

Serving people serving Colorado

Annual Legislative Report for FY2021

Submitted Nov. 1, 2021



November 1, 2021

Honorable Members of the Colorado General Assembly,

I am pleased to present the Governor's Office of Information Technology (OIT) FY2020-21 Annual Report. This consolidated report contains all reporting requirements required by Title 24 Articles 37.5, and specifically our work in the following areas:

- Agency and Enterprise Roadmaps
- Asset Inventory and Refresh Cycle
- Broadband Deployment Board
- Government Data Advisory Board
- IT Delegation of Authority
- Public Safety Communications Network / Digital Trunked Radio System Accountability

The COVID-19 pandemic demonstrated more than ever the importance of technology in enabling state employees to do their work, state agencies to meet their missions and Colorado's residents and businesses to interact with state government. Our ability to pivot and quickly implement new services even during these challenging times serves as a reminder that "transforming information technology" is not just a vision - it is an achievable and worthwhile goal. Further, substantial changes were made to OIT's statutory authority through HB21-1236, which among other things was passed to reflect the current information technology environment and direction in the state. These two events, along with OIT's leadership change last fall have led us to begin thinking differently about how we work and how we serve. Even amongst change, OIT continues to achieve our legislative mandates as detailed in these reports.

We look forward to the work ahead of us as we continue "Serving people serving Colorado."

Anthony Neal-Graves

Chief Information Officer & Executive Director

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Agency and Enterprise Roadmaps

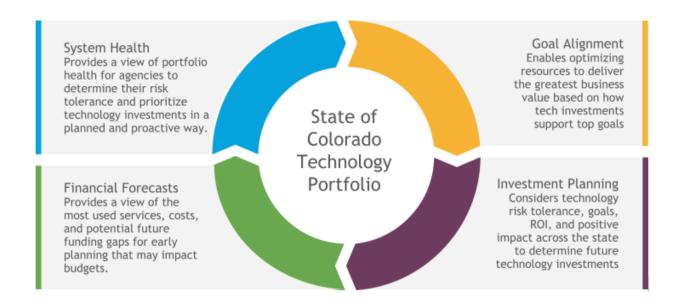
Agency and Enterprise Roadmaps

Introduction

The Governor's Office of Information Technology (OIT) is responsible for "providing assistance and guidance to state agencies in developing individual state agency information technology plans and ensuring compliance with the state agency information technology plan." The following is provided in accordance with C.R.S. 24-37.5-105(4)(b) and provides the Enterprise Technology Plan in addition to each agency's information technology plan. These plans are known as IT Roadmaps, which are accessible from OIT's public website: https://oit.colorado.gov/about-us/agency-it-roadmaps, as well as these direct links:

- OIT & Enterprise 5-Year IT Roadmap
- Agency 5-Year IT Roadmaps

OIT partners with customers to support agency-led decision making around future technology investments, and is uniquely positioned to identify common technology needs that—when coordinated together—benefit Coloradans with a more cost-effective, connected, user-centric digital experience.



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Asset Inventory and Refresh Cycle Report

Asset Inventory and Refresh Cycle Report

Introduction

This report is being provided in accordance with Senate Bill 14-169 as codified in C.R.S. 24-37.5-801. The Governor's Office of Information Technology (OIT) is tasked with submitting a report to the members of the Joint Budget Committee and the Joint Technology Committee regarding the Office's information technology asset inventory and refresh cycle schedule. This report includes asset inventory refresh cycle and cost projections for 1) personal computers, including operating systems and productivity software, 2) network infrastructure, 3) servers, and 4) non-productivity software.

Link to Report

Due to the length of the report, it is being submitted as an attachment. You can review the report <u>here</u>.

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Broadband Deployment Board Report

Broadband Deployment Board Report

Introduction

In 2021, legislation was passed moving the <u>Broadband Deployment Board</u> from the Department of Regulatory Agencies to OIT. This change is codified in C.R.S. 24-37.5-119(5)(a). Pursuant to C.R.S. 24-37.5-119 et seq., the Broadband Deployment Board (Board) is required to report annually on the projects supported by the Broadband Fund including the number of projects, the location of each project, the amount of funding received for each project, and a description of each project.

Since the Board was created in 2016 it has awarded \$40,971,207.97 in grants from the Broadband Fund to 52 rural broadband infrastructure deployment projects. When complete, the projects will provide broadband access to more than 21,000 households.

