

**FB04A**  
**Department of Information Technology**

***Public Safety Communication System (Statewide)***

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**General Obligation Bonds**      **\$14,200,000**      **Recommendation: Approve**  
**Nonbudgeted**                      **\$1,700,000**

**Bill Text:** Provide funds to construct and equip a statewide public safety communications system to provide the State with a new, modern, unified radio communications system.

**Program Description:** This project entails the construction of a statewide Public Safety Communications System. It is anticipated that the wireless 700 megahertz (MHz) system will overcome deficiencies with the existing communications systems, including the lack of interoperability between existing systems, incomplete coverage in certain areas of the State, and inadequate transmission capacity.

***Prior Authorization and Capital Improvement Program***

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**Authorization Uses**  
**(\$ in Millions)**

<i>Description</i>	<i>Prior Authorization</i>	<i>2011 Allowance</i>	<i>2012 Estimate</i>	<i>2013 Estimate</i>	<i>2014 Estimate</i>	<i>2015 Estimate</i>
Acquisition	\$0.125	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
Planning	2.751	0.000	0.000	0.000	0.000	0.000
Construction	65.347	1.700	5.000	5.000	5.000	19.250
Equipment	49.275	14.200	8.150	23.300	8.900	24.100
<b>Total</b>	<b>\$117.498</b>	<b>\$15.900</b>	<b>\$13.150</b>	<b>\$28.300</b>	<b>\$13.900</b>	<b>\$43.350</b>

**Authorization Sources  
(\$ in Millions)**

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GO Bond	\$29.500	\$14.200	\$8.150	\$23.300	\$8.900	\$35.850
General	30.651	0.000	0.000	0.000	0.000	0.000
Federal	1.300	0.000	0.000	0.000	0.000	0.000
Nonbudgeted Funds	56.047	1.700	5.000	5.000	5.000	7.500
<b>Total</b>	<b>\$117.498</b>	<b>\$15.900</b>	<b>\$13.150</b>	<b>\$28.300</b>	<b>\$13.900</b>	<b>\$43.350</b>

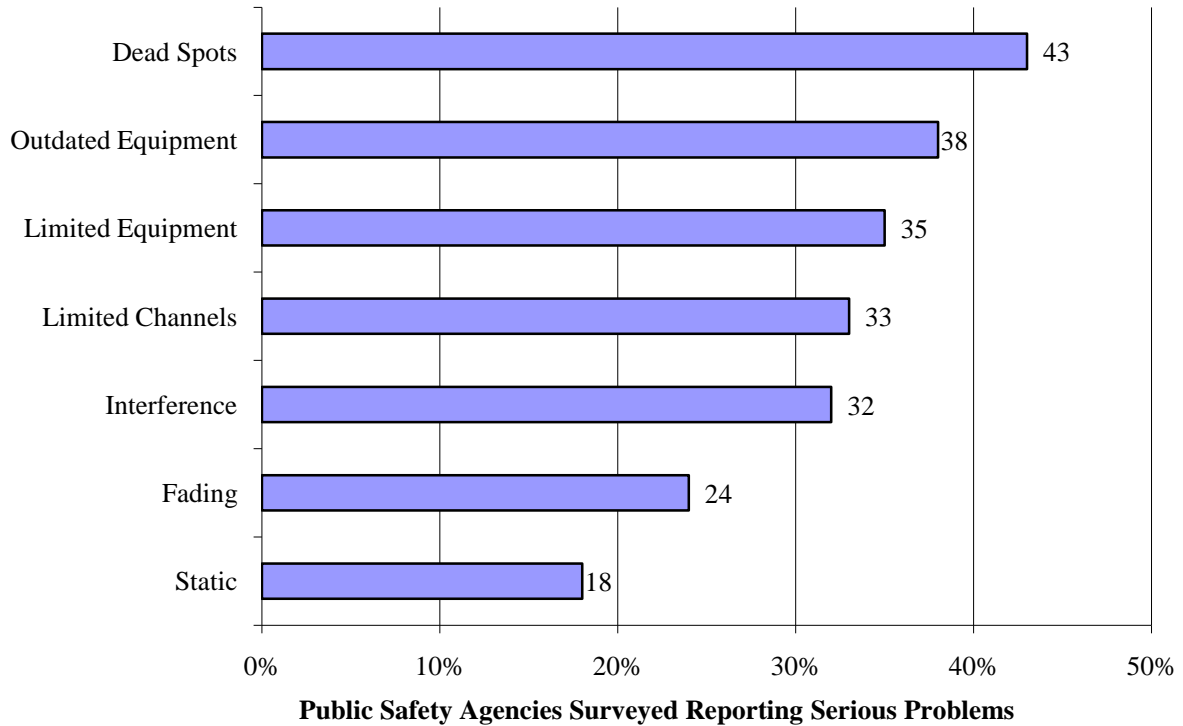
***Program Analysis and Performance***

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For over a decade, the State has been laboring to construct a statewide public safety communications system to provide the State with a new, modern, wireless 700 MHz communications system. The need to develop such a system took on new urgency after the terrorist attacks of September 11, 2001. Indeed, the 9/11 Commission, in its review of those attacks and the response to them, cited the inability of first responders to communicate with each other in the initial report and reiterated the continued failure of first responders to adequately communicate with each other in the subsequent follow-up report.

