

**Performance Audit:
Department of Public Works
Office of Transportation
Inventory Management**

August 2014

**City Auditor's Office
City of Atlanta**



CITY OF ATLANTA
City Auditor's Office
Leslie Ward, City Auditor
404.330.6452

August 2014

Why We Did This Audit

The Office of Transportation had the highest risk score in our 2013 risk assessment. Risk factors related to the size and complexity of the office and indicators related to planning and performance, including large budget-to-actual variances in fiscal year 2012. The Mayor's 311 Customer Service Tactical Advisory Team also expressed concern about inventory management.

What We Recommended

To improve the accuracy of inventory data and inventory management processes, the commissioner of public works should:

- Ensure that the Office of Transportation develops written policies and procedures for inventory management, including comprehensive physical inventory counts.
- Ensure that transportation works with procurement to create procedures for identifying and disposing of surplus and obsolete inventory.
- Consider purchasing a barcode system to facilitate more efficient and accurate inventory tracking.

The commissioner of public works should work with the Department of Information Technology to:

- Create a process for tracking surplus inventory in the Hansen 8 database.
- Develop reports in Hansen 8 to allow Office of Transportation staff to better manage its inventory.
- Provide training for Office of Transportation staff responsible for managing inventory on how to generate customized reports.

To improve the security of inventory, the commissioner of public works should:

- Repair the perimeter fencing at the North Avenue facility and ensure that the lights covering the inventory area of the Claire Drive yard are functioning.
- Install cameras in all inventory areas identified in the security assessment.
- Install key card access to the inventory areas of the Claire Drive and North Avenue facilities.

For more information regarding this report, please contact Stephanie Jackson at 404.330.6678 or sjackson@atlantaga.gov

Performance Audit:

Department of Public Works

Office of Transportation Inventory Management

What We Found

The Office of Transportation's recorded inventory is inaccurate, which leaves the office vulnerable to loss or theft. As of February 2014, the office's records showed \$13.7 million in inventory on hand. In a sample of 68 randomly selected items, the quantities on hand differed from the amounts recorded in inventory for all but one item. Staff was unable to locate about one-third of the items we selected, which included building materials, tools, and supplies. Overall, the office was unable to account for about 78,000 individual items from our sample at a value of over \$2.1 million. Most of the dollar variance was from asphalt, which the office does not store on site.

The Office of Transportation does not conduct comprehensive inventory counts and could not produce adequate documentation of adjustments made during their inventory count. The office also does not track or remove surplus items from the recorded or physical inventory. Management requires no regular reports about the quantity and value of inventory on hand or the accuracy of physical inventory counts. The office was unable to provide us with written inventory management policies that include detailed work processes and physical inventory count procedures.

The office transitioned to an updated version of its inventory management module in December 2013. No staff was able to produce inventory reports at the beginning of the audit. The Office of Transportation needs additional support and training to achieve the benefits of the new system.

Public works staff conducted a physical security assessment of transportation facilities in 2013 that found the facilities lacked security equipment and infrastructure. Transportation has implemented some recommendations from the assessment but not all. North Avenue has a downed fence and non-functional cameras. Claire Drive appears more secure although it lacks exterior cameras and had non-functional lights above an external inventory area.

Management Responses to Audit Recommendations

Summary of Management Responses		
Recommendation #1:	The commissioner of public works should develop written policies and procedures for inventory management including physical inventory counts and compensating controls.	
Response & Proposed Action:	Warehouse personnel will conduct periodic critical items and random items counts, and an annual wall-to-wall inventory.	Agree
Timeframe:	July 15, 2014	
Recommendation #2:	The commissioner of public works should perform annual wall-to-wall physical inventory counts that include reconciliations between system and physical quantities.	
Response & Proposed Action:	A wall-to-wall physical inventory will be conducted. The physical count will be reconciled against the amount reported in Hansen 8.	Agree
Timeframe:	July 15, 2014	
Recommendation #3:	The commissioner of public works should manually reconcile purchases to inventory until Hansen and Oracle are interfaced.	
Response & Proposed Action:	Storekeepers will manually reconcile Oracle and Hansen 8 systems every day.	Agree
Timeframe:	Immediately	
Recommendation #4:	The commissioner of public works should work with procurement to create procedures for identifying and disposing of surplus and obsolete inventory.	
Response & Proposed Action:	DPW warehouses will identify and dispose of surplus and obsolete inventory utilizing the City Website for Equipment sales and salvage contractors.	Agree
Timeframe:	30 - 60 Days	
Recommendation #5:	The commissioner of public works should purchase a barcode system to facilitate more efficient and accurate inventory tracking.	
Response & Proposed Action:	Purchase of the Hansen 8/Infor Public Sector Barcode module for approximately \$61,000.	Agree
Timeframe:	180 - 210 Days	
Recommendation #6:	The commissioner of public works should ensure that transportation identify its needs for training, development of management reports, and support for handling surplus inventory.	
Response & Proposed Action:	All Storekeepers and Managers will have refresher training and more extensive training in the reports, issuing, receiving, and stock areas in Hansen 8/Infor Public Sector.	Agree
Timeframe:	30 - 60 Days	
Recommendation #7:	The commissioner of public works should repair the perimeter fencing at the North Avenue facility and ensure that the lights covering the inventory area of the Claire Drive yard are functioning.	
Response & Proposed Action:	Both will be repaired as part of the total security upgrade for both facilities.	Agree
Timeframe:	30 - 60 Days	
Recommendation #8:	The commissioner of public works should install security cameras in all the areas where they store inventory and at the entrances to facilities.	
Response & Proposed Action:	The cameras will be installed as part of the total security upgrade for both facilities.	Agree
Timeframe:	180 Days	
Recommendation #9:	The commissioner of public works should install key card access to the inventory areas of the Claire Drive and North Avenue facilities so that there is a record of who accessed these areas and when.	
Response & Proposed Action:	This system is needed especially at that facility.	Agree
Timeframe:	180 Days	
Recommendation #10:	The chief information officer should ensure that Hansen 8 interfaces with Oracle once the Oracle upgrade is complete.	
Response & Proposed Action:	Hansen 8 and Oracle should be interfaced after the upgrade in Oracle.	Agree
Timeframe:	To Be Determined	



CITY OF ATLANTA

LESLIE WARD
City Auditor
lward1@atlantaga.gov

AMANDA NOBLE
Deputy City Auditor
anoble@atlantaga.gov

CITY AUDITOR'S OFFICE
68 MITCHELL STREET SW, SUITE 12100
ATLANTA, GEORGIA 30303-0312
(404) 330-6452
FAX: (404) 658-6077

AUDIT COMMITTEE
Don Penovi, CPA, Vice Chair
Marion Cameron, CPA
Cheryl Allen, Ph.D., CPA
Daniel Ebersole

August 18, 2014

Honorable Mayor and Members of the City Council:

We undertook this audit because we found the Department of Public Works' Office of Transportation posed the highest risk in our 2013 risk assessment. The office's large size and complexity carries with it inherit risks in managing inventory, such as potential theft and loss, shortages of critical items, and unnecessary purchases. In addition, The Mayor's 311 Customer Service Tactical Advisory Team noted in its December 2012 assessment that the Office of Transportation had no real-time inventory tracking system.

