

INTERNAL AUDIT REPORT

CITY OF MANCHESTER

NEW HAMPSHIRE



Department of Public Works

City Drop Off Facility

Fraud Investigation

Prepared by

City of Manchester, NH

Office of the Independent City Auditor

**INTERNAL AUDIT REPORT
CITY OF MANCHESTER, NEW HAMPSHIRE
DEPARTMENT OF PUBLIC WORKS
CITY DROP OFF FACILITY
FRAUD INVESTIGATION**

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October 25, 2008

*Committee on Accounts, Enrollment and Revenue Administration
City of Manchester, New Hampshire
Honorable Aldermen: Sullivan, Lopez, Devries, M.Roy, Ouellette*

Dear Honorable Committee Members:

On June 27, 2008 this office met with the City's Security Manager concerning a suspected fraud committed at the City drop off facility. The management at the Department of Public Works was made aware by an anonymous tip of suspected fraudulent activity at the drop off facility. It was quickly determined that the scale operators were voiding cash transactions and taking the cash. The criminal investigation was turned over to the Manchester Police Department and I started a fraud audit to determine the extent and causes of the fraudulent activity. The Department's management determined that fraudulent activity was limited to two employees who were fired on June 19, 2008.

Upon a review of the internal controls in place at the drop off facility it was noted that there were very good controls in place over the handling of cash however the employees were able to exploit a weakness in computer controls in the scale software. Supervisory approval was not needed in order for the scale operators to void transactions in the system and the system did not print reports to show the voided transactions. Initially the audit period was determined to be from September of 2006 through June of 2008 when the two employees were working the scales at the drop off facility. Analysis of activity at the drop off facility determined that the fraudulent activity most likely went back to December of 2004 and involved possibly two other employees so testing was expanded.

The audit procedures involved:

- A review of internal control procedures in place during the audit period.
- Obtaining a database of every scale transaction from February of 2002 through October of 2008.
- Comparing void activity from February of 2002 through October of 2008.
- Determining a range of normal void activity and comparing it to actual activity to estimate the extent and amount of fraudulent activity.

Conclusion

My audit has determined that fraudulent activity appears to have been occurring at the drop off facility from December of 2004 through June of 2008 and may have involved up to four employees. Testing revealed the following errors:

- Scale employees were not required to sign off the scale system during break periods and allowed other employees to process transactions under their sign on.
- Voided transactions did not require supervisory approval nor was a report of voided transactions produced by the system.
- The amount of lost revenue due to fraudulent activity is most likely in the range of \$109,000 to \$135,000.

The draft audit report was sent to The Manchester Police Department and the Department of Public Works for comment. The findings, recommendations and responses by government officials are presented in the report that follows. We appreciate the courtesy and cooperation of the staff and administration of all the departments involved in this investigation.

Respectfully Submitted,

Kevin Buckley
Internal Audit Manager

INTRODUCTION

AUDIT BACKGROUND

On April 30, 2008 an anonymous letter was sent by a Manchester resident to the management of the drop off facility informing them that he was approached by the scale operator at the facility and offered a discount if he paid in cash. Management conducted an investigation and discovered that it appeared two employees had been stealing cash payments from the drop off facility operation.

On June 27, 2008 this office met with the Security Manager concerning the suspected fraud committed at the City drop off facility. It was determined that the scale operators were voiding cash transactions and taking the cash. The criminal investigation was turned over to the Manchester Police Department and a fraud audit was conducted to determine the extent and causes of the fraudulent activity. Based on the limited time period examined the Department's management determined that fraudulent activity was limited to two current employees who were fired on June 19, 2008.

Upon a review of the internal controls in place at the drop off facility it was noted that there were very good controls in place over the handling of cash however the employees were able to exploit a weakness in computer controls in the scale software. Supervisory approval was not needed in order for the scale operators to void transactions in the system and the system did not print reports to show the voided transactions. Initially the audit period was determined to be from September of 2006 through June of 2008 when the two employees suspected of fraud were working the scales at the drop off facility. Analysis of activity at the drop off facility determined that the fraudulent activity most likely went back to December of 2004 and may have involved other employees so testing was expanded.

