

# Text Comparison

## Documents Compared

Information Technology I.pdf

Information Technology II.pdf

## Summary

177 word(s) added

229 word(s) deleted

4865 word(s) matched

36 block(s) matched

To see where the changes are, scroll down.

# Bureau of Information Technology

## Overview

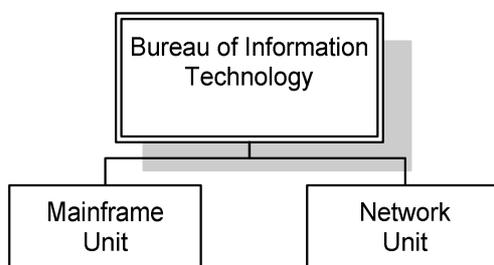
The City's Bureau of Information Technology (IT) is housed within the Department of Administration. IT is responsible for maintaining and improving technology for the City's users, including all software and mainframe applications, computers and mobile data terminals, phone system and internet and network connectivity. The Bureau supports all City departments and bureaus as well as multiple outside agencies.

The Bureau provides business applications through an IBM Z class mainframe. The system was replaced in 2007, and the City leased a new mainframe for five years. The mainframe has the following applications:

- METRO – Multi-jurisdictional police system that includes dispatch, reports, and parking tickets;
- DCIT – A City-wide set of applications that include code enforcement, ~~parks and recreation, property system, purchase orders~~, property taxes, utilities and treasury;
- DPER – Personnel system that houses all employee records, including leave, pay, applicants and grievances; and
- DREV – Water utility billing system.

In addition to mainframe services, the IT Bureau provides help desk and network services through an online help desk database system that tracks requests. Recently, responsibility for the City's telephone system was transferred to the Bureau.

The organizational structure of the IT Bureau is shown in the figure below.



The Bureau's Director of IT reports to the Business Administrator. The Bureau Director supervises staff in two units. The Mainframe Unit is comprised of mainframe programmers that work on one or more of the mainframe applications. Currently, two programmers devote most of their time to METRO, the police application. In the Network Unit, a network administrator oversees the entire network and supervises one help desk operator.

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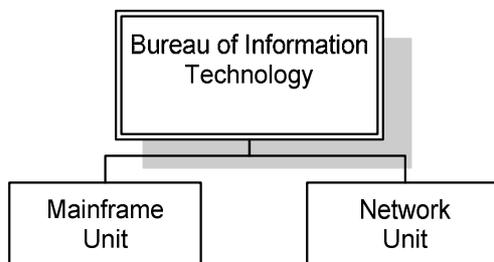
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The organizational structure of the IT Bureau is shown in the figure below.



The Bureau's Director of IT reports to the Chief of Staff/Business Administrator. The Bureau Director supervises staff in two units. The Mainframe Unit is comprised of mainframe programmers that work on one or more of the mainframe applications. Currently, two programmers devote most of their time to METRO, the police application. In the Network Unit, a network administrator oversees the entire network and supervises one help desk operator.

Staffing in the IT Bureau has been reduced in the last five years. Specifically, IT lost a Help Desk position and a programmer through attrition from FY2010 to FY2011. The loss of the help desk staff has made it difficult to provide adequate service to the City's internal and external users.

There are three IT positions that are housed in the IT Bureau, but are allocated to other areas. Water and Sewer Bureaus each have .5 FTE (Computer Programmer III) for a total of 1.0 FTE. The Office of the City Treasurer has 1.0 FTE Computer Programmer and .4 FTE ~~Computer Programmer Trainee~~. This leaves 6.6 FTEs for the IT Bureau, as depicted in the table below.

### Bureau of Information Technology - Staffing

	2006	2007	2008	2009	2010	2011
Budgeted	11.6	9.6	9.6	8.6	8.6	6.6
Filled	11.6	9.6	9.6	8.6	7.6	6.6

Source: Budgeted: City Report *Summary of Positions 2006-2011 Budget*

### Finances

Operational funding has been reduced which has led to the inability to fund most replacement personal computers (PCs) for staff unless grant funds have been available. For example, a grant allowed for the purchase of laptops in the Police Bureau. Software upgrades and new software purchases have been all but eliminated with the funding decreases over the years. The tables below show historical expenditures for the Bureau of IT.

### Bureau of Information Technology Historical Expenditures by Major Category

Category	2006 Actual	2007 Actual	2008 Actual	2009 Actual	2010 Actual	% Growth
Salaries & Wages	\$626,142	\$527,692	\$526,563	\$523,796	\$523,006	(16.5%)
Temporary	\$0	\$0	\$485	\$0	\$0	0.0%
Overtime	\$0	\$0	\$0	\$0	\$0	0.0%
Social Security	\$47,900	\$40,368	\$40,319	\$40,070	\$40,010	(16.5%)
Benefits	\$130,651	\$122,169	\$115,387	\$0	\$0	(100.0%)
Legal/Contract Services	\$4,240	\$24,894	\$21,600	\$23,520	\$25,790	508.3%
Maintenance/Service Contracts	\$71,697	\$120,803	\$93,866	\$100,420	\$81,461	13.6%
Software	\$34,507	\$40,812	\$31,295	\$17,054	\$23,577	(31.7%)
Data Processing	\$5,662	\$7,001	\$11,146	\$10,694	\$11,956	111.2%
Lease Purchase	\$207,239	\$147,821	\$128,015	\$125,019	\$61,878	(70.1%)
Other Miscellaneous	\$19,167	\$9,095	\$48,249	\$12,724	\$7,041	(63.3%)
<b>Total</b>	<b>\$1,147,204</b>	<b>\$1,040,656</b>	<b>\$1,016,926</b>	<b>\$853,296</b>	<b>\$774,720</b>	<b>(32.5%)</b>