While interoperability is usually cited as the driving force behind the need for the 700 MHz system, it should also be noted that, based on survey data, public safety agencies report numerous other serious radio system issues (see **Exhibit 1**). The 700 MHz system can also address many of these concerns.

**Exhibit 1  
Reported Serious Radio System Issues**



Source: Public Safety Wireless Network Program

**Governance**

For many years, the 700 MHz project was governed by an interagency governance group headed by the Department of Budget and Management Office of Information Technology, now the Department of Information Technology (DoIT). The group included membership of federal, State, and local agencies. Under the current Administration, leadership of the intergovernance group was transferred to the Department of State Police. In a July 2008 executive order, responsibility for public safety communications systems, including the 700 MHz system, was placed under a Maryland Statewide Communications Interoperability Program complete with a State Interoperability Director and program management office, with advice to this program to be provided by a Statewide Interoperability Executive Committee with State and local representation including legislative members. It should be noted that there is no federal representation on the executive committee. Although the executive committee’s mandate relates to State projects, given the federal presence in and around Maryland, in the past hearings on the 700 MHz system, members of the legislature have commented that some sort of federal representation with regard to the 700 MHz system would be appropriate.

## Interoperability Levels and the 700 MHz System

This 700 MHz communications system will link several large State agency users (*e.g.*, the Maryland State Police, the Maryland Department of Transportation, the Maryland Transportation Authority (MDTA), and the Department of Natural Resources) and multiple smaller agency users (*e.g.*, the Maryland Department of the Environment, the Department of Juvenile Services, and the Department of Public Safety and Correctional Services). The infrastructure will also be available to local jurisdictions. Currently, these agencies use a multiplicity of communications systems.

According to a July 2008 Statewide Communications Interoperability Plan, the 700 MHz is conceived as the ultimate level of interoperability. That plan identifies six levels of interoperability which are shown in **Exhibit 2**. While the goal of the 700 MHz system is to attain interoperability at level 6, the highest level, it is expected that lower levels of interoperability will continue for some considerable time going forward.

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### Exhibit 2 Levels of Interoperability

<u>Interoperability Levels</u>	<u>Interoperability Initiatives</u>	<u>Description</u>
Level 1	Radio caches	Physical exchange of radios with other agencies at the scene of an event. Obvious limitation is having sufficient radios on hand for large-scale events.
Level 2	Interoperability talkaround	Intended to provide local area communications in situations where network coverage is not available.
Level 3	Mutual aid	Established radio frequency coverage areas to be used exclusively by first responders for communication during special events. Limitation is that radios have to be tuned to the same frequency.
Level 4	Operability across frequency bands	Interoperability achieved by linking all first responder radio systems in a variety of ways. For example, this may be done through portable network-to-network gateways that are deployed to the scene of an incident.
Level 5	System specific roaming	Sharing existing systems. Full interoperability possible when jurisdictions use common equipment. However, when equipment is from different manufacturers, there is often limited functionality. At that point, level 4 gateways may supplement interoperability.
Level 6	Statewide 700 MHz system	Interoperability that relies on open standard functionality both for air and wireless communication. National standards have been adopted, and these standards are referenced in Maryland's planned 700 MHz system.

Source: Maryland Statewide Communications Interoperability Plan

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## **Project Status**

In July 2008, a 700 MHz system request for proposal (RFP) was issued that is intended to do four things:

- to take the functional requirements identified in the RCC Consulting study and turn them into an engineering plan to build upon incremental tower construction to date;
- to identify where additional towers need to be built to achieve statewide coverage;
- to design a system to utilize the infrastructure and backbone network; and
- to produce multiple implementation plan options with associated cost and schedule detail.

The RFP establishes four different coverage area regions for the 700 MHz system: (1) Region 1 (Anne Arundel, Baltimore, Carroll, Cecil, Frederick, Harford, and Howard counties and Baltimore City); (2) Region 2 (Caroline, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, and Worcester counties); (3) Region 3 (Calvert, Charles, Montgomery, Prince George's, and St. Mary's counties); and (4) Region 4 (Allegany, Garrett, and Washington counties). In addition, a subregion 1A was established, consisting essentially of areas under the policing jurisdiction of MDTA. Region 1A will be the first area of deployment.

