AUDIT REPORT

CITY OF NEW YORK
OFFICE OF THE COMPTROLLER
BUREAU OF MANAGEMENT AUDIT
WILLIAM C. THOMPSON, JR., COMPTROLLER

Audit Report on the Effectiveness of the Department of Transportation in Maintaining Its Automotive Inventory

MJ03-152A

April 22, 2004

THE CITY OF NEW YORK
OFFICE OF THE COMPTROLLER
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NEW YORK, N.Y. 10007-2341
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WILLIAM C. THOMPSON, JR.
COMPTROLLER

To the Citizens of the City of New York

Ladies and Gentlemen:

In accordance with the Comptroller's responsibilities contained in Chapter 5, § 93, of the New York City Charter, my office has audited the Department of Transportation (DOT) to evaluate the effectiveness of the agency's Fleet Services Division in maintaining DOT's automotive inventory. DOT is responsible for providing for the safe and efficient movement of people, goods, and vehicles throughout the City. In support of this mission, DOT operates a fleet of approximately 2,700 vehicles, ranging from passenger vehicles to heavy-duty construction equipment.

Our audit resulted in the findings and recommendations that are presented in this report. The findings and recommendations were discussed with City officials; their comments were considered in the preparation of this report.

Audits such as this provide a means of ensuring that City resources are used effectively, efficiently, and in the best interest of the public.

I trust that this report contains information that is of interest to you. If you have any questions concerning this report, please e-mail my audit bureau at audit@comptroller.nyc.gov or telephone my office at 212-669-3747.

Very truly yours,

William C. Thompson, Jr.
WCT/fh

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AUDIT REPORT IN BRIEF

This audit evaluated the effectiveness of the Department of Transportation (DOT) Fleet Services Division (Fleet Services) in maintaining inventory. DOT is responsible for providing for the safe and efficient movement of people, goods, and vehicles throughout the City. In support of this mission, DOT operates a fleet of approximately 2,700 vehicles, ranging from passenger vehicles to heavy-duty construction equipment. Fleet Services is responsible for managing an inventory of automotive parts for the DOT fleet.

Audit Findings and Conclusions

DOT Fleet Services is generally effective in maintaining the agency's automotive inventory. Our audit revealed that DOT: generally maintains inventory records that reflect its inventory on hand; manages its inventory to generally preclude overstocking and under-stocking; has internal controls that are generally adequate to help prevent and detect errors and irregularities; and adequately safeguards its inventory.

DOT's management of its automotive inventory has improved since we last audited this area, in 1994; however, the effectiveness of DOT Fleet Services in maintaining inventory is hindered by inconsistent compliance with agency procedures. We believe this contributed to (1) gross discrepancies exceeding 50 percent at three of the 11 parts rooms reviewed between perpetual inventory records and the amounts on hand, (2) 28 percent of Fleet Services inventory being inactive, and possibly obsolete, for at least two years, and (3) a turnover rate of 1.37 for active inventory—below the automotive industry standard rate of 3.9. If DOT improved its inventory turnover rate to 2.37, we project that it could yield a one-time saving of more than $1.1 million.

Other weaknesses we identified included: limited evidence that inventory adjustments were authorized, inadequate investigation of physical count discrepancies, inadequate

safeguarding of inventory at three parts rooms, mechanics not signing for all parts received, and oil use not being monitored or controlled at five parts rooms.

Audit Recommendations

We made 13 recommendations to DOT, some of which are listed below. DOT should:

- Ensure that unauthorized personnel are not allowed in the Hamilton Avenue Shop (THAM) parts room, especially after operating hours.

- Require repair shops to place obsolete items in specially marked bins to be sent to the central warehouse (TCAS), as required by DOT procedures.

- Develop a plan showing how it will achieve inventory reductions totaling at least $1.18 million by improving turnover rates for its working inventory of items and achieving a one-time saving. Fleet Services should monitor the progress of the plan and report the results to DOT upper management.

- Ensure that Fleet Services follows the Department of Investigation standards governing inventory counts. Procedures should include the following steps: (1) count all items at the locations, (2) use the "double-blind" count methodology, and (3) use persons who are not assigned to the locations where the counts take place.

- Ensure that discrepancies between physical inventory count totals and the perpetual inventory records are investigated by the agency's auditors (or those independent of inventory operations) before reconciliation adjustments are made and should forward significant differences to DOI, as required by DOI Standards.

INTRODUCTION

Background

The Department of Transportation (DOT) uses various strategies to provide for the safe, efficient, and environmentally responsible movement of people, goods, and vehicles throughout the City. DOT maintains approximately 5,700 miles of streets and highways, and 752 bridge structures, including six tunnels.

In support of the above mission, DOT operates a fleet of approximately 2,700 vehicles, which range from passenger vehicles to heavy-duty construction equipment. To maintain these vehicles, DOT operates a Fleet Services Division (Fleet Services) that manages an inventory of automotive parts. At the end of Fiscal Years 2002 and 2003, DOT's inventory had reported values of $4,301,860 and $4,510,610, respectively.

All automotive parts are received at the central automotive supply warehouse (TCAS) located on Harper Street, Queens. TCAS distributes parts to each of the other 12 repair shop part rooms throughout the City: the Truck Shop (TTRK), the Heavy Duty Shop (THD), the Tire Shop (TTIRE), the Body Shop (TBDY), the Welding Shop (TWLD), the Blacksmith Shop (TBLK), the Brookville Yard/Horticultural Shop (XHORT), and the Maspeth Shop (TTRAF) are in Queens[1]; the Brooklyn Shop (BKLYN) and the Hamilton Avenue Shop (THAM) are in Brooklyn; and the Staten Island Shop (TSI) and the Bronx Shop (TBX) are in Staten Island and the Bronx, respectively. TCAS also maintains its own inventory of fast moving and large-size items. At the conclusion of Fiscal Year 2003 an additional shop, DEPOT, was created as an offshoot of THAM, bringing the total inventory locations to 14. However, this report and all of the audit testing is based upon the original 13 locations.