Source: Historical Data from City As Provided

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## Bureau of Information Technology Historical Expenditures – Personnel and Non Personnel

Category	2006 Actual	2007 Actual	2008 Actual	2009 Actual	2010 Actual	% Growth
Personnel Expenditures	\$804,692	\$690,229	\$682,754	\$563,866	\$563,016	(30.0%)
Non Personnel Expenditures	\$342,512	\$350,427	\$334,172	\$289,430	\$211,704	(38.8%)
<b>Total</b>	<b>\$1,147,204</b>	<b>\$1,040,656</b>	<b>\$1,016,926</b>	<b>\$853,296</b>	<b>\$774,720</b>	<b>(32.5%)</b>

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### Assessment

The IT Bureau's work is primarily driven by its mainframe applications, user requests and changes needed to these internal systems. In 2010, over ~~62,000~~ mainframe transactions were recorded. A transaction is any keystroke accessing the mainframe from a terminal by one of the users and includes data entry as well as inquiries.

METRO accounted for over 86% of these transactions. The Police Bureau is IT's largest customer as METRO drives the use of the mainframe system in Harrisburg. METRO is also the most utilized of all the mainframe applications. If the Police Bureau ever moved to a different records management system, the City would need to consider a different platform to deliver business applications. The number of staff needed in IT is primarily driven by the use of the METRO system by both City and non-City users.

Thirty outside agencies also use METRO to some extent, but the Harrisburg Police Bureau remains the heaviest user; one of the other heavy users is Dauphin County. Nine County agencies utilize the system, including Juvenile Probation, the District Attorney's Office, the Criminal Investigations Division, the Sherriff's Office and Adult Probation. Nineteen outside police agencies also access the system, including other township police departments, the Pennsylvania Capitol Police, Constables and Harrisburg School District.

A recent attempt to replace METRO with a new records management system was unsuccessful due to the elimination of funding for the project. However, with the transfer of Harrisburg's 911 and dispatch functions to the Dauphin County Communications Center currently scheduled for June 2011, this issue should be raised again. The data in METRO will no longer be part of the dispatch system once the transfer to the County system is implemented. The current plan stated by the Police Bureau is to begin doing manual entry to maintain the historical data. Obviously, adding a manual dual entry process will consume significant Police resources. The City has had discussions with the County to hire a consultant to help automate this manual process, but the \$90,000 estimate by a vendor was deemed too costly for the City.

Relying on mainframe applications means that City staff and outside agencies are heavily reliant on IT staff for extracting data from the system and running ad hoc reports. Mainframe systems are text-based and not as user friendly as Windows or web-based systems, but are extremely fast for an experienced user. There is a wealth of historical data and information stored in the mainframe, but it requires significant knowledge of both the data and the application to extract it as needed. Two programmers have been with the City in excess of 15 years, and they have significant knowledge of both the data and the application. IT investigated the use of a web front-end for some of these applications, but decided against purchasing the software due to funding constraints.

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The City's network is composed of a Microsoft Active Directory network with a total of 12 servers and a virtual server environment with an additional 18 virtual servers. The City relies on Cisco for network switches with the core switch composed of a Cisco Catalyst 4006, which is beyond its "end-of-life" time span as defined by Cisco. The core switch is what ties the City's network together. The mainframe, network servers and all PCs rely on this core switch to function properly for data access and communications. If it were to fail, none of the systems could function.

The Network Unit currently consists of two staff members. This staffing level impacts the City's ability to provide help desk and network services. Network administration is done by one person who also provides help desk assistance and back up. The City has 122 laptops and 316 PCs. Most of these computers are seven to nine years old, with some greater than 10 years. Optimally, laptops and PCs should be replaced every three years. All of the users of this equipment are supported by the IT help desk. The help desk also fields calls and provides service to 470 City users and 130 external accounts, which include other police agencies, constables and vendors.

Virtually all printing is performed by City staff on personal ink jet printers, and nearly all printers and copiers are not networked. This is not efficient in terms of use of City funding for printers and copiers. There is no requirement that printers or copiers be routed through the IT Bureau prior to purchase, and the IT Bureau has not had funding available to network the existing printers and copiers.

