitate a centralized approach to the acquisition of information technology
- Develop a statewide strategic plan that ensures a coordinated approach to information technology in the state

According to the Department of Administration, the purpose of the council is to provide IT recommendations and comments on current and future plans, policies, standards, and guidelines for state agencies. In addition, the council has governance authority for the development and implementation of the state's IT strategic plan.

Idaho does not officially have a chief information officer or a separate information technology agency as found in many other states (all the states we researched have a chief information officer established in statute). In May 2007, the director of the Department of Administration announced that staff of the council and the IT-related staff in the department would be merged into a new Office of the Chief Information Officer (CIO). However, neither statute nor other executive action have officially designated a chief information officer.

Statute assigns some responsibilities to the Department of Administration for managing technology related functions, and the department director is chair of the council by statute. However, statute makes no mention of information technology duties in the Department of Administration. It only indicates the department is assigned the responsibility to control and approve the acquisition and installation of all communications equipment and facilities for all departments and institutions of state government. The department indicates that to abide by this duty, it established procedures in coordination with the Division of Purchasing to review all procurement requisitions for IT equipment. It also established a new process to review state agency IT budgets submitted to the Division of Financial Management. Most recently, the department introduced legislation in 2008 to clarify that its responsibilities include information technology.

## **State IT Governance Has Lacked Coordination**

Historically, the state has not employed a coordinated approach to meeting its information technology needs. State agencies largely operate independently when planning and investing in their information technology needs. Expenditure review typically occurs only during the budget process. Although a governance structure exists under ITRMC, historically the council has used its authority in relatively limited ways.

### ***Some Standards Have Been Established***

One duty of ITRMC is to establish IT policies, standards, guidelines, conventions, and risk assessment criteria for all state agencies. The council has used this authority to issue a state strategic information technology plan and to establish plans, policies, standards, and guidelines for IT use by agencies. Standards address topics such as networking, hardware, procurement, and security; policies focus on topics of planning, telecommunications, and security requirements.

Council policy indicates that state agency directors are responsible for agency compliance with ITRMC policies and guidelines. Without statutory authority to require compliance, the council has no formal ability to ensure that state agencies are following policies. In the absence of formal compliance authority, the annual budget and funding process is the only point at which oversight of IT expenditures can be exercised.

### ***Governance and Leadership Have Not Been Consistently Exercised***

ITRMC has the authority to recommend and coordinate the use and application of state agencies' information technology and telecommunications resources. It also has the authority to review and approve large-scale IT and communications projects. However, the council has not established a formal process for reviewing and approving large-scale projects. Although current council leadership has outlined a high level plan for large-scale project oversight, plan details have yet to be developed. Historically, some IT projects were discussed by the council, but our research indicates discussion occurred only after projects had already been funded. ITRMC has not had the resources to adequately implement such duties.

Under its statutory authority, the council has developed standards and policies for information technology in accordance with its mandates. However, until recently these standards and procedures have not extended to addressing more substantive goals of IT governance.

### ***Changes Underway***

Changes have been initiated over the last nine months since the Office of the Chief Information Officer was created. The council, the Governor, and Financial Management have collaborated to formalize a new structured process and framework for reviewing state agency IT expenditures by linking budgetary requests to agencies' IT plans. This new process will be discussed further in the following section, as well as in chapter 3.

## **Strategic Planning Is in Progress**

One of the council's primary responsibilities is to develop a statewide information technology strategic plan—which it has done. In addition, many of the goals in the plan are consistent with leading practices, such as aligning IT initiatives with broader goals of improving government services to citizens, finding ways to address IT needs from a state government perspective rather than an agency-by-agency basis, and facilitating collaborative IT efforts among state agencies. The council has updated the plan annually.

The council has also established policies requiring state agencies to develop and submit annual IT plans to ITRMC. The plans require agencies to provide information on planned projects within a four-year time period and describe how the projects relate to the agencies' mission, goals, business plans, and state strategic plan. Agencies also provide an outline of their total IT budget.

These ITRMC policies include many of the elements recommended by leading practices, such as goals to ensure information technology projects support the operational needs of state agencies and improve delivery of services to citizens. The policies are also consistent with the leading capital planning practice of having a multi-year plan for capital projects, rather than planning from year to year.

State agency compliance with this requirement has been very limited. From 2001 through 2004, the number of agencies, boards, or councils submitting plans each year ranged from 7 to 17.

### ***New Policy Changes***

In mid 2007, the council made important changes to the development of state agency IT plans that should greatly improve and strengthen the review process for expenditures. In July 2007, the Department of Administration and the Division of Financial Management issued a joint letter to state department directors and agency heads regarding this revision. The revised policy integrates a review of an agency plan with the budget process. Financial Management expects to review all IT-related budget requests to ensure that requests directly support the agency's plan. Furthermore, the Department of Administration indicates that each agency's plan and associated budget request will be assessed for compatibility with the state's IT strategic vision, ITRMC policies and standards, and integration with statewide IT initiatives. The Office of the Chief Information Officer, in collaboration with the council, has indicated it intends to review similar IT projects among state agencies to see if coordination is appropriate.

For the fiscal year 2009 budget development process, each executive state agency was required to submit an annual IT plan to the Office of the Chief Information Officer by August 15, 2007. As of February 2008, the council reported that 64 of 73 state agencies (88 percent) had complied with this requirement. Elected officials and the Legislature are exempt from this requirement; however, some officials may voluntarily submit their plans as requested by the Chief Information Officer.

Oversight by the Division of Financial Management greatly strengthens the IT expenditure review process. Formally linking plan and expenditure alignment to the budget process provides a compliance mechanism that was lacking in the past and should help ensure that state agencies submit their plans. In addition, the integration of state agency IT plans with the budget process provides context

for budgetary review of IT expenditures that historically has only occurred on an ad hoc basis. Rather than reviewing requests for IT projects on an agency-by-agency or project-by-project basis, this change provides for review of plans within the broader context of IT goals for the entire state government.

In August 2007, the Office of the Chief Information Officer published a progress report on the State of Idaho IT Strategic Plan that reflected these changes in policy. This update further emphasizes that the Chief Information Officer, in conjunction with Financial Management, will review state agencies' budget requests for alignment with their IT plans.

### ***Strengthening State Agency IT Plans***

We reviewed the IT strategic plans of ten state agencies with the largest IT expenditures for fiscal years 2005–2007.<sup>1</sup> We found all ten agencies have submitted an IT plan.

The strength of many plans varied, though most agencies attempted to comply with the planning process and guidelines set forth by the council. According to ITRMC guidelines, plans should include an executive summary, the methodology used to develop the plan, a list of IT projects with a plan of how the projects would achieve state agency business goals, and a narrative of how the agency plan is in accordance with ITRMC policies, the state plan, and the agency business recovery plan. Six of the ten state agency plans we reviewed provided the recommended elements, although most agencies could have included a stronger description of how their plans will help achieve agency business goals and objectives. The plan of one state agency clearly linked IT plans with their mission-related goals. The remaining three agencies only submitted some form of a project list.

Following ITRMC policies and guidelines would help make plans more effective for agency and state use. Adherence to these planning policies would also facilitate sound governance and oversight of IT investments, and help ensure that resource investments are directed towards achievement of their mission and goals.

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<sup>1</sup> The emphasis of this analysis was focused on general and dedicated funded agencies. Boise State University, Idaho State University, and the University of Idaho were excluded because each operates separately and independently from the regular state agency governance structure and derives funding from multiple sources. The Judicial Branch was also excluded from the analysis.

### ***Examples of Strong Planning***

The strategic plan submitted by the Department of Health and Welfare includes elements that are consistent with leading practices for information technology planning. The department has linked its plan to the overall agency strategic plan and business goals. The plan demonstrates how the department uses IT to support its overall mission. In addition, the information technology division within Health and Welfare is divided into organizational areas to support the different business needs of the department, a leading practice strategy to improve the management of IT projects and ensure that projects closely support financial and business objectives. To further align with industry leading practices, the department reports that it reviews business needs and helps ensure that future technology goals support those needs.

The Idaho State Police also submitted a strategic plan that includes elements consistent with leading practices. For example, the plan links its technology needs to its operational goals and indicates the agency intends to identify common agency wide IT needs and functions. The plan refers to the overall agency strategic plan and specifically identifies ways in which the two plans are linked.

Although these individual state agency plans include elements consistent with leading practices, as part of this review, we did not evaluate actual implementation of these plans or evaluate them for alignment with ITRMC's state IT plan.

### **Overview of State IT Expenditures**

Expenditures for IT include costs to support daily government operations such as the purchase of desktop computer hardware and software, as well as more substantial costs of implementing and supporting large, agency wide software systems and large computer networks. Expenditures also include the cost of personnel to maintain systems or provide computer support. State agencies receive annual funding from the Legislature to support these operations in three accounting categories: personnel costs, operating expenditures, and capital outlay.

We conducted an analysis of costs for fiscal years 2005 through 2007 to determine the level of IT expenditures in recent years and to better understand how costs are distributed.

#### ***Information Technology Expenditures: FY 2005–2007***

During fiscal years 2005–2007, state agencies spent approximately \$428 million on information technology. Nearly \$140 million (33 percent) was spent in personnel costs and slightly more than \$300 million (67 percent) in operating expenditures and capital outlay combined.

An intensive review of IT costs in every state agency was not practical given the timeframe of our study. Instead, we identified ten agencies incurring the largest IT costs during fiscal years 2005–2007 and focused on those agencies in more detail.

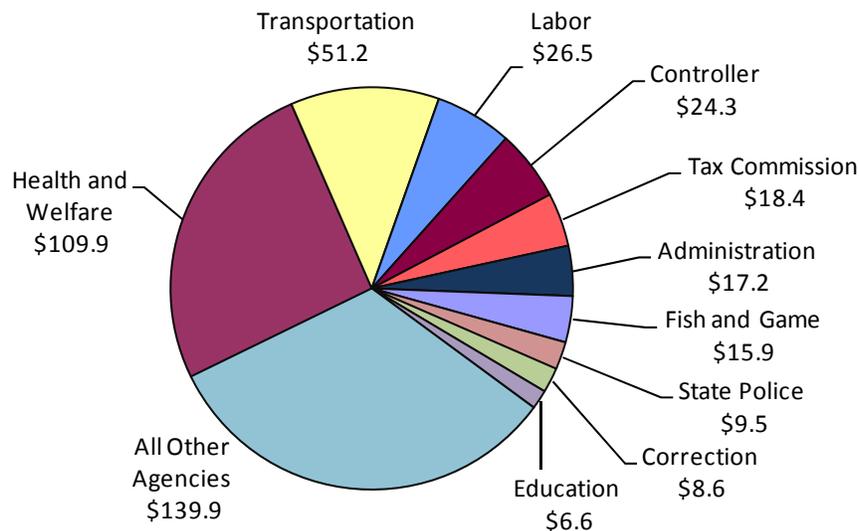
Exhibit 2.2 shows state agency distribution of IT expenditures for fiscal years 2005–2007. Ten agencies constituted 67 percent of state IT costs for the three year period. The Department of Health and Welfare was responsible for slightly more than a quarter (25.7 percent) of the state’s total IT expenditures, more than twice the expenditure level than that of the next agency, the Idaho Transportation Department.

### Information Technology Costs Are Not Reported Consistently

Our review of information technology costs revealed that expenditure data is not reasonably reliable to allow for effective oversight of IT costs. Because of the decentralized manner in which IT has been managed, costs are not reported

#### Exhibit 2.2: Information Technology Expenditures for State Agencies, Fiscal Years 2005–2007

Total Information Technology Expenditures for All State Agencies: \$428.0 Million



Note: Dollars are shown in millions.

Source: Office of Performance Evaluations’ analysis of IT expenditure data from the Statewide Accounting and Reporting System (STARS).

consistently. As a result, the state does not have an accurate understanding of its total IT expenditures and how these funds are being spent.

### ***State Agency Cost Tracking Methods Differ***

The state accounting system compiles expenditure information based on entries by individual state agencies. Guidelines are in place to assist agencies with entering data correctly, but oversight has not existed to ensure IT costs are entered in the Statewide Accounting and Reporting System (STARS) consistently by every state agency. Because of these limitations, there is no assurance that agency-to-agency comparisons are accurate or that comparisons within a single agency are consistently reported each fiscal year.

When we compared IT costs calculated by various state agency internal systems to STARS data, we found some significant differences in expenditures due to coding practices. For example, one agency reported that it had expenditures for IT personnel of \$400,000 more than what was reported in STARS. One reason for the reporting difference is that personnel job titles used internally by the state agency differed from those in the state's payroll system. Reconciling the different systems to obtain accurate numbers would require significant effort on the part of any state entity attempting to develop the more precise IT cost estimates needed by the state for effective IT monitoring and planning.

### ***Accounting System Is Not Fully Used by State Agencies, Some Costs Are Not Included and Others Are Counted Twice***

According to the State Controller, STARS has capabilities to track multi-year agency initiatives, including large-scale IT projects, but not all agencies are using this feature. Additional education and training for agency staff may be necessary. We found that some IT revenues and expenditures of website use were not reported in the accounting system and some IT costs were counted twice.

Although STARS is designed to meet essential accounting needs, some agencies are not using STARS to track IT expenditures at a detailed level and to distinguish between ongoing IT costs and the costs of large-scale IT projects. This is one reason agencies have developed or purchased their own internal financial tracking systems.

Some costs are not reflected in the IT cost information of STARS. For example, Access Idaho is a public-private partnership that provides direct IT services to many departments. The company recovers its costs by charging convenience fees to users (the public) when purchasing items from agency websites, so total IT costs are not fully reflected in the accounting system. Although Access Idaho expenses and revenues are tracked separately by the Department of Administration (which manages the Access Idaho contract), STARS data does not provide a complete picture of costs.

We identified some instances where expenditures may be included twice. The State Controller provides other state agencies with IT services from its Computer Services Center through service level agreements. Client agencies later reimburse the Controller for its costs. Our review determined that the costs of the Controller to provide these IT services and the costs of the agencies paying for services both appear in the accounting system data. To accurately present total state government's IT expenditures for fiscal years 2005 through 2007, duplicated funds of approximately \$21 million should be eliminated from the total IT costs. Total IT expenditures would be reduced from \$428 million to \$407 million.

Duplicative recording of expenditures occurs in other central service functions and is in accordance with Generally Accepted Accounting Principles (GAAP). However, this way of recording makes it difficult to accurately determine total IT spending.

## **Recommendations**

- 2.1 The Legislature should formally create the Office of the Chief Information Officer and clearly define its role, responsibilities, and decision-making authority with respect to the Information Technology Resource Management Council (see recommendation 2.2).
- 2.2 The Office of the Chief Information Officer should provide leadership for state information technology operations and initiatives, with the assistance of Information Technology Resource Management Council subcommittees. Council input and approval should continue to be required for matters that concern all state agencies, such as establishing information technology standards, providing processes for approving large-scale information technology projects, and creating the state information technology strategic plan.
- 2.3 The Governor should formalize through executive order the recently established process requiring the Department of Administration to ensure information technology funding requests are aligned with state and agency plans prior to approving the requests.
- 2.4 The Office of the Chief Information Officer should work with the Office of the State Controller to ensure that state agencies use the features of the statewide accounting system to its fullest extent in order to comprehensively track the overall state and project-related information technology costs.
- 2.5 The Office of the State Controller should conduct further training for accounting staff in all state agencies to provide for more consistent coding of information technology expenditures into the statewide accounting system.



## Chapter 3

# Large-Scale IT Projects

*As discussed in the previous chapter, the state's approach to governance of information technology has been decentralized, with limited coordination or oversight. This limited coordination extends to governance of large-scale projects. We identified examples of agencies applying strong practices, but the state's efforts to consider large-scale investments with a state perspective have historically been limited. Efforts are currently underway within the Information Technology Resource Management Council and the Office of the Chief Information Officer to align governance and planning practices for large-scale projects with widely accepted practices in the public and private sector. However, these efforts are still in the early stages. Although progress is being made, the state currently does not have the governance and planning processes necessary to ensure that large-scale information technology projects are aligned with state agency operational needs and goals.*

### Background

Idaho spends millions of dollars each year on information technology (IT), including new projects. Some of this money goes to systems that do not meet expectations or are never completed. In 2006, we reported on the Idaho Student Information Management System (ISIMS), a large-scale project terminated before its implementation. Prior to its termination, significant costs had been incurred and were projected to increase substantially.

The project, a statewide K–12 student data collection effort, had an original commitment of \$35 million by a private foundation. We determined that approximately \$23 million was spent by the foundation in the three years before the project was terminated. The project termination came following a report from a foundation consultant indicating successful completion of the project would have cost at least \$182 million. ISIMS is one example of a project that might have been successful if a more thorough approach to governance and planning had been taken.

## **Leading Practices for Large-Scale IT Projects**

Large-scale information technology projects represent significant investments and can carry a relatively high risk of failure. Our review of IT literature and the practices of some states identified a number of leading practices as discussed below.

### ***Central Oversight and Coordination***

Providing centralized oversight for large-scale projects has emerged as a leading practice. As mentioned in the previous chapter, leading management practices recommend that these projects be closely aligned with state agency strategic plans and long-term goals, as well as the state IT plan and policy initiatives. Central oversight includes monitoring large-scale IT investments to ensure they are appropriately aligned with both agency and state plans, policies, and standards. Central oversight can also facilitate cross coordination among agencies that have similar IT initiatives underway.

Recent studies performed by industry groups, the federal government, and other states have shown that increasing coordination and establishing oversight of large-scale IT projects have resulted in reduced costs, increased collaboration and standardization, and more effective prioritization of state resources. This coordination and oversight have also helped improve the success of large-scale, often high risk, IT initiatives.

### ***Project Management Office***

In the past, review and funding decisions for public and private sector large-scale IT projects were made on an ad-hoc, project-by-project basis, often during the annual budget process. However, the use of a central project management office to evaluate and oversee IT projects is now a leading practice in both the public and private sectors.

Project management offices serve as gatekeepers by reviewing large-scale IT project proposals for compliance with standards, policies, and plans, and they provide recommendations for whether proposals should move forward. State project management offices can also provide project management services to other agencies, ranging from planning assistance to a fully centralized project management function.

### ***Review and Approval Prior to Funding***

Proposed projects should be properly justified and consistent with state planning and standards prior to funding. Review should also occur during the budget process for a connection between funding requests and a state agency's IT goals and investment plans, as well as broader policy decisions of the administration. Sufficient project controls should also be established to review and halt projects that are failing to meet project goals.

Effective governance includes the following leading practices:

- Centralize governance and oversight of large-scale projects within IT leadership, possibly through a review board, a chief information officer, or a combination of the two.
- Provide a formal means to ensure that IT investment decisions are well justified by state agency business needs. No one standard governance model exists. However, a leading practice option is to have an IT review board that is representative of state agencies develop statewide standards, criteria, and processes for review of large-scale projects. The chief information officer will apply these standards, criteria, and processes to all agencies.
- Develop comprehensive information or a portfolio on projects underway or planned for the state. The portfolio would have the ability to track and manage the costs of large-scale projects separate from the costs of ongoing IT needs and can be adjusted as state and agency priorities change.