Although the Statewide Communications Interoperability Plan anticipated the award of a contract under this RFP in the first quarter of calendar 2009, the project has yet to be submitted to the Board of Public Works (BPW) for approval. According to DoIT, one of the unsuccessful bidders has notified the State of its intent to submit a bid protest. It is anticipated that the project will be submitted to BPW to begin the build-out of Region 1A following the resolution of this matter.

## **Project Funding**

The most recent cost estimate reflects a total project cost of \$467.0 million through fiscal 2018. However, it is important to note that until an award is made, the true costs of the system remain indeterminate. The fiscal 2011 budget includes \$14.2 million in general obligation bond funds and \$1.7 million in federal public safety interoperable communications grant funds. Funding will be primarily used to construct and equip Carroll, Frederick, and Howard counties (Region 1). Equipment purchases will include items such as base stations, transmitters, receivers, network controllers, and antennae.

From a funding perspective, the principal concern about the 700 MHz system has been the relatively slow pace of roll out relative to available funding. **DoIT should comment to the committees regarding the most recent expenditure activity for the system, including whether the department anticipates encumbering remaining balances by the conclusion of fiscal 2010.**

## **Public Safety Interoperable Communications Grant**

The Maryland Emergency Management Agency’s (MEMA) fiscal 2010 appropriation included a one-time Public Safety Interoperable Communications Grant in the amount \$22,934,593. According to MEMA, approximately \$7.2 million, or 31.4%, of this amount will be allocated to DoIT and State agencies in support of the 700 MHz system (see **Appendix 1**). Federal rules require 80.0% of this grant to be awarded to local jurisdictions. According to MEMA, as of February 2010, \$22.1 million or 96.4%, of the grant awards remained unexpended by State agencies and local jurisdictions. According to federal rules, grant awards must be expended by September 30, 2011. **DoIT should comment on how critical the utilization of these grant funds are to the build-out of regions 1 and 1a, including how the build-out would be impacted should any jurisdiction fail to expend allocated grant funds by the September 2011 deadline.**

### *Issues*

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#### **1. Federal Communications Commission Compliance**

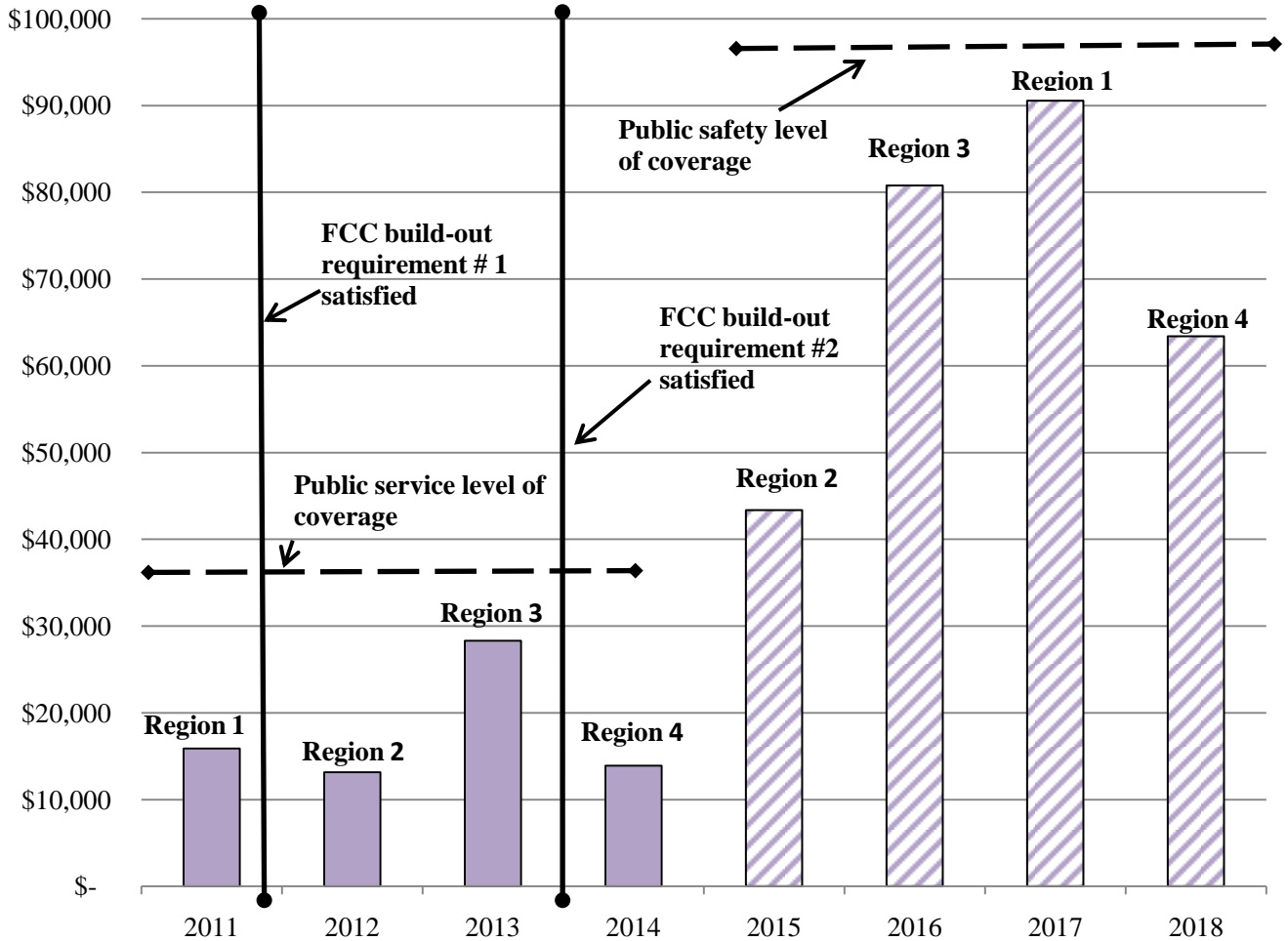
The Federal Communications Commission (FCC) has allocated 24 MHz of radio spectrum nationwide for public safety services within the 764-776 MHz and 794-806 MHz bands (also known as “Public Safety 700 MHz band”). The FCC has designated 2.4 MHz of the Public Safety 700 MHz band as “state” channels. All 50 states, including the District of Columbia and several territories, were granted licenses by the FCC to operate on the same amount of spectrum regardless of size. In order to ensure the timely and efficient use of the spectrum, the FCC established two build-out benchmarks that states must satisfy in order to retain their licenses on the Public Safety 700 MHz band. The first build-out benchmark requires each state to certify that it has either provided, or is prepared to provide, “substantial service”<sup>1</sup> to one-third of its population by January 1, 2012. The second benchmark requires each state to certify substantial service to two-thirds of its population by January 1, 2017.