We found that the department was unable to locate about one third of the items we sampled for, at a value of over \$2.1 million. The office does not conduct comprehensive inventory counts and has weak inventory management controls, including a lack of employees skilled in using its inventory software. We also found physical security risks, such as downed perimeter fences and non-functional cameras.

Our recommendations to the commissioner of public works focus on developing policies and procedures to manage inventory, conduct future inventory counts, and ensure the physical security of public works facilities. We also recommend the commissioner of public works work with the Department of Information Technology to streamline the electronic inventory system and educate employees on its use.

The Audit Committee has reviewed this report and is releasing it in accordance with Article 2, Chapter 6 of the City Charter. We appreciate the courtesy and cooperation of city staff throughout the audit. The team for this project was Kwasi Obeng, Jamie Amos, Brad Garvey, Susannah Laramée Kidd, and Stephanie Jackson.

Handwritten signature of Leslie Ward.

Leslie Ward
City Auditor

Handwritten signature of Donald T. Penovi.

Donald T. Penovi, CPA
Vice Chair, Audit Committee

Office of Transportation

Table of Contents

Introduction.....	1
Background.....	1
Audit Objectives.....	4
Scope and Methodology	4
Findings and Analysis	7
Poor Inventory Management Increases Risk of Loss, Inefficiency	7
Quantity and Value of Inventory in Stock Is Unknown.....	8
Management Oversight of Inventory Is Inadequate	10
Use of Upgraded System to Manage Inventory Is Limited.....	14
Identified Security Deficiencies Are Unresolved	16
Recommendations	23
Appendices.....	25
Appendix A	
Management Review and Response to Audit Recommendations	27

List of Exhibits

Exhibit 1 Office Transportation Inventory Locations.....	2
Exhibit 2 Office Transportation Inventory Expenses from FY11 - Present	3
Exhibit 3 Number of Item Type Variances	8
Exhibit 4 Inventory Count Results.....	9
Exhibit 5 North Avenue Inventory Process.....	13

List of Figures

Figure 1 Barcode Already on Item	9
Figure 2 Assigned Number in Use	9
Figure 3 Downed fence in yard	17
Figure 4 One of the non-functional exterior cameras	17

Figure 5 Entrance - security booth	17
Figure 6 Lighting in yard.....	17
Figure 7 Lumber and granite cubs in North Avenue lot	17
Figure 8 Labeled boxes of PPEs in attic at North Avenue.....	17
Figure 9 Warehouse key lockbox	18
Figure 10 Key sign-out sheet.....	18
Figure 11 One of four observed interior cameras.....	18
Figure 12 Sign area camera mount.....	18
Figure 13 Two non-operational lights above exterior inventory area.....	19
Figure 14 Guard booth located several feet inside unsecured gate.....	19
Figure 15 Raw sign materials outside fenced area containing	19
Figure 16 Inventory outside fenced area.....	19
Figure 17 Equipment testing room	19
Figure 18 Equipment testing room	19
Figure 19 Gated staff entrance with entry keypad	20
Figure 20 Fenced area containing signal equipment	20
Figure 21 Locked room containing high value inventory.....	20
Figure 22 Pipes, wires or cables, pylons, drums in secured gated lot	20
Figure 23 Truck crew supply room	20
Figure 24 Makeshift wall.....	20

Introduction

This audit assesses inventory management within the Department of Public Works' Office of Transportation. We undertook this audit because the Office of Transportation had the highest risk score in our 2013 risk assessment. Risk factors primarily related to the size and complexity of the office and indicators related to planning and performance, including large budget-to-actual variances in fiscal year 2012. The Mayor's Office 311 Customer Service Tactical Advisory Team noted in its December 2012 assessment that the Office of Transportation had no real-time inventory tracking to ensure that assets were used properly, but made no recommendations related to inventory. Inherent risks in managing inventory include theft and loss, unexpected shortages of critical items, and unnecessary purchases of items already on hand. According to the US Government Accountability Office, physical controls and reliable inventory data are critical for maintaining operational efficiency and controlling costs.¹