The City's financial system is handled by the server-based SunGard Pentamation application. The IT Bureau does not provide support for this application; it is administered by the Bureau of Financial Management. The IT Bureau's Network Administrator adds users as needed. Currently Pentamation is not linked to DCIT, the Office of the Treasurer's mainframe application. As outlined in the Department of Administration chapter, this non-connectivity requires Financial Management staff to manually enter data daily from the Treasury system into Pentamation. An interface is needed between Pentamation and the mainframe to eliminate manual data entry. This will allow for more effective use of Financial Management staff and reduce the opportunity for human error. An IT best practice is an Enterprise Resource Planning (ERP) solution, which would eliminate the need for the mainframe by integrating all data and information throughout the organization into one system. However, this option may be cost prohibitive, given the City's current and expected financial and staffing constraints.

The IT Bureau was recently given responsibility for the telephone system, and there is no maintenance contract for it. Some of the equipment in the City's telephone system is more than 20 years old. Some bureaus that are located outside of downtown Harrisburg have their own phone system for their remote sites. Replacement parts for the main system are becoming scarce. Users are also experiencing operational challenges with the old system. For example, some police officers and field staff in operational departments do not have voice mail. This inhibits the ability for residents to contact them directly. Other departments and bureaus expressed a desire for a phone system with newer equipment, less down time and reliable voice mail.

As evidenced by the issues raised above, the City has had limited funds to maintain and expand its IT infrastructure. However, cities that do not invest in technology fall significantly behind and limit their ability to improve services, manual processes and stay current with the needs and expectations of their users and citizens.

The tables below show the IT Bureau's budgeted expenses for 2011 and projected expenses through 2015, based on the assumptions detailed in the Introduction chapter.

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### Bureau of Information Technology - Projected Expenditures by Major Category

Category	2011 Budget	2011 Estimated	2012 Projected	2013 Projected	2014 Projected	2015 Projected	% Growth
Salaries & Wages	\$413,649	\$413,649	\$414,971	\$416,332	\$417,734	\$418,697	1.2%
Temporary	\$0	\$0	\$0	\$0	\$0	\$0	0.0%
Overtime	\$0	\$0	\$0	\$0	\$0	\$0	0.0%
Social Security	\$31,645	\$31,644	\$31,745	\$31,849	\$31,957	\$32,030	1.2%
Benefits	\$0	\$0	\$0	\$0	\$0	\$0	0.0%
Legal/Contract Services	\$23,952	\$23,952	\$24,147	\$24,362	\$24,640	\$24,960	4.2%
Maintenance/ Service Contracts	\$87,626	\$87,626	\$88,765	\$90,185	\$91,809	\$93,645	6.9%
Software	\$45,000	\$45,000	\$45,585	\$46,314	\$47,148	\$48,091	6.9%
Data Processing	\$13,900	\$13,900	\$13,917	\$13,937	\$13,961	\$13,989	0.6%
Lease Purchase	\$36,300	\$36,300	\$36,776	\$37,307	\$37,993	\$38,791	6.9%
Other Miscellaneous	\$11,250	\$11,250	\$11,236	\$11,221	\$11,204	\$11,185	(0.6%)
<b>Total</b>	<b>\$663,322</b>	<b>\$663,321</b>	<b>\$667,142</b>	<b>\$671,509</b>	<b>\$676,445</b>	<b>\$681,388</b>	<b>2.7%</b>

Source: 2011 City Adopted Budget, 2011 – 2015 PEL Estimated/Projected

### Bureau of Information Technology Projected Expenditures - Personnel and Non Personnel

Category	2011 Budget	2011 Estimated	2012 Projected	2013 Projected	2014 Projected	2015 Projected	% Growth
Personnel Expenditures	\$445,294	\$445,293	\$446,716	\$448,181	\$449,691	\$450,727	1.2%
Non Personnel Expenditures	\$218,028	\$218,028	\$220,426	\$223,327	\$226,754	\$230,661	5.8%
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## Initiatives

The City's IT infrastructure is antiquated and some of its key components are beyond their lifecycle. Replacement for some critical network components – such as the City's core Cisco Catalyst 4000 switch – must be replaced to avoid the significant risk of prolonged system-wide outages. Given the City's current fiscal situation, the immediate, short-term strategy for IT is to replace mission critical end-of-life equipment with minimal investments and to work with Dauphin County to purchase equipment and cost effectively contract with them for services. A longer term strategy is outlined in the last initiative of this chapter which addresses a more holistic view of critical hardware, software and network capacity.

<b>IT01.</b>	<b>Replace mission critical IT components</b>	
	<b>Target outcome:</b>	Improved system reliability
	<b>Five year financial impact:</b>	Not available
	<b>Responsible party:</b>	Director of Information Technology

The City's core switch is the critical infrastructure that allows all of the City's computing operations to function, including critical applications (tax administration, utility billing, METRO police system, personnel and payroll), PCs, servers and all other network devices. The core switch and a portion of ancillary Cisco switches are out of date and no longer supported by Cisco. In order to prevent system interruptions or failure, the City shall replace the core switch and ancillary Cisco switches.

