



**Program Evaluation and Audit**

**Metro Transit**

**Physical Inventory Audits**

*Heywood Garage*

*East Metro Garage*

*Northstar Facility*

*Electronic/Farebox Repair*

*Mobile Service Vans*

*Brake Shop*

*System-Wide Cycle Counts*

**April 1, 2010**

# 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. Twelve stockrooms use 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 12 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, stockrooms have been viewed by Metro Transit and Program Evaluation and Audit (Audit) as relatively high risk and Audit has reviewed three or four stockrooms annually for procedural compliance, accuracy of records, and identification of any missing items.

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. 4, July 22, 2009, Cycle Counts*). A cycle count consists of a TxBase generated random selection of a predetermined number of part numbers (usually 25 or 40) for which the stockkeeper physically counts the quantity and compares that to the TxBase inventory. Any part number variance of ten 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 (East Metro Garage). The Electronic/Farebox Repair and Brake Shop stockrooms and Mobile Service Vans were also chosen for review due to continuing inventory control problems identified in the most recent April 2009 audit. The Heywood Garage stockroom was also chosen due to an inaccurate method of recording cycle count variances employed by the stockkeeper. Finally, the Northstar Facility stockroom was chosen for review for it just begun operation late last year.

## 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 Heywood, East Metro, Northstar, Electronic/Farebox Repair and Brake Shop stockrooms and the Mobile Service Vans, which were identified as the inventory control areas with the highest potential risk. 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. The Mobile Service Van sample was not stratified and is not included in Exhibit I. In addition, because Mobile Service Van (MSV) inventory was previously included as Electronic/Farebox Repair inventory, it is included in that stockroom's inventory in the data presented in Exhibits II, III and VIII to this report. 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 and Bus Maintenance 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 January 12, 2010 physical inventory counts were performed at the Electronic/Farebox Repair and Heywood Garage stockrooms. Similar counts of physical inventories were conducted on January 14, 2010 at the Brake Shop, January 15, 2010 at the Northstar Facility and January 19, 2010 at the East Metro Garage stockroom and the MSV. The following statistical data summaries are included as Exhibits at the end of this report:

- Exhibit I: Universe & Sample Stratification Data for the five stockrooms.
- Exhibit II: Preliminary Statistical Data Summary for the five stockrooms (MSV inventory is included in Electronic/Farebox Repair stockroom data). This represents the raw data as gathered at the time of physical inventory count.
- Exhibit III: Adjusted Statistical Data Summary for the five stockrooms (MSV inventory is included in Electronic/Farebox Repair stockroom data). This represents the raw data adjusted for those items for which Material Management personnel could identify a reconciling reason.
- Exhibit IV: Cycle Counting Example
- Exhibit V: Cycle Count Summary Data
- Exhibit VI: Researchable Cycle Count Judgmental Sample Results
- Exhibit VII: Researchable Cycle Count Judgmental Sample Results – by Quarter
- Exhibit VIII: Comparison Data 2008 – 2009. This is a comparison of audit results obtained when reviewing the same stockroom from one period to the next.

In addition, the following observations were made:

### **Heywood Garage Stockroom**

Audit randomly sampled 178 items valued at \$120,356, initially finding 19 variances representing a shortage of (\$293). Extrapolating this to the \$623,156 random sample universe, Audit estimates a net overage of \$14,698 and an absolute variance including both overages and shortages of \$26,505. Audit also judgmentally sampled the four items with the highest value totaling \$111,413, resulting in two variances representing a net shortage of (\$1,453). Combining the judgmental and random samples, Audit estimates a net overage of \$13,245 and an absolute variance of \$28,060 from the \$734,569 total Heywood Garage stockroom inventory.

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

- The stockkeeper was issuing a vandal shield installation kit on a shop supply work order; however, he accidentally received the item back from the work order instead of issuing it, resulting in a shortage of (\$305).

- An A/C clutch repair kit was used, along with other parts, to repair a bus; however, it was not recorded in TxBase when the other parts were issued, resulting in an overage of \$155.
- A discrepancy was identified for a driver seat back cover in the TxBase inventory tallies between the Central Warehouse which was short one and Heywood Garage which was over one, resulting in a shortage at Heywood Garage of (\$652). Both inventories have been corrected.

The Manager, Materials Management also reviewed the preliminary judgmental sample results and provided documentation explaining the shortage of an additional 217 gallons of diesel fuel valued at \$464.

Adjusting for the three random sample items identified above, Audit found 16 variances representing an overage of \$508. Extrapolating these revised results to the \$623,156 random sample universe Audit estimates a net overage of \$17,194 and an absolute variance of \$21,953. Combining this with the high value judgmental sample, adjusted for the one item identified above, Audit estimates a revised net overage of \$16,204 and absolute variance of \$23,044 from the \$734,569 total Heywood Garage 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 also outside an acceptable range of 3%, also determined by Audit. Including the judgmental sample, 18 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 not adequately followed. See Exhibits II and III for additional statistical information.

### **East Metro Garage Stockroom**

Audit randomly sampled 173 items valued at \$81,304, finding 9 variances representing a shortage of (\$582). Extrapolating this to the \$409,485 random sample universe, Audit estimates a net shortage of (\$1,113) and an absolute variance including both overages and shortages of \$3,663. Audit also judgmentally sampled the four items with the highest dollar value totaling \$110,963, in which no variances were identified. Combining the judgmental and random samples, Audit estimates a net shortage of (\$1,113) and an absolute variance of \$3,663 from the \$520,448 total East Metro Garage stockroom inventory.

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

- Twenty-one pounds of Freon had been added to a bus; however, it had not been charged to the work order when added, resulting in a shortage of (\$175).

- An engine air filter element was accidentally issued twice to the same work order, resulting in an overage of \$28.
- A New Flyer red LED lamp was issued by mistake to a Gillig bus work order, resulting in an overage of \$41.
- A wheelchair lift chain guard was used to repair a bus lift; however, it had not been included on the maintenance work order, resulting in a shortage of (\$159).
- Two MCI coach bus batteries were included on a work order, but not issued from inventory until clarification was obtained regarding warranty issues, resulting in a shortage of (\$366).

Adjusting for the five random sample items identified above, Audit found four variances representing an overage of \$49. Extrapolating these revised results to the \$409,485 random sample universe Audit estimates a net overage of \$758 and an absolute variance of \$920. Combining this with the high value judgmental sample, Audit estimates a revised net overage of \$758 and absolute variance of \$920 from the \$520,448 total East Metro Garage stockroom inventory.