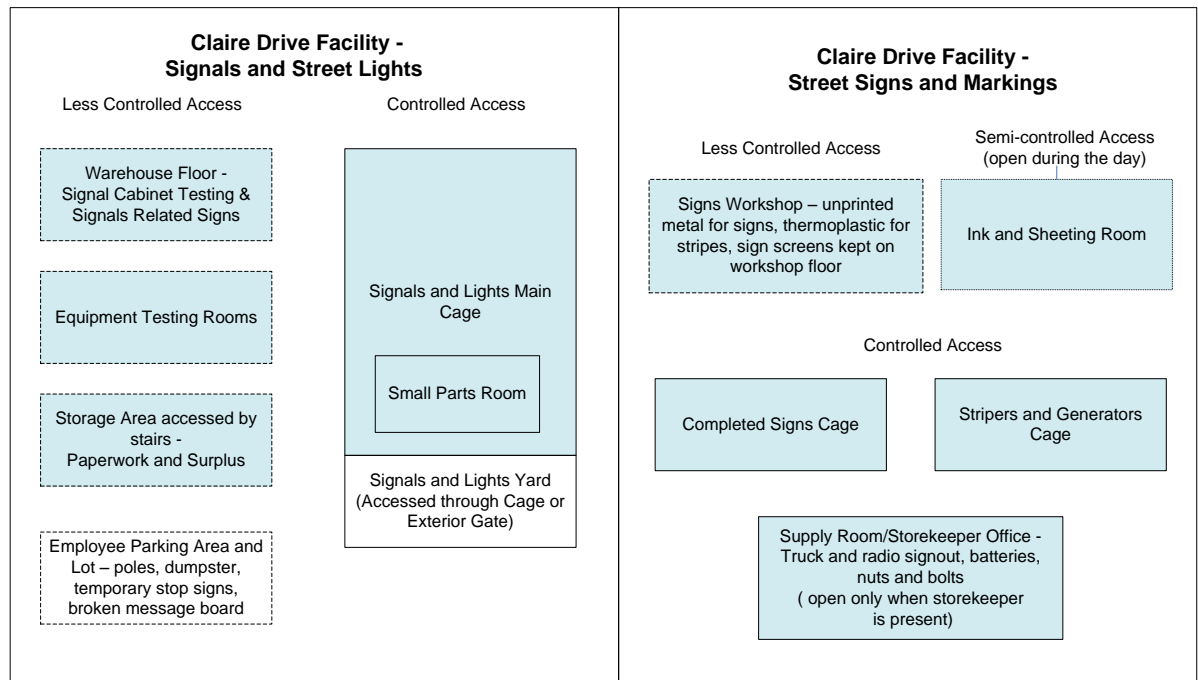
Background

The Office of Transportation is one of four offices under the Department of Public Works and is responsible for overseeing and maintaining the city's street network. Duties include traffic engineering; installing and maintaining traffic signals, street lights, and street signs; street maintenance; managing on-street parking; and managing capital projects.

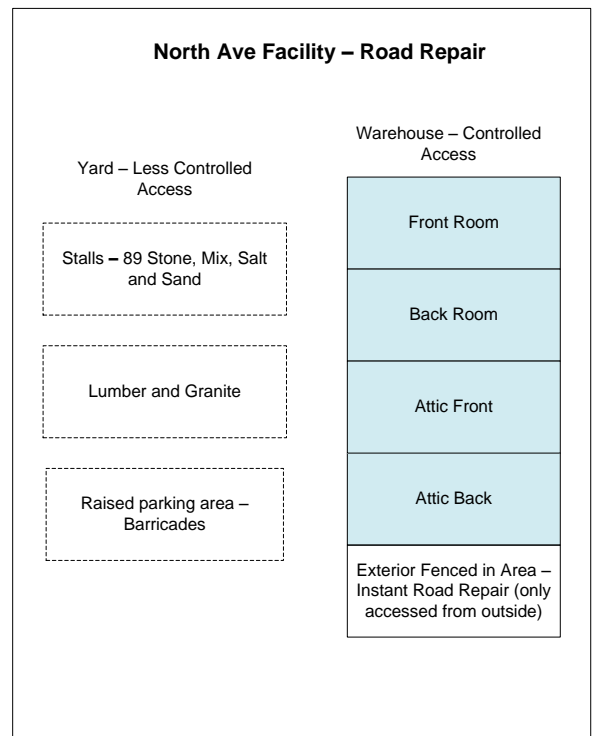
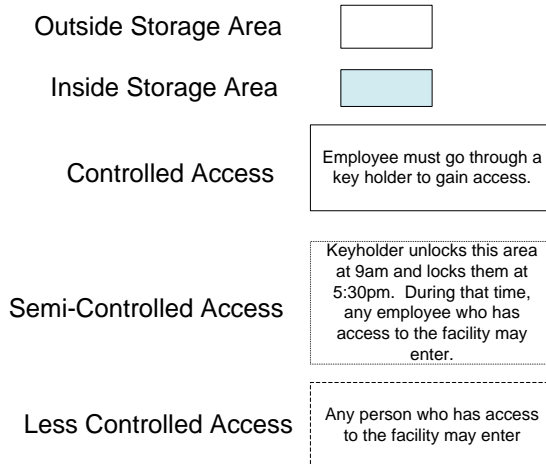
The office operates two warehouse facilities - one at North Avenue one at Claire Drive. The North Avenue facility is the base of operations for street and bridge maintenance. The Claire Drive facility houses two installations: street signs and markings and traffic signals and lights. The office maintains inventory and supplies at both the North Avenue and Claire Drive facilities appropriate for their respective operations (see Exhibit 1).

¹ US General Accounting Office (US Government Accountability Office), "Best Practices for Achieving Consistent, Accurate Physical Counts of Inventory and Related Property," 2002. p. 5.

Exhibit 1 Office Transportation Inventory Locations



Legend:

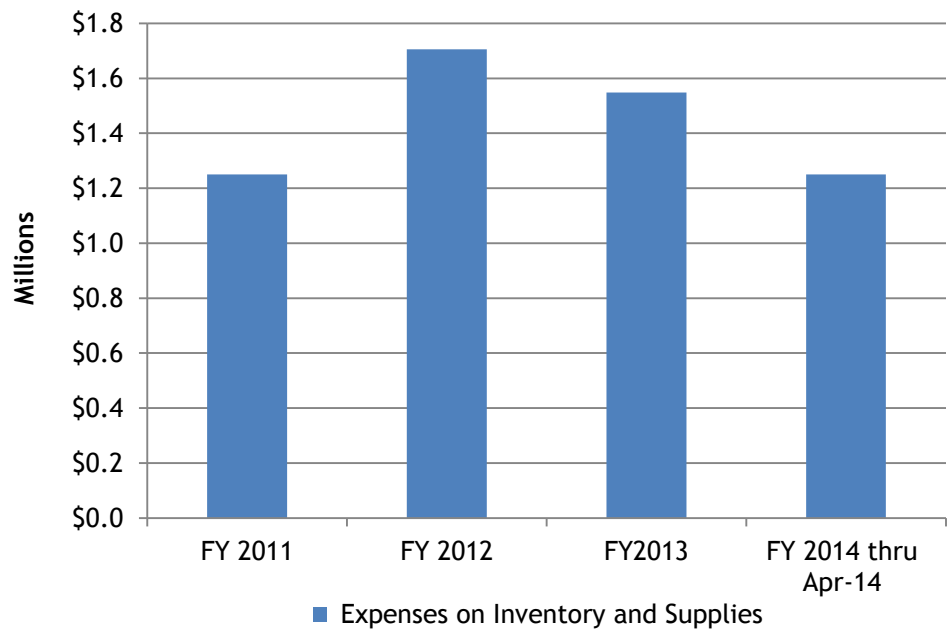


Source: Compiled from facility observations and information from the Office of Transportation

The Office of Transportation has one part-time and two full-time storekeepers who manage inventory at the North Avenue facility, and one storekeeper and a warehouse manager who manage inventory at the Claire Drive facility. These five employees report to a business manager, for a total of six employees who are responsible for inventory management. Installation chiefs and crew supervisors have access to inventory storage locations on an emergency basis.

The Office of Transportation's budget for fiscal year 2014 is \$24 million. Annual inventory expenditures, including supplies and small equipment, averaged \$1.5 million between fiscal years 2011 and 2013 (See Exhibit 2).

