Managerial Summary

A. Objective, Scope, and Methodology

We have completed our review of the Department of Information Technology for the period July 1, 2015 to June 30, 2016. The purpose of this audit was to evaluate whether the City of Chesapeake's (City) Department of Information Technology (DIT) was providing services in an economical, efficient, and effective manner, whether its goals and objectives are being achieved, and whether they were complying with applicable City procedures. The audit included reviews and evaluations of procedures, practices, and controls of the various divisions of the DIT on a selective basis. All divisions of the DIT, including performance measures for Enterprise Application Services, Administration, Enterprise Software Development, Computer/Network Operations Center, Network Support, Desktop Support, Mainframe Operations, Geographic Information Systems (GIS), Enterprise Financial System, E-Gov, Radio Systems Maintenance and Administration, and Data Security Administration were subject to evaluation. We attempted to identify performance information that appeared to be relevant to the department's operations. We also attempted to identify and address any additional problem areas as requested by DIT or determined from the audit itself.

We conducted this performance audit 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 finding and conclusions based on our audit objectives.

DIT employed a work force of approximately 55 full-time positions and 1.5 part-time positions for FY2015. Its budget for fiscal 2015 exceeded $10.6 million dollars, and accounted for approximately 1.1% of the City's budget.

The City budgeted approximately $381M for multi-year capital projects in FY2016. Those projects included infrastructure for public safety and other City departments, the City's Constitutional Officers, and schools. Of that, approximately $22.8 million was designated for DIT infrastructure, and systems, and 12 for DIT capital projects scheduled in FY2016. Of these 12 projects, the five projects largest in cost were the Project 25 Radio System ($9.6 million), Mainframe Migration ($5.5 million), Electronic Plan & Permit System ($3.2 million), CAMA implementation ($1million), and the Enterprise Wide Tech budgeted ($750,000). The chart below highlights these projects in relation to the 12 DIT projects combined. (Note: The Library and Police Mobile Communication Security DIT projects were excluded from this analysis since DIT was not responsible for those projects.)

Major Observations and Conclusions

Based on our review, we determined that DIT had accomplished its overall mission of providing centralized and decentralized automated information systems technology services to City departments and the Chesapeake School Administration. However, we did identify several significant issues that needed to be addressed. These issues included the following:

- DIT Governance challenges and legacy system issues
- Access Controls and the Active Directory
- Archiving Processes
- PeopleSoft Financial System Issues
- 911 Statistical Call Data
- Heat Ticketing System
- DIT Staffing Challenges

DIT Officials were fully aware of these issues and addressed them in the Self-Assessment and department responses included with this audit. Police Officials were also aware of the 911 Statistical Call Data issues and addressed them in their responses.

This report, in draft, was provided to DIT and Police officials for their review and responses. Their comments have been considered in the preparation of this report. These comments have been included in the Managerial Summary, the Audit Report, and Appendices A and B. DIT and Police management, supervisors, and staffs were very helpful throughout the course of this audit. We appreciated their courtesy and cooperation on this assignment.

B. Performance Information

1. Overview

DIT was one of the City's three internal service funds. Its expenditures were not related to a single department since it also included contingencies and expense provisions that were allocated to individual departments. DIT provided necessary computing resources throughout the City and billed its services to other City departments.

DIT provided centralized and decentralized automated information systems technology services to City departments and the Chesapeake School Administration. In addition, DIT managed radio and telephone systems serving City departments as well as the City's website, internet, and intranet. A brief description of each business unit is provided below:

Over the years DIT had been consistently recognized nationally:

	The City of Chesapeake is honored to have been again recognized by the Center for Digital Government as a top-ranked digital City government.
	Chesapeake's CIO was featured on the cover of StateTech Magazine for "virtualizing" servers, which saves the City $203,000 a year in hardware costs and $2,000 per month in electricity.
	IBM recognized Chesapeake as a "Smarter City" for its use of technology to serve citizens.
	The Public Technology Institute recognized Chesapeake for its use of Web 2.0 and social media tools in 2011.