Additionally, the air conditioning in the City Government Center data center failed recently, representing another single point of failure in the City's infrastructure. When the air conditioning failed, the room reached over 98 degrees and could have damaged or caused a complete failure of vital hardware systems housed in the data center. The City shall repair or replace the temperature monitoring device in the data center to provide an alert to the Communications Center when the room is approaching a dangerous temperature and/or when there is an electrical power outage. This equipment could save significant amounts of money by avoiding additional overheating events and related damage to multiple systems.

This initiative is estimated to cost \$66,000 based on vendor estimates provided to the City's IT staff. If the temperature monitoring device cannot be repaired, the estimated replacement cost for the data center is \$1,500. These are one-time costs and should be programmed in the first year. The City and Act 47 Coordinator are pursuing funding for this initiative through a Commonwealth EIP grant.

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	<b>Five year financial impact:</b>	Not available
	<b>Responsible party:</b>	Director of Information Technology

The City's core switch is the critical infrastructure that allows all of the City's computing operations to function, including critical applications (tax administration, utility billing, METRO police system, personnel and payroll), PCs, servers and all other network devices. The core switch and a portion of ancillary Cisco switches are out of date and no longer supported by Cisco. In order to prevent system interruptions or failure, the City shall replace the core switch and ancillary Cisco switches.

Additionally, the air conditioning in the City Government Center data center failed recently, representing another single point of failure in the City's infrastructure. When the air conditioning failed, the room reached over 98 degrees and could have damaged or caused a complete failure of vital hardware systems housed in the data center. The City shall repair or replace the temperature monitoring device in the data center to provide an alert to the Communications Center when the room is approaching a dangerous temperature and/or when there is an electrical power outage. This equipment could save significant amounts of money by avoiding additional overheating events and related damage to multiple systems.

This initiative is estimated to cost \$66,000 based on vendor estimates provided to the City's IT staff. If the temperature monitoring device cannot be repaired, the estimated replacement cost for the data center is \$1,500. These are one-time costs and should be programmed in the first year. The City and Act 47 Coordinator are pursuing funding for this initiative through a Commonwealth EIP grant.

<b>IT02.</b>	<b>Discontinue vendor contract for disaster recovery</b>	
	<b>Target outcome:</b>	Cost reduction
	<b>Five year financial impact:</b>	<del>\$191,250</del>
	<b>Responsible party:</b>	Director of Information Technology

The City's has a \$45,000 annual disaster recovery contract for its mainframe computer system with IBM. While it is generally advisable to have a disaster recovery contract, the savings should be used to replace significantly outdated PCs and other critical IT equipment.

Under the City's contract with its current disaster recovery vendor, the vendor agrees to give priority to the City if a regional event occurred which impacted other organizations. The contract also includes an annual test of the system at the vendor's disaster recovery site in New York, but this testing provision has only been used once in the last five years due to the cost of staff travel to get to the site.

If a natural or manmade disaster occurred, the City could procure disaster recovery services from its current vendor for a one-time fee. However, priority would be given to the vendor's clients under contract. If the current vendor was unavailable, the City could look to other vendors to provide this service.

Therefore, the City shall cancel its current disaster recovery contract at a cost savings of \$45,000 each year from 2012-2015. ~~Only the first quarterly payment has been made to the vendor for FY2011, so the first year savings are estimated to be \$11,250. The 2011-2015 savings are \$191,250.~~ As funding becomes available, this contract should be reinstated.

### Financial Impact

2011	2012	2013	2014	2015	Total
<del>\$11,250</del>	\$45,000	\$45,000	\$45,000	\$45,000	<del>\$191,250</del>

<b>IT03.</b>	<b>Replace outdated personal computers</b>	
	<b>Target outcome:</b>	Improved efficiency and reliability
	<b>Five year financial impact:</b>	(\$60,000)
	<b>Responsible party:</b>	Network Administrator

Well over half of the desktop and laptop computers in the City are more than seven years old, and many are more than nine years old. This leads to performance issues and equipment breakages, which makes support difficult and equipment unproductive and costly to maintain. The software on this equipment is old, with many computers running Microsoft Office 2000 or one of several different

<b>IT02.</b>	<b>Discontinue vendor contract for disaster recovery</b>	
	<b>Target outcome:</b>	Cost reduction
	<b>Five year financial impact:</b>	<u>\$180,000</u>
	<b>Responsible party:</b>	Director of Information Technology

The City's has a \$45,000 annual disaster recovery contract for its mainframe computer system with IBM. While it is generally advisable to have a disaster recovery contract, the savings should be used to replace significantly outdated PCs and other critical IT equipment.

Under the City's contract with its current disaster recovery vendor, the vendor agrees to give priority to the City if a regional event occurred which impacted other organizations. The contract also includes an annual test of the system at the vendor's disaster recovery site in New York, but this testing provision has only been used once in the last five years due to the cost of staff travel to get to the site.

If a natural or manmade disaster occurred, the City could procure disaster recovery services from its current vendor for a one-time fee. However, priority would be given to the vendor's clients under contract. If the current vendor was unavailable, the City could look to other vendors to provide this service.