### ***Effective Project Management Oversight***

Although large-scale IT initiatives are not traditional capital facility construction projects, they are often as expensive and complex. They also require many of the same project management, cost estimation, and planning approaches. Given the high cost associated with these projects, large-scale IT initiatives warrant as much oversight as traditional construction projects. Nationally, large-scale IT initiatives have only recently received the level of required oversight.

According to leading practices, an effective IT governance structure will have (1) an oversight and review process to ensure that large-scale IT projects and systems are adequately evaluated for their economic soundness, (2) are aligned with agencies' long-term business needs, and (3) have appropriate project management oversight throughout implementation. These practices are very similar to those used for reviewing and overseeing capital construction projects.

Review of large-scale projects include the following leading practices:

- Establishment of project approval criteria and agreed upon review processes by an information technology review board and a chief information officer
- Assessment of whether the project is appropriately aligned with applicable agency and state IT plans and strategic plans

- Development of a comprehensive project justification based on sound economic analysis of the project and its potential alternatives, including analysis of life cycle costs, benefits, and risks
- Existence of appropriate project management skills and processes, as well as a project management plan, to ensure a project maintains its planned scope, schedule, and budget
- Establishment of processes for IT leadership to review the strategic IT plan and large-scale project for technical compliance, and the budget office reviews it for policy and funding decisions

### ***Model Practices in Other States***

In a recent state survey by the National Association of State Chief Information Officers, 27 states reported that they had established a statewide inventory and tracking system for IT projects and were in the process of developing criteria for project evaluation, selection, prioritization, and ongoing monitoring. Additionally, a 2004 survey by the Center for Digital Government found that 58 percent of states have an oversight process in place that both reviews projects prior to funding them and assists with their management through completion.

We researched Idaho's neighboring states, as well as others recognized as leaders in IT governance. The governance of large information technology systems in other states consists of various practices, although all possess an approval and tracking process. Successful states also have a process in place to review, evaluate, and prioritize IT projects. Project approval is required before the initiation of a project, and it is normally based on the submission of a business case explanation. The project is monitored with check points along the way.

#### **Montana**

For every capital IT project in Montana, each state agency submits a pre-published template detailing its IT plan. The plan is initially submitted to the information technology services division and the policy and planning services bureau for review, and upon approval, is submitted to the state chief information officer. The information officer then publishes the plan. If the plan is not approved under the criteria set forth by Montana statute, the areas of noncompliance will be identified and returned to the appropriate agency. In Montana, all plans are evaluated in direct response to the agency's business need and the agency must describe how its own business goals are supported by any IT initiatives.

#### **North Dakota**

State agencies in North Dakota must submit IT plans to their information technology department that in turn must submit proposed major information technology projects to a state information technology advisory committee. The

committee ranks and reviews all major projects and submits them to a management and budget office and the appropriations committees of the Legislative Assembly. The information technology department has the power to require a review of any project with a total cost of \$100,000 to \$250,000. Any project in excess of \$250,000 must be reported to the advisory committee. The committee must also be kept updated at all project milestones.

### **Oregon**

Large-scale project governance in Oregon requires that justification for a high-level business case be submitted to its administrative services department for projects whose costs exceed \$75,000. The business case must contain justification for the project, a cost estimate, a risk assessment, and a project plan. Oregon also requires that the project plan align with the state agency's strategic and business plans, the governor's priorities, and an enterprise information resources strategy. In addition, the plan must show what business and technology related benefits will be derived from the project.

### **Michigan**

Michigan law charges its information technology department with replicating IT leading practices. The charge includes developing a process to review, evaluate, and prioritize IT projects within the executive branch. Furthermore, IT projects in Michigan are managed in a project portfolio where each project must be accompanied by a business case explanation and abide by check points at progressive stages of the project. This governance structure has allowed for effective oversight and control of current and future information technology projects.

### **Washington**

Washington requires a feasibility study of all proposed IT projects, and state agencies must submit justification of a business case demonstrating how the project recovers costs or adds measureable value or positive cost-benefit functions. State agencies also submit information technology portfolios that disclose links among agency strategies, business plans, and IT investments for analyzing and mitigating risks associated with projects.

## **Oversight Has Not Been Consistent**

In Idaho, agencies independently manage large-scale IT projects without formal review by a central authority. Although ITRMC has statutory authority for both review and approval of large-scale projects, it has not formally implemented a review process. Per state code, a large-scale project approval is supposed to include a review of the state agency's risk assessment methodologies, using criteria provided by ITRMC. However, ITRMC has not developed such criteria. It has not developed criteria to ensure projects are aligned with IT and strategic plans or that costs, benefits, and project management plans are adequate prior to funding, as recommended by leading practices. Large-scale projects are not

defined in ITRMC statutes or policy. Our interviews with the Office of the Chief Information Officer and ITRMC members indicate that the council has reviewed some IT projects; however, the review was conducted after the projects had already been funded.

The state has some elements of leading practices in place. ITRMC's policy for major project review requires that agencies submit annual IT plans for comparison with the state IT plan and ITRMC policies and standards. The major project review policy states that ITRMC may perform a more detailed review of selected projects and require agencies to provide regular status reports on the scope, schedule, and budget of ongoing projects. Although compliance with this policy has historically been weak, the next section discusses changes underway to strengthen the process.

## **Recent Efforts Are Consistent with Leading Practices**

As discussed in chapter 2, the Governor, the Office of the Chief Information Officer, and the Department of Financial Management initiated a new process in 2007 requiring that state agency IT funding requests and projects be aligned with their IT plans, as well as in compliance with the state's IT strategic plan and ITRMC policies and standards. In order to be considered during the fiscal year 2009 budget process, agency IT budget requests were required to meet these conditions.

The Chief Information Officer is focusing more attention on ITRMC policy to review large-scale IT projects. At the ITRMC meeting in November 2007, staff presented the council's intent to begin reviewing these projects. Basic steps were laid out for the new process, including proposed criteria for selecting and prioritizing projects for review. The proposed project selection criteria included factors such as costs, new or complex projects, high visibility or large user base, and opportunities for considerable integration or interagency collaboration.

Also at the November meeting, council staff discussed some of the factors they will consider when approving large-scale projects. The factors include basic information such as planned project scope, schedule, budget, and cost benefit analysis, but also equally important questions of whether state agencies have appropriate project management controls in place and adequate staff resources to carry out the project. This process of approving large-scale projects is consistent with leading practices and should provide a better framework for IT leadership in overseeing projects with significant cost, impact, and risk.

## **Project Costs Are Not Readily Available**

We attempted to get information on how much the state currently spends on large-scale projects. However, we found that the state as a whole does not have, nor can it easily compile, comprehensive information on the type, number, and

costs of large-scale projects that agencies are implementing. Distinguishing the costs of large-scale projects from those of daily operations is important for several reasons. Financial investments in large-scale projects can be substantial—separate project monitoring can help ensure fiscal accountability and effective project management. Also, if costs of one time, large-scale projects cannot be isolated from those of the state’s ongoing IT business needs, the state will have difficulty monitoring and understanding cost trends and other changes in ongoing expenditures.

Neither ITRMC nor the Chief Information Officer have a sound understanding of what the state is spending on large-scale IT projects. The Chief Information Officer recently had to solicit a list from agencies of their large-scale IT projects because the information was not otherwise available. As discussed in chapter 2, many agencies have developed their own unique methods to track IT projects, even though the Statewide Accounting and Recording System (STARS) has the capability.

## **Projects Currently Underway**

For additional insight into costs, we reviewed budget request information on large-scale IT projects that are either underway or proposed for fiscal years 2007, 2008, and 2009. We focused on the ten agencies that spent the most on information technology. Several agencies have requested funding for large-scale projects in fiscal year 2009, and others received funding in the prior two fiscal years. This section highlights a few of the large IT projects underway.

### **Department of Health and Welfare**

In fiscal year 2007, the Department of Health and Welfare received an appropriation to begin replacement of its automated client eligibility determination system, projected to cost \$23.5 million. Health and Welfare also began to replace its Medicaid Management Information System at a projected cost of \$36 million. An enhancement to the department’s automated child support enforcement system (ICSES) is estimated at \$3.9 million. Total department project costs are \$63.4 million.<sup>1</sup>

### **Superintendent of Public Instruction**

In fiscal year 2008, the Superintendent of Public Instruction is requesting supplemental funding to create a K–12 education data warehouse system. Total one-time costs are estimated at \$4.5 million and ongoing costs at \$1.9 million.

### **Department of Administration**

In fiscal year 2009, the Department of Administration is proposing to consolidate e-mail servers within the state at a cost of \$236,200.

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<sup>1</sup> Funding for the Health and Welfare projects is split between the state general fund and federal grants.

These examples demonstrate the scale of IT projects undertaken by just three agencies. Additional large-scale projects are being contemplated by different agencies, although the size of these projects is not definitely known because of the limited availability of cost information.

Of the ten agencies with the largest IT expenditures, we found they do not follow a standard process or use standard evaluation methodologies to define proposed IT investments. Some agencies appear to have a sophisticated, formal methodology designed to evaluate and approve only those proposals that are cost effective and align with state and agency goals. Other agencies have very informal processes that do not provide assurance that IT projects are being rigorously evaluated and managed.

## **State Has a Capital Project Oversight Model for Non-IT Projects**

Like construction projects, large-scale IT projects are capital projects with high costs and complexities. The state uses a review process for planning and construction of capital facilities that is similar to one needed for oversight of large-scale IT projects. Prior to the budget process, the Permanent Building Fund Advisory Council reviews specific requests from agencies for major capital projects and makes a recommendation to the Governor and Legislature. Exhibit 3.1 illustrates the process.

Policies of the Building Fund Council include specific dollar thresholds that trigger various reviews to take place. The Building Fund Council requires a state agency presentation prior to the beginning of a bidding process for projects with an estimated cost range of \$150,000 to \$500,000 (except new buildings). For project costs over \$500,000 and for new buildings and additions, the Building Fund Council requires agencies to make a project presentation during the design phase and a final presentation when construction documents are finished.

The Building Fund Council's review process includes other requirements:

- Different levels of central management vary depending on a project's cost and complexity
- Annual submission by the Building Fund Council to the Legislature of a list of building requirements including construction, maintenance, and repair
- A formal report by state agencies of their five-year plan for facility needs

Similar processes and practices could be beneficial for the Chief Information Officer and ITRMC's proposed project review model.

### Exhibit 3.1: Capital Facilities Funding Process

<b>April</b>	Annual appropriations bill passed by Legislature.  Department of Administration solicits agency capital budget requests for the upcoming fiscal year.
<b>June</b>	Agencies submit data for preliminary overview including a brief description of projects and an estimated budget.
<b>July</b>	Agencies submit completed fiscal year project request.
<b>September</b>	Preliminary list of agency requests for upcoming fiscal year funding is submitted to the Governor's office.
<b>October</b>	Agencies present upcoming fiscal year requests to the Permanent Building Fund Advisory Council.  Division of Public Works sends its funding recommendations to the council.
<b>November</b>	Permanent Building Fund Advisory Council takes formal action on its upcoming fiscal year capital budget recommendations to the Governor.  The council's capital budget project rankings are forwarded to the Division of Financial Management, which forwards rankings to the Governor's office.
<b>January</b>	Governor's recommendations and operating budget forwarded to the Joint Finance-Appropriations Committee.  Division of Public Works Administrator presents capital project budget requests to the Joint Finance-Appropriations Committee.
<b>February</b>	Joint Finance-Appropriations Committee capital project budget recommendation for the upcoming fiscal year presented to House and Senate.
<b>March</b>	Appropriations bill is passed.
<b>April–May</b>	New projects are set up.

Source: Office of Performance Evaluations' analysis of the Facilities Funding Process and Timeline, *Permanent Building Fund Advisory Council*, 2002, 12-1.

## Recommendations

- 3.1 The Office of the Chief Information Officer should work collaboratively with the Information Technology Resource Management Council to develop clear roles and responsibilities, as well as policies, procedures, and criteria for the review and approval of large-scale information technology projects. This process should include a formal assessment as to whether projects meet the established criteria and whether projects are recommended for approval.
- 3.2 The Office of the Chief Information Officer and Information Technology Resource Management Council should ensure that project evaluation criteria include compliance with agency and state information technology plans, agency strategic plans, and council standards, as well as sound analyses of lifecycle costs, benefits, risks, and project alternatives.
- 3.3 The Office of the Chief Information Officer should create a project management office to provide oversight and assistance for large-scale information technology projects. Criteria should be developed to determine the level of oversight and assistance required for each large project, based on state agency project management needs and skills.

## Chapter 4

# Common IT Services

*This chapter discusses Idaho's governance and planning of information technology services common to all state agencies and important to the basic operational needs of state government. Our evaluation found the state has historically not taken a coordinated approach to meeting the common information technology needs of state agencies. With some exceptions, agencies may independently decide how best to meet these basic IT needs. Although some examples of effective centralization and coordination are occurring, little assurance exists that the state is not duplicating efforts and that these needs are being cost-effectively met.*

### What Are Common IT Services?

Common information technology (IT) services are those that are needed by virtually all state agencies, regardless of agency purpose, to carry out their day to day business. Examples include e-mail systems, computer networks, website and internet support, financial and payroll systems, and data centers that run large applications and store computer data. Because these systems and services provide a framework of support for everyday government operations, they are often referred to as infrastructure.

Different approaches exist for providing these services. Services may be managed individually by state agencies, facilitated or coordinated among several agencies, or centrally managed by a state appointed leader such as a chief information officer (CIO) or IT oversight board.

### Leading IT Practices

Governance and planning for delivering common IT services are increasingly becoming coordinated, and in some cases fully consolidated or centralized. This trend is occurring nationally in both the public and private sector. Many leading organizations are recommending consolidation because costs are lower and operations are improved. Because some IT needs are common to agencies throughout the state, decisions for how these needs are met should be considered on a state basis, rather than addressed on an individual agency basis.

Some of the primary areas that shared services or a consolidation approach are recommended include data centers, computer server and network management, e-mail services, computer hardware and software procurement, and financial and payroll systems.

### ***Planning***

As with large-scale IT projects and overall governance, leading practices recommend that states adopt a strategic approach for planning how to meet the daily IT needs of its state agencies. Planning for the common needs of all state agencies together, rather than one agency or project at a time, can result in the following outcomes:

- Prevent unnecessary and costly duplications of effort—higher costs associated with maintaining many small systems versus fewer larger ones
- Facilitate effective communications and sharing of data among state agencies and employees, as well as enhanced service delivery
- Ensure that state agency projects of common services and IT infrastructure are aligned with the state’s broader IT strategic plan
- Provide for common technical standards—policies and procedures facilitate a centralized approach to delivering IT services that meet the needs shared by all state agencies
- Free up time for state agency managers to focus on mission-related operations rather than maintaining computer services and support for their agency

A 2005 survey of shared services conducted by the National Association of State Chief Information Officers reported “a strong trend towards states consolidating key IT functions and utilizing the shared services model whenever applicable.” Survey results of 35 states show that more than 60 percent have begun or completed initiatives in these areas:

- Computer networks and servers
- Data centers
- E-mail systems
- Financial, payroll, and human resources systems
- Telecommunications
- Security and disaster recovery
- Website management

Although a trade-off generally exists between centralization and state agency flexibility, these services are consolidated as much as possible while ensuring that agencies’ mission-related needs are met.

Specific planning practices include completing an inventory of common systems and services. An inventory will provide context for the current state of common technology needs and identify areas of shared needs. Planning practices could also include a comprehensive plan for consolidating or establishing shared services with the mission-related needs of agencies, balanced with opportunities for efficiencies and cost savings.

### **Governance**

Effective governance is crucial when implementing state-shared or consolidated services. Clear governance, roles, and responsibilities are required, as well as formal representation and input from state agencies. Successful implementation requires the cooperation of many different state agency directors and a central management structure with effective communication and strong leadership skills. A state governance structure should have oversight mechanisms for common IT systems to ensure services are delivered in the most effective and efficient way possible. Although leading practices do not recommend one specific model, a chief information officer and an IT review board with broad representation from state agencies have been shown to be effective. Montana, North Dakota, Oregon, Utah, and Washington use similar governance models.

The IT review board and chief information officer should work together to develop a state plan, standards, and policies for how the state intends to meet common IT needs. Both functions also need clear authority and practices in place to ensure that agencies will follow the state plan and policies.

### **Governance Has Been Largely Decentralized and Uncoordinated**

The delivery of common IT services in Idaho largely reflects a history of decisions by individual state agencies. Of the three types of approaches that can be taken for delivering services, Idaho's approach is largely decentralized. ITRMC has not set formal policy or established a plan for meeting these common needs; individual agencies choose how to provide most services. Some examples of shared services have occurred in state government. In those instances, state agencies have taken it upon themselves to share their services with others without formal direction from ITRMC. The absence of an overall plan for coordinating services has resulted in a decentralized system where common IT needs are met in various ways with little assurance of cost effectiveness.

With the exception of accounting, payroll, and employee information that are provided by the State Controller, the following services are managed by individual state agencies:

- Data centers
- E-mail
- Helpdesk support
- Hardware and software support (Department of Administration negotiates bulk purchasing on a master contract)
- Website development (Department of Administration manages the state website through Access Idaho and provides limited assistance to individual agencies)

## **State Does Not Have Comprehensive Information on Common IT Services or Costs**

We attempted to determine how much the state is spending on common IT services and how many different systems are used by state agencies. Because of the decentralized nature of IT services, neither ITRMC nor the Office of the Chief Information Officer have this information centrally. Office staff have recently embarked on efforts to survey state agencies and obtain some of this information.

During our analysis of the ten state agencies with the largest IT costs, we found that all ten agencies used different methods to track costs. In addition, we determined that the costs for IT services provided by one agency and purchased by another are reported twice in STARS—once for each agency. In the case of the State Controller’s data system, overstated costs were estimated at approximately \$7 million annually.

The absence of IT information makes it difficult to assess duplicated efforts, opportunities for future consolidation, and potential cost savings or increases in effectiveness. As options for consolidation are considered, the state needs reliable cost data so that comparative costs and benefits of different consolidation efforts can be evaluated and prioritized.

## **Individual State Agencies Have Taken Leadership Roles**

Despite the limited amount of formal central governance, some sharing of IT services is occurring within the state. A few of the larger state agencies, including the Office of the State Controller and the Department of Health and

Welfare, have not only created IT systems to meet their own needs, but have provided these services for other agencies to use through service agreements. The following list provides examples of how services are being shared or consolidated, consistent with leading practices:

- **Data centers:** The State Controller provides its data center services to other state agencies, particularly for services such as computer data processing and storage.
- **Accounting and Payroll:** The State Controller provides accounting and payroll services for the entire state.
- **Website portals:** Many state agencies use Access Idaho web services managed by the Department of Administration through a public private partnership.
- **Communications:** The Department of Administration coordinates telecommunications for the state.
- **Broadband networks:** The Department of Labor manages a broadband network called IDANET that state agencies within the Capital Mall of Boise and throughout the state use to share data.

With no significant formal governance, a set of strong state agency IT managers have worked together to create key portions of Idaho's IT infrastructure. Although this infrastructure is not formally recognized through state policy, it could be cost-effective for the Information Technology Resource Management Council and the Office of the Chief Information Officer to build on the systems that already exist and incorporate the existing infrastructure, to the extent possible, into a broader state plan for consolidation.

