

COVER PAGE

Governor's Office of Information Technology

FY 2016-17 CAPITAL CONSTRUCTION REQUEST (LISTED IN OSPB PRIORITY ORDER)

RECOMMENDED FOR FUNDING BY OSPB:

- Public Safety Communications Network Microwave Infrastructure Replacement
(continuation)

TOTAL: FY 2016-17 CAPITAL CONSTRUCTION STATE-FUNDED REQUEST AMOUNT = \$10,316,372

FY 2016-17 CONTROLLED MAINTENANCE REQUESTS (2)

NOT RECOMMENDED FOR FUNDING BY OSPB:

LEVEL I:

- Replace Microwave Site Towers – B Group, Ph 3 of 3 (\$1,072,335)

LEVEL II:

- Replace Microwave Site Rectifiers/Chargers, B Group, Ph 2 of 2 (\$585,046)

HISTORY OF STATE FUNDING

- **\$60.2 million** has been appropriated on behalf of capital projects at the department since FY 2011-12. This represents **6.9 percent** of the total amount appropriated on behalf of all capital construction and controlled maintenance projects during this period.
- **\$14.0 million** was appropriated in **FY 2015-16**.

INVENTORY OF GENERAL FUND SUPPORTED FACILITIES

- The General Fund supported inventory of department facilities totals **25,385 GSF**. This total represents **0.1 percent** of the entire General Fund supported inventory of state buildings.

OTHER ISSUES

- **Statewide prioritized list.** OIT provided a list of IT-related budget requests, including capital construction and operating requests, across all executive branch agencies. The list includes a total of 12 projects, of which eight were submitted by executive branch agencies and four were submitted with OIT as the lead agency (see Page XX).
- **Projection of outyear IT need.** OIT staff completed a study during the 2015 interim of the estimated unfunded components of OIT's customer agencies for the next five years (FY 2015-16 through FY 2019-20) (see Page XX).

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PROGRAM PLAN STATUS

2016-011

Approved Program Plan?

N/A

Date Approved:

In FY 2013-14, OIT received a \$300,000 operating budget appropriation to conduct an assessment of the state microwave system. The assessment recommended immediate equipment replacement and upgrades to prevent system failure.

PRIORITY NUMBERS

Prioritized By	Priority	
DeptInst	1 of 1	
OSPB	11 of 46	Recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2016-17	FY 2017-18	Future Requests	Total Cost
CCF	\$11,151,036	\$10,316,372	\$10,316,372	\$20,632,744	\$52,416,524
Total	\$11,151,036	\$10,316,372	\$10,316,372	\$20,632,744	\$52,416,524

ITEMIZED COST INFORMATION

Cost Item	Prior Approp.	FY 2016-17	FY 2017-18	Future Requests	Total Cost
Land Acquisition	\$0	\$0	\$0	\$0	\$0
Professional Services	\$4,063,934	\$3,229,270	\$3,229,270	\$6,458,540	\$16,981,014
Construction	\$937,120	\$937,120	\$937,120	\$1,874,240	\$4,685,600
Equipment	\$6,015,700	\$6,015,700	\$6,015,700	\$12,031,400	\$30,078,500
Miscellaneous	\$0	\$0	\$0	\$0	\$0
Contingency	\$134,282	\$134,282	\$134,282	\$268,564	\$671,410
Software Acquisition	\$0	\$0	\$0	\$0	\$0
Total	\$11,151,036	\$10,316,372	\$10,316,372	\$20,632,744	\$52,416,524

PROJECT STATUS

This is the second request for funding. The project received an \$11.2 million FY 2015-16 General Fund appropriation. A request for proposals has been developed and will be issued before the 2016 legislative session.

Funding for the Digital Trunked Radio System (DTRS) was awarded in nine years between FY 1998-99 and FY 2008-09. Funding for a software upgrade for the DTRS was awarded for FY 2013-14 and FY 2014-15. Several recent controlled maintenance projects have addressed deteriorating microwave tower infrastructure. Additional, ongoing funding for projects associated with the DTRS was also awarded through House Bill 14-1203 (see Attachment A).