2. New Initiatives and Emerging Issues

Modernization Migration Project

Over the last several years DIT has focused on improving the core infrastructure of the City's network. The next phase of the department's readiness focused on the application portfolio and human capital to not only leverage the investments already implemented, but grow the organization in order to meet the increasing demand of the digital age.

Accela Program

In November 2015, DIT implemented the Accela program for departments with permitting processes. As of July 7, 2016, DIT reported 1,953 individuals who had conducted business online for a total of 5,783 transactions since the Accela program went live in November 2015. This was approximately 12 times higher than the 445 permits that were processed in the mainframe last year. The Accela system had also collected a total of $2,104,448 as of July 7, 2016.

C. Operational Issues

In reviewing DIT's operational processes, we identified several issues that needed to be addressed. The issues included DIT's Governance challenges, legacy system issues, and the DIT Modernization Project; access control and the Active Directory; the Archiving location; PeopleSoft Financial Issues; Heat Ticketing System; IT Staffing Challenges. As part of this audit, we included DIT's Self-Assessment of its own business processes as well as the status of the Public Safety New World Implementation.

1. **DIT Governance Challenges, Legacy Systems Issues, and the DIT Modernization Project**

Finding - The City did not have an IT Steering Committee and a Citywide IT Governance Policy to ensure cohesive ERP solutions for its financial systems resulting in long-term challenges for DIT.

Recommendation – The City should adopt a Citywide Governance Policy.

Response - **DIT agrees with the audit recommendation that it is in the best interest of the City to reduce the footprint of ERP systems currently in use by the City. Gartner describes this consolidation trend in the industry as a post-modern ERP approach whereby the end result is less complexity regarding interfaces, integrations, and synchronization of data coupling with much more agility and adaptability at a lower cost than it otherwise would be if the City continues along the current path. This also gives the City the opportunity to introduce innovative business processes to take advantage of faster more efficient ways of conducting business in a more transparent, collaborative, and measureable manner going forward.**

As for the governance policy, DIT will work along with the City Manager's office to ensure the key stakeholder enterprise business units such as Real Estate, Planning, Public Utilities, Public Works, Public Safety, and the constitutional officers are on board with the new governance process. In order for the City of Chesapeake to operate at a high level of efficiency and cost effectiveness while being properly aligned with stated City priorities it is necessary to establish a project governance mechanism for approval of all projects greater than $100,000 or where it is determined the impact of the project has sufficient enterprise impact that it warrants governance review. (Note: The full text of the response is included in the audit report).

2. **Access Control and the Active Directory**

Finding - The City did not have an Administrative Regulation requiring the Human Resources Department (HR) to promptly notify DIT of new hires, and changes in employees' status. This resulted in DIT's untimely disabling of active directories for some employees and volunteers who were no longer working for the City.

Recommendation - The City should develop an Administrative Regulation requiring HR to promptly notify DIT of new hires, and changes in employees' status.

Response - **DIT agrees with the audit findings and will revamp the draft policy attached in the overall audit report to include clear directives for each department working with Human Resources to provide timely and accurate information to address this issue. With the new help desk service desk application being implemented with IT Service Management (ITSM), we will be able to automate**

workflows that will help enforce the pending policy. (Note: The full text of the response is included in the audit report).

3. Information Technology Aspects of Business Continuity Management and Disaster Recovery

Finding - Backup tapes generated from DIT's private cloud were temporarily stored at the secondary data center. They were then transported based on the application owner's retention requirements to the vault in the City's municipal center, less than 400 feet away from the City's DIT center. Also, the PeopleSoft Financial System had not been archived which caused delays in processing data tables that had been kept open since the system was implemented in 2005.

Recommendation – The Finance Department should work with DIT to develop a plan for archiving PeopleSoft financial systems and records.

Response - DIT agrees with the audit's recommendation. The new Public Safety Operations Building (PSOB) will become a dual data center with active-active network capability to address disaster recovery and business continuity. In fact, the model is already implemented within a limited scope by utilizing the city's private cloud to capture and store backups that are designed with DIT's active-active network architecture state.

Finance archiving: DIT will continue to work with the City's school and the City's Finance department to address this issue. Without a proper archiving agreement and tool in place, PeopleSoft records will continue to grow thus eventually impacting timely access to data and impeding speedy recovery to data within a reasonable window from a disaster.

