Interoperability Business Case:
An Introduction to Ongoing Local Funding

Homeland Security

Introduction

When flood waters rise, a bridge collapses, or a fire rages out of control, saving lives and property requires a coordinated response. Emergency response to incidents large and small is increasingly complex and often requires multiple agencies, jurisdictions and disciplines to communicate with one another through diverse interoperable solutions. Implementing and maintaining these solutions requires funding. In order to receive funding, communities need a good business case.

A successful business case must demonstrate the value of the interoperability effort, provide a clear picture of the future of interoperability in the community, and speak to the interests and concerns of community leaders. This document helps emergency response officials develop a compelling business case by presenting steps and considerations to follow in order to tap into critical local funding sources for interoperability efforts.

Interoperable Communications

Interoperable communications allow emergency response agencies to communicate across disciplines and jurisdictions, exchanging voice and/or data with one another on demand, in real time, when needed, and as authorized. Interoperable communications are the backbone of every incident response. Without interoperable communications among the police, fire response, emergency medical services (EMS), transportation, and other needed emergency responders, the lives of citizens and practitioners are at risk.

Communications Infrastructure

Public safety is the number one priority of every government's appointed and elected officials. A key element in responding to incidents (at all levels) is a solid interoperable communications infrastructure. Building and maintaining this communications infrastructure requires the same level of commitment to support and funding from public leaders as the community's roads or bridges. Sustainable interoperable communications infrastructure, just like roads and bridges, requires continual upkeep, maintenance, and improvements.

The Time Is Now

The events of September 11, 2001 illustrated how critical interoperable communications are to local communities. *Now is the time* for all communities to develop and sustain the interoperability infrastructure. With immediate and ongoing commitment to developing local and regional interoperability, local and state governments will benefit by:

- Saving and protecting citizen lives
- Saving and protecting emergency responder lives
- Increasing emergency responder effectiveness and coordination
- Improving response times, especially in multi-jurisdiction responses
- Reducing property loss

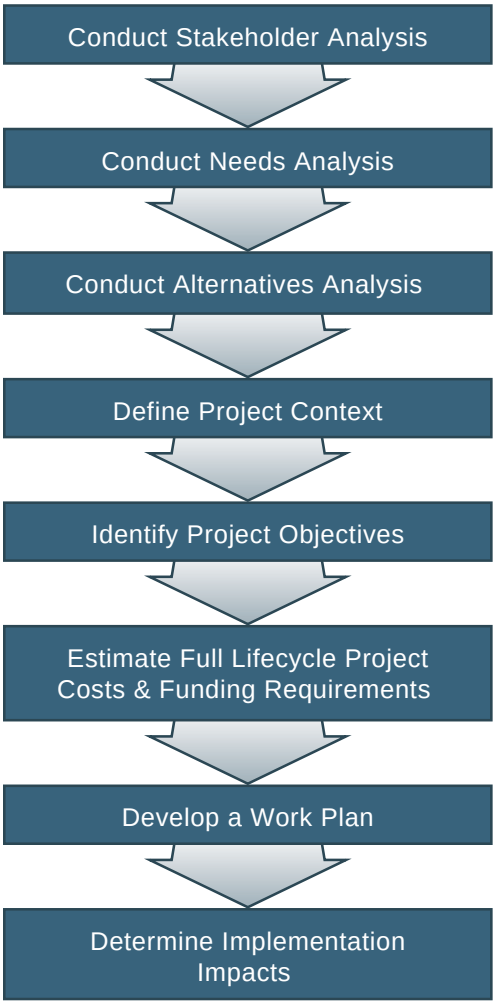
Congress is making interoperability a priority through increased levels of funding available to local and state governments. This funding includes $1 billion in Public Safety Interoperable Communications (PSIC) grants, which are awarded to states that have developed approved statewide communications interoperability plans. State and Federal grants are essential to interoperable communications funding.

Ongoing Local Interoperability Funding

What will your community do when the grant money runs out? How will you sustain your governance structure, maintain equipment, support standard operating procedure (SOP) development, provide ongoing training, or invest in future infrastructure upgrades? Ongoing local funding can complement existing grant funds and serve as a mechanism for sustaining existing interoperability investments; it can also be set aside to invest in future interoperability efforts.

Develop a Compelling Case for Ongoing Local Interoperability Funding

A successful business case should demonstrate that the necessary research and analysis has been completed to justify the proposed solution to secure ongoing local funding. The following details key considerations and steps when developing a business case to support an interoperability project.



Conduct Stakeholder Analysis

Support for the interoperability project depends largely on identifying and involving stakeholders that have an interest in or will be affected by the proposed interoperability project. Project coordinators can build a coalition of support for the proposed project by identifying a diverse group of stakeholders. For projects as complex as interoperability, it is essential to have support from as many agencies, disciplines, and jurisdictions as possible.

