



State of Missouri

2014 Governor's Award for Quality and Productivity

Executive Summary

Project or Team Name: Frequency Acquisition Team, MO Statewide Interoperability Network (MOSWIN)

Nominator: Andrea Spillars

Nominating Department: (Nominations must include names of all agencies/departments/organizations/businesses, etc.) Public Safety

Category: Technology in Government

Executive Summary: (Executive Summary page must be 500 words or less, 12 points, Times New Roman font, and left justified. Attach the Executive Summary to the front of the nomination.)

Since MOSWIN became operational in January 2013, the system has over 19,000 individual public safety users and is used as the primary day-to-day radio communications system for more than 100 local public safety agencies around the state. In addition, over 700 law enforcement agencies currently utilize MOSWIN for interoperable communications with any one or all of the other 700 agencies across the state. Until the MOSWIN network was created, none of this was possible. Local jurisdictions were often utilizing outdated and soon to be federally banned analog systems with limited range that could not communicate with other response agencies within their own jurisdictions and that could not communicate with agencies hundreds of miles away.

Many discussions were held regarding a need for such a system but the implementation was complex and was originally thought to require upwards of \$300 million. Once provided the green light to proceed, the multi-agency team, comprising mostly existing state employees, used creative strategies to overcome technological and financial challenges to build the system by the federal deadline. A strong collaboration between Department of Public Safety agencies (DPS, Missouri State Highway Patrol, State Emergency Management Agency), and other state and local agencies resulted in millions in savings for needed frequencies and tower infrastructure, in addition to increasing the amount of local agency participation and the level of "interoperability." Not only has the network received extremely high marks from users, it has created the platform to eliminate the hundreds of separate, incompatible radio systems.

To build MOSWIN, the team had to develop a strategy to acquire and allocate VHF High Band frequency spectrum differently than ever before. The challenge was to construct a system capable of serving so many different agencies with limited available frequencies and without a budget that would allow for spectrum acquisition. Therefore, the MOSWIN team identified existing tower sites strategically located around the state and local and federal agencies with communications needs -- and existing frequencies -- and negotiated partnerships to create a comprehensive network.

While other states have implemented similar systems, MOSWIN is a model for creating local/state partnerships and effectively using existing assets to overcome technological and financial challenges.



State of Missouri – 2014 Governor’s Award for Quality and Productivity

NOMINATION FORM

Department: Public Safety

1. Project or team name: Frequency Acquisition Team, MO Statewide Interoperability Network (MOSWIN)

2. List the name of all team members, job titles, state agency department, and/or other organizations including public, private sector or business: *(Please list alphabetically by last name – 2 to 20 team members maximum.)*

1. Bryan Courtney, Director, Missouri Interoperability Center, Department of Public Safety
2. Steve Devine, Assistant Director, Missouri Interoperability Center, Department of Public Safety
3. Jim Keathley, Interoperable Communication Special Assistant, Missouri Interoperability Center, Department of Public Safety
4. Laurie Crawford, Project Manager, Office of Homeland Security, Department of Public Safety
5. Matt Nutt, Assistant Project Manager, Missouri Interoperability Center, Department of Public Safety
6. Jerry Kraus, Project Specialist, Missouri Interoperability Center, Department of Public Safety
7. J.D. Simmons, Interoperability Communications Specialist, Missouri Interoperability Center, Department of Public Safety
8. Chris Pickering, Homeland Security Coordinator, Office of Homeland Security, Department of Public Safety
9. Bruce Clemonds, Administrator, Division of Grants & Training, Office of Homeland Security, Department of Public Safety
10. Brett Hendrix, Grant Supervisor, Division of Grants & Training, Office of Homeland Security, Department of Public Safety,
11. Shelly Honse, Deputy Administrator, Division of Grants & Training, Office of Homeland Security, Department of Public Safety
12. Robert Bloomberg, Major - Technical Services Bureau, Missouri State Highway Patrol (former position); Education and Outreach Coordinator, Missouri Interoperability Center, Department of Public Safety (current position)
13. Roger Strobe, Assistant Director - Communications Section, Information and Communications Technology Division, Missouri State Highway Patrol, Department of Public Safety
14. Scott Bigham, Section Chief - Infrastructure Support Unit, Information and Communications Technology Division, Missouri State Highway Patrol, Department of Public Safety
15. Corey Chaney, Operations Section Chief, Information and Communications Technology Division, Missouri State Highway Patrol, Department of Public Safety