Government Auditing Standards require that organizations conducting audits in accordance with Generally Accepted Government Auditing Standards must have an external peer review performed by reviewers independent of the audit organization being reviewed at least every three years. The Office of the Independent City Auditor is not in compliance with this requirement. Except for the previously mentioned requirement this audit was conducted in accordance with standards applicable to audits contained in Government Auditing Standards, issued by the Comptroller General of the United States.

AUDIT SCOPE AND OBJECTIVES

The audit was performed to determine the causes and extent of fraudulent activity at the City of Manchester drop off facility. All activity of the drop off facility from February of 2002 through October of 2008 was included in the analysis. Audit work included:

- Documentation and evaluation of the internal controls over collection of revenue at the drop off facility during the audit period.
- Obtaining a database of all activity posted to the scale house computer system
- Analytic review of scale house activity

BACKGROUND OF AUDITEES

The drop off facility is part of the Department of Public Works, Highway Division of the City of Manchester. The facility is located at 500 Dunbarton Road and is open Monday through Friday 7:30AM – 3:00 PM and the first and third Saturday of the month from 7:00 AM – 11:30 AM.

The facility accepts municipal solid waste, construction/demolition debris, white goods, recyclables and automotive waste. An annual permit fee of \$5.00 is required and is open to residents of Manchester.

The facility consists of a scale house and a drop off area. Customers drive onto a scale and their permit is checked and vehicle weighed. The vehicle then proceeds to the drop off area and unloads its refuse. Vehicles exit the facility and then re-enter the scale to be weighed empty. The scale house software then calculates the amount owed and prints a ticket for payment. Customers pay by cash, check or on account if pre-arraigned with the department.

FINDINGS AND RECOMMENDATIONS

The scale house computer software is from SMS Computer systems and sits on a PC in the scale house. It is a relational database specially designed for scale house applications. The current software is 10 years old and is no longer supported by the vendor. Due to the fraud the department has purchased the newest version of the software and transferred all the old data to the new system. The new system went on-line in October of 2008.

The new system will require that the scale supervisor approve all voids online and will also use cameras to photograph all transactions. A photograph will be taken of the load in the back of the truck and a photograph of the driver and will be attached to the transaction file. All other functions will be similar to the old software.

During my documentation of the internal control system in place over the collection, recording and deposit of cash from the drop off center during the time period prior to the fraud being discovered, the following condition was noted.

OBSERVATION 1: COMPUTER CONTROLS

Observation:

The scale operator signs in on the system when they arrive and counts the cash drawer to ensure that they have the correct amount of starting cash. Every operator has a sign on password.

In order to use the drop off facility the vehicle must have a current valid City of Manchester Transfer Station sticker affixed to the window. Stickers are purchased at the drop off center.

City residents can drop off recyclable materials for free by showing a valid drivers license or other documents showing proof of Manchester residency. They can also drop off up to two televisions or computer monitors for free.

As a vehicle approaches the scale the operator notes the valid sticker. The permit number is entered into the scale system and the owner's information is brought up on the screen. If they have an open ticket indicating that they owe the City for a previous trip through the yard the open ticket will be displayed.

The operator asks what kind of debris is being brought in and enters the type from a drop down menu. Only valid types will be accepted. Prices are preset in the system.

The operator then presses a key to record the initial weight in the system and open a new ticket. All tickets are numbered by the system in sequence.

The driver then proceeds to the dumping area where they off load the debris. The driver then must exit the yard and return to the scale in order to be reweighed. When the permit number is entered the open ticket is displayed.

The operator asks if payment will be by check or cash, if by check the check number is entered in the system. The operator then presses the key to reweigh the vehicle, calculate the weight of debris dropped off and prints the two part ticket. The cash or check is collected and the ticket is stamped paid and dated. The white copy is given to the driver and the yellow copy is retained by the operator. Cash and checks are put into the cash drawer.

If the driver has a valid account as determined by the main office they may charge the transaction to the account. The operator will key it in as a charge, print the ticket, stamp the ticket as a charge and the driver will sign the ticket. The yellow copy will go to the driver and the white copy will be retained by the operator.

