



Program Evaluation and Audit

Metro Transit Physical Inventory Audits

Central Warehouse

Body Shop

LRT Facility

Nicollet Garage

System-Wide Cycle Counts

August 1, 2011

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 are not staffed at all hours but that require access 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.

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 lead 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. In the past, stockrooms with variance rates exceeding 10 percent were selected for review. Similarly, stockrooms in which significant internal control problems had been identified in prior audits would have been selected for review. Neither of these conditions presently exists. The four stockrooms chosen for review have been chosen due to the length of time since their most recent review. None has been audited since 2007.

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

Audits were conducted at the Nicollet Garage, Central Warehouse, Body Shop and the LRT Facility stockrooms. 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 cost, 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 four stockrooms are included at Exhibit I. Audit physically counted the selected inventory items and compared that count to the quantity stated in Txbase. 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 and Bus Maintenance policies and procedures were reviewed.
- Daily cycle count (initial count) results were monitored and analyzed.

OBSERVATIONS

Physical inventory counts were performed at the Central Warehouse and at the Body Shop stockroom on February 16, 2011 and the Nicollet Garage and LRT Facility stockrooms on February 17, 2011. 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 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
- Exhibit V: Researchable Cycle Count Judgmental Sample – Reasons for Variances
- Exhibit VI: Researchable Cycle Count Judgmental Sample – Results by Calendar Quarter
- Exhibit VII: Variance Summary

In addition, the following observations were made:

Central Warehouse

Audit randomly sampled 236 items valued at \$1,415,699, initially finding 33 variances. Audit also judgmentally sampled the six items with the highest value totaling \$988,792, resulting in three variances.

The Manager, Material Management (Manager) reviewed the preliminary sample results and provided documentation explaining nine full and three partial variances. Adjusting for these items, Audit estimates a revised net overage of \$44,501 and absolute variance of \$71,315 from the \$8,165,270 total Central Warehouse inventory.

The net result is within an acceptable range (+ or - 1%) for both the revised random sample and the revised combined random/judgmental sample. The absolute variance (+ or - 3%) for both samples is also within an acceptable range. Conversely, 27 (11.16%) of the 242 sampled items varied from their stated inventory value. This is outside the acceptable number of 12 (five percent). See Exhibits II, III and VII for additional statistical information.

Body Shop

Body Shop inventory is located in various work areas (i.e. trim area, paint room) in addition to the stockroom. However, the stockkeeper easily located substantially all the inventory regardless of its physical location.

Audit randomly sampled 133 items valued at \$97,693, finding four variances. Audit also judgmentally sampled the two items with the highest dollar value totaling \$18,612, in which no variances were identified.

The Manager reviewed the preliminary sample results and provided documentation explaining one partial variance. Adjusting for this item, Audit estimates a revised net excess value of \$308 and absolute variance of \$381 from the \$246,133 total Body Shop 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 135 sampled items varied from their stated inventory value. This is within the acceptable range. See Exhibits II, III and VII for additional statistical information.

LRT Facility Stockroom

LRT Facility inventory is very diverse ranging from simple screws and 12 foot metal poles to fiber optic cable, complicated circuit boards and integrated system devices. Space requirements for storage are more extensive than for inventory at other stockrooms. Inventory is stored in three areas within the Operations & Maintenance building as well as in an outlying storehouse and on the ground outside the facility (poles).

Audit randomly sampled 205 items valued at \$2,770,029, initially finding 18 variances. Audit also judgmentally sampled those 13 items with the highest value totaling \$2,188,205, in which no variances were identified. Not included in these variances are at least two large rolls of cable representing two different types of cable, the length of which could not be determined during the audit. Therefore it could not be determined if a variance existed until the stockkeeper reviewed additional records.

The Manager reviewed the preliminary sample results and provided documentation explaining eight full and one partial variance. Adjusting for these items and the two types of cable not previously included but found to be correct, Audit estimates a revised net overage of \$9,136 and absolute variance of \$11,849 from the \$10,949,873 total LRT Facility 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 11 of the 218 sampled items varied

from their stated inventory value. This is within the acceptable range. See Exhibits II, III and VII for additional statistical information.