3. Nomination Category: *(Check only one.)*

☐ INNOVATION

☐ CUSTOMER SERVICE

☐ EFFICIENCY / PROCESS IMPROVEMENT

☒ TECHNOLOGY IN GOVERNMENT

4. Explain why you selected this category:

MOSWIN is the product of ingenuity and creative partnerships to accomplish a major technological advance in public safety communications across Missouri. MOSWIN is a land mobile radio communications system that provides interoperability among state, local, and federal public safety agencies. The state MOSWIN team had to develop creative strategies to overcome the major technological hurdle created by a very limited number of available radio frequencies necessary to complete the system. The strategies developed, which included incentives and partnerships with other public safety agencies to contribute their frequencies, have resulted in the system exceeding usage expectations within the first 12 months of operation and enhanced collaboration among state and local public safety agencies.

1. When did the team begin its work?

In June, 2009, a notice to proceed was issued to build MOSWIN. The MOSWIN frequency acquisition team was first assembled in June 2010.

2. What date did the team initiate the implementation phase of the project? June 2010

3. Is the project:

☐ Time Limited

☐ Completed

☒ Ongoing

1. Why was the project necessary?

As the 9-11 attacks demonstrated so dramatically in New York, first responders to emergencies are often hampered by using completely different communications systems that do not allow responders from different disciplines to communicate with one another (e.g. police, fire and EMS). In New York, while most police officers evacuated the North Tower of the World Trade Center after a police radio message that the building was in danger of collapsing, 121 firefighters died when the North Tower collapsed. They could not hear the message because their radios were not compatible. The situation is only compounded when responders from multiple jurisdictions are dispatched to major emergencies and cannot communicate via incompatible radios.

In addition, because the Federal Communications Commission required public sector agencies to upgrade their equipment to reduce their radio frequency usage by Jan. 1, 2013, agencies faced huge expenses to comply with "narrow banding" requirements -- changing frequencies and moving to whole new radio systems, which would be extremely expensive, and beyond the resources of many agencies.

In 2009, DPS was allocated \$87.7 million to build an interoperable radio system based on a design for a VHF system, a specific type of system that uses primarily high-band radio frequencies. To build the MOSWIN system, it was estimated that over 720 VHF frequencies would be required, and the cost of those frequencies was not included in the contract or the appropriation amount. While these frequencies travel farther, and therefore require fewer costly radio towers, there are very few VHF frequencies that are not already allocated to existing local, state, and federal agencies. To purchase these frequencies on the open market would have required tens of millions of dollars over the amount allocated to the project. Therefore, the team created a strategy to acquire those frequencies from local and federal agencies to complete the system within budget and by the deadline.

2. What were the primary goals of the project? *(150 words or less.)*

MOSWIN was designed to meet three goals: to create an interoperable radio network that would allow local, state and federal public safety agencies around the state to communicate with one another; to provide the primary radio communications network for regular day-to-day intra-agency mobile communications by state agencies such as the Highway Patrol, State Parks and the Department of Corrections; and to provide the opportunity for local jurisdictions to use the statewide network for their day-to-day radio communications needs.

3. Describe the project: *(200 words or less.)*

MOSWIN involved building the infrastructure to create the statewide public safety interoperable communications system and acquiring the needed radio frequencies to work on the system. This meant creating and linking a network of 73 communications towers capable of supporting tens of thousands of users. To do so efficiently and within budget required developing creative solutions to acquire needed radio frequencies and tower infrastructure.

A significant challenge was acquiring VHF radio frequencies, a band where most of the frequencies are already allocated to existing public safety agencies. MOSWIN required over 720 VHF radio frequencies, an amount that, if purchased on the open market, would have required many millions more in funding than allocated to the project. To build a system in a more available frequency (700 or 800 MHz) would have required three times the funding than available to the project because those frequencies would have required additional tower sites since they do not travel as far as VHF frequencies. To overcome this challenge, the MOSWIN team developed a program for local agencies to contribute their radio frequencies in exchange for federal interoperable grant funding for radio equipment to use on the system. This required many months of engineering to identify those local agency frequencies that would fit within the frequency plan and negotiating directly with those agencies to acquire their frequencies. The team also negotiated with federal public safety agencies to contribute their frequencies at no cost to the state. Additional partnerships were created with local governments and public safety agencies to use existing towers for the radio infrastructure.