### ***Office of the State Controller Data Center***

The State Controller's data center is an example of a shared service that is consistent with leading practices. Building on its statutory responsibility to provide payroll and accounting systems for all state agencies, the State Controller has developed a complete computer services center. It includes management of STARS, as well as the Employee Information System that processes payroll and employee benefits information.

In addition, the Division of Computer Services provides services that range from designing computer applications to renting out computer space for other state agencies to use. These services are provided to other agencies for a fee through service level agreements. State agencies are required to use the State Controller's accounting, payroll, and employee information systems, but the other services are provided as options. These services were developed at the initiative of the State Controller, rather than through a formal initiative of ITRMC.

## ***IDANET***

IDANET is a broadband communications network that allows state agencies to transfer data and voice information among local, regional, and headquarter offices. In many ways, IDANET is a good example of a shared service. It is provided through central management, and state agencies may use it for a fee.

Four departments originally developed IDANET: Administration, Health and Welfare, Labor, and Transportation. Labor played the most significant role by providing technical personnel to assemble and maintain the primary components. IDANET expanded as additional agencies began using the network. Its current governance model is evidence of the decentralized way the state has governed its IT resources:

- Department of Labor performs network management and maintenance functions
- Department of Administration provides accounting and billing support
- An ITRMC steering committee provides business and strategic planning, and financial, technical, operational, and planning oversight

## **Recent Efforts Are Consistent with Leading Practices**

The Office of the Chief Information Officer has developed a plan for improving the state's coordination and delivery of common IT services. This high level plan includes all of the key areas where consolidation or shared services are recommended. The office intends to first address those initiatives that can be managed within a short timeframe, have a minimal impact on state agencies, and have the highest potential for cost savings and statewide benefits. Initial priority areas include consolidated IT procurement of computer hardware and software and consolidation of the state's e-mail systems. Other areas to be addressed in the near future include data centers and storage.

Having reliable cost data and detailed information on practices and systems currently in place should be an important consideration as the office proceeds. The mission-related needs of state agencies will need to be balanced against accurate estimates of implementation costs and benefits, so detailed accurate fiscal estimates are necessary. These estimates will help the office assess whether to pursue individual initiatives and will also provide a baseline to compare costs against those of new systems.

As discussed in chapter 2, the relative authority of the Information Technology Resource Management Council and the Office of the Chief Information Officer remains somewhat unclear, and chapter 2 includes a recommendation to clarify their respective roles and responsibilities. Clarifying roles and responsibilities is relevant to the governance of common systems as well and will be key to the success of the office's proposed consolidation initiatives.

## **Recommendations**

- 4.1 The Office of the Chief Information Officer and the Information Technology Resource Management Council should develop policies to articulate the process they will use to select which systems will be consolidated or shared and clearly identify their respective roles and responsibilities.
- 4.2 The Office of the Chief Information Officer, with support and final approval from the Information Technology Resource Management Council, should develop a detailed plan for consolidating common IT services that should include the following:
  - Steps for collecting and verifying information and cost data for identified consolidation or shared services projects
  - An evaluation of the costs and benefits of building on the existing infrastructure of shared services and consolidations
  - Development of requirements and criteria for reviewing and approving consolidation initiatives that are aligned with leading practices for reviewing and approving large-scale IT projects



## Chapter 5

# Governance of Public Safety Communications

*The organizational approach Idaho has taken to govern its public safety communications responsibilities is generally consistent with those recommended by the federal government and employed by other states. However, state level governance for public safety communications has not been well coordinated. Organizational changes in 2007 and 2008 may address this concern, but further clarification is needed.*

### What Is Public Safety Communications?

Local government entities (city police, county sheriffs, fire departments, and emergency medical services) provide most of the public safety services in Idaho. State agencies provide some public safety services, such as the Idaho State Police and the Emergency Medical Services Bureau within the Department of Health and Welfare. Other state agencies such as the Idaho Transportation Department, the Department of Fish and Game, and the Department of Correction also work closely with public safety agencies when responding to emergencies. State government also has a role as the central coordinator of certain federal public safety grant programs. **For purposes of this study, public safety communications refers to two functions: 911 communications and radio communications interoperability.**

#### **911 Communications**

Citizens use 911 communications to call local public safety agencies for emergency help. These public safety agencies may be a county sheriff, a city police department, a fire or emergency medical service department, or an organization composed of several of these agencies that have chosen to consolidate their 911 services. The centers receiving 911 calls are referred to as public safety answering points (PSAPs).

Technology is changing the way 911 calls are made and received. In the past, emergency calls were made from telephones in people's homes over conventional wire lines or land lines. However, an increasing number of calls are now coming from wireless sources such as cellular phones. Basic 911 systems simply connect emergency calls to a local public safety answering point, and the caller verbally communicates the nature of the emergency, relying on voice

communication to explain who they are and where they are located. Contemporary 911 communications systems have the capability to provide emergency operators with caller identification for land line or wireless callers. Caller identification transmits phone numbers and addresses or locations of the callers. This technology improves the delivery of emergency assistance, particularly in cases where callers are unable to speak or do not know their location.

### ***Radio Communications Interoperability***

Interoperability refers to the ability of emergency responders (police, firefighters, and emergency medical services personnel) to talk to each other in real time and to coordinate efforts during a routine incident, disaster situation, or special event. Time is valuable when responding to an emergency. Some of this valuable time is lost if emergency responders cannot talk to each other directly. Nationally, in areas with multiple emergency response agencies, their personnel have to juggle as many as five different radios because each agency communicates on a different radio frequency.

**Interoperability** means the ability of public safety service and support providers, law enforcement, firefighters, EMS, emergency management, public utilities, transportation and others, to communicate when necessary with staff from other responding agencies, and to exchange voice, video and/or data communications on demand, in real time, and when authorized (Idaho Code § 46-1201).

Public safety agencies across the country typically manage their police, fire, and emergency medical services independently and use a variety of radio systems and technologies. A number of factors make communication with each other difficult. One is governance. Because public safety agencies belong to separate political jurisdictions, such as cities, counties, states, or independent funding districts (fire and emergency medical services), their operations are usually not coordinated with each other. They frequently use different radio systems that are assigned to different frequencies, preventing direct communication with each other during

emergencies or major public events. Public safety portions of the radio spectrum have historically been fragmented, creating difficulties for agencies to coordinate and share radio systems.

Radio communications are also affected by technological issues. More than one-half of the public safety radio systems in use across the country are older than current digital technology. These older systems have been in place for six to ten years (or more in some cases) and usually provide inexpensive but generally reliable service for police, fire, emergency medical services, transportation, and natural resource personnel. However, these systems generally have not been configured to allow interagency communications during an emergency response.

The increased use of wireless technologies, such as cell phones, pagers, and Palm Pilots, are straining the capacity of the nation's radio frequencies, primarily the 800 MHz frequency band. Idaho does not currently have any public safety agencies in the 800 MHz band, but instead uses VHF, UHF, and 700 MHz frequencies.

Recent improvements to public safety radio systems provide better voice communication and the ability to send and receive critical data. The improvements also provide better opportunities for interoperability. A combination of the following leading practices can help achieve interoperability:

- Requiring all agencies in a region to purchase and use the same equipment on the same radio frequency
- Adding additional radio frequencies to relieve congestion
- Using open standards (non-proprietary) radio equipment that can be used by many different agencies
- Using switching technology that allows different radio systems to connect to each other
- Building strong interagency relationships and planning processes

## **Governance of Public Safety Communications in Idaho**

Idaho has created two separate oversight bodies for E911 communications and radio interoperability: the Emergency Communications Commission (ECC) and the Statewide Interoperability Executive Council (SIEC). In addition to these oversight bodies, the state has Public Safety Communications Services that repairs and maintains radio and microwave equipment around the state.

Prior to July 2007, the Emergency Communications Commission and the Public Safety Communications Services (formerly known as Radio and Microwave Services) were part of the Department of Administration. The Idaho State Police housed and staffed the Statewide Interoperability Executive Council. In July 2007, all three entities were moved to the Military Division as part of the Governor's consolidation of public safety communication functions.

In early January 2008, the Governor issued an executive order creating the Public Safety Communications Governance Council. The Governance Council was created to help the state better manage and coordinate the state's public safety communications responsibilities and is also housed in the Military Division.

### ***Emergency Communications Commission***

In 2004, the Legislature created the Emergency Communications Commission through the Emergency Communications Act. The commission was created to assist emergency communication centers, cities, counties, ambulance districts, and fire districts with the establishment, management, operations, and accountability of emergency 911 communications systems. For fiscal year 2008, the commission approved an annual operating budget of approximately \$149,434, which includes a full-time project manager, associated administrative costs, and travel for commissioners. The commission has the following responsibilities:

- Determine the status and operability of consolidated emergency communications systems statewide
- Determine the upgrade needs and costs for emergency systems
- Recommend guidelines and standards for the operation of consolidated emergency communications systems
- Recommend funding mechanisms for future implementation of upgrades
- Serve as an agent for the future allocation of federal grant funds that support the delivery of consolidated emergency communications systems

The commission’s membership consists of representation from local and state public safety service providers, state agencies, private industry, and other stakeholders. It has 13 voting members, 11 are appointed by the Governor.

#### **Emergency Communications Commission Membership**

Adjutant General or a designee	Idaho Emergency Medical Services Bureau
Association of Idaho Cities	Idaho Fire Chiefs Association
Attorney General, a non voting member	Idaho Prosecuting Attorneys Association
Director of the State Police or a designee	Idaho Sheriff’s Association
Idaho Association of Counties	Public at large (currently a State Representative)
Idaho Chief’s of Police Association	Wireless phone service industry
Idaho Emergency Medical Services Association	Traditional phone service industry

### **Statewide Interoperability Executive Council**

The Legislature codified the creation, duties, and makeup of the Idaho Statewide Interoperability Executive Council by amending Idaho Code § 46-12 during its 2006 session. The Interoperability Council operates on an annual \$275,000 grant from the Bureau of Homeland Security, and it has a full-time project manager. The purpose of the council is to serve as the governing body of public safety wireless radio interoperable communications for local and private entities and coordinate with the Military Division. The council promotes interagency cooperation and provides support statewide for efficient and effective use of local and private resources to achieve public safety wireless radio interoperable communications for local and private public safety agencies.

The council’s membership consists of representation from all levels of government including local, state, federal, and tribal entities. It has 21 voting members, 17 are appointed by the Governor.

#### **Statewide Interoperability Executive Council Membership**

Association of Idaho Cities	Idaho Fire Chiefs Association
Department of Administration	Idaho Sheriffs' Association
Department of Correction	Idaho State Police
Department of Fish and Game	Idaho Transportation Department
Department of Health and Welfare	Idaho tribal government
Department of Lands	Members at large (2)
Idaho Association of Counties	Military Division (2)
Idaho Chief's of Police Association	

Additional voting members are invited from the following federal agencies:

- One liaison from federal law enforcement
- One liaison from the US Department of Homeland Security, Transportation Security Administration
- One liaison from the US Department of the Interior
- One liaison from the National Interagency Fire Center

### **Public Safety Communications Governance Council**

The Public Safety Communications Governance Council was created as an umbrella entity to help unify state level planning efforts for public safety communications. The mission of the Governance Council is to “manage the demand for state and statewide public safety communication needs in Idaho.” It has the following responsibilities:

- Develop sustainable investment strategies
- Provide oversight of the communications infrastructure
- Establish priorities and approve public safety communication system development and investments
- Set public safety communications policy based on the specific requirements for delivering public safety communications services
- Coordinate with the Statewide Interoperability Executive Council and state technology agencies
- Adopt communication and usage protocols, sign service agreements, and plan and manage the system architecture

The Adjutant General of the Military Division chairs the Governance Council with directors from four state departments that own a portion of the state’s radio and microwave infrastructure.

#### **Public Safety Communications Governance Council Membership**

Adjutant General, Idaho Military Division (chair)  
Director, Department of Administration  
Director, Department of Health and Welfare  
Director, Idaho State Police  
Director, Idaho Transportation Department  
Others as determined by the chair

Non-voting members of the Governance Council represent the Office of the Governor, the Bureau of Homeland Security, Public Safety Communications Services, the Emergency Communications Commission, the Statewide Interoperability Executive Council, the Information Technology Resource Management Council, and others as determined by the chair.

## **Governance of Public Safety Communications and Leading Practices**

As part of this study, we reviewed how other states have organized their statewide interoperability executive council and emergency communications commission functions. Many of our neighboring states have these functions placed in similar agencies. Utah's emergency commission is in its safety department, and the interoperability executive council is in its technology services department. Similar to Idaho, Washington and Oregon have both of these functions in their military departments.

Our research into public safety governance practices across the country found that functions of 911 communications and radio interoperability have typically been treated as separate and distinct. Similar to Idaho, all 50 states have created an interoperability council or its equivalent. Forty-eight states have an emergency communications commission or a similar 911 commission. Comparing Idaho to neighboring states, some are considered to be leaders in both 911 management and radio interoperability, we found that most have 911 commissions or a similar entity and have their emergency communications commission and interoperability executive councils separate from each other.

Although the organization of an emergency communications commission is relatively new in Idaho, many states have had formal 911 commissions for some time. In comparison, the function of the interoperability executive council is new nationwide. Although emergency responders have been working on interoperability issues for some time, interoperability councils in most states were created after the terrorist attacks of September 11, 2001.

### ***Governance Council May Help with Leadership and Coordination***

Until 2007, there was no formal leadership or central point of coordination for public safety communications at the state level. As was mentioned earlier, the governance and planning functions for the Emergency Communications Commission, the Interoperability Council, and radio and microwave services were located within different agencies under separate leadership. The state agencies that own or use communications equipment were individually represented on the Emergency Communications Commission and the Interoperability Council, but the state did not have one point of leadership that could develop state policy and lead planning efforts for these interrelated purposes.

The results of decentralization were a lack of communication and coordination in planning efforts, and agency difficulty in understanding the state's public safety communication plans. For example, we found instances where one agency had completed important planning efforts, but other agencies were uninformed.

Agencies reported that they did not know the long-term plans for their radio systems or who was in charge of planning for statewide communication needs. We also had difficulty obtaining historical governance and planning documents because of the multiple sources of information.

The creation of the Governance Council may resolve some of these issues, although it is too soon to tell. The Bureau of Homeland Security has conducted three organizational meetings of the Governance Council and drafted a charter for its operation. Detailed information explaining the interrelationships of the Governance Council to state agencies, the Interoperability Council, and the Emergency Communications Commission were not available at the time this report was written.

### ***Interoperability and Emergency Functions Are Separate but Related***

The interoperability and emergency functions are distinct in that they focus on two different aspects of emergency communications: one receiving information from those reporting an emergency, and the other responding to the call. Upon reviewing their responsibilities, we did not find any duplication or overlap of effort.

However, the functions of the Interoperability Council and the Emergency Communications Commission have some common characteristics:

- Both have the same goal of facilitating the quick delivery of emergency assistance. The information that emergency operators receive from 911 callers is the same information that emergency responders need (name, address, situation).
- Both work directly with many of the same organizations (sheriff, police, fire, and emergency medical services), staff (dispatchers), and radio equipment (dispatchers use radios to communicate with police, fire, and emergency medical personnel).
- Although the communications technology they use has traditionally been very different, this technology is converging: telephones and radio equipment are becoming increasingly digitized and new modes of communication, such as text messaging and voice over internet (VoIP), are becoming increasingly common. In the near future, their technology communication will be the same; planning and funding will need to be closely coordinated.

Although Idaho's current separation between the Interoperability Council and the Emergency Communications Commission is consistent with that of other states, management should continue to ensure close coordination between them. The 2007 reorganization to place both under the same organizational entity was a positive step.

Recent changes are steps in the right direction, according to leading governance and planning practices. The Public Safety Communications Governance Council may provide the state with a unified voice and leadership role that has been lacking in the past. The Governance Council also has the potential to unify the planning efforts of state agencies that have their own radio systems.

Consideration should be given to strengthening the communication between the Interoperability Council and the Emergency Communication Commission. The Interoperability Council is currently required to provide reports to the Emergency Communications Commission, but the commission does not have a similar requirement. Having both the council and the commission aware of issues the other is facing would be beneficial for state level collaboration and could improve future planning efforts.

## **Recommendations**

- 5.1 The Public Safety Communications Governance Council should provide a leadership role in ensuring that state agencies are appropriately informed and their radio system needs are appropriately integrated into planning efforts for a new interoperable communications system.
- 5.2 The Statewide Interoperability Executive Council and Emergency Communications Commission, in collaboration with the Public Safety Communications Governance Council, should develop a communications plan to ensure their planning efforts are closely coordinated.



## Chapter 6

# Planning for Statewide 911 Communication Needs

*The Emergency Communications Commission has few governance responsibilities to meet the needs of the state's 911 services. Local governments hold responsibility for planning, funding, and delivering 911 services. Although the commission has appropriately followed a number of leading practices, it does not have the capability to provide support to counties that lack the resources to upgrade their 911 services. The commission also has only indirect means of verifying whether local governments are collecting 911 funds and using them for their intended purpose. Idaho has been substantially less successful than other states in delivering 911 services to its citizens, especially within rural counties, and ranks near the bottom nationally.*

### Federal 911 Requirements

In 1996, the Federal Communications Commission (FCC) passed rules requiring wireless carriers to provide location information to public safety answering points by December 31, 2005.<sup>1</sup> In addition, the Wireless Communications and Public Safety Communications Act of 1999 required the FCC to designate 911 the universal emergency number and encouraged states to develop comprehensive emergency communications systems and coordinated statewide plans for providing services. Approximately 99 percent of the US population has Basic 911 capabilities. The following definitions explain some of the key technologies.

**Basic 911:** An emergency call from a land line or cell phone is automatically connected to the nearest public safety answering point. No caller identification or location is provided. Location and phone number must be conveyed verbally by the caller.

**Enhanced 911 (E911):** An emergency call from a land line is automatically connected to the nearest public safety answering point and the operator receives the telephone number and address.

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<sup>1</sup> Public safety answering points send first responders (police, fire, and emergency medical services) to a caller's location based on information gathered during a 911 call.

**Wireless Phase I and II:** An emergency call from a cell phone is automatically connected to the nearest public safety answering point and the operator receives the telephone number and location of cellular tower (Phase I) or the location of the caller within 50 to 300 meters (Phase II).

## **Idaho's 911 Efforts**

Within Idaho, the Emergency Communications Commission (ECC) has been working to bring 911 services to all citizens. The deployment of E911 requires the development of new technologies and upgrades to local public safety answering points, as well as coordination among public safety agencies, telecommunications companies, carriers, and equipment manufacturers.

The state created the Emergency Communications Commission in 2004 to facilitate statewide coordination of 911 response and to serve as an agent in managing and distributing federal grant funds. Since its inception, the commission's main efforts have been to determine the status of the state's public safety answering points in reaching E911 and wireless Phase I and II capabilities, and to assess the technical needs and costs required to reach Phase II.