Secretary Controls Secret

Broadband Fund Grant Project Locations

Broadband Fund Grant Awards - 2020 Summer and Winter Grant Cycles

W-2020-02 Jade Communications - Hwy 12 Corridor

Project Status: Active

Funds Awarded: \$2,607,763.46 Project Cost: \$3,544,915.28

Project Summary: This project aims to bring FTTH service to 386 addresses (366 households,

20 commercial), or 918 people, to addresses south of La Veta, along the

Hwy 12 corridor, and the village of Cuchara in Huerfano County.

W-2020-03 Delta Montrose Electrical Association - North Mesa

Project Status: Active Funds Awarded: \$1,431,083 Project Cost: \$2,862,165.99

Project Summary: This project aims to bring FTTH service to 438 households (427

residential, 11 commercial), or 1,426 people, to the area of North Mesa in

Montrose County.

W-2020-06 Yampa Valley Electric Association - Hanhs Peak and Seedhouse Road

Project Status: Active
Funds Awarded: \$1,455,112
Project Cost: \$2,425,186.67

Project Summary: This project aims to bring FTTH service to 280 households (260

residential, 0 vacant, 20 commercial), or 657 people, to the area of Hahns Peak Village, the greater area around Steamboat Lake State Park, and

Seedhouse Road in Routt County.

W-2020-08 Colorado Central Telecom - Chalk Creek Canyon

Project Status: Active
Funds Awarded: \$542,790
Project Cost: \$723,720.00

Project Summary: This project aims to bring FTTH or Fixed Wireless service to 48 households

(48 residential, 0 vacant, 0 commercial), or 105 residents in Deer Valley in

Chaffee County.

W-2020-14 Force Broadband - Black Forest Two

Project Status: Active Funds Awarded: \$858,269.97 Project Cost: \$1,144,359.95

Project Summary: This project aims to bring FTTH service to 612 households (579

residential, 0 vacant, 33 commercial), or 1511 residents in the Black

Forest in El Paso County.

S-2020-01 Delta Montrose Electrical Association - Beaver Hill

Project Status: Active

Funds Awarded: \$854,865.00 Project Cost: \$1,554,300.00

Project Summary: This project aims to bring FTTH service to 217 addresses (205 households,

12 commercial), or 482 people to the area of Beaver Hill in Montrose

County.

S-2020-05 Delta Montrose Electrical Association - Cedar Mesa

Project Status: Active

Funds Awarded: \$1,179,022.16 Project Cost: \$1,813,880.25

Project Summary: This project aims to bring FTTH service to 217 addresses (205 households,

12 commercial), or 482 people to the area of Beaver Hill in Montrose

County.

S-2020-07 Peak Internet - Pine Bluff & Meadow Park

Project Status: Active

Funds Awarded: \$284,511.95 Project Cost: \$379,349.27

Project Summary: This project aims to bring FTTP service to 144 addresses (142 households

and 2 commercial), or 473 people, to the area of Pine Bluff & Meadow

Park in Teller County.

S-2020-09 Stratus IQ - FTTH for North Meridian

Project Status: Active

Funds Awarded: \$731,498.00 Project Cost: \$1,075,732.00

Project Summary: This project aims to bring FTTH service to 291 addresses (291 households

and 0 commercial), or 473 people, to an area of El Paso County.

S-2020-10 Brainstorm Internet - Deer Valley

Project Status: Active

Funds Awarded: \$277,050.25. Project Cost: \$369,401.00

Project Summary: This project aims to bring FTTH service to 48 addresses (48 households

and 0 commercial), or 105 people, to the Deer Valley area in La Plata

County.

S-2020-11 Visionary Broadband - Marble Broadband Project

Project Status: Active

Funds Awarded: \$650,301.92 Project Cost: \$890,824.55 Project Summary: This project aims to bring FTTH service to 413 addresses (400 households

and 13 are commercial), or 917 people, to the area of Marble in Gunnison

County.

S-2020-13 Clearnetworx - Hwy 145 Fiber Project

Project Status: Active

Funds Awarded: \$2,240.011.06 Project Cost: \$3,200,015.80

Project Summary: This project aims to bring FTTH service to 476 addresses (434 households

and 37 commercial), or 1,428 people, to the area in San Miguel +

Montrose County.

S-2020-14 Force Broadband - Black Forest 1

Project Status: Active

Funds Awarded: \$754,916.21 Project Cost: \$1,509,832.42

Project Summary: This project aims to bring FTTH service to 376 addresses (350 households

and 26 commercial), or for an estimated population between 1,350-1,750

(1,245 as of 2010) in El Paso County.