To further encourage local participation and contribution of much needed frequencies, the MOSWIN team created a unique program for radio vendors to certify their radios for operation on the MOSWIN system (a non-proprietary, standards-based system). This allowed local agencies to make informed choices about purchasing radios for use on the system and resulted in additional local agency interest. Team members held orientation and training sessions across the state and coordinated hundreds of users switching, or "cutting over," from their existing radio systems to MOSWIN. To promote access and use of the system, the team also created content for a MOSWIN website to help provide easy access to information for local agencies interested in using the system (<http://www.dps.mo.gov/dir/programs/intercomm/default.asp>).

Overall, the MOSWIN team developed creative solutions to ensure the functioning of the system, overcome technological and financial challenges presented by the limited number of available radio frequencies, and developed programs that encouraged local participation, all within budget and on deadline.

4. Explain how the accomplishment of the team exceeds its regular duties and responsibilities. (150 words or less.)

To design, build and operate an entirely new interoperable communications capability for Missouri -- on budget and on deadline -- required a diverse and dynamic team with an extremely broad range of skills, including advanced communications technical knowledge; an acute understanding of local, regional, state and federal public safety agency practices, requirements and interactions; and person-to-person communications and negotiating skills. To develop strategies to acquire frequencies already allocated to other public safety agencies, with no allocated funding for that purpose, required ingenuity and the creation of an unprecedented level of partnership between public safety agencies in the state. To assemble the core team, DPS leadership tapped existing personnel at DPS agencies -- the Missouri State Highway Patrol for technical aspects; The Missouri Office of Homeland Security for grant management and training expertise; and the DPS Office of the Director to collaborate with local agencies and provide overall program management and contract oversight. Once fully assembled, the team worked full-time on the project and has now grown to include several other members from the Missouri State Highway Patrol, State Emergency Management Agency, and local agency MOSWIN liaisons. Together, the expanded MOSWIN team now has responsibility for day-to-day operations of the network, maintenance, training, and serving new MOSWIN partner agencies.

5. Which of the following describes the intended benefits of the project? (Check all that apply and provide an explanation.)

☒ Cost Reduction

☐ Time Savings

☒ Increased Effectiveness

☒ Improved Process

☐ Other: Describe

1. Explain how the success of the project was measured and what outcomes were achieved. (Explanation should not exceed 300-500 words.)

MOSWIN currently provides interoperable communications to more than 700 agencies across the state, with

over 19,000 individual users, and provides full-time communications to more than 100 agencies across the state. Without an effective strategy to encourage local participation and obtain frequencies, the system could not have been completed as radio frequencies were the key component and in short supply. Not only did the team complete the system build by developing a strategy to have other agencies contribute frequencies, the end result is that more agencies are capable of interoperable communications because of the strategy deployed. This was a Missouri strategy to conserve funds and increase participation; the state was not following an existing blueprint. MOSWIN provides the platform for emergency responders to communicate, potentially saving lives and protecting property.

2. Are the benefits derived from this project: (Check only one.)

☒ Recurring

☐ One-time

3. If recurring, how will the benefits be sustained? (Explain in 150 words or less.)

As new members are added to the system, Missouri public safety agency communications will become further unified, resulting in better response and cost-savings.

1. Has this project previously been nominated for the Governor's Award for Quality and Productivity?
If yes, when? No.

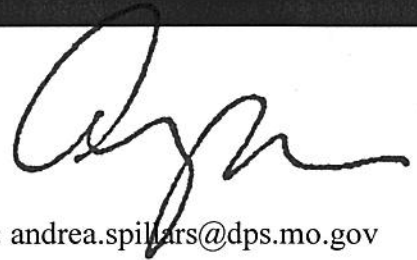
2. If yes, for which category was it nominated? N/A.

3. Has this project received any other awards or recognition? If yes, describe. N/A.

Nominating Department: Public Safety

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Department Director's Name: Jerry Lee

Signature:

