Metropolitan Council

Program Evaluation and Audit

Metro Transit

Physical Inventory Audits

Ruter Garage

East Metro Garage

Electronic/Farebox Repair

Brake Shop

System-Wide Cycle Counts

September 15, 2009

INTRODUCTION

Background

The Txbase System, implemented in 1995-96, consists of interactive computer software designed to provide an integrated inventory control, inventory management, purchase order management, materials requisition management and accounts payable matching system. Since implementation, eleven stockrooms have been using Txbase to control and account for parts and supplies used in Metro Transit operations.

To ensure timely, cost-effective maintenance for Metro Transit vehicles, many commonly used parts and equipment are stored at one of its 11 stockrooms. Keeping the items on site is required and critical to the operation, but presents challenges for accurate and continuing control of stockrooms that operate remotely, 24 hours a day, seven days a week. As a result, the stockrooms have been viewed by Metro Transit and Program Evaluation and Audit (Audit) as relatively high risk. Therefore, Audit has historically reviewed three or four stockrooms annually for procedural compliance, accuracy of records, and identification of any missing items.

In April 2004, Audit reviewed all eleven Metro Transit stockrooms. This was the first time the Body Shop and Electronic stockrooms located at the Overhaul Base were audited and they showed the greatest number of errors and risk of loss of Council assets. The other stockrooms had only minor findings. As a result, a follow-up audit of Body Shop and Electronic Repair inventories was performed in July 2005, and with similar results.

A second follow-up audit of Body Shop and Electronic Repair inventories was performed in July 2006, this time with improved results. Audit observed that Metro Transit had established adequate internal control over Body Shop and Electronic Repair inventories although Audit did recommend that Electronic Repair internal controls be strengthened by improving documentation when parts are removed from retired and damaged buses. As described under *OBSERVATIONS - Electronic Repair*, below, this continues to be a control problem.

Two audits were conducted in 2007, one based upon Audit's annual assessment of relative risk (Central Stores, Brake Shop, Light Rail Facility); the other based upon management request (Heywood, Nicollet and Ruter garages). In 2007, the Electronic Repair stockroom was moved from the Overhaul Base and combined with Farebox Repair in a secure location within Metro Transit's Operations Support Center (OSC). Due to this move, Audit included the combined Electronic/Farebox Repair stockroom in the May 2008 audit of Metro Transit stockrooms to assure that the move and new operations had been successfully implemented and internal controls were appropriate to minimize risk. The Overhaul Base and the South and East Metro Garage stockrooms were also audited, having not been reviewed since 2004.

Lead stockkeepers at each stockroom are required to conduct daily inventory cycle counts Monday through Friday (Metro Transit Material Management *Policy 06.06.07, rev. 3, July 9, 2008, Cycle Counts).* A cycle count consists of a Txbase automatic random selection of a predetermined number of part numbers (usually 20 or 50) for which the stockkeeper physically counts the quantity and compares that to Txbase inventory. Any part number variance of three physical units or $50 requires that the stockkeeper identify the reason for the variance.

Audit began monitoring daily stockroom inventory cycle count variance data in September 2008 as an updated method for assessing risk. For this review, Audit selected those stockrooms with variance rates exceeding ten percent (Brake Shop, Ruter and East Metro garages). The Electronic/Farebox Repair stockroom was also chosen for review because inventory that remained at the Overhaul Base after the 2008 move was subsequently moved to the OSC Electronic/Farebox Repair stockroom in March 2009. At that same time all Electronic/Farebox Repair inventory was moved from the initial OSC Electronic/Farebox Repair stockroom to a newly constructed stockroom within the OSC.

Assurances

This audit was conducted in accordance with the Institute of Internal Auditors' *International Standards for the Professional Practice of Internal Auditing* and the U. S. Government Accountability Office's *Government Auditing Standards*.

Scope

The present inventory audits were conducted at the Electronic/Farebox Repair, Brake Shop, Ruter garage and East Metro Garage stockrooms, which were identified as the stockrooms with the highest potential risk. The audit samples were drawn from all inventory items listed in TxBase as of the closing of inventory transactions on the day before the actual count was taken.

Methodology

After eliminating inventory items with zero extended costs, Audit selected a statistically significant, random sample with a 95% level of confidence and a 5% error rate plus a judgmental sample of the highest extended value items. Universe and sample stratification data based on average unit cost for the five stockrooms is included at Exhibit I. Audit physically counted the selected inventory items and compared that count to the quantity stated in the Txbase inventory system. The following methods of inquiry were also used:

- Differences were noted and discussed with Material Management personnel.
- Findings and results were recorded and summarized.
- The status of implementation of prior audit recommendations was reviewed.

- Inventory Management policies and procedures were reviewed.
- Daily cycle count results were monitored and analyzed.

OBSERVATIONS

On April 2, 2009 physical inventory counts were performed at the Ruter and East Metro garage stockrooms. On April 9, 2009 a similar count of physical inventories was conducted at the Electronic Repair and Brake Shop stockrooms. The following statistical data summaries are included as Exhibits at the end of this report:

- Exhibit I: Universe & Sample Stratification Data for the four stockrooms.
- Exhibit II: Preliminary Statistical Data Summary for the four stockrooms. This represents the raw data as gathered at the time of physical inventory count.
- Exhibit III: Adjusted Statistical Data Summary for the four stockrooms. This represents the raw data adjusted for those items for which Material Management personnel could identify a reconciling reason.
- Exhibit IV: Cycle Count Summary Data for all 11 Metro Transit stockrooms.
- Exhibit V: Comparison Data 2008 – 2009. This exhibit compares results of audits conducted in 2008 with the current results.

In addition, the following observations were made:

Ruter Garage Stockroom

Audit randomly sampled 178 items valued at $100,653, initially finding 14 variances representing an overage of $3,348. Extrapolating this to the $642,071 random sample universe, Audit estimates a net overage of $8,090 and an absolute variance including both overages and shortages of $17,674. Audit also judgmentally sampled the four items with the highest value totaling $138,659, resulting in three variances representing a net overage of $3,454. Combining the judgmental and random samples, Audit estimates a net overage of $11,544 and an absolute variance of $21,264 from the $778,730 total Ruter Garage stockroom inventory.