Despite these efforts, our research shows that almost one-third of public safety answering points across the state do not have the technology to identify calls. Of Idaho's 47 public safety answering points, 15 (32 percent) are operating as Basic 911. Seventeen (36 percent) answering points are E911 capable and only 15 (32 percent) have reached Phase II compliance and can identify the name, number, and location of wireless callers.

Exhibit 6.1 shows the level of capability for each of the state's 47 public safety answering points.

### ***Funding of 911 Systems***

In 1988, the Legislature established statutory ability for local governments to enact a fee to meet the increased demand on emergency systems. The fee was needed to finance the enhancement, maintenance, and governance of consolidated emergency systems, and it was specifically created to help local emergency communication centers purchase and maintain equipment needed to identify and locate 911 callers.

In Idaho, all telephone and communication customers (traditional wire line, wireless, and voice over internet (VoIP) providers) pay a fee to support local public safety answering points. Idaho Code establishes the maximum limits of the fee, and telecommunication providers collect and forward the fee to the

### Exhibit 6.1: State's Public Safety Answering Points (PSAPs) and Level of 911 Technology

<u>Basic 911</u>	<u>Enhanced 911</u>	<u>Wireless Phase II<sup>a</sup></u>
Adams County	Blaine County <sup>b</sup>	Ada County
Bear Lake County	Canyon County	Bannock County
Benewah County	Cassia County	Bingham County
Boise County	Franklin County	Bonneville County
Bonner County	Fremont County <sup>c</sup>	Canyon County
Boundary County	Gem County	Caribou County
Butte County	Jefferson County	Kootenai County
Camas County	Latah County	Lemhi County
Clearwater County	Madison County <sup>b</sup>	Nez Perce County
Custer County	Minidoka County	Owyhee County
Elmore County <sup>d</sup>	Oneida County	Payette County
Idaho County	Power County	City of Lewiston
Lewis County	Shoshone County	City of Moscow
Valley County	SIRCOMM <sup>b,e</sup>	City of Nampa
Washington County <sup>d</sup>	Teton County	City of Post Falls
	City of Ketchum <sup>b</sup>	
	City of Twin Falls <sup>c</sup>	

<sup>a</sup> PSAPs are wireless Phase I compliant; Phase I is not tracked by the state.

<sup>b</sup> Implementing wireless Phase II.

<sup>c</sup> Wireless Phase II ready, however, insufficient revenue to make the transition.

<sup>d</sup> In the process of moving to Enhanced 911.

<sup>e</sup> Consolidated counties of Gooding, Jerome, Lincoln, and Twin Falls.

Source: Office of Performance Evaluations' interview of the Emergency Communications Commission's project manager, January 2008. Information may not reflect data reported by the Emergency Communications Commissions' 2008 annual report.

appropriate county, city, or multi-county organization government.<sup>2</sup> Local governments receiving fee revenues are required to send one percent of the revenues to the state Emergency Communications Commission to fund commission activities. Local governments retain the remainder of the revenues for statutory use of developing and supporting 911 communication systems.

In September 2004, the commission first assessed each county for 911 fees. It has collected \$407,600 during the past three fiscal years (2005–2007). The commission has used these funds to pay for its project manager's salary, office

<sup>2</sup> IDAHO CODE § 31-48. As of January 2008, the Emergency Communications Act allows a maximum fee of up to one dollar per line per month. Telecommunication providers retain one percent of that fee for administrative costs.

space rental, administrative support, office supplies, administrative rules promulgation, and staff and commissioner travel. Based on the revenue transmitted to the commission, we estimate that local governments in Idaho have received approximately \$40.8 million from telecommunication vendors in those three years.

## **Leading Practices for 911 Planning**

Based on the recommendations of relevant professional organizations and the practices of leading states, we identified the following leading practices for governance and planning of 911 systems:

- Provide a state leadership role in strategic planning with defined goals for coordinating the delivery of E911 capability to citizens
- Designate a statewide coordinator who has authority and oversight of resources to effectively oversee implementation of 911 systems
- Centrally collect and distribute 911 funds to provide accountability over collection, distribution, and use
- Identify opportunities to efficiently fund implementation

## **State Has Not Provided a Leadership Role in Delivery of 911 Services**

The state has not taken a leadership role to facilitate delivery of wireless 911 capabilities to its citizens, as recommended by leading practices. The Emergency Communications Commission has not been provided the authority or resources required to lead a statewide effort, and its powers are largely limited to recommendations, assessments, and facilitation. Local governments retain authority for planning, collecting, and distributing funds.

The Emergency Communications Act charged the commission “to plan and develop a statewide coordinated policy and program to ensure that E911 services are available to all citizens of the state and in all areas of the state.” On a national level, efforts of planning and developing a program are promoted through the federal Wireless Telecommunications and Public Safety Act of 1999, which mandates the Federal Communications Commission to help foster development of coordinated state plans.

Idaho is behind the national trend to deliver E911 and wireless services to its citizens. According to national statistics, Idaho has the third lowest percentage in the nation in E911 and wireless services. With slightly more than half of its population Phase II compliant, Idaho is ahead of only Alaska, Mississippi, and Wyoming.

Most of Idaho’s neighboring states have established emergency oversight entities similar to Idaho’s Emergency Communications Commission that are made up of representatives from state and local agencies. However, most neighboring states have been more successful than Idaho in developing their statewide 911 capabilities and bringing E911 and wireless services to their citizens.

Only 54 percent of Idaho’s population has some Phase II coverage. In comparison, the state of Washington is 100 percent Phase II compliant and Oregon has reached 95 percent. Nevada and Utah have brought these services to 92 percent and 75 percent of its citizens respectively. Exhibit 6.2 compares Idaho to these and other neighboring states.

### Funding System Does Not Provide for Statewide Planning or Accountability

Unlike most states, Idaho’s Emergency Communications Commission has not been granted direct governance or coordinating responsibilities for planning or funding of statewide 911 systems. It also does not manage or oversee the collection of 911 fees. Idaho is only one of six states that does not centrally manage emergency communication funds.

**Exhibit 6.2: Level of Wireless Phase II Compliance and Allocation of Emergency Communication Fees to Rural Counties, 2007**

<u>State</u>	<u>Percent Compliant</u>	<u>Allocation of Fees</u>
Idaho	54%	Fees are collected at the county level. No additional state support for rural counties.
Montana	68	Fees are collected at the state level. 1% of fee is allocated to each county regardless of size.
Oregon	95	Fees are collected at the state level. 1% of fee is allocated to rural counties. The 911 fund pays for all emergency center equipment and network costs.
Utah	75	Fees are collected at the state level. 3% of fee is allocated to rural counties.
Washington	100	Fees are collected at the state level. 29% of fee is allocated to rural counties and other costs.
Wyoming	47	Fees are collected at the county level. No additional state support for rural counties.

Source: Office of Performance Evaluations’ analysis of rural county support and wireless Phase II compliance in neighboring states, November 2007.

Idaho Code is silent to any explicit role the commission has for oversight of collecting 911 funds. As a result, the commission cannot currently confirm that all 911 funds are being collected from telecommunications providers, nor can it confirm whether individual jurisdictions use these revenues as outlined in statute.

Local governments are statutorily required to conduct an audit annually by a third party auditor; however, they are not required to submit the results of these audits to the commission. Although the audits should be public record, the commission has not requested documentation and cannot confirm that the audits are being conducted. Also, the statute does not specify whether audits of 911 fee collection and use are part of the standard annual audits or separate.

The absence of additional revenue in the form of federal grant funds or other funding sources appears to limit the work the commission has been able to do. The one percent of 911 fees collected for the commission is only enough to cover administrative costs. Unlike many of Idaho's neighboring states, funds are not available for assistance to smaller rural counties that do not have funds to upgrade their 911 systems.

### ***Planning Efforts in Progress***

Strategic planning efforts of Idaho's Emergency Communications Commission are still in progress. Meeting minutes from early 2007 noted that the program manager was drafting a strategic state plan that would provide guidance for public safety answering points in creating their own plans.

In developing its strategic plan, Idaho may consider Washington's strategic plan used by its emergency communications committee. Washington is one of 15 states with 100 percent Phase II compliance. Washington's strategic planning goals are consistent with leading planning practices:

- Sustain an E911 network that is efficient, economic, flexible, and addresses current and future demands
- Encourage legislation that supports current and future E911 program needs
- Support the E911 program in establishing policies and procedures that are applied consistently statewide
- Create a strategy for addressing telecommunications technologies that access 911
- Maintain a well-educated base group of 911 professionals on all aspects of the E911 program
- Develop leading practices for providing E911 service
- Educate the public on the appropriate use of 911

- Establish and maintain relationships with other emergency service agencies, providers, and industries to benefit the E911 program
- Develop and promote a plan to explain current and future revenue sources
- Implement and manage an annual review process to inventory 911 service-impacting equipment

Operating from a well-developed strategic plan would give Idaho's Emergency Communications Commission measurable clear goals. The plan would help the commission be a leader and state expert on all 911 issues in Idaho. In addition to leading practices, we suggest the commission include the following elements in its strategic plan:

- Account for funds collected in all areas of the state through 911 fees
- Account for all funds spent on 911 services, technology, and maintenance

As part of its strategic plan, the commission should annually report on compliance with 911 technologies, including those that would be implemented in the future. Emergency communications will continue to require new and improved infrastructures as technology advances. A clear picture of Idaho's readiness and accountability will make transitions smoother in the future.

### ***Progress Has Been Made***

The Emergency Communications Commission has only been in existence for approximately four years, and its accomplishments are consistent with leading practices for planning. During its first years of operation, the commission created and staffed the statewide 911 coordinator position, conducted a survey of equipment and funding needs of public safety answering points statewide, and assisted with mediation of a multi-county jurisdictional dispute.

The commission developed House Bill 447 for the 2008 legislative session to increase the funding available to support system upgrades in rural counties. The legislation would raise the maximum limit of the emergency communications fee, and the commission would collect the additional funds. The commission would use the additional funds to support the 911 programs of rural counties that have challenges obtaining funding to upgrade their systems. It has been forward thinking in creating extensive rules and policies for distributing grants to the rural counties with this legislation.

## Recommendations

- 6.1 The Emergency Communications Commission should develop a comprehensive strategic plan that establishes statewide goals and timelines for Phase II compliance throughout Idaho and identifies specifies strategies it will use to help local governments achieve these goals. This plan should be updated annually and presented to the Legislature.
- 6.2 The Legislature should consider providing the Emergency Communications Commission with additional dedicated funding so that it can directly support the improvement of E911 capabilities statewide. The commission should present to the Legislature a detailed plan explaining how much money is needed and for what specific purposes.
- 6.3 The Legislature should strengthen accountability over the collection, distribution, and expenditure of 911 fees. This may be accomplished by either:
  - replacing the current local fee collection system with a central system within the Emergency Communications Commission and requiring local governments to report to the commission on their use of 911 funds; *or*
  - authorizing the Emergency Communications Commission to require that local governments submit annual reports to the commission with the results of their 911 fund audits, detailing the amount of the fees collected, funds expended, and use of the funds.

## Chapter 7

# Planning for Statewide Public Safety Interoperability

*Idaho's efforts to improve public safety interoperability are generally consistent with those recommended by the federal government and employed by other states. The state's governance model has been appropriately inclusive of stakeholders, and planning efforts are working in a bottom-up manner as recommended by leading practices. However, a number of key governance and planning issues remain unresolved that are critical to effectively develop a statewide interoperable communication system. Planning has not proceeded in a unified manner, and roles and responsibilities remain unclear. Despite its ownership of much of the infrastructure, the state has not taken an active leadership role.*

## Federal Interoperability Efforts and Requirements

Following the events of September 11, 2001, the US Department of Homeland Security created the SAFECOM program to coordinate various federal initiatives to improve interoperability around the country and to strengthen the interoperability efforts of local, tribal, state, and federal agencies. Breakdowns in public safety communications systems following Hurricane Katrina reinforced the importance for the nation's public safety agencies to develop interoperable systems.

Changes in technology and pressure on radio capacity have caused the federal government, which regulates the nation's airwaves, to adopt strategies to use radio bandwidth more efficiently. The Federal Communications Commission (FCC) recently passed a rule requiring all public safety agencies to upgrade their radio equipment. Agencies must comply with this rule by December 31, 2012. This mandate, called narrow banding, reflects a long-standing effort by the FCC to increase the number of useable radio channels by reducing the amount of space, or bandwidth, required to send messages on radio airwaves. The mandate requires adjustments to existing radio equipment (when possible) or may necessitate the purchase of new analog or digital radios to replace very old equipment. Future narrow banding mandates contemplated by the FCC will require the replacement of all analog radios with digital equipment.

The FCC has reallocated additional radio frequencies solely for the use of public safety agencies. These new frequencies have the increased capacity necessary to accommodate newer technologies such as wireless voice, data, and video. New frequencies, such as 700 and 800 megahertz (MHz), are more effective at carrying data at higher speeds. The 700 MHz data system of the Idaho State Police has a speed of 56 kbs, operating on a narrow band channel.

The FCC has encouraged states to create statewide interoperability executive councils to administer interoperability channels. Some states also gave their interoperability council broad powers to oversee or coordinate other federal licensing compliance requirements, including statewide interoperable radio communications, narrow banding compliance, and management of multi-million dollar federal Public Safety Interoperable Communications grant applications.

## **Idaho's Interoperability Efforts**

Idaho's state-owned radio system is linked by a microwave network and broadcasts signals by transmitters and repeaters distributed across the state. The system enables the State Police, Emergency Medical Services, and Transportation to communicate with remote offices and mobile units. The interconnected system of radio and microwave towers and associated radio equipment are frequently referred to as the state's microwave backbone and has been in service for many years. It is a transport medium used to control mountaintop repeaters and base stations.

The microwave backbone connects over 100 two-way radio repeater sites in some of the most remote locations of the state. The microwave backbone is 100 percent owned and maintained by the state. The map in exhibit 7.1 shows how the statewide microwave backbone navigates the state and which locations are connected.

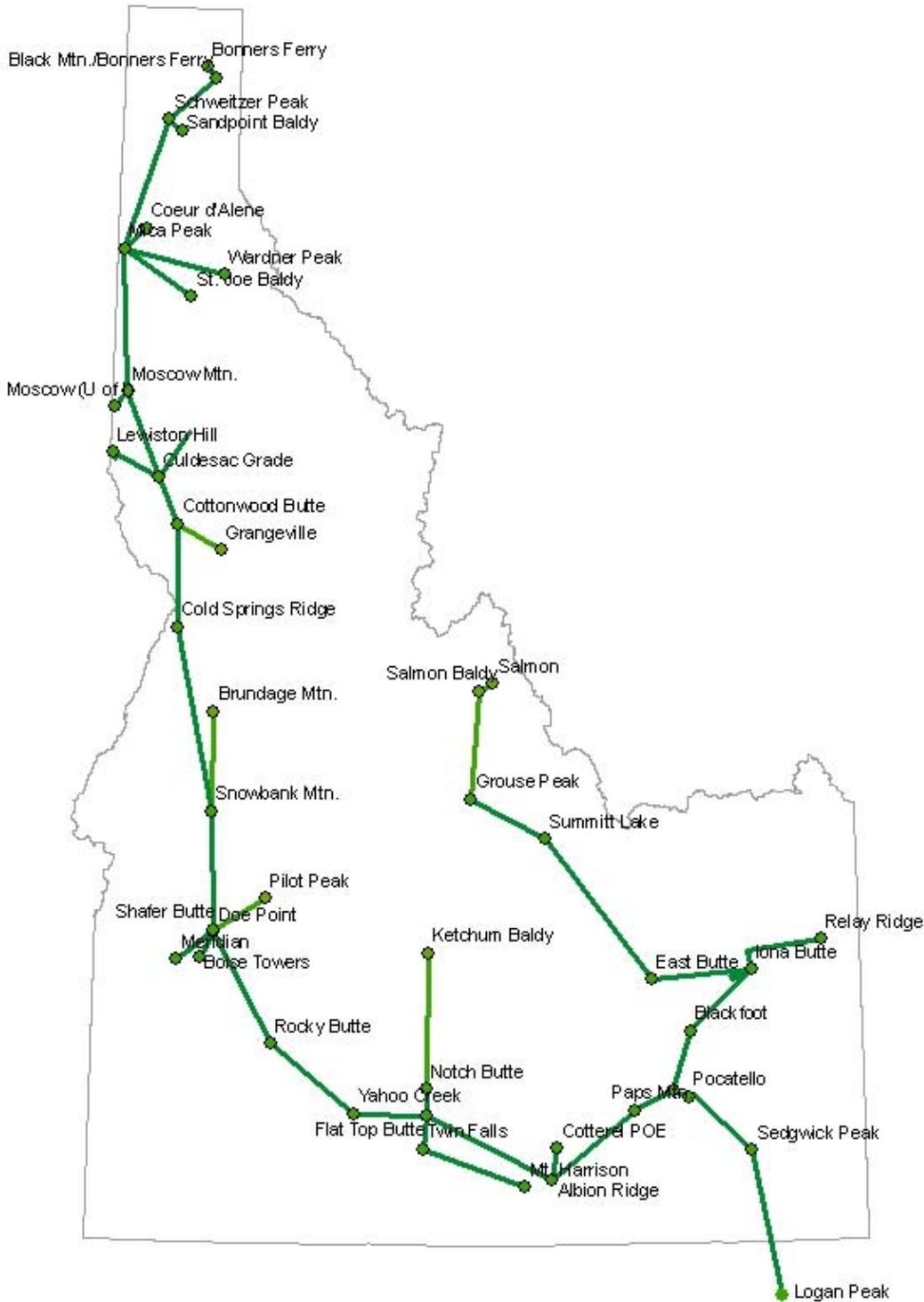
Over 100 public safety agencies within Idaho use either VHF or UHF radio frequencies. The FCC has classified newer, higher-speed frequencies for public safety use in the 700 and 800 megahertz (MHz) ranges. Exhibit 7.2 is an example of some radio frequency uses and the frequencies on which they operate.

Idaho will need to consider a number of technology issues in planning for the future of its public safety radio system and moving towards interoperable solutions.