The net result is within an acceptable range for both the revised random sample and the revised combined random/judgmental sample. The absolute variance for both samples is also within an acceptable range. In addition, only four of the 177 sampled items varied from their stated inventory value, a variance rate also within the acceptable range and substantially better than the results reported when the East Metro garage stockroom was audited in both 2008 and 2009. See Exhibit VIII for year to year comparison data.

### **Northstar Facility**

This was the first audit conducted at the Northstar Facility stockroom which began operation in 2009. Audit randomly sampled 116 items valued at \$394,127, initially finding two variances representing a shortage of (\$126). Extrapolating this to the \$765,247 random sample universe, Audit estimates a net shortage of (\$136) and an absolute variance including both overages and shortages of \$180. Audit also judgmentally sampled the 12 items with the highest value totaling \$468,090 in which no variances were identified. Combining the judgmental and random samples, Audit estimates a net shortage of (\$136) and an absolute variance of \$180 from the \$1,233,337 total Northstar Facility stockroom inventory.

Adjusting for a seat cushion that was used to replace one that had been damaged, but had not been charged to the bus, Audit found one variance representing an overage of \$1. Extrapolating these revised results to the \$765,247 random sample universe Audit estimates a net overage and absolute variance of \$22. Combining this with the high value judgmental sample, Audit estimates the same net overage and absolute variance of \$22 from the \$1,233,337 total Northstar Facility stockroom inventory.

The net result is within 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 also within an acceptable range of 3%, also determined by Audit. Including the judgmental sample, only one of the 128 sampled items varied from their stated inventory value. This is also substantially less than the seven (5%) that would be considered acceptable. See Exhibits II and III for additional statistical information.

### **Electronic/Farebox Repair Stockroom**

In response to a recommendation resulting from the April 2009 audit, new controls were initiated to strengthen the internal controls over inventory stored in MSV. Mobile service vans are stocked with inventory and shop supplies used in repairing bus electronic systems. Previously, all MSV inventory was the responsibility of the Materials Management department and was assigned to the Electronic/Farebox Repair Stockroom (E/FRS). Under current procedures, the initial inventory removed from the E/FRS and required for remote repair of equipment was charged to a MSV department shop supplies account. That inventory is replenished when the technician assigned to each of the vans returns a completed work order to the E/FRS stockkeeper. As a result of this change, about \$127,000 in inventory assets have been charged to a shop supplies expense account; however, this is an immaterial amount (.46%) compared to the average 2009-2010 inventory for all stockrooms of about \$27.6 million. In addition, it represents about only .87% of materials charged to Bus Maintenance during 2009.

The MSV supervisor identifies those items that are actual inventory and maintains a list of inventory maintained in each of the MSV. As an added control, the electronic repair technician assigned to each van verifies inventory weekly. Due to these changes in internal controls and responsibility, MSV inventory was reviewed separately from E/FRS inventory. The details regarding MSV inventory audit are included under *Mobile Service Vans*, below. However, in order to compare current with past audit results, E/FRS and MSV inventory data has been combined in Exhibits II, III and VIII.

Audit randomly sampled 133 items valued at \$368,934, initially finding nine variances representing a shortage of (\$1,472). Extrapolating this to the \$889,351 random sample universe, Audit estimates a net overage of \$2,131 and an absolute variance of \$10,560. Audit also judgmentally sampled the four items with the highest value totaling \$441,119, initially finding one variance representing a net overage of \$1,523. Combining the judgmental and random samples, Audit estimates a net overage of \$3,654 and an absolute variance of \$12,083 from the \$1,330,470 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:

- Sixteen microphone extension flanges on a pick sheet were charged out of inventory; however, the parts were never taken, resulting in an overage of \$152.

- Twenty-five farebox shaft assemblies were taken from inventory by a farebox technician; however, they were not charged out of inventory, resulting in a shortage of (\$791).
- An ODK sign control was incorrectly charged to a refurbish work order in place of an ODK keyboard illuminator which was physically taken from inventory, resulting in an overage of \$761.
- The audit resulted in a shortage of two ODK keyboard illuminators, one of which was taken for van stock and not charged out of inventory. The other one was the ODK keyboard illuminator identified above. This resulted in an audit shortage of (\$1,071).
- A technician was using a VCR camera at his work bench to test VCRs during the repair process. This resulted in an audit shortage of (\$367).
- Two Gillig gooseneck microphones were taken for MSV stock and not charged out of inventory, resulting in a shortage of (\$182).

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

- A mobile data radio used for programming radios on the Northstar commuter rail line was charged to a small bus parts account when released from inventory; however, it was not credited back into inventory in TxBase when it was returned, resulting in an overage of \$1,523.

Adjusting for the six random sample items identified above, Audit found three variances representing an overage of \$25. Extrapolating these revised results to the \$889,351 random sample universe Audit estimates a net overage of \$628 and an absolute variance of \$761. Combining this with the high value judgmental sample, adjusted for the one item identified above, Audit estimates a revised net overage of \$628 and absolute variance of \$761 from the \$1,330,470 total Electronic/Farebox Repair stockroom inventory.

The net result is well within an acceptable range for both the revised random sample and the revised combined random/judgmental samples. The absolute variance for both samples is also within an acceptable range. Three of the 137 sampled items varied from their stated inventory value. This is a substantial improvement from 12 reported in the 2009 audit and within the five percent range deemed acceptable by Audit, indicating that internal controls are in place and adequately followed regarding stockroom inventory.

### **Mobile Service Vans**

Audit randomly sampled 52 items valued at \$40,574, initially finding five variances representing a shortage of (\$1,468). Extrapolating this to the \$126,939 sample universe, Audit estimates a net shortage of (\$4,592) and an absolute variance of \$5,782.



The MSV Supervisor reviewed the preliminary random sample results of audit and provided documentation explaining the following variances:

- A Gen IV side sign power supply/controller was included on an in-process work order not yet turned in to the stockroom at the time of the audit, resulting in a shortage of (\$1,476).
- Van 312 contained one regular microphone that was supposed to be in Van 423. One additional regular microphone was included on the same in-process work order identified above. These variances resulted in a net shortage of (\$92).

Adjusting for the three random sample items identified above, Audit found two variances representing an overage of \$99. Extrapolating these revised results to the \$126,939 sample universe Audit estimates a net overage and absolute variance of \$311.

The net result is within an acceptable range for the revised random sample. The absolute variance is also within an acceptable range. Two of the 52 sampled items varied from their stated inventory value. This is also within the acceptable number of three variances. Prior to the current audit, MSV inventory had been included with that of E/FRS. Therefore, to compare current with past audit results, MSV inventory data have been combined with that of E/FRS in Exhibits II, III and VIII.