Two remote wheelchair lift controllers ($3,565) and one New Flyer radiator ($1,259) accounted for the majority of the random sample overage while the unrecorded use of a 55 gallon barrel of synthetic transmission oil ($1,350) accounted for most of the random sample shortage. The radiator was marked “VD” for “vehicle down” meaning that it was ordered in a rush from an outside vendor to repair a bus that could not operate without it. “Vehicle Down” parts are also requested from other Metro Transit stockroom when available.

Upon the arrival of the “VD” radiator, it was found to have damaged fins and was rejected for installation. For this reason, another radiator was ordered and installed on the bus. The damaged “VD” radiator was returned to the stockroom, but it was not electronically received into TXbase.

In the case of the unrecorded use of the transmission oil, it was determined that mechanics had taken it when the one they were using became empty. Again it was stated that it is a common practice for mechanics to do this without recording the use with the stockkeeper. The mechanics can do this because the barrels of oil are not stored in a secure location or chained and locked when in the open.

A 355 gallon antifreeze overage represents most of the judgmental sample variance. Bulk fluid inventory adjustments are made semi-annually because systemic variances occur when reading float meter gauges. In January 2009, the antifreeze inventory was adjusted to reflect a 1,005 increase over the previous six months. When reviewing the weekly cumulative antifreeze variance, the Materials Manager discovered a gradual week-to-week increase in the variance that may indicate "meter creep." In such instances, he plans to request that Facilities recalibrate the meters.

Adjusting for the radiator ($1,259) and transmission oil ($1,350) that were subsequently located, Audit found 12 variances representing an overage of $3,439. Extrapolating these revised results to the $640,071 random sample universe Audit estimates a net overage of $8,318 and an absolute variance of $11,106. Combining this with the high value judgmental sample, Audit estimates a net overage of $8,866 and an absolute variance of $11,790 from the $778,730 total Ruter stockroom inventory.

The net result is outside an acceptable range as determined by Audit (+ or - 1%) for both the revised random sample and the revised combined random/judgmental samples. The absolute variance for both samples is within an acceptable range of 3%, also determined by Audit. Including the judgmental sample, fourteen of the 182 sampled items varied from their stated inventory value. An acceptable number of variances would be nine (5%). More than nine indicates that internal controls are either not adequate or not adequately followed. See Exhibits II and III for additional statistical information.

East Metro Garage Stockroom

Audit randomly sampled 177 items valued at $81,596, finding 23 variances representing an overage of $2,583. Extrapolating this to the $448,185 random sample universe, Audit estimates a net overage of 5,879 and an absolute variance including both overages and shortages of $8,149. Audit also judgmentally sampled the five items with the highest dollar value totaling $129,616, resulting in two shortages totaling -$7,735. Combining the judgmental and random samples, Audit estimates a net shortage of -$1,856 and an absolute variance of $15,884 from the $577,801 total East Metro Garage stockroom inventory.

The Manager, Materials Management was unable to identify specific reasons for any of the variances except those for diesel fuel. Two explanations account for the negative -$7,587 (3,561 gallons) diesel fuel variance. First, stockkeepers neglected to record 2,150 gallons of fuel consumed by the boiler heaters during a February cold snap. Secondly, for the six week period since then until April 2d (the date of the audit) an additional 1,411 gallons were "lost" due "meter creep," the result of diesel fuel storage tank meters

producing readings in excess of the actual amount. "Meter creep" is a continuing problem. For the six month period July 2008 through December 2008 it accounted for 2,962 gallons of "lost" fuel. The Material Manager stated that he will be reviewing this problem in an effort to find a solution to unreliable fuel level readings.

Adjusting for this item, the judgmental sample now results in a shortage of -$147. Combining this with the random sample, Audit estimates a net overage of $5,732 and an absolute variance of $8,296 from the $577,801 total East Metro Garage stockroom inventory.

The net result is outside an acceptable range for the random sample; however, it is within an acceptable range for the revised combined random/judgmental sample. The absolute variance for both samples is also within an acceptable range. Twenty-four of the 182 sampled items varied from their stated inventory value, a variance rate similar to the results reported when the East Metro garage stockroom was audited in 2008. An acceptable number of variances would be nine. More than nine indicates that internal controls are either not adequate or not adequately followed. See Exhibits II and III for additional statistical information.

Expendable miscellaneous parts that are accessible to mechanics outside of the stockroom are included in inventory and are charged out when the bin gets low. At Ruter these items are charged out as new boxes are opened and placed in the bins. The Ruter practice is a standard method of internal control when accounting for this type of inventory. A more controlled practice at East Metro would be to remove these items from inventory at the time they are placed for use in the outside bins.

Electronic/Farebox Repair Stockroom

Electronic Repair inventory that had been located at both the Overhaul Base and at a different location within Metro Transit's OSC during the 2008 audit has been recently consolidated into a newly constructed single stockroom within the OSC. The new stockroom has two entrance doors, the front one that is equipped with a security camera and a side one leading directly into the farebox repair work area which is not. The absence of a security camera at the side door is a significant internal control weakness.

Audit randomly sampled 133 items valued at $290,100, initially finding 21 variances representing a shortage of -$4,777. Extrapolating this to the $702,103 random sample universe, Audit estimates a net shortage of -$11,697 and an absolute variance of $57,227. Audit also judgmentally sampled the six items with the highest value totaling $503,160, initially finding four variances representing a net shortage of -$9,377. Combining the judgmental and random samples, Audit estimates a net shortage of -$21,075 and an absolute variance of $77,463 from the $1,205,263 total Electronic/Farebox Repair Stockroom inventory.