Fleet Service inventory records are computerized on the Maintenance Control and Management System (MCMS).[2] MCMS is a comprehensive fleet-management system designed, among other things, to control fleet expenses, increase vehicle availability and reliability, and improve inventory management.

MCMS serves as the Fleet Services perpetual inventory system and provides Fleet Services with the capability to track the receipt, issuance, and on-hand balance of parts, as well as the cost incurred for labor and material to repair each vehicle.

In Fiscal Year 1994, our office audited DOT's automotive inventory operations. That audit found that the DOT inventory operation was ineffective and operated without any uniform, consistent policies or procedures and without adequate internal controls. In particular, DOT had no procedures for (1) detecting errors and irregularities; (2) maintaining adequate inventory records; and (3) safeguarding its inventory.

[1] Six repair shops—TTRK, THD, TTIRE, TBDY, TWLD, and TBLK—are at the Harper Street (TCAS) site.

[2] MCMS is managed by the Department of Citywide Administrative Services and it contains fleet inventory records for all City agencies.

Objective

The objective of this audit was to evaluate the effectiveness of the DOT Fleet Services Division in maintaining inventory. Our specific objectives were to determine whether DOT (1) maintains inventory records that accurately reflect its inventory on hand, (2) efficiently manages its inventory to preclude overstocking and under-stocking, (3) has adequate internal controls over its inventory to help prevent and detect errors and irregularities, and (4) adequately safeguards its inventory.

Scope and Methodology

The period covered by the audit was July 1, 2001 through January 7, 2004.

To determine whether Fleet Services had adequate internal controls and procedures at its parts rooms and complied with the *Standards for Inventory Control and Management* issued by the Department of Investigation Corruption and Management Bureau, we evaluated inventory practices and policies at all 13 parts rooms, and applied these standards when reviewing DOT practices and procedures.

To understand the daily practices and policies of the parts rooms, and to determine whether there is adequate segregation of duties, we interviewed shop supervisors and parts room personnel responsible for the inventory functions, as well as the Database Administrator, who is responsible for monitoring the MCMS database and initiating, overseeing, and finalizing the annual inventory. In addition, we performed a walk-through at each of the 13 parts rooms to gain an understanding of the inventory record system. We observed record-keeping practices and procedures and inventory maintenance.

To determine whether DOT maintains accurate inventory records, we performed a physical inventory count. DOT's Automotive Inventory listing had a population of 30,754 items with a total value of $4,827,799 as of February 17, 2003. Only those items reported by Fleet Services as having a unit cost of $5 or more and total value of $100 or more were included in our analysis. In addition, TBDY and TWLD were excluded because inventory at those two shops accounted for less than one percent of the total inventory value. This brought our test population down to 6,672 items, with a reported value of $3,995,733 million—83 percent of the total inventory value. From this population, we randomly selected a preliminary sample count of 50 items to determine the error rate. Using the error rate derived from the preliminary sample count, our sample was expanded to 427 items (our preliminary sample of 50 items plus an additional 377 randomly selected items). The results of this sample were statistically projected.

Together with Fleet Services personnel, we conducted our physical count of the 427 sampled items during July and August 2003. Parts personnel counted the items on hand and we compared the totals counted with the amounts recorded in the inventory records. If there was a difference, we informed the parts staff. They recounted and verified all differences, then signed our workpapers to confirm the counted amounts and the differences. (Upon request, we provided a copy of our signed count sheets to the parts staff.) During May 2003, prior to our physical

inventory count, we observed DOT employees at the THD, TSI, TTRK, TTRAF, XHORT, and BKLYN parts rooms performing their annual physical inventory count.

To determine whether DOT maintains appropriate levels of inventory, we examined inventory levels and use rates for the 427 sampled items. To calculate the annual use of items, we examined the records for all disbursements between January 1, 2002 and December 31, 2002. To determine the use rate of a specific part during a one-year period, we divided the number of parts on hand as of July 29, 2003, by the annual use of that item. We then determined the number of years DOT would require to deplete the existing level of inventory stock on hand.

To determine whether there were obsolete items in the inventory, we requested from DOT a listing of all items with no issuance activity for the two years from July 1, 2001 through June 30, 2003. To provide assurance that the list was reliable, we compared the items of our sample that had no issuance activity during that two-year period with the list provided to us.

To determine whether inventory adjustments were being made with proper supervisory approval and with adequate written explanation, we reviewed all supervisors' adjustments for Fiscal Year 2003 and the related inventory adjustment forms.

To determine the reliability and accuracy of the computerized data on MCMS, we (1) traced and vouched a sample of purchase orders from the files to MCMS entries and another sample of orders from MCMS to the files; (2) traced a sample of packing slips from the files to the MCMS entries (deliveries from TCAS to the various shops); (3) reviewed MCMS to determine whether the system contained inappropriate data entries; and (4) traced and authenticated parts issues at the various shops between the files and MCMS entries and vice versa.

* * * * *

This audit was conducted in accordance with Generally Accepted Government Auditing Standards (GAGAS) and included tests of their records and other auditing procedures considered necessary. This audit was performed in accordance with audit responsibilities of the New York City Comptroller's as set forth in Chapter 5, §93, of the New York City Charter.

Discussion of Audit Results

The matters covered in this report were discussed with DOT officials during and at the conclusion of this audit. A preliminary draft was sent to DOT officials and was discussed at an exit conference on February 26, 2002. On March 10, 2004, we submitted a draft report to DOT officials with a request for comments. We received a written response from DOT on March 31, 2004, in which it generally agreed with the audit's findings and recommendations. However, the agency did not agree with the potential savings identified in the report. The full text of the DOT response is included as an addendum to this report.