### **Brake Shop Stockroom**

Metro Transit assembles its own brakes from component parts purchased from outside vendors. Prior to relocating in September 2009, the Brake Shop Stockroom did not have sufficient space to hold either component parts or the finished assembled product. In its most recent review of the Brake Shop, Audit recommended that “Metro Transit should discontinue its practice of maintaining brake component and finished product inventory in unsecured mechanic work areas.” In September 2009, Metro Transit subsequently moved the Brake Shop stockroom to a larger space to accommodate the inclusion of this unsecured inventory. This has resulted in significant improvement in controlling the flow of inventory through the Brake Shop Stockroom, in reducing the value of inventory maintained by 46% (from \$293,668 to \$158,572) and in the decreased value of absolute variances identified during this review (from \$135,864 to \$20,168). However, the number of actual initial variances has been only minimally impacted, decreasing from 29 to only 27. In addition, numerous stockroom locations did not match the location stated in TxBase, some new items had not been assigned stockroom locations four months after the stockroom had been enlarged and the stockkeeper did not appear to be concerned with this disorder.

Audit randomly sampled 98 items valued at \$46,368, initially finding 26 variances representing a shortage of (\$5,022). Extrapolating this to the \$140,536 random sample universe, Audit estimates a net shortage of (\$15,027) and an absolute variance of \$18,336. Audit also judgmentally sampled the four highest value items totaling \$18,036 which resulted in one shortage valued at (\$1,832). Combining the judgmental and

random samples, Audit estimates a net shortage of (\$16,859) and an absolute variance of \$20,168 from the \$158,572 total Brake Shop inventory.

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

- During the Brake Shop reorganization in September 2009 the following parts were scrapped; however, an incorrect quantity was placed in TxBase.
  - Four Gillig low floor front brake shoes w/o linings (\$534)
  - Twenty-one Gillig low floor front brake shoe linings (\$899)
  - Sixteen New Flyer front brake shoe undersized linings (\$1055)
  - Ten Gillig right & left rear spider brakes (\$1,350)
 This resulted in a total shortage of (\$3,838).
- Four New Flyer front brake shoes were on the stockkeeper's cart, are not needed and have been returned to the Central Warehouse, resulting in a shortage of (\$1,126).
- Three GM Van engine air filters were placed in the stockroom by non-diesel maintenance department personnel who buy many of their parts due to the uniqueness and small quantities needed for their vehicles. The filters were purchased and placed in the stockroom without telling the stockkeeper, resulting in an overage of \$55.
- One right and one left Gillig brake camshaft were used by a mechanic who had not written them down on his in-process work order, resulting in a shortage of (\$172).
- Forty rear wheel studs had been moved to the drum maintenance area for a drum change the morning of the audit and had not yet been charged to the work order, resulting in a shortage of (\$119).

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

- Four New Flyer center axel brake drums were being placed on a bus while the audit was in progress and were charged to a work order the next morning, resulting in a shortage of (\$1,832).

Adjusting for the nine random sample items identified above, Audit found 17 variances representing an overage of \$177. Extrapolating these revised results to the \$140,536 random sample universe Audit estimates a net shortage of (\$327) and an absolute variance of \$2,309. Combining this with the high value judgmental sample, as adjusted by the one item identified above, Audit estimates a revised net shortage of -\$327 and an absolute variance of \$2,309 from the \$158,572 Brake Shop inventory.

The net result is within an acceptable range for both the revised random sample and the revised combined random/judgmental samples. The absolute variances for both samples are also within an acceptable range. Seventeen of the 102 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, III and VIII for additional statistical information.

### Stockroom Cycle Counting

Material Management employs an A, B, C cycle counting system in which all inventory is counted at least once a year and the most valuable inventory is counted three times each year. This system was reviewed by the Maintenance/Material Management IS Business Liaison Manager and the Material Management Manager in May 2009, for it was discovered that some items had not been counted for two years.

All inventory items are classified as A, B or C based upon their annual inventory value flowing through the Central Warehouse stockroom. Inventory value is calculated as follows:

(number used over the previous 12 months + the number in inventory) x unit price

Based on inventory used during the 12 month period ending April 6, 2009 plus what was on hand, 1,398 items accounting for 93% of total inventory value were classified as A items and 6,209 items accounting for the other seven percent were classified as B items. The remaining 20,070 items that showed no activity during the previous 12 months were classified as C items. A items are counted once every 120 days (3 times/yr), B items once every 180 days (2 times/yr) and C items once a year.

The Manager, Material Management determined that stockkeepers would have time to cycle count either 40 or 25 depending upon the stockroom. Beginning May 1, 2009, the standard part number daily cycle count for the five garage stockrooms and the Central Warehouse was 40; the standard for the other six stockrooms was 25. However, to maintain a more even count, he also determined that up to 12 A items, 35 B items and/or 53 C items should be counted. See Exhibit IV for an example of applying this system of cycle counting to Brake Shop inventory.

Not all items are stocked at all stockrooms. Therefore, differences in the number of items counted can occur between them. This is especially true for specialty stockrooms like the Brake Shop and the Electronic/Farebox Repair stockroom. The number of items stocked in each stockroom also affects the number of items TxBase chooses for counting each day. For example, based upon the following data, the Ruter and East Metro garages should incur more instances of cycle counting the daily maximum (40 items) than the Brake Shop and the Electronic/Farebox Repair stockrooms (25 items):

	<u>Total Inventory Items</u>
● Brake Shop	1147 items
● Electronic/Farebox Repair	1978 items
● East MetroGarage	4895 items
● Ruter Garage	6207 items

The data at Exhibit V verifies that this is true. TxBase identified a substantially greater number of times in which the daily maximum number of items was called to be cycle counted at both Heywood (157) and East Metro (111) stockrooms than at the Brake Shop (19) and the Electronic/Farebox Repair (31) stockrooms. However, those stockrooms that do not move from their daily standards indicate that not all items are being cycle counted. The Manager, Material Management is reviewing the results of the revised cycle count practice initiated in May 2009 to determine if adjustments are needed to assure that the appropriate number of items is counted daily.

It also seems likely that the Heywood stockkeeper deviated from the practice of identifying variances prior to making adjustments by reviewing Exhibit V. The other four garage stockrooms recorded low percentages of days in which no cycle count variances were identified, ranging from 11.05% to 15.68%. However, Heywood recorded a substantially higher 67.03%, a significant deviation that is likely the result of making adjustments before identifying variances.

Audit monitored the daily cycle count reports for each stockroom for the nine month period from April 1, 2009 through December 31, 2009. This included 190 days on which cycle counts should have been conducted at each stockroom. Actual days in which cycle counts were conducted ranged from 138 (Brake Shop) to 190 (Ruter Garage). This may indicate that adjustments are needed to the standard number of items selected for cycle counting.