There is only one cash drawer that is shared by all operators on that day. If an operator takes over to relieve another operator for a break period the operator on duty is not required to sign off and the new operator sign on. (This practice has been changed since the theft and now each operator must sign on and off as they are working.)

If an error is made the operator can go into the system and void the ticket. They do not require supervisory approval to complete the void. All tickets are pre-numbered by the system and voided tickets are supposed to be maintained and sent to the office at the end of the day with the daily deposit. The sequence of numbers is not checked in the office against the tickets to ensure that all tickets are accounted for nor is a report of voided tickets printed in the office.

CASH OUT PROCEDURE

At the end of the day the operator will print four reports that sent to a printer in the yard's office.

- Cash Reconciliation
- Material Usage
- Location Usage
- Toter

The operator will then add up all checks and compare the amount to the Cash Reconciliation report. All cash is counted and compared to the same report. He then completes the Daily Deposit report.

All tickets issued, cash and checks collected, and Daily Deposit report are reconciled by the operator then brought to the yard office. The Drop-Off Supervisor then reviews the work, counts the deposit and reconciles it to the Daily Deposit Report and signs the Daily Deposit report. The entire package is locked in the safe for the night. In the morning it is sent to the Business Office at the Highway Department for processing and deposit to the City bank account.

The two major weaknesses in this system are:

- Operators are not required to sign off the system when they go on break making it difficult to determine if any errors and irregularities encountered were committed by the person signed on to the system
- Void transactions are not adequately controlled making it possible to cover up theft by voiding transactions and destroying the void ticket.

Recommendation:

When an operator leaves the scale house for any reason they must sign off the system and the operator relieving them sign on every time.

An operator should not be allowed to void a transaction without supervisory approval. Ideally the system would not allow the operator to void a transaction and a supervisor would have to sign on and approve the void prior to processing. At the very least a report of all voids should be printed automatically every day to the supervisor's office and the supervisor would account for all tickets and sign approval on the void report as well as the Daily Cash Report.

Auditee Response:

New software with updated procedures has been installed providing greater security. Voided transactions must be approved and a void report is generated every day. The current reports generated at the end of the day are not sorted numerically; we will work with the Info Department to have them develop this report. Accounting for all tickets will be completed by the administrative staff at the Highway Department.

RESULTS OF REVENUE TESTING

Based on a review of procedures at the drop off center it appeared that there are three possible areas that fraud could have occurred.

- Scale operator collects cash payments then voids the ticket and steals the payment.

Testing by the department has shown that during the five months from December of 2007 through May of 2008 uncovered 416 questionable voids with a total value of \$24,107. The department found these by looking for missing sequence numbers in the daily cash reports and looking up the ticket in the system. By examining the remarks section to see the reason for the void and whether or not the cash received section was checked they were able to determine that the ticket was void after a payment was received. By calling a sample of customers and conducting a satisfaction survey they were able to determine that cash had indeed been paid for some of the ones selected for testing.

- Contractor negotiates a deal with the scale operator to weigh every other truck or some other scheme and kicks back some of the savings to the scale operator.

It has been reported that some contractors may have arraigned deals with the scale operators that they would only be charged for every other truck. It is assumed that if true there may have been some kind of kick back scheme to the operator.

- Scale operator waves customer through without weighing in exchange for a reduced cash payment. Operator would then keep the unrecorded receipt.

Audit Testing

In order to test void transactions an Access database from the scale system was obtained of all activity from January 29, 2002 through October 8, 2008. The database should have contained every ticket issued during this time period, including void tickets. The first ticket issued was #102693 and the last ticket issued was #231546. If the entire database was correctly transferred, 128,854 records (1 for every ticket) should have been received. The total number of records actually received was 128,348 records. This means 506 records were missing (.4%). Information Systems Department was unable to retrieve the missing records. However because the missing records represented a small percent of the total it was determined that for analysis it would not be significant to the findings.