4. PeopleSoft Financial Issues

Finding - The PeopleSoft Financial System was purchased but not fully implemented due to budget constraints, resulting in the City paying maintenance fees for software modules that were not being used. In addition, unused modules were supplemented with additional systems creating a need for integration, which increased complexity and decreased efficiency.

Recommendation – DIT should continue to evaluate future enterprise application replacements, and consider whether it is in the City's best interest to continue to expand the City's PeopleSoft ERP footprint, use alternative applications, or consider other technologies such as cloud computing (SaaS).

Response - DIT agrees with the audit recommendation. In fact, the formal governance adoption as outlined in issue #1 is a forerunner to resolving this issue. The Department of Information Technology (DIT) will be following the Gartner strategic roadmap to address the following:

- **Enable innovation to take place**
- **Allow for the exploration and discovery of functions, business processes, and technologies**
- **Provide innovative solutions with improved, well-defined, and measurable outcomes**
  (Note: The full text of the response is included in the audit report).

5. Public Safety and the New World System

Finding - For the most part, the Public Safety Departments was satisfied with the state of information technology in the City and progress was being made daily. However, there was a need to replace the Shadow IT staff that supported the Fire Department with DIT personnel.

Recommendation – DIT should continue ongoing efforts with the New World Implementation.

Response - DIT agrees with the audit recommendation. New World conducted a second round of training for Fire and Police staff that remedied several issues. The new fire alerting system is already included in the future capital request.

6. 911 Statistical Call Data

Finding – Statistical call data from the Aurora Cassidian system showed an increasing trend of unanswered 911 calls in 2015 due to staffing shortages for Emergency Communications Dispatchers.

Recommendation – The City should take steps to address Emergency Communications staffing shortages to reduce the number of unanswered calls.

Response – (from the Chief of Police) I have reviewed the audit report and concur with the findings. It should be noted that some of the concerns identified by the audit are being addressed through prior, existing, and future budgets. In order of priorities of the items that are left unsettled are: 1.) increased staffing; and 2.) salaries. In addressing staffing, we have expanded our recruiting efforts and are presently exploring additional methods to reach people who desire to and can perform these essential functions, including partnering with Tidewater Community College to develop work-force solutions to help us recruit and retain dispatchers. However, these efforts can prove to be ineffective if we cannot offer competitive salaries; therefore, I will be requesting Human Resources to conduct a pay and compensation study. (Note: The full text of the response is included in the audit report).

7. Heat Ticketing System, the Help Desk, and Operations

Finding - DIT was working with a HEAT Ticketing System that no longer served the City's needs.

Recommendation – DIT should continue the system update.

Response - DIT agrees with the audit recommendation. DIT is in the final stages of selecting the vendor for the new Help Desk service tool. (Note: The full text of the response is included in the audit report).

8. DIT Staffing Challenges

Finding - There were City employees performing IT functions (referred to as Shadow IT) that were not a part of DIT. However, DIT did not have sufficient staff to support the all of the City's DIT systems and infrastructure. Thus, the entire comprehensive view of technology support within the City was obscured.

Recommendation - The City should consider bringing DIT staff assigned to other departments under the direct supervision of DIT.

Response - DIT concurs with the audit findings. DIT is currently in discussion with the Fire Administration staff to determine the duplicate IT efforts. DIT has an extremely successful enterprise IT agreement with Public Safety and will continue to evaluate and make recommendation for technical resources as needed. (Note: The full text of the response is included in the audit report).

9. DIT Self-Assessment Using COBIT 5 Model

Finding – In 2015 DIT completed a COBIT[1] 5.0 self-assessment. This self-assessment found that the DIT was, on average, an "immature" department and that their systems and processes needed substantial growth to reach what would be considered an optimal level of performance.

Recommendation - DIT should continue to improve its' process and procedures in order to move from its' immature state to that of full innovation and optimization. We also recommend that DIT continue to perform its Self-Assessment annually to monitor the maturity levels of DIT processes overall.

Response - We will begin with the ITIL structure to address many of these issues addressed in this audit.