### ***Radio Equipment Needs to Be Upgraded or Replaced***

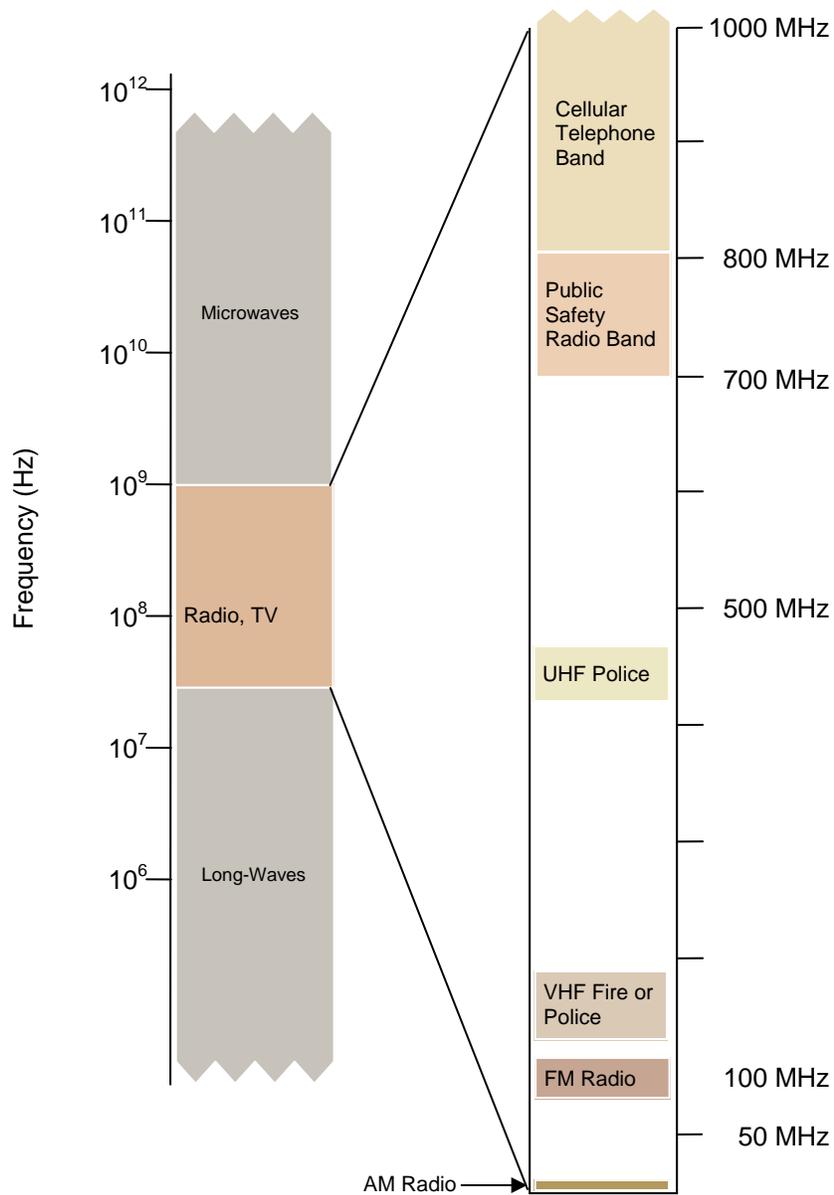
More than one-half of the public safety radio systems in use across the nation are older than current digital technology. These VHF and UHF systems have been reliable, but often do not allow agencies in adjacent jurisdictions to talk to one

### Exhibit 7.1: State of Idaho Microwave Backbone



Source: Idaho Department of Administration, Office of the Chief Information Officer, Idaho Geospatial Office, 2008.

### Exhibit 7.2: Public Safety Communications Radio Frequency Uses and Ranges



Source: Office of Performance Evaluation's depiction of a section of the *Frequency Allocation Chart*, Federal Communications Commission, October 2003.

another during an emergency response. According to a recent Statewide Interoperability Executive Council report, surveys of Idaho's radio systems "showed a hodge-podge of communications assets and equipment that was aging to the limits of their life span."

Exhibit 7.3 shows radio systems that counties, cities, tribal governments, and other jurisdictions are currently using. Most counties and cities are independently developing and managing their radio systems with a limited amount of coordination. Most Idaho police agencies operate in the ultra high frequency (UHF) band, while fire and emergency medical agencies use very high frequency (VHF) band. In certain counties, such as Ada, Bannock, Bingham, Canyon, and Kootenai, local governments were collaborating prior to the creation of the Interoperability Council and have taken the initiative to upgrade their radio systems to newer 700 MHz frequency.

### Exhibit 7.3: Use of Radio Systems Throughout Idaho

#### 700 MHz<sup>a</sup>

5 counties<sup>b</sup>

1 tribal government<sup>c</sup>

#### UHF

86 local police departments

2 fire service districts

Idaho State Police

Idaho Transportation Department

#### Both UHF and VHF

3 tribal governments

Federal government

#### VHF

170 fire service districts

60 emergency medical service providers

13 county sheriff's offices

2 local police departments

1 tribal government

Department of Lands

State correctional facilities

<sup>a</sup> All entities are sharing one system.

<sup>b</sup> Includes Canyon County (in the planning stages) and Kootenai County (using part of the system).

<sup>c</sup> Planning to adopt.

Source: Office of Performance Evaluations' depiction of information from the Idaho State Military Division, State Interoperability Executive Council, *Idaho Statewide Communications Interoperability Plan*, November 2007.

### ***Radio Frequencies Are Reaching Capacity***

The capacity is strained by the number of VHF and UHF radio frequencies currently in use. The FCC has mandated that users of older radio systems upgrade to newer, less resource-intensive technologies by December 31, 2012 (called narrow banding). Narrow banding affects nearly all of Idaho's police, fire, emergency medical, and state agency radio systems.

Narrow banding itself does not require Idaho public safety radio operators to move to new 700 MHz or 800 MHz frequencies. However, some agencies have chosen to switch to the higher frequencies to become interoperable.

### ***Benefits of Different Technologies Can Vary***

Urbanized, high population areas need higher radio frequencies to accommodate the volume of radio frequency use and enable radio communications to effectively go through tall buildings.<sup>1</sup> Although rural areas have the same critical public safety communication needs, these areas do not have the volume of public-safety related activities.

VHF frequencies provide good geographic coverage, especially in mountainous areas. However, VHF does not work as well around tall buildings or accommodate large volumes of data as well as 700 MHz. Federal government agencies, which manage over 65 percent of land in Idaho, use VHF. The state will need to effectively communicate with federal government systems to achieve statewide interoperability.

## **Leading Practices for Achieving Effective Interoperable Communications**

Achieving statewide public safety interoperable communications requires the collaboration of many different stakeholders at the local and state level. Federal studies indicate the greatest barrier to achieving interoperable communications are the difficulties inherent in intergovernmental planning. To overcome this barrier, key questions need to be asked about governance, planning, and technology:

- Who will lead the effort and how will decisions be made?
- What are the statewide needs and goals for interoperability and how will they be met?
- What technology should be employed?

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<sup>1</sup> Radio frequency use includes transmitting data and video from highway traffic cameras, police officer mobile data, driver license card scanners, and police cruiser dash cameras.

## ***Governance and Planning***

SAFECOM has published the Wireless Public Safety Interoperability Communications initiative, a framework for planning and implementing interoperable radio systems that are widely used across the nation to assist local agencies with interoperability planning.<sup>2</sup> This framework addresses a number of factors, and governance is cited as the most important in successful development of interoperable communications. Other entities such as the Government Accountability Office and the National Governor's Association support this conclusion.

Statewide interoperability depends on the effective integration of hundreds of separate radio systems in use across the state. This integration will require shared planning, management, and policies, as well as agreement on a number of issues, e.g., type of technology, who will build the system, and how it will be funded. As urban jurisdictions move ahead with investments in more advanced radio technology and other jurisdictions prepare to comply with the FCC's narrow banding mandate, efforts need to be coordinated in a comprehensive strategic plan.

A clear plan is needed to implement a project of this size and complexity. The plan should identify statewide goals and objectives and present a detailed outline for how these needs and goals will be met. Planning also includes clearly identifying who will lead the needs assessment and goal setting stages of the project, and who is laying out criteria for making final policy decisions.

The question of how to balance the role of the state (as owner of much of the communications infrastructure and coordinator of federal grant funding) with the role of the local governments (as primary users of the communication system) needs to be decided. To some extent, the governance structure, planning process, and choice of technology depend on how these two roles will be balanced.

## ***Technology***

The US Department of Homeland Security has defined a continuum of interoperability to demonstrate different methods of achieving interoperable communications among parties. This continuum includes having radios that work with the radio equipment of other agencies, using technology to bridge radios operating on different frequencies, and having a unified shared system that provides access for all agencies regardless of equipment manufacturers.

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<sup>2</sup> SAFECOM is a communications program of the US Department of Homeland Security. It has coordination and oversight responsibility for federal initiatives and projects of public safety communications and interoperability at the local, state, federal, and tribal levels.

Technical and functional requirements should be first defined at the tribal or local level, then the state level, and finally the federal level; a system meeting the needs of its users is more important to public safety than a single technological solution. Solutions should involve a “system of systems” approach that incorporates existing technologies and allows for the development and integration of new technologies and functionality in the future. Technology should use open standards to allow the interoperability of equipment from a variety of technologies and vendors.

### ***Neighboring States***

Several of Idaho’s neighboring states, Nevada, Utah, Washington, and Wyoming, provide examples of successful planning and implementation of interoperability radio systems. Although each of them has taken diverse approaches to governing and planning its system, all were stakeholder driven and designed around the needs of the users. Nevada, Utah, and Washington have been recognized for their individual application of leading practices for governance and planning in interoperability.

### **Idaho Will Need to Balance Its Choice of Systems with Costs and the Unique Needs of Local Users**

Different options are available to states trying to achieve interoperability. One option is to select a **single radio system** (e.g., VHF/UHF or 700 MHz) and work with statewide public safety agencies to construct an interoperable system based on this one technology. Such a system provides for the most seamless level of communication among agencies because they are all using the same technology. This system also facilitates development of a statewide system built to non-proprietary standards and accessible by all radio equipment manufacturers. However, the single system approach is not as flexible at accommodating the needs and desires of stakeholders. The infrastructure can also be more expensive and achieving interoperability goals could take longer than other options if a majority of agencies have to obtain new radio systems.

Another option is to choose a **hybrid statewide system** in which public safety agencies use two or more different types of radio systems that are connected together. This approach allows more flexibility than the single system approach because local public safety agencies choose whether to upgrade their existing system or replace it depending on their unique needs and funding situations. This approach can also be less expensive, and higher levels of interoperability may be reached more quickly because agencies may not have to purchase entirely new equipment. Communication among agencies in such a system would not be seamless because they would be using and coordinating several different technologies.

In planning a statewide radio system, Idaho will need to consider the trade-off of desired features, performance, and costs. Both the single system and a hybrid network will require extensive collaboration and state leadership for successful implementation. As discussed earlier, recent improvements to public safety radio systems provide the ability to send and receive critical data, as well as voice communications and better opportunities for interoperability. However, the higher speed and capacity of radio systems often come with increased costs to own and operate. Generally, the higher the frequency the less geographic coverage, thus increasing the need for additional radio towers, more transmitter power, or taller antennas to provide adequate radio coverage.

VHF systems provide better coverage in rugged terrain and are less expensive to install and maintain than higher-frequency (and speed) radio systems. Although a statewide shared radio system using 700 MHz will provide for the highest level of interoperability and better capacity and performance, it will most likely come at a higher cost than a 700 MHz-VHF hybrid system.

### ***Governance, Technology, and Cost Decisions Are Interrelated***

Our report does not make a recommendation for a 700 MHz or a hybrid system because there is no correct single answer at this time. The options for governance, technology, and planning are interdependent and the needs of the system users will have to be balanced with technology options and relative costs. With regard to technology, the model chosen by the Statewide Interoperability Executive Council and state agencies will shape the entire effort. If Idaho pursues a statewide shared system that requires all agencies, state and local, to use the same technology and frequencies with seamless interoperability, the state will need to take a strong leadership role because it owns most of the core infrastructure on which the new system will be built. However, if Idaho opts to develop a hybrid system that accommodates both existing and newer technologies and provides more choices at the local level, local governments will play a somewhat larger role in planning, constructing, and funding the new system.

### **What Are Idaho's Planning Efforts to Achieve Interoperability?**

Although high level planning documents have been developed, the Statewide Interoperability Executive Council has not developed a detailed plan for how its envisioned system will be designed, built, supported, and funded. Many important questions remain unanswered, including what are the respective roles and responsibilities of the Interoperability Council and the state agencies that own the infrastructure, how will technology needs and costs be balanced, how will the costs be shared, and who will be responsible for ongoing maintenance costs.

To date, the leadership for planning a statewide (i.e., state government agencies, cities, and counties) interoperable public safety radio system has been vested to the Statewide Interoperability Executive Council. The Interoperability Council has promulgated non-binding standards and implementation goals in collaboration with local government leadership. It is the single point of contact with broad representation from local stakeholders, and its planning efforts to date have been inclusive and stakeholder driven. The standards and goals have been consistent with some of the key planning practices recommended by the federal SAFECOM program's Wireless Public Safety Interoperability Communications initiative.

The Interoperability Council has engaged in a number of different planning efforts to improve interoperability and comply with the federal narrow banding mandate:

- Completed a statewide communications assessment survey of local public safety jurisdictions
- Assisted the federal Interoperability Communications Technical Assistance Program with an interoperability feasibility study
- Developed the concept paper *Idaho Cooperative Agencies' Wireless Interoperable Network (I-C-A-WIN)* that presents a vision for a statewide radio system using primarily 700 MHz and accommodating other radio systems as needed
- Developed and received approval from the FCC for a 700 MHz regional plan in 2006
- Reviewed and approved the public safety communication plans for 25 counties
- Developed the Idaho Statewide Communications Interoperability Plan, the state's first statewide interoperability plan
- Decided to pursue a statewide 700 MHz system with the capability to interface with other technologies and radio equipment

Even with the creation of the Statewide Interoperability Executive Council, governance for public safety communications has not historically been well unified. As discussed in chapter 5, until recently there has been limited effort to coordinate the efforts of state agencies. Idaho has not had "one voice" at the state level with regard to radio communications planning. Some state agencies that are members of the Interoperability Council are also unclear about how their needs are being incorporated into the planning efforts and what their eventual role will be in statewide public safety communications.

The Public Safety Communications Governance Council may provide state government with a unified voice and leadership role that has been lacking in the past and may serve as an “umbrella” agency to unite the efforts of the multiple parties involved. The Governance Council’s relationship to the Interoperability Council and their respective leadership roles and responsibilities have not yet been defined. For example, decisions need to be made about which agencies will have authority for setting policy for the statewide interoperability plan.

The federal Wireless Public Safety Interoperability Communications initiative recommends giving the state a formal role in interoperability governance through a representative from the Governor’s office. It also recommends clearly delineating responsibilities between the state as a whole and individual state agencies. Leading practices suggest that state governments have a high level leadership responsibility for statewide planning, coordination, and funding, while local public safety agencies should be responsible for active participation in planning, ensuring their needs are met, and implementation.

## **What Are Idaho’s Statewide Needs and Goals for Interoperability?**

Shortly after its creation in 2004, the Interoperability Council began statewide informational meetings with Idaho’s public safety community and surveyed local governments about their communications interoperability needs. In December 2004, the federal Interoperable Communications Technical Assistance Program conducted a state feasibility study. The Technical Assistance Program developed a basic radio coverage analysis and technical summary of the feasibility of a 700 MHz statewide communication system for Idaho. By 2005, the Interoperability Council had developed its initial vision for statewide radio interoperability, published in the Idaho Cooperative Agencies Wireless Interoperable Network, or I-C-A-WIN concept document.

The vision of the I-C-A-WIN document, as adopted by council resolution, is to operate the statewide interoperable communications backbone to support the 700 MHz frequency band and strongly encourage local users to participate. The Interoperability Council would expand a new system on the existing 700 MHz systems under development in larger urban areas and regions across the state. The new system would be constructed using open standards and accommodate those agencies choosing to remain in the VHF or UHF frequencies. The state’s long-term goal is to obtain level 5 interoperability by the end of 2012 using a phased approach with the following interim goals<sup>3</sup>:

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<sup>3</sup> The federal government’s SAFECOM program has developed a continuum defining different levels of communications interoperability ranging from 1 to 5. Level 1 is having extra radios on-hand that work with the radio equipment of other agencies and Level 5 is having a seamless system that provides access for all agencies, regardless of differences in radio technologies and equipment manufacturers.

- Phase one: Attain statewide level 3 interoperability by December 2005
- Phase two: Analyze the results from phase one to identify additional capabilities needed and determine the next steps toward level 5 interoperability statewide by May 2008
- Phase three: Statewide availability of level 5 interoperability completed by December 2012

### ***Current Levels of Interoperability***

According to the 2007 I-C-A-WIN document, public safety radio systems within Idaho are typically operating at interoperability levels 1 through 3, although four counties have installed level 5 interoperability radio systems that serve more than forty percent of Idaho's population. The Interoperability Council will not know whether statewide level 3 interoperability (phase one) has been achieved until a needs analysis, currently underway, is completed.

Consistent with leading practices, Idaho initiated its planning effort with a series of meetings, surveys, and a high level analysis of the needs of local public safety agencies. The I-C-A-WIN document appropriately contains high level plans and schedules, along with both long term and phased goals—consistent with the federal Wireless Public Safety Interoperability Communications initiative planning recommendations and those of other industry organizations.

### ***Proposed System Was Selected Without Detailed Needs Assessment or Cost Analysis***

The official selection of Idaho's statewide radio system (700 MHz) is not consistent with leading practices because radio systems should be constructed using goals for achieving different levels of interoperability and equipment standards independent of radio frequency. The Interoperability Council's selection requires full local participation to achieve interoperable communications; a system based on one technology could create barriers to cooperation. The I-C-A-WIN document indicates the new system will accommodate other radio frequencies, but clearly indicates that 700 MHz systems are highly preferable.

The selection of a specific type of radio technology for Idaho was a strategic decision based on the availability of new frequency spectrums, non-interference with other users, recognition of long-term voice and data needs for Idaho's public safety users, and federal support from the National Coordination Committee. However, the decision was made prior to completion of a detailed analysis of needs and costs and without a formal comparison of this technology option to other project alternatives. The selection is not consistent with leading practices for planning large capital projects.

The Interoperability Council is working to develop critical engineering analysis and a more detailed business case that may justify the choice of a 700 MHz system. Although high level needs assessments were performed by the federal Interoperable Communications Technical Assistance Program and through a survey by the Interoperability Council, a detailed needs assessment is just now being performed. Needs assessment and cost analysis are steps that should be performed earlier in the planning process.

### ***Needs Assessment Currently Underway***

The Interoperability Council is currently conducting a needs assessment for the proposed statewide interoperable radio system, with results expected in October 2008. The vendor was asked to evaluate two options for a statewide system: a “statewide 700 MHz system for all users and a hybrid architecture using 700 MHz with a VHF overlay for rural areas.” The study will include assessments of needs to meet the federal narrow banding mandate, an inventory of statewide radio infrastructure, a review of current interoperability capabilities, and an analysis of how to connect the state’s communication infrastructure (microwave and fiber optic networks) with major radio sites. The scope of this study should provide answers to questions about statewide operational needs and costs that have previously been unavailable. A detailed comparative cost-benefit analysis should also be performed to compare the two system options, but to date has not been scheduled.

### ***Detailed Strategic Plan Is Not Yet Available***

Planning efforts of the Interoperability Council have been relatively strong. A vision and interim goals have been established, along with a rough schedule to achieve full interoperability by December 31, 2012. However, a detailed strategic plan has not yet been developed. A detailed strategic plan should include answers to important questions such as what respective portions of the project will state and local governments be responsible for, how will the project be funded, and how will the system be maintained after completion.

## **Survey of Local Jurisdictions Identified Concerns with Leadership and Planning**

We conducted a survey of 241 local public safety providers at the city and county level (e.g., chiefs of police, sheriffs, fire chiefs, and emergency coordinators). One hundred and six people responded to the survey, a 44 percent return. The purpose of the survey was to assess the governance of interoperable public safety communications in Idaho from the perspective of end-user agencies and local jurisdictions.