Queries and reports were designed to group paid tickets and void tickets in six month increments and then compared the changes between periods. Monthly activity reports were also generated for FY 2008 and the first three months of FY 2009 in order to compare relationships between voids and cash payments of a period of known fraudulent activity with a period subsequent to the fraudulent activity. The results of my analysis showed the following conditions:

OBSERVATION 2: EXTENT OF FRAUDULENT ACTIVITY

Observation:

Reports of monthly activity from the database provided from the scale system were run and monthly transactions and voids were compared from June of 2007 through September of 2008. The period of activity from July of 2008 through September of 2008 was after the suspected employees were fired and was used as a baseline to estimate of the percent of voids that should have been expected during the audit period. This estimate was compared to the actual amount voided during the prior period to arrive at a range of possible unrealized revenue.

Transactions are of three kinds: paid by check, posted to accounts receivable and paid by cash. Analysis shows that the amount of void transactions for accounts receivable and transactions paid by check was consistently between 0 and 5 percent of total transactions over the entire period examined. Cash voids for the months prior to the firing of the suspected scale operators were between 25 and 44 percent of total transactions. On June 19, 2008 the employee was fired and the amount of voids dropped as expected to 12 percent for the month of June. For the remaining three months cash voids dropped to between 0 and 1.9 percent. See Table on page 11. Note that the table has been adjusted for three unusually large voids of \$4,920 cash SEP-08 and \$1,869 and \$1,549 A/R in JUL-08 and OCT-07 respectively that were skewing the results. Those three voids were determined to be legitimate voided transactions.

Reports were then run that showed all activity in six month increments from February of 2002 through September of 2008 and a comparison of the transactions was conducted.

When comparing the six month averages back to February of 2002 the percent of cash voids was between 1.5 and 5 percent from February of 2002 through June of 2004. During the period July of 2004 through December of 2004 the percent of cash voids jumped slightly to 6.3 percent. It is assumed that the thefts may have started at the end of this period. This is confirmed by a jump to 13.3 percent during the period of January 2005 through June 2005. The main scale operator during this time who also processed the majority of the voids has since left service with the City. A number of the voids were processed by a second scale operator during this period who also no longer works at the drop off center.

During the period of July 2006 through December 2006 the percent of voids jumped to 27.6 percent. This is the period when the recently dismissed operator started working. The operator who trained him and may have also been stealing cash terminated employment on 8/22/06. The percent of cash voids then remained at 27.9 to 32.1 percent until the operators' termination in June of 2008.

Based on this it is assumed that the expected amount of cash voids should be between 1 and 5 percent of total revenue. Anything over this amount is suspected of being stolen. Using these percentages it is estimated that the amount of revenue fraudulently obtained from January of 2005 to June of 2008 was estimated between \$109,341 and \$135,177.

Recommendation:

As noted in observation 1 the employee's ability to void transactions undetected by supervisory personnel allowed them to fraudulently obtain cash payments undetected. It is recommended that the City prosecute all individuals involved and change procedures to ensure that all transactions at the scale house are accounted for and voided transactions are approved by supervisory personnel.

Auditee Response:

New software with updated procedures has been installed providing greater security. Voided transactions must be approved and a void report is generated every day. Accounting for all tickets will be completed by the administrative staff at the Highway Department.