The Manager, Material Management reviewed the preliminary random sample results of audit and provided documentation explaining the following variances:

- Two farebox service door welded assemblies were located in the previous stockroom which had resulted in a shortage of ($219).
- A case of cleaning products was misplaced during the audit resulting in a shortage of ($95).
- Various parts were previously removed from scrap buses but had not been taken into inventory resulting in an overage of $4,747 (this was also reported as a weakness in the 2004, 2005 and 2006 audits and in the 2007 audit follow-up comments).
- Twenty-two switch alarm devices were actually a different part not included in the sample resulting in an overage of $512.
- Two control signs that were in a mobile van during the audit were missing from the stockroom resulting in an overage of $1,703. The stockroom part number was not included in the sample; therefore, the overage was not offset.
- Various sample parts were included in a "MCI Coach Kit" that was provided to the bus manufacturer resulting in a shortage of ($432).
- A front controller assembly located in stock inventory should have been in one of the mobile vans, resulting in an overage of $808.
- Seventy-four radio call light timers were located in the above ground storage area at the old stockroom in the Overhaul Base. This resulted in a shortage of ($964). These items have not been used since 2002 and, if obsolete, should be disposed of appropriately.
- A technician took a radio assembly from the stockroom without charging it out to the mobile van in which it was counted, resulting in an overage of $5,000
- Four power supplies charged to a mobile van were instead located in the stockroom, resulting in a shortage of ($5,274).

The Manager of Materials Management reviewed the preliminary judgmental sample results of audit and provided documentation explaining the following variances:

- Various sample parts were included in a "MCI Coach Kit" that was provided to the bus manufacturer resulting in a shortage of ($4,907). In addition, one item that did not show a variance initially was also included in this kit resulting in an overage of $5,000.
- Ten VCRs were in inventory with a third party repair and maintenance contactor and four were located on the e-waste scrap pallet at the Unit Overhaul Base, resulting in a shortage of ($9,899).
- Various parts were previously removed from scrap buses but had not been taken into inventory resulting in an overage of $5,429 (this was also reported as a weakness in the 2004, 2005 and 2006 audits and in the 2007 audit follow-up comments).

Adjusting for the 10 random sample items identified above, Audit found 11 variances representing a shortage of -$11,080. Extrapolating these revised results to the $702,103 random sample universe Audit estimates a net shortage of -$14,848 and an absolute variance of $18,814. Combining this with the high value judgmental sample, as adjusted by the three items identified above, Audit estimates a revised net shortage of -$9,848 and absolute variance of $23,814 from the $1,205,063 total Electronic/Farebox Repair stockroom inventory.

The net result is outside an acceptable range for the revised random sample but not for the revised combined random/judgmental samples. The absolute variance for both samples is also within an acceptable range. Twelve of the 139 sampled items varied from their stated inventory value. This is an improvement from 18 reported in the 2008 audit; although, an acceptable number of variances would be seven. More than seven indicates that internal controls are either not adequate or not adequately followed. See Exhibits II and III for additional statistical information.

Brake Shop Stockroom

Metro Transit assembles its own brakes from component parts purchased from outside vendors. The existing stockroom does not have sufficient space to hold either component parts or the finished assembled product. Therefore, such inventory is stationed throughout the brake assembly area. The component parts are added to inventory when received from the vendor and placed at locations within the Brake Shop nearest to where they will be needed in the assembly process. As brakes are assembled for finished product inventory, the component parts are listed on a work order; however, inventory is not adjusted until that work order is closed out. Likewise, as brakes are either assembled for work on a specific bus or when the finished brake is taken from inventory, none of the items is charged out of inventory until the work order is closed. At that time, the work order is entered into Txbase, the appropriate accounts charged and inventory adjusted. Because of this process, it is very difficult to determine the exact inventory at any point in time. A normal inventory practice is to add the items to inventory and secure them within the stockroom when received and charge them out to the appropriate account when the mechanic submits a request to the stockkeeper.

Audit randomly sampled 89 items valued at $91,561, initially finding 29 variances representing a shortage of -$30,044. Extrapolating this to the $237,429 random sample universe, Audit estimates a net shortage of -$26,565 and an absolute variance of $99,157. Audit also judgmentally sampled the four highest value items totaling $56,239 which resulted in four shortages valued at -$36,708. Combining the judgmental and random samples, Audit estimates a net shortage of -$63,273 and an absolute variance of $135,864 from the $293,668 total Brake Shop inventory.

The Manager**,** Material Management reviewed the preliminary random sample results of audit and provided documentation explaining the following variances:

- Two treadle brake assemblies were located and issued out to their appropriate work orders which had resulted in a shortage of ($194).
- Nine left brake slack adjusters that had been removed from inventory in Txbase but not yet physically placed on buses during the period of the audit resulted in an overage of $857.
- Fifty ASM New Flyer front brake rollers that were supposed to be in the secured inventory area were subsequently located in the mechanic's work area resulting in a shortage of ($1,993).
- One New Flyer rear brake hardware kit was located and issued out to its appropriate work order which had resulted in a shortage of ($74).
- Twelve Gillig rear axel oil seals that had been removed from inventory in Txbase but not yet physically placed on buses during the period of the audit resulted in an overage of $244.

The Manager**,** Material Management reviewed the preliminary judgmental sample results of audit and provided documentation explaining the following variance:

- 28 New Flyer center axel brake drums were placed on buses during the period of the audit and the respective work orders had not yet been entered into Txbase resulting in a shortage of ($12,824).

Adjusting for the five random sample items identified above, Audit found 24 variances representing a shortage of -$28,884. Extrapolating these revised results to the $237,429 random sample universe Audit estimates a net shortage of -$33,695 and an absolute variance of $80,497. Combining this with the high value judgmental sample, as adjusted by the one item identified above, Audit estimates a revised net shortage of -$57,578 and an absolute variance of $104,380 from the $293,668 Brake Shop inventory.

The net result is outside an acceptable range for both the revised random sample and the revised combined random/judgmental samples. The absolute variances for both samples are also outside an acceptable range. Twenty-seven of the 93 sampled items varied from their stated inventory value. An acceptable number of variances would be five. More than five indicates that internal controls are either not adequate or not adequately followed. See Exhibits II and III for additional statistical information.

It is apparent that due to the extreme variances experienced at the Brake Shop the current practice of maintaining inventory does not sufficiently safeguard Council assets. All component and assembled brake inventory should be safeguarded within a secure stockroom to be charged out by the stockkeeper when needed by the mechanics. Unsecured component and assembled brake inventory items represent $189,426 (64.50%) of the total Brake Shop inventory.