Nicollet Garage Stockroom

Audit randomly sampled 170 items valued at \$96,142, initially finding 14 variances. Audit also judgmentally sampled those three items with the highest value totaling \$133,686, in which no variances were identified.

The Manager reviewed the preliminary sample results and provided documentation explaining eight full variances. Adjusting for these items, Audit estimates a revised net overage of \$2,263 and absolute variance of \$3,930 from the \$562,641 total Nicollet 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 six of the 173 sampled items varied from their stated inventory value. This is within the acceptable range. See Exhibits II, III and VII for additional statistical information.

Stockroom Cycle Counting

All inventory items are classified as A, B or C based upon the total number issued throughout Metro Transit. 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. Inventory value is calculated as number used over the previous 12 months multiplied by the unit price.

This system was reviewed by the Maintenance/Material Management IS Business Liaison Manager and the Materials Management Manager in May 2009, for it was discovered that some items had not been counted for two years. Based on this review, 93% of total inventory value was classified as A items and the remaining seven percent were classified as B items. Those items that showed no activity during the previous 12 months were classified as C items.

The Manager, Material Management determined that stockkeepers would have time to cycle count either 40 or 25 items depending upon the stockroom. Beginning May 1, 2009, the standard part number daily cycle count (standard number) for the five garage stockrooms and the Central Warehouse was 40; for the other six stockrooms it was 25. On March 22, 2010, without adding employees, the LRT Facility stockroom standard number was increased from 25 to 40 and the Central Warehouse stockroom from 40 to 80. Due to the increase in items counted, in 2010 the A, B and C classifications were changed to align with the best business practices of The Association of Operations Management. Excluding the three highest valued items, the top 70% were classified as A items, 71% to 89% were classified as B items, and the remaining 11% were classified as C Items.

Except for the Central Warehouse, not all items are stocked in every stockroom. This is especially true for specialty stockrooms like the Body Shop and the LRT Facility stockroom. The number of items stocked in each stockroom also affects the number of items Txbase chooses for counting each day.

	<u>Total Inventory Items</u>
• Central Warehouse	13,880
• LRT Facility	6,104
• Nicollet Garage	4,629
• Body Shop	1,667

As listed in Exhibit IV, Txbase provides the five garage stockrooms the standard number more often than for the Central Warehouse and the other six stockrooms (45.10% vs. 28.22%). However, in general, the Central Warehouse and the other six stockrooms have fewer instances in which variances occur (2.97% vs. 5.92%). See Exhibit IV for additional detail.

Audit monitored the daily cycle count reports for each stockroom for the 12 month period January 1, 2010 through December 31, 2010. This included 253 days on which cycle counts should have been conducted at each stockroom. Actual days in which cycle counts were conducted ranged from 166 (Brake Shop) to 253 (Central Warehouse and LRT Facility). This may indicate that adjustments are needed to the standard number of items selected for cycle counting for those stockrooms that are not generating part numbers to count every day. Conversely, those stockrooms that have generated part numbers every day may not be counting enough items, with the possibility that some are not being counted as often as they should, or in the case of C items, not at all.

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 0.88% for the Body Shop to 8.43% for the Ruter Garage stockroom. Audit recommended that such variances be less than five percent. Nine stockrooms achieved this goal, with the remaining three stockrooms between 5% and 8.43%.

These variances show substantial improvement from those reported in Audit's September 15, 2009 and April 1, 2010 *Physical Inventory Audits* reports (see Exhibit IV) with all stockrooms except the Northstar Facility achieving lower variance rates. The Northstar Facility stockroom began cycle counting on June 12, 2009. However, Northstar Commuter Rail revenue operations did not commence until November 16, 2009. The current variance rate (2.06%) includes 12 months of revenue operations whereas the initial rate (0.52%) included only two months of revenue operations. Therefore, the current variance should be viewed as more authoritative. Another anomaly is the Brake Shop which improved 23.28 percentage points over the three year period. The substantial improvement for the Brake Shop was the result of gaining greater control over inventory by placing parts that had previously been located in open maintenance work areas into a secured stockroom. Removing the Brake Shop and the Northstar Facility stockrooms, the remaining stockroom variance improvements ranged from 1.61% (Body Shop) to 7.91%

(East Metro). This and other cycle count data for the 12 Metro Transit stockrooms can be found at Exhibit IV.