PROJECT DESCRIPTION / SCOPE OF WORK

The Governor's Office of Information Technology (OIT) is requesting state funds for the second year of a multi-year project to replace the state microwave system with a system that creates more communication safeguards through redundancies. The microwave system provides connectivity between the DTRS transmitter sites. The DTRS is a statewide public safety, two-way radio communication system. The system is used by state and local government agencies like the Department of Corrections and local sheriffs for day-to-day communications and to improve

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interagency cooperation and coordination in first responder situations. The request addresses all of the equipment associated with the operation of the microwave transmitter system. The project will be financed through a lease purchase agreement and will include out-year equipment upgrades. The system replacement will likely take three years, but the funding requests are anticipated to continue through FY 2019-20.

Microwave connections are used to provide connectivity between remote transceiver sites and dispatchers at centralized or regional communication centers. The term microwave refers to the part of the radio spectrum that is used to transmit data from one radio site to another. A microwave transmitter must have a direct line-of-site connection to the device with which it is communicating. Therefore, a network of transmitters, typically located on tall buildings, transmission towers, or mountaintops, is required to connect across large distances.

The existing microwave transmitter system operates like a chain — each site consists of a main and backup microwave transmitter, and each site is linked to another site in a series or chain. OIT explains that a failure at one site may reduce the communication capabilities of transmitter sites later in the chain. The proposed new system allows for radio traffic to be rerouted in several directions (away from a failed site) in order to avoid large-scale communication outages. The project creates five rings, or loops, using existing communication sites. The department will determine, based on the selected project vendor, the best way to send signals between various sites which will determine the best equipment for each site and whether additional transmitter sites are needed to improve transmissions. As many as six new transmission sites may be constructed through the project.

The project also funds:

- a network monitoring/management system;
- the replacement of obsolete microwave radios (60 percent of state system);
- upgrades to manufacturer-supported microwave radios (40 percent of state system);
- new battery backup power systems;
- test equipment;
- ancillary equipment;
- costs associated with Federal Communications Commission licensing;
- training for vendor-supported equipment;
- project management costs;
- administration costs; and
- project engineering.

The installation of the new equipment will likely be undertaken by OIT staff.

The project will replace equipment region by region. The number of regions addressed each year will depend on factors such as weather and topography. The order of planned replacement by region is as follows:

- Western Slope (Ring 1, 12 backbone sites);
- Southeast (Ring 2, 12 backbone sites);
- Northeast (Ring 3, 32 backbone sites);
- Southwest (Ring 4, 32 backbone sites); and
- Denver Metro area (Ring 5, 6 backbone sites).

Cost assumption. The cost assumption is based largely on an assessment conducted by an independent communications consultant, discussions with the vendor community and local users, and an anticipated interest rate of between 3.0 and 4.5 percent for vendor financing. OIT plans to use a direct procurement strategy. OIT is also assuming that about 40 percent of the existing microwave equipment can be reused in the new system. The project is not required to meet the Art in Public Places and High Performance Certification Program requirements.

PROJECT JUSTIFICATION

OIT says that if the project is not funded, the system may experience an unrecoverable electronic failure which would negatively impact first responders. The independent consultant who conducted a recent system assessment found that 60 percent of the 377 microwave radio stations could no longer be supported with existing parts and services. In order to extend the useful life of the system, OIT personnel source parts from sites like eBay and often purchase and

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repair broken parts. In order to optimize the system, OIT says the system components and equipment should be replaced or upgraded to ensure the same level of redundancy. OIT explains that all of the DTRS partner agencies have already replaced their obsolete microwave system equipment.

OIT says the project will increase system circuit capability and monitoring. It will also minimize ongoing maintenance costs and free up staff to address routine maintenance rather than system failures. Finally, it will improve the office's ability to test and diagnose the entire microwave transmitter system from a centralized location.

PROGRAM INFORMATION

According to OIT, about 1,000 local, state, and federal government agencies currently use the DTRS. The system processes about 91 million transmissions a year. The primary stakeholders of the DTRS include the Departments of Corrections, Natural Resources, Public Safety, and Transportation, local government public safety entities, and several federal agencies. An agency may opt to use the DTRS as its primary radio system or for interoperability only, especially during first responder situations. The state's components of the microwave system (91 percent of the overall system) are supported through state appropriations, grants from various agencies and groups, local government general funds, and user fees.

PROJECT SCHEDULE

	Start Date	Completion Date
Year 1	June 2016	
Year 2	June 2017	
Year 3	June 2018	January 2018

HIGH PERFORMANCE CERTIFICATION PROGRAM

The project is not required to comply with the requirements of the High Performance Certification Program because it purchases equipment and does not build or renovate a physical facility.