Stockroom Cycle Counting

Metro Transit Material Management *Policy 06.06.07, rev. 3, July 9, 2008, Cycle Counts,* states that:

- Cycle counting is required daily, Monday - Friday.
- A stockkeeper will perform the cycle count by physically counting each item.
- The lead stockkeeper will research each part number counted in which the absolute variance is greater than $50 or the physical count is incorrect by three or more units of measure.
- If the stockkeeper cannot identify why the inventory is incorrect, the inventory will be adjusted through the cycle count process.

Audit monitored the daily cycle count reports for each stockroom for the six month period from September 22, 2008 through March 20, 2009. This included 126 days on which cycle counts should have been conducted at each stockroom. Actual days in which cycle counts were conducted ranged from 86 (Brake Shop) to 121 (HLRT Facility).

Each stockroom also has a pre-determined number of part numbers to sample. During most of the period under review the standard part number daily cycle count for the Ruter and East Metro garage stockrooms was 50; the standard for the Heywood garage was 25 and the standard for all other stockrooms was 20, except for Central Stores for which no discernable standard could be determined. Cycle Count samples ranged from 71% (Brake Shop) to 98% (HLRT Facility) of the part numbers that should have been sampled. In calendar year 2009, the Brake Shop standard daily sample was maintained through February 6th; however, since then, the number of cycle count samples has only ranged from one to 12. Audit continues to monitor cycle count data and since May 4th, the Electronic/Farebox Repair cycle counts have also been conducted less often and the number of items counted has dropped substantially.

A reason given for this variance in stockroom cycle count data is the coding convention used to determine which items are chosen for counting. Inventory items are coded as A, B, and C for cycle count purposes. A items are highest in value and are counted once every three months, B items are of lesser value and are counted once every six months and C items are of the least value and they are counted once a year. Once an item has been counted, Txbase does not generate a cycle count request for that item until the appropriate time frame comes again. The Brake Shop is the smallest and least valuable stockroom and that is why Txbase often generates few or no items for daily cycle counts at the Brake Shop. However, this does not explain the recent change in Electronic/Farebox Repair cycle count practices.

Comparing the number of items in which variances occurred to the number of items counted yields a variance rate. The actual variance rate ranged from 2.49% at the Body Shop stockroom to 24.26% in the Brake Shop stockroom. In its June 25, 2008 *Physical Inventory Audits* report, Audit recommended that such variances be less than five percent. The Body Shop was the only stockroom that achieved this goal, although seven other stockrooms had variances between 5.00 and 8.52 percent. The remaining three

stockrooms deviated substantially from this goal with variance rates of 12.45% (Ruter Garage), 15.03% (East Metro Garage) and 24.26% (Brake Shop). This and other cycle count data for all 11 Metro Transit stockrooms can be found at Exhibit IV.

Audit advised the Materials Manager periodically over the period under review of concerns that arose from analyzing the cycle count data. In one case, when few cycle counts were conducted, the stockkeeper claimed he was too busy. He subsequently received a documented verbal counseling from the Materials Manager. In other instances, inventory was found to have been misplaced or the wrong item was counted.

When variances exceed $50, such errors are supposed to be researched and actual inventory adjusted. Audit identified 26 instances during a one month period at the four stockrooms under review when inventory variances should have been researched. When asked about their responsibilities for researching such variances, none of the four stockkeepers interviewed stated that they knew about the policy. They merely adjusted Txbase to reflect the counted amount with no further review to determine the reason for the variances. One stockkeeper stated that he did research the variances and placed the reason for any adjustment in the comments section of the appropriate Txbase file. However, in all four instances in which the auditor requested that the stockkeeper look up specific transactions, no reasons were given for the adjustments.

CONCLUSIONS

1. Ruter Garage Stockroom– Internal controls are not adequate to assure accurate inventory reporting and proper safeguarding of assets.

The audit disclosed that 14 of the 182 items sampled resulted in actual inventory varying from that identified in Txbase. Audit would like to see a maximum of nine. The net dollar variance for both the adjusted random sample and the adjusted combined random/judgmental samples is outside the recommended range, although the absolute variance for both is within the acceptable range.

Some bulk fluids including synthetic transmission oil are stored in 55 gallon unsecured drums located outside the stockroom and are accessible to the mechanics. In the current Audit, it was determined that mechanics had taken a 55 gallon drum of transmission oil when the one they were using became empty. The auditor was told that it is a common practice for mechanics to do this without recording the use with the stockkeeper.

It appears that some bulk fluid measuring devises may need continual periodic calibration, for a 355 gallon antifreeze overage appears to be the result of a gradual week-to-week increase in the variance that may indicate "meter creep." In January 2009, the same antifreeze inventory was adjusted to reflect a 1,005 increase over the previous six months.

2. East Metro Garage Stockroom – Internal controls have improved over the past year, however, additional measures need to be taken to assure accurate inventory reporting and proper safeguarding of assets.

Exhibit V lists comparative data for a similar audit conducted in 2008. The East Metro Garage stockroom has improved in four out of five measures and is nearly the same in the fifth. The 2009 results indicate that three of the five measures (the combined random/judgmental sample net variance and the absolute variances for both the random and combined samples) were within acceptable ranges; however, the net random sample and item number variances falling outside their expected ranges. The greatest concern is for diesel fuel inventory accuracy, for inventory adjustments are not adequately reconciled and tank meters appear to need calibration for they regularly provide readings that indicate more fuel is present than there actually is. In addition, expendable miscellaneous parts that are accessible to mechanics outside of the stockroom are also included in inventory. It would be better to remove these items from inventory at the time they are placed for use in the unsecured bins.

3. Electronic/Farebox Repair Stockroom – Internal controls have improved over the past year; however, they are not yet adequate to assure accurate inventory reporting and the large number of initially missing inventory items for which explanations were provided indicates that procedures are not always followed. A similar conclusion was reported in the April 2008 audit.

Exhibit V lists comparative data for a similar audit conducted in 2008. The Electronic/Farebox Repair stockroom has improved in three out of five measures and worsened in the other two, with the actual net shortage as indicated by the random net variance increasing substantially. The 2009 results indicate that three of the five measures (the combined random/judgmental sample net variance and the absolute variances for both the random and combined samples) were within acceptable ranges. The net random sample and item number variances fall outside their expected ranges; however, the number of item variances improved substantially, falling from 18 in 2008 to 12 in 2009.