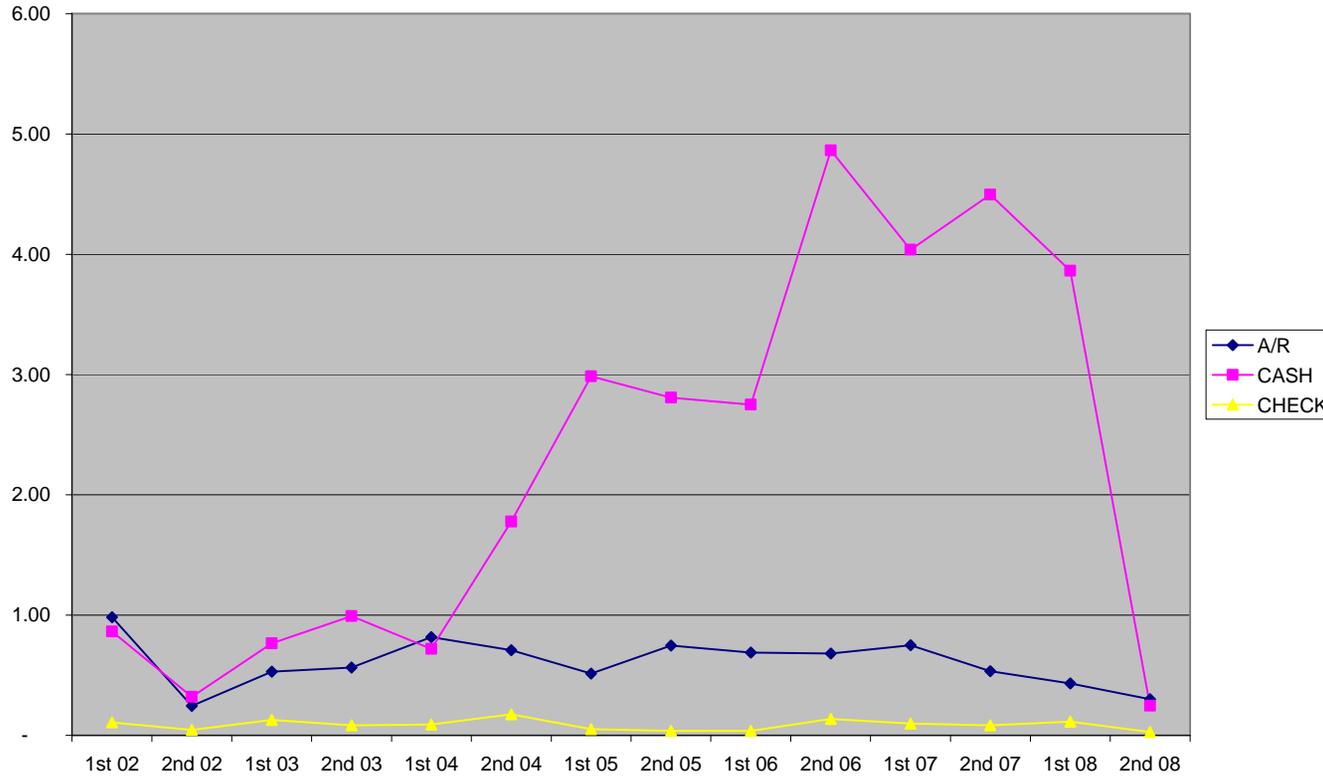
Comparison of Monthly Transactions
June 2007 through September 2008

	Paid Transactions				Voids				Percent Voids/Total			
	A/R	Cash	Checks	Total	A/R	Cash	Checks	Total	A/R	Cash	Checks	Total
Jun-07	\$17,030.77	\$13,170.50	\$19,994.50	\$50,195.77	\$ 0.18	\$5,067.50	\$ -	\$5,067.68	0.0%	27.8%	0.0%	9.2%
Jul-07	\$15,280.34	\$14,925.50	\$21,060.00	\$51,265.84	\$ 94.50	\$5,011.50	\$ 225.00	\$5,331.00	0.6%	25.1%	1.1%	9.4%
Aug-07	\$11,908.04	\$10,841.50	\$20,881.50	\$43,631.04	\$ 772.15	\$4,763.00	\$ 204.00	\$5,739.15	6.1%	30.5%	1.0%	11.6%
Sep-07	\$ 8,314.96	\$11,498.00	\$15,875.00	\$35,687.96	\$ 108.50	\$5,736.00	\$ 131.00	\$5,975.50	1.3%	33.3%	0.8%	14.3%
Oct-07	\$12,835.28	\$12,192.00	\$18,092.50	\$43,119.78	\$ 134.50	\$6,036.68	\$ 31.50	\$6,202.68	1.0%	33.1%	0.2%	12.6%
Nov-07	\$ 9,329.56	\$ 9,511.00	\$15,196.50	\$34,037.06	\$ 165.00	\$6,060.50	\$ -	\$6,225.50	1.7%	38.9%	0.0%	15.5%
Dec-07	\$ 6,663.50	\$ 5,477.00	\$ 8,231.50	\$20,372.00	\$ 69.00	\$2,828.00	\$ -	\$2,897.00	1.0%	34.1%	0.0%	12.5%