SOURCE OF CASH FUNDS

The project is not funded from cash sources.

OPERATING BUDGET

The operating budget will increase to accommodate an increase in workload, including circuit administration, system monitoring, testing, and failure diagnostics. The additional FTE are being requested for FY 2016-17.

STAFF QUESTIONS AND ISSUES

All responses to staff questions were incorporated into the project write-up.



COLORADO
Governor's Office of
Information Technology

November 2, 2015

The Honorable Kent Lambert
Chair, Joint Budget Committee
Colorado General Assembly
200 East 14th Avenue, Third Floor
Legislative Services Building
Denver, Colorado 80203

RE: Senate Bill 14-169 - OIT's Prioritized Project List

Dear Honorable Senator Lambert:

Pursuant to Senate Bill 14-169, OIT is required to submit a prioritized list of IT related projects to the Joint Budget Committee. Attached please find OIT's prioritized list of November budget Change Requests.

For this year OIT has specified two distinct categories: IT Capital - under the capital purview of both the Capital Development Committee and Joint Technology Committee; and IT Operating - under the operating purview of the Joint Budget Committee.

Thank you for providing us with an opportunity to submit this important information. As always, please contact us with any questions, concerns, or requests for follow-up information.

Sincerely,

Brenda Berlin
Deputy Chief Information Officer
& Chief Financial Officer



FY 2016-17 Prioritized IT Change Requests

Priority	Department	Request	Operating/Capital
IT CAPITAL			
1	CDHS	Interoperability	Capital
2	CDPHE	Laboratory Information System Request	Capital
3	CDA	Building Consolidation, Phase 2	Capital
4	CDHS	Modernization of the Child Welfare Case Management System-TRAILS Modernization	Capital
5	CDHS	Child Care Automated Tracking System/CHATS Modernization	Capital
IT OPERATING			
1	OIT	FY16-17 Secure Colorado	Operating
2	OIT	CBMS / PEAK Annual Adjustment	Operating
3	DOLA	Field Services Staff Increase	Operating
4	DOLA	Ft. Lyon Transitional Housing and Supportive Services	Operating
5	OIT	End User Configuration Management Tools	Operating
6	OIT	Niche Recods Management System	Operating
7	DNR	Automated Trust Land Asset System Licenses	Operating



Enterprise Financial Overview

Below is a summary of the estimated unfunded components of OIT's customer agencies for the next five years. These unfunded lines represent the growing technology debt that the state faces. Please refer to the individual agency 5 Year IT Roadmap for detailed funding breakdown. Cells which include individual events costing \$500,000 or more are notated in bold.

Agency	FY16	FY17	FY18	FY19	FY20
CDA	\$109,430	\$105,746	\$542,491	\$47,038	\$47,138
CDHS	\$6,503,637	\$9,835,692	\$23,177,763	\$6,050,970	\$2,702,970
CDOT	\$0	\$244,634	\$243,842	\$0	\$0
CDLE	\$0	\$119,548	\$6,099,026	\$10,723,507	\$23,507
CDPHE	\$10,394,630	\$8,540,056	\$9,927,974	\$9,927,974	\$9,927,974
CDPS	\$121,200	\$719,499	\$15,300,000	\$196,000	\$16,000,000
DMVA	\$10,000	\$82,873	\$5,790	\$42,000	\$6,000
DNR	\$1,485,650	\$1,145,117	\$776,601	\$494,400	\$468,750
DOC	\$194,526	\$1,849,063	\$12,352,920	\$1,392,460	\$1,405,960
DOLA	\$135,163	\$39,431	\$41,203	\$26,820	\$26,820

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Agency	FY16	FY17	FY18	FY19	FY20
DOR	\$6,000	\$2,744,795	\$2,180,338	\$1,362,415	\$484,815
DORA	\$0	\$61,314	\$1,523,256	\$268,137	\$268,137
DPA	\$0	\$50,725	\$115,864	\$83,554	\$84,360
GOVS	\$85,000	\$148,424	\$150,239	\$37,600	\$17,700
HC	\$103,739	\$315,405	\$830,822	\$175,823	\$201,323
HCPF	\$20,000	\$821,745	\$588,913	\$519,000	519,000
OIT	\$0	\$17,502,369	\$18,376,182	\$13,624,717	\$13,319,717
Total	\$19,168,975	\$44,326,436	\$92,233,224	\$44,972,415	\$45,504,171