**Exhibit 3** illustrates the anticipated build-out of geographic coverage by region, including when the State anticipates that it will satisfy the FCC build-out benchmarks. Discussions with DoIT have indicated that in order to provide substantial service to one-third of the Maryland population by the required build-out date, the State will need to build-out and equip Region 1 (Anne Arundel, Baltimore, Carroll, Cecil, Frederick, Harford, and Howard counties and Baltimore City). Under the current plan, the State will initially provide a public service level of interoperability coverage, which is designed to ensure that public safety responders have adequate outdoor coverage. Once Maryland has achieved the public service level of coverage, the State will then pursue the public safety level of interoperability coverage, which is designed to ensure adequate coverage both indoors and outdoors.

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<sup>1</sup> The FCC will deem a state “prepared to provide substantial service” if the licensee certifies that a radio system has been approved and funded for implementation by the deadline date. “Substantial service” refers to the construction and operation of 700 MHz facilities by public safety entities providing service which is sound, favorable, and substantially above a level of mediocre service which just might minimally warrant renewal.

**Exhibit 3  
Public Safety Communications (700 MHz) System  
Fiscal 2011-2018  
(\$ in Thousands)**



Source: Department of Budget and Management; Department of Information Technology

While noting concerns about how much of the proposed funding will be utilized in the upcoming fiscal year, the Department of Legislative Services recommends approval of this project in order to ensure that the State satisfies the January 1, 2012 build-out benchmark. DoIT should comment to the committees on the projected timeframe for satisfying both of the FCC build-out benchmark requirements.

## ***Recommended Actions***

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Approve.

**Public Safety Interoperable Communications  
Grant Program Distribution**

<u>Jurisdiction</u>	<u>Award Amount</u>	<u>Amount Expended</u>
Baltimore	\$800,000	\$0
Charles	2,100,000	9,876
Frederick	1,000,000	0
Harford	2,000,000	87,198
Howard	1,500,000	0
Prince George's	5,681,500	0
Washington	600,000	600,000
Worcester	2,000,000	0
<b><u>State Agencies</u></b>		
DoIT	2,500,000	0
MEMA	185,110	2,333
MIEMMS	1,200,000	0
SHA	1,250,000	0
DSP	1,900,000	0
UMD-Baltimore	164,890	121,774
<b><u>Other</u></b>		
Pending Reallocation	53,093	0
<b>Total</b>	<b>\$22,934,593</b>	<b>\$821,181</b>

DoIT: Department of Information Technology  
MEMA: Maryland Emergency Management Agency  
MIEMSS: Maryland Institute for Emergency Medical Services Systems  
DSP: Department of State Police  
UMD-Baltimore: University of Maryland, Baltimore

Source: Military Department