Therefore, the City shall cancel its current disaster recovery contract at a cost savings of \$45,000 each year from 2012-2015. The 2011-2015 savings are estimated at \$180,000. As funding becomes available, this contract should be reinstated.

### Financial Impact

2011	2012	2013	2014	2015	Total
\$0	\$45,000	\$45,000	\$45,000	\$45,000	<u>\$180,000</u>

<b>IT03.</b>	<b>Replace outdated personal computers</b>	
	<b>Target outcome:</b>	Improved efficiency and reliability
	<b>Five year financial impact:</b>	(\$60,000)
	<b>Responsible party:</b>	Network Administrator

Well over half of the desktop and laptop computers in the City are more than seven years old, and many are more than nine years old. This leads to performance issues and equipment breakages, which makes support difficult and equipment unproductive and costly to maintain. The software on this equipment is old, with many computers running Microsoft Office 2000 or one of several different versions of Windows Operating Systems and other outdated software. According to feedback from

versions of Windows Operating Systems and other outdated software. According to feedback from City staff, users are routinely frustrated with the speed and reliability of these machines, which are long overdue for replacement.

Dauphin County has a three-year replacement cycle for personal computers (PCs), which is consistent with industry best practices. The County currently leases their PCs. After they are replaced, they are sent back to the service provider. The County is willing to consider changing its leasing agreement and investigating a buy-back option or some other provision that would allow the City of Harrisburg to purchase the PCs for a very low cost. Preliminary discussions with the County put this estimate at \$200 per PC. Although a three-year replacement cycle is the best practice in PC replacement, this is not a standard that the City can currently afford. By purchasing inexpensive, used equipment annually from the County, the City can replace the oldest PCs that are out of warranty with minimal cost. As additional funds are available, the City could use the County's contract and purchase new PCs at a lower cost. This would ensure standardization of equipment and software and improve the efficiency of help desk service. The County may also allow the City to purchase software through the County at a reduced rate through a volume licensing agreement it has established with Microsoft.

The cost of this initiative is \$20,000 per year based on replacing 100 PCs annually in 2011, 2012 and 2013. This cost does not include software. The total cost to the City is anticipated to be \$60,000 over the next three years.

### Financial Impact

2011	2012	2013	2014	2015	Total
(\$20,000)	(\$20,000)	(\$20,000)	\$0	\$0	(\$60,000)

<b>IT04.</b>	<b>Eliminate all personal printers and maintenance on printers</b>	
	<b>Target outcome:</b>	Cost reduction
	<b>Five year financial impact:</b>	<del>\$60,000</del>
	<b>Responsible party:</b>	Network Administrator

Throughout the City, staff use individual personal inkjet printers. With the exception of a few printers, City-wide network printers are not used, and most printers are more than seven years old and out of warranty. ~~Over 100 printers are currently covered by a very costly maintenance contract, approximately 50 printers are not covered at all.~~ In order to reduce costs and improve the efficiency, the City shall eliminate all individual ~~printers and their maintenance contracts.~~

In addition to the printers, there are five large copiers. The leases for these non-networked printers expire in June 2011. Upon expiration, these leases and maintenance contracts for the current machines shall not be renewed. When new leases are bid they should be for digital, networked copiers with printing capabilities.

~~Savings from the printer and copier contracts shall be used to purchase network printers as funds are available. The advantage of networked printers is that multiple users can access the same~~

City staff, users are routinely frustrated with the speed and reliability of these machines, which are long overdue for replacement.

Dauphin County has a three-year replacement cycle for personal computers (PCs), which is consistent with industry best practices. The County currently leases their PCs. After they are replaced, they are sent back to the service provider. The County is willing to consider changing its leasing agreement and investigating a buy-back option or some other provision that would allow the City of Harrisburg to purchase the PCs for a very low cost. Preliminary discussions with the County put this estimate at \$200 per PC. Although a three-year replacement cycle is the best practice in PC replacement, this is not a standard that the City can currently afford. By purchasing inexpensive, used equipment annually from the County, the City can replace the oldest PCs that are out of warranty with minimal cost. As additional funds are available, the City could use the County's contract and purchase new PCs at a lower cost. This would ensure standardization of equipment and software and improve the efficiency of help desk service. The County may also allow the City to purchase software through the County at a reduced rate through a volume licensing agreement it has established with Microsoft.

The cost of this initiative is \$20,000 per year based on replacing 100 PCs annually in 2011, 2012 and 2013. This cost does not include software. The total cost to the City is anticipated to be \$60,000 over the next three years.

### Financial Impact

2011	2012	2013	2014	2015	Total
(\$20,000)	(\$20,000)	(\$20,000)	\$0	\$0	(\$60,000)

<b>IT04.</b>	<b>Eliminate all personal printers and maintenance on printers</b>	
	<b>Target outcome:</b>	Cost reduction
	<b>Five year financial impact:</b>	<u>Not available</u>
	<b>Responsible party:</b>	Network Administrator

Throughout the City, staff use individual personal inkjet printers. With the exception of a few printers, City-wide network printers are not used, and most printers are more than seven years old and out of warranty. In order to reduce costs and improve the efficiency, the City shall eliminate all individual printers.

