



# Maricopa County

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## Internal Audit Department

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**To:** Maricopa County Board of Supervisors

**From:** Ross L. Tate, County Auditor

**Subject:** Audit Report: Treasurer's Office – Investment Services

**Date:** July 24, 2015

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Internal Audit contracted with consulting firm Moss Adams LLP (Moss Adams) to review controls over the Treasurer's Office Investment Services. Moss Adams prepared the attached report and completed all of the audit work.

### Consultant's Report

Within the attached report by Moss Adams, you will find specific information on the areas reviewed and responses to the recommendations. Moss Adams reviewed this information with Treasurer's Office management. The Action Plan was approved by Charles Hoskins, County Treasurer, on July 20, 2015.

This audit was approved by the Board of Supervisors and is intended primarily for the information and use of the County Board of Supervisors, County leadership, and other County stakeholders. However, this report is a public record and its distribution is not limited.

If you have any questions about this report, please contact Stella Fusaro, Audit Manager, at 602-506-1777.

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**Objectives**

To determine that the Maricopa County Treasurer's Office (MCTO):

- Investment transactions are consistent with policies and procedures established by the Board to ensure quality and liquidity of the portfolio.
- Investments are reconciled to the investment accounting service and safekeeping agent records on a regular basis.
- Interest rate risk is adequately monitored.
- Internal controls (including management governance and oversight) are adequate.

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**Scope**

This audit focused on the Investment Services Division within the MCTO. The testing period was for calendar years 2012 through 2014. To perform this audit, we interviewed MCTO management and staff, conducted site visits, walk-throughs, and testing of internal controls over financial and information technology processes. We reviewed documentation including:

- Internal audit reports
- Self-assessment by MCTO of internal controls
- SSAE 16/SOC 1 reports for all service providers
- Investment confirmations, files, and transactions
- Broker/dealer listings
- Cash flow calculations
- Record keeping and accounting transactions including: collection and distribution of funds transactions, collateral reports, and investment earnings allocations

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**Standards**

This audit was conducted in conformance with the International Standards for the Professional Practice of Internal Auditing. The specific areas reviewed were selected through a formal risk-assessment process.

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**Auditors**

Moss Adams LLP

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**Audit Results**

**Issue #1: Policies and Procedures Manual**

**Observation:** A meeting with the MCTO to identify controls and internal policies and procedures used to manage the investment services, along with a self-assessment of internal controls prepared by MCTO, revealed that the MCTO does not have detailed written investment policies and procedures that document current detailed systems and processes used to achieve MCTO policies and Arizona statutes. MCTO is in the process of updating and enhancing its policies and procedures manual.

Conclusion #1A: MCTO investment policies and procedures need updating.	
Recommendations	MCTO Action Plan
<p><b>1A-1</b> Update policies and procedures over the recording of, purchase, and sale of investments, broker/dealer selection, benchmarking portfolio performance, cash flow projections, safekeeping procedures, and investment income allocation.</p>	<p>Concur – in process. Investment policies &amp; procedures have been updated over past year and awaiting final review and sign-off. Target Date: December 31, 2015.</p>
<p><b>1A-2</b> Investment policies and procedures should be written to conform to current practices and systems and reviewed at least annually for revisions and updates.</p>	<p>Concur – will implement with modifications. Annual review of policy &amp; procedures will occur at calendar year end and presented at January’s Treasurer’s Advisory Board (TAB) meeting. Target Date: January 2016.</p>
<p><b>1A-3</b> Review and update current training programs and procedures to ensure consistent communication of changes to policies and procedures.</p>	<p>Concur – in process. Portfolio Manger’s (PM) Desk manual is updated annually. Target Date: January 2016.</p>
<p><b>1A-4</b> Establish a written Ethics Policy, Conflicts of Interest Policy, and Delegation of Authority Policy. Require personnel with investment authority to disclose any conflicts of interest on an annual basis.</p>	<p>Do not concur. PM has signed HR Employee Acknowledgement Form on file which encompasses Maricopa County Loyalty Oath along with complying with County’s Professional Conduct (HR2421) and External Relationships &amp; Acceptance of Gifts (A1515) policies.</p>

## **Issue #2: Documentation of Bids Obtained for Investment Purchases**

**Observation:** During our walkthroughs and testing procedures on the investment purchases and sales cycles, we noted that there is no supporting documentation as to why a specific investment was either purchased or sold. In addition, there are no approvals for the purchase or sale to verify that the activity was in the best interest of the County.

We tested 75 investment purchase samples from July 1, 2013 through December 31, 2014, and determined the following:

- The broker dealer, including a designated broker, had been approved by the MCTO Advisory Board (TAB).
- The investment was within the credit risk limits set in the MCTO Investment Policy.
- The investment maturity did not exceed the maximum maturity length set by the TAB.
- The broker offers were kept along with the Bloomberg pricing to document the best pricing was obtained for the County.
- The investment was held by a safekeeping agent or, if a school bond, was held in safekeeping in the MCTO's vault.
- The amount paid for the investment matched the stated cost on the investment purchased.
- The rate of the investment matched what was stated on the investment purchased.
- The Committee on Uniform Securities Identification Procedures (CUSIP) number agreed to the investment purchased.
- The settlement date and maturity date agreed to the investment purchased.
- The Investment Daily Summary Report kept by the accounting department tied out to the bank records.
- A responsible accounting official signed off for bank verification.
- The Treasurer receipts processed is signed by a different person than the bank verifier.

