

Performance Audit Report

**Department of Information Technology
and Selected State Agencies**

Telecommunication Resource Sharing Agreements

August 2018



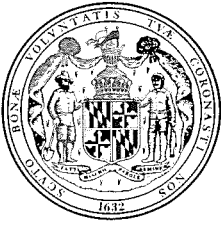
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DEPARTMENT OF LEGISLATIVE SERVICES
MARYLAND GENERAL ASSEMBLY

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DEPARTMENT OF LEGISLATIVE SERVICES
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MARYLAND GENERAL ASSEMBLY

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August 3, 2018

Senator Craig J. Zucker, Co-Chair, Joint Audit Committee
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Members of Joint Audit Committee
Annapolis, Maryland

Ladies and Gentlemen:

We have conducted a performance audit to assess the State's execution, control, and monitoring of telecommunication resource sharing agreements (RSAs) entered into by State agencies under the Department of Information Technology's (DoIT) authority. Under the provisions of State law, DoIT is responsible for reviewing, valuing, and approving RSAs entered into by certain State agencies. RSAs are contractual agreements with private companies for the non-exclusive, long-term use of State rights-of-way (land), communications infrastructure (telecommunication towers), and real estate (buildings). In exchange, the private companies provide the State with monetary compensation, equipment, or services.

Typically RSAs involve a private company leasing space to install equipment on a State telecommunication tower, installing fiber optic cable across state property, leasing a State-owned land or building to install a tower or other wireless communication equipment, or a private company leasing space from a utility company on an electric transmission tower located on State land. Based on our research, we identified 141 RSAs with an estimated value of \$264.1 million at 11 State agencies under DoIT's authority.

Our audit disclosed that DoIT had not established comprehensive policies to guide State agencies on the proper execution, control, and monitoring of RSAs. Consequently, we observed that the lack of comprehensive RSA policies resulted in subjective interpretations of the applicability and use of the State's resource sharing law and contributed to the following deficiencies we identified at DoIT and State agencies.

- DoIT and five other State agencies, which had 100 RSAs valued at \$179.9 million, did not maintain comprehensive records of RSAs to

assist in the monitoring of compensation and renewal terms. Also, DoIT did not have a mechanism for agencies to periodically report (such as, annually) the status of RSAs.

- Certain State agencies did not always obtain DoIT, Legislative Policy Committee, and Board of Public Works approvals for RSAs as required by law. We identified 79 RSAs valued at \$50.3 million that lacked the required approvals. Additionally, certain State agencies did not always take proper action or obtain proper approvals when exercising renewal options and renegotiating expired RSAs. For example, our test disclosed that Board of Public Works' approval was not obtained for 5 RSA renewals valued at \$4.8 million as required.
- Certain State agencies did not treat certain agreements as RSAs even though the agreements were consistent with the descriptions in law, potentially resulting in the failure to receive or maximize compensation. Additionally, certain State agencies did not ensure that all monetary compensation was received in accordance with the RSAs. We identified uncollected compensation totaling \$6.0 million.
- DoIT did not monitor State agencies to ensure resource sharing monetary compensation was deposited into the Major Information Technology Development Project (MITDP) Fund, as required by State law. Our test disclosed five State agencies improperly retained compensation totaling \$7.3 million.
- RSAs did not always contain key provisions to address significant risks related to compensation, protection from liability, and equipment installations on State resources.

We also identified that DoIT did not have a strategic plan for marketing resource sharing opportunities to generate revenues and to help achieve statewide telecommunication infrastructure goals (such as providing broadband networks in rural and underserved areas). Furthermore, DoIT and certain State agencies lacked comprehensive inventories of State-owned telecommunication towers and fiber optic cables available for potential resource sharing. As a result of these conditions, DoIT and other State agencies did not effectively identify resource sharing opportunities to generate revenues and to help achieve the statewide goals.

For example, our review disclosed that of 170 available towers only 26 towers had associated RSAs. The remaining 144 towers could potentially be used for resource sharing purposes resulting in additional revenues for the State and

enhanced broadband coverage in rural and underserved areas where a number of these towers were located.

DoIT could also improve its monitoring of certain RSAs with the nonprofit organization responsible for providing broadband networks in rural and underserved areas.

The responses from DoIT and eight agencies reviewed during this audit are included as an appendix to this report. Virtually all the responses from the eight agencies agree with the applicable recommendations. DoIT, however, does not fully agree with many recommendations. As noted in the letter accompanying its response, DoIT asserts that our analysis and recommendations overstate DoIT's level of authority related to RSA oversight. While DoIT states it would support legislation to clarify its authority, we do not believe implementation of the recommendations pertaining to DoIT is dependent upon legislative action.

We wish to acknowledge the cooperation extended to us by all of the agencies during our audit.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'TJ Barnickel III', with a stylized flourish at the end.

Thomas J. Barnickel III, CPA
Legislative Auditor

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Background Information

DoIT Overview and Responsibilities

The Department of Information Technology (DoIT) was established by Chapter 9, Laws of Maryland 2008 effective July 1, 2008. DoIT is responsible for the State's information technology policies, procedures, and standards, and for overseeing the implementation of major information technology projects for the State's Executive Branch agencies and commissions.¹ DoIT is also responsible for reviewing, determining the value of, and approving telecommunication resource sharing agreements (RSAs) with these State agencies. Furthermore, DoIT manages the Major Information Technology Development Project (MITDP) Fund, into which monetary compensation from certain State agency RSAs is required to be deposited. Finally, DoIT coordinates, purchases, and manages information technology and telecommunications services for certain State agencies.

The Department of Budget and Management (DBM) – Office of Information Technology was responsible for the information technology functions of the Executive Branch, including management of RSAs, prior to the creation of DoIT.

Maryland's Resource Sharing Law

The State's telecommunications RSA process was established by Chapter 87, Laws of Maryland 1996 to allow State agencies to enter into contractual agreements with private companies for the non-exclusive, long-term use of State rights-of-way (land), communications infrastructure (telecommunication towers), and real estate (buildings). Generally, RSAs permit private companies to install, operate, and maintain communications systems on State resources and, in exchange, the private companies provide the State with monetary compensation, equipment, or services. The law also required that monetary compensation from certain agencies' RSAs be deposited into a special fund, known as the Information Technology Investment Fund, maintained by DBM.

Chapter 467, Laws of Maryland 2002 replaced the Information Technology Investment Fund with the MITDP Fund, a special fund within DBM's Office of

¹ By Law, DoIT does not have authority or responsibility for the University System of Maryland, Morgan State University, St. Mary's College, or the Maryland Port Administration. Additionally, Chapter 150 of the Laws of Maryland 2018, effective July 1, 2018, exempts the Maryland Stadium Authority from DoIT's authority or responsibility.

Information Technology (now known as DoIT). This law provides that the MITDP Fund is to be used to support the State's major information technology development projects.

Chapter 137, Laws of Maryland 2014 requires monies from telecommunications RSAs and from the sale, lease, or exchange of communication sites, communication facilities, or communication frequencies be deposited into the MITDP Fund and be used only to support the operation of networkMaryland, the State's information technology communications network.

This Law also provides that compensation received from RSAs with the Maryland Department of Transportation, Maryland Transportation Authority, Maryland Public Broadcasting Commission/Maryland Public Television, and agencies within the Judicial and Legislative branches of State government is retained by these agencies and is not deposited into the MITDP Fund.

Maryland's Wireless and Broadband Telecommunications Infrastructure Under DoIT

DoIT maintains and supports three critical communication infrastructure systems (1) the construction of telecommunication towers, (2) the maintenance and expansion of the State's communications fiber optic network called networkMaryland, and (3) a statewide radio communication system for first responders called Maryland First. DoIT's goal for these communication infrastructure systems is to improve broadband access for State agencies and critical local community institutions (such as, schools, libraries, hospitals, and public safety agencies).

DoIT is also working to expand the availability of broadband services for the citizens of Maryland, especially in underserved areas, to help further the State's long-term vision to provide affordable high speed internet service to every Maryland home by the year 2022. To help meet this goal, there have been several recent statutory, policy, and organizational changes.

- The Task Force on Rural Internet, Broadband, Wireless, and Cellular Service was established by Chapter 621, Laws of Maryland 2017 (known as the Connecting Rural Maryland Act of 2017). The Task Force comprises representatives from the General Assembly, DoIT, the Department of Commerce, the Public Service Commission, local government entities, and individuals from telecommunication industries. The main objective of the Task Force is to explore ways these representatives can work together to

obtain federal assistance for improving rural internet, broadband, wireless, and cellular service, and to assess connectivity and coverage issues. On January 9, 2018, the Task Force issued a report that offered the following recommendations to address accessibility to broadband in rural areas:

- Review and implement statutory and regulatory changes to reduce obstacles and permitting challenges between private providers and State government.
 - Perform a complete inventory of all State and local government agency assets including cellular towers, water towers, and other structures.
 - Update mapping capability to calculate the overall cost for universal service for the last mile of broadband and include a complete survey of population and business density for underserved and unserved areas in each county. Local governments should be asked to help identify and prioritize unserved and underserved areas with opportunities for input by the Internet service providers.
 - Continue the Task Force for an additional year in order to address the development of a business and funding model for rural broadband deployment and to identify potential funding sources other than federal grants and financing options.
- A Governor's Executive Order, effective June 27, 2017, established the Office of Rural Broadband within DoIT to help improve the access to high speed internet throughout the State. The Office will identify opportunities for productive partnerships, including public-private partnerships that enable sharing of resources. The Office exists to assist local jurisdictions in improving their access to high-speed internet, identify sources of funds for these services (including federal funds), and help local jurisdictions apply for these funds.

Process for Creating Resource Sharing Agreements

In general, the process for creating an RSA under DoIT's jurisdiction involves the following steps established by State law.

1. Companies submit a proposal for a resource sharing opportunity to an individual State agency or to DoIT. These proposals may be unsolicited or may result from statewide solicitations for resource sharing.

2. State agencies are required to notify DoIT of each RSA proposal and, in consultation with DoIT, review the proposal and determine if it has economic merit, is advantageous to the agency, or has a benefit to the State.
3. DoIT reviews, values, and approves each proposal and posts it on *eMaryland Marketplace* for a 30-day period if valued at \$100,000 or more.
4. Each DoIT-approved proposal valued at \$100,000 or more is submitted to the Legislative Policy Committee (LPC) for a 60-day review and comment period. This serves as an extra level of oversight for these unique agreements for the sharing of State-owned resources with private companies involving compensation to the State.
5. DoIT submits the LPC-approved proposal (when valued at \$200,000 or greater) to the Board of Public Works for final review and approval.

Common Types of Resource Sharing Arrangements

The four primary examples of telecommunications resource sharing arrangements identified during our audit include a private company

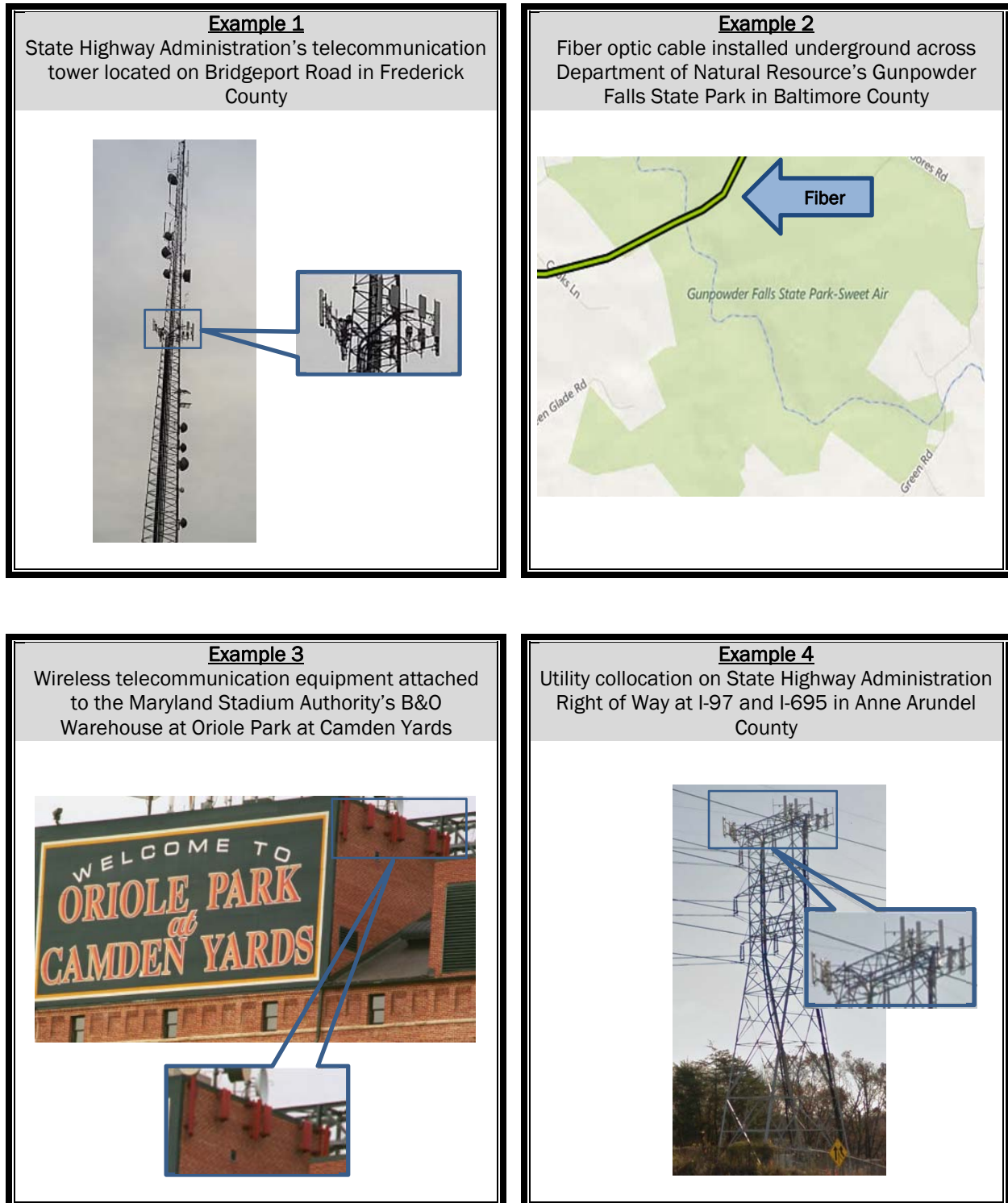
1. leasing space to install equipment on a State tower,
2. installing fiber optic cable across state property (such as, highway rights-of-way, bridges, and State park land),
3. leasing State-owned land or buildings to install towers and other wireless communication equipment (collocation), and
4. collocating of private infrastructure on State property (such as an information technology company leasing space from a utility company on an electric transmission tower that is located on State land).

See Figure 1 for examples of each of these RSAs.

There are other less common examples of resource sharing such as the sale or exchange of intangible wireless communication frequencies or television broadcasting channels, as permitted by the Federal Communications Commission.

Figure 1

Examples of Common Resource Sharing Arrangements in the State



Audit Scope, Objectives, and Methodology

Audit Scope

We conducted a performance audit to evaluate the State's use and oversight of telecommunications resource sharing agreements² (RSAs) between State agencies and private companies. The audit also included determining if the State was marketing resource sharing opportunities to maximize their benefit. RSAs provide for the non-exclusive, long-term use of State rights-of-way, communications infrastructure, and real estate by private companies to install, operate, and maintain communication systems. In return, the private companies provide monetary compensation, communications equipment, or services to the State.

This audit was initiated as a result of concerns identified during our *Special Review of Resource Sharing Lease Agreements* issued on November 18, 2016, as further described on page 15 of this report. This Special Review focused on 10 agreements for which the related compensation was deposited into "off-budget" escrow accounts. The special review disclosed that the Department of Information Technology (DoIT) did not maintain comprehensive records of RSAs, nor did it effectively monitor the State's resource sharing program.

The scope of our current audit was limited to RSAs with State agencies under DoIT's authority. Our audit included the State's RSAs that were in effect, at least in part, during the period from January 1, 2012 through June 30, 2017. Our audit did not include the following entities which, under State law, are excluded from DoIT's authority or responsibility: University System of Maryland, St. Mary's College of Maryland, Morgan State University, Maryland Department of Transportation - Maryland Port Administration, and all Judicial and Legislative branch agencies. Furthermore, although Chapter 150 of the 2018 Laws of Maryland exempts the Maryland Stadium Authority from DoIT's authority or responsibility effective July 1, 2018, our audit scope did not exclude MSA since the legislation was approved and became effective after our audit fieldwork.

Finally, our audit did not include the State's RSAs with other governmental entities (federal, State, and local jurisdictions). Those arrangements are

² These agreements are referred to differently by the various agencies included in our audit but are all similar in nature. For the purposes of this report, we used the term Resource Sharing Agreement or RSA rather than using the terminology adopted by different State agencies.

generally established through written agreements (such as a Memorandum of Understanding) and do not include conditions for compensation.

We conducted this audit under the authority of the State Government Article, Section 2-1221 of the Annotated Code of Maryland and performed it in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Objectives and Methodology

Our audit included the following five objectives, which are discussed in more detail in the respective sections of this report:

1. To determine if DoIT has established comprehensive policies and procedures to guide agencies regarding the execution, control, and monitoring of RSAs, and to determine if DoIT and State agencies maintain comprehensive lists of resources (telecommunication towers and fiber optic cables) and RSAs.
2. To determine if compensation from RSAs was properly received and all monetary compensation was deposited into the appropriate accounts by State agencies in accordance with State law.
3. To determine if the State is marketing resource sharing opportunities to maximize revenues and to help achieve statewide telecommunications infrastructure goals.
4. To determine if the State's RSAs contain key provisions designed to address significant risks and were properly executed, documented, renewed, and approved in accordance with State law.
5. To determine if State agencies are maintaining records of private equipment on State-owned telecommunication towers.

As previously mentioned, our November 2016 report entitled *Special Review of Resource Sharing Lease Agreements* disclosed that DoIT did not maintain comprehensive records of RSAs at that time. Accordingly, to accomplish our objectives, we first needed to identify existing RSAs maintained by State agencies under DoIT's authority.

To do so, we first identified the following 21 agencies that are subject to DoIT's authority under State law and have resources (telecommunication towers, land, and buildings) for potential resource sharing.

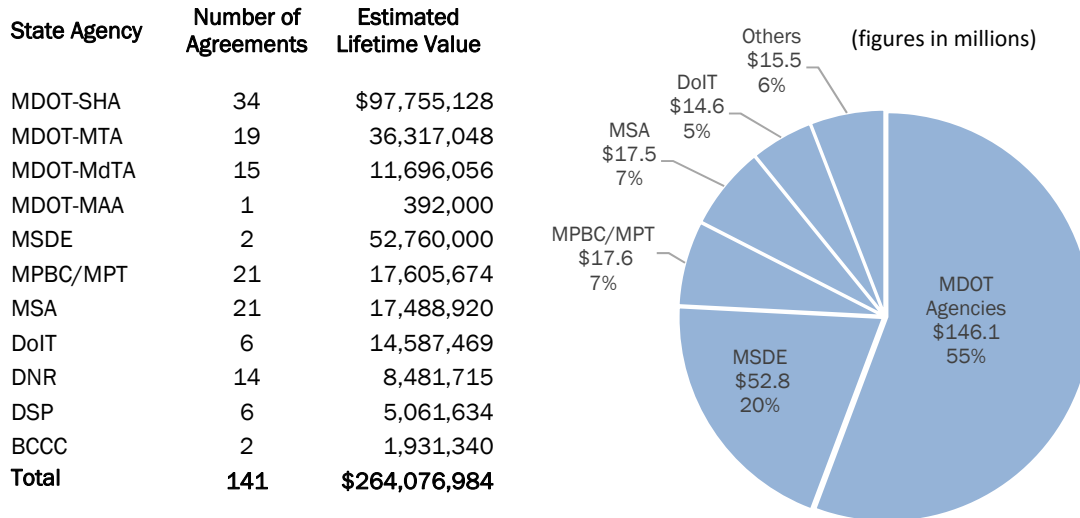
- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Baltimore City Community College (BCCC) 2. Department of Agriculture (MDA) 3. Department of General Services (DGS) 4. Department of Information Technology (DoIT) 5. Department of Juvenile Services (DJS) 6. Department of Natural Resources (DNR) 7. Department of Public Safety and Correctional Services (DPSCS) 8. Department of State Police (DSP) 9. Department of the Environment (MDE) 10. Department of Veterans Affairs (DVA) 11. Maryland Department of Health (MDH) 12. Maryland Institute for Emergency Medical Services Systems (MIEMSS) | <ol style="list-style-type: none"> 13. Maryland Public Broadcasting Commission / Maryland Public Television (MPBC) 14. Maryland Stadium Authority (MSA) 15. Military Department (DMIL) 16. State Department of Education (MSDE) <p style="text-align: center;"><u>Maryland Department of Transportation (MDOT)</u></p> <ol style="list-style-type: none"> 17. Maryland Aviation Administration (MAA) 18. Maryland Transit Administration (MTA) 19. Maryland Transportation Authority (MdTA) 20. Motor Vehicle Administration (MVA) 21. State Highway Administration (SHA) |
|---|---|

At each of these agencies, we contacted personnel responsible for finance, real estate, and information technology/wireless communications to determine if agreements or arrangements existed with private companies for resource sharing (including leases, right-of-way or entry agreements, easements, utility permits, special permits, or licenses). We also reviewed available records at DoIT and obtained records of RSAs from the Board of Public Works (BPW) and the Legislative Policy Committee, which are involved in reviewing and approving certain RSAs.

As shown in Table 1 on the following page, our research identified 141 RSAs involving 11 of these 21 State entities, including DoIT, with estimated compensation (monetary compensation, equipment, services, or a combination thereof) totaling \$264.1 million over the total term of the agreement, including renewal options (hereinafter referred to as lifetime compensation). The estimated lifetime compensation values of the agreements were determined based on available information (such as, language in the agreement, BPW agenda documents) and our calculations. We included agreements that were active at some point during the period from January 1, 2012 through June 30, 2017. These agreements were established both prior and subsequent to the creation of the State's resource sharing law. As of June 30, 2017, 126 agreements totaling \$258.1 million were active and 15 agreements totaling \$5.9 million had expired.

Personnel from the remaining 10 agencies advised us that they did not have any RSAs and our research did not identify any RSAs at these remaining agencies. We performed detailed reviews and testing at each of these 11 agencies to assess their record keeping and procedures over the RSAs.

Table 1
Resource Sharing Agreements at Eleven State Agencies
 Agreements active at some point during the period from January 1, 2012 through June 30, 2017
 (See Exhibit 1 for a detail list of agreements by agency)



Source: Compiled and calculated by OLA using various agreement documents, BPW agendas, and other supporting documents.

Finally, to identify best practices regarding resource sharing, we interviewed personnel at selected county government agencies and other states that had resource sharing activities.

We conducted tests, analyses, inspections of documents and records, observations, and site visits, as we deemed necessary to achieve our objectives. Generally, agreements and related transactions were selected for testing based on auditor judgment, which primarily considers risk. Neither statistical nor non-statistical audit sampling was used to select the agreements tested. Therefore, the results of the tests cannot be used to project those results to the entire population from which the test items were selected.

Special Review of Resource Sharing Lease Agreements

On November 18, 2016, we issued a report on our *Special Review of Resource Sharing Lease Agreements*. The *Special Review* focused on 10 resource sharing lease agreements for which compensation was deposited into escrow accounts maintained by a law firm outside of State control. Under

these agreements, DoIT, DNR, and DSP received compensation from telecommunication companies for the use of the State's communications infrastructure, such as the installation of private communication systems on State-owned towers. From February 2001 through June 2016, the companies deposited lease payments totaling \$4.4 million into the escrow accounts and the payments were subsequently used by DNR and DSP to acquire equipment and services totaling \$3.8 million.

Our review concluded that the agreements were not effectively monitored, the lease payments were not properly accounted for and controlled, and purchases of equipment and services using these funds were not properly controlled and accounted for. The report contained findings and recommendations to all three agencies. According to follow-up correspondence we received from these agencies, as of February 2018, these agencies either were in the process of implementing the recommendations or had advised us that they were waiting to do so after receipt of the results and recommendations of this report. On August 4, 2017, in accordance with our recommendations, the escrow accounts were closed and the law firm issued a check to DoIT totaling \$870,174, which was deposited into the MITDP Fund.

Based on our calculation, these 10 agreements have an estimated lifetime compensation value of \$8 million and are included in the 141 resource sharing agreements we identified as reflected in Table 1. Since the State agencies were still in the process of resolving the escrow account issue during this audit, we did not perform specific test work related to these 10 agreements.

Fieldwork and Agency Response

Our fieldwork was completed during the period from September 2016 to September 2017. The responses from DoIT and the agencies selected for review during this audit are included as an appendix to this report. As prescribed in the State Government Article, Section 2-1224 of the Annotated Code of Maryland, we will advise DoIT and these agencies regarding the results of our review of their responses.

Findings and Recommendations

Objective 1 – Policies and Procedures

Objective and Methodology

Our objective was to determine if the Department of Information Technology (DoIT) had established comprehensive policies and procedures to guide agencies regarding the execution, control, and monitoring of resource sharing agreements (RSAs), and to determine if DoIT and the State agencies maintain comprehensive lists of resources (telecommunication towers and fiber optic cables) and RSAs.

To accomplish this objective, we interviewed State agency personnel at the 11 State agencies we identified that had 141 active RSAs during the period reviewed, as detailed in Table 1 on page 15 of this report. Additionally, see Table 2 below which summarizes the RSAs at each State agency by the type of agreement.