Jan-08	\$ 6,407.00	\$ 5,164.50	\$ 7,552.00	\$19,123.50	\$ -	\$3,573.50	\$ -	\$3,573.50	0.0%	40.9%	0.0%	15.7%
Feb-08	\$ 5,830.00	\$ 4,751.00	\$ 8,008.50	\$18,589.50	\$ 212.50	\$2,389.50	\$ 66.00	\$2,668.00	3.5%	33.5%	0.8%	12.6%
Mar-08	\$ 6,276.00	\$ 6,381.50	\$ 9,393.00	\$22,050.50	\$ 301.50	\$4,972.00	\$ 100.00	\$5,373.50	4.6%	43.8%	1.1%	19.6%
Apr-08	\$11,522.65	\$15,006.50	\$19,942.00	\$46,471.15	\$ 286.50	\$6,600.00	\$ 50.00	\$6,936.50	2.4%	30.5%	0.3%	13.0%
May-08	\$12,221.56	\$14,158.50	\$22,340.66	\$48,720.72	\$ 927.97	\$6,294.68	\$ 278.00	\$7,500.65	7.1%	30.8%	1.2%	13.3%
Jun-08	\$12,013.84	\$16,769.00	\$17,219.00	\$46,001.84	\$ 26.00	\$2,318.50	\$ 217.00	\$2,561.50	0.2%	12.1%	1.2%	5.3%
Jul-08	\$15,020.91	\$18,429.00	\$17,137.50	\$50,587.41	\$ 132.59	\$ 94.43	\$ 99.00	\$ 326.02	0.9%	0.5%	0.6%	0.6%
Aug-08	\$11,663.66	\$20,232.00	\$24,906.50	\$56,802.16	\$ 864.00	\$ 388.00	\$ 50.00	\$1,302.00	6.9%	1.9%	0.2%	2.2%
Sep-08	\$11,093.63	\$15,900.00	\$12,666.50	\$39,660.13	\$ 67.75	\$ 5.00	\$ -	\$ 72.75	0.6%	0.0%	0.0%	0.2%