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 0.52% for the new stockroom at the Northstar Facility in Big Lake to 13.34% for the East Metro Garage stockroom. In its June 25, 2008 *Physical Inventory Audits* report, Audit recommended that such variances be less than five percent. Seven stockrooms achieved this goal, four more had variances between 5.26% and 8.24% and East Metro recorded 15.10%.

These variances show substantial improvement from those reported in Audit's September 15, 2009 *Physical Inventory Audits* report (see Exhibit V) with all stockrooms achieving lower variance rates. The variance improvements ranged from 20.40 percentage points for the Brake Shop to 0.26 percentage points for the Body Shop. The substantial improvement for the Brake Shop was the result of gaining greater control over inventory by placing the parts that had previously been in open maintenance work areas in the secured stockroom. This and other cycle count data for the 12 Metro Transit stockrooms can be found at Exhibit V.

Metro Transit Material Management *Policy 06.06.07, rev. 4, July 22, 2009, 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 of each stockroom will research each discrepancy where the absolute variance is greater than \$50 or the physical count is incorrect by ten or more items.

- The lead stockkeeper will correct errors to the cycle count by either incrementing, decrementing and/or issuing the items.

Reviewing those variances that exceeded \$50, Audit identified 479 individual cycle counting variances during the nine month period from April 1, 2009 through December 31, 2009. Beginning July 2009, stockkeepers were required to research all variances, record their findings on a standard form and electronically place that form in a shared location for management review. Audit reviewed a judgmental sample of 115 from the 263 variances that exceeded \$50 from July 6, 2009, when this procedure was initiated until December 31, 2009. The following 11 reasons for variances were identified, the top four of which accounted for 87 (76%) of the 115 variances sampled.

Reason for variance not known	31
Transaction not recorded when taken from or returned to stock	24
Miscounting during the cycle count	18
Finding the item in an incorrect location	14
Variance was not researched by stockkeeper	10
Duplicate stocking locations	4
Cycle count entry was miskeyed	4
Part was cannibalized and transaction not recorded	3
An incorrect unit measure was used for the transaction	3
Part was located at a different garage	2
Correction of prior error	<u>2</u>
Total	115

In 31 (27%) of the 115 variances sampled, the stockkeeper could not determine a reason for the variance. Adding those 10 occasions in which the stockkeeper did not conduct the required research, a reason was not known for 41 (36%) of all variances. Obtaining parts from the stockroom without charging them to a work order and returning parts to the stockroom without adding them back into inventory was the second most common reason (24 instances) for variances, followed by stockkeeper miscounting (18 instances) and finding the item in an incorrect location (14 instances). East Metro had eight of 24 (33%) unrecorded transactions, six of 18 (33%) miscounted transactions, five of 14 incorrectly located transactions (36%) and five of 10 (50%) of those variances not researched by the stockkeeper. South (8), Central Warehouse (7) and East Metro (5) accounted for 20 (65%) of the 31 transactions in which a reason for the variance was not identified. A detailed account of this sample by garage is at Exhibit VI.

## CONCLUSIONS

1. *Heywood Garage Stockroom– Adherence to established internal controls is not adequate to assure accurate inventory reporting and proper safeguarding of assets.*

The audit disclosed that 18 of the 182 items sampled resulted in actual inventory varying from that identified in TxBase. More than nine indicates that internal controls are not adequately followed. In addition, the net dollar variance and the absolute dollar variance for both the adjusted random sample and the adjusted combined random/judgmental samples were outside their recommended ranges. Three extra solenoid control valve modules and an extra Gillig upper barrier entrance door panel account for the overages having the greatest effect on the audit results.

2. *East Metro Garage Stockroom – Internal controls have improved substantially over the past two years and are adequate to assure accurate inventory reporting and proper safeguarding of assets.*

Exhibit VIII lists comparative data for similar audits conducted in 2008 and 2009. The East Metro Garage stockroom has shown substantial improvement in all five measures ranging from 83% to 97%, depending upon the category. In addition, all measures came well within the acceptable ranges set by Audit. This is the first instance in which a stockroom has achieved all five measures. Material Management, Bus Maintenance and management personnel should be congratulated for instituting changes to ensure a safeguarded and accurate inventory.

3. *Northstar Facility –Internal controls are adequate to assure accurate inventory reporting and proper safeguarding of assets.*

Audit identified a single variance estimated to be a net overage and absolute variance of \$22 from the \$1,233,337 total Northstar Facility stockroom inventory. As a result, all five variance indicators tracked by Audit came well within their acceptable ranges.

4. *Electronic/Farebox Repair Stockroom – Internal controls have improved substantially in the past year and are now adequate to assure accurate inventory reporting and safeguarding of assets.*

Exhibit VIII lists comparative data for similar audits conducted in 2008 and 2009. For comparability, the 2010 data includes the results of audit of the Mobile Service Vans which had been the responsibility of Material Management personnel in prior years, but which has now been transferred to Bus Maintenance personnel. The Electronic/Farebox Repair stockroom has shown substantial improvement in all five measures with improvement ranging from 82% to 97%, depending upon the category. In addition, all

measures came well within the acceptable ranges set by Audit. Along with East Metro, this is the first instance in which a stockroom has achieved all five measures of acceptable internal control variances. Material Management, Bus Maintenance and management personnel should be congratulated for achieving these levels of inventory accuracy.

5. *Mobile Service Vans – Internal controls have improved substantially in the past year and are now adequate to assure accurate inventory reporting and safeguarding of assets.*

During 2009, responsibility for control over MSV inventory was transferred from Material Management to Bus Maintenance personnel. In addition, weekly inventory verification counts conducted by those technicians responsible for maintaining their individual MSV inventory were instituted and replenishment of inventory occurs only when the technician verifies the use of inventory on an approved maintenance work order and submits it to the Electronic/Farebox Repair Stockroom stockkeeper. As a result of these new controls, all five variance indicators tracked by Audit came well within their acceptable ranges. However, to compare current with past results, MSV audit results are combined with that for the Electronic/Farebox Repair stockroom on Exhibits II, III and VIII.

6. *Brake Shop – Internal controls have improved substantially in the past year and are now adequate to assure accurate inventory reporting and safeguarding of assets. However, stockkeeper diligence in adhering to those controls can be improved.*

In September 2009, the Brake Shop stockroom was enlarged and previously unsecured inventory was moved from bus maintenance work areas to the secure stockroom. This change in internal control has contributed significantly to the overall security and accurate reporting of inventory items. However, the stockroom was in a general state of disorder with numerous stockroom locations not matching the location stated in TxBase. In addition, some items had not been assigned stockroom locations and the stockkeeper did not appear to be concerned.