Consider representatives from the following stakeholder groups:

- Elected Officials
- Emergency Response Officials
- Citizens
- Local, State, and Federal Agencies
- Disciplines
- Organizations or Committees
- Vendors

By identifying and involving stakeholders in the early stages of the business case development process, the business case will provide a clearer picture of interoperability gaps, opportunities, impacts, and risks associated with the project. Through canvassing the stakeholders, the project coordinator will also be able to determine what stage in the process each group of stakeholders should become involved, as well as how they should be involved.

Conduct Needs Analysis

An analysis of interoperability needs forms the basis of the business case. Any proposed interoperability effort will be justified by its alignment with current interoperability requirements. The needs analysis will help emergency response officials identify current business and user interoperability requirements, opportunities, and solutions for resolving interoperable communications gaps. Further, it will ensure that any proposed solution meets the identified needs.

In conducting the needs analysis, consider the following:

- **Operating environment**—What are the community/region's current communication services and how are they delivered?
- **Operating needs**—What are the gaps/issues of the communication systems and procedures this project will address? Consider restrictions for existing grant funds and responsibilities of the community, linkages between existing work and remaining work, maintenance and repair of existing interoperability equipment or infrastructure, and past communications failures or gaps.
- **Operating opportunities**—What existing technologies, infrastructure, or resources can the project leverage?
- **Statutory requirements**—What local, state, or Federal requirements mandate this project (such as policy changes at the Federal level)?

A compelling need can mean the difference between securing funding for your project or not.

Conduct Alternatives Analysis

To determine the best solution for addressing interoperability needs, project coordinators should conduct an alternatives analysis. The alternatives analysis should consider all viable options for meeting needs identified in the needs analysis.

In conducting the alternatives analysis, consider the following:

- What viable alternative interoperability solutions exist to address identified interoperability needs?
- How do the alternative solutions address current interoperability needs or gaps?
- What is the impact of doing nothing?
- Why were the alternatives not chosen?

A thorough analysis of alternatives will not only help you select the best solution to resolve interoperability gaps, but will also demonstrate that due diligence was performed for all possible options.

Define Project Context

When developing a business case, project coordinators should consider how the interoperability effort they are seeking to fund fits into the community or region's larger interoperability vision and efforts. Setting the context for new interoperability projects within the landscape of current interoperability efforts creates a convincing case for the importance and benefits of the new project. Additionally, projects aligned with existing interoperability efforts can be valuable additions to the work already underway. The success of an interoperability project often depends on how much a community understands current interoperability efforts, and how it can leverage those efforts for its own individual success.

To define the project context, consider the following questions:

- What are the region's interoperability challenges?
- What interoperability efforts are currently underway locally, regionally, and within the State?
- How are the current interoperability efforts working together to solve interoperability gaps?
- What is the interoperability effort you are looking to fund?
- How will your project capitalize on existing interoperability efforts, and how will it go beyond existing efforts?
- How does your interoperability project or plan fit into the high-level strategic plan and vision for your locale, region, or State?

Having a clear understanding of the environment you are entering helps you answer questions that may arise and enables you to associate the project with work that has already been supported.

Identify Project Objectives

To justify an interoperability project, project coordinators must explicitly state the objectives of the project in measurable and achievable terms. Project objectives should address what the community can expect to gain by investing in this project, and how the funds invested in interoperability will benefit the agency, jurisdiction, and citizen.

Consider the following when developing project objectives:

- What are the objectives of the proposed interoperability effort?
- What interoperability problems or gaps will be resolved by the proposed interoperability effort?
- What are the expected tangible and intangible benefits?
- What will be different after the project is implemented?
- How will the proposed project improve communications interoperability across multiple localities and multiple emergency responder disciplines?
- How does the proposed project respond to regulatory requirements?
- What does the project not address?

Clearly stated objectives will provide a baseline by which project performance can be measured and will help demonstrate the value of the proposed project.

Estimate Full Lifecycle Project Costs and Funding Requirements

A detailed cost plan facilitates an understanding of the funding requirements for the proposed interoperability project. To develop the cost plan, project coordinators should estimate the cost of executing the proposed interoperability solution as well as any external or residual costs that may result from the solution.

Consider the following when estimating project costs:

- What is the estimated cost of the proposed solution?
- What costs are associated with the proposed solution? Which costs are one-time, short-term, long-term, or recurring? What is the lifecycle cost?
- What funding sources have already been secured and what are the remaining gaps?