The results of the survey showed that many local agencies are very satisfied with the leadership and planning process of the Interoperability Council and the state. However, a larger percentage of agencies are concerned about the absence of clear information on the development of a statewide interoperable communications system, options for local jurisdictions, and funding for the system. Many respondents do not believe their interests are adequately represented on the Interoperability Council. The following sections summarize the survey results.

### Governance and Planning

Ninety percent of respondents indicated they were familiar with the Interoperability Council; however, fewer than 30 percent believed their organization's interests have been well represented. Respondents were asked about planning as part of the current process for achieving interoperability of public safety communications. Of the respondents, 32 percent thought planning was good or excellent and 37 percent thought the planning process was poor.

Three key patterns emerged from respondents written comments. The first expressed the need for a plan to implement the new interoperable radio system. Respondents indicated they do not want to spend any more money without the direction of a state plan—they are in a holding pattern, waiting for direction from the state. Second, respondents indicated that the state should recognize that 700 MHz is expensive and may not work everywhere. Finally, many respondents wrote that they should be able to use the vendor and equipment of their choice.

In our discussions with agency directors, similar thoughts were expressed. The directors indicated that public safety governance and planning in Idaho would improve with one governing body and with one set of protocols. Several expressed hope that this type of leadership and planning will occur with the newly created Public Safety Communications Governance Council.

### Funding

In response to how the current funding system is working, only 15 percent of the respondents indicated the current funding process is good, and 58 percent thought the process is not good or poor. Many respondents were concerned with how radio interoperability projects will be funded. Local officials who have purchased such equipment said they have used mostly federal grants or 911 fee revenue. For future expenditures, 75 percent of the officials said they expected to use federal grants. However, the federal government has not indicated an intent to create and fund any new interoperable radio system grant programs for local jurisdictions or states.

Neither narrow banding nor interoperability are required by the state. Nonetheless, respondent comments about funding focused on the perception that the state is mandating changes and not providing appropriate funding support. An overwhelming number of comments indicated that funding support is needed, especially in rural counties. One respondent had completed a costly

engineering study, but did not have money to purchase equipment. That same respondent thought counties with large populations seemed to get the most funding. Several respondents expressed worry about funding their systems with 911 fee revenue because the revenue was not adequate to cover the costs of interoperable digital equipment.

### **Cooperation Among Local Jurisdictions**

The results of our survey indicated local jurisdictions are working with each other and the state to coordinate interoperability efforts. Almost 85 percent of respondents said they are working with city officials, and 93 percent said they are working with county officials.

Comments about local cooperation were mostly positive and expressed the importance of having a working relationship with neighbors and other agencies before an emergency occurs. Issues that emerged included strong concerns that counties were not using the same kind of equipment because the state did not have a state plan to follow. Many respondents expressed continued frustration about the need to use three different radios in order to talk with federal counterparts (the Bureau of Land Management, the Forest Service, and the Department of Lands).

### ***Grant Funding Process Could Be More Formalized and Clear***

In fall 2007, the Interoperability Council administered its first grant application evaluation process for the federal Public Safety Interoperable Communications grant program. A number of issues arose during the evaluation process suggesting a need for the Interoperability Council to formalize its planning processes and make processes more open. Grant applicants from cities and counties raised concerns that they were not provided with clear criteria for how the applications would be evaluated and that they did not receive timely notice of the grants or the selection process. Applicants also raised questions about the process used to select the evaluation committee.

Our study did not evaluate the propriety of the grant award process and adequacy of the criteria, but we did identify concerns of the grant distribution process. States were required to develop plans for the process by December 2007, and although the Interoperability Council completed a plan by that deadline, the plan was not available in time for the October grant process. Consequently, the grant applications had to be evaluated in the absence of formalized goals and objectives. Although the Interoperability Council evaluation committee developed rating criteria and a selection process, these criteria were not publically examined, evaluated, or published in advance. The Interoperability Council did not have a complete picture of what it planned to do before it asked the individual jurisdictions to consider and submit how their individual piece would fit into the overall puzzle.

The timeframe provided to grant applicants was also too condensed. Although the Interoperability Council learned of the grant timeline in April 2007, applicants were not officially informed until October that they needed to submit applications, and applicants were only given one week to put their applications together.

The method used to select the Interoperability Council's evaluation committee could have been improved and formalized. The committee included representatives from local jurisdictions that were also submitting grant applications. Although these individuals recused themselves from evaluating submittals from their own agencies, the perception of impropriety remained, raising questions overall about the integrity of the process. These issues need to be addressed as they have a direct impact on the perceived effectiveness the Interoperability Council.

## **What Type of Radio System Will the State Use?**

As a result of the Interoperability Council's planning efforts, the council adopted a policy urging all agencies and disciplines to support the development of a statewide 700 MHz radio system. The council has expressed a policy preference for high speed communications capability that allows the download of large files, images, and video into mobile and portable equipment, requiring the use of 700 MHz technology. This type of radio system is state-of-the-art, represents forward thinking practices and technology, and would meet the Idaho's communication needs today and well into the future.

Other key components of the Interoperability Council's future vision have a number of factors that are consistent with leading practices. Components include implementing a non-proprietary system that can be accessed by most radio systems and equipment, incorporating individual planning efforts of local agencies into the statewide plan, and building on the communications infrastructure already in place.

### ***Single or Hybrid System***

The 700 MHz system envisioned by the Interoperability Council would use the state's microwave network to deliver high speed communications capability statewide. This system would require upgrades and potential construction of new towers to the state-owned digital microwave system. Because the microwave system would form the backbone of the new interoperable communications network, the state would be responsible for a significant portion of planning, constructing, and funding the system.

At the local level, a single statewide 700 MHz system would require most public safety agencies to replace their radio equipment. They would be responsible for purchasing new equipment that would allow them to communicate effectively

with jurisdictions connected to the state's communication backbone. More recent planning documents published since the initial I-C-A-WIN vision statement have acknowledged by the Interoperability Council that the eventual system design will most likely have to be a hybrid 700 MHz and VHF system to accommodate some users.

Some agencies in larger urban areas have already replaced their VHF or UHF equipment with 700 MHz systems or are in the process of doing so. The replacement has occurred in several geographic regions across the state. Planning documents of the Interoperability Council indicate that the statewide system would build on this regional infrastructure. These separate regional systems would be connected into the state backbone to create a statewide network.

### ***Remaining Key Decisions***

Some key decisions about the system have yet to be made, such as how the system will be constructed and operated. The Interoperability Council and the state have not determined where to draw the line between the role of the state as owner of the main infrastructure (microwave and radio backbone) and the role of local agency users who will need to decide how and when to connect to the system.

The choice of technology impacts the governance and planning process. If Idaho pursues a statewide 700 MHz system, the Statewide Communications Interoperability Plan assigns the state significant responsibility for successful implementation and costs. In comparison, if Idaho pursued a hybrid 700 MHz and VHF model, local governments would share more of the decision-making and cost responsibilities.

## **How Much Do State and Local Governments Want to Invest and How Should the Costs Be Shared?**

State and local governments in Idaho have received approximately \$23 million to date in federal Homeland Security grants to upgrade radio systems. This number does not include an additional \$7.3 million from the recent Public Safety Interoperable Communications grants or from the federal Community Oriented Policing grants that are administered by the US Department of Justice.

### ***What Has the State Spent on Interoperability?***

Using data from the Statewide Accounting and Reporting System, we found that state departments spent approximately \$1.7 million during fiscal years 2006 and 2007 to purchase radio equipment, of which approximately \$1.2 million was spent to replace equipment. The balance of the expenditures, approximately \$582,000, was for new generation (700 or 800 MHz) radio equipment.

In addition, Idaho maintains a microwave backbone allowing agencies to communicate with mobile units statewide. In the recent past, this system has been upgraded to increase capacity and to accommodate newer technology. The upgrade costs are estimated at approximately \$15 million. Upgrades were funded by a combination of federal grants, state general funds, and private industry revenues from the relocation of certain wireless providers to new spectrums.

State agencies have not made any major investment of funds into 700 MHz radios. Based on information received from the Public Safety Communications staff, only about 34 percent of the radios purchased in fiscal years 2006 and 2007 were for 700 MHz equipment. According to the manager of Public Safety Communications, these purchases are primarily investments for two purposes: (1) radios to allow state agencies to communicate with local government agencies that have switched to 700 MHz radio systems, and (2) a pilot program for Idaho State Police mobile data terminals.

### ***Cost Estimates for New Radio System Are Rough***

Detailed cost estimates are not available for the proposed 700 MHz statewide radio interoperability system envisioned in Idaho's I-C-A-WIN concept statement. Comprehensive needs analyses and formal cost estimates have not yet been developed. However, a technical subcommittee of the Interoperability Council produced a rough estimate on September 5, 2005, and presented it to the full council on September 22, 2005.<sup>4</sup> The cost information was characterized as a "guesstimate" (see exhibit 7.4).

The Statewide Interoperability Executive Committee has not determined what proportion of these costs would be incurred by the state and how much would be funded by local public safety agencies. Also, estimates do not include costs of ongoing support and maintenance. These decisions have not yet been made.

Implicit in the Interoperability Council's November 2007 Statewide Communications Interoperability Plan is an assumption that improvements to the microwave backbone will be the responsibility of the state; however, this important policy decision has not yet been formalized. The plan also does not explain how either state or local funds will be raised to build this new system, or how it will be maintained and supported after it is built. Additional analysis is underway as part of the needs assessment that should provide refined cost estimates in the latter part of 2008.

### ***How Does Idaho's Approach Compare to Other States?***

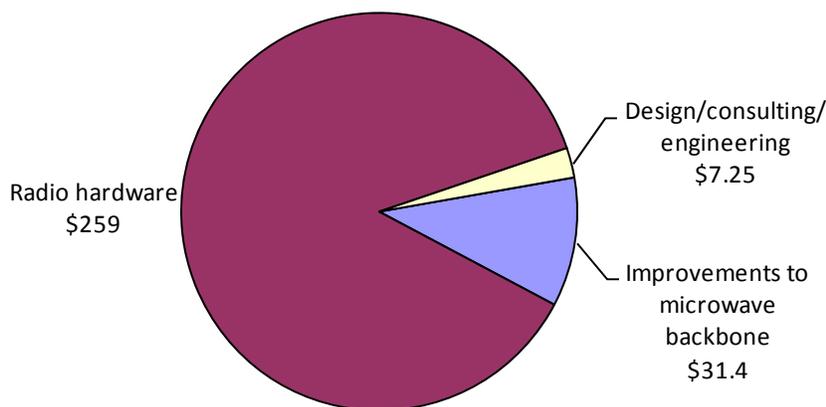
Many states have elected to use a hybrid approach to meeting their radio interoperability needs. Rather than selecting a single radio system for the entire

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<sup>4</sup> Idaho State Military Division, Statewide Interoperability Executive Council, meeting minutes, September 22, 2005.

**Exhibit 7.4: Statewide Interoperability Executive Council Estimated Cost for a Statewide 700 MHz System**

Total Estimated Costs: \$297.7 Million<sup>a</sup>



Note: Dollar amounts are shown in millions. Total may not sum due to rounding.

Source: Idaho State Military Division, Statewide Interoperability Executive Council.

state, they have instead designated geographic areas (usually urbanized areas) that could be best served by the newer, higher capacity and speed of 700 MHz systems, and identified others (usually more remote, rural areas) whose needs could be met using existing systems such as VHF. The systems are designed so the different radios can communicate with each other. The design also has the capability for local governments to add on or connect to the system as needed and as financially possible.

In terms of governance and planning, rather than select a single technology statewide, as stated in Idaho’s I-C-A WIN vision, these states have set policy standards for levels of interoperability (levels 1–5 per federal Wireless Public Safety Interoperability Communications). The policy standards set expectations for all state and local agencies to (1) reach phased goals by an established timeline, (2) decide how much of the system backbone the state would financially support, and then (3) leave decisions to local governments to determine what system best meets their public safety needs and cost constraints.

The SAFECOM program encourages a “bottom-up” approach to ensure support from all stakeholders. In comparison, the Interoperability Council’s stated intent has been, until very recently, that the system is to be 700 MHz statewide with VHF use only when necessary. The council’s position has been modified, according to the December 2007 Statewide Communications Interoperability Plan, acknowledging the strong likelihood that portions of the system will likely not use 700 MHz.

Comparing published interoperability planning costs estimates from state to state is difficult. Some states, such as Idaho, have included total costs of infrastructure, computers, engineering, and all radio equipment, including portable handsets for state and local governments. Other published state estimates only describe infrastructure and implementation costs for the state portion of the interoperable system. Some of the demographic factors working against Idaho are its size (85,000 square miles), low population (1.5 million) to distribute the cost, and rugged terrain (increases the cost for adequate radio coverage). Also, as discussed earlier, the 700 MHz technology is relatively more expensive than VHF options. Exhibit 7.5 shows a comparison of these costs in other states.

As previously discussed, although the Interoperability Council's July 2005 and 2007 I-C-A-WIN concept documents focused on a 700 MHz statewide system, the more recent 2007 Statewide Communications Interoperable Plan states that "cost issues will probably force the state to an integrated P25 solution using 700 MHz primarily in populated areas and a combination of UHF and VHF in rural areas."<sup>5</sup> Because 65 percent of the land in Idaho is federally owned, the VHF band will probably be used for coordination with federal agencies as well." This plan is consistent with the approach recommended by the federal Wireless Public Safety Interoperability Communications initiative and indicates that Idaho is modifying its vision somewhat. Modifications such as this will bring down the cost estimates shown in the exhibit 7.5.

### ***Federal and Tribal Involvement***

Complete statewide interoperability will depend on participation from the tribal governments. Cooperation is already occurring, as demonstrated by the Shoshone Bannock Tribe's planned participation in the 700 MHz system in southeast Idaho. In addition, given that over 65 percent of Idaho's land is owned by the federal government, communication systems may need to pass through federal lands. In the event that Idaho does choose to pursue a hybrid 700 MHz VHF approach, the state should actively pursue interconnection and service agreement partnerships with the federal government. Agreements with federal agencies could provide tower and/or facility co-location opportunities and shared system maintenance costs, and they may substantially reduce the radio network construction and operating costs to the state.

## **Recommendations**

- 7.1 The Public Safety Communications Governance Council and the Statewide Interoperability Executive Council should continue efforts to formally

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<sup>5</sup> Idaho State Military Division, Statewide Interoperability Executive Council, *Idaho Statewide Communications Interoperability Plan*, December 2007.

**Exhibit 7.5: Published Estimated Costs for Interoperable Radio System Plans, Selected States**

<u>State</u>	<u>Radio System Frequency Band</u>	<u>Population</u>	<u>Statewide Cost</u>
Colorado <sup>a</sup>	800 MHz	4,753,000	\$150,000,000
Idaho <sup>b</sup>	700 MHz	1,466,000	298,000,000
Michigan <sup>c</sup>	800 MHz	10,095,000	197,000,000
Oregon <sup>d</sup>	700 MHz / VHF	3,700,000	588,000,000
Pennsylvania <sup>e</sup>	800 MHz	12,429,000	311,000,000
Washington <sup>f</sup>	Multiple 800 MHz, 700 MHz, VHF	6,935,000	277,000,000
Wyoming <sup>g</sup>	150 MHz VHF	515,000	51,000,000

<sup>a</sup> Colorado Division of Telecommunications, *Digital Trunked Statewide Radio System Plan*, 2005.

<sup>b</sup> Idaho Statewide Interoperability Executive Council, *Meeting Minutes*, September 22, 2005.

<sup>c</sup> American Council for Technology, *Michigan Public Safety Communication System (MPSCS) 2005 Intergovernmental Solutions Awards*, May 2005.

<sup>d</sup> Oregon State Interoperability Executive Council, *Oregon Statewide Communication Interoperability Plan*, September 28, 2007.

<sup>e</sup> Pennsylvania, *Inventing the Future of Public Safety Communication*, September 6, 2007

<sup>f</sup> Washington State Interoperability Executive Council, *Washington Statewide Communications Interoperability Plan*, October 4, 2007.

<sup>g</sup> Federal Engineering Inc., *Public Safety Communications Plan for the State of Wyoming: Phase 2 Business Case*, November 2003.

establish their respective policy authority, roles, and responsibilities. These efforts should specify what authority each council will have in the planning effort for the statewide interoperable radio system and how decisions will be made for planning, construction, maintenance, and funding the new system.

7.2 Following completion of the current needs assessment, the Public Safety Communications Governance Council and the Statewide Interoperability Executive Council should complete a clear, detailed analysis of the project options (e.g., 700 MHz or hybrid system). This analysis should include the following elements:

- A detailed analysis of how the project options meet the Statewide Interoperability Executive Council’s strategic goals and the operational needs of both state and local public safety agencies
- A detailed analysis of the life cycle costs, benefits, and risks of each project alternative

- 7.3 The Public Safety Communications Governance Council and the Statewide Interoperability Executive Council should clearly articulate how the planning, construction, funding, and maintenance of the new interoperable communications system will be divided between state and local governments. The lead planning entity should build on the planning work completed to date (Interoperable Communications Technical Assistance Program, I-C-A-WIN) and develop a detailed strategic plan for the selected interoperable radio system. The strategic plan should identify goals, objectives, schedules, roles, responsibilities, and strategies for planning, constructing, funding, and maintaining the statewide system. This plan should also have measures to track achievement of the plan goals, such as goals for reaching specific levels of interoperability within identified timeframes.
- 7.4 The Public Safety Communications Governance Council has two members (director of Idaho State Police and director of Bureau of Homeland Security) serving on the Statewide Interoperability Executive Council. The Interoperability Council should add one additional state representative who can represent state government policy—not a state agency perspective—to the membership of the Statewide Interoperability Executive Council.
- 7.5 The Statewide Interoperability Executive Council should add additional representation from local public safety agencies in smaller jurisdictions so stakeholder input is evenly balanced among large and small local governments.
- 7.6 The Public Safety Communications Governance Council and the Statewide Interoperability Executive Council should continue to actively engage the federal government agencies operating within Idaho and the state’s Native American tribal governments in the planning process.

## **Chapter 8**

# **Future of Information Technology and Public Safety Communications**

*Changes in technology are affecting both the operations and the governance needs of information technology and telecommunications. These changes have blurred the line among historically distinct communications functions of 911 operations, public safety radio, and broadband. Idaho's governance structures for information technology and public safety communications need to adapt to these changes to ensure that efforts are appropriately coordinated and to avoid costly duplication of communications infrastructure.*

### **Technology Is Evolving**

As discussed in earlier chapters, the underlying technology that supports both public safety communications and daily governmental activities is changing. New technology is bringing opportunities for improved services—these changes will affect how public agencies operate and will require changes in the structures and processes that the state uses to govern and plan for statewide public safety communications and state information technology needs.

### **911 Communications Will Be Computerized**

New technologies have been developed that enable people to communicate and send messages and pictures digitally through e-mail, texting, paging, telephone over internet (VoIP), and automatic accident notification systems such as On Star. Enabling public safety answering points to receive and act upon requests for emergency assistance through these technologies will be a significant improvement to public safety response and a very significant benefit to the public. Some examples of how this digital technology works include the following:

- Individuals who are hearing impaired could send a text or e-mail to a public safety answering point instead of the extra steps of having their teletypewriter (TTY) messages translated for emergency dispatchers.
- Using cell phones, witnesses to hit-and-run accidents could take pictures of escaping individuals or vehicles and send the pictures directly to police.