Table 2
Summary of State Agency Resource Sharing Agreements by Agreement Type
(RSA value in millions for agreements active at some point during the period from January 1, 2012 through June 30, 2017)

State Agency	Type of RSA								Total RSAs	
	Tower		Fiber/Other Type Cable		Land/Structure Collocation		Other			
	Count	Value	Count	Value	Count	Value	Count	Value	Count	Value
SHA	23	\$27.0	9	\$66.1	2	\$4.6	-	-	34	\$97.7
MTA	-	-	19	36.3	-	-	-	-	19	36.3
MdTA	-	-	3	1.0	12	10.7	-	-	15	11.7
MAA	-	-	-	-	1	0.4	-	-	1	0.4
MSDE	-	-	-	-	-	-	2	\$52.8	2	52.8
MPBC/MPT	21	17.6	-	-	-	-	-	-	21	17.6
MSA	-	-	9	1.2	12	16.3	-	-	21	17.5
DoIT	3	2.1	3	12.5	-	-	-	-	6	14.6
DNR	7	3.7	6	4.6	1	0.2	-	-	14	8.5
DSP	6	5.1	-	-	-	-	-	-	6	5.1
BCCC	2	1.9	-	-	-	-	-	-	2	1.9
TOTALS	62	\$57.4	49	\$121.7	28	\$32.2	2	\$52.8	141	\$264.1
Active	52	\$54.0	47	\$121.7	25	\$29.7	2	\$52.8	126	\$258.2
Expired	10	\$3.4	2	\$0.02	3	\$2.5	-	-	15	\$5.9

Source: Compiled and calculated by OLA using various agreement documents, BPW agendas, and other supporting documents.

Specifically, we inquired with DoIT about its policies and procedures regarding the execution, control, and monitoring of RSAs. With respect to DoIT in particular, we requested a comprehensive list of RSAs for which it was the responsible oversight agency. Furthermore, we determined if DoIT and the other State agencies maintained comprehensive lists of their RSAs and comprehensive inventories of State-owned telecommunication towers and fiber optic cables for potential resource sharing. Finally, we reviewed policies and procedures of other state and local governments to identify best practices for resource sharing.

Conclusion

DoIT did not establish comprehensive policies and procedures for resource sharing agreement execution, control, and monitoring. In addition, neither DoIT nor certain State agencies maintained comprehensive lists of approved RSAs and State resources (telecommunication towers and fiber optic cables) available for resource sharing.

Findings

Finding 1

DoIT had not established comprehensive policies to guide State agencies on the proper execution, control, and monitoring of RSAs.

Analysis

DoIT had not established comprehensive policies to guide State agencies on the proper execution, control, and monitoring of RSAs. DoIT's website provided the only guidance for State agencies including (a) a checklist of information agencies should include in an RSA proposal, (b) a template of a standard RSA, (c) a flowchart of the steps involved in establishing and approving an RSA, and (d) a statewide solicitation for RSA proposals, which had expired in 2005. This guidance did not include key elements we identified as necessary to ensure RSAs were properly developed and monitored including:

- A description of the types of agreements covered under the State's resource sharing law. During this audit, we identified several agreements that met the legal definition of an RSA but State agencies did not treat them as such nor involve DoIT in the review, evaluation, and approval process. For example, agencies executed telecommunications related agreements in various forms such as lease, right-of-way, utility permit, special permit, and license that should have been treated as RSAs. (See Findings 4 and 10.)

- A description of the methodology for determining the value of RSAs and for establishing appropriate annual compensation escalation clauses to maximize the State's revenue. During our audit, we identified several examples of agreements for which compensation was not maximized (see Findings 5 and 11).
- Standards for determining the duration of RSAs and for establishing renewal options. We identified several agreements that were not properly renewed (see Finding 11).
- Specific instructions and expectations for ensuring monetary compensation is received in accordance with the RSAs and deposited into the appropriate accounts. We identified several agreements in which monetary compensation was not properly received and/or deposited into the MITDP Fund as required by State law (see Findings 5 and 6).
- A delineation of DoIT and State agency respective responsibilities for monitoring compliance with the RSAs.

During this audit, we observed that the lack of comprehensive RSA policies resulted in subjective interpretations of the applicability and use of the State resource sharing law. We believe this contributed to the numerous deficiencies we noted at DoIT and State agencies with the execution, control, and monitoring of RSAs as described in the subsequent findings in this report.

Recommendation 1

We recommend DoIT establish comprehensive policies to guide State agencies in the proper execution, control, and monitoring of RSAs that incorporate, at a minimum, the elements noted above.

Finding 2

DoIT and most State agencies did not maintain comprehensive records of RSAs.

Analysis

DoIT, as part of its oversight of RSAs, did not maintain a comprehensive record or copies of the RSAs that it approved, and did not have a mechanism for agencies to periodically report (such as, annually) the status of telecommunications RSAs to ensure it was aware of all new RSAs that should have been subject to its review. In addition, only MdTA and MPBC/MPT had comprehensive lists of their RSAs. While MSDE, BCCC, and MAA only had

limited numbers of RSAs which they generally were tracking, DoIT and the remaining five agencies did not maintain comprehensive, centralized lists of their agencies' RSAs. Rather, the records at these agencies were maintained on a decentralized basis by the specific agency units responsible for the RSAs and all RSAs may not have been identified. We identified 100 RSAs valued at \$179.7 million for the six agencies that did not maintain comprehensive lists of their RSAs (DoIT, SHA, MTA, MSA, DNR, and DSP).

As of September 2016, DoIT's master list of RSAs included only 39 of the 141 RSAs we identified through our research. These 39 RSAs, which included only two of DoIT's own 6 agreements, had a cumulative estimated lifetime value totaling \$36.1 million. We identified 102 additional agreements with a cumulative estimated lifetime value totaling \$228.0 million that were not included in DoIT's master list. DoIT management advised us that it was not aware of the other RSAs and had not established a monitoring process to determine if agencies entered into RSAs without its knowledge. However, DoIT should have been aware of at least 26 of the remaining 102 RSAs totaling \$184 million since DoIT had reviewed, valued, and approved these agreements.

The lack of comprehensive lists of RSAs contributed to the failure to collect monetary compensation and properly deposit RSA funds into the MITDP Fund (Findings 5 and 6). In addition, the lack of comprehensive lists may have contributed to the failure of State agencies to properly execute RSA renewals as noted in Finding 11. In May 2018, at DoIT's request, we provided DoIT with the list of 141 RSAs (including the agreement documents) we compiled during our audit.

Recommendation 2

We recommend that

- a. DoIT and the applicable State agencies maintain a comprehensive list of all RSAs for which they are responsible, and copies of the related agreements; and**
- b. DoIT direct agencies to periodically (such as, annually) report the status of all active RSAs.**

Finding 3

DoIT and certain State agencies lacked comprehensive inventories of State-owned telecommunication towers and fiber optic cables for potential resource sharing.




Analysis

DoIT and certain State agencies (DNR, DSP, MIEMSS, and MDOT) lacked comprehensive inventories of State-owned telecommunication towers and fiber optic cables available for potential resource sharing purposes. Without a comprehensive inventory of these resources, DoIT and other State agencies could not effectively identify resource sharing opportunities to maximize revenues and to help achieve statewide telecommunications infrastructure goals.

State-Owned Telecommunication Towers

According to DoIT and State agency records, during fiscal years 2000 through 2017, there were 77 State-owned telecommunication towers constructed at a cost of approximately \$35.5 million. See Figure 2 for the three main types of telecommunication towers. Although DoIT was responsible for constructing many of these towers, it did not maintain an accurate and comprehensive inventory of the towers it constructed. Additionally, DoIT did not maintain an inventory of towers constructed by individual state agencies. Because DoIT and the agencies had no inventory of towers, during the audit we used various methods to try to construct a statewide inventory.

Figure 2
Types of Telecommunication Towers

<p><u>Monopole Tower</u> A single tube structure that typically ranges in height from 100 to 200 feet tall.</p> 	<p><u>Self-Supporting Lattice Tower</u> An open frame structure with three or four sides that typically ranges in height from 100 to 400 feet tall.</p> 	<p><u>Guyed-Wire Tower</u> A single structure supported by wires that attach to the ground as support typically ranging in height from 100 to more than 2,000 feet tall.</p> 
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In 2005, the Department of Budget of Management's Office of Information Technology (now DoIT) paid a vendor \$441,200 to conduct a statewide telecommunication tower site audit and to develop a database to track the inventory of equipment on the State's telecommunication towers. However, the database was not being maintained or used by DoIT and, therefore, we contacted the vendor to obtain a copy of it. While the database contained appropriate information about each tower (such as location, equipment on the tower, and information about the site), a DoIT management employee advised us that State agency personnel did not keep the database current and therefore it was never fully used as a tool to maximize resource sharing revenues.

Because DoIT and the agencies had no inventory of towers, we requested DoIT to construct a statewide tower inventory. In January 2017, DoIT provided us with a newly compiled inventory reflecting 176 State-owned towers based on various records dating back to the 1970s. The inventory contained towers that were 100 feet tall or greater since structures less than this were generally not towers but antennas mounted on other structures. Our review of

DoIT's inventory disclosed certain inaccuracies. Specifically, we determined that information for some towers was incomplete, certain tower locations were incorrect, and some towers were duplicated, were not State-owned, or no longer existed. After adjusting for these issues, DoIT's inventory reflected 131 State-owned towers.

Using the inventory prepared by DoIT in conjunction with additional research we performed, we identified a total of 170 State-owned towers, including 6 towers that were under planning or construction by DoIT to support the Maryland First interoperability radio project. Specifically, we developed our own inventory of State-owned telecommunication towers (100 feet tall or greater and all DNR Forestry Fire Towers regardless of height since they could potentially be used for resource sharing opportunities) using DoIT records, State agency inventory records, interviews with State agency personnel, publicly available internet maps, the Federal Communications Commission (FCC) tower registration database, and other records. As shown in Table 3, 26 of the 170 towers have 52 active RSAs valued at \$54 million, including 6 RSAs valued at \$5.1 million on 3 towers not identified on DoIT's list. The remaining 144 towers could potentially be used for resource sharing purposes depending on available space, rated engineering load capacity, and the desirability of the location for telecommunication companies.

Table 3
Summary of State-Owned Telecommunication Towers as of September 2017
(RSA Value in millions)

State Agency	Towers Identified by DoIT	Additional Towers Identified by OLA	Total Towers	Towers with RSA*	Count of Active RSA	Value of RSA
SHA	43	13	56	9	17	\$24.8
MPBC/MPT	5	2	7	6	20	17.3
DSP	23	0	23	4	6	5.1
MIEMSS	22	10	32	2	3	2.1
DNR	31	10	41	4	4	2.8
BCCC	1	0	1	1	2	1.9
Military	2	0	2	0	0	0
DoIT	0	2	2	0	0	0
MAA	1	1	2	0	0	0
DGS	1	0	1	0	0	0
MdTA	0	1	1	0	0	0
MTA	2	0	2	0	0	0
Total	131	39	170	26	52	\$54.0

Source: Compiled by OLA using a DoIT-prepared inventory, other State agency records, interviews of State personnel, internet maps, the FCC tower registration database, and other records.

*All 170 telecommunication towers may not be eligible for potential resource sharing based on their location, rated engineering load capacity, or available space on the tower.

Fiber Optic Cable

DoIT and MDOT did not maintain a comprehensive database of fiber installed by the State and fiber accessed through RSAs. DoIT and MDOT are responsible for installing and maintaining much of the State's fiber infrastructure through networkMaryland and MDOT's Intelligent Transportation System³ and related fiber networks.

Our review disclosed that DoIT and MDOT did not coordinate with each other to ensure the State maintained an accurate and comprehensive database of State-owned fiber. In addition, these agencies could not readily identify how much of this fiber was currently unused. This is important since unused fiber, known as dark fiber, could be leased to other entities to generate revenue or

³ The Intelligent Transportation System is a system that utilizes technology to improve safety and mobility on the State's roadways and includes the Coordinated Highways Action Response Team (CHART).

could be used by the State to further its fiber infrastructure without paying for the installation of new fiber in the same area.

While we could not develop a complete list of accessible fiber because of the lack of records, we developed a list of fiber that we became aware of using the RSAs we identified. As shown in Table 4, we identified 45 RSAs valued at \$121.5 million that were for private entities to install fiber on State property in return for cash compensation and/or fiber (the value of these RSAs did not always provide a cash value for the fiber provided to the State as compensation). This included 11 RSAs under which the State acquired access to 1,043 miles of fiber for its own use. The State could use the fiber directly or lease unused fiber to private entities. As of June 2017, the State had not fully used all of this fiber. For example, SHA had not used 62 percent of the fiber it obtained, including 131 miles of fiber obtained in 3 agreements that had never been used even though the fiber had been available for periods ranging from 6 to 20 years. Subsequent to our review, MDOT hired an individual to coordinate MDOT's fiber resources, including tracking RSAs related to fiber.

Table 4
Summary of Resource Sharing Agreements for Fiber Optic Cable
(RSA value in millions for agreements active at some point during the period from January 1, 2012 through June 30, 2017)

State Agency	Count of All Fiber RSAs	Value of All Fiber RSAs	RSAs With Fiber Sharing	Miles of Fiber Available for State Use	Percent of Fiber Being Used By State	Percent of Fiber Not Being Used By State
SHA	9	\$66.1	7	841	38%	62%
MTA	17	36.2	1	36	83%	17%
DoIT	3	12.5	2	103	100%	-
DNR	5	4.5	1	63	*	*
MSA	8	1.2	N/A	N/A	N/A	N/A
MdTA	3	1.0	N/A	N/A	N/A	N/A
Total	45	\$121.5	11	1,043		

Source: Compiled and calculated by OLA using various agreement documents, BPW agendas, and other supporting documents.

*As of June 2017, the installation of these 63 miles of fiber was not complete. Therefore, we could not determine if the State had used any of the fiber.

Recommendation 3

We recommend DoIT and the State agencies

- a. develop and maintain comprehensive inventory databases of State-owned telecommunication towers and fiber optic cables; and
- b. use the inventory databases to plan for resource sharing opportunities (such as, space on telecommunication towers available for lease and unused fiber optic cable) and to achieve statewide telecommunications infrastructure goals.

Objective 2 – Compensation

Objective and Methodology

Our objective was to determine if compensation from RSAs was properly received and all monetary compensation was deposited into the appropriate accounts by State agencies in accordance with State law.

We inquired with State agencies and performed other research to determine if they had permits, rights-of-way, or collocation agreements that met the definition of a resource sharing arrangement but were not processed as RSAs. Additionally, we reviewed 131 of the 141 RSA agreements at the 11 State agencies that we identified, as detailed in Table 2 on page 17, to determine the compensation that was to be received under each RSA. (We excluded the 10 RSAs addressed in our November 2016 *Special Review of Resource Sharing Lease Agreements*, as explained on page 15.) We identified 113 RSAs at 10 State agencies that had provisions for monetary compensation totaling \$27.6 million. For each RSA, we compared the expected monetary compensation according to the RSA provisions with the actual amounts received during fiscal years 2015, 2016, and 2017. We also determined if compensation received was deposited in accordance with State law. For each of the remaining 18 RSAs that had compensation in the form of communications equipment and services, we determined if the agencies received the compensation in accordance with the RSA by reviewing documentation and performing site visits.

Conclusion

We determined that State agencies did not treat certain agreements as RSAs even though the agreements were consistent with the descriptions in law, potentially resulting in the failure to receive or maximize compensation. Additionally, monetary compensation was not always received in accordance with the RSAs because State agencies did not properly monitor the RSAs or were not aware of their existence. Specifically, for 31 of the 113 RSAs tested,

\$3.3 million of the \$27.6 million due under the RSAs had not been collected. Based on these results, we expanded the period of our review for four RSAs at three State agencies that either had the majority of the uncollected compensation or high variance between the expected and actual compensation collected. Our expanded testing identified additional compensation that had not been collected. In total for these three agencies, we identified \$6.0 million that was not received for the four RSAs. Additionally, certain agencies did not verify the accuracy of compensation totaling \$800,300 for eight other RSAs.

We also noted that State agencies did not deposit compensation from 35 RSAs totaling \$7.3 million into the MITDP Fund as required by law. Our test of non-monetary compensation disclosed that the communications equipment and services were received in accordance with the agreements.

Background

The State's resource sharing law requires that monetary compensation from RSAs be deposited into the MITDP Fund, a special fund to be used to support the State's major information technology development projects. The MITDP Fund does not include resource sharing monetary compensation received by MDOT agencies or by MPBC/MPT since these agencies are exempt by State law. As shown in Table 5, of the 141 RSAs totaling \$264.1 million, 51 RSAs totaling \$100.4 million were with agencies subject to the requirements of the MITDP Fund and 90 agreements totaling \$163.7 million were with MDOT and MBPC/MPT which are exempt from the requirements of the MITDP Fund.

Table 5
**RSA Compensation at Agencies That Are
 Subject to and Exempt from the MITDP Fund**
 (RSA value in millions for agreements active at some point during the period
 from January 1, 2012 through June 30, 2017)

State Agency	Count of RSAs	Value of Monetary Compensation	Value of Other Compensation	Total Value of Compensation
Agencies Subject to MITDP				
MSDE	2	\$52.8	\$0	\$52.8
MSA	21	17.5	0	17.5
DoIT	6	6.1	8.5	14.6
DNR	14	6.6	1.9	8.5
DSP	6	4.4	0.7	5.1
BCCC	2	1.9	0	1.9
Subtotal	51	\$89.3	\$11.1	\$100.4
Agencies Exempt from MITDP				
MDOT	69	\$128.8	\$17.3	\$146.1
MPBC/MPT	21	17.6	0	17.6
Subtotal	90	\$146.4	\$17.3	\$163.7
TOTAL	141	\$235.7	\$28.4	\$264.1

Source: Compiled and calculated by OLA using various agreement documents, BPW agendas, and other supporting documents.

Findings

Finding 4

State agencies did not treat certain agreements as RSAs resulting in a lost opportunity to maximize compensation. If these agreements had been treated as RSAs, they would have been subject to DoIT's review and valuation process.

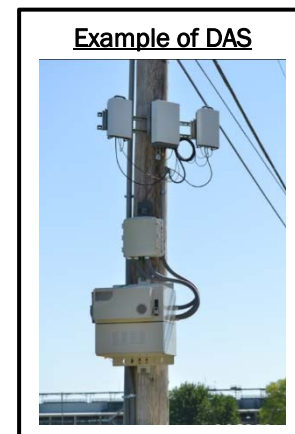
Analysis

State agencies did not treat certain agreements as RSAs even though these agreements were consistent with the descriptions in law, resulting in the failure to receive or maximize compensation. As noted in Finding 1, DoIT had not established comprehensive policies and procedures for RSAs including guidance to State agencies on the types of agreements that should be treated as RSAs. As a result, our audit disclosed that 4 of 11 agencies reviewed (three MDOT agencies – SHA, MdTA, and MTA – and DNR) had not created RSAs for arrangements with private companies that qualified as RSAs as

described in the State's resource sharing law. Specifically, we noted that agencies were not consistent in their treatment of certain arrangements or did not recognize certain arrangements as resource sharing opportunities. DoIT management generally agreed with our assessment that these agreements should have been treated as RSAs.

MDOT

- SHA did not create RSAs and receive any compensation from telecommunication companies using certain State rights-of-way for the installation of fiber optic cable and other communication equipment. SHA allowed companies to install cable and equipment on rights-of-way along both controlled access roads (roads with on/off ramps) and non-controlled access roads. Although SHA created RSAs for work along controlled access roads, it did not create RSAs for work along non-controlled access roads. RSAs provide the State with long-term monetary or non-monetary compensation for as long as the resource is being used by the company.
- According to SHA records, approximately 102 utility permits were issued by SHA in calendar year 2016 for companies to install telecommunication equipment on non-controlled access roads for which no compensation was received. Rather than enter into RSAs, SHA issued these utility permits for free. For example, 75 permits were issued to two companies to install telecommunication equipment on utility poles or streetlights for a distributed antenna system (DAS). DAS, or small cell networks, expand current cell network coverage and increase network capacity within cities, indoors, or at places where large groups of people congregate (such as, stadiums, theme parks, or universities). For comparison purposes, MSA has an RSA for DAS at M&T Bank Stadium totaling \$1.4 million.
- MdTA and MTA may not have maximized compensation for certain agreements with private companies that qualified under the State's resource sharing law. These agreements allowed private companies to install telecommunication equipment on MdTA and MTA property (such as, bridges, tunnels, train tracks, buildings, and land). MdTA processed 14 agreements (totaling \$11.8 million) of its 15 agreements as license agreements or utility permits and MTA processed 18 agreements (totaling \$676,000) of its 19 agreements as license agreements or utility permits. Had these agreements been processed as RSAs, MDOT's Office of the



Secretary and DoIT would have reviewed and valued these agreements which could have resulted in higher compensation. The remaining two agreements at MdTA and MTA were correctly processed as RSAs.

DNR

DNR did not create RSAs and assess fees for collocations that existed on electric transmission towers located on DNR land. We identified four collocations (three in Patapsco Valley State Park and one in Cunningham Falls State Park) that had been in place for many years. Specifically, utility companies with electric transmission towers on state land leased space on these towers to information technology companies. Since the towers are located on state land, the State should share in the compensation from the leases. Although DNR was aware of these collocations, it had not established RSAs with the utility companies to obtain a portion of the income. DNR had created an RSA for a collocation arrangement in Green Ridge State Forest. Additionally, in comparison, as noted in Finding 5, other State agencies (MdTA and SHA) received monetary compensation for collocation arrangements.

After bringing this matter to the attention of DNR management, it initiated action to establish an RSA for one of these collocations and to collect retroactive compensation since the inception of the arrangement in 2003. As of September 2017, DNR was still working with DoIT to establish the RSA and it had estimated monetary compensation totaling \$180,600 was due for the period from 2003 to 2017. DNR had not taken any action on the remaining three collocations and had not attempted to identify any additional collocations on DNR land.

Recommendation 4

We recommend that State agencies

- a. establish RSAs, including provisions for compensation, for all qualified agreements in accordance with State law, including all necessary approvals; and**
- b. identify all collocations and pursue the feasibility of obtaining retroactive compensation as legally permissible, including those noted above.**

Finding 5

Certain State agencies did not ensure that all monetary compensation was received in accordance with the RSAs, resulting in the failure to collect approximately \$6.0 million.

Analysis

Certain State agencies did not always ensure that monetary compensation was received for the use of State resources by private companies, as specified in RSAs. We identified 113 RSAs at 10 State agencies that had provisions for monetary compensation totaling \$27.6 million during fiscal years 2015, 2016, and 2017. For each RSA, we compared the expected monetary compensation, according to the RSA provisions, with the actual amounts received during the aforementioned years. For 31 of the 113 RSAs tested, \$3.3 million of the \$27.6 million due under the RSAs had not been collected. Based on these results, we expanded the period of our review for four RSAs at three State agencies that either had the majority of the uncollected compensation or high variance between the expected and actual compensation collected. Our expanded testing identified additional compensation that had not been collected. In total, we identified monetary compensation totaling approximately \$6.0 million that these three State agencies (SHA, DoIT, and MdTA) did not receive on four RSAs. Additionally, three State agencies (MdTA, SHA, and DNR) did not verify the accuracy of monetary compensation totaling \$800,300 for eight other RSAs.

Agencies Did Not Ensure All RSA Compensation Was Received

SHA, DoIT, and MdTA did not collect monetary compensation totaling \$6.0 million on four agreements.

- SHA did not adequately monitor compensation for a statewide fiber optic RSA resulting in its failure to collect \$3.5 million in compensation. The RSA began in 1999 and allowed a telecommunication company to install conduits and fiber optic cable throughout the State's highway rights-of-way. In return, the State obtained access to a portion of the fiber and was estimated to earn monetary compensation totaling \$49.8 million over the 40-year term. Our review disclosed that SHA did not verify the amounts submitted by the company and, as a result, did not collect \$3.5 million of the \$13 million due for fiscal years 2014 through 2017. In response to our inquiries, SHA management advised us that the reduced compensation was related to a 2010 modification to the RSA which altered the payment terms. However, the modification was never signed or approved, and MDOT's legal counsel advised us that the modification was not valid.

- DoIT did not monitor two of its RSAs, executed in 2001 and 2002, which had lifetime monetary compensation totaling \$6.1 million over the period of the RSA. DoIT management was unaware of these RSAs even though the signed agreements were maintained in DoIT's files. As of June 2017, we estimated that DoIT had not collected monetary compensation totaling \$2.6 million on these two RSAs for at least the most recent 12 years. After bringing these agreements to DoIT's attention, it collected \$166,000 due for one agreement. As of November 2017, DoIT had not collected any of the \$2.4 million due on the other agreement.
- MdTA did not properly process a modification to an agreement which had expired. Consequently, MdTA did not collect monetary compensation totaling \$34,600 for fiscal years 2015 and 2016. After bringing this issue to MdTA's attention, it took action to collect the past due compensation owed.

Agencies Did Not Verify the Accuracy of Compensation Received

MdTA, SHA, and DNR did not obtain appropriate documentation needed to verify the accuracy of certain compensation, totaling \$800,300, which was received on eight collocation RSAs during fiscal years 2015 through 2017. For example, during fiscal year 2017, SHA collected \$117,500 on four utility collocation sites included in one RSA that allowed a telecommunication company to install equipment on electric line transmission towers on SHA rights-of-way. The compensation for these eight collocation RSAs included a stated annual lease payment and additional compensation based on a stated percentage (typically 25 to 35 percent) of any collocation revenue earned by the utility company. However, none of these agencies obtained documentation (such as, subleasing agreements) needed to verify the accuracy of collocation revenue received.