Metro Transit Material Management *Policy 06.06.07, rev. 4, July 22, 2009, Cycle Counts*, 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.” Stockkeepers then record their findings on a standard form and electronically place that form in a shared location for management review. Considering only those variances that exceeded \$50, Audit identified 420 for calendar year 2010. Audit reviewed a judgmental sample of 231 from those 420 variances. The following nine reasons for variances were identified.

Reason for variance not known	59
Transaction not recorded when taken from or returned to stock	58
Miscounting during the cycle count	28
Finding the item in an incorrect location	28
Correction of past error	28
Variance was not researched by stockkeeper	7
Variance report not provided to stockkeeper	7
Duplicate stocking locations	5
Part was located at a different garage	5
Miscellaneous	<u>6</u>
Total	231

In 59 (26%) of the 231 variances sampled, the stockkeeper could not determine a reason for the variance. Adding the 14 occasions when either the stockkeeper did not conduct the required research (7 instances) or when a variance report had not been provided to the stockkeeper (7 instances), a reason was not known for 73 (32%) of the total 231 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 (58 instances) for variances, followed by stockkeeper miscounting (28 instances in which he item was miscounted that day and an additional 28 instances in which a previous cycle count error was corrected) The Central Warehouse accounted for 94 (41%) of all researched variances, followed by the South (27 – 12%) and Ruter (23 – 10%) garages. A detailed account of this sample by stock area is at Exhibit V.

CONCLUSIONS

1. Central Warehouse – Internal controls are adequate to ensure safeguarding of assets. However, adherence to established controls can be strengthened to assure accurate inventory counts are recorded.

Four of the five variance indicators tracked by Audit are within prescribed ranges. However, the number of inventory items for which variances appeared was more than twice the prescribed limit (27 vs. 12). Inattention to verifying the quantity of items received from outside vendors and through internal transfers resulted in reporting errors in addition to the types of errors listed under *Stockroom Cycle Counting*, above.

2. Body Shop, LRT Facility and Nicollet Garage – Internal controls are adequate to ensure accurate inventory reporting and proper safeguarding of assets.

The five variance indicators tracked by Audit came well within their acceptable ranges. This is the second consecutive audit in which stockrooms have achieved all five measures. Material Management and Bus Maintenance personnel have done an outstanding job complying with existing internal controls to ensure a safe and accurate inventory count.

3. System – Wide Cycle Counting: Daily cycle counting is an internal control established to ensure accurate inventory reporting and safeguarding of assets. The following actions may be needed to strengthen this control:

- *adjustments to the number of items selected for daily cycle counting at individual stockrooms,*
- *more precise research and explanation of variances by stockkeepers, and*
- *greater adherence to standard operating procedures by both stockroom and Bus Maintenance personnel.*

Some of the reasons for variances can be assigned to stockkeeper inattention during the initial cycle counting process (miss-keyed 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).

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.

Central Warehouse

1. **(Significant) Metro Transit has established adequate internal control procedures, but needs to strengthen adherence to controls over the recording of inventory transactions to assure that inventory quantities are accurately reported.**

As stated in the *Conclusions* section, above, internal controls within the other stockrooms are adequate to ensure accurate accounting of inventory and safeguarding of assets. The controls at the Central Warehouse are the same as those in the other stockrooms; the difference being adherence to those controls. With greater adherence to established procedures, the number of variances experienced at the Central Warehouse can be reduced to the level of acceptability as has been achieved at the other inventory sites. Having accurate inventory quantities allows Metro Transit to manage its inventory in an effective and efficient manner.