- Emergency notification could be sent *from* public safety answering points *to* cell phones or personal digital assistants (PDA) using Global Positioning System or Geographic Information System technology, informing motorists of hazardous material spills or major accidents. Similar technology, known as Reverse 911, is now available for land line telephone users. Public safety agencies are able to send recorded messages to a selected geographic area, alerting residents and businesses to immediate situations.

Nationally, efforts are underway to digitize the national 911 system so that public safety answering points can receive and send digital information described in the previous examples. This effort, called Next Generation 911, will require public safety answering points to complete major upgrades of equipment.

### ***Public Safety Radio Will Use Same Communication Technology as 911 Communications***

Public safety radio technology is also changing. Traditional VHF and UHF systems are now becoming digitized (computerized) in order to accommodate higher volumes of traffic and meet the FCC's narrow banding mandate. Newer high speed radio technologies have been developed to accommodate not only voice, but data, pictures, and video. Some examples of digital radio technologies include the following:

- Police and sheriff's departments have the capability of using wireless communication to send pictures of crime suspects to officers on patrol.
- Technology has enabled officers to take fingerprints upon arrest and to send pictures and other information of the suspect back to headquarters.
- Ambulances have the capability to transmit wireless information ahead to hospitals with medical data and personal information on an incoming patient.

As public safety answering points develop the new Next Generation 911 capability, emergency dispatchers will also be able to send detailed digital information to police, fire, and emergency medical units. Currently, dispatchers conduct most communications verbally over the telephone and radio. Under next generation 911, dispatchers will be able to send digital information on the location, type of emergency, names of people involved, pictures, etc., to vehicle computers or mobile hand-held devices of public safety responders.

### ***Idaho's Public Safety Communications and State IT Systems Share Common Infrastructure Needs***

Both public safety communications and the state's information technology systems rely on similar infrastructure. Information technology systems such as

e-mail, broadband internet, and telephones currently use the state-owned microwave backbone as well as leased fiber optic networks. These systems allow citizens to perform such tasks as purchasing vehicle licenses and permits from their homes, and enabling state government employees working in regional offices to communicate and share information. Public safety communications already use the microwave system and fiber optic networks, and the statewide interoperable radio system envisioned by the Statewide Interoperability Executive Council will require further investment in both of these technologies.

## **State Governance and Planning Structures Need to Adapt to Technology Changes**

Although radio communications and information technology were historically separate functions, this is no longer the case. The proposed public safety interoperable radio system is a large IT project, perhaps one of the largest the state has undertaken. Its estimated costs are in the hundreds of millions of dollars for the microwave and radio-related equipment alone, not including investments for the fiber optic system that will be needed to connect the microwave and radio equipment into an intact system.

### ***Close Coordination Is Essential***

The statewide radio system project will rely on infrastructure already in place that is not only being used for public safety, but for other statewide business and communication needs. However, public safety radio has some of its own infrastructure and different business and security standards than general government business communications. If clear governance and effective coordination are not established, the potential exists for the construction of multiple, potentially overlapping, statewide communication networks. Given the cost of investing in and supporting such systems, both IT management (Information Technology Resource Management Council and the Chief Information Officer) and public safety communications management (Military Division) must establish clear leadership over these related systems and closely coordinate their efforts.

### ***Leadership of Statewide Efforts Is Not Integrated***

The state already has some planning efforts underway, but decisions about leadership are currently unclear. In 2005, the Information Technology Resource Management Council (ITRMC) completed pre-planning work to determine the needs for further investment in a statewide broadband network to expand the existing IDANET. This work was part of the previous governor's Connecting Idaho vision that included highways, public transit, safety, and security, as well as improving rural economic development and developing statewide access to government services.

In 2006, ITRMC and the Department of Administration discussed options for establishing a new telecommunications council or committee, with an eventual recommendation to the Governor to create a blue ribbon task force to evaluate statewide telecommunications needs. However, this effort was not pursued. The Office of the Chief Information Officer indicates that this effort is still a priority and that it intends to use the ITRMC governance process to develop a solution.

ITRMC used to have a public safety subcommittee whose scope included public safety communications issues. However, some years ago this subcommittee was disbanded, leaving whatever planning functions that were to occur with the Radio and Microwave Services within the Department of Administration (Radio and Microwave Services was recently consolidated with other public safety communications functions within the Military Division). At the time, ITRMC apparently determined that radio systems should not be considered part of information technology.

The Bureau of Homeland Security is also engaging in the planning for statewide emergency communications. Its 2007 Emergency Management Strategy Plan includes goals and objectives for developing statewide networks and systems for sharing emergency related information. The plan indicates that the bureau will support the efforts of ITRMC to develop a telecommunications network that will bring broadband connectivity to all communities and tribes across the state.

### ***Statewide Interoperability Executive Council and the Emergency Communications Commission Need to Coordinate Planning***

The Emergency Communications Commission and the Statewide Interoperable Executive Council are currently working on two efforts that are separate in nature. The commission is working to help local agencies expand the technical capabilities of their public safety answering points to provide more precise location information for wireless callers. The council is planning for construction of a statewide interoperable radio system.

The technology and equipment needed for each of these efforts are currently different, as are the planning efforts. However, as newer digital technology becomes more widespread among local public safety agencies in a few years, the infrastructure, equipment, and computer systems of these two functions will begin to overlap. The overlapping technical requirements will require a well coordinated plan to support the operations and equipment needs of both functions. Consideration should be given as to whether the responsibilities of the Interoperability Council and the Emergency Communications Commission should be combined.

## **Unified Leadership Is Critical to Success**

The research we conducted of the state's governance and planning for information technology and public safety communications functions revealed a number of common themes. Both efforts have had a history of limited coordination and unclear leadership. State agencies have largely acted independently in meeting their information technology and communications needs, resulting in disparate systems and limited collaboration. Changing technology is blurring the line between information technology, telecommunications, and public safety communications, as well as the difference between the historically separate functions of 911 call answering and two-way radio communications.

Recent positive changes indicate that state- and agency-level leaders have recognized the potential for reduced effectiveness and higher costs if efforts continue to be uncoordinated. Examples include the Office of the Chief Information Officer's emerging efforts to meet state agencies' shared IT needs through consolidation of common services, and the steps it has taken to provide for more strategic oversight of the state's IT investment. For public safety, the consolidation of public safety communications-related planning and governance functions within the Military Division and the creation of the Public Safety Communications Governance Council is a positive step, provided that these actions do result in more effective interagency and inter-jurisdictional coordination.

Idaho is still in the beginning stages of these initiatives, and as described throughout this report, important questions of leadership and governance remain unresolved. For example, the roles and responsibilities between ITRMC and the current Office of the Chief Information Officer are informal and undefined. For statewide radio interoperability, the decision is unclear whether the state, through the Public Safety Communications Governance Council, will take the lead in planning and setting policy, or if those responsibilities will remain with the Statewide Interoperability Executive Council. Given the large number of agencies and stakeholders involved in these planning efforts, clear agreements will be required on leadership, respective roles and responsibilities, as well as formal, clear decision making processes.

## **Recommendations**

- 8.1 The Office of the Chief Information Officer, with guidance provided by Information Technology Resource Management Council, should lead the effort to develop a detailed strategic plan to integrate the state's current and future broadband networks. The Chief Information Officer should closely collaborate with the Idaho State Military Division and the Public Safety Communications Governance Council to ensure that unique public safety communication needs are met.

- 8.2 The Information Technology Resource Management Council should establish a subcommittee (in consultation with the Office of the Chief Information Officer and the Public Safety Communications Governance Council) that is charged with monitoring changes in communications technology, assessing the long-term impact of changes on the state's communications systems, and integrating the changes into the strategic plan.
- 8.3 The Public Safety Communications Governance Council should establish a joint workgroup with the Statewide Interoperability Executive Council and Emergency Communications Commission to study the common communications needs of public safety answering points and the proposed public safety interoperable radio system in light of impending changes in communications technology. This joint workgroup should prepare a state-level plan that includes recommendations for state governance of, and planning for, all current and future 911 communications functions. One objective should be to determine if the Statewide Interoperability Executive Council and the Emergency Communications Commission should be combined.

# Responses to the Evaluation

The following nine entities have formally responded to our evaluation:

- Governor
- Office of the State Controller
- Department of Administration
- Department of Health and Welfare
- Idaho State Police
- Idaho Transportation Department
- Military Division, Bureau of Homeland Security
- Statewide Interoperability Executive Council
- Emergency Communications Commission





C. L. "BUTCH" OTTER  
GOVERNOR

March 18, 2008

Rakesh Mohan  
Director  
Office of Performance Evaluations  
Idaho Legislature  
Joe R. Williams Building  
700 W. State Street  
P.O. Box 83720  
Boise, ID 83720-0055

Dear Director Mohan,

Thank you for submitting your final report on public safety communications and information technology management. It provides important perspective on the issue, and it undoubtedly will help advance the much-needed consolidation of our State of Idaho email and telephone systems.

It is with particular interest and a high level of support that I note your recommendation to have the Office of the Chief Information Officer in the Department of Administration take the lead on setting the standards for I/T related purchases and projects.

Your recommendation is similarly well received that the Office of the Chief Information Officer in the Department of Administration coordinate information technology purchases to ensure they are aligned with the approved state and agency I/T plans.

Once again, this report provides an invaluable service to the State of Idaho and to the taxpayers we serve. It is our mission as public servants to be prudent and frugal stewards of the resources with which we are entrusted. Your work in assessing the need and recommending a path forward fulfills that responsibility admirably. Thank you.

As Always – Idaho, "Esto Perpetua"

A handwritten signature in black ink, appearing to read "C.L. Butch Otter".

CLO/mw

C.L. "Butch" Otter  
Governor of Idaho





**STATE OF IDAHO**

OFFICE OF THE STATE CONTROLLER

DONNA M. JONES

March 17, 2008

Rakesh Mohan, Director  
Office of Performance Evaluations  
Idaho State Legislature  
700 W. State Street  
Boise, ID 83720-0055

Dear Mr. Mohan:

Thank you for the opportunity to comment on the Governance of Information Technology and Public Safety Communications report. Our comments are for the Information Technology portion of the report only.

Your office is to be commended for this work on an issue critical to the efficient and effective operation of state government. We agree with your recommendations for leadership, planning and oversight, and IT cost identification as a way to coordinate information technology purchases and operations.

To address Recommendation 2.4 we are very willing to provide additional information and training for state agencies to fully utilize the Statewide Accounting and Reporting System (STARS). The ability to track information technology costs is critical in managing projects and for budget managers in reviewing IT service expenditures statewide. We will reevaluate the information currently given to agencies and the types of training offered for the state's accounting system.

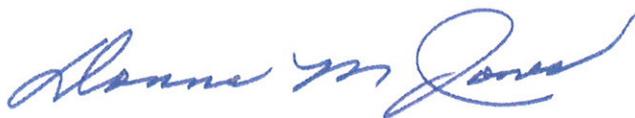
The greatest challenge will be getting agencies to utilize standardized data entry practices, even if they are on different systems. Whether it is IT services or accounting systems, centralization can provide uniformity, consistency, and hopefully, cost savings over the long term.

Page 11 of chapter 2 asserts some costs are "counted twice" in STARS. This is not the case. Activity recorded in STARS is in accordance with legislative appropriations at the agency and fund level. When information is requested from the accounting system on a statewide level,

true costs can be obtained without duplication, as long as the requester has knowledge of statewide operations to avoid the apparent double counting. This reporting is also in accordance with generally accepted accounting standards (GAAP).

Thanks once again for the opportunity to provide this response. I believe this report will be very useful to policymakers as we work together to avoid duplication, reduce costs and maximize resources for information technology in state government.

Sincerely,

A handwritten signature in blue ink, appearing to read "Donna M. Jones". The signature is fluid and cursive, with a large initial "D" and "J".

Donna M. Jones  
State Controller



State of Idaho  
Department of Administration

C.L. "BUTCH" OTTER  
Governor  
MIKE GWARTNEY  
Director

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March 13, 2008

Mr. Rakesh Mohan, Director  
Office of Performance Evaluations  
PO Box 83720  
Boise, ID 83720-0055

Dear Director Mohan:

On behalf of the Department of Administration and the Information Technology Resource Management Council (ITRMC), I want to commend you and your team on the completion of the "Governance of Information Technology and Public Safety Communications" performance report. It has been a pleasure to work with you and your staff throughout this process. We sincerely appreciate your thoroughness, objectivity and research on these important issues.

As referenced throughout your report, efforts are already underway within ITRMC and the Office of the Chief Information Officer (CIO) to implement your recommendations. Even prior to this report, we were convinced of the need to aggressively change the way technology is managed throughout state government. Your report has highlighted many of our concerns and will serve to assist us in focusing on specific governance and consolidation activities.

Your recommendations are timely and relevant. In coordination with the Office of the CIO, I have requested our newly formed State Information Technology (IT) Alignment Task Force to review your IT-related recommendations and provide a specific action strategy for each. The experience of this Task Force, comprised of public and private sector IT leaders, will ensure appropriate implementation of these recommendations.

Thank you again for your work on this thorough study. Your staff did a superb job in evaluating this complex subject.

Sincerely,

A handwritten signature in cursive script, appearing to read "Mike Gwartney".

Mike Gwartney  
Director and ITRMC Chairman





IDAHO DEPARTMENT OF  
HEALTH & WELFARE

C.L. "BUTCH" OTTER - GOVERNOR  
RICHARD M. ARMSTRONG - DIRECTOR

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March 17, 2008

Rakesh Mohan, Director  
Office of Performance Evaluations  
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Boise, ID 83720-0055

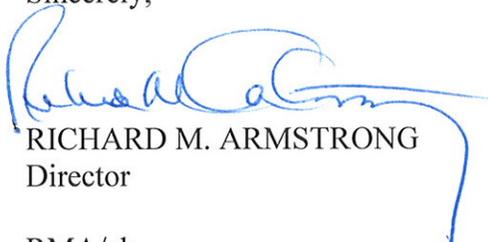
Dear Director Mohan:

Thank you for providing the draft report, *Governance of Information Technology and Public Safety Communications*. We appreciate the opportunity to review the document prior to its release.

Public safety communications provides a critical role protecting the lives and property of the citizens of Idaho. To this end, the Department of Health and Welfare is committed to its involvement in the State's public safety communications infrastructure through its active participation as a member of the Information Technology Resource Management Council, the Idaho Emergency Communications Commission, and the Statewide Interoperability Executive Council.

Again, thank you for your report. Please don't hesitate to contact me if I can provide further assistance.

Sincerely,



RICHARD M. ARMSTRONG  
Director

RMA/eb





# Idaho State Police

Service since 1939



Colonel G. Jerry Russell  
Director

C.L. "Butch" Otter  
Governor

March 17, 2008

Mr. Rakesh Mohan, Director  
Office of Performance Evaluations  
JRW Building, Suite 10  
P.O. Box 83720  
Boise, Idaho 83720-0055

Dear Mr. Mohan:

Thank you for the opportunity of allowing the State Police to be participants in the recent OPE study *Public Safety Communications and Information Technology Management*. As an agency, we have learned as much from the process of the study, as from its final report. Our review of the report gave reason to reflect on many issues, and I would like to offer some comments on its content and recommendations.

First, I would commend your staff on their herculean effort to finish this task in such a short timeframe. Though both topic areas are vast, the scope of the study was directed at those areas ISP agrees are most critical. The report is a quality document containing insightful recommendations and the foundational data to support them. This report may well serve as the springboard for many initiatives that have been needed for years.

The resounding message gleaned from the report overall is the need for leadership. Leadership in establishing a clear mission, developing an operational strategy, and building a policy framework in which the State can ensure collaboration, cooperation, and conformity to accepted best practices. Clarity of purpose with coherent objectives has been lacking. There is need for the State to articulate specifically and frequently what is trying to be accomplished and I agree that a CIO, assisted by strong governance councils, can be that voice.

Despite relative loose controls, information technology has been used effectively in the State. But doing something better sometimes means doing it differently. The IT recommendations focused heavily upon the shortcomings of the data and tools available to the State that are necessary to efficiently manage technologies resources. Government and business alike have seen that poor decisions usually result from poor decision-making processes. Strong central leadership and consistent communications can develop guiding principles for the State, and best principles result in best practices. Whatever measures are implemented, it is important to ensure that these solutions are not cumbersome and do not overburden resources already stretched to the limit. Once again, strong leadership with consistent feedback from governance councils can ensure the State makes smart decisions.

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EQUAL OPPORTUNITY EMPLOYER

Mr. Rakesh Mohan, Director  
Page 2  
March 17, 2008

Surprisingly to some, public safety communications interoperability is not a technology issue. The tools we need to overcome technical barriers are available to us today. Interoperable communications requires cooperation and coordination, and technology is just one of the enabling tools. Technology without coordination results in *inoperability*.

The report suggests that the State has different leadership roles depending upon the ultimate design configuration of the communications systems. I would disagree. The State must take the lead role regardless of what the system ultimately looks like. The report accurately identifies that many agencies in the State have been waiting until they could determine what direction the State chose before identifying their own plan. Many State agencies have communications needs that reach from border to border. There is an operational need for ISP to be able to communicate with any public safety entity in the State. There is an obvious benefit derived from the ability of the State to communicate with disparate systems and separate frequencies; the State can be that bridge between those systems so they can communicate with each other. It is therefore incumbent upon the PSCGC to create a framework of policies, standards, and procedures for statewide interoperability.

This last year has seen many improvements in the workings of the business of state government. We are seeing many of the past roadblocks being torn down and new inroads being developed. Given proper direction and a clear articulation of goals, the State's new leadership can achieve the desired ends. I am confident that the changes made to date will allow the State to accomplish quickly, efficiently, and effectively those tasks that stalled over the last ten years.

Sincerely,

  
Colonel G. Jerry Russell  
Director, Idaho State Police

GJR:jm



**IDAHO TRANSPORTATION DEPARTMENT**

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March 17, 2008

Mr. Rakesh Mohan, Director  
Office of Performance Evaluations  
Statehouse Mail  
700 W State Street, Suite 10  
P.O. Box 83720  
Boise, Idaho 83720

RE: TD Technical Response to Public Safety Communications and  
Information Technology Management

Dear Director Mohan:

ITD offers the following technical comments to the DRAFT report titled "Governance of Information Technology and Public Safety Communications."

In general, this report represents an accurate picture of the stated topics, and the intent of the document is clear in that the focus of the report is derived from legislative interest in two key areas. These are:

1. Public Safety Communications;
2. Governance of Information Technology.

ITD believes that Information Technology and Public Safety Communications are tools in place to support the different business functions of the State. The recommendations and on-going support structure and improved governance approach must not drive the direction of the business functions, rather the business functions should be driving IT with appropriate policy and procedures.

Recommendations in the report are valid, and reflect mainstream direction and efforts addressing the stated topics with an aim to consolidate resources, and maximize efficiencies through centralized management and oversight of both Information Technology and Public Safety Communications.