As a result, there was a lack of assurance that the State obtained the proper monetary compensation allowed by the RSA. We subsequently obtained subleasing agreements for two of the aforementioned eight collocation RSAs and confirmed the accuracy of payments received. We were unable to confirm the accuracy of the payments received on the remaining six collocation RSAs because the agreements lacked audit provisions.

Recommendation 5

We recommend that State agencies

- monitor RSAs to ensure the proper amount of cash compensation is collected;**

- b. immediately pursue collection of unpaid compensation, including the identified amounts for the aforementioned agreements with SHA and DoIT; and
- c. obtain documentation to verify the accuracy of any collocation compensation received.

Finding 6

DoIT did not monitor State agencies to ensure resource sharing monetary compensation was deposited into the MITDP Fund, as required by State law. As of April 2017, only \$60,000 had been deposited into the MITDP Fund since July 1, 2014. Our test disclosed five agencies improperly retained compensation totaling \$7.3 million during this period.

Analysis

Resource sharing monetary compensation was not deposited into the MITDP Fund as required by State law. As noted in Table 5 on page 28, six State agencies had 51 RSAs, with a lifetime monetary compensation of approximately \$89.3 million, for which the compensation was required to be deposited into the MITDP Fund. Prior to our testing in April 2017, only \$60,000 had been deposited into the MITDP Fund related to one agreement, since July 1, 2014. DoIT was not aware that monetary compensation from RSA agreements was not being deposited into the MITDP fund since it did not maintain a comprehensive record of approved RSAs and did not establish a mechanism to ensure all compensation was received and deposited (as noted in Finding 2).

For example, five agencies (BCCC, DNR, DoIT, MSA, and MSDE) improperly retained monetary compensation totaling \$7.3 million associated with 35 agreements during fiscal years 2015 through 2017 (through April 2017). MSDE and MSA accounted for 21 of the 35 agreements totaling \$6.3 million (\$4.6 million for 2 MSDE agreements and \$1.7 million for 19 MSA agreements). Management personnel at these two agencies advised us that they did not believe they were required to deposit the compensation from their RSAs into the MITDP Fund, but could not provide us with the legal basis for their position.

In response to our request, DoIT, MSDE, and MSA collectively obtained an advice of the Office of the Attorney General on September 1, 2017, which concluded that the MITDP Fund law did apply to MSDE and MSA. However, the advice also stated that, for various reasons described below, the past and future monetary compensation for these 21 RSAs did not have to be deposited into the MITDP Fund.

- MSDE's two agreements to lease excess educational broadcast channels to private companies were submitted to DoIT for review. However, DoIT failed to process the agreements as RSAs even though they met the definition of an RSA. The Office of the Attorney General concluded that, since DoIT failed to identify and approve these agreements as RSAs, MSDE did not have to deposit the compensation related to these specific agreements into the MITDP Fund. However, the Office of the Attorney General also concluded that any future MSDE agreements should be submitted to DoIT for review and approval and compensation should be deposited into the MITDP Fund.
- MSA's 19 agreements were pledged against a 2004 bond issuance. The Office of the Attorney General concluded that, since the funds were pledged, the revenue should not be deposited into the MITDP Fund until the bonds were repaid in 2024. However, the Office of the Attorney General also concluded that any future RSA compensation should be deposited into the MITDP Fund and should not be pledged against future bond offerings. Subsequent to our audit fieldwork, Chapter 150 of the Laws of Maryland 2018 exempted the Maryland Stadium Authority from DoIT's authority or responsibility. Accordingly, effective July 1, 2018, MSA is no longer required to deposit RSA revenue into the MITDP Fund.

Recommendation 6

We recommend that

- a. DoIT establish a process to ensure that State agencies deposit all applicable RSA compensation into the MITDP Fund as required, and**
- b. State agencies ensure all applicable compensation is deposited into the MITDP Fund as required by State law and the aforementioned Attorney General's advice.**

Objective 3 – Marketing

Objective and Methodology

Our objective was to determine if the State is marketing resource sharing opportunities to maximize revenues and to help achieve statewide telecommunications infrastructure goals, such as expanding broadband to citizens located in rural areas.

To accomplish this objective, we reviewed the efforts of DoIT and other State agencies to market their property and telecommunication infrastructure resources (such as, fiber optic and telecommunication towers) for potential

resource sharing opportunities. We also contacted Baltimore and Montgomery counties and other states to identify their methods for marketing resource sharing opportunities. Finally, we reviewed DoIT's efforts to improve the expansion of broadband service networks in rural and underserved areas and its monitoring of RSAs with a nonprofit organization responsible for providing broadband services in rural areas.

Conclusion

The State lacks a strategic plan for marketing resource sharing opportunities to generate revenues and to help achieve statewide telecommunication infrastructure goals. DoIT also could improve its monitoring of certain RSAs with the one nonprofit organization responsible for providing broadband networks in rural and underserved areas.

Background

State law provides that DoIT is responsible for developing an annual Information Technology Master Plan to assess the State's current information technology needs. DoIT is also responsible for fostering telecommunication and networking, and for improving information technology accessibility across the State, especially in rural areas.

A Governor's Executive Order, effective June 27, 2017, established the Office of Rural Broadband within DoIT to help improve the access to high-speed internet throughout the State. According to the Executive Order, the State has a long-term vision to provide affordable high-speed internet service to every Maryland home by the year 2022. In order to meet this goal, the Office is responsible for identifying opportunities for productive partnerships, including public-private partnerships that enable sharing of resources.

Over the years, the State has made a significant investment in telecommunication infrastructure for the benefit of State and local government operations, educational institutions, emergency first responders, and Maryland citizens. For example, the State (1) implemented and expanded its fiber optic network called networkMaryland; (2) constructed telecommunication towers, and installed equipment for a wireless communications network known as Maryland First for use by law enforcement and other emergency first responders; and (3) implemented a comprehensive traffic management and monitoring information system called the Coordinated Highways Action Response Team (CHART) which is part of the Maryland Intelligent Transportation System (ITS).

Solicitations for Resource Sharing Opportunities

The State has issued the following four solicitations to seek vendors to develop potential resource sharing opportunities to benefit the State, its citizens, and private telecommunication companies. According to our review, 27 agreements totaling \$108.3 million were a direct result of these solicitations.

- **1994** - The State issued a solicitation on behalf of SHA for fiber optic cable to be installed from the Pennsylvania state line through the Baltimore and Washington corridor to link to CHART sites, as well as to fulfill other State needs. This solicitation offered vendors access to install their fiber on State highway rights-of-way. In exchange, the State received monetary compensation and certain of this fiber.
- **1995** - The State issued a solicitation offering to share resources (such as, space on buildings, towers, and real estate) with vendors in exchange for monetary compensation, equipment, or services. The State desired to implement new wireless communications systems and improve existing telecommunication systems (wireless, wired, and fiber optics) to establish a comprehensive communications network.
- **1996** - The State issued a solicitation for resource sharing in an effort to install a high performance communications system and/or infrastructure along State highway rights-of-way. Specifically, the State was seeking services to support ITS or CHART, statewide data communications, voice communications, video teleconferencing, and other broadband services in exchange for use of State highway rights-of-way. The solicitation envisioned the State would realize value by sharing in revenues from vendor subleases of excess space on State infrastructure.
- **2000** - The State issued a second solicitation for resource sharing consistent with the aforementioned 1996 solicitation. Additionally, this solicitation included receiving communication services for the State's networking project called networkMaryland. This solicitation expired in 2005.

Expansion of Broadband in Rural Areas

The State has routinely identified issues of inadequate broadband in rural areas of the State, such as in Western, Southern, and Eastern Maryland. Over the years, the State initiated efforts to expand broadband to these rural areas including (1) providing financial assistance to private companies to plan, construct, and maintain broadband communication services; and (2) installing a network of fiber optic cable across the State known as the One Maryland

Broadband Network project to connect schools, libraries, hospitals, and public safety agencies. These efforts allowed for the interconnection of other independent networks to provide broadband service to citizens and to expand networkMaryland.

According to a May 2013 report by the Federal Department of Transportation called *Successful Practices of Broadband Deployment in Highway Rights of Way*, due to the significant investment needed to build a broadband and wireless infrastructure, telecommunication companies historically have focused on expanding their networks in heavily populated areas to maximize return on investment. To address this concern, Chapter 621, Laws of Maryland 2017, established the Task Force on Rural Internet, Broadband, Wireless, and Cellular Service, which comprises representatives from the General Assembly, DoIT, the Department of Commerce, the Public Service Commission, local government entities, and individuals from telecommunication industries. The main objective of the Task Force is to explore ways these representatives can work together to obtain federal assistance for improving rural internet, broadband, wireless, and cellular service, and to assess connectivity and coverage issues.

On January 9, 2018, the Task Force issued a report that offered various recommendations to address accessibility to broadband in rural areas. These recommendations included 1) to review and implement statutory and regulatory changes to reduce obstacles and permitting challenges between private providers and State government, and 2) to perform a complete inventory of all State and local government agency assets including cellular towers, water towers, and other structures for potential resource sharing opportunities.

Findings

Finding 7

DoIT did not have a strategic plan for marketing resource sharing opportunities to generate revenues and to help achieve statewide telecommunication infrastructure goals.

Analysis

DoIT did not have a strategic plan for marketing resource sharing opportunities to generate revenues and to help achieve statewide information technology infrastructure goals. Consistent with its statewide responsibility to foster telecommunication and networking, and to improve information technology accessibility across the State, State law requires DoIT to ensure

that the State has a long-range vision for using information technology to improve the overall effectiveness of State government and address the needs of Maryland citizens.

- DoIT had not developed a strategic plan, within its Information Technology Master Plan, for marketing the State's available wireless and broadband telecommunication resources (such as fiber optic cable and telecommunication towers) for resource sharing. Consequently, the State may not be maximizing opportunities to obtain revenue and to address the wireless and broadband telecommunication infrastructure needs of the State government or Maryland citizens in rural areas that lack access to broadband.
- DoIT has not issued a solicitation for resource sharing since the 2000 solicitation expired in 2005. In addition, DoIT does not advertise its interest in resource sharing opportunities on its website. In this regard, both Baltimore and Montgomery counties maintain designated websites to facilitate resource sharing opportunities. These websites included policies and procedures for interested vendors to request and renew telecommunication tower RSAs as well as searchable maps of tower assets for resource sharing. These counties had no statistics available to demonstrate the effectiveness of these marketing efforts.

Strategic marketing through direct public solicitations and website advertisements could help ensure the State meets its information technology infrastructure goals. Without these strategic marketing efforts, the State is only responding to unsolicited resource sharing opportunities initiated by private companies, potentially resulting in an underutilization of resource sharing opportunities.

Recommendation 7

We recommend that the State

- a. develop a strategic plan to market State assets for resource sharing opportunities to generate revenues and to help achieve statewide information technology infrastructure goals, and**
- b. strategically market resource sharing opportunities through direct solicitations and on applicable State agency websites.**

Finding 8

DoIT did not monitor RSAs with a nonprofit organization providing broadband networks in rural and underserved areas and has not made any attempts since 2013 to negotiate additional RSAs to further expand broadband in rural areas.

Analysis

DoIT did not monitor existing RSAs with a nonprofit organization to ensure it was providing broadband networks in rural and underserved areas, and had not made any attempts since 2013 to negotiate additional RSAs to further expand the broadband in other rural areas. To facilitate expansion of broadband service in rural and underserved areas, State law allows nonprofit telecommunication service providers to install broadband communication infrastructure in State highway rights-of-way without charge.

- DoIT and MDOT have five active RSAs with a nonprofit organization, established during the period from 2007 to 2013, granting the provider access to State-owned fiber optic cable or allowing the provider to install fiber optic cable in State rights-of-way to expand its own broadband network. For example, in January 2013, DoIT entered into an RSA with the nonprofit to grant access to State-owned fiber optic cable installed in 12 Maryland counties (Allegany, Anne Arundel, Calvert, Caroline, Cecil, Charles, Garrett, St. Mary's, Somerset, Washington, Wicomico, and Worcester) in order to expand broadband network in rural and underserved areas. Through its members, the provider partners with private companies to provide broadband service to the citizens in those areas.

According to this agreement, DoIT could obtain an annual report from the nonprofit that identifies and certifies authorized users of the fiber optic cable and could perform an audit of the nonprofit's financial records. DoIT did not effectively monitor the RSA to ensure the nonprofit service provider was providing the expanded broadband. Specifically, DoIT did not obtain the nonprofit's annual reports nor perform an audit of the nonprofit's records, as permitted by the agreement, to ensure compliance with the terms of the agreement. DoIT agreed that it should improve its monitoring of the nonprofit since the nonprofit was not successful in expanding broadband in Western Maryland as provided for in the RSA.

- DoIT also did not make any attempts since 2013 to negotiate additional RSAs to further expand access to broadband in underserved rural areas. Although private telecommunication towers and fiber optic cables exist

throughout the State’s rural areas, DoIT still has the opportunity to use its resources to expand broadband with RSAs. For example, DoIT could have attempted to negotiate RSAs to strategically build out wireless broadband infrastructure on State-owned towers or property in rural areas.

As shown in Table 6, the majority of the State’s existing RSAs on towers are in highly populated areas. Specifically, the State has RSAs on 18 of the 50 towers in high-populated jurisdictions located in the Central region of the State (Baltimore City, Baltimore, Carroll, Frederick, Harford, Howard, and Montgomery Counties). The remaining jurisdictions in the Western, Southern, and Eastern Shore regions have RSAs on only 9 of the remaining 120 towers.

Table 6
State-Owned Telecommunication Towers with Resource Sharing Agreements
by Region as of September 2017
 (See Exhibits 2 through 7 for maps detailing the 170 State-owned telecommunication towers)

State Region	Jurisdictions in Region	Towers	Towers with RSA	Percent of Towers with RSA
Central	Baltimore City, Baltimore, Carroll, Frederick, Harford, Howard, Montgomery	50	18	36%
Southern	Anne Arundel, Calvert, Charles, Prince George’s, St. Mary’s	39	6	15%
Western	Allegany, Garrett, Washington	34	1	3%
Upper Eastern Shore	Caroline, Cecil, Kent, Queen Anne’s, Talbot	24	1	4%
Lower Eastern Shore	Dorchester, Somerset, Wicomico, Worcester	23	1	4%
		170	27	

Source: Compiled by OLA using a DoIT-prepared inventory, other State agency records, interviews of State personnel, internet maps, the FCC tower registration database, and other records.

Recommendation 8

We recommend that DoIT

- a. monitor existing RSAs with the aforementioned nonprofit organization to ensure broadband networks are expanded in rural and underserved areas, in accordance with the intent of the RSAs; and
- b. increase the use of RSAs to strategically expand broadband in rural areas consistent with need.

Objective 4 – Agreement Execution and Approval

Objective and Methodology

Our objective was to determine if the State's RSAs contain key provisions designed to address significant risks and were properly executed, documented, renewed, and approved in accordance with State law.

To accomplish this objective, we reviewed 10 RSAs primarily from Maryland State agencies. We identified significant provisions that provided appropriate safeguards to the State. Specifically, we identified the following seven significant provisions which may not apply to all agreements.

1. Intended Use of Space – The RSA should specify the private company's authorized use of the space. Any restriction on subleasing or permitting processes should be included. This provision prevents confusion and ensures the State knows who and what is permitted on the State's asset.
2. Agreement Start, End, and Renewal Periods – The RSA should include the start and end dates and, if any renewals are permitted, should also specify the number and years of these renewals. The RSA should clearly state if the private company is permitted to remain on the asset after expiration of the agreement.
3. Verification of Installed Telecommunication Equipment – The RSA should include a provision that the private company's equipment should be installed as approved by the State and that the private company should provide the related schematics to the State.
4. Interference of Company Equipment with State Equipment – The RSA should include a requirement that private company equipment not interfere with State public safety communications equipment and should specify remedies to eliminate any interference, including removal of the private company's equipment.
5. Compensation Terms and Other Fees – The RSA should clearly state the required compensation and type (monetary, in-kind, goods and services), the timing of payment (monthly, quarterly, or annually), compensation escalations for future years, and terms and penalties for failure to pay. The RSA should include provisions for a security deposit and a right-to-audit clause to allow the State to obtain supporting documentation or review records for verification of compensation, as needed.

6. Liability and Insurance Protections – The RSA should include language protecting the State from liability resulting from the private company’s use of the property. Additionally, the private company should be required to provide the State with a current insurance certification sufficient to address any liabilities.
7. Access Rights and Restrictions to State Property – The RSA should define how and when the private company is permitted to access the site.

Having identified significant safeguard provisions contained in RSAs, we reviewed 25 RSAs, valued at \$192.2 million, from multiple state agencies to determine if the agreements contained these seven significant provisions when applicable. We also determined if the 131 RSAs were reviewed, valued, and approved by DoIT and were submitted to the Legislative Policy Committee and Board of Public Works as necessary for review and approval as required by State law. Finally, we reviewed the 8 RSAs (of the 25 RSAs initially selected for review) that were in their renewal period to determine if the RSAs were properly documented and approved.

Conclusion

RSAs did not always contain key provisions to address significant risks. For example, 15 of the 25 RSAs reviewed did not contain all appropriate compensation and fee provisions. Additionally, agencies did not always obtain DoIT, Legislative Policy Committee, and Board of Public Works approvals as required. Our review of certain RSAs disclosed that eight agencies did not obtain proper review and approval for 79 RSAs, collectively valued at \$50.3 million. We noted one agency employee unilaterally declined RSA proposals valued at \$442,500 without adequate justification.

Furthermore, agencies did not always take proper action or obtain proper approvals when exercising renewal options and renegotiating expired RSAs. Specifically, our test of eight RSAs valued at \$52.3 million that were in their renewal periods disclosed that State agencies had not obtained BPW approval for five RSA renewals valued at \$4.8 million on RSAs valued at \$12.1 million. Finally, we noted that certain companies were allowed to continue using State resources beyond the stated RSA terms without a negotiation of compensation terms.

Findings

Finding 9

RSAs did not always include adequate provisions to ensure that the State received the appropriate compensation, was protected from liability, and had approved the equipment installations on State resources.

Analysis

RSAs did not always include provisions to ensure that the State received the appropriate compensation, was protected from liability, and had approved the equipment installation on State resources. We reviewed 25 RSAs at multiple State agencies (1 at BCCC, 2 at DNR, 2 at DoIT, 3 at MBPC/MPT, 3 at MSA, 2 at MSDE, 10 at SHA, 1 at MdTA, and 1 at MTA) to determine if the seven significant provisions we identified were included when appropriate. Our review disclosed that 7 RSAs adequately addressed these provisions; we identified the following deficiencies with the other RSAs:

- 15 RSAs did not adequately address certain compensation and fee provisions. For example, 12 of these agreements did not include language to address the State's right to audit the records of the telecommunication companies and requirements for a security deposit. The audit clause allows the State to obtain and review supporting documents such as sublease agreements when applicable (such as, collocation agreements involving a base rent and a percentage of sublease revenue).
- 12 RSAs did not include language protecting the State from liability resulting from the private company's negligence.
- 5 RSAs did not adequately address the verification of installed telecommunication equipment. Specifically, although all 25 RSAs contained provisions requiring the installation of equipment in accordance with approved plans, 5 agreements did not address one or more of the following: inspection of installed equipment, relocation of equipment, or permitting issues.

All 25 agreements contained adequate provisions to address the intended use of the State resource, start and end dates of the RSAs, and terms of any renewal periods; to prohibit interference with State equipment; and to define the process for private company access to State property.

Recommendation 9

We recommend that each State agency

- a. include the aforementioned significant provisions in all future RSAs, to the extent applicable; and
- b. modify its existing agreements to include the aforementioned significant provisions to the extent allowed by law.

Finding 10

Eight State agencies did not obtain DoIT, Legislative Policy Committee, and Board of Public Works approvals for 79 RSAs as required by law. In addition, an employee at one State agency unilaterally declined RSA proposals valued at \$442,500 without adequate justification or obtaining DoIT input.

Analysis

State agencies did not always obtain the required DoIT, Legislative Policy Committee (LPC), and Board of Public Works (BPW) approvals when executing RSAs as required by law. In addition, an employee at one State agency unilaterally declined RSA proposals valued at \$442,500 without adequate justification or obtaining DoIT input.

State law requires that agencies advise DoIT of all RSA proposals so DoIT can determine the value of the proposal. DoIT can also determine if they have economic merit, are advantageous to the individual agency, or will benefit the State. Additionally, State law requires that DoIT submit agreements valued at, or exceeding, \$100,000 to LPC and agreements valued at, or exceeding, \$200,000 to BPW for approval.

RSAs Were Not Properly Reviewed and Approved

Our review of certain RSAs disclosed that eight agencies did not obtain proper review and approval for 79 RSAs, collectively valued at \$50.3 million, as detailed in Table 7.

- Six agencies (MAA, MdTA, MTA, SHA, MBPC/MPT, and MSA) executed 53 RSAs totaling \$33.5 million without obtaining any approvals from DoIT, LPC, or BPW.
- Five agencies (MTA, SHA, MPBC/MPT, DNR, and DSP) executed 26 RSAs totaling \$16.8 million without involving DoIT and LPC. Instead, four of these five agencies submitted the RSAs to the Department of General Services (DGS) for review because the agreements involved land and leases. DGS subsequently submitted them to BPW for review and approval. Although DGS is required to be involved in the State's land and

building leases, State law requires agencies to involve DoIT and LPC for valuation, review, and approval of resource sharing agreements before obtaining approval from BPW. The fifth agency, MTA, handled its RSAs internally.

As noted in Finding 1, DoIT had not established comprehensive policies to help agencies determine which agreements meet the legal definition of an RSA, which likely contributed to this condition.

Table 7
Resource Sharing Agreements Not Properly Reviewed and Approved
(RSA value in millions for agreements active at some point during the period from January 1, 2012 through June 30, 2017)

Agency	Agreements Not Properly Reviewed and Approved						Agreements Properly Reviewed and Approved		Total Agreements	
	No DoIT, LPC, or BPW Approval		No DoIT or LPC Approval		Total		Count	Value	Count	Value
	Count	Value	Count	Value	Count	Value				
MSA	21	\$17.5	-	-	21	\$17.5	-	-	21	\$17.5
MPBC/MPT	-	-	14	\$12.8	14	12.8	7	\$4.8	21	17.6
MdTA	14	11.7	-	-	14	11.7	1	-	15	11.7
SHA	2	3.4	2	1.3	4	4.7	30	93.0	34	97.7
MTA	15	0.5	3	0.2	18	0.7	1	35.6	19	36.3
MAA	1	0.4	-	-	1	0.4	-	-	1	0.4
DSP	-	-	2	1.7	2	1.7	4	3.4	6	5.1
DNR	-	-	5	0.8	5	0.8	9	7.7	14	8.5
Total	53	\$33.5	26	\$16.8	79	\$50.3	52	\$144.5	131	\$194.8

Source: Compiled and calculated by OLA using various agreement documents, BPW agendas, and other supporting documents.

Note: Our identification of agreements that were not properly reviewed and approved includes agreements which we deemed to be RSAs since they meet the legal requirements, but which the agencies had not processed as RSAs and therefore had not pursued approval by DoIT, LPC, or BPW.

DoIT Was Not Advised of Certain Potential RSA Opportunities

A DNR employee unilaterally declined two RSA proposals valued at a total of \$442,500 without adequate justification. One proposal involved the installation of fiber optic cable across State park land and the other involved leasing space on a telecommunication tower. The private companies submitted RSA proposals to DNR with provisions for monetary compensation. However, the employee improperly notified the companies that DNR could no longer accept monetary compensation but would accept compensation in the form of equipment or services. However, the companies did not want to

provide equipment or services and terminated the negotiations. As a result, the State missed the opportunity to obtain compensation totaling \$442,500. Monetary compensation would have had to be deposited into the MITDP fund to be used at DoIT's discretion while non-monetary compensation could have been used directly for DNR's purposes.

Recommendation 10

We recommend that State agencies

- a. submit all RSAs for review, valuation, and applicable approvals in accordance with State law; and, in consultation with DoIT and LPC, determine the extent to which retroactive approval should be obtained for the aforementioned RSAs; and**
- b. provide all proposed resource sharing opportunities received from private companies to DoIT for its determination of the proposal's economic merit or benefits to the State.**

Finding 11

State agencies did not always document and obtain the required approvals when exercising renewal options on RSAs. In addition, private companies were allowed to continue using State resources after the RSAs expired without a negotiation of compensation terms.

Analysis

State agencies did not always document and obtain the required approvals when exercising renewal options on RSAs. In addition, telecommunication companies were allowed to continue using State resources after the RSAs expired. Consequently, the State agencies missed opportunities to negotiate the payment terms of the RSAs.

Renewal Options

State agencies did not always ensure that RSAs were renewed in accordance with State law and the terms stated in the agreements. Of the 25 RSAs initially selected for testing, 8 RSAs were in their renewal periods. We tested these 8 RSAs which were valued at \$52.3 million. These RSAs were from the following agencies: MSA, MPBC/MPT, MTA, MdTA, SHA, DoIT, DNR, and BCCC. Our test disclosed that five State agencies (MdTA, SHA, DoIT, DNR, and BCCC) had not obtained BPW approval for RSA renewals valued at \$4.8 million, as required by State law. In addition, two of these RSAs, with renewals valued at \$2 million, lacked documentation of the execution of the renewal options, as required by the RSAs. Instead, the State agencies informally exercised most of the renewal options thereby allowing the telecommunication companies to continue to use State property and pay compensation specified in the RSA.