- If local interoperability funding exists, what funding sources will be used to cover funding gaps?
- What will and will not be part of the project if the total funding amount requested is not approved?
- What is the general spending plan? How will it be adjusted or modified if approved funds do not match or exceed the funds requested?

By providing a comprehensive picture of the total lifecycle cost, a cost plan can help community leaders feel more confident that additional funding for something previously overlooked will not be necessary later down the road. A cost plan will also determine budget needs and allocations for the project, especially large one-time costs and ongoing costs.

Develop a Work Plan

Successful implementation of any interoperability project depends on diligent project planning. Project coordinators should develop high-level work plans for the proposed interoperability solution, including timelines and deliverables, and take into account identified risks and staffing requirements.

When developing a work plan for the proposed solution, consider the following:

- What are the major milestones and decision points in the project implementation?
- Who will make the decisions?
- What tasks are included in each phase of the work plan and who will do the work?
- What are the task dependencies?
- What stakeholders are required to participate in each phase of the work plan?
- Who will need to approve their participation, particularly as it relates to overtime?
- What is the timeline for each phase of the project?
- What are the project's risks, and how will they be mitigated?

Going through the process of developing a work plan can help determine resource requirements for the proposed interoperability project. Work plans can also help establish the project in the context of other competing project priorities and timelines.

Determine Implementation Impacts

To support an interoperability project, community leaders must understand the impact that the project will have on day-to-day work. To assess the impact of implementation, analyze and identify all elements of the Interoperability Continuum[1] that may be affected by the implementation of a new system, technology, or service. The Interoperability Continuum was developed by the Department of Homeland Security's SAFECOM program and local practitioners. Building on their lessons learned, the Continuum guides progress in achieving interoperability across five critical areas—governance, SOPs, technology, training and exercises, and usage.

Consider the following as potential implementation impacts of a new interoperability project:

- Will governance structures need to be expanded or put in place?
- How will the interoperability solution affect existing business processes? Will procedures need to be created or updated?
- How will day-to-day work be affected while the project is in progress?
- What are the training and exercise needs?
- What is the working life of the technology? When will it need to be replaced?
- What type of maintenance will be needed for the technology?
- What additional resources (staff or equipment) will need to be obtained?
- What risks may affect the successful implementation of the interoperability effort? What is the probability of these risks and how can they be mitigated?

[1] http://www.safecomprogram.gov/SAFECOM/tools/continuum/default.htm

Ongoing Local Interoperability Funding Success Stories

The following showcases the success stories of communities that were able to effectively establish ongoing local funding for needed projects. Highlighting communities from across the United States, these stories portray a diverse set of interoperability projects that required ongoing local funding. These projects were most successful when community leaders supported various funding mechanisms, such as general operating budget line items and mandatory user fees.

Lewis and Clark County, Montana

Budget shortfall and outdated communications infrastructure leads to the creation of a mill levy tax and an INTERCAP loan from the State dedicated to interoperability funds.

In 1998, Lewis and Clark County, Montana established a committee of citizens within the county to address a budget shortfall in the Sheriff's Office. During its assessment of the budget, the committee reviewed the operations of law enforcement and other emergency response agencies within the county and determined the communications infrastructure within the county needed to be updated. The committee went to the public to introduce a ballot measure for a mill levy tax. In 1999, the County Board of Commissioners passed the tax with the support of the public; however, before the communications infrastructure could be updated, wildfires erupted throughout the County. Though devastating to the community, these wildfires demonstrated the need for upgrades, as the old system could not handle the emergency and lives were nearly lost. With this new incentive, Lewis and Clark County was able to install two additional communications towers using the mill levy tax funds. After September 11, 2001, Lewis and Clark County and the State of Montana applied for the FEMA Interoperable Communications Equipment (ICE) grant for a "concept demonstration project" in the county. Lewis and Clark County used their mill levy tax to leverage an INTERCAP loan from the state for additional communications infrastructure improvements.

Currently, Lewis and Clark County has installed five additional tower sites and a microwave ring configuration to incorporate data communications. In addition, the County has updated their 911 centers and other interoperable communications equipment. The County, along with the State of Montana, has also further developed their relationships with other emergency response and public works agencies to increase interoperability.

This success story illustrates how citizen involvement, emergency incidents, and the introduction of a new tax can influence ongoing local interoperability funding. Because a taxpayer committee was established and understood the need for interoperable communications upgrades, community leaders supported the mill levy tax. By using citizen involvement and a demonstrable plan to replace outdated equipment, the county developed a compelling case for ongoing local interoperability funding.

For more information go to www.co.lewis-clark.mt.us

Laurel, Maryland

Emergency incident leads to elected official involvement and line items on general operating budget dedicated to interoperability funding.