The initial audit results also disclosed that 25 of the 139 items checked resulted in actual inventory varying from that identified in Txbase. This number of variances indicates that increased care must be taken to assure accurate acceptance and distribution of inventory. Upon further review by stockroom personnel, it was disclosed that 13 items were located, identified as being either issued or not received into inventory or otherwise being identified as not varying from Txbase data. As a result of these adjustments, the net shortage and absolute variance for the combined random/judgmental samples fell from -$21,074 and $77,463 to -$9,848 and $23,814, respectively.

The acceptable variances indicate that some controls are in place; however, they are not always followed. For example, a number of initial variances were recorded due to employees not abiding by required procedures when stocking or returning stock from mobile vans. In addition, parts are not properly accounted for in Txbase when they are taken from scrap buses. This has been a recurring issue since 2004.

The lack of a security camera recording activity from the side entrance which leads to the electronic repair work area is also a significant internal control weakness.

4. Brake Shop – Internal controls are not adequate to assure accurate inventory reporting or proper safeguarding of assets.

The audit disclosed that 27 of the 93 items checked (29.03%) resulted in actual inventory varying from that identified in Txbase. This number of variances indicates that increased care must be taken to assure accurate acceptance and distribution of inventory. In addition, the estimated net shortage of -$57,578 and absolute variance of $104,380 from the total $293,668 Brake Shop stockroom inventory is not acceptable and indicates that controls are not in place to assure accurate inventory reporting or proper safeguarding of assets. The primary reason for these large variances is the presence of unsecured component and assembled brake inventory which represent $189,426 (64.50%) of total Brake Shop inventory.

5. System – Wide Cycle Counting: Daily cycle counting is an internal control established to assure accurate inventory reporting and safeguarding of assets. However, Materials personnel responsible for complying with the established policy are not doing so, rendering this control function ineffective.

Although introduced to help assure accurate inventory reporting and safeguarding of assets, inventory cycle counting is administered differently at each stockroom and in two of the four, not according to procedure. Cycle counting is not being conducted as frequently as planned, fewer part numbers are being chosen for review and variances are not being researched to determine the reason for the difference. In addition, Materials Management personnel do not effectively review daily activity to assure that stockkeepers perform cycle counts according to published procedures.

RECOMMENDATIONS

Program Evaluation and Audit recommendations are categorized according to the level of risk they pose for the Council. The categories are:

- **Essential** – Steps must be taken to avoid the emergence of critical risks to the Council or to add great value to the Council and its programs. Essential recommendations are tracked through the Audit Database and status is reported twice annually to the Council's Audit Committee.
- **Significant** – Adds value to programs or initiatives of the Council, but is not necessary to avoid major control risks or other critical risk exposures. Significant recommendations are also tracked with status reports to the Council's Audit Committee.
- **Considerations** – Recommendation would be beneficial, but may be subject to being set aside in favor of higher priority activities for the Council, or may require collaboration with another program area or division. Considerations are not tracked or reported. Their implementation is solely at the hands of management.
- **Verbal Recommendation** – An issue was found that bears mentioning, but is not sufficient to constitute a control risk or other repercussions to warrant inclusion in the written report. Verbal recommendations are documented in the file, but are not tracked or reported regularly.

Ruter Garage

1. **(Essential) Metro Transit should tighten security over transmission oil and other inventory items that are stored in unsecured work areas and that are accessible by personnel other than the stockkeeper.**

The issuance of inventory located within the stockroom can be controlled by Metro Transit's standard inventory receipt and issuance procedures. Such is not the case with inventory that is better stored outside the stockroom and close to or within the work areas of those employees using the item. In those cases, such as with transmission oil, the stockkeeper does not know when an item is taken unless told by the person taking it. During the audit it was determined that a 55 gallon drum of transmission oil was taken and the stockkeeper was not notified. These conditions represent a lack of internal control over inventory accuracy and security.

Management Response: *Fluids stored in drums will be secured with double chains so that barrels cannot be removed without unlocking the chain. The stockkeeper will secure these keys in the stockroom.*

Staff Responsible: *Facility Maintenance Technician and Manager, Material Management*

Timetable*: Completed August 7, 2009*

2. **(Significant) Metro Transit should implement controls to assure that in-house inventory is carefully reviewed prior to placing rush orders for purchasing parts from outside vendors.**

A New Flyer radiator ($1,259) accounted for the majority of the random sample overage experienced at the Ruter garage. The radiator was marked "VD" for "vehicle down" indicating that a rush order was placed with an outside vendor for this part that was needed to repair a bus that was out of service. It was later determined that the bus was repaired using a different radiator and that the "VD" radiator was returned to the stockroom; however, it was not electronically received into Txbase.

Management Response: *In an attempt to reduce the cost associated with ordering parts "rush" from vendors, Metro Transit will take the following three steps:*

1) *Stockkeepers will review their inventory to ensure the specific parts are not on hand.*
2) *The Maintenance Supervisor will verify that the bus is non-operational and communicate that in writing to the stockkeeper before the stockkeeper orders the part as a "vehicle down."*
3) *Before requisitioning the part on a "rush" status from the vendor, the Material Management Coordinator will ensure no stock is on hand at Metro Transit's Central Warehouse or any of the other Metro Transit stockrooms.*

Staff Responsible: *Stockkeeper, Bus Maintenance Supervisors, Material Management Coordinators*

Timetable*: Completed September 14, 2009 policy* entitled "*Ordering of Parts 'Vehicle Down' and 'Awaiting Parts'"*

East Metro Garage

3. **(Significant) Metro Transit should reconcile diesel fuel and other bulk fluids inventory in Txbase daily in order to adjust for heating boiler usage and to accurately track "meter creep." In addition, tank fuel level meters should be reviewed for accuracy and calibrated or replaced if they do not provide accurate readings.**

Diesel fuel was used in February for heating the East Metro facility; however, Txbase was not adjusted until two months later when requested by Audit. In addition, the daily Txbase inventory appears to be gradually increasing due to meter creep. However, unless accurate meter readings can be obtained it can not be known if it is that or a combination of problems that is causing the inflated meter readings. Unreconciled East Metro diesel fuel inventory adjustments were also one of the reasons diesel fuel inventory was not accurately recorded in Txbase during the 2008 audit. In addition, meter creep was also given as a reason for a 355 gallon antifreeze overage at the Ruter garage.