Government Data Advisory Board (GDAB) Report

Government Data Advisory Board Report

Introduction

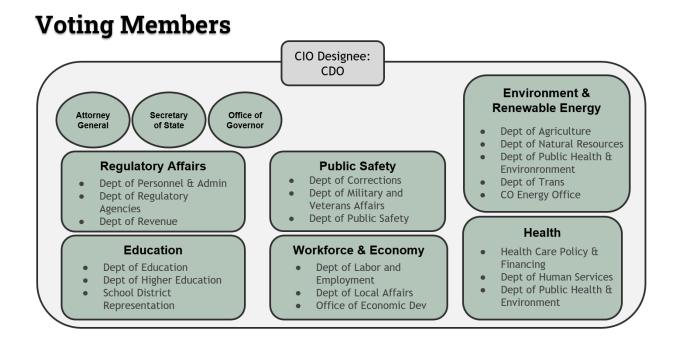
In accordance with C.R. S. 24-37.5-702(4), the 2020 Government Data Advisory Board (GDAB) Annual Report was delivered on March 10, 2021. The report reflected ongoing work by the GDAB to improve data governance and interagency data sharing and promote a state data strategy.

Link to March 2021 Report

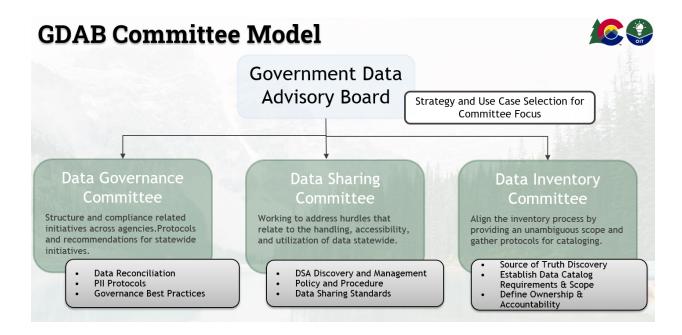
You can review the report here.

Recent Activities

House Bill 21-1236 enhanced the state's goals and approach to statewide data management and interoperability and changed the GDAB membership and duties. In addition to hiring and re-establishing the Chief Data Officer position, a primary activity for this year has involved restructuring the GDAB strategy and opening model by focusing on the domain-driven model shown below.



The new model results in the creation of three new subcommittees consisting of Data Governance, Data Sharing and Data Inventory as reflected below.



More details on the updated Operating Charter and Model can be found here.

Recommendations for Future Work

With that legislation, a new list of deliverables have been created that will provide the overall focus of the GDAB for 2022 and beyond, supported by the new GDAB Operating Model. These deliverables are described in the table below:

GDAB Statutory Duties

24-37.5 Part 7

Statutory Roles and Responsibilities These are ongoing duties that once created, are updated and reviewed annually:				
Deliverable	Detail	Due Date		
Data sharing standards and terms document	Develop and update a standard lexicon for data-sharing and data governance, to ensure data providers and recipients have a clear and consistent understanding of the requirements and expectations related to data-sharing	Ongoing and updated annually		
Annual feedback process documentation and subsequent policy documentation	Collect annual feedback from state agencies to inform any policies, procedures, and technical infrastructure implemented by OIT to enable data-sharing between state agencies in accordance with all applicable laws, rules, and regulations	Ongoing and updated annually		

Standard Inter-governmental Data Sharing and Data Agreement	Create and update standard templates for interagency data-sharing and data-access agreements	Ongoing and updated annually
List of national best practices on data management	Identify and document best practices and standard for how state agencies should perform data management	Ongoing and updated annually
List of barriers to data sharing and suggestions to address barriers	Provide recommendations to address existing barriers to effective data-sharing, subject to all applicable federal and state laws, rules and regulations	Ongoing and updated annually
List of data sharing risks and mediations	Identify other potential areas of risk related to data management and sharing and create ways to manage that risk	Ongoing and updated annually
Yearly GDAB report to JTC	 (a) Outline the accomplishments within the board's duties (b) Provide recommendations for future work (c) Outline the progress of sharing data among state agencies and entities and with local governments and nongovernmental organizations 	Nov. 1, 2021

Interoperability Data Framework and Protocol

The Interoperability Data Framework and Protocol is required to be created and used by all state agencies by Nov. 1, 2022 and then the GDAB will need to review and revise as appropriate.