Exhibit 2 Office Transportation Inventory Expenses from FY11 – Present



Source: Oracle Financials

The Office of Transportation uses a Hansen inventory module. The Hansen inventory module is a database of inventory items that works with the Hansen software the Office of Transportation uses to track work orders. Storekeepers enter inventory into the Hansen inventory module as they receive it. This module does not yet interface with the city's Oracle financial system, so the storekeepers must also receive items into Oracle separately. The

Office of Transportation also uses the Hansen inventory module to associate items in inventory with work orders. According to the business manager, only the storekeepers, the warehouse manager, and the business manager have access to the Hansen inventory module. Office of Transportation employees use paper work orders and paper parts requisition forms in order to receive inventory from the storekeepers and to track the materials they use. In December 2013, the Office of Transportation migrated from Hansen 7 to Hansen 8, as part of a citywide conversion process.

The Office of Transportation uses just-in-time inventory for asphalt and concrete. The department issues blanket purchase orders for asphalt and concrete. Storekeepers enter the amounts of asphalt and concrete picked up from the vendor into the Hansen inventory module, although none is stored on site. Work crews pick up amounts needed for road repairs directly from the vendor.

Audit Objectives

This report addresses the following objectives

- Are controls in place to maintain accurate records and physical security of Office of Transportation inventory?
- Does the Office of Transportation manage inventory in a way that provides sufficient oversight?

Scope and Methodology

We conducted this audit in accordance with generally accepted government auditing standards. Our analysis covered the Office of Transportation's inventory data. Expenditure data focused on fiscal years 2011 through 2013.

Our audit methods included:

- Interviewing office of transportation management and staff to understand inventory policies and procedures and departmental practices
- Observing conditions and procedures at the installations and warehouses for securing inventory

- Reviewing city code and the city's property management and surplus policies
- Performing a physical check of inventory from a stratified random sample of 34 parts at each facility that holds inventory
- Interviewing staff in the Department of Information Technology responsible for the migration from Hansen 7 to Hansen 8 to understand the implementation of and training for staff on inventory software
- Researching best practices for managing inventory

Generally accepted government auditing 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.

Findings and Analysis

Poor Inventory Management Increases Risk of Loss, Inefficiency

The Office of Transportation's recorded inventory is inaccurate, which reduces accountability and leaves the office vulnerable to loss and theft. As of February 26, 2014, the office's records showed \$13.7 million in inventory on hand. We identified discrepancies in 67 of 68 randomly selected items. Staff was unable to locate about one third of the items we selected, including building materials, tools, and supplies. The quantities on hand for all but one of the remaining items differed from the amounts recorded in inventory. Overall, the office was unable to account for about 78,000 individual items from our sample at a value of \$2.2 million. Most of the dollar variance was from asphalt, which the office does not store on site.

Management requires no inventory reports for purchased or used items. The office does not conduct comprehensive inventory counts or identify surplus and obsolete items. The office's inventory management policies and procedures do not address inventory counts or surplus items.

Staff lacks a full understanding of Hansen 8 inventory management capabilities. Because staff could no longer run inventory reports customized for Hansen 7, they told us that they use paper purchase orders and a spreadsheet to track frequently used parts.

Public works staff conducted a physical security assessment of transportation facilities in 2013 that found the facilities lacked security equipment and infrastructure. Transportation has not fully implemented recommendations from the security assessment. North Avenue has a downed fence and non-functional cameras. Claire Drive appears more secure although it lacks exterior cameras and had non-functional lights above an external inventory area.

We recommend process and technological improvements, as well as repairs to existing facilities, to improve security and accuracy and to better manage inventory.

Quantity and Value of Inventory in Stock Is Unknown

The Office of Transportation's inventory records are inaccurate. We found discrepancies between the quantities recorded in inventory and quantities on hand for all but one of the items we sampled. Staff was unable to locate about one-third of the items, including building materials, tools, and supplies. As of February 26, 2014, records showed \$13.7 million in inventory on hand. We randomly sampled 68 items, which accounted for about 15% of the items recorded and 16% of the total value.

Of a sample of 68 item types (34 each at Claire Drive and North Avenue), we found 67 variances. We took a random sample of 34 items at each facility from an inventory report pulled from Hansen 8 on February 26, 2014. When we conducted a shelf count on March 5 and March 6, we identified discrepancies between the quantities on hand listed in the report and the quantities at the facilities in 67 of the 68 instances (see Exhibit 3).

Exhibit 3 Number of Item Type Variances

Sample Location	Number of Sample Items	Number of Sample Items with Variances
Claire Drive	34	34
North Avenue	34	33
Totals	68	67

Source: Auditor's sample

Overall, the Office of Transportation was unable to account for nearly \$2.2 million worth of sampled items; most of this discrepancy was asphalt that the office has issued purchase orders for but does not store on site (see Exhibit 4). Employees said that they enter all of the different types of asphalt into the system on one line and approximate how much was used when completing work orders. Although staff told us the department no longer uses the type of asphalt recorded in inventory, the system showed more than 36,000 tons as available, enough to pave 47 lane-miles of road. We can't tell how much of the asphalt was paid for and not used.

Exhibit 4 Inventory Count Results

Sample Location	Number of Parts Located	Quantity in Inventory System	Absolute Value of Quantity Variance	Dollar Value of Parts in System	Absolute Dollar Value of Variance
Claire Drive	36,801	32,123	8,655	\$134,699	\$57,943
North Avenue	7,996	70,361	76,501	\$2,093,779	\$2,099,181*
Totals	44,797	102,484	85,156	\$2,228,478	\$2,157,124

Source: Auditors' sample of 34 items at each location

The highest value discrepancy at Claire Drive was nearly \$18,000 for three traffic signal controller cabinets; five cabinets were listed on the inventory report and two were actually on hand. The highest value discrepancy at North Avenue, after the asphalt, was about \$16,000 for 31,811 bricks, which staff stated were not at the facility and are only kept on hand for use on special projects.

Staff could not locate 25 of the 68 items, 7 at Claire Drive and 18 at North Avenue. Staff members told us that they were unable to locate the items because they no longer use them; they order or fabricate them as needed, or the items could be out for crew use. Staff at North Avenue also said that some items in the system used to be located at the Hill Street facility, which is now closed.

Staff located 43 of the 68 sample items; 42 of the items had discrepancies between the amounts recorded in inventory and amounts on hand. Examples of discrepancies included over 4,000 feet of underground cable, 950 feet of wire, nearly 300 pairs of work gloves, and 71 paint suits.

Inventory staff cannot locate items based on Hansen identification numbers. The Office of Transportation assigns numbers to group items in general categories (such as EL for electrical in figure 2). These numbers do not correspond to a physical location in the warehouse.



Figure 1 Barcode Already on Item



Figure 2 Assigned Number in Use

A barcode-enabled software system that uses the serial numbers already on many items would allow Office of Transportation staff to efficiently locate and track inventory items (see figure 1). A barcode system also would increase the accuracy and efficiency of physical inventory counts and decrease errors that arise during the manual entry of data into the inventory software. The Hansen vendor provided staff with an initial quote of about \$61,000 to obtain the necessary software, equipment, and project administration to implement a barcode system.

We recommend the office perform annual wall-to-wall physical inventory counts that include reconciliations between system and physical quantities. Staff should also document adjustments in the system so that data in Hansen 8 reflects the inventory on hand.

We also recommend that the Office of Transportation purchase a barcode system to facilitate more efficient and accurate inventory tracking.

Management Oversight of Inventory Is Inadequate

The Office of Transportation has incomplete policies and procedures concerning inventory management. Current processes have led to inaccurate inventory data and lack of accountability, leaving inventory vulnerable to loss and theft. The inventory system does not interface with Oracle and staff does not reconcile purchases in Oracle with items received in Hansen. The last full inventory count did not result in accurate information about the inventory on hand. Use of some items, such as asphalt, is not accurately recorded and tracked and staff does not remove surplus items from the warehouse or from the Hansen system. Office of Transportation management does not require warehouse staff to report on inventory.

Transportation's last physical inventory count was incomplete and adjustments were not recorded in Hansen. Employees told us that they conduct full inventory counts annually and last conducted a full count in the summer of 2013. The last inventory count was not complete; however, staff counted active inventory items against customized reports generated in Hansen 7. These reports filtered out inactive and surplus inventory items still stored at the warehouses, and/or staff ignored these items when completing the physical count. Worksheets documenting the inventory count for the North Avenue facility did not indicate adjustments to the inventory database as a result of the count. Because staff did not

update Hansen 7 records to reflect actual inventory on hand, the Hansen 8 upgrade migrated inaccurate data to the new system.

Staff expressed additional concerns about how the count was conducted including inadequate segregation of duties or lack of supervision for approving and making adjustments to the inventory database. The warehouse staff expressed concerns about whether counters from other sections of the department were thorough and conscientious in their counts. The Office of Transportation did not use controls such as blind counts to ensure the counts were accurate. We also noted that some of the items in our sample did not have precise units of measurement, which could cause confusion about what units to count and create inaccurate results.

Transportation does not consistently remove obsolete or outdated items from the inventory and from Hansen. This creates inaccurate inventory reports and allows theft to go undetected. Transportation currently only removes broken items from the warehouse. During our site visits of both facilities, staff members told us that they no longer use various items in the warehouses. At the Claire Drive facility, staff showed us surplus inventory that they do not include in inventory counts mixed in with regular inventory supply. For example, there were poles in the storage yard and in an employee parking area that staff told us had not been used as long as they could remember. We pulled items in our sample that staff members told us they no longer use and could not locate. This suggests that surplus items have been removed from the warehouse without being removed from the database, or that items have been misplaced or stolen.

Best practices call for regular removal of surplus inventory by transfer to other departments, selling or donating the materials, or disposing of them if they cannot be used. According to city code, the Department of Procurement is responsible for disposing of all surplus supplies owned by the city, and no employee of the owning or disposing using agency may purchase the surplus. Currently, procurement has a procedure for listing items on www.publicsurplus.com for public auction. Agencies are responsible for determining which supplies are excess, reporting them to procurement, and submitting them for public auction.

Other options include selling items to a scrap metal contractor or donating items to a nonprofit organization with council approval. The Department of Procurement has negotiated a city-wide contract with a scrap metal vendor. Transportation currently uses this

vendor to pick up scrap metal on an as-needed basis. Industry best practices state that organizations should determine what to include in surplus inventory when conducting a full inventory count.

We recommend that the Office of Transportation work with procurement to create procedures for identifying and disposing of surplus and obsolete inventory. Management should identify items to be included in surplus inventory during a full inventory count. Transportation should also submit surplus inventory that has continuing value for public auction.

We also recommend that the Office of Transportation work with the Department of Information Technology to create a process for marking inventory as surplus in the Hansen 8 database and separating surplus from regular inventory.

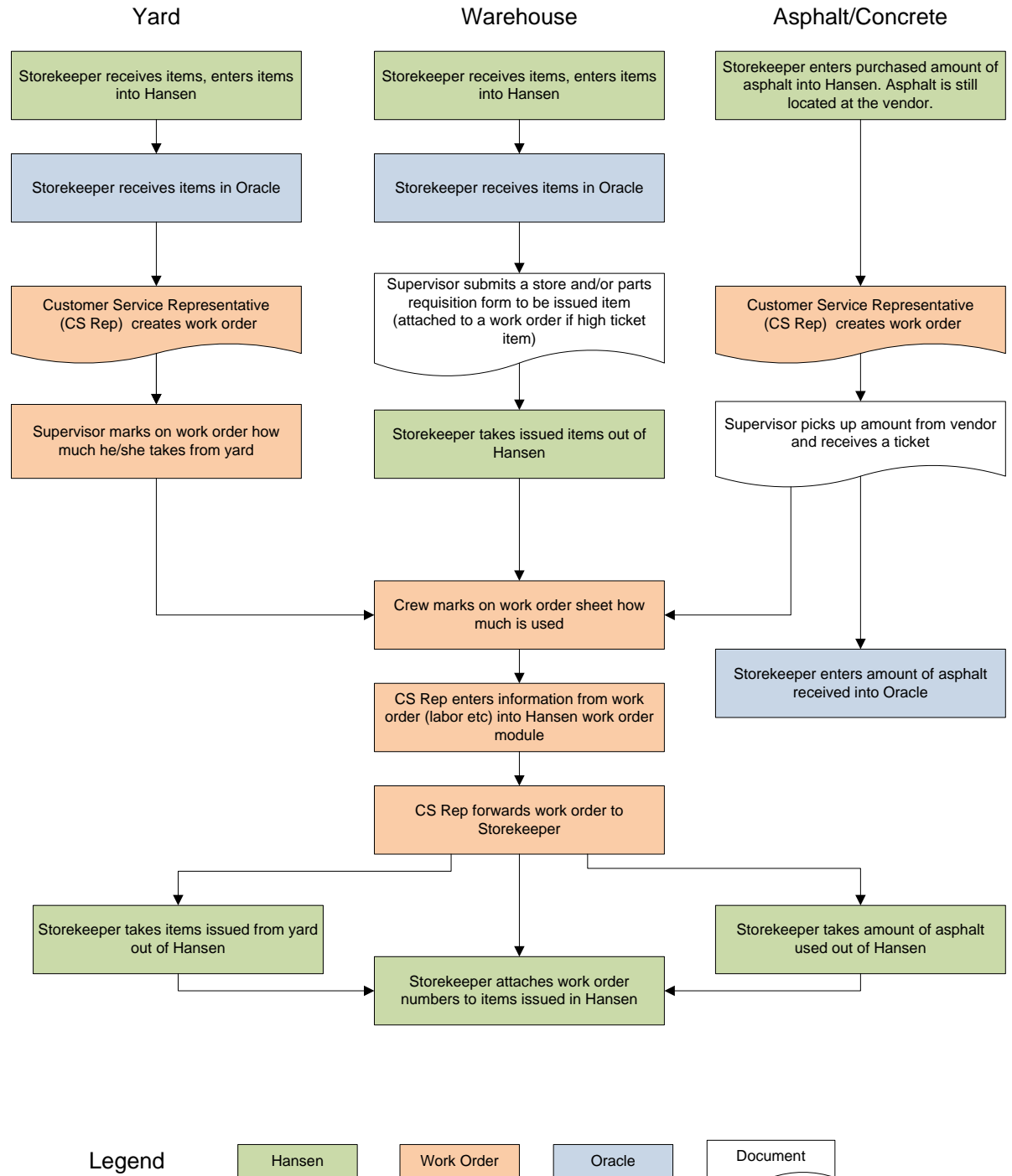
Work order process makes asphalt use hard to track. Staff members told us they had concerns about whether amounts of asphalt used in the field are being reconciled with the amounts of asphalt received from the vendor. The storekeeper enters the amount of asphalt encumbered by purchase orders into Hansen as the amount available. Work crews pick up asphalt directly from the vendor as needed to complete work orders (see Exhibit 5). The vendor gives the work crew a ticket indicating how much asphalt they received, and the storekeeper receives this amount into Oracle for payment.

Crew supervisors are supposed to submit the amount of asphalt used for a particular job on the work order sheet. This allows the storekeeper to accurately record the amounts of asphalt used and remaining in inventory. Because crews must dump asphalt not used on the job, amounts of asphalt used should always equal amounts received. The current process, however, calls for the crews to estimate and record the amount used, leading to inaccurate records of asphalt remaining in inventory. As a result, the inventory system will generally show more asphalt available than is still on hand, and the Oracle system will show asphalt paid for that Hansen cannot account for. Inaccurate records can mask error, misuse or theft. Interfacing the two systems, which would allow electronic reconciliation to flag exceptions, is planned after the planned Oracle upgrade.

We recommend that once the city upgrades the Oracle system, the interim Chief Information Officer ensure that Hansen 8 interfaces with Oracle.

We also recommend that staff manually reconcile purchases to inventory until Hansen and Oracle are interfaced.

Exhibit 5 North Avenue Inventory Process



Source: Prepared by city auditor's staff using information from the Office of Transportation

The Office of Transportation has position descriptions but no complete policies and procedures for inventory management.

Transportation's current policies and procedures do not cover when and how inventory counts are to be performed, or how surplus items will be handled. Written policies and procedures help ensure consistent practice and accountability. According to the US Government Accountability Office, documented policies and procedures are necessary to achieve consistent and accurate inventory counts. Procedures for inventory counts should establish adequate segregation of duties such that no one has overlapping responsibilities. Ideally, personnel who normally have custodial responsibilities for inventory should not be involved in a physical count. If this is not practical, policies for inventory count procedures can introduce additional controls such as blind counts, increased supervision, and two-member count teams. Also, approval of system adjustments based on the count should move up a level of management as the dollar level of adjustments increase.

Management requires no inventory reporting from warehouse staff. Senior management in the department told us the department tends to be reactive and that transportation inventory costs and counts have not been a priority. They do not ask for inventory reports from the facilities, nor do they know the value or quantity of current inventory. Transportation staff could not document the last full inventory count, weekly counts of critical items, or monthly counts of random items as required in storekeeper job descriptions. Initially, staff was unable to generate a system report on current inventory. During the audit, a manager produced an ad hoc report from which we generated our sample.

We recommend that the Office of Transportation develop written policies and procedures for inventory management that incorporate best practices and include procedures for physical inventory counts and compensating controls if segregation of duties is not practical.

Use of Upgraded System to Manage Inventory Is Limited

While Hansen 8 has inventory management capabilities, staff needs additional support to achieve the benefits of the new system. Staff members told us they could no longer run system inventory reports and were instead using paper purchase orders and a spreadsheet to track frequently used parts. To fully use the upgraded software to improve inventory management, transportation should identify its needs for training, development of management reports, and system support for flagging and separating surplus inventory.

Staff lacks a full understanding of Hansen 8 inventory management capabilities. Employees do not know how to produce reports using Hansen 8's ad hoc reporting capabilities; how to set up re-order flags, how to use Hansen 8 to designate items as surplus, or how to track more detailed physical locations than a general warehouse location. Instead of using the Hansen system to generate reports, one employee uses purchase orders to track inventory quantities and enters this information into an Excel spreadsheet to summarize quantities of items used monthly. Staff members also told us that they count regularly used items to find out how much is on hand, but that they do not document these counts. During the audit, a manager learned how to pull inventory reports from Hansen 8 to reflect item quantities and values.

Along with the migration, the vendor provided the business manager with ten days of Hansen 8 training which focused on ad hoc reporting, cost summary, and parts inventory. The business manager, the storekeepers, the warehouse manager, and other Department of Public Works employees received two hours of training on the Hansen 8 inventory module in December of 2013. Staff using the inventory module on a daily basis was not trained to create the customized reports they had been using in Hansen 7.

The Department of Information Technology confirmed that Hansen 8 has various capabilities to manage inventory. Hansen 8 allows inventory staff to catalog parts and their values and track usage for reordering purposes and work order management. The system allows Office of Transportation staff to view work orders, view stock by location areas, remove parts from locations, and calculate items on hand once they are used. Even though users can delete stock areas and parts from locations, they cannot delete actual records of items from the system. Without staff knowing the full capabilities of Hansen 8, the Office of Transportation cannot use data in Hansen to assess use patterns, determine the total number of items on hand, or identify the value of its inventory.

We recommend that the Office of Transportation identify its needs for training, development of management reports, and system support for flagging and separating surplus inventory and work with the Hansen vendor and the information technology conversion team to ensure that its needs are met.