Management Response: *Management met with all Material Management staff responsible for maintaining the inventory of the Central Warehouse. During this meeting, the management team reviewed the proper procedures for inventory control. Emphasis was placed on proper computer system procedures as well as verifying incoming and outgoing inventory items and quantities.*

Staff Responsible: *Supervisor/Material Planner – Bus*

Timetable: *Completed*

System-Wide Cycle Counting

- 2. (Significant) Metro Transit should continue to impress upon stockroom and Bus Maintenance personnel adherence to procedures when issuing/obtaining and receiving/returning inventory items. In addition, stockkeepers should increase the quality of their researched variance comments.**

Inventory control has improved due to cycle counting and variance research by stockkeepers. However, greater adherence by both stockroom and Bus Maintenance personnel to procedures and more care in initially recording transactions can lead to increased effectiveness of the cycle counting process and greater accuracy of recorded inventory quantities. One quarter of researched variances were due to errors in issuing/obtaining and receiving/returning items.

Almost one third of all researched variances reviewed by Audit were not detailed enough to understand what actually occurred that gave rise to the variance. Many of these simply did not include sufficient narrative comments to make a determination. Such information is important for management and stockkeeper personnel to make appropriate corrections to inventory processes.

Management Response: *Management continually impresses upon the Material Management Department staff the need to adhere to all Metropolitan Council, Metro Transit and Material Management procedures and policies. Metro Transit management reviews all cycle count variance comments to ensure accuracy and clarity. Management will continue to do this with every variance that requires research/comment from the stockkeepers.*

Additionally, the procedure for issuing an item from the stockroom when there is no stockkeeper on duty has been revised to include how to properly account for the return of an item into the stockroom when there is no stockkeeper on duty. A meeting was held between the Manager of Material Management, Deputy Director of Bus Maintenance, Manager of Rail Vehicle Maintenance, Director of Rail System Maintenance, Bus Service Garage Managers and the Rail System and Vehicle Maintenance Supervisors. In this meeting the proper procedures for accounting for items removed and returned from the stockroom were revisited. Maintenance leadership and the Supervisor/Material Planners reviewed this information with their respective staff.

Staff Responsible:

Manager, Material Management

Supervisors/Material Planners – Bus and Rail

Bus and LRT Maintenance management team

Timetable – Completed

**Metropolitan Council
Program Evaluation & Audit
Metro Transit Physical Inventories – February 16 & 17, 2011**

**Exhibit I: Universe and Sample Stratification Data
Central Warehouse (February 16, 2011)**

<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 \$1,000	11,183	73	\$1,912,152	\$ 13,932
\$1,001 to \$4,000	1,002	68	1,881,404	136,462
\$4,001 to \$12,000	258	57	1,695,358	394,646
\$12,001 to \$60,000	80	38	1,687,564	870,659
Sub-Total	12,523	236	\$7,176,478	\$1,415,699
<u>100% Judgmental Sample</u>				
\$60,001 and above	6	6	988,792	988,792
Total	12,529	242	\$8,165,270	\$2,404,491

Body Shop (February 16, 2011)

<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 \$400	1,457	70	\$ 71,856	\$ 3,733
\$401 to \$1,500	107	43	78,001	33,233
\$1,501 to \$6,000	27	20	77,664	60,727
Sub-Total	1,591	133	\$227,521	\$97,693
<u>100% Judgmental Sample</u>				
\$6,001 and above	2	2	18,612	18,612
Total	1,593	135	\$246,133	\$116,305

LRT Facility (February 17, 2011)

<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 \$4,000	5360	72	\$ 2,111,280	\$ 32,043
\$4,001 to \$12,000	321	59	2,160,147	410,159
\$12,001 to 30,000	113	44	2,153,509	882,576
\$30,001 to \$80,000	51	30	2,336,732	1,445,251
Sub-Total	5,845	205	\$ 8,761,668	\$2,770,029
<u>100% Judgmental Sample</u>				
\$80,001 and above	13	13	2,188,205	2,188,205
Total	5,858	218	\$10,949,873	\$4,958,234

Nicollet Garage (February 17, 2011)

<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	3,731	72	\$148,203	\$ 2,843
\$251 to \$900	312	59	140,890	27,209
\$901 to \$10,000	85	39	139,862	66,090
Sub-Total	4,128	170	\$428,955	\$ 96,142
<u>100% Judgmental Sample</u>				
\$10,001 and above	3	3	133,686	133,686
Total	4,131	173	\$562,641	\$229,828