Recommendations for having the office of the CIO lead the states IT efforts would be beneficial since it provides for a single point of contact and reduces duplication of efforts across the state. ITD also acknowledges the benefits of recommending a PMO component be established with the office of the CIO as a worthwhile and necessary component to ensure the success of IT initiatives.

SIEC has been relying heavily on a subcommittee structure to accomplish many assignments, and it places a heavy burden on all the SIEC representatives. Agencies such as ISP, ITD and DHW have been called upon heavily to support the SIEC.

One of the findings is that there needs to be better coordination and communication between ITD and the SIEC. ITD believes that there has been adequate communication and coordination between the SIEC and the ECC. A representative from the ECC has attended SIEC meetings on several occasions and provided updates and there is a statutory requirement for the SIEC to do likewise. Although we believe recommendation 5.2 is theoretically a good idea, we believe the quarterly planning meetings would be difficult to implement in practicality due to limited resources.

ITD has concerns with Recommendation 7.5. ITD believes the interests in Idaho have been well represented through the efforts of the SIEC and adding additional members would drive up costs and make it more difficult to conduct meetings.

For questions or comments regarding this response, please contact:

Jon Pope  
Chief Technology Officer  
Idaho Transportation Department  
208-334-8222  
[jon.pope@itd.idaho.gov](mailto:jon.pope@itd.idaho.gov)

Sincerely,

A handwritten signature in blue ink, appearing to read 'P. Lowe', with a long horizontal flourish extending to the right.

PAMELA K. LOWE. P.E.  
Director



**MILITARY DIVISION, STATE OF IDAHO**  
**IDAHO BUREAU OF HOMELAND SECURITY**

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BOISE, IDAHO 83705-5004

C.L. "BUTCH" OTTER  
GOVERNOR

March 17, 2008

THE ADJUTANT GENERAL  
LAWRENCE F. LAFRENZ

Mr. Rakesh Mohan, Director  
Office of Performance Evaluations  
P.O. Box 83720  
Boise, Idaho 83720-0055

Dear Mr. Mohan:

The Idaho Bureau of Homeland Security appreciated the opportunity to participate in the recent OPE study 'Public Safety Communications and Information Technology Management'. In review of the final draft report, the Bureau is in agreement with the findings and recommendations. Although the timing of the study closely coincided with the movement of Public Safety Communications and the Emergency Communications Commission from the Department of Administration to the Bureau, the findings and recommendations will pay dividends as the recently created Public Safety Communications Governance Council begins to provide a coordinated and collaborative policy voice for Idaho.

As stated in the OPE study, there are several initiatives that are just beginning to evolve that I anticipate will provide the needed leadership and strategic direction for the State to reach solutions in support of an interoperable state radio system as well as provide assistance and clear choices to local jurisdictions in terms of achieving interoperability.

The Idaho Bureau of Homeland Security wishes to acknowledge and thank the Office of Performance Evaluations for its professionalism and tenacity in producing this study. The findings and recommendations reflected in this study coupled with the Governor's strategic direction and collaboration between local jurisdictions and state agencies will ensure the framework is in place to ensure statewide interoperability.

Sincerely,

A handwritten signature in cursive script that reads "Bill Shawver".

Bill Shawver

Director, Bureau of Homeland Security



## **Statewide Interoperability Executive Council**

Response by Mark Lockwood, Chair

March 17, 2008

The information presented within the document prepared by the Office of Performance Evaluations (OPE) presents an overall overview of interoperable communications for the State of Idaho and its local and federal partners. This overview in many areas lacks completeness. The purpose of this response by the State Interoperability Executive Council (SIEC) is to provide additional insight and as much completeness as is possible due to time constraints to the report. The SIEC greatly appreciates the opportunity to comment on the findings contained in this document.

Since the inception of the SIEC it has faced many challenges which have seriously compromised its ability to complete its mission as outlined in the original executive order which created it and recent legislation which placed it under the Idaho Division of the Military. The SIEC as prescribed in state statute only has the authority to recommend best practices concerning interoperable communications. The OPE document addresses many of the challenges that the SIEC has faced from the beginning with emphasis being placed upon the lack of State leadership and coordination. The SIEC inherited the State's fractured system of dealing with wireless communications. This system lacked a single point of contact with the authority for state agencies to act upon their needs concerning their wireless communications. The State's assets were divided across several agencies and lacked any clear vision or coordination of those assets.

It has only been over the past year since the re-organization of these assets under a single state agency that progress has been seen. This consolidation has just begun to provide the vital information and guidance necessary for the SIEC to begin to forge a strategic plan for statewide wireless communications which actually includes State agencies. Prior to this re-organization the State and its various agencies were unable to engage in these processes as they lacked clear policy direction and their wireless communications needs were undefined. This inability on the part of the State has impacted the SIEC's ability to plan and development a statewide interoperable communications system. As pointed out by OPE the process has been driven from the "ground up approach" with much of the leadership being provided by the states counties and municipalities. Best practices researched and reviewed by the SIEC has found those states which have taken this "ground up approach" with the inclusion of their State and Federal partners have been able to successful develop statewide interoperable communications systems. It is the SIEC's belief that through working with the Public Safety Communications Governance Council (PSCGC) in a cooperative and collaborative manner that they will jointly produce a detailed plans which will provide Idaho with the means to be successful.

The SIEC continues to face several false perceptions concerning the development of the statewide backbone and entities being forced to move to the 700MHz frequency band. From the beginning we have attempted to dispel this perception; it is clearly discussed in the ICAWIN document which recommends the development of a standards based system. Technology currently provides the means for gateways in order to accommodate those agencies choosing to remain in the VHF and UHF frequency bands. This concept and approach will allow all partners to utilize the vendor and equipment of their choice.

The SIEC has known from its infancy that our federal partners and many local partners will remain in the VHF frequency band. We have also known and acknowledged the need for these partners to have the ability to connect to the statewide backbone system. We have remained consistent in recommending practices which would promote interoperable communications across the state. The State's Microwave Backbone is frequency agnostic and provides the means for a wide range of frequencies to be connect to it through using gateway technology. The Idaho State Police is currently utilizing this type of technology today in order to have connectivity with agencies in several regions in eastern Idaho that have transitioned to 700MHz.

As is illustrated in the OPE report the SIEC's membership is composed of representatives from all public safety/service organizations within the state and includes additional voting members from Idaho's federal partners. We have in the past and continue to develop outreach programs and materials and have consistently attended our membership's annual and semi-annual meetings to provide information concerning interoperable communications and the progress of the SIEC. The SIEC has monthly meetings that are open to the public and an active website which contains information concerning its mission and progress. Recently, the SIEC held several meetings across the state in various regions. Attendance at these meetings was poor at best, with invitations having been previously sent out to all members of the legislature and local leaders residing within the various selected regions where the meetings were held. Not one member of the legislature chose to attend any of these regional meetings and very few local leaders attended. It is impossible for the SIEC to assist with or gain a complete understanding of local needs if they are not provided input from our local partners either through attendance or through their state associations which are represented in the SIEC membership.

It must also be remembered that the ICAWIN document is a concept document, the next phase as discussed in this document will be developed upon the SIEC receiving the results of the in progress Needs Assessment. It is from these findings that a defined and detailed design build document will be developed with input from all shareholders.

The SIEC remains committed to gaining and understanding the needs of all our partners and welcomes their input and participation in the process of developing a statewide interoperable communications system.

The SIEC as listed in state statute is responsible for providing funding recommendations to the Idaho Department of Homeland Security and the Legislature. Recently the SIEC was charged with making recommendations concerning the federally funded Public Safety Interoperable Communications (PSIC) grant program. OPE's report states the timeline for this program was "too condensed" and infers the SIEC had all information needed for applicants to apply for the program in April of 2007. This is far from the case concerning the PSIC program. The PSIC program continually changed from its beginning which was evident from the issues faced by the 2007 Legislature concerning the matching funds for this grant program which changed halfway through the 2007 Legislative Session.

The distribution landscape of how funding requests would be dealt with also changed in early 2007. The U.S. Department of Homeland Security issued new rules for funding requests at that time. The Idaho Bureau of Homeland Security under the direction of then Director Bill Bishop delivered these changes concerning the State Homeland Security Program (SHSP) in a series of regional workshops beginning in February of 2007. The process moved to an Investment/Project based system which was then to be folded into the State of Idaho's funding request plan. These new guidelines required the oversight of an Investment Manager for all funding areas of SHSP. All counties were given a short timeline to provide county plans for the use of their share of SHSP funds. Only a handful of counties submitted investment plans to the Bureau of Homeland Security outlining specific projects which would be then included into the States plan.

The PSIC funds were designated late in the process to be distributed through the Idaho Bureau of Homeland Security the SIEC was bound to their rules concerning funding. The funding process was reviewed by the Idaho Division of the Military Department of Purchasing and by the Idaho Bureau of Homeland Security. It was from their recommendations that the process for PSIC was developed. The SIEC was also on a short timeline in order to accomplish its charge of reviewing and then recommending the best Investment Projects to be funded. The process took into account the need to achieve the best result from the limited funds available and to deliver the greatest range of infrastructure assets across the state for public safety communications.

The SIEC's Technology Sub-Committee was requested to review and recommend the best Investment Projects for the limited funding available. The sub-committee is comprised of members of the SIEC and other communications professionals. They were charged with an almost insurmountable challenge of determining which investment projects would provide the greatest impact to communications infrastructure statewide. Several of these investment projects submitted requested the full sum of the funding for their individual projects. Others were based on a series of options and projects which would develop communications infrastructure that would be scaleable and leverage current or

future assets. The committee logically and in accordance with the developed guidelines provided a list of recommendations to the SIEC for its review which delivered funding for the development of interoperable communications infrastructure across the state. Their recommendations were voted upon and approved by the SIEC, who then forwarded the approved PSIC investment projects to the Bureau of Homeland Security for their review and inclusion into the State of Idaho PSIC plan.

The SIEC knew from the beginning of this project that they would come under fire and would be unable to make all who would apply happy. The PSIC funding was just too limited for that to have occurred. The SIEC gained valuable insight into the funding process which will be utilized in any future funding projects they are asked to review.

As is illustrated in the OPE document the SIEC requested assistance from the federal Interoperable Communications Technical Assistance Program (ICTAP) in 2004. The request was for ICTAP to perform a statewide assessment and analysis regarding the current state of interoperability within the state and a feasibility of the use of 700MHz for a statewide system. The results of this study reaffirmed to the SIEC the need for a formal statewide user's needs and analysis study. The SIEC knew early in the process that the cost for such a project would be substantial and would require the development of an RFP. The SIEC also understood the need for State agencies to participate in the process and needed them to become engaged in order for the needs assessment to be successful. As is mentioned in various areas of the OPE document critical infrastructure assets are owned and operated by the State of Idaho. With the re-organization of the state's public safety communications assets and re-defining of responsibilities the conditions became conducive to the launching of this project.

The SIEC understands this project should have been launched in 2005, but funding and conditions concerning the State did not allow for such.

OPE's report suggests that there is very limited communication between the SIEC and the Emergency Communications Commission (ECC). The SIEC's Project Manager has been attending ECC meetings for several years and reporting on the SIEC's progress. Recently the ECC Project Manager has been given time on the SIEC's monthly agenda in order to keep the council apprised of the ECC's progress. Since the recent re-organization the Project Managers for SIEC and the ECC are housed in the same office and have daily contact with each other. This level of collaboration has been very beneficial and will continue to provide for improvements concerning future planning efforts. The SIEC is very much in favor of also including the Public Safety Communications Governance Council (PSCGC) in these collaborative efforts.

The OPE report also discusses the costs of the proposed public safety communications system. The report fails to include the option of cooperation and collaboration with local agencies on rapidly expanding locally owned sites in the cost process. We do not need to build three (3) different buildings with separate towers on the same mountain top site. Through a collaborative effort State and Local Governments can share sites and locations which will produce a major savings to both parties. The SIEC is well aware of the exorbitant costs of this technology. It is only through collaborative efforts that a statewide system will ever be designed, built and utilized. This approach also must include our federal partners in order to be successful.

The SIEC has been aware of the need to develop a governance model almost since its inception. This effort has been hampered greatly due to the lack of engagement by the State. With the recent changes and re-organization of state assets it is believed a system of governance can be developed which will provide representation for all shareholders within the system. If all shareholders are not represented the success of the proposed system will be limited. Since many of the current successful communications projects have been accomplished statewide through the efforts of local governments it is critical that they have a voice in the management of these assets. Many have made large local investments which will or are currently connected to the States microwave backbone. Once again this effort must utilize a cooperative and collaborative system which solicits input from all users. The SIEC through research has found that several States have designed and developed multiply statewide communications systems only to find their local partners refused to participate on the systems. Once such state is the State of Georgia; they have developed several State communications systems over the past two decades only to fail or are only utilized by State agencies. They failed due to failing to work as a partnership and to work with all shareholders.

One of the greatest challenges faced by the SIEC, ECC and PSCGC will be to continue to work as partners. If not done correctly the issue of governance will greatly impact these critical relationships.





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March 17, 2008

Rakesh Mohan  
 Office of Performance Evaluations  
 700 W. State Street, Ste. 10  
 Boise, ID 83720-0055

RE: Comments on Report on Public Safety Communications by the Office of Performance Evaluations

Dear Mr. Mohan:

On behalf of the members of the Idaho Emergency Communications Commission (“IECC”), thank you for the opportunity to provide comment to the above-referenced Report. We sincerely appreciate the time and effort that your staff has expended to understand the issues facing the Commission and the units of local government that provide the infrastructure for 9-1-1 systems in Idaho and first response to calls that come through the 9-1-1 system. As requested, the comments in this letter document are related to the public safety portion of the report that is contained in Chapters Five and Six.

We believe that the Report has largely captured the status of 911 systems in Idaho and the efforts that the Commission has made since its formation in 2004. However, there are a couple of areas that where we would like to provide some clarification.

The Report is correct in that the State of Idaho has not provided a funding source for 9-1-1 systems outside of the current Emergency Communications Fee \$1.00 per month fee that is collected by providers of traditional wireline telephone service providers, wireless telephone providers and those Internet service providers that provide Voice over Internet Protocol (VoIP) service. The limitations in funding options are the reason for the status of Idaho as one of the last states in the nation to implement Enhanced 9-1-1 service for both landline and wireless phones. However, the counties that have a sufficient population base have been successful and timely in implementing both Enhanced 9-1-1 and are compliant with Wireless Phase II requirements. Another important factor that is the Emergency Communications Fee collected by the counties for the benefit of all emergency responders in the county is also the main source of funding for the new radio systems that are also discussed in the other Chapters of the Report. As the report details, both the radio systems and 9-1-1 systems are extremely expensive for both the purchase of the initial hardware, but also for the required ongoing maintenance costs.

Another comment that the Commission has that might be considered in opposition to the recommendations in the Report is related to the idea that the Commission becomes a “watchdog” of sorts over the counties or the funds collected by the counties for 9-1-1. The IECC does not believe that this is our role or the role of the State. In short, the Commission does not desire to micromanage other elected government officials. It is our role to facilitate communication between those dedicated professionals working in the PSAPs and to provide resources to them to fulfill the critical needs. Again, this is largely a funding issue.

The Commission recognizes that other states have had more success with a central funding system administered by the State. However, this is not something that can be easily changed after the Idaho Legislature made the decision on how to fund 9-1-1 twenty years ago. The Commission does not believe that it is a viable option to entirely restructure the funding system without a large investment by the State of Idaho from the General Fund. The counties and the few cities that operate the PSAPs rely on the current funding system for the very existence of their centers. In other words, simply taking money from the more heavily populated areas and redistributing the money to the rural areas would be catastrophic to the all 9-1-1 systems. There simply has to be a new source of funds.

As the Report indicates, the Commission has drafted and presented House Bill 447 to the Idaho Legislature this year to attempt to address the needs for the rural counties. With its various amendments since introduction, we are hopeful that this bill will be enacted into law this year so that we can assist the counties in bringing their PSAPs into the 21<sup>st</sup> century within the next six years.

Lastly, the Report recommends that there be consideration of combining the IECC with the Statewide Interoperability Executive Council (“SIEC”). We are aware that the communication between the Commission and the Council could be improved and that the two could combine some efforts and we will address the recommendations for doing so as outlined in the Report. However, the overwhelming fact is that the two groups are focusing on two different technologies and as such are faced with varying issues. The members of both boards are essentially volunteer governance leaders representing state associations from local government who are not necessarily experts in either field. Further, there is just too much time involved in staying current with the issues and the technology in both areas for the same members to be held accountable. There are certainly those members who are well versed in both areas, however we feel that we would be severely limiting the ability to find members to serve and to be proficient if the two groups were to be combined. Therefore, the IECC is opposed to this concept.

Again, the Commission appreciates you and your staff for being willing to look at the very complicated technology and issues detailed in your Report. We are very pleased that the Idaho Legislature is interested in learning about the concerns of local governments in bringing the best emergency response to our citizens. We also stand ready to assist the State of Idaho, the federal government, local entities and state associations in collaborating to ensure our State has the best in technology and in governance.

Please let me know at your earliest convenience when the presentation will be to the Joint Legislative Oversight Committee. I will plan to be present along with a few of the other Commission members.

Sincerely,



Garret Nancolas  
Chairman

## Office of Performance Evaluations Reports Completed 2006–Present

Publication numbers ending with “F” are follow-up reports of previous evaluations. Publication numbers ending with three letters are federal mandate reviews—the letters indicate the legislative committee that requested the report.

<u>Pub. #</u>	<u>Report Title</u>	<u>Date Released</u>
06-01	Management in the Department of Health and Welfare	February 2006
06-02	Idaho Student Information Management System (ISIMS)—Lessons for Future Technology Projects	August 2006
06-01F	Public Works Contractor Licensing Function	August 2006
06-02F	Idaho Child Care Program	August 2006
06-03F	Timeliness and Funding of Air Quality Permitting Programs	August 2006
06-04F	Fiscal Accountability of Pupil Transportation	August 2006
06-05F	School District Administration and Oversight	August 2006
06-06F	Public Education Technology Initiatives	August 2006
06-07F	Higher Education Residency Requirements	August 2006
06-08F	Child Welfare Caseload Management	August 2006
07-01	Use of Average Daily Attendance in Public Education Funding	February 2007
07-02	Virtual School Operations	March 2007
07-03F	Higher Education Residency Requirements	July 2007
07-04F	State Substance Abuse Treatment Efforts	July 2007
07-05F	Idaho School for the Deaf and the Blind	July 2007
07-06F	Public Education Technology Initiatives	July 2007
07-07	Health Insurance Coverage in Idaho: A Profile of the Uninsured and Those with Coverage	July 2007
07-08	Options for Expanding Access to Health Care for the Uninsured	July 2007
07-09F	Child Welfare Caseload Management	December 2007
07-10F	Management in the Department of Health and Welfare	December 2007
07-11F	School District Administration and Oversight	December 2007
07-12	Cataloging Public Health Expenditures in Idaho	December 2007
07-13	Estimating Private Health Expenditures in Idaho	December 2007
07-14	Trends in and Drivers of Health Expenditures in Idaho	December 2007
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08-02F	State Substance Abuse Treatment Efforts	March 2008
08-03F	Virtual School Operations	March 2008

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