Identified Security Deficiencies Are Unresolved

Public works has remedied some of the security deficiencies identified in a 2013 assessment, but has yet to address other weaknesses. The office should continue to upgrade security at its warehouse facilities such as improving camera coverage, repositioning a guard station, and completing fence upgrades.

Public works conducted a security assessment in 2013 that identified deficiencies at transportation facilities. The assessment noted insufficient camera coverage, downed fences, insufficient lighting, and an ineffectively positioned guard house. It recommended installing and adequately monitoring security cameras, upgrading lighting, positioning a guard house closer to the gate, installing key card access for all entrances, recording guards making their rounds, and repairing fences. It also recommended repairing or installing new cameras in all areas of the North Avenue facility and expanding camera coverage at the Claire Drive facility to include the entire yard and all of the interior stock areas. We observed many of the same security deficiencies that the assessment identified.

A Department of Public Works security officer told us that the department updated all of the fencing and upgraded lighting at the Claire Drive facility. He also stated that the guards were now logging all employees and visitors entering and exiting the facilities. He said that their first priority was to install new cameras at all of the facilities and connect them into one system, which security personnel would be able to log into from a laptop. Security personnel could then monitor the camera recordings on a bi-weekly basis to scan for unusual behavior. Currently, the department keeps recordings from the few cameras in place at the Claire Drive facility for two to four weeks, and the security officer reviews the footage if there is an incident. The security officer stated that the department hopes to complete the security upgrades by the end of June 2013. He also stated that the department hopes to conduct security assessments of all public works facilities on a quarterly basis.

The Claire Drive facility fencing was intact around the entire facility. The guards at both facilities were consistent in checking us into the facilities during daytime visits. Lights above an area of the Claire Drive yard containing inventory were not functioning when we visited the facility at night.

North Avenue has security deficiencies including non-functional cameras and downed fences. We observed a downed fence in the yard which contained inventory and cameras that were still not working. The facility had a guard in a booth near the entrance who verified facility visitors. The facility was secure at the entrance and well lit at night.



Figure 3 Downed fence in yard



Figure 4 One of the non-functional exterior cameras



Figure 5 Entrance - security booth



Figure 6 Lighting in yard

The North Avenue facility primarily houses salt, personal protective equipment, and hand tools used to fix pot holes in a warehouse and in the yard. The facility operates from 8 AM until 4:30 PM seven days a week. The business manager and three storekeepers have constant access to inventory in the warehouse.



Figure 7 Lumber and granite cubs in North Avenue lot



Figure 8 Labeled boxes of PPEs in attic at North Avenue

Supervisors can obtain a key from a lockbox to access the warehouse if there are emergencies that occur after hours. Supervisors are supposed to leave notes for storekeepers for inventory they take at these times.



Figure 9 Warehouse key lockbox

Date	Key #	Office #/Building	Sign Out	Sign In
12-18-12	10	1	Paula Magee	Paula Magee
12-18-12	10	1		
12-18-12	24	Training Warehouse	Ray Fortis	Ray Fortis
1-31-12	20	Warehouse	Sam Jones	Sam Jones
2-2-12	20	Warehouse	Sam Jones	Sam Jones
4-18-12	14			
2-16-13	20	Warehouse	Sharon Hill	Sharon Hill
5-17-13	20	Warehouse	Sharon Hill	Sharon Hill
6-14-13	20	Warehouse	Sharon Hill	Sharon Hill
7-3-13		Warehouse	Sharon Hill	Sharon Hill
7-11-13	40	Warehouse	Sharon Hill	Sharon Hill
7-16-13	6	Warehouse	Sharon Hill	Sharon Hill
8-7-13	20	Warehouse	Sharon Hill	Sharon Hill
8-16-13	48	Warehouse	Sharon Hill	Sharon Hill

Figure 10 Key sign-out sheet

The Claire Drive facility appears to be more secure than the North Avenue facility, although we observed some deficiencies. We observed a limited number of cameras inside the facility and none on the exterior. We observed the guard station from the security assessment still located several feet inside the gate entrance. There were two non-functional lights above an exterior inventory area at night. Some inventory is in unsecured portions of the warehouse.



Figure 11 One of four observed interior cameras



Figure 12 Sign area camera mount



Figure 13 Two non-operational lights above exterior inventory area

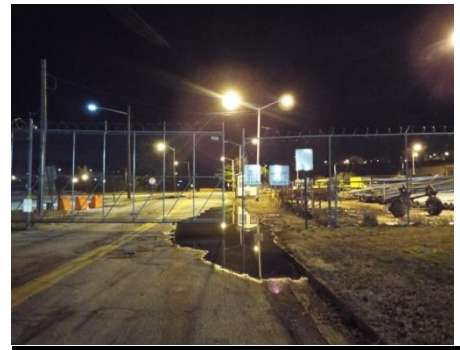


Figure 14 Guard booth located several feet inside unsecured gate area



Figure 15 Raw sign materials outside fenced area containing



Figure 16 Inventory outside fenced area



Figure 17 Equipment testing room



Figure 18 Equipment testing room

The fencing around the Claire Drive facility was intact around the entire facility. Secure fenced areas or rooms contain most inventory items. High value signal inventory is located within a locked room and two individuals have keys to access it. The security guard verifies facility visitors. The facility was well lit with the exception of the two non-functioning exterior lights.



Figure 19 Gated staff entrance with entry keypad



Figure 20 Fenced area containing signal equipment



Figure 21 Locked room containing high value inventory



Figure 22 Pipes, wires or cables, pylons, drums in secured gated lot

The signs and markings area has a fenced area for stripers, generators, and high value items and another fenced area for fabricated signs. During working hours, staff opens a room that contains sign and office inventory and locks the room at night. There is a separate room that contains recovery zone project inventory due to tracking purposes. Separate secured rooms contain inventory for truck crews and for tools and gloves. A row of metal cabinets forms a makeshift wall leading to these rooms.



Figure 23 Truck crew supply room



Figure 24 Makeshift wall

We recommend that the Office of Transportation repair the perimeter fencing at the North Avenue facility and ensure that the lights covering the inventory area of the Claire Drive yard are functioning.

We also recommend that the Office of Transportation install cameras in all the areas where they store inventory and at the entrances to facilities per the department's security assessment.

We also recommend that the Office of Transportation install key card access to the inventory areas of the Claire Drive and North Avenue facilities so that there is a record of who accessed these areas and when.