**Metropolitan Council
Program Evaluation & Audit
Metro Transit Physical Inventories – February 16, 17, 2011**

Exhibit II: Preliminary Statistical Data Summary

	Central Warehouse	Body Shop	HLRT Facility	Nicollet Garage
Random Sample				
Shortages	15	3	7	5
Overages	18	1	11	9
Value of Sample Shortages	(15,330)	(\$68)	(\$9,185)	(\$229)
Value of Sample Overages	17,850	\$149	\$1,308	\$1,219
Net Sample Variance Value	2,520	\$81	(\$7,877)	\$990
Sampled Inventory Shortage %	-1.08%	-0.07%	-0.33%	-0.24%
Sampled Inventory Overage %	1.26%	0.15%	0.05%	1.27%
Total Random Sample Inventory				
Value of Estimated Shortages	(86,885)	(\$191)	(\$103,468)	(\$1,328)
Value of Estimated Overages	84,099	\$190	\$13,541	\$6,185
Net Projected Variance	(2,786)	(\$1)	(\$89,927)	\$4,857
Net Projected Variance%	-0.04%	0.00%	-1.03%	1.13%
Absolute Variance	170,985	\$381	\$117,009	\$7,514
Absolute Variance %	2.38%	0.17%	1.34%	1.75%
Judgmental Sample				
Shortages	1	0	0	0
Overages	2	0	0	0
Value of Sample Shortages	(7,319)	\$0	\$0	\$0
Value of Sample Overages	16,702	\$0	\$0	\$0
Random & Judgmental Combined				
Value of Estimated Shortages	(94,204)	(\$191)	(\$103,468)	(\$1,328)
Value of Estimated Overages	100,801	\$190	\$13,541	\$6,185
Net Projected Variance	6,597	(\$1)	(\$89,927)	\$4,857
Net Projected Variance %	0.08%	0.00%	-0.82%	0.86%
Absolute Variance	195,005	\$381	\$117,009	\$7,514
Absolute Variance %	2.39%	0.15%	1.07%	1.34%
Total Variance Items	36	4	18	14
Variant Item Number Ratio	14.88%	2.96%	8.26%	8.09%
Acceptable # of Variance Items	12	7	11	9
Acceptable Variant Item Ratio	5.00%	5.00%	5.00%	5.00%

**Metropolitan Council
Program Evaluation & Audit
Metro Transit Physical Inventories – February 16, 17, 2011**

Exhibit III: Adjusted Statistical Data Summary

	Central Warehouse	Body Shop	HLRT Facility	Nicollet Garage
Random Sample				
Shortages	13	3	2	2
Overages	14	1	8	4
Value of Sample Shortages	(2,972)	(\$2)	(\$361)	(\$165)
Value of Sample Overages	10,452	\$215	\$566	\$394
Net Sample Variance Value	7,480	\$213	\$205	\$229
Sampled Inventory Shortage %	-0.21%	0.00%	-0.01%	-0.17%
Sampled Inventory Overage %	0.74%	0.22%	0.02%	0.41%
Total Random Sample Inventory				
Value of Estimated Shortages	(13,407)	(\$37)	(\$1,356)	(\$834)
Value of Estimated Overages	57,908	\$345	\$10,493	\$3,096
Net Projected Variance	44,501	\$308	\$9,136	\$2,262
Net Projected Variance%	0.62%	0.14%	0.10%	0.53%
Absolute Variance	71,315	\$381	\$11,849	\$3,930
Absolute Variance %	9.90%	0.17%	0.14%	0.92%
Judgmental Sample				
Shortages	0	0	0	0
Overages	0	0	0	0
Value of Sample Shortages	\$0	\$0	\$0	\$0
Value of Sample Overages	\$0	\$0	\$0	\$0
Random & Judgmental Combined				
Value of Estimated Shortages	(13,407)	(\$37)	(\$1,356)	(\$834)
Value of Estimated Overages	57,908	\$345	\$10,493	\$3,096
Net Projected Variance	44,501	\$308	\$9,136	\$2,262
Net Projected Variance %	0.55%	0.13%	0.08%	0.40%
Absolute Variance	71,315	\$381	\$11,849	\$3,930
Absolute Variance %	0.87%	0.15%	0.11%	0.70%
Total Variance Items	27	4	10	6
Variant Item Number Ratio	11.16%	2.96%	4.59%	3.47%
Acceptable # of Variance Items	12	7	11	9
Acceptable Variant Item Ratio	5.00%	5.00%	5.00%	5.00%