RSAs generally require formal acceptance by the State and the company to exercise renewal options. Additionally, State law as clarified by BPW management requires that the execution of renewal options valued at \$200,000 or greater be approved by BPW unless the State agency clearly presented the renewal options to BPW when the RSA was originally approved.

Continued Use of Expired Agreements

We identified RSAs that had exhausted all renewal options to determine if State agencies were allowing telecommunication companies to continue using State resources. Specifically, 10 RSAs with BCCC, DNR, DSP, SHA, MdTA, and MTA, valued at \$6 million, were allowed to continue at the same rate, after the expiration of the original term and all renewal options, without any formal agreement and renegotiation of terms. As of June 30, 2017, these RSAs had been expired for periods generally ranging from two months to four years with one RSA having been expired for nine years.

Since the RSAs had not been renegotiated, payments were generally maintained at rates established during the final renewal period of each RSA which could be below current market values. For example, BCCC had 2 expired RSAs for which the telecommunication companies were currently paying rates established in 2008. In this regard, DoIT maintains suggested rates for telecommunication towers. Had the RSAs been renegotiated using the DoIT rates, BCCC would have earned \$121,600 (or 15 percent) more than the 816,700 paid by the telecommunication companies since the expiration of the RSAs.

Recommendation 11

We recommend that State agencies

- a. review existing RSAs to identify any expired agreements;
- b. execute new RSAs, using current DoIT-approved rates, as each RSA expires, and for the aforementioned 10 expired RSAs; and
- c. ensure that renewals valued at \$200,000 or more are submitted to BPW for approval unless the State agency clearly presented the renewal option when the RSA was originally approved, including the RSAs noted above.

Objective 5 – Tracking and Monitoring Equipment

Objective and Methodology

Our objective was to determine if State agencies are maintaining records of private equipment on State-owned telecommunication towers. To accomplish our objective we reviewed the tower equipment inventory processes at five

State agencies (MBPC/MPT, SHA, MIEMSS, DSP, and DNR) that were responsible for 159 of the State's 170 telecommunication towers.

Conclusion

We determined that State agencies did not always maintain inventories of private telecommunication equipment on towers.

Finding

Finding 12

State agencies did not always maintain inventories of private telecommunication equipment on towers.

Analysis

We reviewed the tower equipment inventory processes at five State agencies (MBPC/MPT, SHA, MIEMSS, DSP, and DNR) responsible for 159 of the 170 telecommunication towers in the State. Our review disclosed that four of these agencies did not maintain comprehensive inventories of telecommunication equipment on the towers. MPBC/MPT maintained a complete and accurate inventory of equipment attached to its seven telecommunication towers. MBPC/MPT maintained this inventory since its telecommunication towers are instrumental to its core mission of public broadcasting and it is allowed to retain RSA compensation. The remaining four State agencies that had 152 towers, however, did not maintain inventory records, only had records of their own equipment on the tower, or did not ensure the records were maintained on a current basis.

Based on the significance of the financial investment made by the State to construct telecommunication towers (during fiscal years 2000 through 2017, there were 77 State-owned telecommunication towers constructed at a cost of approximately \$35.5 million), we believe that all attached equipment should be inventoried to help ensure that only appropriate communications equipment is deployed on State towers. Additionally, maintaining the integrity of the State's wireless communication is important since a majority of the State's telecommunication towers support critical public safety communication networks.

State-owned towers can have telecommunication equipment attached from multiple governmental entities (such as, State, federal, and local) as well as private companies through resource sharing. Maintaining inventory records of this equipment is necessary to ensure the State is aware of the type of

equipment on its towers and the entity responsible for the equipment, to ensure no unauthorized equipment has been attached to the towers, and to identify abandoned or obsolete equipment.

These inventories could be accomplished periodically during tower inspections or through observation of the equipment installed on the tower and the related equipment within the telecommunication shelter at the base of the tower. The Telecommunications Industry Association (TIA) recommends that telecommunication towers be inspected on a routine basis (generally every three to five years depending on the type of tower) and after severe wind/ice storms or other extreme loading conditions. TIA also recommends considering shorter inspection intervals for towers located in coastal salt water environment, in corrosive atmospheres, and in areas subject to frequent vandalism.

Recommendation 12

We recommend that State agencies maintain inventories of all private telecommunication equipment (such as, type, owner, and location) attached to State-owned towers.

Exhibit 1

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Summary of Resource Sharing Agreements by Agency for agreements active at some point during the period from January 1, 2012 through June 30, 2017

	Count	Agreement Type	Location	Year Initiated	Initial Term	Renewal Term	Year of Expiration	Estimated Lifetime Compensation	Subject to MITDP Fund
	Baltimore City Community College								
1	1	TOWER	WBJC Radio Station Tower in Pikesville	1988	20 Years	5 years	2013^	\$1,458,828	Yes
2	2	TOWER	WBJC Radio Station Tower in Pikesville	1988	5 Years	15 Years	2008^	472,512	Yes
								\$1,931,340	
	Department of Natural Resources								
3	1	TOWER	Old State Police Barrack in Waldorf	1996	5 years	20 years	2021	\$1,020,112	Yes
4	2	TOWER	Old State Police Barrack in Waldorf	2001	5 years	15 years	2017*	552,651	Yes
5	3	TOWER	Patapsco Valley State Park – Hollofield Area	2009	10 years	None	2016*	204,797	Yes
6	4	TOWER	Matapeake Natural Resource Police Academy	2004	10 years	15 years	2029	1,097,388	Yes
7	5	LAND COLLOCATION	Green Ridge State Forest	2016	10 years	None	2026	216,083	Yes
8	6	FIBER	Gunpowder Falls State Park	1999	10 years	20 years	2029	3,030,440	Yes
9	7	CABLE	Gunpowder Falls State Park	2006	5 years	5 years	2016^	21,197	Yes
10	8	FIBER	Deep Creek Lake	2005	5 years	5 years	2015^	81,490	Yes
11	9	FIBER	Chapel Point State Park	2011	20 year	None	2031	127,094	Yes
12	10	FIBER	Ft. Frederick State Park	2006	5 years	15 years	2026	171,190	Yes
13	11	TOWER	Gambrill State Park	2005	10 years	5 years	2020	432,509	Yes
14	12	TOWER	Cub Hill Fire Tower	2008	10 years	None	2018	255,154	Yes
15	13	FIBER	Montgomery County	2016	25 years	15	2056	1,150,110	Yes
16	14	TOWER	Lambs Knoll Road	2007	5 years	None	2012*	121,500	Yes
								\$8,481,715	
	Department of Information Technology								
17	1	TOWER	Montgomery County Community College in Germantown	2002	10 years	10 years	2022	\$683,517	Yes
18	2	TOWER	Montgomery County Community College in Germantown	2002	10 years	10 years	2022	731,664	Yes
19	3	FIBER	Western & Central Maryland	2014	25 Years	None	2039	7,091,650	Yes
20	4	FIBER	Statewide	2013	20 years	20 years	2053	TBD	Yes
21	5	TOWER	Shady Grove & Pleasant Road in Gaithersburg	2001	20 years	None	2021	646,965	Yes
22	6	FIBER	Statewide in 3 State Parks	2002	10 years	20 years	2032	5,433,673	Yes
								\$14,587,469	
	Department of State Police								
23	1	TOWER	Westminster Barrack	1996	7 years	15 years	2018	\$743,047	Yes
24	2	TOWER	Waterloo Barrack	1996	5 years	20 years	2021	1,016,863	Yes
25	3	TOWER	Waterloo Barrack	2001	5 years	15 years	2021	821,875	Yes

Exhibit 1

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Summary of Resource Sharing Agreements by Agency for agreements active at some point during the period from January 1, 2012 through June 30, 2017

	Count	Agreement Type	Location	Year Initiated	Initial Term	Renewal Term	Year of Expiration	Estimated Lifetime Compensation	Subject to MITDP Fund
26	4	TOWER	Parole Armory	1996	5 years	15 years	2016^	938,297	Yes
27	5	TOWER	Parole Armory	2001	5 years	15 years	2021	1,000,543	Yes
28	6	TOWER	LaPlata Barrack	2003	5 years	15 years	2023	541,009	Yes
								\$5,061,634	
Maryland State Department of Education									
29	1	EXCESS CHANNEL	Baltimore	2007	20 years	None	2027	\$8,410,000	Yes
30	2	EXCESS CHANNEL	Bethesda	2009	30 years	None	2039	44,350,000	Yes
								\$52,760,000	
Maryland Stadium Authority									
31	1	STRUCTURE COLLOCATION	M&T Bank Stadium	2011	5 years	20 years	2036	\$3,300,191	Yes
32	2	STRUCTURE COLLOCATION	M&T Bank Stadium	2013	5 years	15 years	2033	1,617,854	Yes
33	3	STRUCTURE COLLOCATION	M&T Bank Stadium	2013	5 years	10 years	2028	1,434,490	Yes
34	4	STRUCTURE COLLOCATION	M&T Bank Stadium	2012	5 years	None	2017	6,000	Yes
35	5	STRUCTURE COLLOCATION	M&T Bank Stadium	2014	5 years	10 years	2029	31,253	Yes
36	6	FIBER	M&T Bank Stadium	2014	5 years	10 years	2029	20,835	Yes
37	7	FIBER	M&T Bank Stadium	2014	5 years	10 years	2029	150,845	Yes
38	8	STRUCTURE COLLOCATION	Camden Yards	1997	5 years	15 years	2017	2,131,921	Yes
39	9	STRUCTURE COLLOCATION	Camden Yards	1999	5 years	35 years	2039	3,961,276	Yes
40	10	CABLE	Camden Yards	2005	5 years	10 years	2020	26,044	Yes
41	11	FIBER	Camden Yards	2003	5 years	10 years	2018	37,970	Yes
42	12	STRUCTURE COLLOCATION	Camden Yards	2003	3 years	20 years	2026	1,074,268	Yes
43	13	STRUCTURE COLLOCATION	Camden Yards	1996	5 years	35 years	2036	2,093,349	Yes
44	14	FIBER	Camden Yards	2009	5 years	10 years	2024	32,071	Yes
45	15	STRUCTURE COLLOCATION	Camden Yards	2011	7 years	10 years	2028	97,659	Yes
46	16	FIBER	Camden Yards	2015	5 years	10 years	2030	838,400	Yes
47	17	STRUCTURE COLLOCATION	Camden Yards	2011	5 years	10 years	2026	128,550	Yes
48	18	FIBER	Camden Yards	2014	5 years	10 years	2029	46,470	Yes
49	19	STRUCTURE COLLOCATION	Camden Yards	2006	5 years	10 years	2014*	416,539	Yes
50	20	FIBER	Camden Yards	2008	5 years	10 years	2012*	22,102	Yes
51	21	FIBER	Camden Yards	2012	5 years	10 years	2013	20,835	Yes
								\$17,488,920	

Exhibit 1

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Summary of Resource Sharing Agreements by Agency for agreements active at some point during the period from January 1, 2012 through June 30, 2017

	Count	Agreement Type	Location	Year Initiated	Initial Term	Renewal Term	Year of Expiration	Estimated Lifetime Compensation	Subject to MITDP Fund
52	Maryland Aviation Administration								
	1	STRUCTURE COLLOCATION	BWI Terminal	2013	7 years	None	2020	\$392,000	No
								\$392,000	
53	State Highway Administration								
	1	TOWER	Sunderland Shop	2014	10 years	20 years	2044	\$1,569,481	No
	2	TOWER	Route 100 & Route 170	2014	10 years	20 years	2044	1,724,948	No
55	3	TOWER	Bridgeport Road Salt Yard	2013	10 years	20 years	2043	1,413,341	No
56	4	TOWER	Bridgeport Road Salt Yard	2006	10 years	20 years	2017*	253,221	No
57	5	TOWER	Frederick Junction Shop	2009	10 years	20 years	2039	1,554,229	No
58	6	TOWER	I-495 & Connecticut Ave.	2009	10 years	20 years	2039	2,670,541	No
59	7	TOWER	I-495 & Connecticut Ave.	1998	5 year	15 years	2018	893,343	No
60	8	TOWER	I-495 & Connecticut Ave.	2009	10 years	20 years	2016*	337,257	No
61	9	TOWER	I-495 & Connecticut Ave.	1998	5 years	15 years	2018	893,343	No
62	10	TOWER	I-495 & Connecticut Ave.	2000	10 years	15 years	2015*	600,707	No
63	11	TOWER	I-495 & Connecticut Ave.	1998	5 years	15 years	2018	893,343	No
64	12	TOWER	I-270 & Montrose Road	2009	10 years	20 years	2016*	270,019	No
65	13	TOWER	I-270 & Montrose Road	2000	10 years	15 years	2025	1,082,794	No
66	14	TOWER	I-270 & Montrose Road	1998	5 years	15 years	2018	714,675	No
67	15	TOWER	I-270 & Montrose Road	2009	10 years	20 years	2039	1,861,291	No
68	16	TOWER	I-495 & Persimmon Tree Road	2015	10 years	20 years	2045	2,804,247	No
69	17	TOWER	I-495 & Persimmon Tree Road	2015	10 years	20 years	2045	2,804,246	No
70	18	TOWER	I-695 & Greenspring Ave.	2010	10 years	20 years	2040	1,496,744	No
71	19	TOWER	I-695 & Greenspring Ave.	2009	10 years	20 years	2016*	272,539	No
72	20	TOWER	I-695 & Greenspring Ave.	1998	5 years	15 years	2018	714,675	No
73	21	TOWER	I-695 & Greenspring Ave.	1998	5 years	15 years	2018	714,674	No
74	22	TOWER	I-695 & Greenspring Ave.	2000	10 years	15 years	2015*	520,613	No
75	23	TOWER	I-95 & Route 32 Light Pole	1997	5 years	15 years	2017	974,548	No
76	24	LAND COLLOCATION	Howard & Anne Arundel County	1996	24 years	Permitted	2020	3,430,051	No
77	25	FIBER	Potomac River Crossing	1997	30 years	25 years	2052	2,000,000	No
78	26	FIBER	I-795 & Painters Mill Road	2002	5 years	10 years	2017^	365,755	No
79	27	FIBER	Frederick Malkus Bridge	2007	10 years	40 years	2057	2,250,000	No
80	28	LAND COLLOCATION	Statewide	2005	5 years	15 years	2015*	1,200,000	No
81	29	FIBER	Statewide	1999	40 years	Permitted	2039	49,831,636	No
82	30	FIBER	Statewide	2007	12 years 7 months	20 years	2029	-	No

Exhibit 1

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Summary of Resource Sharing Agreements by Agency for agreements active at some point during the period from January 1, 2012 through June 30, 2017

	Count	Agreement Type	Location	Year Initiated	Initial Term	Renewal Term	Year of Expiration	Estimated Lifetime Compensation	Subject to MITDP Fund
83	31	FIBER	Statewide	2009	10 years	20 years	2039	8,723,370	No
84	32	FIBER	Statewide	2010	3 years	None	2013*	-	No
85	33	FIBER	Statewide	2010	10 years	20 years	2040	140,000	No
86	34	FIBER	Statewide	2011	10 years	20 years	2041	2,779,500	No
								\$97,755,128	
Maryland Transportation Authority									
87	1	FIBER	Bay and Nice Bridge	2007	20 years	20 years	2047	TBD	No
88	2	STRUCTURE COLLOCATION	Fort McHenry & Baltimore Harbor Tunnels	2000	5 years	25 years	2030	\$2,626,121	No
89	3	STRUCTURE COLLOCATION	Fort McHenry & Baltimore Harbor Tunnels	2000	5 years	15 years	2020	744,006	No
90	4	STRUCTURE COLLOCATION	Fort McHenry & Baltimore Harbor Tunnels	2000	5 years	15 years	2020	624,172	No
91	5	STRUCTURE COLLOCATION	Fort McHenry & Baltimore Harbor Tunnels	1997	5 years	15 years	2014*	870,000	No
92	6	STRUCTURE COLLOCATION	Fort McHenry & Baltimore Harbor Tunnels	1996	5 years	15 years	2016^	1,886,746	No
93	7	STRUCTURE COLLOCATION	Baltimore Harbor Tunnel	1997	5 years	15 years	2017	515,306	No
94	8	FIBER	Hatem Bridge	1996	5 years	15 years	2016^	520,674	No
95	9	FIBER	Hatem Bridge	1997	Perpetual	Perpetual	N/A	468,000	No
96	10	LAND COLLOCATION	John F. Kennedy Highway & Route 155	1999	5 years	25 years	2029	568,993	No
97	11	LAND COLLOCATION	Chesapeake House Service Area	1998	5 years	25 years	2028	525,224	No
98	12	LAND COLLOCATION	John F. Kennedy Highway Toll Facility	1998	5 years	25 years	2028	505,225	No
99	13	LAND COLLOCATION	John F. Kennedy Highway Maintenance Shop 1	1999	5 years	25 years	2029	525,224	No
100	14	LAND COLLOCATION	John F. Kennedy Highway Maintenance Shop 2	1999	5 years	25 years	2029	437,687	No
101	15	LAND COLLOCATION	I-895 & Route 1	2011	10 years	None	2021	878,677	No
								\$11,696,056	
Maryland Transit Administration									
102	1	FIBER	Metro Rapid Rail	1999	10 years	30 years	2039	\$35,640,590	No
103	2	FIBER	Central Light Rail	1997	1 year 3 months	Perpetual	N/A	27,734	No
104	3	FIBER	Multiple Light Rail Crossings	2001	5 years	10 years	2016^	164,181	No
105	4	FIBER	Central Light Rail	1998	1 year	Perpetual	N/A	13,867	No
106	5	FIBER	Frederick County	1999	1 year	Perpetual	N/A	73,689	No

Exhibit 1

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Summary of Resource Sharing Agreements by Agency for agreements active at some point during the period from January 1, 2012 through June 30, 2017

	Count	Agreement Type	Location	Year Initiated	Initial Term	Renewal Term	Year of Expiration	Estimated Lifetime Compensation	Subject to MITDP Fund
107	6	FIBER	Owings Mills Metro	2000	1 year	Perpetual	N/A	117,668	No
108	7	FIBER	Light Rail - Hunt Valley to BWI	1999	1 year	Perpetual	N/A	12,261	No
109	8	FIBER	Cambridge	2009	1 year	Perpetual	N/A	-	No
110	9	FIBER	Baltimore County	2005	5 years	10 years	2020	32,861	No
111	10	FIBER	Waterview & Klomen St. Baltimore	2011	1 year	Perpetual	N/A	17,804	No
112	11	FIBER	Route 313	1990	1 year	Perpetual	N/A	25,426	No
113	12	FIBER	Station of Odenton	1983	15 years	15 years	2013^	3,000	No
114	13	FIBER	Pumphrey Substation	2012	1 year	Perpetual	N/A	2,757	No
115	14	CABLE	Linthicum Light Rail	2003	5 years	Perpetual	N/A	150,931	No
116	15	FIBER	Pennsylvania Railroad in Walkersville	2002	1 year	Perpetual	N/A	8,440	No
117	16	CABLE	Somerset Ave. in Crisfield	1991	1 year	Perpetual	N/A	4,299	No
118	17	FIBER	MD/Delaware Railroad - Kent	2016	1year	Perpetual	N/A	2,581	No
119	18	FIBER	Wormans Mill in Frederick	1999	1 year	Perpetual	N/A	12,282	No
120	19	FIBER	South & Winser Street in Frederick	2010	1 year	Perpetual	N/A	6,677	No
								\$36,317,048	
Maryland Public Broadcasting Commission/Maryland Public Television									
121	1	TOWER	Owings Mills – WMPB	2015	5 years	15 years	2035	\$1,257,534	No
122	2	TOWER	Owings Mills – WMPB	2006	10 years	15 years	2031	1,270,800	No
123	3	TOWER	Owings Mills – WMPB	2007	5 years	15 years	2027	644,889	No
124	4	TOWER	Owings Mills – WMPB	2009	5 years	15 years	2029	1,247,769	No
125	5	TOWER	Owings Mills – WMPB	2008	5 years	15 years	2028	290,200	No
126	6	TOWER	Owings Mills – WMPB	2005	5 years	15 years	2025	2,490,884	No
127	7	TOWER	Owings Mills – WMPB	2008	5 years	15 years	2028	386,933	No
128	8	TOWER	Owings Mills – WMPB	2009	5 years	15 years	2017*	300,612	No
129	9	TOWER	Owings Mills – WMPB	2017	5 years	15 years	2037	536,006	No
130	10	TOWER	Salisbury – WCPB	2012	5 years	15 years	2032	1,429,348	No
131	11	TOWER	Annapolis – WMPT	2011	5 years	15 years	2031	709,378	No
132	12	TOWER	Annapolis – WMPT	2008	10 years	15 years	2033	1,041,495	No
133	13	TOWER	Annapolis – WMPT	2006	5 years	15 years	2026	1,139,996	No
134	14	TOWER	Annapolis – WMPT	2009	5 years	15 years	2029	1,351,594	No
135	15	TOWER	Annapolis – WMPT	2015	5 years	5 years	2025	86,444	No
136	16	TOWER	Urbana – Old Analog Tower	2015	5 years	15 years	2035	644,889	No

Exhibit 1

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Summary of Resource Sharing Agreements by Agency for agreements active at some point during the period from January 1, 2012 through June 30, 2017

	Count	Agreement Type	Location	Year Initiated	Initial Term	Renewal Term	Year of Expiration	Estimated Lifetime Compensation	Subject to MITDP Fund
137	17	TOWER	Urbana – Old Analog Tower	1998	5 years	15 years	2018	870,600	No
138	18	TOWER	Urbana – Old Analog Tower	1997	5 years	15 years	2017	493,293	No
139	19	TOWER	Urbana – Old Analog Tower	2007	5 years	15 years	2027	644,889	No
140	20	TOWER	Clarksburg – WFPT	2016	7 years	None	2023	90,988	No
141	21	TOWER	Hagerstown – WWPB	2005	5 years	15 years	2025	677,134	No
								\$17,605,674	
TOTAL VALUE OF 141 RSAs								\$264,076,985	
VALUE OF 126 ACTIVE RSAs								\$258,134,427	
VALUE OF 15 INACTIVE RSAs (see * below for explanation)								\$5,942,558	

Source: Compiled and calculated by OLA using various agreement documents, BPW agendas, and other supporting documents.

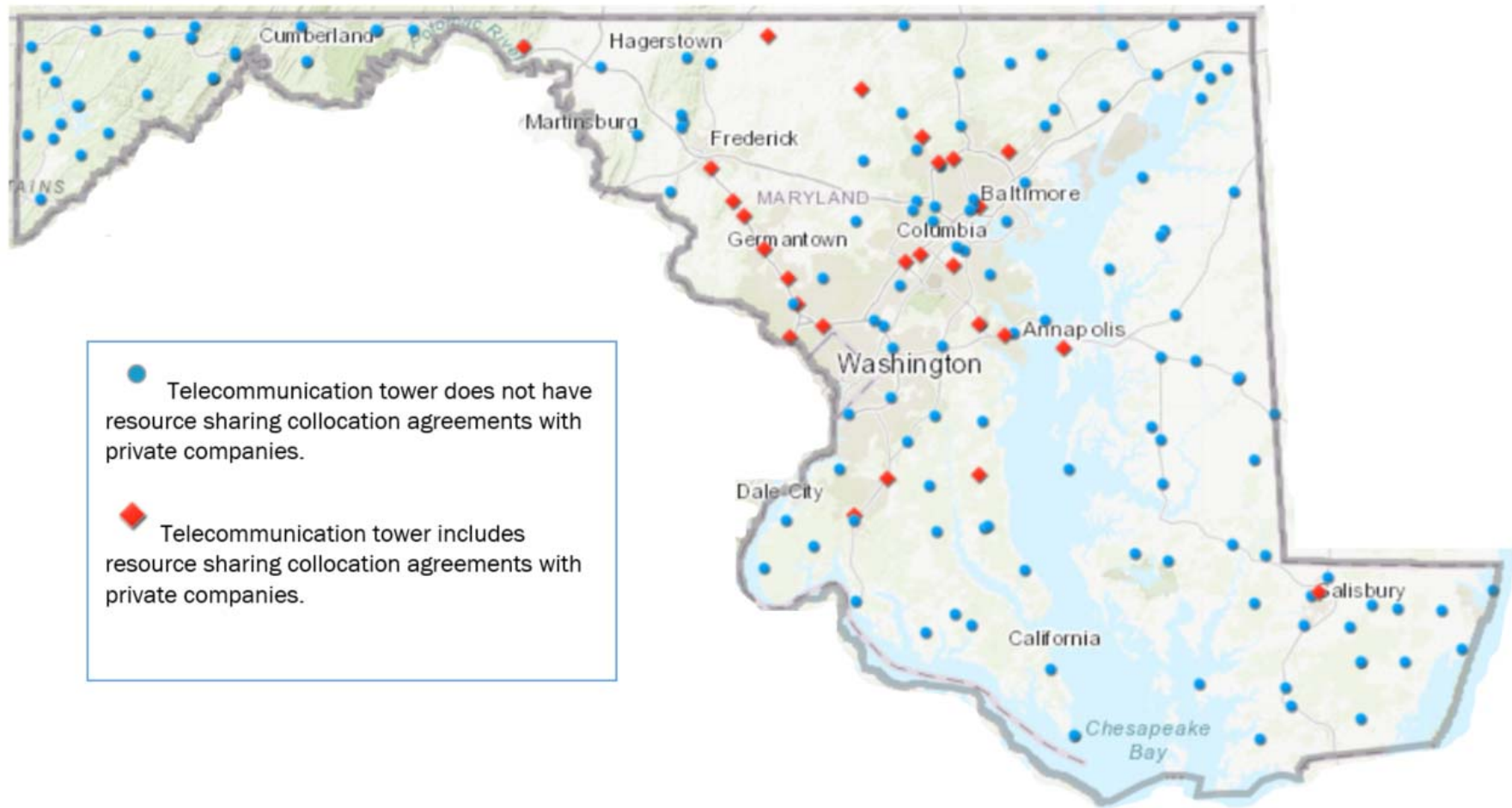
^ These 10 agreements (2 at BCCC, 2 at DNR, 1 at DSP, 1 at SHA, 2 at MdTA, and 2 at MTA), valued at \$6 million, were allowed to continue at the same rate, after the expiration of the original term and all renewal options without any formal agreement. Since they were allowed to continue, the value of the agreements is included in the Active RSA value.