Management Response:

Material Management: *Currently the Material Management Department reviews underground storage tank inventory discrepancies on a monthly basis. The Department Manager adjusts bulk fluid inventories semiannually to account for meter creep. Due to the size of the bulk fluid tanks (up to 30,000 gallons), accurately monitoring for meter creep cannot be accomplished on a daily basis. The Manager of Material Management will continue to monitor for meter creep on a monthly basis, but instead of making adjustments semiannually, the Manager will make monthly adjustments.*

Facility Maintenance Management: *The Facility Maintenance Department will develop a schedule to ensure the accurate calibration of the Metro Transit's bulk fluid meters.*

Staff Responsible: *Manager, Material Management and Assistant Director, Facility Maintenance Management*

Timetable: *Completed August 1, 2009 for Material Management monthly adjustment process and September 1, 2009 for Facility Maintenance Management calibration schedule.*

4. **(Consideration) Metro Transit should consider implementing a common practice of removing expendable supplies from inventory when they are placed in unsecured bins available for mechanic use.**

Expendable supplies that are accessible to mechanics outside of the stockroom are included in inventory. It would be better to remove these items from inventory at the time they are placed for use in the outside bins as is done at the Ruter garage.

Management Response: *Material Management is rearranging the East Metro Stockroom to accommodate 26 new bin-shelving units. Once this rearrangement is complete, East Metro will have the ability to stock back-up expandable supplies (bench stock) inside the stockroom. Stocking the bench stock inside the stockroom will allow East Metro to achieve the department standard. This department standard has a bench stock storage area on the shop floor that contains items already issued to the generic shop supply work order. Secondly, for each item stocked on the bench stock storage area, a backup quantity is stocked inside the stockroom. When the bench stock location is empty, the stockroom issues the backup quantity to the generic shop supply work order and physically places the stock on the shop floor. Once this backup is issued, the material management system automatically orders replacement stock for the stockroom. This prevents the garage from running out of stock and maintains inventory accuracy.*

Staff Responsible: *Manager, Material Management*

Timetable: *November 30, 2009*

Electronic/Farebox Repair

5. **(Essential) Metro Transit should make a practice of periodic and frequent reminders to Electronic/Farebox Repair Technicians and stockroom personnel of the need to comply with Metro Transit inventory procedures.**

Half of the variances are acceptable indicating that some controls are in place; however, they are not always followed. For example, a number of initial variances were recorded due to employees not abiding by required procedures when stocking or returning stock from mobile vans. In addition, a recurring recommendation since 2004 has been to improve the accounting for parts taken from scrap buses. It was expressed to the auditor that it is not considered important to account for obsolete parts. However, obsolete parts need to be properly accounted for just as much as usable parts.

Management Response: *Both the Finance Department (Material Management and Farebox Repair) and Bus Maintenance (Electronic Repair) understand the importance of accounting for Metro Transit's complete inventory, which includes active and "obsolete" parts.*

Van inventory will be cycle counted weekly by the technician assigned to the van to avert inaccuracies. The leadership of both Departments (Electronic Repair {Bus Maintenance} and Farebox Repair {Finance}) will periodically remind their employees to follow the proper procedures for charging out parts.

Staff Responsible: *Manager, Electronics Department and Manager, Revenue Processing*

Timetable: *Van inventory cycle counting – Weekly, beginning September 11, 2009*
Periodic procedure reminders – July 24, 2009 and quarterly thereafter

6. **(Essential) Metro Transit should install a security camera aimed at the side entrance door to the Electronic Repair stockroom.**

Activity in and out of the main entrance to the Electronic Repair stockroom is monitored by a security camera as is traffic into and out of all other stockrooms. However, the side door leading from the farebox repair maintenance work area to the Electronic Repair stockroom is not monitored in similar fashion. The Electronic Repair stockroom is staffed only during the day shift while Electronic Repair Technicians work both first and second shifts, thereby requiring access to the stockroom absent the stockkeeper. Security camera monitoring aides in decreasing theft initially and in investigating cases once they have been identified.

Management Response: *A request has been submitted to the Manager of Asset Protection to move the camera so that it covers both doors.*

Staff Responsible: *Manager, Asset Protection and Manager, Material Management*

Timetable: *Completed August 14, 2009*

Brake Shop

7. (Essential) Metro Transit should discontinue its practice of maintaining brake component and finished product inventory in unsecured mechanic work areas.

Audit estimates a net shortage of -$57,578 and absolute variance of $104,380 from the total $293,668 Brake Shop stockroom inventory. It is apparent that due to these extreme variances the current practice of maintaining inventory in mechanic work areas does not sufficiently safeguard the Councils assets or provide for an accurate accounting of actual inventory. An estimated 64.50% of all Brake Shop inventory consists of unsecured component and finished product inventory.

Management Response: *The Material Management Brake Shop stockroom is in the process of moving to a larger space to accommodate a greater amount of inventory. Additionally, both Bus Maintenance and Material Management have agreed that the practice of storing inventory outside of the stockroom shall cease as soon as the move is complete. The only inventory item Material Management will stock outside of the stockroom will be brake drums. That is because brake drums for buses require a hoist or forklift to move and that hoist is located in the maintenance area. However, the stockkeeper will monitor the inventory of drums daily to ensure accuracy. Bus Maintenance and Material Management have also agreed that no inventory will leave the stockroom until the stockkeeper has charged the item to a work order.*

Maintenance is also focused on the evaluation of kitting, which may affect build/buy decisions. Currently, Metro Transit Bus Maintenance is evaluating the benefits of purchasing brake reline parts in customized "kits" versus purchasing multiple individual parts. There would be fewer items to purchase individually and fewer items to stock, issue and track. Bus Maintenance believes that kitting will greatly simplify issues related to Brake Shop inventory, while improving efficiency, lowering costs and simplifying the entire process. Customized kitting may also be of benefit for other components currently rebuilt in-house.

Staff Responsible: *Moving inventory to a secure stockroom – Manager, Material Management; Maintenance Manager, Overhaul Base and Maintenance Supervisor, Brake Shop*

Timetable: *September 18, 2009*

System-Wide Cycle Counting

8. (Essential) Metro Transit should include cycle counting performance measures in stockkeeper periodic performance appraisals to assure that stockkeepers perform daily cycle counting responsibilities according to published procedure.