**Metropolitan Council
Program Evaluation & Audit
Metro Transit Physical Inventories – January 12, 14, 15 & 19, 2010**

Exhibit IV: Cycle Count Summary Data

February 2011 Audit Results for the Period January 1 - December 31, 2010

Stockroom	Cycle Count	Days		# Days No	% No Var.	% Std Count	Part Numbers Selected			Feb 2010 Audit Var.	Apr 2009 Audit Var.	'09-'10 Percent Point Change	'10-'11 Percent Point Change	'09-'11 Percent Point Change	Note		
		Std. #	Std. #				Range		Actual # Selected							Variances	
		#	Count				Low	High								#	Rate
Ruter	246	40	132	68	28%	54%	1	76	6,948	586	8.43%	8.24%	12.45%	4.21%	-0.19%	4.02%	
East Metro	243	40	95	125	51%	39%	1	40	5,397	384	7.12%	13.34%	15.03%	1.69%	6.22%	7.91%	
South	248	40	123	121	49%	50%	5	58	6,732	260	3.86%	6.67%	7.56%	0.89%	2.81%	3.70%	
Nicollet	237	40	86	131	55%	36%	1	69	5,425	293	5.40%	7.63%	7.96%	0.33%	2.23%	2.56%	
Heywood	<u>250</u>	40	<u>116</u>	<u>190</u>	<u>76%</u>	<u>46%</u>	1	53	<u>6,741</u>	<u>203</u>	<u>3.01%</u>	3.40%	6.13%	2.73%	0.38%	3.12%	
Garages Total	1,224		552	635	51.88%	45.10%			31,243	1,726	5.52%						
Central WH	253	80	68	81	32%	27%	4	107	13,602	514	3.78%	3.55%	6.91%	3.36%	-0.23%	3.13%	3
Body Shop	198	25	35	179	90%	18%	1	38	2,170	19	0.88%	2.23%	2.49%	0.26%	1.35%	1.61%	
Elec/Fare Repair	214	25	62	140	65%	29%	1	36	2,988	137	4.59%	3.16%	8.42%	5.26%	-1.43%	3.83%	
Brake Shop	166	25	22	157	95%	13%	1	42	1,536	15	0.98%	3.86%	24.26%	20.40%	2.88%	23.28%	1
Overhaul Base	233	25	94	153	66%	40%	1	51	3,857	125	3.24%	5.26%	5.59%	0.33%	2.02%	2.35%	
LRT Facility	253	40	112	209	82%	44%	1	65	6,198	107	1.73%	4.73%	7.00%	2.27%	3.01%	5.27%	3
Northstar	<u>206</u>	25	<u>37</u>	<u>182</u>	<u>88%</u>	<u>18%</u>	1	26	<u>1,794</u>	<u>37</u>	<u>2.06%</u>	0.52%	N/A	N/A	-1.54%	N/A	2
All Other S/R	1,524		430	1,101	72.24%	28.22%			32,145	954	2.97%						
All Stock Areas	2,747								63,388	2,680	4.23%	5.98%	10.43%	4.45%	1.75%	6.20%	

- Notes:
1. The brake shop stockroom was enlarged and all inventory was taken into the secure stockroom as of September 2009. This added control has significantly reduced cycle count variances.
 2. The Northstar Facility stockroom began cycle counting on June 12, 2009. Therefore, it was not included in the April 2009 audit.
 3. On 3/22/10, LRT Facility changed from 25 to 40 and Central Warehouse changed from 40 to 80 standard.

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**Exhibit V: Researchable Cycle Count Judgmental Sample
Reasons for Variances**

Judgmental Sample: Reasons For Variances															
Stockroom	# of Var.	Variance Value		Not Known	Not Charged Out/In	Error in Count	Diff Location	Correct Prior Error	No Re-search	No Var Report	Diff Garage	Dup Stock Location	Misc	Total	
		Total	Average												
Ruter	23	(\$3,480)	\$53	5	7	1	5	3						2	23
East Metro	13	\$917	\$5	4	3		1	4			1				13
South	27	\$1,024	(\$121)	3	12	5	2	2		3					27
Nicollet	7	\$543	\$37		4	2								1	7
Heywood	18	(\$26,810)	(\$132)	6	5		2	4						1	18
Central Warehouse	94	\$61,304	\$149	36	5	13	13	12	3	3	4	4	1	94	
Body Shop	1	(\$61)	(\$1)						1						1
Elec/Fare Repair	20	\$6,376	\$65		12	3	1	1	2				1	20	
Brake Shop	3	(\$308)	(\$12)	1	1				1					3	
Overhaul Base	5	\$329	\$7	1	2		1	1						5	
LRT Facility	20	(\$100,036)	\$33	3	7	4	3	1		1			1	20	
Northstar	0	\$0	\$0											0	
	231	(\$60,202)	(261)	59	58	28	28	28	7	7	5	5	6	231	

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

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

Stockroom	January - March 2010			April - June 2010			July - August 2010			September - December 2010			Total		
	# of	Variance Value		# of	Variance Value		# of	Variance Value		# of	Variance Value		# of	Variance Value	
	Var.	Total	Average	Var.	Total	Average	Var.	Total	Average	Var.	Total	Average	Var.	Total	Average
Ruter	17	\$1,431	\$84	10	(121)	(12)	9	(2,718)	(302)	10	(1,576)	(158)	46	(2,984)	(\$65)
East Metro	18	\$1,545	\$86	7	(460)	(66)	10	1,354	135	5	526	105	40	2,965	\$74
South	11	\$2,487	\$226	13	(53)	(4)	12	4,617	385	12	(6,408)	(534)	48	643	\$13
Nicollet	5	\$1,023	\$205	2	164	82	3	(349)	(116)	1	53	53	11	891	\$81
Heywood	0	\$0	\$0	5	(29,097)	(5,819)	4	(433)	(108)	19	2,685	141	28	(26,845)	(\$959)
Central Stores	23	\$987	\$43	61	14,526	238	35	6,476	185	59	41,740	707	178	63,729	\$358
Body Shop	0	\$0	\$0	0	0	0	1	(61)	(61)	0	0	0	1	(61)	(\$61)
Elec/Fare Repair	15	\$4,141	\$276	6	2,194	366	3	408	136	3	(212)	(71)	27	6,531	\$242
Brake Shop	1	(\$64)	(\$64)	0	0	0	1	(102)	(102)	1	(142)	(142)	3	(308)	(\$103)
Overhaul Base	1	\$68	\$68	1	90	90	2	105	53	2	70	35	6	333	\$56
LRT Facility	8	\$201	\$25	11	(8,136)	(740)	1	(1,033)	(1,033)	12	(90,630)	(7,553)	32	(99,598)	(\$3,112)
Northstar	0	\$0	\$0	0	0	0	0	0	0	0	0	0	0	0	\$0
	99	11,819	119	116	(20,893)	(180)	81	8,264	102	124	(53,894)	(\$435)	420	(54,704)	(\$130)

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Exhibit VII: Variance Summary**

	Variance Ceiling	Central Warehouse	Body Shop	HLRT Facility	Nicollet Garage
Variant Item Number Ratio	5.00%	11.16%	2.96%	4.59%	3.47%
Random Sample Net Variance	1.00%	0.62%	0.14%	0.10%	0.53%
Random Sample Absolute Variance	3.00%	0.99%	0.17%	0.14%	0.92%
Random & Judgmental Combined Net Variance	1.00%	0.55%	0.13%	0.08%	0.40%
Random & Judgmental Combined Absolute Variance	3.00%	0.87%	0.15%	0.11%	0.70%

Note: **Bolded** items indicate variances falling within recommended variance ceiling.