In addition to the printers, there are five large copiers. The leases for these non-networked printers expire in June 2011. Upon expiration, these leases and maintenance contracts for the current machines shall not be renewed. When new leases are bid they should be for digital, networked copiers with printing capabilities.

Any savings from the elimination of printer and copier contracts shall be used to purchase network printers as funds become available. The advantage of networked printers is the ability for multiple users to access the same printer and send items to the networked copiers to print. Furthermore,

printer and send items to the networked copiers to print. Furthermore, eliminating stand-alone inkjet printers will help reduce expenditures on consumables, including inkjet cartridges.

A cost effective way to deploy network printing throughout the City is to only lease copiers that have network printing capabilities. The City shall require that all copiers and printers be purchased by IT to ensure they are networked and purchased/leased on larger contract-riding vehicle for savings.

~~The savings from this initiative are based on the current annual maintenance contract for printers which is \$16,000 per year with a five year savings of \$68,000.~~

~~**Financial Impact**~~

<del>2011</del>	<del>2012</del>	<del>2013</del>	<del>2014</del>	<del>2015</del>	<del>Total</del>
<del>\$4,000</del>	<del>\$16,000</del>	<del>\$16,000</del>	<del>\$16,000</del>	<del>\$16,000</del>	<del>\$68,000</del>

<b>IT05.</b>	<b>Develop custom interface between County dispatch system and METRO</b>	
	<b>Target outcome:</b>	Improved efficiency
	<b>Five year financial impact:</b>	Not available
	<b>Responsible party:</b>	Director of Information Technology and Police Chief

The IT Bureau has explored building a custom interface between the County dispatch system and METRO. The Bureau received a quote of over \$90,000 to link these two systems. As mentioned earlier, without an interface between the two systems, Police Bureau staff will have to manually enter dispatch data into METRO. Manual entry is not an effective or efficient use of resources. Therefore, the City shall develop a custom interface between the County dispatch system and METRO.

The \$90,000 investment to build the custom interface will pay for itself in improved efficiency and reduce staffing costs from Police personnel that would have been dedicated to manually enter data into METRO. This initiative has a one-time cost of \$90,000 in the first year and is based on a quote received by IT from a software vendor. Assuming that one clerk/typist were added to provide data entry for all police data, at a cost of approximately \$35,000 in salary, then the return on investment for this interface would be paid back in less than three years. The City and Act 47 Coordinator are pursuing funding for this initiative through a Commonwealth EIP grant.

<b>IT06.</b>	<b>Eliminate manual entry between Pentamation and mainframe applications</b>	
	<b>Target outcome:</b>	Improved efficiency
	<b>Five year financial impact:</b>	Not available
	<b>Responsible party:</b>	Director of Information Technology

eliminating stand-alone inkjet printers will help reduce expenditures on consumables, including inkjet cartridges.

A cost effective way to deploy network printing throughout the City is to only lease copiers that have network printing capabilities. The City shall require that all copiers and printers be purchased by IT to ensure they are networked and purchased/leased on larger contract-riding vehicle for savings.

<b>IT05.</b>	<b>Develop custom interface between County dispatch system and METRO</b>	
	<b>Target outcome:</b>	Improved efficiency
	<b>Five year financial impact:</b>	Not available
	<b>Responsible party:</b>	Director of Information Technology and Police Chief

The IT Bureau has explored building a custom interface between the County dispatch system and METRO. The Bureau received a quote of over \$90,000 to link these two systems. As mentioned earlier, without an interface between the two systems, Police Bureau staff will have to manually enter dispatch data into METRO. Manual entry is not an effective or efficient use of resources. Therefore, the City shall develop a custom interface between the County dispatch system and METRO.

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<b>IT06.</b>	<b>Eliminate manual entry between Pentamation and mainframe applications</b>	
	<b>Target outcome:</b>	Improved efficiency
	<b>Five year financial impact:</b>	Not available
	<b>Responsible party:</b>	Director of Information Technology

Bureau of Financial Management staff are currently performing manual entry into the Pentamation system. The daily Treasurer's report is run from DCIT (a mainframe application). It is then provided to Financial Management where the Accounting Manager then manually enters this data into Pentamation daily. A year ago, the IT Bureau developed a script to eliminate this procedure. However, the Financial Management Bureau was not using it because some of the account codes did not match. As a result, information had to be entered manually. More frequent communication between these two bureaus would eliminate some of this unnecessary work. The IT Bureau is currently working to solve this problem. Manual data entry shall be eliminated as it wastes valuable staff time and is an opportunity for a hand-keying mistake. The daily Treasurer's report provides critical cash balance data and must be accurately and quickly provided.