FINDINGS AND RECOMMENDATIONS

DOT Fleet Services is generally effective in maintaining the agency's automotive inventory. Our audit revealed that DOT: generally maintains inventory records that reflect its inventory on hand; manages its inventory to generally preclude overstocking and under-stocking; has internal controls that are generally adequate to help prevent and detect errors and irregularities; and adequately safeguards its inventory. However, weaknesses exist.

DOT's management of its automotive inventory has improved since we last audited this area, in 1994; however, the effectiveness of DOT Fleet Services in maintaining inventory is hindered by inconsistent compliance with agency procedures. DOT has adequate written procedures describing methods for maintaining accurate inventory records, safeguarding inventory, and managing inventory to prevent excessive stock on hand and shortages. However, we found that staff did not consistently follow these procedures. We believe this contributed to (1) gross discrepancies exceeding 50 percent at three of the 11 parts rooms reviewed between perpetual inventory records and the amounts on hand, (2) 28 percent of Fleet Services inventory being inactive, and possibly obsolete, for at least two years, and (3) a turnover rate of 1.37 for active inventory—below the automotive industry standard rate of 3.9. If DOT improved its inventory turnover rate to 2.37, we project that it could yield a one-time saving of more than $1.1 million.

Other weaknesses we identified included: limited evidence that inventory adjustments were authorized, inadequate investigation of physical count discrepancies, inadequate safeguarding of inventory at three parts rooms, mechanics not signing for all parts received, and oil use not being monitored or controlled at five parts rooms. These weaknesses are discussed in more detail in the following sections of this report.

Inaccurate Inventory Records: Gross Discrepancies Exceeding 50 Percent between Amounts On-Hand and Amounts Reported in Records at Three Parts Rooms

Our count of 427 sampled items valued at $428,734 revealed gross discrepancies ranging from 58 percent to 130 percent between our count and the amount reported in DOT inventory records at three parts rooms. This occurred despite the fact that DOT conducted a physical count of those items from one to three months prior to our count and reconciled the results of the count to its perpetual records. Because of inadequate controls over record-keeping, DOT lacks an accurate count of what is on hand at these repair shops, increasing the risk that inventory may not be found when needed.

DOI Standard #8 requires that "records present a complete picture of the 'who, what, when and why' of a transaction from initiation through completion. Records demonstrating less than this are not adequate. All authorized changes to the stock (additions or depletions) have corresponding (automated or manual) transaction records that identify the persons who authorize, move and record the data."

The true measure of a perpetual inventory system is the absolute error—or gross discrepancy—rate. Gross discrepancies indicate the accuracy of inventory records. The net discrepancy, while useful for valuation purposes, is practically meaningless for determining the accuracy of inventory recordkeeping, as illustrated in the example below.

	Actual amount On hand	Recorded amount On hand	Net discrepancy	Gross discrepancy
Item 1	$500	$1,000	($500)	$500
Item 2	$1,500	$1,000	$500	$500
Total	$2,000	$2,000	$0	$1,000
Error rate			0%	50%

To determine the accuracy of DOT inventory records, we conducted a count at 11 DOT parts rooms during July and August 2003 of 427 sample items. Our count revealed a gross discrepancy for 55 items between the physical inventory and the agency records. Applying the count results to the population of 6,672 items at the 11 repair shops reviewed, we project that 817 (12.2%) had a discrepancy between the amount on hand and the amount recorded in the agency records.[3] In terms of dollars, the 427 items in our sample had a recorded value of $428,734 at the time of our counts; the value of the 55 items with a gross discrepancy was $56,957, 13 percent of the pre-count value of the sample items. Table I, below, summarizes the shortages and the overages that we found during our physical count, segregated by shop.

[3] Based upon a 95 percent confidence level and an overall sampling error of plus or minus 2.9 percent. In other words, we are 95 percent confident that between 627 (9.4%) and 1,007 (15.1%) items had a discrepancy between the amount on hand and the amount recorded in the agency records.

Table I

Actual Overages and Shortages Found
At DOT's 11 Storage Facilities

Shop	Total Shortages in Dollars A	Total Overage in Dollars B	Total Gross Discrepancy in Dollars C (A + B)	Pre-Count Value in Dollars D	Error Variance E (C / D)
TBLK	**(147)**	**861**	**1,008**	**774**	**130.26%**
TTIRE	0	353	353	24,658	1.43%
XHORT	(476)	350	826	6,215	13.29%
THAM	**(38,422)**	**1,601**	**40,023**	**48,621**	**82.32%**
THD	(928)	474	1,401	40,510	3.46%
TTRAF	(729)	37	765	12,290	6.23%
TSI	(25)	0	25	11,091	0.22%
TTRK	**(305)**	**6,962**	**7,266**	**12,424**	**58.49%**
TBX	(2,695)	622	3,318	94,098	3.53%
BKLYN	(1,340)	270	1,610	25,960	6.20%
TCAS	0	362	362	152,094	0.24%
TOTAL	(45,067)	11,890	56,957	428,734	13.28%

According to the *Handbook of Inventory Management*[4], a perpetual inventory record should be at least 90 percent accurate—in other words, have a gross discrepancy of no more that 10 percent. Although our counts revealed an overall gross discrepancy of 13.3 percent, eight of the 11 parts rooms had gross discrepancies of 13 percent or lower; seven of the eight had gross discrepancies of less than 6.3 percent. The three remaining shops had significant gross discrepancies of greater than 50 percent. One shop (TBLK) had a 130 percent gross discrepancy. This shop, however, accounted for less than 0.2 percent of the total value of the sample at the time of our count.

The three shops having significant differences (TBLK, TTRK, and THAM) have situations that are unique from the other eight shops. At TBLK, the blacksmith maintains and uses the inventory to perform repairs on vehicles from the TTRK and THD shops; there is no separate person at TBLK in charge of recording issue of parts. Parts personnel from the TTRK and THD shops have access to the inventory records for TBLK. It is the responsibility of the blacksmith to notify the TTRK and THD parts personnel when parts are used to repair vehicles from their respective shops; the personnel will record the part issues in TBLK records.

At TTRK, a person is designated to maintain the asphalt storage trailers and the inventory associated with them. He maintains and uses his own inventory, as is the practice in TBLK, and he must notify the TTRK parts employee when items are used. The persons who supervise these two shops (TBLK and TTRK) do not ensure that workers comply with this policy.

[4]By Robert L. Janson, CPIM, published by Prentice-Hall, Inc.

At THAM, parts workers informed us that the DEPOT night supervisor gives his employees access to the THAM parts room after hours. When inventory is removed at these times, there is no accurate record of the items taken. At the exit conference, DOT officials stated that DOT has changed the procedures so that the DEPOT night personnel would no longer have access to the THAM parts room. In addition, officials cited the separation of the DEPOT and THAM inventories as a major factor in the discrepancy we found. They said that when the inventory was separated between the two shops at the conclusion of Fiscal Year 2003, some items were displaced. Officials stated that they are still receiving calls from the parts personnel at THAM informing them that they have located missing items.

Recommendations

1. DOT should have someone independent of the blacksmith operations periodically reconcile the TBLK inventory records to the physical inventory, to ensure that the records accurately reflect the amounts on hand.

DOT Response: "We agree and the THD parts manager will be directly responsible for the inventory records maintained at the TBLK."

2. DOT should reinforce its policy that TTRK parts personnel are responsible for maintaining the asphalt storage trailer inventory.

DOT Response: "We agree and all parts and materials utilized in the maintenance and repair of this operation will be issued from the main storage area."

3. DOT should ensure that unauthorized personnel are not allowed in the THAM parts room, especially after operating hours.

DOT Response: "DOT has created an additional inventory location (DEPOT) to restrict access and removal of parts to authorized personnel. Supervisors assigned during off hours have been informed of their responsibilities to ensure access is provided to only those authorized."

28 Percent of Fleet Services' Inventory Has Been Inactive for at Least Two Years and May Be Obsolete

Of the $4,686,411 in reported inventory maintained by Fleet Services as of July 29, 2003, $1,324,711 (28%) showed no use during the two previous fiscal years, and may be obsolete.

When inventory parts are not used within a 24-month period, DOT procedures call for shop employees to label them as "obsolete" or transfer them to TCAS (central warehouse) to be included in active inventory. Items declared obsolete should be placed in specially marked bins to be sent to TCAS. Fleet Services notifies the Department of Citywide Administrative Services (DCAS) of its obsolete items, and DCAS auctions off the materials.

In July 2003, Fleet Services provided us with a listing—consisting of 9,411 items valued at $1,324,711—for which there was no activity (issuances) since July 1, 2001. This represents 28 percent of the total value of inventory reported as of July 29, 2003.

During our visits to the shops, we found only one shop, TTRAF, that attempted to identify its obsolete parts. However, employees did not keep the items in specially marked bins, as required, but placed them in two unsecured boxes in the general repair area outside the parts room. The other shops did not even segregate their obsolete inventory to be transferred to TCAS, although staff members said that they knew which items were obsolete.

We questioned DOT management on the reason for maintaining inactive parts in inventory. A Fleet Services official stated: "Although some items [appear] to be obsolete, there is only a handful. . . . Some of these items we need to keep in stock to effect emergency repairs [and] others have long lead times from the manufacturer. In order to expedite these repairs we keep these items in stock. Some other part numbers appear to [have been] ordered for stock in anticipation of usage that never occurred." However, if shops believed that these items may still be needed, they should have transferred them to TCAS as per agency procedures. DOT officials acknowledged that it would be beneficial for the Fleet Service Division to dispose of its obsolete (or unused) stock if for no other reason than to free much-needed storage space.

Maintaining obsolete inventory hampers the agency's ability to effectively manage its inventory. DOT has already cited limited space in its storage facilities as a major concern. Accordingly, DOT should dispose of its obsolete stock so that it can make better use of its storage space at the facilities.

Recommendations

4. DOT should require repair shops to place obsolete items in specially marked bins to be sent to TCAS, as required by DOT procedures.

DOT Response: "We agree and DOT will implement a yearly schedule in which obsolete items are collected and relinquished."

5. DOT should notify DCAS of its obsolete items to be auctioned off, as required by its own procedures.

DOT Response: "We agree and the appropriate DCAS units will be notified."

Low Turnover Rate for Inventory at DOT Fleet Services

The inventory turnover rate for Fleet Services working inventory was significantly lower than the standard turnover rate for the automotive repair industry. If Fleet Services were to improve its turnover rate, it could achieve a one-time saving of more than $1.1 million.

Inventory turnover is a standard measure of the efficiency of inventory operations. Turnover is the rate at which the inventory will be depleted and restocked during the year. A high inventory rate, with minimal stock-outs, indicates that management is maintaining a low level of inventory while meeting the agency's operational needs. A turnover rate of 1.0 means that an agency depletes and restocks its inventory once a year, or every 12 months, while turnover rates of 0.5 and 2.0 mean that the inventory is turned over every two years and every six months, respectively.

As of July 29, 2003, the total reported value of the Fleet Services inventory was $4,686,411. Of this amount, $2,779,570 represents working inventory.[5] For these items, total use for Fiscal Year 2003 was $3,799,554[6], resulting in a turnover rate for Fiscal Year 2003 of 1.37 ($3,799,554 ÷ $2,779,570), meaning that DOT generally depletes and restocks its working inventory in 8.76 months[7]. This is below the 3.9 industry standard for inventory turnover rate[8]. If Fleet Services were to increase its turnover rate for working inventory by one cycle, to 2.37 (which would still be well below the industry standard), it would achieve a one-time cost saving of $1.18 million. If the rate were increased to 3.9, the cost saving would be $1.8 million. Table II, below, shows what the savings would be if the inventory turnover rate were improved.

Table II

Analysis of the On-hand Value of Inventory
And the Turnover Rate of the Fleet Services Division

Inventory Turnover Rate	Inventory Needed at Given Turnover Rate	One-Time Inventory Reduction with Improved Turnover Rate
1.37 (FY2003 rate)	$2,779,570	- - - - -
2.37 (1 cycle increase)	$1,603,187	$1,176,383
3.90 (Industry Standard rate)	$974,245	$1,805,325

Improving the inventory turnover rate would allow DOT to reduce its inventory for one-time savings. One-time related savings are achieved in such situations when, instead of replenishing inventory as it is consumed, an operation draws down inventory until the amount on hand is sufficient to meet the needs for a lesser amount of time. When that point is reached, the operation begins replenishing again, but in smaller amounts than in the past.

Reducing the level of stock on hand would benefit Fleet Services in two ways. First, a planned reduction of inventory over time would allow Fleet Services to reduce spending by the

[5] Items with a unit cost and total value on hand greater than or equal to $5 and $100, respectively, and reported use at some time during the period July 1, 2001 through July 29, 2003.
[6] Total use of $3,799,554 includes items with a unit value of less than $5 and total value on hand of less than $100. This figure was calculated by adding the Fiscal Year 2003 purchases ($4,008,304) to the Fiscal Year 2003 beginning inventory ($4,301,860) and subtracting the Fiscal Year 2003 year-end inventory ($4,510,610).
[7] Calculated by dividing the number of months in a year by the turnover rate (12 ÷ 1.37).
[8] Source: *Handbook of Inventory Management*

amount of the reduction as existing inventory was used up. It is important to note that there would be no spending savings in subsequent years unless inventory levels were reduced further. Second, lowering the level of stock on hand would reduce the risk Fleet Services runs that inventory will be lost to damage, misappropriation, or obsolescence.

At the exit conference, DOT officials stated that there are certain variables, such as the City's procurement rules and buying patterns, that limit the agency as to how much it will be able to improve the automotive inventory turnover rate. Nevertheless, they said, the agency is taking steps to reduce the amount of inventory that it has to keep in stock. For certain items, the agency has entered into an agreement with a vendor whereby the vendor agrees to supply materials immediately (within 24 hours) upon request, eliminating the need for DOT to keep those parts in stock.

Officials stated that they are also encouraging the various shops to utilize the fleet database for reordering stock, rather than relying solely on their own judgment. Officials stated that shops have a tendency to overstock items as a precaution for not running out of stock. The database provides a recommended reorder point and quantity based on use. To convince parts personnel to trust the information provided by the database, officials informed the personnel to use the reorder point and quantity recommended by the system for slow moving items. Officials stated that shops are finding that they by using the database they tend to order smaller quantities for those items and have no problem of stock running out.

DOT Response: "We do not agree with the potential savings indicated in the report. DOT's inventory is to support a diverse fleet including many different makes and models of vehicles and a great deal of specialized equipment. It is necessary to maintain sufficient stock on hand to effect the repair and maintenance of all vehicles. Many of the parts are fabricated and delivered when the vehicles are initially ordered to preclude the lengthy lead times associated with obtaining the parts when a vehicle is out of service. The expected inventory turnover rate for these parts is expected to be much less than more traditional common parts. We believe that the inherent costs of stocking specialized parts outweigh the impact of having vehicles out-of-service. Nevertheless, we will seek to improve inventory operations by increasing the reliance on economic reordering points."

Auditor Comment: The turnover rate we refer to would apply to the automotive inventory as a whole, not to each item. To compensate for those items that may have low turnover rates because they are specialized parts with long procurement lead-times, DOT should ensure that the turnover rates for high-use items that are easily restocked are increased.

Recommendations

6. DOT should ensure that all of its shops utilize the fleet database for ordering stock as a means to further improve the automotive inventory turnover rate.

DOT Response: "We agree and the fleet database will be utilized to determine reordering points for specific parts. The usage will be expanded, as deemed appropriate."

7. DOT should develop a plan showing how it will achieve inventory reductions totaling at least $1.18 million by improving turnover rates for its working inventory of items and achieving a one-time saving. Fleet Services should monitor the progress of the plan and report the results to DOT upper management.

DOT Response: "We agree to work toward optimizing inventory operations. However, the goal will be to maintain adequate levels which may not necessarily increase the turnover rate."

Auditor Comment: As stated previously, by increasing the turnover rate for high-use items that are easily restocked, we believe that Fleet Services will be able to improve the overall turnover rate while also maintaining adequate inventory levels to meet the agency's needs. Accordingly, we reaffirm our recommendation.

Inventory Counting Methodology Does Not Follow DOI Standards

Our evaluation of Fleet Services' year-end inventory counts revealed that the division does not comply with three DOI standards governing these counts. Specifically, we found that Fleet Services (1) did not count all items at the locations, (2) did not use the "double-blind" count methodology, and (3) conducted the counts with employees who were already assigned to the locations where the counts took place.

DOI standards require that a physical count should be performed at least once a year to ensure that the perpetual inventory records are accurate and to report the value of the inventory to the Office of the Comptroller for inclusion in the City's annual financial statements.

DOT conducts its annual physical inventory count as follows:

Parts staffers receive inventory count sheets, entitled "Physical Inventory Worksheet Location" (RPT-PIC5310A). These count sheets list active parts by part number and bin location; there is no quantity on hand recorded. Each parts employee is required to go to the bin location listed, find the part, count the quantity on the shelf, and record the quantity next to the corresponding part number on the count-sheets. If a part is received after the count-sheets are generated, parts employees are required to write the part number on the count sheets and record next to it the quantity.

After the physical count of each shop is completed, the Database Administrator creates an exception report for each shop and forwards it to the parts employees to investigate the discrepancies. Exception reports are generated by MCMS; the physical count amounts are compared to the recorded amount, plus or minus any receipts and issuance of parts from the date the items are counted and the date the report is generated. Once all investigations are completed

and physical count amounts are updated, the parts employees inform the Database Administrator and he finalizes all physical count results. MCMS is designed to automatically adjust the recorded amount accordingly.

During May 2003, we observed sections of the annual physical inventory at six parts rooms: THD, TSI, TTRK, TTRAF, XHORT, and BKLYN. Based upon our observations, interviews with parts personnel and the Database Administrator, and our understanding of their physical count procedures, we identified numerous deficiencies in DOT's administration of the count.

DOT did not include all goods in its count, as required by DOI. Although DOT does provide inventory count sheets listing all items to be counted, there is no assurance that all items are being counted. For example, as with TTRK, the receipt of oil was not entered in MCMS, and the parts employees did not include any oil as part of the physical count; they said they were unaware that they were required to include the oil. (This issue is discussed in more detail on page 17 of this report.)

DOT failed to use the "double-blind count" to count inventory. In a double-blind count, all items are counted twice, and the recount is not performed by the individual(s) who made the initial count. DOT had either one person conducting the count, or if two employees were available, they would count the items together. One person would read off the items to be counted and the other would record the amounts on the count-sheets. The counters and the Database Administrator told us that there were not enough people available to perform the double-blind count. As a result, the counts were never corroborated.

In addition, the persons responsible for the storage locations were assigned the responsibility of counting the items. Individuals assigned to the count also had access to the computer records, and this gave them the opportunity to review the current recorded amount. That amount could be used as the count for items that they did not wish to count or could not locate. For example, during our sample physical count, the parts workers did not know what one item, "Snow Chain Cable" (Part # 13790), was, or where it was. However, this item reportedly was recorded in the physical count, which showed 12 on hand.

These weaknesses in the Fleet Services Fiscal Year 2003 year-end inventory count probably contributed to the discrepancies uncovered by our physical count discussed earlier in this report.

Recommendation

8. DOT should ensure that Fleet Services follows the DOI standards governing inventory counts. Procedures should include the following steps: (1) count all items at the locations, (2) use the "double-blind" count methodology, and (3) use persons who are not assigned to the locations where the counts take place.

DOT Response: "DOT plans on utilizing persons who are not assigned to the inventory location to count items. Using the 'double-blind' methodology will be implemented where feasible."

Limited evidence that inventory adjustments were authorized

DOT made numerous adjustments to inventory balances without proper justification. Following the Fiscal Year 2003 year-end physical count, it made 4,313 inventory balance adjustments totaling $187,784 without documenting the justification for the adjustments. In addition, it made 136 inventory balance adjustments during Fiscal Year 2003 totaling $20,174 with no evidence of proper supervisory approval.

According to DOI, physical inventory count totals must be compared with the perpetual inventory records, and the agency's auditors or those independent from the inventory operations should investigate discrepancies before reconciliation adjustments are made. Reports on the significant differences must be forwarded to DOI.

The Fiscal Year 2003 Fleet Services physical inventory count identified $187,784 in gross discrepancies. When discrepancies are identified, DOT adjusts the inventory balances on the inventory records to reflect the amount of inventory on hand. No further investigation is conducted. Without proper investigation of the discrepancies, DOT cannot identify the reason for the discrepancies, nor can it take corrective steps to prevent future discrepancies from occurring.

Although DOT correctly assigned someone independent from the other inventory functions (i.e., receipt, storage and disbursement of inventory items) to record adjustments, allowing adjustments to be made without adequate documentation and proper shop supervisory approval is in effect the same as allowing those individuals responsible for the inventory to enter the adjustments themselves.

During Fiscal Year 2003, Fleet Services personnel made 151 inventory balance adjustments totaling $21,048. Of these, we identified 136 adjustments totaling $20,174 with no evidence of proper supervisory approval or justification. As stated previously, DOI Standard #8 requires that each transaction have appropriate and adequate documentation to indicate what steps have transpired. By extension, adjustments to inventory balances should be adequately justified and documented.

Failure to investigate and approve inventory adjustments removes a key control and makes loss due to theft or misappropriation more difficult to detect. Adjustments to inventory balances should be made rarely and only with shop supervisory approval, after proper investigation and adequate justification.

Recommendations

9. DOT should ensure that discrepancies between physical inventory count totals and the perpetual inventory records are investigated by the agency's auditors (or those

independent of inventory operations) before reconciliation adjustments are made and should forward significant differences to DOI, as required by DOI Standards.

DOT Response: "We agree and personnel independent of inventory operations will investigate discrepancies between physical count totals and the perpetual inventory records. Significant variances will be referred to the Department of Investigation."

10. DOT should ensure that adjustments to inventory balances are adequately justified and documented.

DOT Response: "We agree and adjustments will be adequately justified and documented."

Other Weaknesses

We identified other weaknesses in DOT oversight of automotive inventory that may hinder the agency's effectiveness in maintaining the inventory. We saw that access to three shops was not adequately restricted; that mechanics received parts without signing for them; and that oil use was inadequately monitored.