*These 15 agreements (3 at DNR, 8 at SHA, 1 at MdTA, 1 at MBPC/MPT, and 2 at MSA), valued at \$5.9 million, had expired or were terminated and were not allowed to continue as of June 30, 2017. Therefore, as of June 30, 2017, 126 agreements totaling \$258.1 million were active and 15 agreements totaling \$5.94 million were inactive.

Note: Certain totals may not add up due to rounding.

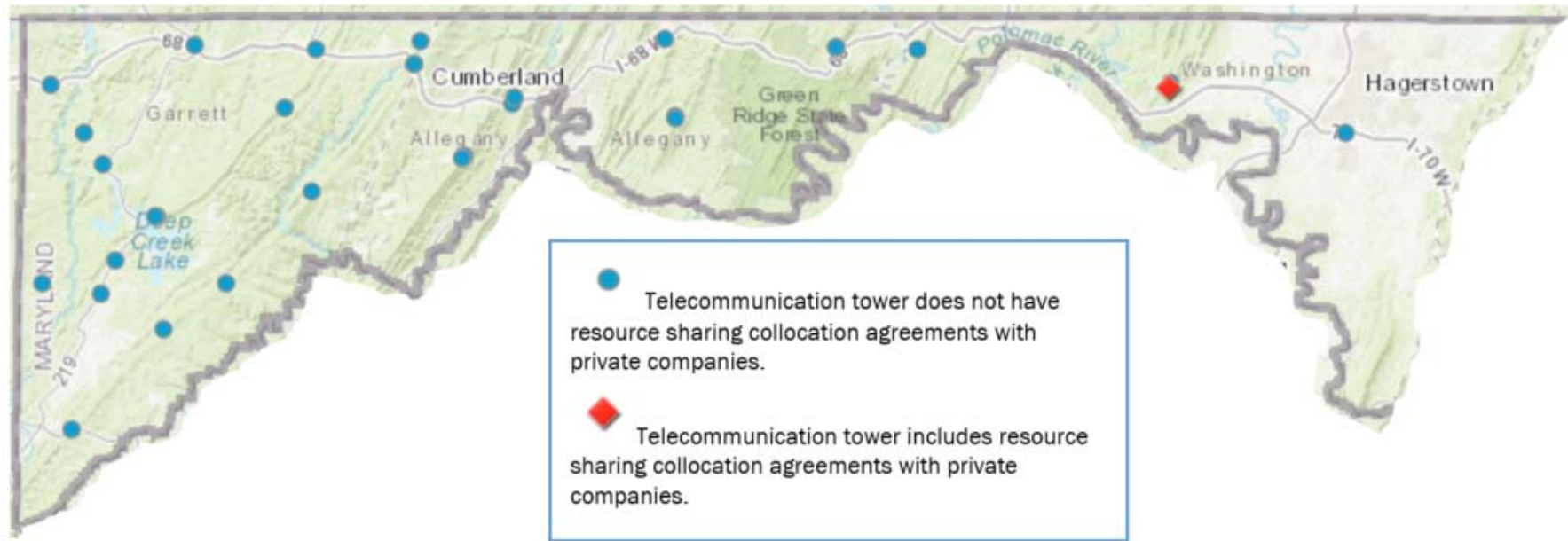
Exhibit 2

Map of State-Owned Telecommunication Towers – Statewide



Note: This map identifies 170 State-owned telecommunication towers greater than or equal to 100 feet tall and all DNR fire towers regardless of height. MIEMSS, SHA, DSP, and DNR have towers or poles used for communication equipment that were less than 100 feet tall at various locations throughout the state.

Map of State-Owned Telecommunication Towers – Western Region



	Agency	County	Location Name	Address	Latitude	Longitude	Resource Type	Tower Height (feet)	FCC Registration #	Resource Sharing
1	SHA	Garrett	Table Rock (under planning or construction)	Route 50 & Table Rock Road	39.302865	-79.41424	SELF-SUPPORTING LATTICE TOWER	430	1302507	No
2	SHA	Garrett	Blooming Rose Road	3239 Blooming Rose Road, Friendsville	39.652858	-79.439235	SELF-SUPPORTING LATTICE TOWER	330	1297057	No
3	SHA	Garrett	MD 135 Salt Dome/Backbone Mountain	12091 Maryland Hwy (Rt 135), Swanton	39.45314	-79.20986	SELF-SUPPORTING LATTICE TOWER	330	1273635	No
4	SHA	Garrett	Big Savage Mountain Tower 1	I-68 & 20962 National Pike (US-40) Big Savage Mountain	39.674401	-78.962233	SELF-SUPPORTING LATTICE TOWER	330	1297058	No
5	SHA	Garrett	Big Savage Mountain Tower 2	I-68 & 20962 National Pike (US-40) Big Savage Mountain	39.674401	-78.962233	SELF-SUPPORTING LATTICE TOWER	110	n/a	No
6	SHA	Garrett	Keysers Ridge Shop	3876 National Pike, Accident	39.692918	-79.251549	SELF-SUPPORTING LATTICE TOWER	180	n/a	No
7	SHA	Garrett	Hoop Pole Hill	17070 Garrett Hwy (Rt 219), Oakland	39.474518	-79.356343	MONOPOLE	165	n/a	No

Map of State-Owned Telecommunication Towers – Western Region

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	Agency	County	Location Name	Address	Latitude	Longitude	Resource Type	Tower Height (feet)	FCC Registration #	Resource Sharing
8	DNR	Garrett	Deep Creek Lake State Park/Thayerville Forest Fire Tower	898 State Park Rd, Swanton	39.519332	-79.30147	FIRE TOWER	100	n/a	No
9	DNR	Garrett	Herrington Manor State Park	222 Herrington Lane, Oakland	39.451302	-79.450718	MONOPOLE	180	n/a	No
10	DNR	Garrett	New Germany State Park	349 Headquarters Lane, Grantsville	39.630419	-79.132477	SELF-SUPPORTING LATTICE TOWER	100	n/a	No
11	DNR	Garrett	Elder Hill Forest Fire Tower	Fire Tower Road, South of Friendsville	39.605219	-79.395506	FIRE TOWER	110	n/a	No
12	DNR	Garrett	Mount Nebo Wildlife Management Area	1728 Kings Run Rd, Oakland	39.441407	-79.374593	SELF-SUPPORTING LATTICE TOWER	150	1035799	No
13	DNR	Garrett	Savage River State Forest – High Rock Forest Fire Tower	High Rock on Big Savage Mountain, Bloomington	39.544445	-79.096597	FIRE TOWER	90	n/a	No
14	MIEMSS	Garrett	Deep Creek Lake State Park/Thayerville	898 State Park Rd, Swanton	39.519123	-79.303301	SELF-SUPPORTING LATTICE TOWER	193	n/a	No
15	MIEMSS	Garrett	Town of Grantsville	13300 National Pike Alternate 40, Granstville	39.688259	-79.092142	SELF-SUPPORTING LATTICE TOWER	330	1247630	No
16	DSP	Garrett	McHenry Barrack	67 Friendsville Road, McHenry	39.573971	-79.372693	SELF-SUPPORTING LATTICE TOWER	190	n/a	No
17	DSP	Garrett	Finzel Forest Fire Tower	1422 Finzel Road, Frostburg	39.697453	-78.954425	FIRE TOWER	180	n/a	No
18	MPBC/MPT	Garrett	Oakland – WGPT	1504 Eagle Rock Road, Deer Park	39.404609	-79.291867	SELF-SUPPORTING LATTICE TOWER	416	1224298	No
19	SHA	Allegany	Dan's Rock 1 (under planning or construction)	16940 Old Dan's Rock Rd, Midland	39.579026	-78.90039	SELF-SUPPORTING LATTICE TOWER	330	1301346	No
20	SHA	Allegany	Dan's Rock 2	16940 Old Dan's Rock Rd, Midland	39.581833	-78.89789	SELF-SUPPORTING LATTICE TOWER	100	n/a	No
21	SHA	Allegany	Martin Mountain	12800 Windy Hills Rd, Martin Mountain, Flintstone	39.700444	-78.632763	SELF-SUPPORTING LATTICE TOWER	330	1273632	No
22	SHA	Allegany	LaVale Shop/District 6 Office	1221 West Braddock Rd, LaVale	39.633688	-78.832138	MONOPOLE	100	n/a	No
23	DNR	Allegany	Dan's Rock Forest Fire Tower	16940 Old Dan's Rock Rd, Midland	39.581592	-78.897749	FIRE TOWER	90	n/a	No
24	DNR	Allegany	Town Hill Forest Fire Tower	Tower Road, Little Orleans	39.690553	-78.406768	FIRE TOWER	80	n/a	No
25	DNR	Allegany	Town Hill	Tower Road, Little Orleans	39.690681	-78.406703	GUYED WIRE TOWER	115	n/a	No
26	MIEMSS	Allegany	Dans Rock	Old Dan's Rock Road, Midland	39.579686	-78.90042	SELF-SUPPORTING LATTICE TOWER	160	n/a	No
27	MIEMSS	Allegany	Warrior Mountain	Warrior Mountain WMA - Spanish Leather Road/Rocky Road Lane, Oldtown	39.620935	-78.620409	MONOPOLE	120	n/a	No

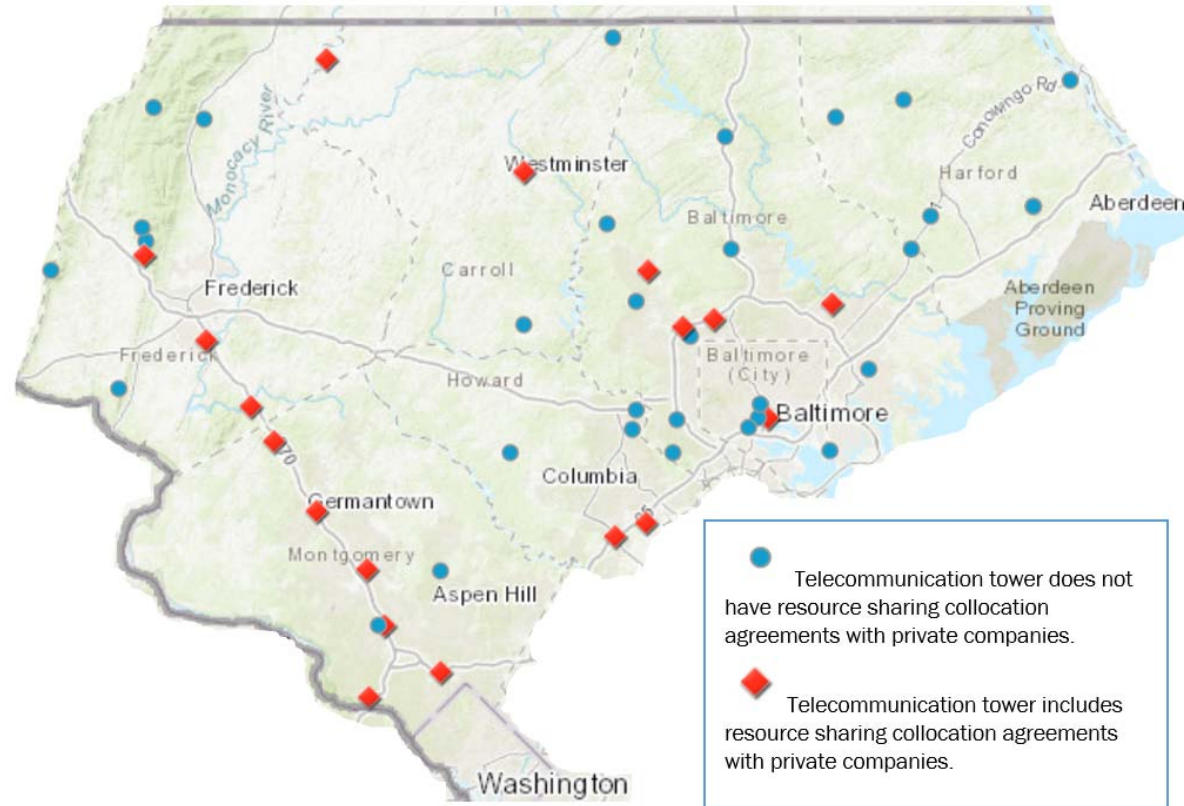
Map of State-Owned Telecommunication Towers – Western Region

	Agency	County	Location Name	Address	Latitude	Longitude	Resource Type	Tower Height (feet)	FCC Registration #	Resource Sharing
28	DSP	Allegany	Cumberland Barrack	1125 National Hwy, Cumberland	39.639941	-78.830363	MONOPOLE	118	1212706	No
29	DoIT	Allegany	Warrior Mountain (under planning or construction)	Warrior Mountain WMA - Spanish Leather Road/Rocky Road Lane, Oldtown	39.619887	-78.61871	SELF-SUPPORTING LATTICE TOWER	330	Unknown	No
30	DoIT	Allegany	Town Hill (under planning or construction)	Tower Road, Little Orleans	39.690553	-78.406768	MONOPOLE	180	Unknown	No
31	SHA	Washington	Hagerstown Shop	18320 Colonel Henry K Douglass Dr., Hagerstown	39.604501	-77.736667	SELF-SUPPORTING LATTICE TOWER	340	1237695	No
32	SHA	Washington	Fairview Mountain	11668 National Pike (US 40), Clear Spring	39.656389	-77.969336	SELF-SUPPORTING LATTICE TOWER	147	n/a	No
33	DSP	Washington	Sideling Hill Forest Fire Tower	2640 National Pike, Hancock	39.689476	-78.299811	FIRE TOWER	115	n/a	No
34	MPBC/MPT	Washington	Hagerstown – WWPB	11668 National Pike, Clear Spring	39.651044	-77.970516	SELF-SUPPORTING LATTICE TOWER	364	1036746	Yes

Exhibit 4

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Map of State-Owned Telecommunication Towers – Central Region



	Agency	County	Location Name	Address	Latitude	Longitude	Resource Type	Tower Height (feet)	FCC Registration #	Resource Sharing
1	SHA	Frederick	Bridgeport Road Salt Yard	12240 Bridgeport Rd, Taneytown	39.678045	-77.237344	SELF-SUPPORTING LATTICE TOWER	340	1227602	Yes
2	SHA	Frederick	Gambrill State Park	9021 Grambrill Park Rd	39.480219	-77.492509	SELF-SUPPORTING LATTICE TOWER	100	n/a	No
3	SHA	Frederick	Frederick Junction Shop/District 7 Office	5111 Buckeystown Pike, Frederick	39.372625	-77.408048	SELF-SUPPORTING LATTICE TOWER	180	1260804	Yes
4	SHA	Frederick	Thurmont Shop	67 Moser Rd, Thurmont	39.613986	-77.410595	MONOPOLE	100	n/a	No
5	DNR	Frederick	Lambs Knoll	4803 Lambs Knoll Road, Boonsboro	39.448385	-77.626441	SELF-SUPPORTING LATTICE TOWER	180	n/a	No

Exhibit 4

Map of State-Owned Telecommunication Towers – Central Region

	Agency	County	Location Name	Address	Latitude	Longitude	Resource Type	Tower Height (feet)	FCC Registration #	Resource Sharing
6	DNR	Frederick	Cunningham Falls State Park	14039 Catoctin Hollow Rd, Thurmont	39.625781	-77.47994	GUYED WIRE TOWER	115	n/a	No
7	DNR	Frederick	Gambrill State Park	8602 Gambrill Park Rd, Middletown	39.464873	-77.494879	SELF-SUPPORTING LATTICE TOWER	120	n/a	Yes
8	MIEMSS	Frederick	Gambrill State Park	9450 Gambrill Park Road, Gambrill	39.494303	-77.498197	SELF-SUPPORTING LATTICE TOWER	170	n/a	No
9	MIEMSS	Frederick	Marlu Ridge Road/Jefferson	3100 Mar Lu Ridge Road, Jefferson	39.318791	-77.530328	SELF-SUPPORTING LATTICE TOWER	180	1278717	No
10	MPBC/MPT	Frederick	Urbana – Old Analog Tower	2123 Dixon Rd, Frederick	39.298372	-77.342576	GUYED WIRE TOWER	445	1036748	Yes
11	MIEMSS	Carroll	Lineboro	Alesia Lineboro Road, Lineboro	39.701463	-76.831074	SELF-SUPPORTING LATTICE TOWER	330	1247374	No
12	MIEMSS	Carroll	Springfield Hospital/Sykesville	Springfield Hospital - 6655 Sykesville Rd, Sykesville	39.388236	-76.955259	SELF-SUPPORTING LATTICE TOWER	260	1054609	No
13	DSP	Carroll	Westminster Barrack	1100 Baltimore Blvd, Westminster	39.555352	-76.956919	SELF-SUPPORTING LATTICE TOWER	282	1209273	Yes
14	SHA	Montgomery	I-495 & Persimmon Tree Road	I-495 near Eggert Drive and Persimmon Tree Rd, Bethesda	38.98075	-77.17501	MONOPOLE	180	n/a	Yes
15	SHA	Montgomery	I-495 & Connecticut Avenue	I-495 & Connecticut Ave, Kensington	39.007752	-77.075029	MONOPOLE	160	n/a	Yes
16	SHA	Montgomery	I-270 & Montrose Road	I-270 and Montrose Rd, Rockville	39.057882	-77.153692	MONOPOLE	160	1038345	Yes
17	SHA	Montgomery	Route 200 & Georgia Avenue (under planning or construction)	Route 200 & Georgia Avenue	39.119308	-77.075162	MONOPOLE	180	n/a	No
18	MIEMSS	Montgomery	Shady Grove Road & Pleasant Road/Gaithersburg	8520 Pleasant Road, Shady Grove	39.119859	-77.17965	SELF-SUPPORTING LATTICE TOWER	250	1218057	Yes
19	MIEMSS	Montgomery	Montgomery County Community College/Germantown	20200 Observation Drive, Germantown	39.18459	-77.249775	SELF-SUPPORTING LATTICE TOWER	300	1230956	Yes
20	DSP	Montgomery	Rockville Barrack	7915 Montrose Road, Rockville	39.058038	-77.163724	SELF-SUPPORTING LATTICE TOWER	290	1030088	No
21	MPBC/MPT	Montgomery	Clarksburg – WFPT	24900 Washington National Pike (I-270), Clarksburg	39.260711	-77.312086	SELF-SUPPORTING LATTICE TOWER	473	1238964	Yes
22	SHA	Howard	Dayton Shop	4401 Rt 32, Dayton	39.248152	-76.976298	SELF-SUPPORTING LATTICE TOWER	340	1222107	No
23	SHA	Howard	I-95 & Route 32 Light Pole	I-95 & Route 32 Interchange	39.156646	-76.828633	MONOPOLE	120	n/a	Yes
24	DNR	Howard	Patapsco Valley State Park – Hollofield Area	8020 Baltimore National Pike, Ellicott City	39.295343	-76.796472	SELF-SUPPORTING LATTICE TOWER	240	1053448	No
25	MIEMSS	Howard	Howard County Court House/Ellicott City	3451 Court House Drive, Ellicott City	39.274695	-76.802898	SELF-SUPPORTING LATTICE TOWER	340	1229716	No
26	DSP	Howard	Waterloo Barrack	7777 Washington Blvd, Jessup	39.172273	-76.782201	SELF-SUPPORTING LATTICE TOWER	190	n/a	Yes
27	SHA	Baltimore	Kingsville Quarry	12645 Belair Rd, Kingsville	39.470785	-76.40849	SELF-SUPPORTING LATTICE TOWER	450	1236477	No

Exhibit 4

Map of State-Owned Telecommunication Towers – Central Region

	Agency	County	Location Name	Address	Latitude	Longitude	Resource Type	Tower Height (feet)	FCC Registration #	Resource Sharing
28	MTA	Baltimore	SHA Radio Shop Communications Division	5900 Baltimore National Pike, Catonsville	39.28522	-76.73946	SELF-SUPPORTING LATTICE TOWER	423	1003016	No
29	SHA	Baltimore	Hereford Shop Tower	306 Mt Carmel Rd, Parkton	39.594006	-76.670372	SELF-SUPPORTING LATTICE TOWER	340	1224216	No
30	SHA	Baltimore	Warren Road/District 4 Office	Warren Rd & I-83, Cockeysville	39.470961	-76.662121	SELF-SUPPORTING LATTICE TOWER	340	1264050	No
31	SHA	Baltimore	Owings Mills Shop	10690 Red Run Blvd, Owings Mills	39.413551	-76.795924	MONOPOLE	100	n/a	No
32	SHA	Baltimore	I-695 & Greenspring Avenue	I-695 & Greenspring Ave, Pikesville	39.39546	-76.686868	MONOPOLE	130	n/a	Yes
33	DNR	Baltimore	Cub Hill Forest Fire Tower	9405 Old Harford Rd, Parkville	39.412563	-76.520781	FIRE TOWER	125	n/a	Yes
34	DNR	Baltimore	Patapsco Valley State Park – Hilton Area	1100 Hilton Ave, Catonsville	39.248976	-76.744858	GUYED WIRE TOWER	160	n/a	No
35	DSP	Baltimore	Golden Ring Barrack	8908 Kelso Dr, Essex	39.33965	-76.467611	SELF-SUPPORTING LATTICE TOWER	120	1208576	No
36	DSP	Baltimore	Pikesville Tower at State Police Headquarters	1201 Reisterstown Road, Pikesville	39.375932	-76.721027	SELF-SUPPORTING LATTICE TOWER	330	1275080	No
37	MPBC/MPT	Baltimore	Owings Mills – WMPB	11767 Owings Mills Boulevard, Owings Mills	39.44716	-76.779701	GUYED WIRE TOWER	878	1225570	Yes
38	BCCC	Baltimore	WBJC Radio Station Tower	I-695 & Reisterstown Road, Pikesville	39.38624	-76.73081	GUYED WIRE TOWER	356	1036002	Yes
39	Military	Baltimore	Camp Fretterd Headquarters Tower	5401 Rue Saint Lo Drive, Reisterstown	39.499303	-76.838534	MONOPOLE	180	1232065	No
40	SHA	Baltimore City	World Trade Center Antenna Structure	401 E Pratt St, Baltimore	39.285951	-76.609535	SELF-SUPPORTING LATTICE TOWER	412	1244170	Yes ⁴
41	SHA	Baltimore City	Dundalk Marine Terminal	2700 Broening Highway, Baltimore	39.250303	-76.522895	SELF-SUPPORTING LATTICE TOWER	330	1258018	No
42	MIEMSS	Baltimore City	MIEMSS Headquarters Building Antenna Structure	670 West Pratt Street, Baltimore	39.285919	-76.625512	ROOF ANTENNA STRUCTURE	100	n/a	No
43	DGS	Baltimore City	State Office Building Antenna Structure	301 W Preston St. Baltimore	39.301388	-76.622274	ROOF ANTENNA STRUCTURE	233	n/a	No
44	MTA	Baltimore City	Bush Street Bus Depot Tower	1515 Washington Blvd, Baltimore	39.275863	-76.637477	SELF-SUPPORTING LATTICE TOWER	250	1063853	No
45	DNR	Harford	Rocks State Park	3318 Rocks Chrome Hill Rd, Jarrettsville	39.634393	-76.418991	SELF-SUPPORTING LATTICE TOWER	120	n/a	No
46	MIEMSS	Harford	Stoney Forest/Aberdeen 1 – Carsins Run Road	1802 Carsins Run Road, Aberdeen	39.517179	-76.234343	SELF-SUPPORTING LATTICE TOWER	192	1036286	No

⁴ Although MDOT-SHA is responsible for the antenna structure on top of the World Trade Center building, the Maryland Port Administration (MPA) has two resource sharing agreements with private companies for equipment on the antenna structure. Since DoIT does not have oversight of MPA, MPA and their resource sharing agreements were excluded from the scope of our audit. Therefore, MPA's two resource sharing agreements on the World Trade Center Building are not included in the 141 resource sharing agreements detailed in Exhibit 2.