Recommendations

To improve security, accuracy and inventory management in the Office of Transportation, the Commissioner of the Department of Public Works should:

1. Develop written policies and procedures for inventory management that include procedures for physical inventory counts and compensating controls if segregation of duties is not feasible.
2. Perform annual wall-to-wall physical inventory counts that include reconciliations between system and physical quantities. Staff should also document adjustments in the system so that data in Hansen 8 reflects the inventory on hand.
3. Manually reconcile purchases to inventory until Hansen and Oracle are interfaced.
4. Work with procurement to create procedures for identifying and disposing of surplus and obsolete inventory. Management should identify items to be included in surplus inventory during a full inventory count. Transportation should also submit surplus inventory that has continuing value for public auction.
5. Purchase a barcode system to facilitate more efficient and accurate inventory tracking.
6. Ensure that transportation identify its needs for training, development of management reports, and system support for flagging and separating surplus inventory and work with the Hansen vendor and the information technology conversion team to ensure that its needs are met.
7. Repair the perimeter fencing at the North Avenue facility and ensure that the lights covering the inventory area of the Claire Drive yard are functioning.
8. Install cameras in all the areas where they store inventory and at the entrances to facilities per the department's security assessment.

9. Install key card access to the inventory areas of the Claire Drive and North Avenue facilities so that there is a record of who accessed these areas and when.

The Interim Chief Information Officer should:

10. Ensure that Hansen 8 interfaces with Oracle once the Oracle upgrade is complete.

Appendices

Appendix A
Management Review and Response to Audit Recommendations

Report # 13.10		Report Title: Office of Transportation Inventory Management	Date: 6/26/2014
Recommendation Responses - Public Works Commissioner			
Rec. # 1	The commissioner of public works should develop written policies and procedures for inventory management that include procedures for physical inventory counts and compensating controls if segregation of duties is not feasible.		Agree
<u>Proposed Action:</u> <u>Implementation Timeframe:</u> <u>Responsible Person:</u>		Warehouse personnel will institute the following polices: (1) Critical Items Inventory - physical count of critical items once a week, (2) Random Sample Inventory - physical count of 25 random items once a month, and (3) Wall to Wall Physical Inventory Count - hands-on physical inventory of all items conducted once a year. These first two polices will be started immediately and the Wall to Wall Inventory will be conducted on July 15, 2014. Robert L. Horton, Business Manager I	
Rec. # 2	The commissioner of public works should perform annual wall-to-wall physical inventory counts that include reconciliations between system and physical quantities. Staff should also document adjustments in the system so that data in Hansen 8 reflects the inventory on hand.		Agree
<u>Proposed Action:</u> <u>Implementation Timeframe:</u> <u>Responsible Person:</u>		A wall-to-wall physical inventory will be conducted. The physical count will be reconciled against the amount reported in Hansen 8. Any discrepancies will be adjusted in the Hansen 8 system and noted on the paperwork. All paperwork will be signed by the manager and filed for review in any future audits. A wall-to-wall inventory will be conducted on 7/15/2014. Robert L. Horton, Business Manager I	

Rec. #3	The commissioner of public works should manually reconcile purchases to inventory until Hansen and Oracle are interfaced.	Agree
<p><u>Proposed Action:</u> Storekeepers will manually reconcile the receipt of asphalt, concrete, etc. in the Oracle and Hansen 8 systems every day.</p> <p><u>Implementation Timeframe:</u> Immediately</p> <p><u>Responsible Person:</u> Robert L. Horton, Business Manager I</p>		
Rec. #4	The commissioner of public works should work with procurement to create procedures for identifying and disposing of surplus and obsolete inventory. Management should identify items to be included in surplus inventory during a full inventory count. Transportation should also submit surplus inventory that has continuing value for public auction.	Agree
<p><u>Proposed Action:</u> DPW warehouses will institute policies and processes to identify and dispose of surplus and obsolete inventory utilizing the City Website for Equipment sales and salvage contractors.</p> <p><u>Implementation Timeframe:</u> 30 - 60 Days</p> <p><u>Responsible Person:</u> Robert L. Horton, Business Manager I</p>		
Rec. #5	The commissioner of public works should purchase a barcode system to facilitate more efficient and accurate inventory tracking.	Agree
<p><u>Proposed Action:</u> Purchase of the Hansen 8/Infor Public Sector Barcode module for approximately \$61,000.</p> <p><u>Implementation Timeframe:</u> 180 - 210 Days</p> <p><u>Responsible Person:</u> Richard Mendoza, DPW Commissioner</p>		

Rec. #6	The commissioner of public works should ensure that transportation identify its needs for training, development of management reports, and system support for flagging and separating surplus inventory and work with the Hansen vendor and the information technology conversion team to ensure that its needs are met.	Agree
<p><u>Proposed Action:</u> All Storekeepers and Managers will have refresher training and more extensive training in the reports, issuing, receiving, and stock areas in Hansen 8/Infor Public Sector.</p> <p><u>Implementation Timeframe:</u> 30 - 60 Days</p> <p><u>Responsible Person:</u> Robert L. Horton, Business Manager I</p>		
Rec. #7	The commissioner of public works should repair the perimeter fencing at the North Avenue facility and ensure that the lights covering the inventory area of the Claire Drive yard are functioning.	Agree
<p><u>Proposed Action:</u> The fence and lights will be repaired as part of the total security upgrade for both facilities.</p> <p><u>Implementation Timeframe:</u> 180 Days</p> <p><u>Responsible Person:</u> Michael Dobson, Facility Security Officer</p>		
Rec. #8	The commissioner of public works should install cameras in all the areas where they store inventory and at the entrances to facilities per the department's security assessment.	Agree
<p><u>Proposed Action:</u> The cameras will be installed as part of the total security upgrade for both facilities.</p> <p><u>Implementation Timeframe:</u> 180 Days</p> <p><u>Responsible Person:</u> Michael Dobson, Facility Security Officer</p>		
Rec. #9	The commissioner of public works should install key card access to the inventory areas of the Claire Drive and North Avenue facilities so that there is a record of who accessed these areas and when.	Agree
<p><u>Proposed Action:</u> Due to the higher cost of materials and equipment at the Claire warehouse, this system is needed especially at that facility.</p> <p><u>Implementation Timeframe:</u> 180 Days</p> <p><u>Responsible Person:</u> Michael Dobson, Facility Security Officer</p>		

Report # 13.10**Report Title: Office of Transportation Inventory Management****Date: 6/26/14****Recommendation Responses - Chief Information Officer****Rec. # 10**

The chief information officer should ensure that Hansen 8 interfaces with Oracle once the Oracle upgrade is complete.

Agree

Proposed Action:

Hansen 8 and Oracle should be interfaced after the upgrade in Oracle.

Implementation Timeframe:

To Be Determined

Responsible Person:

Michael Dogan, Interim Chief Information Officer