For 4 out of 75 purchase transactions tested, we noted the MCTO used a brokerage company that was listed on the approved broker list, but the actual broker that did the purchase was not. The purchases totaling \$111,983,115 were conducted by brokers that were not on the approved list. See Issue #4.

We found that support has been retained for the actual investment that was selected for purchase. However, for 75 out of 75 transactions tested, we could not verify that the investment selected was in the best interest of the County as broker offers and

Bloomberg research was not maintained with the transaction documentation. We could not determine that the investment was obtained under the most favorable terms or had the most appropriate maturity date.

We tested 12 (100 %) of the investment sales for the 36 month period ended December 31, 2014, and determined the following:

- The file contained documentation for the reason the investment holding was made and not held until the call or maturity date.
- The sale was made to an authorized broker dealer and the designated broker.
- Documentation for all bids was received via Bloomberg.
- The sale was made to the broker dealer and designated broker that submitted the best bid.
- The responsible accounting official signed off for bank verification.
- The Treasurer receipts processed is signed by a different person than the bank verifier.

While the investment sales are supported with a comparison for all of the bids that are received for the sale, there is no documentation as to why that particular investment was chosen to be sold.

In addition, there were no approvals by another party obtained for any of the investment purchases or sales that would verify that the transactions were the most appropriate for the County.

We also sorted all purchases for the 36 month period ended December 31, 2014, and for the 3 months ended December 31, 2015, by calendar year to determine if there were any concentrations of brokers used and noted the following:

- During calendar year 2012, 1 of the 15 brokers used transacted 21.2% of the total purchase transactions, 3 out of 15 brokers used transacted between 10% - 12% of the total purchase transactions, and the remaining 11 brokers used transacted between 0.6% - 9% of the total purchase transactions.
- During calendar year 2013, 6 of the 14 brokers used transacted between 10% - 13% of the total purchase transactions and the remaining 8 brokers used transacted between 1% - 6% of the total purchase transactions.
- During calendar year 2014, 3 of the 12 brokers used transacted between 14% - 16% of the total purchase transactions and the remaining 9 brokers used transacted between 1% - 9% of the total purchase transactions.

<b>Conclusion #2A:</b> MCTO did not retain bid documents to support investment purchases and sales decisions.	
<b>Recommendations</b>	<b>MCTO Action Plan</b>
<p><b>2A-1</b> Develop a form which the Portfolio Manager uses to provide details about the investment to be purchased or sold. This form should contain why that investment was chosen among the other options and should include supporting documentation such as offers from the brokers.</p>	<p>Concur – however, full implementation of this recommendation along with recommendations 2A-2, 2B-1, and 7A-1 would require addition of a senior staff position that would not have a full-time workload. The position would require investment; finance and accounting experience and the salary and benefits expense would be quite high.</p> <p>Therefore, management accepts the risk of this issue in that it would not be cost effective. Management has implemented policies and procedures that adequately addressed these recommendations. This is evidenced by the fact that Maricopa County’s investment portfolio did not lose any money during the recent Great Recession while the portfolios of other counties and the state lost hundreds of thousands of taxpayer dollars, and the pension funds lost millions. Further evidence of success is the Maricopa County Portfolio interest earning has consistently exceeded that of a similar state fund. Also, we have experienced no improper issues with the brokers we have used during the past ten years.</p> <p>-----</p> <p>Bloomberg terminal is utilized for investment analysis for all securities.</p> <p>All Bloomberg trade tickets (purchases and sales) are printed and stapled with daily custody transaction report and kept on file. Sale tickets include all broker bids. All bonds free-to-trade (FTT) include broker bids.</p>
<p><b>2A-2</b> Documentation should include comparable investments that were not chosen to show that the investment chosen was the best option.</p>	<p>See comments at the beginning of 2A-1.</p> <p>-----</p> <p>Treasurer’s investment policy emphasizes safety of principal, liquidity needs and then return. Treasurer has appointed PM to adhere to this philosophy when executing trades in eligible investments (ARS 35-323).</p> <p>Investments are priced-to-market monthly and</p>

	including in monthly portfolio report.
<b>Conclusion #2B:</b> Segregation of duties surrounding investment transactions should be strengthened.	
<b>Recommendation</b>	<b>MCTO Action Plan</b>
<b>2B-1</b> Establish procedures for the independent review and approval of the investment selected by the Portfolio Manager; preferably before the transaction is performed.	See comments at the beginning of 2A-1. ----- Treasurer has appointed PM to invest public monies in eligible investments (ARS 35-323). PM presents monthly portfolio reports to Treasurer management staff and quarterly to TAB for review.