Exhibit 4

Page 4 of 4

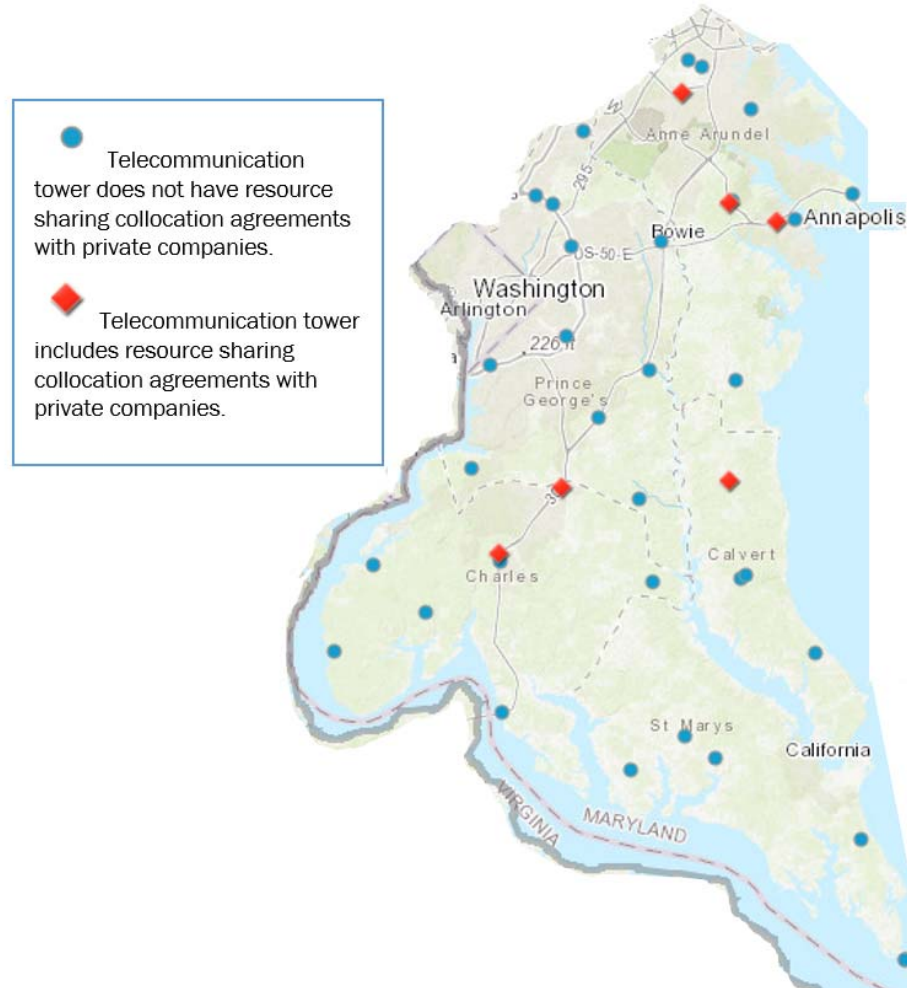
Map of State-Owned Telecommunication Towers – Central Region

	Agency	County	Location Name	Address	Latitude	Longitude	Resource Type	Tower Height (feet)	FCC Registration #	Resource Sharing
47	MIEMSS	Harford	Stoney Forest/Aberdeen 2 – Carsins Run Road	1802 Carsins Run Road, Aberdeen	39.517335	-76.234421	SELF-SUPPORTING LATTICE TOWER	330	1240339	No
48	MIEMSS	Harford	Madonna Road/Jarrettsville	3919 Madonna Road, Whitehall	39.615181	-76.514557	SELF-SUPPORTING LATTICE TOWER	340	1217260	No
49	DSP	Harford	Bel Air Barrack	1401 Belair Road, Bel Air	39.506868	-76.380448	SELF-SUPPORTING LATTICE TOWER	180	1206264	No
50	DSP	Harford	Conowingo Tower	4948 Conowingo Road, Darlington	39.655197	-76.181219	SELF-SUPPORTING LATTICE TOWER	340	1234643	No

Exhibit 5

Page 1 of 3

Map of State-Owned Telecommunication Towers – Southern Region



	Agency	County	Location Name	Address	Latitude	Longitude	Resource Type	Tower Height (feet)	FCC Registration #	Resource Sharing
1	SHA	Prince George's	Upper Marlboro Shop	6500 Crain Hwy, Upper Marlboro	38.797271	-76.738886	SELF-SUPPORTING LATTICE TOWER	330	1261488	No
2	SHA	Prince George's	Metro Yard Shop	4700 Cobb Rd, Hyattsville	38.954908	-76.865128	SELF-SUPPORTING LATTICE TOWER	330	1261490	No

Map of State-Owned Telecommunication Towers – Southern Region

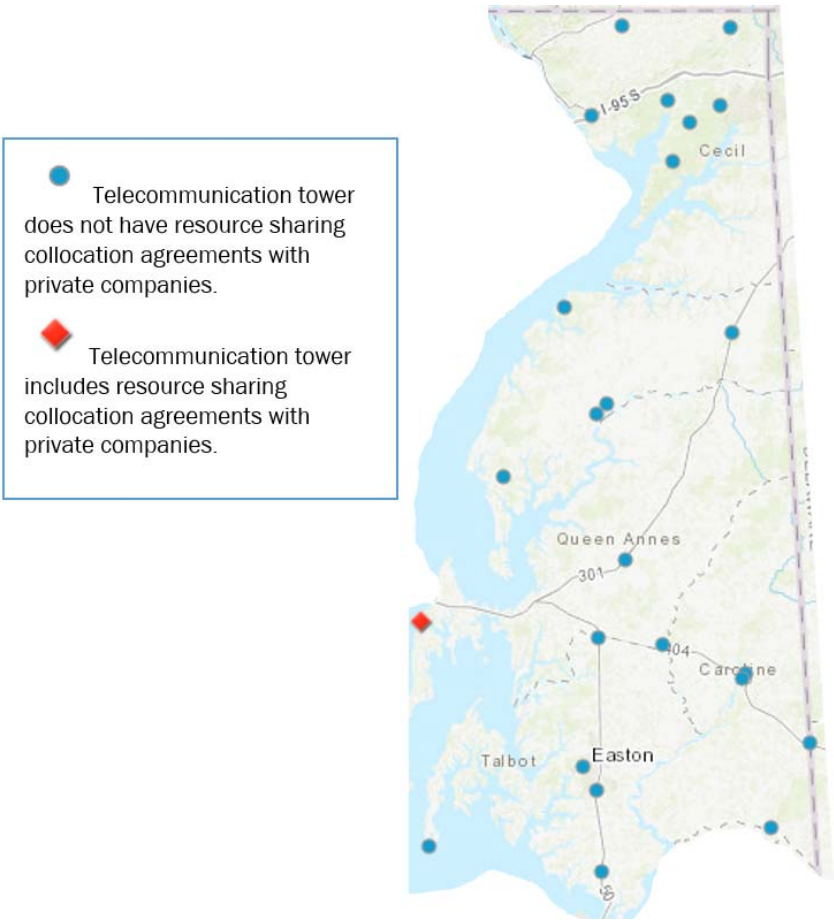
	Agency	County	Location Name	Address	Latitude	Longitude	Resource Type	Tower Height (feet)	FCC Registration #	Resource Sharing
3	SHA	Prince George's	Oxon Hill	I-495 & Route 210 , Oxon Hill	38.803433	-76.995989	SELF-SUPPORTING LATTICE TOWER	250	1254051	No
4	SHA	Prince George's	Laurel Shop	Talbot Ave & Second Ave, Laurel	39.098739	-76.846032	MONOPOLE	147	n/a	No
5	SHA	Prince George's	Greenbelt Shop/District 3 Office	9300 Kenilworth Ave, Greenbelt	39.006519	-76.892993	MONOPOLE	151	n/a	No
6	DNR	Prince George's	Bowie – Intersection of Route 50 & 301	Intersection of Route 50 & 301, Bowie	38.960291	-76.718827	SELF-SUPPORTING LATTICE TOWER	330	1262399	No
7	DNR	Prince George's	Accokeek – 16111 Livingston Road	16111 Livingston Road, Accokeek	38.672858	-77.026165	SELF-SUPPORTING LATTICE TOWER	330	1264784	No
8	DNR	Prince George's	Cheltenham Wildlife Management Area	11000 Old Indian Head Rd, Upper Marlboro	38.737968	-76.820691	GUYED WIRE TOWER	135	n/a	No
9	MIEMSS	Prince George's	Orme Road & Aquasco Road/Brandywine	18501 Aquasco Road, Brandywine	38.635806	-76.755267	SELF-SUPPORTING LATTICE TOWER	330	1247886	No
10	DSP	Prince George's	College Park Barrack	10100 Rhode Island Ave, College Park	39.019123	-76.923117	SELF-SUPPORTING LATTICE TOWER	340	1229840	No
11	DSP	Prince George's	Forestville Barrack	3500 Forestville Road, Forestville	38.840219	-76.873575	MONOPOLE	100	1031601	No
12	SHA	Anne Arundel	Tracy's Landing Salt Yard	20779 Bay Front Rd, Lothian	38.785545	-76.598737	SELF-SUPPORTING LATTICE TOWER	330	1273634	No
13	SHA	Anne Arundel	Route 100 & Route 170	Sandy Farm Rd, Severn	39.147356	-76.685872	MONOPOLE	133	1289347	Yes
14	DNR	Anne Arundel	Sandy Point State Park – East College Parkway	1100 East College Parkway, Annapolis	39.020302	-76.408652	SELF-SUPPORTING LATTICE TOWER	180	1260037	No
15	DNR	Anne Arundel	Longhill Road Forest Fire Tower	8023 Long Hill Rd, Pasadena	39.127619	-76.573993	FIRE TOWER	90	n/a	No
16	MIEMSS	Anne Arundel	Hawkins Point Road/Crownsville	Hawkins Point Road, Crownsville	39.01204	-76.603587	SELF-SUPPORTING LATTICE TOWER	340	1038581	No
17	DSP	Anne Arundel	Annapolis Barrack	610 Taylor Ave, Annapolis	38.988079	-76.501573	MONOPOLE	180	n/a	No
18	DSP	Anne Arundel	Parole Armory Tower	16 Hudson Street, Annapolis	38.985406	-76.532131	SELF-SUPPORTING LATTICE TOWER	300	1029218	Yes
19	MPBC/MPT	Anne Arundel	Annapolis – WMPT	1690 Hawkins Road, Annapolis MD	39.010202	-76.608879	GUYED WIRE TOWER	786	1225569	Yes
20	MAA	Anne Arundel	MAC Building Tower	7001 Aviation Blvd, Glen Burnie	39.181163	-76.651735	SELF-SUPPORTING LATTICE TOWER	100	n/a	No
21	MAA	Anne Arundel	BWI Parking Garage Antenna Structure	740 Scott Dr, Baltimore	39.188353	-76.675926	ROOF ANTENNA STRUCTURE	100	n/a	No
22	SHA	Calvert	Lusby/North Calvert Cliffs	Md. Rt.2/4,& Sawmill Rd. Lusby	38.439066	-76.467681	SELF-SUPPORTING LATTICE TOWER	430	1301345	No
23	SHA	Calvert	Prince Frederick Shop	100 Hallowing Point Rd, Prince Frederick	38.534428	-76.588361	SELF-SUPPORTING LATTICE TOWER	330	1279040	No
24	SHA	Calvert	Sunderland Shop	Route 2 & Route 4 Intersection, Huntington	38.658911	-76.608736	SELF-SUPPORTING LATTICE TOWER	330	1278522	Yes

Map of State-Owned Telecommunication Towers – Southern Region

	Agency	County	Location Name	Address	Latitude	Longitude	Resource Type	Tower Height (feet)	FCC Registration #	Resource Sharing
25	MIEMSS	Calvert	Prince Frederick State Police Barracks	210 Main Street, Prince Frederick	38.538345	-76.581321	SELF-SUPPORTING LATTICE TOWER	250	1038584	No
26	SHA	Charles	Hughesville/Benedict Salt Yard	16635 Prince Frederick Rd, Hughesville	38.52908	-76.732437	SELF-SUPPORTING LATTICE TOWER	330	1261491	No
27	SHA	Charles	La Plata Shop	5725 Washington Ave, La Plata	38.555063	-76.980763	SELF-SUPPORTING LATTICE TOWER	330	1253004	No
28	DNR	Charles	Old MSP Waldorf Barracks	2160 Old Washington Rd, Waldorf	38.651205	-76.880232	SELF-SUPPORTING LATTICE TOWER	200	1030745	Yes
29	DNR	Charles	Smallwood State Park	2750 Sweden Point Rd, Marbury	38.551834	-77.184246	SELF-SUPPORTING LATTICE TOWER	330	1254085	No
30	DNR	Charles	Welcome Forest Fire Tower	Fire Tower Road, Welcome	38.49117	-77.100272	FIRE TOWER	120	n/a	No
31	DNR	Charles	Douglas Point Resource Management Area	Riverside Rd, Nanjemoy	38.44168	-77.249151	SELF-SUPPORTING LATTICE TOWER	330	1260709	No
32	DSP	Charles	LaPlata Barrack	9500 Mitchell Road, LaPlata	38.566652	-76.981375	SELF-SUPPORTING LATTICE TOWER	180	n/a	Yes
33	MdTA	Charles	Nice Bridge (under planning or construction)	301 South Crain Highway, Newburg	38.36463	-76.977053	SELF-SUPPORTING LATTICE TOWER	330	Unknown	No
34	SHA	St. Mary's	Leonardtown Shop	27345 Point Lookout Rd, Leonardtown	38.333932	-76.679259	SELF-SUPPORTING LATTICE TOWER	330	1273613	No
35	SHA	St. Mary's	Bethune School	22975 Colton Point Rd, Bushwood	38.291522	-76.767195	SELF-SUPPORTING LATTICE TOWER	330	1269134	No
36	SHA	St. Mary's	Three Notch Road	19644 Three Notch Rd, Lexington Park	38.20318	-76.39472	SELF-SUPPORTING LATTICE TOWER	330	1273614	No
37	DNR	St. Mary's	Point Lookout State Park 1	11175 Point Lookout Rd, Scotland	38.049891	-76.322553	SELF-SUPPORTING LATTICE TOWER	100	n/a	No
38	DNR	St. Mary's	Point Lookout State Park 2	11175 Point Lookout Rd, Scotland	38.049891	-76.322553	SELF-SUPPORTING LATTICE TOWER	190	1053449	No
39	DSP	St. Mary's	Leonardtown Barrack	23200 Leonard Hall Dr, Leonardtown	38.306056	-76.631099	MONOPOLE	180	n/a	No

Exhibit 6

Map of State-Owned Telecommunication Towers – Upper Eastern Shore Region



	Agency	County	Location Name	Address	Latitude	Longitude	Resource Type	Tower Height (feet)	FCC Registration #	Resource Sharing
1	SHA	Cecil	Elkton Shop	2024 E Old Philadelphia Rd, Elkton	39.603219	-75.864296	SELF-SUPPORTING LATTICE TOWER	330	1273633	No
2	SHA	Cecil	Sylmar Shop	Sylmar Rd & Rt 273, 909 Telegraph Rd, Rising Sun	39.702885	-76.023952	SELF-SUPPORTING LATTICE TOWER	330	1259639	No

Exhibit 6

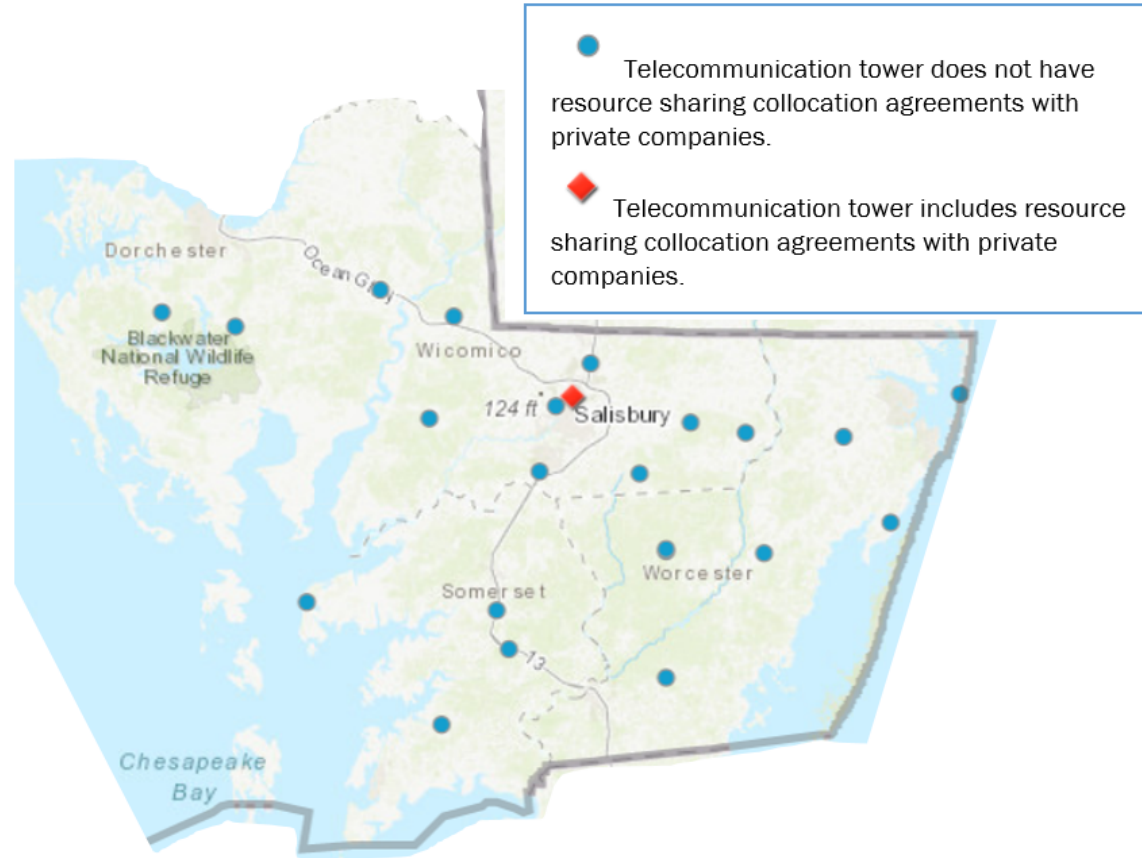
Map of State-Owned Telecommunication Towers – Upper Eastern Shore Region

	Agency	County	Location Name	Address	Latitude	Longitude	Resource Type	Tower Height (feet)	FCC Registration #	Resource Sharing
3	DNR	Cecil	Elk Neck State Forest – Black Hill Forest Fire Tower	120 McKinneytown Road, North East	39.533557	-75.942151	FIRE TOWER	110	n/a	No
4	DNR	Cecil	Fair Hill Natural Resource Management Area	Telegraph Road near 300 Tawes Drive, Elkton	39.700695	-75.84836	SELF-SUPPORTING LATTICE TOWER	330	1237633	No
5	MIEMSS	Cecil	John F. Kennedy Highway Toll Facility	JKF Toll Facility on I-95, 1 Turnpike Drive, Port Deposit	39.58952	-76.073394	SELF-SUPPORTING LATTICE TOWER	340	1218217	No
6	MIEMSS	Cecil	Elk Neck State Park – Irishtown Road	Elk Neck State Park - 1/4 mile North of Irishtown Road, Elk Neck	39.580783	-75.916073	SELF-SUPPORTING LATTICE TOWER	340	1204968	No
7	DSP	Cecil	North East Barrack	2433 Pulaski Hwy, North East	39.60862	-75.950909	SELF-SUPPORTING LATTICE TOWER	330	1237369	No
8	SHA	Kent	Chestertown Shop/District 2 Office	615 Morgnec Rd, Chestertown	39.229174	-76.050567	SELF-SUPPORTING LATTICE TOWER	340	1244207	No
9	SHA	Kent	Massey/I-301 & Route 313	US301 & Md 313, Massey	39.319396	-75.845608	SELF-SUPPORTING LATTICE TOWER	330	1258210	No
10	DNR	Kent	Still Pond	Still Pond Neck Road, Worton	39.350106	-76.119414	SELF-SUPPORTING LATTICE TOWER	330	1260017	No
11	MIEMSS	Kent	Town of Rock Hall	5499 Crosby Road, Rock Hall	39.137682	-76.216573	SELF-SUPPORTING LATTICE TOWER	330	1250832	No
12	MIEMSS	Kent	Chester River Hospital	101 Brown Street, Chestertown	39.217275	-76.065511	SELF-SUPPORTING LATTICE TOWER	180	n/a	No
13	SHA	Queen Anne's	Centerville Shop	111 Safety Dr, Centerville	39.032118	-76.01938	SELF-SUPPORTING LATTICE TOWER	330	1282814	No
14	DNR	Queen Anne's	Matapeake Natural Resource Police Academy	306 Marine Academy Dr, Stevensville	38.955403	-76.352254	SELF-SUPPORTING LATTICE TOWER	330	1038585	Yes
15	DNR	Queen Anne's	Tuckahoe State Park/Hillsboro	3011 Starr Road, Queen Anne	38.925999	-75.958195	MONOPOLE	197	1035800	No
16	SHA	Caroline	Denton Shop	508 Caroline St, Denton	38.888969	-75.825074	SELF-SUPPORTING LATTICE TOWER	340	1227605	No
17	DNR	Caroline	Interstate Forest Fire Tower	28331 Shore Hwy, Federalsburg	38.801679	-75.720526	FIRE TOWER	120	n/a	No
18	MIEMSS	Caroline	Town of Federalsburg	208 University Avenue, Federalsburg	38.6955	-75.782896	SELF-SUPPORTING LATTICE TOWER	340	1233781	No
19	Military	Caroline	Caroline County District Court Tower	207 South 3rd Street, Denton	38.882676	-75.831137	SELF-SUPPORTING LATTICE TOWER	174	n/a	No
20	SHA	Talbot	Wye Mills/I-50 & Route 404	US 50 & Route 404, Wye Mills	38.935218	-76.062563	SELF-SUPPORTING LATTICE TOWER	340	1210831	No
21	SHA	Talbot	Trappe	Rt 50 & Beaver Dam Rd, Trappe	38.638749	-76.058684	SELF-SUPPORTING LATTICE TOWER	340	1210830	No
22	DNR	Talbot	Black Walnut Point	4417 Black Walnut Point Rd, Tilghman	38.672291	-76.33895	SELF-SUPPORTING LATTICE TOWER	140	n/a	No
23	MIEMSS	Talbot	Town of Easton/Talbot 911 Center	Talbot 911 - 605 Port Street, Easton	38.771224	-76.088928	SELF-SUPPORTING LATTICE TOWER	204	1038580	No
24	DSP	Talbot	Easton Barrack	7053 Ocean Gateway, Easton	38.742735	-76.066006	SELF-SUPPORTING LATTICE TOWER	330	1241735	No

Exhibit 7

Page 1 of 2

Map of State-Owned Telecommunication Towers – Lower Eastern Shore Region



	Agency	County	Location Name	Address	Latitude	Longitude	Resource Type	Tower Height (feet)	FCC Registration #	Resource Sharing
1	SHA	Dorchester	Vienna	Rt 50 & Rt 331, Vienna	38.498796	-75.847941	SELF-SUPPORTING LATTICE TOWER	340	1204969	No
2	DNR	Dorchester	Church Creek Forest Fire Tower	Golden Hill Road, Church Creek	38.474203	-76.142766	FIRE TOWER	120	n/a	No
3	MIEMSS	Dorchester	Bucktown Road/Cambridge	Bucktown Road & Greenbrier Road, Bucktown	38.459717	-76.043021	SELF-SUPPORTING LATTICE TOWER	449	1036622	No

Map of State-Owned Telecommunication Towers – Lower Eastern Shore Region

	Agency	County	Location Name	Address	Latitude	Longitude	Resource Type	Tower Height (feet)	FCC Registration #	Resource Sharing
4	SHA	Wicomico	Fruitland Tower	4085 Disharoon Rd, Fruitland	38.30567	-75.632463	SELF-SUPPORTING LATTICE TOWER	330	1273228	No
5	SHA	Wicomico	Salisbury Shop/District 1 Office	660 West Rd, Salisbury	38.375727	-75.610957	SELF-SUPPORTING LATTICE TOWER	330	1255454	No
6	DNR	Wicomico	Johnson Wildlife Management Area – Mt. Olive Road	32144 Mount Olive Road, Salisbury	38.304397	-75.499108	SELF-SUPPORTING LATTICE TOWER	250	1254409	No
7	DNR	Wicomico	Powellville Forest Fire Tower – Mt. Pleasant Road	36365 Mt Pleasant Road, Willards	38.346558	-75.356632	FIRE TOWER	145	n/a	No
8	MIEMSS	Wicomico	Town of Pittsville/Sixty Foot Road	Sixty Foot Road 1/4 MI South of Rolm Road, Pittsville	38.357261	-75.430979	SELF-SUPPORTING LATTICE TOWER	280	1038582	No
9	MIEMSS	Wicomico	Poplar Hill Pre-Release Unit	24090 Naticoke Road, Quantico MD	38.361493	-75.780908	SELF-SUPPORTING LATTICE TOWER	270	1038583	No
10	MIEMSS	Wicomico	Town of Mardela Springs	Sharptown Road & Cross Road, Mardela Springs	38.469667	-75.747753	SELF-SUPPORTING LATTICE TOWER	330	1266257	No
11	DSP	Wicomico	Salisbury Barrack	2765 North Salisbury Blvd, Salisbury	38.420133	-75.563853	SELF-SUPPORTING LATTICE TOWER	200	1030900	No
12	MPBC/MPT	Wicomico	Salisbury – WCPB	310 Deers Head Boulevard, Salisbury	38.385545	-75.590841	GUYED WIRE TOWER	483	1036645	Yes
13	DNR	Somerset	Deal Island Resource Management Area	10385 Ralph Abbott Road, Deal Island	38.168006	-75.947678	SELF-SUPPORTING LATTICE TOWER	140	n/a	No
14	DNR	Somerset	Green Hill Forest Fire Tower	8658 Lake Somerset Rd, Westover	38.118489	-75.67449	FIRE TOWER	120	n/a	No
15	MIEMSS	Somerset	Town of Marion Station	28573 Hudson Corner Road, Marion Station	38.038176	-75.764339	SELF-SUPPORTING LATTICE TOWER	330	1245727	No
16	DSP	Somerset	Princess Anne Barrack	30581 Perry Road, Princess Anne	38.160256	-75.691929	SELF-SUPPORTING LATTICE TOWER	340	1225042	No
17	DNR	Worcester	Assateague State Park	7205 Stephen Decatur Hwy, Berlin	38.252796	-75.161039	SELF-SUPPORTING LATTICE TOWER	150	n/a	No
18	DNR	Worcester	Nassawango Forest Fire Tower	6572 Snow Hill Rd, Snow Hill	38.223017	-75.463692	FIRE TOWER	120	n/a	No
19	MIEMSS	Worcester	Central Site Lane/Wesley	6743 Central Site Lane, Newark	38.22034	-75.332145	SELF-SUPPORTING LATTICE TOWER	340	1223690	No
20	MIEMSS	Worcester	Klej Grange Road/Pocomoke City	2800 Klej Grange Road, Pocomoke City	38.088104	-75.464119	SELF-SUPPORTING LATTICE TOWER	330	1038579	No
21	MIEMSS	Worcester	66th Street/Ocean City	66th Street, Ocean City	38.388435	-75.068163	SELF-SUPPORTING LATTICE TOWER	340	1231245	No
22	DSP	Worcester	Berlin Barrack	9758 Ocean Gateway, Berlin	38.343013	-75.223739	SELF-SUPPORTING LATTICE TOWER	340	1229838	No
23	DSP	Worcester	Nassawango Tower	6572 Snow Hill Road, Snow Hill	38.22316	-75.463582	SELF-SUPPORTING LATTICE TOWER	300	1030087	No



State of Maryland
Department of Information Technology

LARRY HOGAN
Governor
BOYD K. RUTHERFORD
Lieutenant Governor

MICHAEL G. LEAHY
Secretary
LANCE SCHINE
Deputy Secretary

August 2, 2018

Mr. Thomas J. Barnickel III, CPA
Legislative Auditor
State of Maryland
Office of Legislative Audits
301 West Preston Street, Room 1202
Baltimore, MD 21201

Dear Mr. Barnickel:

The Department of Information Technology (DoIT) has reviewed your performance audit report on the Telecommunications Resource Sharing Agreements. As requested, our responses to the Findings in the report, as related to DoIT, are attached.