Metro Transit policy # 06.06.07, *Cycle Counts* established a cycle counting practice as one aspect of maintaining control over physical inventory. The policy was initiated in an attempt to increase the accuracy of Metro Transit stores inventory reporting. Conducting daily inventory cycle counts is one of a number of control elements that Materials Management has instituted to safeguard Metro Transit assets, assure correct inventory levels are maintained and that parts are available when needed by mechanics. The practice of merely adjusting Txbase inventory to reflect the number of units counted instead of researching to determine the reason for variances significantly reduces the effectiveness of daily cycle counting as an internal control. During the cycle count monitoring period preceding the review when Audit requested that specific part variances be researched, a reason was always found to explain the difference. In one instance, the items were put in the wrong place and were not missing at all.

Management Response: *Material Management has developed a daily reporting process that holds each Lead Stockkeeper responsible for researching cycle count inaccuracies.*

1) *Every morning the Material Management Clerk distributes a report that shows the previous 24 hours cycle count discrepancies*
2) *It is the responsibility of the lead stockkeepers of each facility to review this document. Any discrepancy of greater than $50 or greater than ten pieces requires a written response documenting the research they conducted about the discrepancy.*
3) *That stockkeepers Supervisor and Manager reviews the submitted research.*

Staff responsible: *Material Management Lead Stockkeepers, Supervisors and Manager*

Timetable: *Completed July 1, 2009*

FOLLOW-UP TO PRIOR AUDIT RECOMMENDATIONS

The Ruter garage stockroom was audited in 2004 and again in 2007, the East Metro stockroom in 2004 and 2008, the Brake Shop stockroom in 2004 and 2007 and the Electronic Repair stockroom in 2004, 2005, 2006 and 2008. All audit recommendations have been previously implemented; however, as indicated in this report and as listed below, some controls have become lax over time and require additional emphasis.

Electronic Repair

2004

Parts removed from buses and placed in the Electronic Repair stockroom should go through the stockkeeper so a transaction can be prepared to bring inventory into the Txbase inventory database.

2005

Parts removed from damaged buses and placed in the Electronic Repair inventory should be documented on appropriate paperwork and be communicated to the stockkeeper for updating the Txbase inventory database.

2006

Parts removed from retired and/or damaged buses and placed in the Electronic Repair inventory should be documented on appropriate paperwork and be communicated to the stockkeeper for updating the Txbase inventory database.

2007

Electronic Repair Follow-Up - Although following the July 2006 audit, internal controls were stated as existing, the following additional comment regarding increased accuracy was made: "Based on the inventory results and explanations for differences, Electronic Repair personnel still need to improve documentation of parts removed from retired and/or damaged buses and placed back into inventory."

Brake Shop

2004

Equipment Maintenance personnel working in the Brake Shop should obtain parts from the stockkeeper so the Txbase inventory records can be updated in a timely fashion.

2007

Eighty-nine percent (89%) of the total Brake Shop inventory shortage was due to brake linings, shoes and chambers that could not be located.

Audit will continue to monitor the Electronic Repair and Brake Shop stockroom inventory until these conditions improve.

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Exhibit I: Universe and Sample Stratification Data

Electronic/Farebox Repair

Average Unit Cost	Size of Universe	Size of Sample	Value of Universe	Value of Sample
$0 to $1,300	1,840	70	$ 229,982	$ 7,842
$1,301 to $5,000	105	43	242,915	99,700
$5,001 to $17,000	27	20	229,206	182,558
Sub-Total	**1,972**	**133**	**702,103**	**$290,100**
100% Judgemental Sample				
$17,001 and above	6	6	503,160	503,160
Total	**1,978**	**139**	**$1,205,263**	**$793,260**

Brake Shop

Average Unit Cost	Size of Universe	Size of Sample	Value of Universe	Value of Sample
$0 to $1,700	1,113	68	$119,155	$ 8,134
$1,701 to $10,000	30	21	118,274	83,427
Sub-Total	**1,143**	**89**	**$237,429**	**$ 91,561**
100% Judgemental Sample				
$10,001 and above	4	4	56,239	56,239
Total	**1,147**	**93**	**$293,668**	**$147,800**

Ruter Garage

Average Unit Cost	Size of Universe	Size of Sample	Value of Universe	Value of Sample
$0 to $2500	5,627	72	$221,781	$ 3,325
$251 to $1000	470	63	218,557	31,706
$1,001 to $5,700	106	43	199,733	79,343
Sub-Total	**6,203**	**178**	**$640,071**	**$114,374**
100% Judgemental Sample				
$5,701 and above	4	4	138,659	138,659
Total	**6,207**	**182**	**$778,730**	**$253,033**

East Metro Garage

Average Unit Cost	Size of Universe	Size of Sample	Value of Universe	Value of Sample
$0 to $200	4,396	72	$146,934	$ 2,287
$201 to $800	386	61	147,181	22,402
$801 to $4,000	108	44	154,070	56,906
Sub-Total	**4,890**	**177**	**$448,185**	**$ 81,595**
100% Judgemental Sample				
$4,001 and above	5	5	129,616	129,616
Total	**4,895**	**182**	**$577,801**	**$211,211**

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Exhibit II: Preliminary Statistical Data Summary