NUMBER OF TICKETS ISSUED

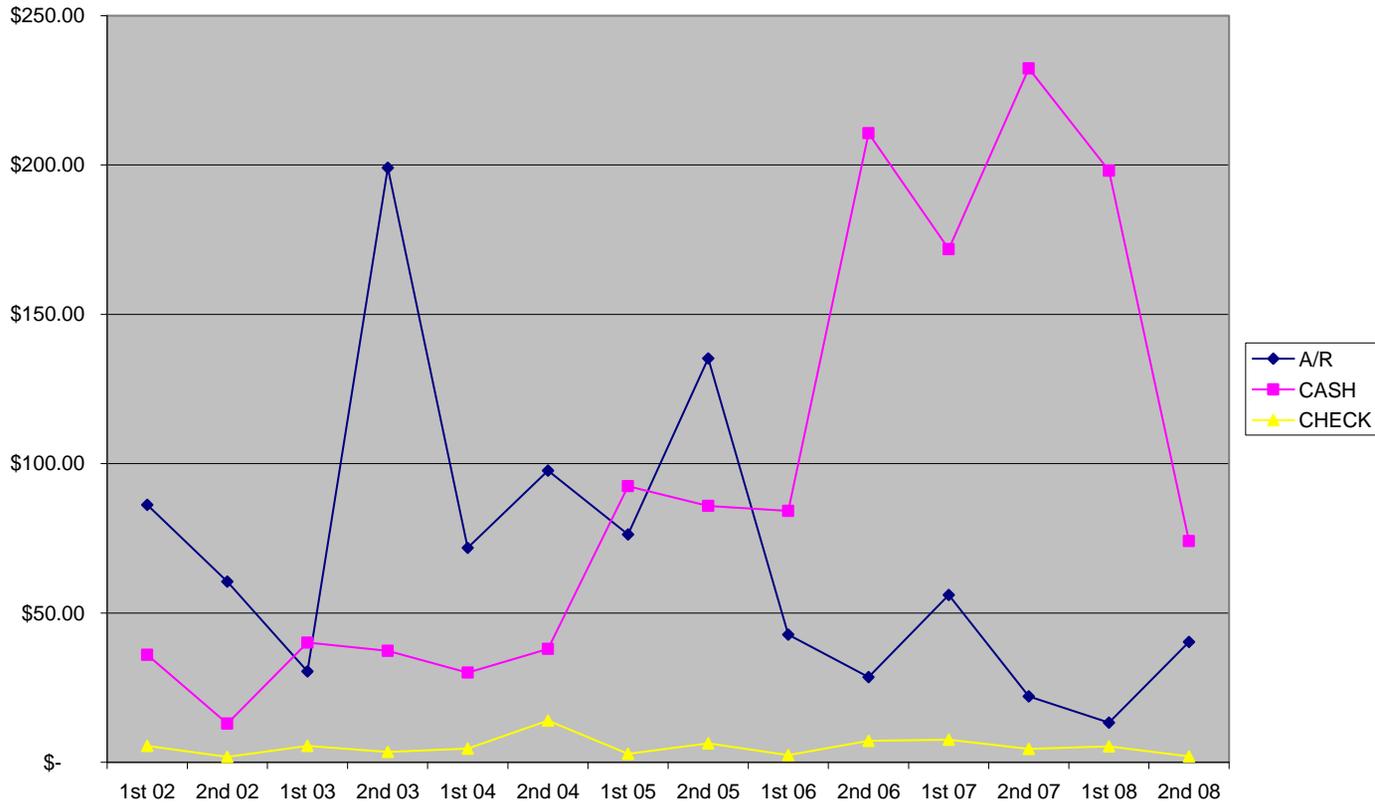
Jun-07	811	515	432	1,758	14	108	-	122	1.7%	17.3%	0.0%	6.5%
Jul-07	623	663	457	1,743	10	110	3	123	1.6%	14.2%	0.7%	6.6%
Aug-07	822	549	434	1,805	16	95	2	113	1.9%	14.8%	0.5%	5.9%
Sep-07	573	531	332	1,436	15	98	4	117	2.6%	15.6%	1.2%	7.5%
Oct-07	879	543	367	1,789	11	120	2	133	1.2%	18.1%	0.5%	6.9%
Nov-07	505	419	311	1,235	13	110	-	123	2.5%	20.8%	0.0%	9.1%
Dec-07	239	266	170	675	4	56	-	60	1.6%	17.4%	0.0%	8.2%
Jan-08	272	238	174	684	2	67	-	69	0.7%	22.0%	0.0%	9.2%
Feb-08	259	223	161	643	6	53	3	62	2.3%	19.2%	1.8%	8.8%
Mar-08	291	272	192	755	5	73	1	79	1.7%	21.2%	0.5%	9.5%
Apr-08	624	615	416	1,655	13	141	1	155	2.0%	18.7%	0.2%	8.6%
May-08	688	607	448	1,743	22	134	5	161	3.1%	18.1%	1.1%	8.5%
Jun-08	606	599	373	1,578	9	42	5	56	1.5%	6.6%	1.3%	3.4%
Jul-08	710	713	380	1,803	6	6	1	13	0.8%	0.8%	0.3%	0.7%
Aug-08	664	693	457	1,814	6	7	1	14	0.9%	1.0%	0.2%	0.8%
Sep-08	536	527	257	1,320	8	4	-	12	1.5%	0.8%	0.0%	0.9%

**Average Number of Void Tickets Per Day
Calendar Year 2002 Through Calendar Year 2008**



Each data point represents average activity during a six month period, January through June for 1st OX and July through December for 2nd OX. 1st 02 contain data from February to June of 2002 and 2nd 08 contain data from July through September of 2008. Note the increase in 2nd 04 when fraudulent activity most likely started and again in 2nd 06 when new employee took over scale operation. The number of voided transactions then drops after the employee was dismissed prior to the last data point and the average number of void transactions drops to pre 2004 level.

**Average Dollar Amount of Void Tickets Per Day
Calendar Year 2002 Through Calendar Year 2008**



Each data point represents average activity during a six month period, January through June for 1st OX and July through December for 2nd OX. 1st 02 contain data from February to June of 2002 and 2nd 08 contain data from July through September of 2008. The 2nd 08 data point includes one voided transactions of \$4,920 that skews the data point up slightly. If removed the data point would be \$6.68. Note the increase in 1st 05 when fraudulent activity most likely occurred during the entire period and again in 2nd 06 when new employee took over scale operation.