Inadequate Safeguarding of Inventory at Three Shops

Overall, we observed that parts appeared to be secured and that only authorized personnel were permitted in the parts rooms at the repair shops in the absence of parts room employees. However, we identified three potential areas of weakness at TBDY, THAM, and TTRAF.

At TBDY, we found the garage door open while there was no one in the repair shop area. This left parts stored on the second level unsecured. Those parts included headlamps, spray paint cans (4 boxes, 12 cans per box), tape, 10 air bags, wheel covers, shock absorber kits, and antennae kits. We brought this to the attention of DOT management. In subsequent visits through October 2003, we found that TBDY locked the garage door, securing the parts area when no one was there. In November 2003, DOT installed a security fence for the TDBY parts room.

At THAM, we observed that the door to the parts room was unlocked and that mechanics went in and removed various items. According to parts staff workers, the door must be left unlocked to permit access to the shop supervisor's office, which is in the parts room. The parts workers told us they would like to have a more secure parts area. In addition, as stated previously, THAM parts workers informed us that after working hours, DEPOT employees, with the permission of the DEPOT night supervisor, have access to the THAM parts room. Therefore, the THAM workers know nothing of what items of inventory are taken after hours.

At TTRAF, we saw a potential security problem in the parts room. There was an empty air conditioner opening that permitted unauthorized access to the parts room. We pointed this out, however, and saw during a subsequent visit that an air conditioner had been installed in the opening.

DOT should continue to take the steps necessary to ensure that parts are stored in secured areas and to deny access to storage areas to unauthorized persons. This would reduce the risk of lost or misappropriated items.

Mechanics Do Not Sign for Parts

DOT procedures require that "parts issued from the stockroom must be signed for by the mechanic making the repair. Forms with these signatures must be kept for 12 months." However, during our walk-throughs in the eight major repair shops—TTRK, THD, TTRAF, XHORT, BKLYN, THAM, TBX, and TSI—we found that none made proper use of parts request forms or required the mechanics to sign for all parts received. Three shops—TTRK, BKLYN, and TTRAF—used a version of the parts requests form. However, none used the form consistently and correctly. For example, TTRK did not always list each part issued to the mechanics, and BKLYN and TTRAF did not require that mechanics sign for parts received.

Requiring the mechanics to sign for the parts would provide a chain of evidence and decrease the risk of theft or misappropriation.

Oil Use is neither Monitored or Controlled by Parts Personnel at Five of Seven Shops

Of the 13 facilities (12 shops and TCAS), only seven shops—TTRK, THD, TTRAF, BKLYN, THAM, TSI, and TBX—received bulk shipments of oil (motor oil, dextron oil, and hydraulic oil) directly from the vendor. However, four shops (TTRK, BKLYN, THAM, and TBX) did not record all of the receipts; one of the shops (TTRK) recorded no receipts. Of the seven shops that receive bulk shipments, only two shops monitored the actual use. Those two shops have a computerized pump that allows parts employees to authorize the dispensing of the desired amount. The remaining five shops relied on the honor system, and allowed the mechanics to retrieve the oils themselves; it was the job of the mechanics to notify parts staff of the exact amount dispensed.

Recommendations

11. DOT should ensure that the parts room at the THAM repair shop is kept locked and that only parts workers are permitted access to the inventory.

DOT Response: "We agree and the policy will be reiterated to all employees at this location."

12. DOT should ensure that mechanics sign for parts issued from the stockroom and that the forms with their signatures be kept for 12 months, as required by DOT procedures.

DOT Response: "We agree and the procedures will be reiterated at all locations."

13. DOT should ensure that all shops that receive bulk oil shipments directly from the vendors record the deliveries and monitor the oil use.

DOT Response: "We agree. Additionally, DOT has computerized the dispensing of these products at two facilities and more locations will be added in the future."

DOT Has Made Some Improvements in Its Management of Automotive Inventory Since Our 1994 Audit

The findings discussed in this report are not new to DOT. In Fiscal Year 1994, our office issued an audit of DOT's automotive inventory operations, entitled *Audit Report on the Department of Transportation's Maintenance and Repair Unit's Automotive Inventory Operations* (Audit 4C 93-071, issued January 6, 1994). The objective of that audit was to evaluate DOT Maintenance and Repair Unit's inventory practices and procedures, and to verify whether the unit's inventory operations was effective and safeguards its inventory.

That audit found DOT inventory operations to be ineffective and operating without consistent practices or adequate internal controls. Among the specific weaknesses identified were: no procedures to detect and prevent errors and irregularities, no procedures to maintain accurate inventory records, and no procedures to safeguard inventory. In light of those findings, the audit made 23 recommendations to which DOT agreed to implement.

A comparison of the results of the 1994 audit with our current audit reveals that DOT has improved its management of the automotive inventory. However, all of the weaknesses identified in the previous audit still exist, although most exist to a lesser degree, and none worsened. Table III, below, shows a comparison of the results of the two audits regarding inventory management performance.

TABLE III

Comparison of Two Comptroller's Audits Regarding DOT Inventory Management

Weaknesses Identified in Previous 1994 Audit	Current Status	
	Improved	Same
Inaccurate inventory records	X	
Inventory adjusted without supervisory approval	X	
Inadequate safeguarding of inventory	X	
Unauthorized access to inventory	X	
Mechanics do not sign for parts	X	
No double-blind count		X
Count adjustments made without supervisory approval		X
Oil not recorded in inventory records	X	

The 1994 audit identified a gross discrepancy of 19 percent compared to the 13.28 percent gross discrepancy identified in this current audit. However, as stated previously in this

report, seven of the shops tested had discrepancies of less than seven percent each. Regarding safeguarding of inventory, 10 of the 13 shops visited had good controls, and two of the remaining three shops corrected their weaknesses during the course of the audit. We observed unauthorized persons in the parts room at only one of the shops we visited. Since the previous audit, DOT has developed a form whereby mechanics sign for parts; however, as stated previously in this report, none of the shops use the form correctly, if at all. We believe that if DOT management were to implement the recommendations made in this report—including a plan to improve its inventory turnover rate and realize a one-time cost saving of at least $1.18 million—it would be able to more effectively manage its automotive inventory and maintain its automotive fleet.