DoIT appreciates the insight into the management and functioning of, and possible improvements to, Resource Sharing under 3A-307(c) of the State Finance and Procurement Article. However, the first subparagraph of 3A-307(c) states, in pertinent part, “a unit of state government shall advise the Secretary of any information technology proposal involving resource sharing...”. Clearly, this provision creates a duty on the part of units of state government to inform the Secretary of their intent before the Secretary can act on such actions. Failure to inform the Secretary is violative of clear statutory directions, and one should acknowledge that it is impossible for one to act on something they do not know that they do not know. DoIT acknowledges that there should have been internal questions raised about the nature of the resource sharing program as there was, in certain limited cases, insufficient evidence that units of state government were utilizing the process as defined in statute. DoIT reminds the auditors that the Secretary does not believe DoIT possesses the legal authority to sanction units of government for misconduct. DoIT would support legislative action to clarify its authority in these matters.

Progress is being made under the current administration and DoIT agrees that more can be done to manage and improve the State’s tower and RSA inventory, improve record keeping, and provide guidance to other agencies. The following are some of DoIT’s planned enhancements:

- Create a centralized asset management database and RSA contract management;
- Provide other State agencies the opportunity to upload their asset inventories and contracts to that database at no charge;
- Document and post additional guidance, instructions, and policies;
- Monitor unexpected deviations in deposits into the MITDP fund; and,
- Improve our processes and procedures for monitoring our RSA agreements.

DoIT respectfully disagrees with the premise of certain findings and recommendations in the discussion notes. As stated above, DoIT believes that the analysis and recommendations issued by the audit team overstate DoIT's level of authority in regards to RSA oversight. For example, DoIT is not empowered by State law to:

- Conduct discovery of assets owned and controlled by other agencies
- Review the financial records of other state agencies under the guise of "monitoring"
- Enforce other agencies to comply with State law

State resources include all real and personal property owned by the state. These assets become subject to resource sharing agreements when a unit of state government contracts with a third party to allow that third party to use state property. Beyond the statutory issues mentioned above, for DoIT to undertake internal financial audits of other units of government to identify resource sharing agreements is clearly beyond DoIT's resources, capability, and authority. Each agency is, and always has been, responsible for its own contracts, assets, agreements, conduct of their employees, and compliance with the law.

DoIT respectfully disagrees with the auditor's statement:

"... the lack of comprehensive RSA policies resulted in subjective interpretations of the applicability and use of the State's resource sharing law and contributed to the following deficiencies we identified at DoIT and State agencies."

Numerous audit findings are longstanding issues that have been present through multiple administrations. DoIT is working with state agencies to mitigate the deficiencies identified in the RSA program.

Notwithstanding the above objections, DoIT appreciates OLA's review of the RSA program as it clearly demonstrates to the applicable state agencies their responsibility to comply with the RSA law. The audit also underscores the value that OLA auditors provide to the people of Maryland. We commend the OLA audit team for their diligence and professionalism. DoIT is committed, within the constraints of its authority and budget, to improve the Resource Sharing program as described here.

If you have any questions or need additional information, you may contact Norman Farley at (410) 697-9681 or norman.farley@maryland.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Michael G. Leahy".

Michael G. Leahy, Secretary
Department of Information Technology

Finding 1

DoIT had not established comprehensive policies to guide State agencies on the proper execution, control, and monitoring of RSAs.

Recommendation 1

We recommend DoIT establish comprehensive policies to guide State agencies in the proper execution, control, and monitoring of RSAs that incorporate, at a minimum, the elements noted above.

DoIT Response: Partially Agree

1. **DoIT Agrees** to improve upon the published policies and provide additional guidance to State agencies. However, DoIT can only provide guidance since DoIT has no authority, visibility, staff or mechanism to review legal agreements made by other state agencies. This responsibility remains, as always, with the individual agencies.
2. **DoIT Disagrees** with the opinion of the auditors that the findings 4, 5, 6 and 10 would have been avoided by additional documentation restating existing State law. Individual agencies are accountable for the contracts they enter into as well as following State law.
3. **DoIT Disagrees** with the opinion of the auditors that finding 11 would have been avoided by DoIT restating existing State procurement law. Individual agencies are accountable for following procurement law.

Auditor's Comment: Although DoIT agreed to improve and provide additional guidance, it disagreed that the absence of such guidance contributed to various audit findings. This assertion is unsupported and is contrary to the findings in this report and the agencies' feedback we received both during the audit and in response to the audit recommendations.

Finding 2

DoIT and most State agencies did not maintain comprehensive records of RSAs.

Recommendation 2

We recommend that

- a. DoIT and the applicable State agencies maintain a comprehensive list of all RSAs for which they are responsible, and copies of the related agreements; and
- b. DoIT direct agencies to periodically (such as, annually) report the status of all active RSAs.

DoIT Response:

- a. **Agree**
- b. **Agree** - DoIT will periodically send out requests for State Agencies to update their RSA information to a central repository. Responsibility for reporting RSA agreements and inventories lies with the individual agencies that own them.

Finding 3

DoIT and certain State agencies lacked comprehensive inventories of State-owned telecommunication towers and fiber optic cables for potential resource sharing.

Recommendation 3

We recommend DoIT and the State agencies

- a. develop and maintain comprehensive inventory databases of State-owned telecommunication towers and fiber optic cables; and
- b. use the inventory databases to plan for resource sharing opportunities (such as, space on telecommunication towers available for lease and unused fiber optic cable) and to achieve statewide telecommunications infrastructure goals.

DoIT's Response:

- a. **Partially Agree**
 - 1. **DoIT Disagrees** with the statement in the above analysis that DoIT's network fiber isn't well inventoried. Maryland fiber is extremely well documented and DoIT offered to show it to the auditors multiple times.
 - 2. **DoIT Agrees** to create an asset inventory database and maintain a comprehensive inventory of tower assets it owns and controls.
 - 3. **DoIT Agrees** to open the database to other state agencies and invite them to add their info as well.
 - 4. **DoIT Disagrees** with the opinion of the auditors that DoIT is to be held accountable for inventory of assets it does not own or control. Responsibility for reporting RSA agreements and inventories lies with the individual agencies that own them.
- b. **Partially Agree** – DoIT agrees to the extent of the resources it owns and controls as well as the information provided by the agencies uploaded to the aforementioned inventory database. Responsibility for reporting RSA agreements and inventories lay with the individual agencies that own them.

Auditor's Comment: The finding relates to the lack of comprehensive records for towers and fiber optic cable under the control of various agencies, including DoIT. Accordingly, to help identify revenue generation and service enhancement opportunities, as well as to avoid duplication for future installations, we recommended that a comprehensive database be maintained for the State. DoIT has agreed to establish a centralized inventory record of cell towers. Contrary to its assertion, we did not state that DoIT should be held accountable for the inventory of other State agency assets it does not own or control.

Regarding the fiber cable, we were aware of DoIT's inventory records for networkMaryland. The focus of this aspect of our finding is that DoIT and MDOT did not coordinate with each other to ensure the State maintained an accurate and comprehensive database of State-owned fiber. In addition, DoIT's inventory records for networkMaryland were not comprehensive because the records did not indicate the portion of fiber that was unused.

Finding 5

Certain State agencies did not ensure that all monetary compensation was received in accordance with the RSAs, resulting in the failure to collect approximately \$6.0 million.

Recommendation 5

We recommend that State agencies

- a. monitor RSAs to ensure the proper amount of cash compensation is collected;**
- b. immediately pursue collection of unpaid compensation, including the identified amounts for the aforementioned agreements with SHA and DoIT; and**
- c. obtain documentation to verify the accuracy of any collocation compensation received.**

DoIT's Response

- a. Agree**
- b. Agree**
- c. Agree**

Finding 6

DoIT did not monitor State agencies to ensure resource sharing monetary compensation was deposited into the MITDP Fund, as required by State law. As of April 2017, only \$60,000 had been deposited into the MITDP Fund since July 1, 2014. Our test disclosed five agencies improperly retained compensation totaling \$7.3 million during this period.

Recommendation 6

We recommend that

- a. DoIT establish a process to ensure that State agencies deposit all applicable RSA compensation into the MITDP Fund as required, and
- b. State agencies ensure all applicable compensation is deposited into the MITDP Fund as required by State law and the aforementioned Attorney General's advice.

DoIT's Response

- a. **Disagree** – This is auditing function and DoIT has no mechanism or authority to ensure agencies are accurately or completely depositing all applicable RSA compensation. However, we can monitor notable changes or discrepancies and inquire with the pertinent agencies as to the nature of the change. Individual agencies are ultimately accountable for accurate and timely transfer of funds into the MITDP fund.
- b. **Agree**

Auditor's Comment: Since the MITDP Fund administered by DoIT is the beneficiary of certain RSA compensation, DoIT should be interested in establishing a process to ensure such compensation associated with RSAs it approved are forwarded to the Fund. The use of a centralized RSA database, which seems to be alluded to in DoIT's response, could provide a mechanism to help ensure the required compensation is deposited.

Finding 7

DoIT did not have a strategic plan for marketing resource sharing opportunities to generate revenues and to help achieve statewide telecommunication infrastructure goals.

Recommendation 7

We recommend that the State

- a. develop a strategic plan to market State assets for resource sharing opportunities to generate revenues and to help achieve statewide information technology infrastructure goals, and

- b. **strategically market resource sharing opportunities through direct solicitations and on applicable State agency websites.**

DoIT Response

- a. **Agree** - DoIT agrees with the marketing of state assets however “generating revenue” will only be emphasized to the extent to which it will not conflict with nor detract from rural broadband goals, state tech goals and non-monetary reciprocal agreements.
- b. **Agree** – This will be under the responsibility of the Office of Rural Broadband.

Finding 8

DoIT did not monitor RSAs with a nonprofit organization providing broadband networks in rural and underserved areas and has not made any attempts since 2013 to negotiate additional RSAs to further expand broadband in rural areas.

Recommendation 8

We recommend that DoIT

- a. **monitor existing RSAs with the aforementioned nonprofit organization to ensure broadband networks are expanded in rural and underserved areas, in accordance with the intent of the RSAs; and**
- b. **increase the use of RSAs to strategically expand broadband in rural areas consistent with need.**

DoIT Response: Disagree

The finding and recommendation as written strongly imply that DoIT has taken no action to expand rural broadband access which is not the case.

Additionally, it assumes and asserts that this is the only method available to expand broadband access to underserved, rural areas. This is also not the case. DoIT has taken multiple actions to expand rural broadband:

- DoIT engaged in discussions to negotiate additional resources to address insufficiencies along the I-68/I-70 corridor. DoIT participated in calls with representatives of a nonprofit organization on Dec. 18, 2017 and on Jan. 25, 2018.
- Conference calls were held in December and January, as per the image above, while concepts for a proposed expansion along the I-68 corridor were discussed with DoIT, Maryland Department of Commerce, and The Tri-County Council of Western Maryland as early as July, 2017.
- DoIT met with the Chairman of the Federal Communications Commission on Wednesday, July 12, 2017, to discuss ways that Maryland could more easily expand resource sharing agreements in rural communities.

- On Friday, June 23, 2017 DoIT met with officials of Garrett County, Maryland. Arising out of that discussion, DoIT agreed to provide access to an MPT aerial tower at Eagle Rock. This agreement to provide access was publicized, <http://governor.maryland.gov/2017/10/12/governor-larry-hogan-announces-successful-rural-broadband-launch-in-garrett-county/>
- On October 13, 2017, Governor Hogan held a press conference to announce a significant project in Western Maryland that will "bring high-speed broadband connectivity to eight business parks in Western Maryland and to downtown Cumberland to support critical redevelopment projects. The project enhances 66 new miles of lit fiber, creating a network of more than 3,600 miles of fiber."
<http://governor.maryland.gov/2017/10/13/governor-larry-hogan-highlights-economic-development-job-creation-initiatives-in-western-maryland/>

Auditor's Comment: Our finding only relates to DoIT's oversight of an existing arrangement with a nonprofit organization and its efforts to use the RSA process to expand broadband access in underserved areas. Additional efforts, including certain of those highlighted in DoIT's response, are addressed in this report in the Background Information section of the report as well as the Background for Objective 3.

Finding 9

RSAs did not always include adequate provisions to ensure that the State received the appropriate compensation, was protected from liability, and had approved the equipment installations on State resources.

Recommendation 9

We recommend that each State agency

- include the aforementioned significant provisions in all future RSAs, to the extent applicable; and
- modify its existing agreements to include the aforementioned significant provisions to the extent allowed by law.

DoIT Response

- Agree
- Agree

Finding 11

State agencies did not always document and obtain the required approvals when exercising renewal options on RSAs. In addition, private companies were allowed to continue using State resources after the RSAs expired without a negotiation of compensation terms.

Recommendation 11

We recommend that State agencies

- a. review existing RSAs to identify any expired agreements;
- b. execute new RSAs, using current DoIT-approved rates, as each RSA expires, and for the aforementioned 10 expired RSAs; and
- c. ensure that renewals valued at \$200,000 or more are submitted to BPW for approval unless the State agency clearly presented the renewal option when the RSA was originally approved, including the RSAs noted above.

DoIT Response

A: Agree

B: Agree

C: Agree

Finding 12

State agencies did not always maintain inventories of private telecommunication equipment on towers.

Recommendation 12

We recommend that State agencies maintain inventories of all private telecommunication equipment (such as, type, owner, and location) attached to State-owned towers.

DoIT Response: Agree Subject to availability of funding to conduct the inventories.

July 3, 2018

Thomas J. Barnickel III, CPA
Legislative Auditor
Department of Legislative Services
Office of Legislative Audits
301 West Preston Street
Room 1202
Baltimore MD 21201

Dear Mr. Barnickel:

Enclosed please find the Maryland Department of Transportation's (MDOT) response to the draft Legislative Auditor's Report dated June 2018, for the Telecommunication Resource Sharing Agreements Performance Audit. Our responses only pertain to Findings 2, 3, 4, 5, 9, 10, 11, and 12. Additionally, an electronic version of this document has been sent to your office via email (file name: Draft Audit Report) to response@ola.state.md.us.

If you or your staff have any additional questions or concerns, please do not hesitate to contact Ms. Jaclyn D. Hartman, MDOT Chief Financial Officer, 410-865-1035 and jhartman1@mdot.state.md.us. Ms. Hartman will be happy to assist you. Of course, you may always contact me directly.

Sincerely,



Pete K. Rahn
Secretary

Enclosures

cc: Mr. Ronald C. Brothers, Chief Information Officer, Office of Transportation and Technology Services
Ms. Brenda Cachuela, Director, Office of Audits, MDOT
Ms. Jaclyn D. Hartman, Chief Financial Officer, Office of Finance, MDOT
Mr. James F. Ports, Jr., Deputy Secretary of Operations, MDOT
Mr. Kevin B. Quinn, Jr., Administrator, Maryland Department of Transportation Maryland Transit Administration
Mr. Kevin C. Reigrut, Executive Director, Maryland Transportation Authority
Mr. Gregory Slater, Administrator, Maryland Department of Transportation Maryland Transit Administration

**Maryland Department of Transportation
Draft Audit Responses
Telecommunication Resource Sharing Agreements
Performance Audit**

Objective 1 – Policies and Procedures

Finding 2

DoIT and most State agencies did not maintain comprehensive records of RSAs.

Recommendation 2

We recommend that

- a. DoIT and the applicable State agencies maintain a comprehensive listing of all RSAs for which they are responsible, and copies of the related agreements; and**
- b. DoIT require agencies to periodically (such as, annually) report the status of all active RSAs.**

MDOT Response:

- a. MDOT concurs with the auditor's recommendation. We are in the process of creating a comprehensive system to maintain electronic records of RSAs. Considerations are in place for each MDOT transportation business unit (TBU) to utilize a universal sharing option and record storage through this system and utilize surrounding software capabilities to ensure document upkeep and management. This will ensure a controlled, centralized list of RSAs, supporting documentation, as well as reporting capabilities that will comport to DoIT-provided policies and guidelines, as issued per Finding 1. These processes are expected to be in place by the end of calendar year 2018.**
- b. While this recommendation is directed to DoIT, MDOT will comply with the reporting requirements as determined by DoIT.**

Finding 3

DoIT and State agencies lacked comprehensive inventories of State-owned telecommunication towers and fiber optic cables for potential resource sharing.

Recommendation 3

We recommend DoIT and the State agencies

- a. develop and maintain comprehensive inventory databases of State-owned telecommunication towers and fiber optic cables, and**

- b. use the inventory databases to plan for resource sharing opportunities (such as, space on telecommunication towers available for lease and unused fiber optic cable) and to achieve statewide information technology infrastructure goals.**

MDOT response:

- a. MDOT concurs with the auditor's recommendation. MDOT's goal is to track and catalog the State's assets in inventory databases and delineate between the agreement relating to that asset as well as the availability of that asset for resource share. State-owned telecommunication towers and fiber optic cable reviews are being conducted. Discovery has started on an MDOT centralized database for all towers owned by each TBU. Data is being collected and tracked to combine the information into a comprehensive system which will provide information on each tower by location, type, tower owner, land owner, collocations, equipment list, load information, tower and shelter mapping, supported systems, space available for public safety and resource share, and supporting agreements. It should be noted however, that certain information in the analysis is not accurate. Specifically, the MDTA tower shown as identified by OLA is not yet under construction. This tower is planned to be built by DoIT in support of the Maryland First interoperability project. Our processes would not require recordation of the tower at this preliminary stage of the process. Additionally, concerning MDTA fiber records, it should be noted that the records and monitoring of usage provided by MDTA to the auditors was determined to be adequate.**

Reviews have begun on MDOT's fiber network. We are in the early stages of creating this process and have begun cable tracking through fiber splice case audits on our state fiber backbone. The fiber is being mapped in a DoIT-provided mapping system as well as an MDOT mapping database. With the information collected, MDOT will be able to identify the owner of a fiber strand, if it is lit or dark, who it is being used by, what it is being used for, and where it is providing service. The timeline for the scope of this project is still being calculated, but estimated projections are significant and may require several years to complete.

- b. MDOT concurs to work jointly with DoIT to use the respective inventories to achieve statewide information technology infrastructure goals.**

Objective 2 – Compensation

Finding 4

State agencies did not treat certain agreements as RSAs resulting in a lost opportunity to maximize compensation. If these agreements had been treated as RSAs, they would have been subject to DoIT's review and valuation process.

Recommendation 4

We recommend that State agencies

- a. establish RSAs, including provisions for compensation, for all qualified agreements in accordance with State law, including all necessary approvals; and**

- b. identify all collocations and pursue the feasibility of obtaining retroactive compensation as legally permissible, including those amounts noted above.**

MDOT Response:

- a. MDOT concurs with the auditor's recommendation. MDOT is working with all TBUs to review current agreements, understand gaps, establish a process, and execute as Resource Sharing Agreements when applicable. MDOT agrees to establish RSAs for new agreements. We will ensure all DoIT requirements are met once they have provided us with the established guidelines.**
- b. MDOT concurs with the auditor's recommendation. MDOT will work with all TBUs, in consultation with the Office of the Attorney General, to review the agreements in question and determine where and when retroactive compensation should be sought. It should be noted that regarding maximizing revenue, it is commonplace for agreements to include escalation or revenue sharing provisions. For example, all of MDTA's agreements, except for three established in 1996 and 1997, include revenue escalations for revenue sharing.**

Finding 5

Certain State agencies did not ensure that all monetary compensation was received in accordance with the RSAs, resulting in the failure to collect approximately \$6.0 million.

Recommendation 5

We recommend that State agencies

- a. monitor RSAs to ensure proper amounts of cash compensation is collected,**
- b. immediately pursue collection of unpaid compensation, including the identified amounts for the aforementioned agreements with SHA and DoIT, and**
- c. obtain documentation to verify the accuracy of any collocation compensation received.**

MDOT Response:

- a. MDOT concurs with the auditor's recommendation. MDOT's TBUs have procedures in place to ensure the proper amount of cash is collected for all receivables. In the examples cited by the Auditor, miscommunications between units involving contract extensions and modifications led to the issues. Recognizing the gap in procedures, MDOT is working with the TBUs to review current agreements and compile contract management requirements including, but not limited to, tracking reporting deliverables and compensation review.**
- b. MDOT concurs with the auditor's recommendation. MDOT, in consultation with the Office of the Attorney General, will continue to review the 1999 agreement noted in the analysis and address any compensation issues. Concerning the MDTA agreement that had expired without modification or extension, upon recognition that cut off procedures for expired agreements needed to be strengthened, the MDTA implemented enhanced procedures and collected the funds due.**

- c. MDOT concurs with the auditor's recommendation. We will attempt to obtain documentation to verify the accuracy of any collection compensation received. In cases where we determine we do not have access to sub-lessee documentation, alternative procedures are utilized to ensure reasonableness.

Objective 4 – Agreement Execution and Approval

Finding 9

RSAs did not always include adequate provisions to ensure that the State received the appropriate compensation, was protected from liability, and had approved the equipment installations on State resources.

Recommendation 9

We recommend that State agencies

- a. **include the aforementioned significant provisions in all future RSAs, to the extent possible; and**
- b. **modify existing agreements to include the aforementioned significant provisions to the extent allowed by law.**

MDOT Response:

- a. MDOT concurs with the auditor's recommendation. The process to incorporate the relevant provisions is currently in process and expected to be completed by the end of 2018.
- b. MDOT concurs with the recommendation. The action to review and amend existing agreements is currently in process with each TBU.

Finding 10

Eight State agencies did not obtain the required DoIT, Legislative Policy Committee, and Board of Public Works approvals for 81 RSAs as required by law. In addition, an employee at one State agency unilaterally declined RSA proposals valued at \$442,500 without adequate justification or obtaining DoIT input.

Recommendation 10

We recommend that State agencies

- a. **submit all potential RSAs for review, valuation, and applicable approvals in accordance with State law; and, in consultation with DoIT and LPC, determine the extent to which retroactive approval should be obtained for the aforementioned RSAs; and**
- b. **provide all proposed resource sharing opportunities received from private companies to DoIT for its determination of the proposal's economic merit or benefits to the State.**

MDOT Response:

- a. MDOT concurs with the auditor's recommendation. MDOT will seek the appropriate approvals and determine where retroactive approval is necessary.
- b. MDOT concurs with the auditor's recommendation. We will ensure all proposed resource sharing opportunities with private companies are submitted to DoIT according to established DoIT guidelines.

Finding 11

State agencies did not always document and obtain the required approvals when exercising renewal options on RSAs. In addition, private companies were allowed to continue using State resources after the RSAs expired without a negotiation of compensation terms.

Recommendation 11

We recommend that State agencies

- a. review existing RSAs to identify any expired agreements;
- b. execute new RSAs, using current DoIT-approved rates, as each RSA expires, and for the aforementioned 10 expired RSAs; and
- c. ensure that renewals valued at \$200,000 or more are submitted to BPW for approval unless the State agency clearly presented the renewal option when the RSA was originally approved, including the RSAs noted above.

MDOT Response:

- a. MDOT concurs with the auditor's recommendation. MDOT will review all resource sharing agreements to identify any that expired. If expired agreements are identified, we will ensure the agreements are properly renewed or renegotiated.
- b. MDOT concurs with the auditor's recommendation. To the extent legally permitted, we agree to execute new RSAs in place of expired RSAs.
- c. MDOT concurs with the auditor's recommendation. We are working with the TBUs to follow our established process, which includes submitting renewals valued at \$200,000.00 to BPW if/when the sum total of that renewal was not included in prior submission to LPC and BPW for approval.

Objective 5 – Tracking and Monitoring Equipment

Finding 12

State agencies did not always maintain inventories of private telecommunication equipment on towers.

Recommendation 12

We recommend that State agencies maintain inventories of all private telecommunication equipment (such as, type, owner, and location) attached to State owned towers.