The audit disclosed that 17 of the 102 items reviewed (16.67%) resulted in actual inventory varying from that identified in TxBase. This is an improvement over the results observed in 2009 when 29.03% of the inventory items reviewed varied from TxBase. The other four inventory measures also showed substantial improvement, ranging from 95% to 99% depending upon the category. In addition, only the item number variance was outside the acceptable range set by Audit. A detailed comparison of current audit results with those from April 2009 can be seen at Exhibit VIII.

7. *System – Wide Cycle Counting: Daily cycle counting is an internal control established to assure accurate inventory reporting and safeguarding of assets. This*

*control has improved substantially with the addition of stockkeeper research and formal reporting requirements implemented in July 2009. However, adjustments may have to be made to the number of items selected for daily cycle counting at the individual stockrooms. In addition, stockroom and Bus Maintenance personnel can improve cycle counting effectiveness by greater adherence to standard operating procedures.*

Material Management personnel instituted *Policy 06.06.07, rev. 4, Cycle Counts*, in July 2009. This policy states that the lead stockkeeper of each stockroom will research each discrepancy where the absolute variance is greater than \$50 or the physical count is incorrect by ten or more items. As a result of this revision in cycle counting procedure, fewer material variances have been identified each succeeding quarter from 212 during April through June, to 161 during July through September, to 106 during October through December (see Exhibit VII).

Some stockrooms recorded cycle counts fewer days than others. For instance the Brake Shop recorded 138 daily cycle counts during the period under audit while the Ruter Garage recorded 190 days. This may indicate that adjustments are needed to the standard number of items selected for cycle counting. Materials Management is reviewing the results of the revised cycle count practice initiated in May 2009 to determine if adjustments are needed to assure that the appropriate number of items is counted daily.

Some of the reasons for variances can be assigned to stockkeeper inattention during the initial cycle counting process (miskeyed or miscounted) and some to possible stockkeeper and/or Bus Maintenance personnel inattention to standard operating procedures (not recording the transaction when taken from or returned to stock and items found in incorrect locations). In addition, the Heywood stockkeeper deviated from the practice of identifying variances prior to making adjustments.



## 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.

### Heywood Garage

1. **(Essential) Metro Transit should institute appropriate employee policies and management oversight at the Heywood Garage to assist stockroom and bus maintenance personnel in complying with Metro Transit inventory controls.**

As stated in the *Conclusions* section, above, internal controls within the East Metro Garage, the Electronic/Farebox Repair and the Northstar Facility stockrooms and with the Mobile Service Vans are adequate to ensure accurate accounting of inventory and safeguarding of assets. Policies and procedures that have established those controls are the same throughout all stockrooms. The one variable with the greatest affect on how well those controls work is adherence to established controls by individual stockroom and bus maintenance personnel. With greater adherence to established procedures, security and other controls, Heywood Garage inventory can be maintained to the same level of acceptable variances as has been achieved at these other inventory sites.

**Management Response:** *Management will continue to train, coach and counsel both stockkeepers and technicians on the proper Metro Transit policies and procedures. Management currently conducts a daily review of the previous night’s cycle count.*

*The Maintenance Manager will continue to conduct his weekly meetings with the lead stockkeeper of Heywood Garage. In addition to reviewing the weekend issue sheets, the Manager and Lead Stockkeeper will discuss cycle count performance and customer service issues. The Maintenance Manager will inform the Manager, Material Management of any concerns he feels need special material management emphasis.*

**Staff Responsible:** *Manager, Material Management and Maintenance Manager, Heywood Garage*

**Timetable:** *Immediately and ongoing.*

### **Brake Shop**

- 2. (Significant) Metro Transit personnel should reorder the Brake Shop stockroom so that parts are stored in the locations stated in TxBASE. In addition, stockroom personnel should make a practice of maintaining an orderly stockroom.**

Numerous stockroom locations did not match the location stated in TxBASE. Identifying the actual location of the items was left to the historical knowledge of the stockkeeper. Absent that knowledge, maintenance personnel may not be able to obtain the parts needed to quickly service a bus and get it back into revenue operation. In addition, some new items had not been assigned stockroom locations four months after the stockroom had been enlarged and the stockkeeper did not appear to be concerned with this disorder. As a result, 17 of the 102 (16.67%) items audited varied from TxBASE inventory counts.

**Management Response:** *Management agrees that the Brake Shop Stockroom needs reorganization. The stockkeeper has begun labeling and locating items as per the Material Management standard.*

**Staff Responsible:** *Manager, Material Management*

**Timetable:** *August 1, 2010*

### **System-Wide Cycle Counting**

- 3. (Significant) Metro Transit should continue to impress upon stockroom and Bus Maintenance personnel the need to adhere to standard operating procedures when issuing/obtaining and receiving/returning inventory items.**

Inventory control has improved with the initiation of cycle counting and with the more recent requirement that stockkeepers research all material variances. As a result of that research it is apparent that additional diligence by both stockroom and Bus Maintenance

personnel can lead to increased efficiency and effectiveness of the cycle counting process and greater control over the estimated \$27 million Metro Transit Material Management inventory.

**Management Response:** *Management will continue to train, coach and counsel both stockkeepers and technicians on the proper Metro Transit policies and procedures. Management currently conducts a daily review of the previous night's cycle count.*

*Additionally, the Manager, Material Management annually reviews the frequency of when items are counted. Management has adjusted the cycle count program in accordance with the best business practices of The Association of Operations Management (APICS).*

*Maintenance Managers will continue to conduct weekly meetings with their lead stockkeeper to review the weekend issue sheets and discuss cycle count performance and customer service issues. The Maintenance Managers will inform the Manager, Material Management of any concerns they feel need special material management emphasis.*

**Staff responsible:** *Manager, Material Management and Service Garage Managers*

**Timetable:** *Cycle count review is complete. Weekly meetings are ongoing.*

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**Exhibit I: Universe and Sample Stratification Data**

**Electronic/Farebox Repair (January 12, 2010)**

<u>Average Extended Cost</u>	<u>Size of Universe</u>	<u>Size of Sample</u>	<u>Value of Universe</u>	<u>Value of Sample</u>
\$0 to \$1,500	2,006	70	286,009	11,181
\$1,501 to \$6,000	104	43	302,592	131,602
\$6,001 to \$25,000	27	20	300,750	226,151
<b>Sub-Total</b>	<b>2,137</b>	<b>133</b>	<b>\$ 889,351</b>	<b>\$368,934</b>
<b><u>100% Judgmental Sample</u></b>				
\$25,001 and above	4	4	441,119	441,119
<b>Total</b>	<b>2,141</b>	<b>137</b>	<b>\$1,330,470</b>	<b>\$810,053</b>

**Brake Shop (January 14, 2010)**

<u>Average Extended Cost</u>	<u>Size of Universe</u>	<u>Size of Sample</u>	<u>Value of Universe</u>	<u>Value of Sample</u>
\$0 to \$750	1,050	68	\$ 70,311	\$ 5,862
\$751 to \$3,000	52	30	70,225	40,506
<b>Sub-Total</b>	<b>1,102</b>	<b>98</b>	<b>\$140,536</b>	<b>\$ 46,368</b>
<b><u>100% Judgmental Sample</u></b>				
\$3,000 and above	4	4	18,036	18,036
<b>Total</b>	<b>1,106</b>	<b>102</b>	<b>\$158,572</b>	<b>\$ 64,404</b>

**Heywood Garage (January 12, 2010)**

<u>Average Extended Cost</u>	<u>Size of Universe</u>	<u>Size of Sample</u>	<u>Value of Universe</u>	<u>Value of Sample</u>
\$0 to \$250	5,019	72	\$218,517	\$ 3,911
\$251 to \$1,000	448	63	208,455	31,495
\$1,001 to \$10,000	105	43	196,184	84,950
<b>Sub-Total</b>	<b>5,572</b>	<b>178</b>	<b>\$623,156</b>	<b>\$120,356</b>
<b><u>100% Judgmental Sample</u></b>				
\$10,001 and above	4	4	111,413	111,413
<b>Total</b>	<b>5,576</b>	<b>182</b>	<b>\$734,569</b>	<b>\$231,769</b>

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**Exhibit I: Universe and Sample Stratification Data**

**East Metro Garage (January 19, 2010)**

<u>Average Extended Cost</u>	<u>Size of Universe</u>	<u>Size of Sample</u>	<u>Value of Universe</u>	<u>Value of Sample</u>
\$0 to \$200	3,865	72	\$129,974	\$ 2,155
\$201 to \$800	382	61	143,866	22,748
\$801 to \$5,000	89	40	135,645	56,401
<b>Sub-Total</b>	<b>4,336</b>	<b>173</b>	<b>\$409,485</b>	<b>\$ 81,304</b>
<b><u>100% Judgmental Sample</u></b>				
<u>\$5,001 and above</u>	4	4	110,963	110,963
<b>Total</b>	<b>4,340</b>	<b>177</b>	<b>\$520,448</b>	<b>\$192,267</b>

**Northstar Facility (January 15, 2010)**

<u>Average Extended Cost</u>	<u>Size of Universe</u>	<u>Size of Sample</u>	<u>Value of Universe</u>	<u>Value of Sample</u>
\$0 to \$2,500	1,157	69	\$ 245,550	\$ 16,448
\$2,501 to \$10,000	55	31	227,560	141,087
\$10,001 to \$20,000	20	16	292,137	236,592
<b>Sub-Total</b>	<b>1,232</b>	<b>116</b>	<b>\$ 765,247</b>	<b>\$394,127</b>
<b><u>100% Judgmental Sample</u></b>				
<u>\$20,001 and above</u>	12	12	468,090	468,090
<b>Total</b>	<b>1,244</b>	<b>128</b>	<b>\$1,233,337</b>	<b>\$862,217</b>

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**Exhibit II: Preliminary Statistical Data Summary**

	Electronic/ Farebox Repair	Brake Shop	Heywood Garage	East Metro Garage	North- Star Facility
<b>Random Sample</b>					
Shortages	7	20	7	5	1
Overages	7	6	12	4	1
Value of Sample Shortages	(4,071)	(\$5,365)	(\$1,040)	(\$701)	(\$128)
Value of Sample Overages	1,131	\$343	\$747	\$119	\$2
Net Sample Variance Value	(2,940)	(\$5,022)	(\$293)	(\$582)	(\$126)
Sampled Inventory Shortage %	-1.00%	-11.57%	-0.86%	-0.86%	0.03%
Sampled Inventory Overage %	0.28%	0.74%	0.62%	0.15%	0.00%
<b>Total Random Sample Inventory</b>					
Value of Estimated Shortages	(9,401)	(\$16,681)	(\$5,903)	(\$2,388)	(\$158)
Value of Estimated Overages	6,941	\$1,654	\$20,601	\$1,275	\$22
Net Projected Variance	(2,461)	(\$15,027)	\$14,698	(\$1,113)	(\$136)
Net Projected Variance %	-0.27%	-10.69%	2.36%	-0.27%	-0.02%
Absolute Variance	16,342	\$18,336	\$26,505	\$3,663	\$180
Absolute Variance %	1.65%	13.05%	4.35%	0.89%	0.02%
<b>Judgmental Sample</b>					
Shortages	0	1	1	0	0
Overages	1	0	1	0	0
Value of Sample Shortages	0	(\$1,832)	(\$1,504)	\$0	\$0
Value of Sample Overages	1,523	\$0	\$51	\$0	\$0
<b>Random &amp; Judgmental Combined</b>					
Value of Estimated Shortages	(9,401)	(\$18,513)	(\$7,408)	(\$2,388)	(\$158)
Value of Estimated Overages	6,940	\$1,654	\$20,652	\$1,275	\$22
Net Projected Variance	(2,461)	(\$16,859)	\$13,246	(\$1,113)	(\$136)
Net Projected Variance %	-0.24%	-10.63%	1.80%	-0.21%	-0.01%
Absolute Variance	16,342	\$20,168	\$28,060	\$3,663	\$180
Absolute Variance %	1.61%	12.72%	3.82%	0.70%	0.01%
Total Variance Items	15	27	21	9	2
Variant Item Number Ratio	7.94%	26.47%	11.54%	5.08%	1.56%
Acceptable # of Variance Items	10	5	9	9	7
Acceptable Variant Item Ratio	5.00%	5.00%	5.00%	5.00%	5.00%

**Note:** Electronic/Farebox Repair includes Electronic/Farebox Repair and MSV inventory.

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**Exhibit III: Adjusted Statistical Data Summary**

	Electronic/ Farebox Repair	Brake Shop	Heywood Garage	East Metro Garage	North- Star Facility
<b>Random Sample</b>					
Shortages	1	12	5	2	0
Overages	4	5	11	2	1
Value of Sample Shortages	(3)	(\$110)	(\$83)	(\$1)	\$0
Value of Sample Overages	127	\$287	\$591	\$50	\$1
Net Sample Variance Value	124	\$177	\$508	\$49	\$1
Sampled Inventory Shortage %	-0.001%	-0.24%	-0.07%	-0.002%	0.00%
Sampled Inventory Overage %	0.03%	0.62%	0.49%	0.06%	0.0004%
<b>Total Random Sample Inventory</b>					
Value of Estimated Shortages	(67)	(\$1,318)	(\$2,380)	(\$81)	\$0
Value of Estimated Overages	1,006	\$991	\$19,574	\$839	\$22
Net Projected Variance	939	(\$327)	\$17,194	\$758	\$22
Net Projected Variance%	0.09%	-0.23%	2.76%	0.19%	0.003%
Absolute Variance	1,072	\$2,309	\$21,953	\$920	\$22
Absolute Variance %	0.11%	1.64%	3.52%	0.22%	0.003%
<b>Judgmental Sample</b>					
Shortages	0	0	1	0	0
Overages	0	0	1	0	0
Value of Sample Shortages	\$0	\$0	(\$1,040)	\$0	\$0
Value of Sample Overages	\$0	\$0	\$51	\$0	\$0
<b>Random &amp; Judgmental Combined</b>					
Value of Estimated Shortages	(67)	(\$1,318)	(\$3,420)	(\$81)	\$0
Value of Estimated Overages	1,006	\$991	\$19,624	\$839	\$22
Net Projected Variance	939	(\$327)	\$16,204	\$758	\$22
Net Projected Variance %	0.09%	-0.21%	2.21%	0.15%	0.002%
Absolute Variance	1,072	\$2,309	\$23,044	\$920	\$22
Absolute Variance %	0.11%	1.46%	3.14%	0.18%	0.002%
Total Variance Items	5	17	18	4	1
Variance Item Number Ratio	2.65%	16.67%	9.89%	2.26%	0.78%
Acceptable # of Variance Items	10	5	9	9	7
Acceptable Variance Item Ratio	5.00%	5.00%	5.00%	5.00%	5.00%

**Note:** Electronic/Farebox Repair includes Electronic/Farebox Repair and MSV inventory.

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**Exhibit IV: Cycle Counting Example**

In the Brake Shop there were:

- 188 A items counted three times a year
  - a. There are approximately 86 working days in 121 calendar days
  - b. Therefore, the A items are counted in the first 16 working days of the four-month period (188 A items/12 A items per day = 15.66 days).
- 750 B items counted twice a year
  - a. There are approximately 130 working days in 182 calendar days
  - b. Therefore, the B items are counted within 38 working days of the six-month period (13 B items are counted on the 16 days in which 12 A items are counted, equaling 208 items. Twenty-five B items are counted on the following 22 working days. (13 items \* 16 days) + (25 items \* 22 days) = 758 items.)
- 372 C items counted once a year
  - a. There are approximately 260 working days in 365 calendar days
  - b. Therefore, within 53 working days of the twelve-month period all of the C items are counted (372 C items/25 C items per day = 14.88 days. C items would not be counted until the A and B items have been counted. Therefore, 38 days + 15 days = 53 days).

In a perfect world, the Brake Shop cycle counts would:

- Count 100% of the inventory by the 53<sup>rd</sup> working day of the year.
- Count nothing from day 54 to day 121.
- Recount the A items from day 122 to day 138.
- Count nothing from day 139 to day 163.
- Recount B items from day 163 to day 193.
- Count nothing from day 194 to day 242.
- Recount B items from day 243 to day 259.
- Count nothing from day 260 to day 365.

Of course this perfect world does not exist because new and old inventory items constantly move in and out of the stockrooms. As a result, they are counted at different times than those represented by the perfect model above. This accounts for some days having one, two or a likewise low number of items to count instead of 25 or zero.



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**Exhibit V: Cycle Count Summary Data**

Stockroom	Cycle	Days	# Days				Part # Selected		Variance		Apr 2009	Percent	Note	
	Count	Std.	Std. #	No	% No	% Std	Range	Actual #	#	Rate	Audit	Point		
	Days	#	Counted	Var.	Var.	Counted	Low	High	Selected		Var. Rate	Change		
Ruter	190	40	127	21	11.05%	66.84%	2	62	6,467	533	8.24%	12.45%	<b>4.21%</b>	
East Metro	173	40	111	21	12.14%	64.16%	1	60	5,090	679	13.34%	15.03%	<b>1.69%</b>	
South	185	40	109	29	15.68%	58.92%	2	57	6,508	434	6.67%	7.56%	<b>0.89%</b>	
Nicollet	182	40	115	21	11.54%	63.19%	4	62	5,528	422	7.63%	7.96%	<b>0.33%</b>	
Heywood	182	40	157	122	67.03%	86.26%	39	67	6,479	220	3.40%	6.13%	<b>2.73%</b>	3
Central Stores	187	40	128	88	47.06%	68.45%	3	41	6,618	235	3.55%	6.91%	<b>3.36%</b>	
Body Shop	167	25	25	109	65.27%	14.97%	1	46	2,290	51	2.23%	2.49%	<b>0.26%</b>	
Elec/Fare Repair	157	25	31	119	75.80%	19.75%	1	34	1,964	62	3.16%	8.42%	<b>5.26%</b>	
Brake Shop	138	25	19	95	68.84%	13.77%	1	34	1,660	64	3.86%	24.26%	<b>20.40%</b>	4
Overhaul Base	183	25	127	84	45.90%	69.40%	1	48	4,143	218	5.26%	5.59%	<b>0.33%</b>	
LRT Facility	187	25	112	88	47.06%	59.89%	1	29	3,972	188	4.73%	7.00%	<b>2.27%</b>	
Northstar	88	25	42	85	96.59%	47.73%	1	46	1,339	7	0.52%	N/A	N/A	5
									<b>52,058</b>	<b>3,113</b>	<b>5.98%</b>	<b>10.43%</b>	<b>4.45%</b>	

- Note:**
1. Cycle count days are for the period April 1 2009 thru December 31, 2009.
  2. A revised TxBase item selection process began May 1, 2009. This data covers the period May 1, 2009 thru December 31, 2009.
  3. The Heywood garage stockkeeper made a practice of correcting cycle count variances in TxBase prior to running exception reports, making it appear that there were no variances. This negates the accuracy of the Heywood cycle count variance data.
  4. The Brake Shop stockroom was enlarged and all inventory was taken into the secure stockroom as of September 2009. This additional control has significantly reduced cycle count variances.
  5. The Northstar Facility stockroom began cycle counting on June 12, 2009. Therefore, it was not included in the April 2009 audit.