On September 24, 2001, a category F-3 tornado hit Laurel, Maryland and destroyed parts of the city. Immediately after the disaster, emergency responder communications were virtually non-existent; complications were attributed to interruptions in the phone circuitry that connected emergency response radio systems to their repeaters. Surrounding jurisdictions assisted with disaster relief; however, interoperability was limited, cumbersome, and inefficient as none of the agencies involved in the recovery efforts were able to communicate with units in the field.

As a result of the tornado, then-Mayor Frank P. Casula and his successor, Mayor Craig A. Moe, called for an assessment of Laurel's response and recovery efforts to determine areas of weakness and improvement. Based on the results of the assessment, Mayor Moe ordered a comprehensive review and revision of the City's disaster plan. Moe also dictated that existing Federal grant dollars be redirected to construct a formal Emergency Operations Center (EOC) and install a new communications switch. Through local taxes and the City's general operating budget, a portable communications system with a tilt-up crank-up tower was purchased to support telephone connections to the radio repeater system during emergencies. The city currently funds ongoing maintenance of the communications tower as well.

This success story demonstrates the importance of securing the support of elected officials for interoperability funding. In this incident, the mayors understood the impact of the disaster on emergency response communications/response; therefore, line items on the local budget were secured for the communications tower and ongoing maintenance. By highlighting an emergency incident such as a natural disaster in its business case, the city developed a more compelling case for ongoing local interoperability funding

For more information go to www.laurel.md.us

Utah Communications Agency Network

Collaboration among local and state agencies, cities, and counties leads to dedicated interoperability system funded by user fees and a general obligation bond.

In 1997, several agencies in Utah worked together to develop the Utah Communications Agency Network (UCAN). This system covers a 12-county area and serves 125 individual local, State, and Federal emergency response agencies. Due to high costs, there was initial resistance from the agencies and elected officials to implement the system. Proponents of the system mitigated fears by establishing funding through a general obligation bond backed by the state and instituting user fees that offset the maintenance and debt service costs. Agencies were then only responsible for purchasing radio equipment to support the network, diminishing initial cost projections. The system achieved further support by involving participating agencies and local governments in the decision process and oversight of the system.

This success story illustrates the impact collaboration among local and state agencies, cities, and counties can have on developing an interoperability system. The collaboration required not only building relationships, but also establishing a shared joint effort for obtaining funds and resources. This collaboration paid off, as is evident by the rapid growth of the system, which now accommodates 18,000 users and 125 agencies.

UCAN continues to benefit participating agencies with a unified communications system, common operational procedures, and talkgroups, leading to better coordination and facilitation of interoperability across governmental boundaries and among the agencies. By highlighting the need for collaboration among the region, UCAN developed a more compelling case for ongoing local interoperability funding.

For more information go to www.ucan800.org

Collin County, Texas

Existing infrastructure leads to installation of an interoperability network funded by general operating budget.

In 2004, Collin County, Texas identified a need to connect its EOC to surrounding municipalities, including six cities and several educational entities such as Collin College. The county identified an existing fiber-optic network that covered a majority of the county. This fiber-optic network allowed the municipalities to create the Collin County Emergency Communications Network (CCECN), a network which connected the county EOC with each of the municipalities. CCECN could also be used to pass large files such as geographical information system (GIS) files and court documents between any user of the network. Because this network could be vulnerable to several security threats and risks, it had to be modified to comply with the State of Texas Department of Public Safety (DPS) security criteria and Criminal Justice Information Services (CJIS) requirements.

Collin County funded approximately $325,000 through the county budget for industry standard equipment, including firewalls and switches, which was interoperable with the existing equipment and also provided future expansion. Individual agencies assumed maintenance costs and any equipment costs needed on the private side of the network into their general operating budgets for the network equipment.

This success story demonstrates how an interoperability project achieved support by expanding the infrastructure of an existing network at minimal costs. By focusing on how to use existing infrastructure to meet needs and accommodate new technologies with minimal costs, the county developed a more compelling case for ongoing local interoperability funding.

For more information go to www.plano.gov

SAFECOM is a communications program of the Department of Homeland Security. SAFECOM provides research, development, testing and evaluation, guidance, tools, and templates on interoperable communications-related issues to local, tribal, state, and Federal emergency response agencies. The Office of Emergency Communications (OEC) supports SAFECOM's development of grant guidance, policy, tools, and templates, and provides direct assistance to local, tribal, state, and Federal practitioners. The Office for Interoperability and Compatibility (OIC) supports SAFECOM's research, development, testing and evaluation, standards, and related tools development. OEC is an office within the Directorate for National Protection and Programs. OIC is an office within the Science and Technology Directorate.

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