Bureau of Financial Management staff are currently performing manual entry into the Pentamation system. The daily Treasurer's report is run from DCIT (a mainframe application). It is then provided to Financial Management where the Accounting Manager then manually enters this data into Pentamation daily. A year ago, the IT Bureau developed a script to eliminate this procedure. However, the Financial Management Bureau was not using it because some of the account codes did not match. As a result, information had to be entered manually. More frequent communication between these two bureaus would eliminate some of this unnecessary work. The IT Bureau is currently working to solve this problem. Manual data entry shall be eliminated as it wastes valuable staff time and is an opportunity for a hand-keying mistake. The daily Treasurer's report provides critical cash balance data and must be accurately and quickly provided.

A second process that is being hand-keyed into Pentamation is payroll. The Budget Manager is currently hand-keying the pay rates from ~~DPER (personnel mainframe application)~~ every two weeks. Staff performing this work estimates it takes approximately 45 minutes every two weeks to perform this manual entry. Financial Management shall seek assistance from the IT Bureau to develop a script to upload payroll data into Pentamation to eliminate this unnecessary duplicate entry.

Financial Management staff shall review these and any other manual entries into Pentamation with IT to determine how to eliminate this duplicate work.

<b>IT07.</b>	<b>Conduct a needs assessment for an Enterprise Resource Planning system</b>	
	<b>Target outcome:</b>	Improved efficiency
	<b>Five year financial impact:</b>	<del>(\$75,000)</del>
	<b>Responsible party:</b>	Director of Information Technology and Director of Finance

The City shall hire a consultant with expertise in evaluating and implementing government Enterprise Resource Planning (ERP) systems to assess the current Sungard Pentamation ERP system and the major mainframe applications. Part of this project shall also include a needs assessment based on input from all ~~departments~~. One of the major deliverables would be a detailed study, including specific recommendations as to how the City would either replace or enhance the Sungard Pentamation system and major mainframe applications with an emphasis toward process improvement and enhanced service delivery for all City services.

The consultant shall also explore a shared services model with the County or another government entity similar to the arrangement that Allegheny County and the City of Pittsburgh have in place. This could offer substantial cost savings for the City. Dauphin County uses the GEMS ERP system and Microsoft Dynamics for some functions. Based on initial discussions with Dauphin County, there are reservations on the part of County staff to enter into shared services with Harrisburg. Therefore, these issues would have to be explored thoroughly before implementation. The IT requirements of the City's authorities shall also be explored as part of this process.

While the City's mainframe applications perform well and offer outstanding reliability, it is certainly not a best practice solution for cities the size and complexity of Harrisburg. It will take time to convert or replace mainframe applications with server-based systems and to move all essential applications off the mainframe to a server-based platform or cloud-hosted environment. While the City's IT mainframe support is good, a server-based environment would make it easier to find skilled IT workers and provide a much improved end user experience.

A second process that is being hand-keyed into Pentamation is payroll. The Budget Manager is currently hand-keying the pay rates from ADP every two weeks. Staff performing this work estimates it takes approximately 45 minutes every two weeks to perform this manual entry. Financial Management shall seek assistance from the IT Bureau to develop a script to upload payroll data into Pentamation to eliminate this unnecessary duplicate entry.

Financial Management staff shall review these and any other manual entries into Pentamation with IT to determine how to eliminate this duplicate work.

<b>IT07.</b>	<b>Conduct a needs assessment for an Enterprise Resource Planning system</b>	
	<b>Target outcome:</b>	Improved efficiency
	<b>Five year financial impact:</b>	<u>(\$80,000)</u>
	<b>Responsible party:</b>	Director of Information Technology and Director of Finance

The City shall hire a consultant with expertise in evaluating and implementing government Enterprise Resource Planning (ERP) systems to assess the current Sungard Pentamation ERP system and the major mainframe applications. Part of this project shall also include a needs assessment based on input from all City departments, as well as THA. One of the major deliverables would be a detailed study, including specific recommendations as to how the City would either replace or enhance the Sungard Pentamation system and major mainframe applications with an emphasis toward process improvement and enhanced service delivery for all City services.

The consultant shall also explore a shared services model with the County or another government entity similar to the arrangement that Allegheny County and the City of Pittsburgh have in place. This could offer substantial cost savings for the City. Dauphin County uses the GEMS ERP system and Microsoft Dynamics for some functions. Based on initial discussions with Dauphin County, there are reservations on the part of County staff to enter into shared services with Harrisburg. Therefore, these issues would have to be explored thoroughly before implementation. The IT requirements of the City's authorities shall also be explored as part of this process.

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DCED Act 47 grant funding is being sought to offset the cost of this initiative.

### Financial Impact

2011	2012	2013	2014	2015	Total
\$0	<u>(\$80,000)</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>(\$80,000)</u>

### Financial Impact

2011	2012	2013	2014	2015	Total
\$0	<del>(\$75,000)</del>	\$0	\$0	\$0	<del>(\$75,000)</del>

<b>IT08.</b>	<b>Complete a needs assessment and audit of existing phone system and components</b>	
	<b>Target outcome:</b>	Cost reduction
	<b>Five year financial impact:</b>	<del>(\$35,000)</del>
	<b>Responsible party:</b>	Director of Information Technology

The City's NORTEL phone system ~~is more than 20 years old. Parts and service to maintain the system are becoming scarce.~~ Any failure of the phone system could result in prolonged outages, which would affect all City functions, including public safety. IT recently assumed responsibility for the system from the Operations and Revenue Bureau and discovered that no maintenance contract exists for the telephone system.