MDOT Response:

MDOT concurs with the auditor's recommendation. As stated in our response to Finding 2, MDOT is in the process of creating a comprehensive system to maintain electronic records of RSAs. Considerations are in place for each TBU to utilize a universal sharing option and record storage through this system and utilize surrounding software capabilities to ensure document upkeep and management. This will allow for a controlled, centralized list of RSAs and supporting documentation as well as reporting capabilities when DoIT defines annual requirements per the recommendation of OLA.

A feature of the system outlined above includes the management of inventory controls including, but not limited to, documenting inventory in a mapping system and tracking product through contract modifications.



Karen B. Salmon, Ph.D.
State Superintendent of Schools

June 25, 2018

Mr. Thomas J. Barnickel III, CPA
Legislative Auditor
Office of Legislative Audits
301 West Preston Street Room 1202
Baltimore, Maryland 21201

Dear Mr. Barnickel:

As requested in your June 13, 2018 letter, enclosed please find the Maryland State Department of Education's (MSDE) response to Findings 6 and 9 of the draft audit report on Telecommunication Resource Sharing Agreements. We certainly appreciate the efforts of your audit staff and also the cooperative relationship with your office.

Please be assured that MSDE is giving significant attention to the issues identified in this Audit. Should you have any additional questions or need additional clarification, please contact me at 410-767-0462 or Ms. Channel Sumpter, Director of Audit at 410-767-0104. Again, thank you for your assistance.

Best Regards,

Karen B. Salmon, Ph.D.
State Superintendent of Schools

KBS/cs
Enclosures

c: Sylvia Lawson, Ph.D.
Gayle Secrist
Channel Sumpter
Richard McElroy

Finding 6

DoIT did not monitor State agencies to ensure resource sharing monetary compensation was deposited into the MITDP Fund, as required by State law. As of April 2017, only \$60,000 had been deposited into the MITDP Fund since July 1, 2014. Our test disclosed five agencies improperly retained compensation totaling \$7.3 million during this period.

Recommendation 6

We recommend that

- a. DoIT establish a process to ensure that State agencies deposit all applicable RSA compensation into the MITDP Fund as required, and**
- b. State agencies ensure all applicable compensation is deposited into the MITDP Fund as required by State law and the aforementioned Attorney General's advice.**

MSDE Response:

Regarding Recommendation a, the Agency will comply with any process developed and communicated to the Agency by DoIT regarding depositing all applicable RSA compensation into the Major Information Technology Development Program (MITDP) Fund.

Regarding Recommendation b, the Agency will comply with the referenced September 1, 2017 advice obtained from the Office of the Attorney General.

Finding 9

RSAs did not always include adequate provisions to ensure that the State received the appropriate compensation, was protected from liability, and had approved the equipment installations on State resources.

Recommendation 9

We recommend that each State agency

- a. include the aforementioned significant provisions in all future RSAs, to the extent applicable; and**
- b. modify its existing agreements to include the aforementioned significant provisions to the extent allowed by law.**

MSDE Response:

Combined response to Recommendations a and b--- One of MSDE's Resource Sharing Agreements (RSA) (contract entered into on July 1, 2009) was cited to be deficient regarding three subcomponents (Late Fees, Security Deposit and Right to Audit) of the 'Compensation Terms and Other Fees' significant provision. The second RSA contract entered into April 18, 2007 was also cited for the three prior referenced subcomponents and an additional subcomponent (Where Payable) of the 'Compensation Terms and Other Fees' significant provision. Finally, both RSAs were cited for the 'Governmental Immunity' subcomponent of the 'Liability and Insurance

Protections' significant provision. Following are MSDE's responses for each of the subcomponents of the two cited significant provisions.

Late fees----If there was an issue of late payment MSDE could always choose to file a claim against the contractor for late payments under COMAR 21.10.04.05 or threaten contract action (e.g., termination) in the event that the contractor does not comply with sending payments in accordance with the contract terms. Consequently, the Agency does not believe that an additional contract provision regarding this issue is necessary in its current or any future RSA contracts.

Security Deposit--- Due to the intangible nature of the services provided under MSDE's two RSAs, a security deposit would not apply as they are related to leasing excess capacity on channels licensed to MSDE by the Federal Communications Commission. Consequently, the Agency does not believe that the current contracts need to be amended for this significant provision. However, if a future RSA involved items which are tangible in nature, such as a tower, then inclusion of this significant provision in the related contract may be appropriate.

Landlord's Right to Audit and Review Tenant's Books and Records and Governmental Immunity --- Pursuant to COMAR 21.06.05.02B procurement agencies, the Department of Legislative Services or any other State unit authorized by law is entitled to audit the books and records related to the performance of a contractor. Consequently, MSDE is authorized to conduct audits of the lessee even though the provision is not expressly included in the agreements. It is important to recognize that Maryland laws that apply at the time the contract is made are incorporated into the contract "as if they were expressly referred to or incorporated in its terms; and this rule embraces alike those which affect its validity, construction, discharge and enforcement." Denice v. Spotswood I. Quinby, Inc., 248 Md. 428, 437 (1968). The parties have notice of this provision in paragraph 27 of the 2007 agreement and paragraph 26 of the 2009 agreement which states "Maryland Law prevails". However, MSDE will amend both existing RSAs to reflect a specific provision for this issue. Also, any future RSA will include a specific provision for this issue.

Governmental Immunity---The defense of government immunity is barred by State Govt. Art §12-201 because the State waives governmental immunity when it enters into contracts. Consequently, the Agency does not believe that an additional contract provision regarding this issue is necessary in its current or any future RSA contracts.

Where Payable---OLA determined that this provision was adequately addressed in the RSA contract entered into on July 1, 2009. Attachment A of this contract contained satisfactory information regarding where remittances are to be made. The second RSA contract, entered into on April 18, 2007, will be amended to include an Attachment A. Similarly, all future RSA contracts will include an Attachment A.

June 15, 2018

Thomas J. Barnickel, CPA
Legislative Auditor
Department of Legislative Services
301 West Preston Street
Room 1202
Baltimore, Maryland 21201

Dear Mr. Barnickel:

I am writing on behalf of the Maryland Public Broadcasting Commission ("MPBC") in response to the draft performance audit report on the Telecommunication Resource Sharing Agreements dated June 12, 2018. MPBC was asked to provide written responses to Findings 9, 10, and 12. Our responses are set forth below.

Finding 9:

This Finding contends that RSAs did not always include certain provisions to ensure that the State received the appropriate compensation, was protected from liability, and had approved the equipment installations on State resources. Based on discussions with the auditors during the audit process, MPBC believes that this Finding may relate to MPBC only with respect to certain compensation provisions. The Finding notes that certain compensation provisions such as an audit clause may be helpful in "collocation agreements involving a base rent and a percentage of sublease revenue." MPBC, however, has no such agreements. To the extent that the Findings are applicable, MPBC will comply with the Recommendation.

Finding 10:

MPBC will comply with the Recommendation and obtain all required approvals for its RSAs.

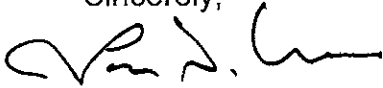
Finding 12:

It appears that while MPBC was mentioned in Finding 12, it was done so to point out that MPBC was the only agency of those noted in the Finding to properly maintain the required inventories. MPBC will continue to properly maintain the required inventories.

Thomas J. Barnickel, CPA
June 15, 2018
Page 2

My staff and I are available and willing to discuss any of the matters raised herein or other matters related to the audit with you and your staff.

Sincerely,

A handwritten signature in black ink, appearing to read "Larry D. Unger", with a stylized flourish at the end.

Larry D. Unger
President and CEO, Maryland Public Television

LDU/lt



Larry Hogan
Governor

Michael J. Frenz
Executive Director

.....
Members

Thomas E. Kelso
Chairman

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Gary L. Mangum
Manervia W. Riddick
James T. Smith, Jr.
Jodi C. Staltonis

.....
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David A. Raith
Chief Financial Officer

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June 28, 2018

Mr. Thomas J. Barnickel III, CPA
Legislative Auditor
State of Maryland
Office of Legislative Audits
State Office Building, Room 1202
301 West Preston Street
Baltimore, Maryland 21201

Re: Performance Audit Report – Department of Information Technology and
Selected State Agencies – Telecommunications Resource Sharing Agreements

Dear Mr. Barnickel:

Please find attached the Maryland Stadium Authority's ("MSA") responses to your audit report referenced above. MSA commented on findings 2, 6, 9 and 10. MSA appreciates the efforts of your office and will take the necessary steps to implement the corrected actions that are addressed in each of the findings.

If you have any questions or need additional information, please contact me at (410) 333-1560 ex 4144.

Very truly yours,

Michael J Frenz
Executive Director

Cc: Thomas Kelso, Chairman
MSA Board Members

Telecommunications Resource Sharing Agreements Maryland Stadium Authority

Objective 1 – Policies and Procedures

Finding #2

DoIT and most State agencies did not maintain comprehensive records of RSAs.

Recommendation:

We recommend that

- a. DoIT and the applicable State agencies maintain a comprehensive list of all RSAs for which they are responsible, and copies of the related agreements; and**
- b. DoIT direct agencies to periodically (such as, annually) report the status of all active RSAs.**

MSA concurs with the finding and recommendations.

MSA has created a comprehensive listing of the existing agreements and will continue to update it as new agreements or amendments are entered into. MSA also plans to utilize software that will assist with the billing of its resource sharing agreements.

MSA will submit a list of agreements to DoIT as of June 30, 2018.

Objective 2 - Compensation

Finding #6

DoIT did not monitor State agencies to ensure resource sharing monetary compensation was deposited into the MITDP Fund, as required by State law. As of April 2017, only \$60,000 had been deposited into the MITDP Fund since July 1, 2014. Our test disclosed five agencies improperly retained compensation totaling \$7.3 million during the period.

We recommend that

- a. DoIT establish a process to ensure that State agencies deposit all applicable RSA compensation into the MITDP Fund as required, and**
- b. State agencies ensure all applicable compensation is deposited into the MITDP Fund as required by State law and the aforementioned Attorney General's advice.**

MSA concurs with the finding and recommendations.

In accordance with the Attorney General's advice and Chapter 150 of the Laws of Maryland 2018, MSA is not required to deposit any past or future resource sharing revenue into the MITDP Fund.

Objective 4 – Agreement Execution and Approval

Finding #9

RSAs did not always include adequate provisions to ensure that the State received the appropriate compensation, was protected from liability, and had approved the equipment installations on State resources.

We recommend that each State agency

- a. Include the aforementioned significant provisions in all future RSAs, to the extent applicable; and**
- b. Modify its existing agreements to include the aforementioned significant provisions to the extent allowed by law.**

MSA concurs with the finding and recommendations.

MSA will review the standard template used for each new agreement and make sure the seven significant provisions are incorporated. Also, MSA will perform a complete review of existing agreements for any missing provisions and work towards completing amendments for any agreements that are missing any of the seven provisions.

Finding #10

Eight State agencies did not obtain DoIT, Legislative Policy Committee, and Board of Public Works approvals for 81 RSAs as required by law. In addition, an employee at one State agency unilaterally declined RSA proposal valued at \$442,500 without adequate justification or obtaining DoIT input.

We recommend that State agencies

- a. submit all RSAs for review, valuation, and applicable approvals in accordance with State law; and, in consultation with DoIT and LPC, determine the extent to which retroactive approval should be obtained for the aforementioned RSAs; and**
- b. provide all proposed resource sharing opportunities received from private companies to DoIT for its determination for the proposal's economic merit or benefits to the State.**

MSA disagrees with the audit recommendation that seeking retroactive approval for existing agreements is appropriate. A request for approval suggests there is an option to disapprove. There is not. These are binding contracts entered into in good faith by MSA and the other parties. Moreover, as an independent unit in the Executive Branch of the State government with its own governing board, MSA was never required to take any of the agreements to LPC or BPW for approval pursuant to Division II of the State procurement law.

In addition, MSA has identified the inconsistency between MSA's general exemption from Division II of the State procurement law and the requirements of SFP § 3A-307(c)(3),

which appear to grant the Secretary of DoIT the authority to determine that certain resource sharing agreements be treated as procurement contracts under Division II of the procurement law.

Although MSA disagrees with the audit recommendation, MSA will provide copies of its existing agreements to DoIT for review. MSA will work directly with DoIT on any further requirements that exist under applicable law.



Larry Hogan, Governor
Boyd Rutherford, Lt. Governor
Mark Belton, Secretary
Joanne Throwe, Deputy Secretary

June 18, 2018

Thomas J. Barnickel III, CPA
Legislative Auditor
State of Maryland Office of Legislative Audits
301 W Preston Street, Room 1202
Baltimore, Maryland 21201

Re: Statewide Audit of Resource Sharing Agreements

Dear Mr. Barnickel:

Thank you for the opportunity to respond to the recommendations in the audit report on Telecommunication Resource Sharing Agreements.

Recommendation 2(a) – *maintain a comprehensive listing of all RSAs for which they are responsible, and copies of the related agreements.*

Recommendation 3(a) – *develop and maintain comprehensive inventory databases of State-owned telecommunication towers and fiber optic cables*

Recommendation 3(b) – *use the inventory databases to plan for resource sharing opportunities...*

Recommendation 4(a) – *establish RSAs, including provisions for compensation, for all qualified agreements in accordance with State law.*

Recommendation 4(b) – *identify all collocations and pursue the feasibility of obtaining retroactive compensation*

Recommendation 5(a) – *monitor RSAs to ensure proper compensation is collected*

Recommendation 5(b) – *immediately pursue collection of unpaid compensation*

Recommendation 5(c) – *obtain documentation to verify the accuracy of any collocation compensation received*

Recommendation 10(a) – *submit potential RSAs to DoIT for review, valuation and applicable approvals...*

Recommendation 10(b) – *provide all proposed resource sharing opportunities from private companies to DoIT...*

Recommendation 11(a) – *review existing RSAs to identify any expired agreements*

Recommendation 11(b) – *execute new RSAs, using current DoIT-approved rates*

Recommendation 11(b) – *ensure that renewals valued at \$200,000 or more are submitted to BPW for approval...*

Subsequent to this review, we have taken action to bring the Department into compliance with the recommendations above. The Department is confident that our broader understanding of the requirements surrounding the identification and handling of RSAs will ensure continued compliance.

Mr. Thomas Barnickel, III
Page Two

Recommendation 2(b) – *periodically (such as annually) report the status of all active RSAs.*

The Department accepts the recommendation and is prepared to comply with all reporting requirements established by DoIT.

Recommendation 6(b) – *ensure compensation is deposited into the MITDP Fund*

The Department has confirmed the transfer of all applicable compensation to the MITDP Fund.

Recommendation 9(a) -- *include the significant provisions in all RSAs*

Recommendation 9(b) – *modify existing agreements to include the significant provisions*

Subsequent to this review, the Department worked with DoIT to ensure that the significant provisions were incorporated into the Department's RSAs.

Recommendation 12 – *maintain inventories of all telecommunication equipment (such as type, owner and location) attached to State-owned towers*

The Department will request that all entities (both public and private) using DNR towers provide detail on equipment attached to the tower or located in the telecommunication shelter at the base of the tower, and that the Department be advised of all subsequent changes.

Should you need additional information or clarification, please do not hesitate to contact Sharon Carrick, Director of our Audit and Management Review team at sharon.carrick@maryland.gov or 410-260-8783.

Sincerely,

A handwritten signature in black ink, appearing to read "M. Belton". The signature is fluid and cursive, with a large initial "M" and a long, sweeping underline.

Mark J. Belton

cc: Joanne Throwe, Deputy Secretary
Allan Fisher, Assistant Secretary, Mission Support
Sharon Carrick, Director, Audit & Management Review



LARRY HOGAN
GOVERNOR

BOYD K. RUTHERFORD
LT. GOVERNOR

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COLONEL
WILLIAM M. PALLOZZI
SUPERINTENDENT

July 3, 2018

Mr. Thomas J. Barnickel III, CPA
Senior Auditor
Office of Legislative Audits (OLA)
State Office Building, Room 1202
301 West Preston Street
Baltimore, Maryland 21201

Dear Mr. Barnickel:

This letter is in response to the final performance audit report on the Telecommunication Resource Sharing Agreements received in our office on June 13, 2018. The audit is related to certain resource sharing agreements between private telecommunications companies and the Maryland Department of State Police (MDSP), the Department of Information Technology, and other state agencies. MDSP's responses to the findings and recommendations by OLA are attached.

MDSP concurs with all findings and has begun implementing the recommendations outlined by OLA. We appreciate the time and effort put forth by OLA in identifying the problems associated with resource sharing agreements. MDSP looks forward to working with OLA to improve our Department and in turn the quality of the State's resources. If you need additional information regarding this response, please contact Mr. Paul Abell, Chief Financial Officer, at 410-653-4245.

Thank you again for the opportunity to respond to the statewide audit of the Telecommunications Resource Sharing Agreements.

Sincerely,

William M. Pallozzi
Superintendent

WMP:tmw

Attachment

cc: Mr. Paul Abell, Chief Financial Officer
Ms. Catherine Clarke, Senior Auditor, OLA

"Maryland's Finest"

**STATEWIDE AUDIT OF RESOURCE SHARING AGREEMENTS
RESPONSES FROM DEPARTMENT OF STATE POLICE (DSP)**

Finding 2: DoIT and most State agencies did not maintain comprehensive records of RSAs.

Recommendation 2

We recommend that

- a. DoIT and the applicable State agencies maintain a comprehensive list of all RSAs for which they are responsible, and copies of the related agreements; and
- b. DoIT direct agencies to periodically (such as, annually) report the status of all active RSAs.

DSP Response: Concur

- a. To date, DSP has maintained and implemented an electronic list of all its towers. As comprehensive data is collected, such as active RSAs and MOUs with other governmental entities, the file will be updated.
- b. DSP will send annual updates of the status of all active RSAs to DoIT to ensure the accurate compilation of data.

Finding 3: DoIT and certain State agencies lacked comprehensive inventories of State-owned telecommunication towers and fiber optic cables for potential resource sharing.

Recommendation 3

We recommend DoIT and the State agencies

- a. develop and maintain comprehensive inventory databases of State-owned telecommunication towers and fiber optic cables; and
- b. use the inventory databases to plan for resource sharing opportunities (such as, space on telecommunication towers available for lease and unused fiber optic cable) and to achieve statewide telecommunications infrastructure goals.

DSP Response: Concur

- a. DSP has developed a database to maintain an inventory of its towers. This inventory will include all equipment; private and public owned.
- b. As data is collected on its inventoried equipment, both private and public owned, tower load rating assessments are completed, and sites are assessed, the database will be updated to better assist us with planning for future RSA opportunities.

**STATEWIDE AUDIT OF RESOURCE SHARING AGREEMENTS
RESPONSES FROM DEPARTMENT OF STATE POLICE (DSP)**

Finding 10: Eight State agencies did not obtain DoIT, Legislative Policy Committee, and Board of Public Works approvals for 81 RSAs as required by law. In addition, an employee at one State agency unilaterally declined RSA proposals valued at \$442,500 without adequate justification or obtaining DoIT input.

Recommendation 10

We recommend that State agencies

- a. submit all RSAs for review, valuation, and applicable approvals in accordance with State law; and, in consultation with DoIT and LPC, determine the extent to which retroactive approval should be obtained for the aforementioned RSAs; and
- b. provide all proposed resource sharing opportunities received from private companies to DoIT for its determination of the proposal's economic merit or benefits to the State.

DSP Response: Concur

- a. DSP will submit all potential RSA opportunities to DoIT for review, valuation, and approval in accordance with State law.
- b. DSP will provide all proposed resource sharing opportunities received from private companies to DoIT for its determination of the proposal's economic merit or benefit to the State.

Finding 11: State agencies did not always document and obtain the required approvals when exercising renewal options on RSAs. In addition, private companies were allowed to continue using State resources after the RSAs expired without a negotiation of compensation terms.

Recommendation 11

We recommend that State agencies

- a. review existing RSAs to identify any expired agreements;
- b. execute new RSAs, using current DoIT-approved rates, as each RSA expires, and for the aforementioned 10 expired RSAs; and
- c. ensure that renewals valued at \$200,000 or more are submitted to BPW for approval unless the State agency clearly presented the renewal option when the RSA was originally approved, including the RSAs noted above.

DSP Response: Concur

- a. DSP is working with DoIT to obtain new RSAs for those identified as expired.
- b. DoIT determines the rate of compensation and will create the leases to be taken before BPW for approval. Should DSP receive a new request for tower use, DSP would work with DoIT. DoIT would make a determination of the proposal's economic merit or benefits to the State. Once agreements are executed DSP will retain copies of them.
- c. DSP will work with DoIT to submit renewals valued at \$200,000 or more to BPW for approval.

**STATEWIDE AUDIT OF RESOURCE SHARING AGREEMENTS
RESPONSES FROM DEPARTMENT OF STATE POLICE (DSP)**

Finding 12: State agencies did not always maintain inventories of private telecommunication equipment on towers.

Recommendation 12

We recommend that State agencies maintain inventories of all private telecommunication equipment (such as, type, owner, and location) attached to State-owned towers.

DSP Response: Concur

DSP is currently in the process of updating the inventory of all public and private owned equipment on its towers and maintaining this data in its database.



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June 29, 2018

Thomas J. Barnickel III, CPA
Legislative Auditor
301 W. Preston Street, Room 1202
Baltimore, Maryland 21201

Re: Statewide Audit of Resource Sharing Agreements (RSA)

Dear Mr. Barnickel:

Enclosed please find the Baltimore City Community College response to Statewide Audit of Resource Sharing Agreements. The College has responded, as requested, only to specific findings involving the College. Our response to each issue follows:

Finding 9

RSAs did not always include adequate provisions to ensure that the State received the appropriate compensation, was protected from liability, and had approved the equipment installations on State resources:

BCCC will work with DoIT (as the State-determined oversight agency for the College on such matters) to include the aforementioned provisions in future RSAs. The College will also work with DoIT to modify existing agreements, to the extent possible given their active-executed status, to include the aforementioned provisions.

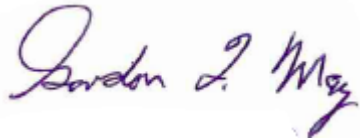
Finding 11

State agencies did not always document and obtain the required approvals when exercising renewal options on RSAs. In addition, private companies were allowed to continue using State resources after the RSAs expired without a negotiation of compensation terms:

BCCC will work with DGS and DoIT (as the State-determined oversight agency for the College on such matters) to review existing RSAs to identify any expired agreements. Any expired agreements are in a hold-over status, with the College intending to renew such leases. The College will also work with DoIT to execute new RSAs, using current DoIT-approved rates, as each RSA expires, and will continue to work with DoIT to ensure that renewals valued at \$200,000 or more are submitted to BPW for approval.

Thank you for the opportunity to respond.

Sincerely,

A handwritten signature in purple ink that reads "Gordon F. May". The signature is written in a cursive, flowing style.

Gordon F. May, PhD
President and CEO



State of Maryland

**Maryland
Institute for
Emergency Medical
Services Systems**

653 West Pratt Street
Baltimore, Maryland
21201-1536

*Larry Hogan
Governor*

*Donald L. DeVries, Jr., Esq.
Chairman
Emergency Medical
Services Board*

410-706-5074
FAX: 410-706-4768

June 28, 2018

Thomas J. Barnickel III, CPA
Legislative Auditor
State of Maryland
Office of Legislative Audits
State Office Building, Room 1202
301 West Preston Street
Baltimore, Maryland 21201

Dear Mr. Barnickel:

Below is the Maryland Institute for Emergency Medical Services Systems' (MIEMSS) response to your Department of Information Technology and Selected State Agencies – Telecommunication Resource Sharing Agreements draft performance audit report.

Finding 3

DoIT and State agencies lacked comprehensive inventories of State-owned telecommunication towers and fiber optic cables for potential resource sharing.

Recommendation 3

We recommend DoIT

- a. develop and maintain comprehensive inventory databases of State-owned telecommunication towers and fiber optic cables, and**
- b. use the inventory databases to plan for resource sharing opportunities (such as, space on telecommunication towers available for lease and unused fiber optic cable) and to achieve statewide information technology infrastructure goals.**

MIEMSS concurs with the recommendation to have DoIT develop and maintain a comprehensive inventory database. However, this will only be beneficial if it is directly accessible to state agencies and there is a process in place to ensure it is being kept up to date.

MIEMSS also concurs with the recommendation to utilize the comprehensive inventory database for planning for resource sharing opportunities. In addition, MIEMSS views the state towers as critical assets and a substantial investment for Public Safety. They are finite resources that have a maximum load capacity and this load capacity should be reserved for Public Safety. This reserved capacity should include not only today's requirements but also future requirements. MIEMSS suggests that an excess reserve capacity for Public Safety of 25% be maintained as part of any RSA agreement.

Finding 12**State agencies did not always maintain inventories of telecommunication equipment on towers.****Recommendation 12****We recommend that State agencies maintain inventories of all telecommunication equipment (such as, type, owner, and location) attached to State owned towers.**

MIEMSS partially concurs with the recommendation. MIEMSS will continue to account for all capital assets purchased by the agency and maintain accurate inventory records in accordance with DGS guidelines. These guidelines require each agency to maintain accurate and updated inventory records for all capital assets under the agency's control. MIEMSS will also maintain records of any telecommunications equipment placed on the towers or in the shelters by entities for which MIEMSS has entered into an RSA.

Very truly yours,

A handwritten signature in blue ink that reads "Patricia S. Gainer". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Patricia S. Gainer, JD, MPA
Acting Co-Executive Director

AUDIT TEAM

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Audit Manager

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