Deliverable	Detail	Due Date
Data reconciliation process	Design to ensure that data collected by different state agencies can be matched and discrepancies in the data processing are reconciled to accurately identify data pertaining to the same record without allowing any permanent sharing of personal identifying information	Nov. 1, 2022
Policy and procedures on sharing data outside the state agencies	Protocol and procedures included in the interdepartmental data protocol by which state agencies may share data and by which a state agency may release data to a political subdivision or to a nongovernmental organization shall prioritize and coordinate data management and protection efforts across state agencies to maximize the privacy and protection of all data and to reduce the risk of public exposure of private or protected data	Nov. 1, 2022

Definition of data lifecycle and accompanying policy and procedure	Define processes for managing data throughout the data management lifecycle	Nov. 1, 2022
Data sharing policy and procedure	Establish the circumstances under which and the reasons that a state agency may share information with another state agency, a political subdivision, or a nongovernmental organization	Nov. 1, 2022
PII protocol	Establish protocol that secures all personal identifying information collected and developing standards to minimize the collection of personal identifying information	Nov. 1, 2022
HB21-1111- report on PII data in state government	Study where personally identifiable information is stored by state agencies throughout Colorado, study entities that have access to personally identifiable information stored by state agencies, and determine the costs and processes necessary to centralize the storage and protection of personally identifiable information	Jan. 1, 2023

Agency Data Sharing

Unless specifically prohibited by state or federal laws, and in accordance with applicable state and federal privacy laws and policies, each state agency is authorized to share data. The following deliverables are required by state agencies and will need to be updated yearly.

Deliverable	Detail	Due Date
Agency data inventory	Conduct an inventory of its own data assets, including sensitivity and classification, and provide the inventory to the office	Updated annually
Data retention policy for State and accompanying agency data retention policy	Each agency shall develop a process for ongoing monitoring of new data acquired by the state agency and establish a data retention policy for all data	Updated annually
Data sharing and security section to each agencies yearly IT Roadmap	Each agency shall create a plan and work to implement the interoperability data framework and protocol published by the office for the purpose of minimizing duplication of records, enhancing security, and increasing the state's capability to monitor and audit data-sharing transactions	Updated annually

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IT Delegation of Authority Report

IT Delegation of Authority Report

Introduction

During the 2021 legislative session, HB21-1236, titled "State Information Technology" was passed with certain provisions codified in C.R.S. 24-37.5 et. seq. Among the provisions is the authority of the state Chief Information Officer (CIO) to delegate an IT function to a state agency and specify procedures and requirements that OIT and the state agency are required to follow when such delegation occurs. OIT created policies and procedures to ensure a consistent process, however it is important to note that the judgment to delegate an information technology function from OIT to another state agency lies solely with the Chief Information Officer.

The Governor's Office of Information Technology (OIT) is responsible for "any delegation of authority" to the state agency pursuant to C.R.S. 24-37.5-105.4(3). The following is provided in accordance with C.R.S. 2-3-1704(6)(b) and details delegation of authority agreements with state agencies.

Delegation of Authority Agreements

As of Nov. 1, 2021, OIT has implemented policies and procedures that facilitate the statutory requirements and intent for delegation of authority of information technology functions.

OIT and the Colorado Department of Transportation (CDOT) are nearing execution of a delegation agreement for the CDOT <u>Intelligent Transportation Systems (ITS) & Network Services</u>, a program within the Division of Maintenance and Operations in October 2021. This agreement will codify the existing relationship OIT and CDOT have regarding the information technology functions performed by ITS and remediates a recommendation in prior audits.

Pursuant to C.R.S. 2-3-1704(6)(b), the interagency delegation agreement includes the following information:

- A precise definition of each function to be delegated.
- A clear description of the standards to be met in performing each delegated function.
- Designation of the state agency responsible for ensuring operational security and validating compliance to security policies and standards.
- A provision for periodic administrative audits by the OIT.
- A date on which the agreement shall terminate.
- Designation of the appointed authority responsible for the delegated services to support the function in the state agency and rates to be charged for the staff, if any.

Public Safety Communications Network / Digital Trunked Radio System Accountability Report

Public Safety Communications Network / Digital Trunked Radio System Accountability Report

Introduction

Each year the general assembly appropriates money to the Public Safety Communications Trust Fund. Following statutory requirements, the Governor's Office of Information Technology (OIT) is required to use the monies appropriated to the fund for the replacement of legacy radio equipment and hardware at radio tower sites, for software upgrades, and to add additional radio tower sites in areas of the state that are experiencing critical coverage gaps for public safety radio communications.