The City shall hire a consultant to perform a needs assessment and audit of existing phone lines used at City facilities. The consultant shall be contracted to:

1. Analyze existing telephone bills and reconcile them with the actual lines installed at City facilities. This will likely reduce the City's phone bills since unused lines can be removed and any over charges by Verizon can be identified. The consultant shall also identify changes in the types of lines used at the City and possibly replace traditional trunk lines with flat-rate Primary Rate Interface (PRI) lines which offer considerable savings.
2. Conduct a needs assessment and explore other cost saving opportunities.
3. Write the specifications for an RFP that would include the purchase of a new phone and voice mail system that shall cover all City facilities and staff.
4. Develop a needs summary so that any future phone system purchases shall address user needs.

Based on an informal quote received from a vendor, this work is expected to cost approximately \$35,000 in 2011. It has a one-time cost, and the City could see some cost savings if the audit of phone lines includes some that can be eliminated or are being billed to the City erroneously.

### Financial Impact

2011	2012	2013	2014	2015	Total
<del>(\$35,000)</del>	\$0	\$0	\$0	\$0	<del>(\$35,000)</del>

<b>IT08.</b>	<b>Complete a needs assessment and audit of existing phone system and components</b>	
	<b>Target outcome:</b>	Cost reduction
	<b>Five year financial impact:</b>	<u>(\$50,000)</u>
	<b>Responsible party:</b>	Director of Information Technology

The City's NORTEL phone system uses technology that is more than 20 years old. While some parts of it have been replaced, some parts of it are nearly 30 years old. Any failure of the phone system could result in prolonged outages, which would affect all City functions, including public safety. IT recently assumed responsibility for the system from the Operations and Revenue Bureau and discovered that no maintenance contract exists for the telephone system.

The City shall hire a consultant to perform a needs assessment and audit of existing phone lines used at City facilities. The consultant shall be contracted to:

1. Analyze existing telephone bills and reconcile them with the actual lines installed at City facilities. This will likely reduce the City's phone bills since unused lines can be removed and any over charges by Verizon can be identified. The consultant shall also identify changes in the types of lines used at the City and possibly replace traditional trunk lines with flat-rate Primary Rate Interface (PRI) lines which offer considerable savings.
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4. Develop a needs summary so that any future phone system purchases shall address user needs.

Based on an informal quote received from a vendor, this work is expected to cost approximately \$35,000 in 2011. It has a one-time cost, and the City could see some cost savings if the audit of phone lines includes some that can be eliminated or are being billed to the City erroneously. DCED Act 47 grant funding is being sought to offset the cost of this initiative.

### Financial Impact

2011	2012	2013	2014	2015	Total
<u>(\$50,000)</u>	\$0	\$0	\$0	\$0	<u>(\$50,000)</u>

<b>IT09.</b>	<b>Pursue long-term strategic IT initiatives</b>	
	<b>Target outcome:</b>	Improved efficiency and reliability
	<b>Five year financial impact:</b>	Not available
	<b>Responsible party:</b>	Director of Information Technology

There are several technological improvements that have the potential to greatly improve the City's IT infrastructure and service delivery. Due to the time and expense required to effectively implement these improvements, they are not recommended as initiatives for this Recovery Plan. As the City's fiscal condition improves, these items shall be evaluated for implementation.

#### **Voice Over Internet Protocol (VOIP)**

One area the City shall consider after having an assessment of telecommunications needs by a consultant is to prepare for a VOIP telephone system replacement. In preparation for this future transfer, the City shall be proactive with all future wiring. Any new cable drops shall be Cat 6e which will provide the reliability and bandwidth to accommodate future growth.

#### **Other Departmental Needs**

A number of other departmental needs were noted by the Act 47 Coordinator and shall be explored by the IT Bureau. Geographic information services (GIS) at the City have been virtually nonexistent after the last dedicated GIS employee left the City in 2005. Since then, a private engineering firm has been providing limited assistance. There is a need for GIS services to help departments and bureaus better manage and access information to do their jobs. This was mentioned as a need by three separate bureaus. For GIS to be an effective management tool, in-house capacity shall be developed and work shall be completed to bring layers up to date and add new layers.

Additionally, upgrades in the parking ticket handheld devices, mobile data computers in fire vehicles and training for all City staff were mentioned as needs. There is also a need for connectivity between each offsite office.

<b>IT09.</b>	<b>Pursue long-term strategic IT initiatives</b>	
	<b>Target outcome:</b>	Improved efficiency and reliability
	<b>Five year financial impact:</b>	Not available
	<b>Responsible party:</b>	Director of Information Technology

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