New York City Department of Transportation

Iris Weinshall, Commissioner

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March 31, 2004

Greg Brooks, Deputy Comptroller
Policy, Audits, Accountancy & Contracts
City of New York
Office of the Comptroller
1 Centre Street
New York, New York 10007-2341

Re: MJ03-152A

Dear Mr. Brooks:

This is in response to your draft "Audit Report on the Effectiveness of the Department of Transportation in Maintaining Its Automotive Inventory".

The draft report indicates that DOT Fleet Services is generally effective in maintaining the agency's automotive inventory; generally maintains inventory records that reflect its inventory on hand; manages its inventory to generally preclude over and under-stocking; has adequate internal controls; and adequately safeguards its inventory. We agree with these conclusions.

The draft report also indicates that 28 percent of the inventory was inactive, and possibly obsolete, for at least two years. It also indicated if the inventory turnover rate was improved, it could yield one-time savings of more than $1.1 million.

We do not agree with the potential savings indicated in the report. DOT's inventory is to support a diverse fleet including many different makes and models of vehicles and a great deal of specialized equipment. It is necessary to maintain sufficient stock on hand to effect the repair and maintenance of all vehicles. Many of the parts are fabricated and delivered when the vehicles are initially ordered to preclude the lengthy lead times associated with obtaining the parts when a vehicle is out of service. The expected inventory turnover rate for these parts is expected be much less than more traditional common parts. We believe that the inherent costs of stocking specialized parts outweigh the impact of having vehicles out-of-service. Nevertheless, we will seek to improve inventory operations by increasing the reliance on economic reordering points.

The following are the recommendations included in the report and our comments:

1.) "DOT should have someone independent of the blacksmith operations periodically reconcile the TBLK inventory records to the physical inventory, to ensure that the records accurately reflect the amounts on hand"

We agree and the THD parts manager will be directly responsible for the inventory records maintained at the TBLK.

2.) "DOT should reinforce its policy that TTRK parts personnel are responsible for maintaining the asphalt storage trailer inventory"

We agree and all parts and materials utilized in the maintenance and repair of this operation will be issued from the main storage area.

3.) "DOT should ensure that unauthorized personnel are not allowed in the THAM parts room, especially after operating hours."

DOT has created an additional inventory location (DEPOT) to restrict access and removal of parts to authorized personnel. Supervisors assigned during off hours have been informed of their responsibilities to ensure access is provided to only those authorized.

4.) "DOT should require repair shops to place obsolete items in specifically marked bins to be sent to TCAS, as required by DOT procedures."

We agree and DOT will implement a yearly schedule in which obsolete items are collected and relinquished.

5.) "DOT should notify DCAS of its obsolete items to be auctioned off, as required by its own procedures."

We agree and the appropriate DCAS units will be notified.

6.) "DOT should ensure that all of its shops utilize the fleet database for ordering stock as a means to further improve the automotive inventory turnover rate."

We agree and the fleet database will be utilized to determine reordering points for specific parts. The usage will be expanded, as deemed appropriate.

7.) "DOT should develop a plan showing how it will achieve inventory reductions totaling at least $1.18 million by improving turnover rates for its working inventory of items and achieving a one-time savings. Fleet Services should monitor the progress of the plan and report the results to DOT upper management."

We agree to work toward optimizing inventory operations. However, the goal will be to maintain adequate levels which may not necessarily increase the turnover rate.

8.) "DOT should ensure that Fleet Services follows the DOI standards governing inventory counts. Procedures should include the following steps: (1) count all items at the locations, (2) use the "double-blind" count methodology, and (3) use persons who are not assigned to the location where the counts take place.

DOT plans on utilizing persons who are not assigned to the inventory location to count items. Using the "double-blind" methodology will be implemented where feasible.

9.) "DOT should ensure that discrepancies between physical inventory count totals and the perpetual inventory records are investigated by the agency's auditors (or those independent of inventory operations) before reconciliation adjustments are made and forward significant difference to DOI, as required by DOI Standards.

We agree and personnel independent of inventory operations will investigate discrepancies between physical count totals and the perpetual inventory records. Significant variances will be referred to the Department of Investigation.

10.) "DOT should ensure that adjustments to inventory balances are adequately justified and documented."

We agree and adjustments will be adequately justified and documented.

11.) "DOT should ensure that the parts room at the THAM repair shop is kept locked and that only parts workers are permitted access to the inventory."

We agree and the policy will be reiterated to all employees at this location.

12.) "DOT should ensure that mechanics sign for parts issued from the stockroom and that the forms with their signatures be kept for 12 months, as required by DOT procedures."

We agree and the procedures will be reiterated at all locations.

13.) "DOT should ensure that all shops that receive bulk oil shipments directly from the vendors record the deliveries and monitor the oil use."

We agree. Additionally, DOT has computerized the dispensing of these products at two facilities and more locations will be added in the future.

If you have any questions concerning this response, I can be reached at 212-788-8162.

Very Truly Yours,

Thomas C. Mathews
Auditor General

cc: Commissioner Iris Weinshall
F/D/C Judith Bergtraum
D/C Joseph Cannisi
A/C Galileo Orlando
George Davis, MOO