Pursuant to C.R.S. 24-37.5-506 (2.5)(b) OIT submits this report detailing the use of the money appropriated in fiscal year (FY) 2020-21.

This report encompasses the following:

- Use of Monies for 2.5 and 2.7 in FY 2020-21
- Use of Monies for 2.5 and 2.8 in FY 2021-22
- Anticipated Future use of Monies

Section I: Use of Monies for 2.5 and 2.7 in FY 2020-21

Pursuant to C.R.S. 24-37.5-506 (2.5)(a)(I) and C.R.S. 24-37.5-506 (2.5)(a)(II), the Public Safety Communications Network / Digital Trunked Radio System (PSCN/DTRS) submits the following information regarding the purposes for which the funding allocated through HB14-1203 were directed and utilized for site supporting infrastructure and DTRS supporting software and hardware, replacement of DTRS legacy radio equipment and hardware at radio tower sites and for software upgrades.

FY 2020-21 funding was fully and directly applied toward continued compliance of the DTRS radios, site and network infrastructure upgrades, and overall system and radio health monitoring. DTRS monitoring, hardening and redundancy remain top priorities and are continually being addressed utilizing these funding sources.

PSCN added DiagnostiX NX-200 receivers at a number of high-usage sites across the state to monitor the health and performance of mobile and portable radios on the DTRS. The addition of this equipment assists the PSCN with notifying public safety agencies when their radio equipment needs to be serviced and realigned to ensure high performance and reliability. This provides the public safety first responders with the best possible and safest use of the DTRS. This equipment was added at our Sunlight, La Junta, Twin Mountain, La Veta Pass and Boyero DTRS sites.

Fifteen new transmitters were added at fourteen DTRS sites across the state to improve site capacity for our local, state, tribal and federal public safety first responders. The addition of these transmitters provides greater assurance that in the event of an emergency, DTRS transmitter resources are available for first responders managing the incident.

FY 2020-21 HB14-1203					
Transmitter expansions to add capacity at DTRS tower sites					
DTRS Site Name	Location	Installed	DTRS Site Name	Location	Installed
Kiowa +1	Elbert	7/8/21	Saguache +1	Saguache	7/26/21
Silo +2	Elbert	7/8/21	Greenhorn +1	Pueblo	7/28/21
Egnar +1	San Miguel	7/20/21	Lamar +1	Otero	8/9/2021
Gobblers Knob +1	Montrose	7/20/21	Fort Lyon +1	Bent	8/10/2021
Sheeps Knob +1	Montrose	7/21/21	Valley +1	Otero	8/11/2021
Buffalo Pass +1	Routt	7/23/21	Limon CF + 1	Lincoln	9/8/2021
Raton Pass +1	Las Animas	7/26/21	Boyero +1	Lincoln	9/8/2021

Pursuant to C.R.S. 24-37.5-506 (2.7) and as defined in HB18-1325 (also known as the DTRS Coverage Gap Bill), PSCN/DTRS submits the following information regarding the purposes for which the funding allocated through HB18-1325 were directed and utilized. HB18-1325 was a two-year program to provide funding to assist the PSCN/DTRS with adding DTRS sites in known areas lacking DTRS coverage. The Bill required the PSCN/DTRS work in collaboration with local governments at sites where a suitable tower was already in place.

In FY 2020-21, HB18-1325 funds were directed to the addition and completion of the following DTRS sites across the state.

DTRS Site Name	County Location	Description	Completed
Chromo	Archuleta	New 6-channel site	On air 11/7/2020
Lake Ridge	Grand	New 6-channel site	On air 10/6/2021
Little Grouse	Teller	New 6-channel site	On air 2/23/21
Youngs Peak	Delta	New 6-channel site	Site development in progress due to uncontrollable delays

Section II: Use of Monies for 2.5 and 2.7 in FY 2021-22

The DTRS/PSCN submits the following information regarding the purposes for which FY 2021-22 funding allocated through HB14-1203 was directed and utilized for site supporting infrastructure and DTRS supporting software and hardware, replacement of DTRS legacy radio equipment and hardware at radio tower sites and for software upgrades. HB14-1203 funding to date is currently being directed and applied toward continued compliance of the DTRS radios, site and network infrastructure upgrades, and overall system and radio health monitoring. DTRS monitoring, hardening and redundancy remain top priorities and are continually being addressed utilizing these funding sources.