	Electronic /Farebox Repair	Brake Shop	Ruter Garage	East Metro Garage
Random Sample				
Shortages	11	21	7	11
Overages	10	8	7	12
Value of Sample Shortages	($17,927)	($36,392)	($1,487)	($693)
Value of Sample Overages	$13,150	$6,348	$4,835	$3,276
Net Sample Variance Value	($4,777)	($30,044)	$3,348	$2,583
Sampled Inventory Shortage %	-6.18%	-39.75%	-1.30%	-0.85%
Sampled Inventory Overage %	4.53%	6.93%	4.23%	4.01%
Total Random Sample Inventory				
Value of Estimated Shortages	($34,462)	($62,861)	($4,792)	($1,135)
Value of Estimated Overages	$22,765	$36,296	$12,882	$7,014
Net Projected Variance	($11,697)	($26,565)	$8,090	$5,879
Net Projected Variance%	-1.67%	-11.19%	1.26%	1.31%
Absolute Variance	$57,227	$99,157	$17,674	$8,149
Absolute Variance %	8.15%	41.76%	2.76%	1.82%
Judgmental Sample				
Shortages	3	4	1	2
Overages	1	0	2	0
Value of Sample Shortages	($14,806)	($36,708)	($68)	($7,735)
Value of Sample Overages	$5,429	$0	$3,522	$0
Random & Judgmental Combined				
Value of Estimated Shortages	($49,269)	($99,569)	($4,860)	($8,870)
Value of Estimated Overages	$28,194	$36,296	$16,404	$7,014
Net Projected Variance	($21,075)	($63,273)	$11,544	($1,856)
Net Projected Variance %	-1.75%	-21.55%	1.48%	-0.32%
Absolute Variance	$77,463	$135,864	$21,264	$15,884
Absolute Variance %	6.43%	46.26%	2.73%	2.75%
Total Variance Items	25	33	17	25
Variant Item Number Ratio	17.99%	35.48%	9.34%	13.74%
Acceptable # of Variance Items	7	5	9	9
Acceptable Variant Item Ratio	5.00%	5.00%	5.00%	5.00%

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Exhibit III: Adjusted Statistical Data Summary

	Electronic /Farebox Repair	Brake Shop	Ruter Garage	East Metro Garage
Random Sample				
Shortages	7	18	6	11
Overages	4	6	6	12
Value of Sample Shortages	($11,461)	($34,132)	($137)	($693)
Value of Sample Overages	$381	$5,248	$3,576	$3,276
Net Sample Variance Value	($11,080)	($28,884)	$3,439	$2,583
Sampled Inventory Shortage %	-3.95%	-37.28%	-0.12%	-0.85%
Sampled Inventory Overage %	0.13%	5.73%	3.13%	4.01%
Total Random Sample Inventory				
Value of Estimated Shortages	($16,831)	($57,096)	($1,394)	($1,135)
Value of Estimated Overages	$1,983	$23,401	$9,712	$7,014
Net Projected Variance	($14,848)	($33,695)	$8,318	$5,879
Net Projected Variance%	-2.11%	-14.19%	1.30%	1.31%
Absolute Variance	$18,814	$80,497	$11,106	$8,149
Absolute Variance %	2.68%	33.90%	1.74%	1.82%
Judgmental Sample				
Shortages	0	3	1	1
Overages	1	0	1	0
Value of Sample Shortages	$0	($23,884)	($68)	($147)
Value of Sample Overages	$5,000	$0	$616	$0
Random & Judgmental Combined				
Value of Estimated Shortages	($16,831)	($80,979)	($1,462)	($1,282)
Value of Estimated Overages	$6,983	$23,401	$10,328	$7,014
Net Projected Variance	($9,848)	($57,578)	$8,866$	$5,732
Net Projected Variance %	-0.82%	-19.61%	1.14%	0.99%
Absolute Variance	$23,814	$104,380	$11,790	$8,296
Absolute Variance %	1.98%	35.54%	1.51%	1.44%
Total Variance Items	12	27	14	24
Variant Item Number Ratio	8.63%	29.03%	7.69%	13.19%
Acceptable # of Variance Items	7	5	9	9
Acceptable Variant Item Ratio	5.00%	5.00%	5.00%	5.00%

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Exhibit IV: Cycle Count Summary Data

	Cycle	% of	Part Numbers Selected							
	Count	Total	Std.	Std.	Actual #	Actual/	Range		Variances	
Stockroom	Days	(126)	#	Days	Selected	Std	Low	High	Number	Rate
Brake Shop	86	68.25%	20	1,720	1,224	71.16%	1	20	297	24.26%
Overhaul Base	111	88.10%	20	2,220	1,879	84.64%	1	23	105	5.59%
Ruter Garage	120	95.24%	50	6,000	5,462	91.03%	1	69	680	12.45%
East Metro Garage	112	88.89%	50	5,600	5,063	90.41%	1	86	761	15.03%
Central Stores	101	80.16%	N/A		3,041		1	65	210	6.91%
Electronic /Farebox Repair	99	78.57%	20	1,980	1,710	86.36%	1	26	144	8.42%
Body Shop	110	87.30%	20	2,200	1,889	85.86%	1	28	47	2.49%
HLRT Facility	121	96.03%	20	2,420	2,371	97.98%	14	30	166	7.00%
Nicollet Garage	102	80.95%	50	5,100	4,974	97.53%	1	86	396	7.96%
Heywood Garage	119	94.44%	25	2,975	2,823	94.89%	6	25	173	6.13%
South Garage	89	70.63%	50	4,450	4,262	95.78%	1	70	322	7.56%
Total	1170			34,665	31,657				3,301	
Average	**106.36**	**84.42%**				**91.32%**			**300.09**	**10.43%**

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Exhibit V: Comparison Data 2008 - 2009

Radio Shop	Audit Goal (+ or -)	Audit Actual 2008	Absolute % Point 2009	Change	% Change
Random Net Variance	1.00%	***-0.89%***	-2.11%	-1.22%	-137.08%
Random Absolute Variance	3.00%	***2.17%***	***2.68%***	-0.51%	-23.50%
Combined Random/Judgmental Net Variance	1.00%	1.51%	***-0.82%***	0.69%	45.70%
Combined Random/Judgmental Absolute Variance	3.00%	***2.33%***	***1.98%***	0.35%	15.02%
Item # Variance	5.00%	14.88%	8.63%	6.25%	42.00%

East Metro	Audit Goal (+ or -)	Audit Actual 2008	Absolute % Point 2009	Change	% Change
Random Net Variance	1.00%	1.36%	1.31%	0.05%	3.80%
Random Absolute Variance	3.00%	8.74%	***1.82%***	6.92%	79.18%
Combined Random/Judgmental Net Variance	1.00%	1.13%	***0.99%***	0.14%	12.39%
Combined Random/Judgmental Absolute Variance	3.00%	***2.33%***	***1.98%***	0.35%	15.02%
Item # Variance	5.00%	13.14%	13.19%	-0.05%	-0.36%

Note: Those measures falling within the Audit Goal are indicated in **Bold** and *italicized* type.