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**Exhibit VI: Researchable Cycle Count Judgmental Sample Results**

Stockroom	# of Var.	Variance Value		Judgmental Sample: Reason For Variance									Total	
		Total	Average	Reason Not Known	Not Charged Out/In	Error in Count	Found in Different Location	Duplicate Stock Location	Found at Different Garage	Mis-keyed Entry	No Re-search	Misc.		
Ruter	47	\$2,581	\$55	2	1		1					2	3	9
East Metro	130	(\$512)	(\$4)	5	8	6	5					5	1	30
South	66	(\$2,391)	(\$36)	8	3							1		12
Nicollet	43	\$1,050	\$24	3	4	1						1		9
Heywood	25	\$1,413	\$57	2	2		2	1						7
Central Stores	84	(\$11,960)	(\$142)	7	1	4	3	2	2				3	22
Body Shop	6	(\$1,692)	(\$282)								2			2
Elec/Fare Repair	4	\$429	\$107								1			1
Brake Shop	17	(\$15,796)	(\$929)	1		1	1							3
Overhaul Base	16	(\$3,068)	(\$192)		2	1							1	4
LRT Facility	39	(\$8,054)	(\$207)	3	3	5	2	1				1		15
Northstar	2	(\$1,323)	(\$662)								1			1
	<b>479</b>	<b>(\$39,323)</b>	<b>(\$82)</b>	<b>31</b>	<b>24</b>	<b>18</b>	<b>14</b>	<b>4</b>	<b>2</b>	<b>4</b>	<b>10</b>	<b>8</b>	<b>115</b>	

**Note:** 1. “Judgmental Sample: Reason for Variance” **Bolded** numbers indicate the stockroom in which the greatest number of such variances was identified.

2. “Misc.” variances include cannibalized parts (3), incorrect unit of measure (3) and correction of prior errors (2).

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**Exhibit VII: Researchable Cycle Count Judgmental Sample Results - by Quarter**

Stockroom	April - June 2009			July - August 2009			September - December 2009			Total		
	# of	Variance Value		# of	Variance Value		# of	Variance Value		# of	Variance Value	
	Var.	Total	Average	Var.	Total	Average	Var.	Total	Average	Var.	Total	Average
Ruter	28	2,120	76	9	279	31	10	182	\$18	47	2,581	\$55
East Metro	54	1,833	34	41	(2,569)	(63)	35	224	\$6	130	(512)	(\$4)
South	28	354	13	18	(1,934)	(107)	20	(811)	(\$41)	66	(2,391)	(\$36)
Nicollet	20	1,355	68	17	(235)	(14)	6	(70)	(\$12)	43	1,050	\$24
Heywood	13	462	36	6	271	45	6	680	\$113	25	1,413	\$57
Central Stores	34	(7,419)	(218)	42	(3,720)	(89)	8	(821)	(\$103)	84	(11,960)	(\$142)
Body Shop	3	(326)	(109)	1	(74)	(74)	2	(1,292)	(\$646)	6	(1,692)	(\$282)
Elec/Fare Repair	2	430	215	2	(1)	(1)	0	0	\$0	4	429	\$107
Brake Shop	10	(14,707)	(1,471)	6	(1,019)	(170)	1	(70)	(\$70)	17	(15,796)	(\$929)
Overhaul Base	6	(2,670)	(445)	4	(157)	(39)	6	(241)	(\$40)	16	(3,068)	(\$192)
LRT Facility	13	(961)	(74)	14	(3,928)	(281)	12	(3,165)	(\$264)	39	(8,054)	(\$207)
Northstar	1	(53)	(53)	1	(1,270)	(1,270)	0	0	\$0	2	(1,323)	(\$662)
	<b>212</b>	<b>(19,582)</b>	<b>(92)</b>	<b>161</b>	<b>(14,357)</b>	<b>(89)</b>	<b>106</b>	<b>(5,384)</b>	<b>(\$51)</b>	<b>479</b>	<b>(39,323)</b>	<b>(\$82)</b>

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**Exhibit VIII: Comparison Data 2008 – 2009 - 2010**

	Audit Goal (+ or -)	Audit Actual			Absolute % Point Change	% Change
		April 2008	April 2009	January 2010		
<b>Electronic/Farebox Repair</b>						
Random Net Variance	1.00%	<b><i>-0.89%</i></b>	-2.11%	<b><i>0.09%</i></b>	0.80%	81.63%
Random Absolute Variance	3.00%	<b><i>2.17%</i></b>	<b><i>2.68%</i></b>	<b><i>0.11%</i></b>	2.06%	94.93%
Combined Random/Judgmental Net Variance	1.00%	1.51%	<b><i>-0.82%</i></b>	<b><i>0.06%</i></b>	1.44%	95.36%
Combined Random/Judgmental Absolute Variance	3.00%	<b><i>2.33%</i></b>	<b><i>1.98%</i></b>	<b><i>0.07%</i></b>	2.25%	96.57%
Item # Variance	5.00%	14.88%	8.63%	<b><i>2.65%</i></b>	12.23%	82.19%
<b>East Metro</b>						
Random Net Variance	1.00%	1.36%	1.31%	<b><i>0.19%</i></b>	1.17%	86.05%
Random Absolute Variance	3.00%	8.74%	<b><i>1.82%</i></b>	<b><i>0.22%</i></b>	8.52%	97.48%
Combined Random/Judgmental Net Variance	1.00%	1.13%	<b><i>0.99%</i></b>	<b><i>0.15%</i></b>	0.98%	86.73%
Combined Random/Judgmental Absolute Variance	3.00%	<b><i>2.33%</i></b>	<b><i>1.98%</i></b>	<b><i>0.18%</i></b>	2.15%	92.27%
Item # Variance	5.00%	13.14%	13.19%	<b><i>2.26%</i></b>	10.88%	82.80%
<b>Brake Shop</b>						
Random Net Variance	1.00%	N/A	-14.19%	<b><i>-0.23%</i></b>	13.96%	98.38%
Random Absolute Variance	3.00%	N/A	33.90%	<b><i>1.64%</i></b>	32.26%	95.16%
Combined Random/Judgmental Net Variance	1.00%	N/A	-19.61%	<b><i>-0.21%</i></b>	19.40%	98.93%
Combined Random/Judgmental Absolute Variance	3.00%	N/A	35.54%	<b><i>1.46%</i></b>	34.08%	95.89%
Item # Variance	5.00%	N/A	29.03%	16.67%	12.36%	42.58%

- Note:**
1. Those measures falling within the Audit Goal are indicated in **Bold** and *italicized* type.
  2. The Heywood Garage is not included for it was last audited in 2007. The Northstar Facility is not included for this is the first time it has been audited.
  3. In September 2009 responsibility for MSV inventory was moved from Materials Management to Bus Maintenance personnel. Results for MVS are included with Electronic/Farebox Repair for comparability.