The DTRS is currently undergoing a scheduled statewide hardware and software upgrade from Motorola System Release (SR) 7.18 to Motorola SR 2021.1. This system-wide upgrade provides hardware upgrades, and in some cases hardware replacements for all state-owned DTRS infrastructure. The software upgrade is delivered to all DTRS network infrastructure components across the state, including all master sites and servers. It also includes software upgrades to all public safety dispatch radio consoles and every transmitter at every DTRS site. Maintaining the DTRS at the most currently available hardware and software platforms ensures all components of this mission critical system are performing at the highest possible levels for the greatest protection of our public safety first responders and the public for which they serve. It is imperative that the PSCN continue to have the funding for these critical refreshes of the DTRS.

With the DTRS system-wide upgrade in progress, pending system projects are in a holding pattern until the upgrades are complete, which is anticipated to be by the end of calendar year 2021. Network additions or changes cannot be performed during the system-wide upgrade. Once the upgrade is complete, new transmitters will be added at the Denver Regional Diagnostic Center (DRDC) and the Dakota Mountain site. This equipment is in house and prepared for installation.

Maintenance at state DTRS sites is continually in progress. Several of the DTRS sites require replacement of tower top amplifiers, as those currently in use have reached or exceeded their life expectancy and have become unreliable. The replacement tower top amplifiers are in-house and being installed as time and conditions permit.

The PSCN submits the following information regarding the purposes for which funding allocated through HB18-1325, also known as the DTRS Coverage Gap Bill, were directed and utilized. HB18-1325 was a two-year program to provide funding to assist the DTRS/PSCN with adding DTRS sites in known areas lacking DTRS coverage. The Bill required the DTRS/PSCN to partner with local governments at sites where a suitable tower was already in place. The funding for HB18-1325 is nearing an end.

One additional site is being funded through HB18-1325 to fill a known coverage gap in Leadville. There have been considerable delays for the local governments due to COVID-19 and various other factors. The site construction is in progress and funds have been

encumbered to complete this project. There is a very tight construction window in Leadville due to weather conditions. We expect this project to carry over into the spring of 2022 for completion. This will be the last site addition for this program, as the funds have been completely depleted.

It may be important to note that funding from HB18-1325 was instrumental in the addition of nine DTRS sites in areas where coverage was lacking or non-existent. Local governments have inquired whether there is a possibility of a similar bill being passed in the future to continue this extremely valuable program.

Section III: Anticipated Future Use of the Monies

Anticipated use of HB14-1203 funding will continue to be aggressively invested in DTRS site-supporting infrastructure and supporting software and hardware, replacement of DTRS legacy radio equipment and hardware at radio tower sites and for software upgrades. The PSCN consistently researches and pursues cost-effective means of adding DTRS sites to improve public safety radio coverage in underserved areas. As the state population grows and the number of radio calls on the DTRS continues to grow, it is imperative that the DTRS continues to keep pace with the growth.

Of primary consideration is the need for redundant Zone Master Sites, which are considered the "brains" of the network. The state currently owns and is responsible for four of the six Zone Master Sites on the DTRS. These Zone Master Sites currently do not have built-in redundancy. When one of the Zone Master Sites unexpectedly fails, it creates a dangerous situation for DTRS first responders until the failure is corrected. The PSCN has requested a quote from our vendor for Dynamic System Resilience (DSR) to provide this urgently needed redundancy and resiliency across the DTRS. In the event of a system failure, DSR seamlessly switches to the redundant Zone Master Site, preventing interruption in DTRS service to our public safety first responders.

As technology continues to evolve the DTRS network will be required within the next two years to fully convert from legacy T1 circuitry to Ethernet. The PSCN has been aggressively preparing for this conversion with the installation of new Aviat 8740 network routers. The router installation project is currently at 92% complete. The new routers are Ethernet capable and are public safety grade routers. There will be a conversion process involving both of our primary DTRS vendors.

The PSCN is exploring a DTRS software feature to enable Over-the-Air-Programming (OTAP), to provide a greater level of system security. Additionally, OTAP will permit PSCN staff to remotely provide mobile and portable radio programming to thousands of radios, without having to physically touch every radio, saving hundreds of staff hours. HB18-1325 appropriated funding for the DTRS Coverage Gap program for a defined period of time.