**Issue #3: Investment Performance Benchmarking**

**Observation:** During our review of the Treasurer’s reports to the public and the performance reports to the Treasurer’s Advisory Committee, we noted that performance is reported but it is not measured against performance benchmarks. We also noted that the cash flow projections are kept on an informal basis on the calendar of the Portfolio Manager.

<b>Conclusion #3A:</b> Portfolio performance should be measured against benchmarks.	
<b>Recommendation</b>	<b>MCTO Action Plan</b>
<b>3A-1</b> Measure investment portfolio performance against benchmarks by comparison with a selected Index on a total return basis.	Concur – in process. Benchmarks incorporated into monthly reporting for pooled portfolio’s short- and long-term investment returns.  Target Date: September 2015.
<b>Conclusion #3B:</b> Formal County cash flow projections have not been prepared.	
<b>Recommendation</b>	<b>MCTO Action Plan</b>
<b>3B-1</b> Prepare a cash flow projection that is reviewed and approved by someone other than the preparer.	Concur – in process. Additional cash flow projection spreadsheet created supporting existing daily, cash flow analysis worksheet and Outlook’s Investment public folder of cash flows.  Target Date: September 2015.

**Issue #4: Broker Dealer Selection Process**

**Observation:** We reviewed all of the broker dealers used by the MCTO to determine how they were selected. We noted that the MCTO had not performed any procurement or formal evaluation over the broker dealers or the designated brokers it used. We obtained Financial Industry Regulatory Authority (FINRA) reports for authorized brokers from the authorized broker dealer listings approved by the Treasurers Advisory Board for the period from January 2013 through March 2015 and noted the following:

- One out of 14 brokers tested had 3 negative disclosure comments in their FINRA report.
- One out of 14 brokers tested was not licensed to act as a broker or as an investment advisor.
- MCTO continued to use the broker with the multiple negative FINRA disclosures during calendar year 2012 for purchases totaling \$67.7 million and this broker was re-approved as an MCTO authorized broker as of March 2015.
- MCTO approved the unlicensed broker in March 2015 even though he was no longer licensed. However, MCTO did not conduct any business with this broker after February 2015, the date the broker became unlicensed.
- The Treasurer’s Advisory Committee had not approved additions or deletions to the broker dealer listing; therefore, the Portfolio Manager was the only person actively seeking investment broker dealers.
- The Portfolio Manager is the only person that can add or delete broker dealers from the Bloomberg application.

<p><b>Conclusion #4A:</b> Investment broker dealers were not solicited on a formal and competitive basis.</p>	
<p><b>Recommendations</b></p>	<p><b>MCTO Action Plan</b></p>
<p><b>4A-1</b> Solicit broker dealers in a public manner. Broker dealers should be given a questionnaire and a review process should be completed every year for existing and potential broker dealers.</p> <p>On an annual basis, new and existing broker dealers should provide the following:</p> <ul style="list-style-type: none"> <li>• Annual financial statements within six months of the close of the fiscal year</li> </ul>	<p>Concur – in process.</p> <p>PM is creating broker application including suggested requirements in 4A-1. Associated policy and procedure document identifying broker approval/disapproval process rewritten.</p> <p>Target Date: January 2016.</p>

<ul style="list-style-type: none"> <li>• Proof of FINRA or successor agency certification</li> <li>• Proof of Arizona registration</li> </ul> <p>The Portfolio Manager at the MCTO should review all answers and supporting documentation for completion and accuracy and submit them to the Treasurer.</p> <p>Once the Treasurer approves the broker dealers, their questionnaires should be scheduled on the quarterly Treasurer’s Advisory Board agenda for approval and the broker dealer listing should be formally updated.</p>	
<p><b>4A-2</b> Require investment broker dealers to sign an annual certification that all assets held in their account are in compliance with applicable Arizona Statutes and the Maricopa County Investment Policy.</p>	<p>Concur – will implement with modifications.</p> <p>Broker application will include section acknowledging compliance with Treasurer’s investment policy and ARS.</p> <p>Target Date: January 2016.</p>
<p><b>4A-3</b> Once a broker dealer is approved by the Treasurer and the Treasurer’s Advisory Board, someone other than the Portfolio Manager should update the designated broker on the Bloomberg application.</p>	<p>Concur – implementation not currently possible.</p> <p>Office has only one Bloomberg license under PM’s profile. Additional licenses require budget availability.</p>

**Issue #5: Review of SSAE 16 Report for the Custodial Function**

**Observation:** JP Morgan serves as custodian for the investment securities. Annually, it undergoes third-party internal control reviews (Service Organization Controls Report/SSAE 16) to provide information and assurance to user organizations regarding the service organizations controls. We noted that the SSAE 16 report is not being reviewed.

<b>Conclusion #5A:</b> MCTO is not receiving or reviewing External Service Organization Control/ SSAE 16 Reports.	
<b>Recommendations</b>	<b>MCTO Action Plan</b>
<b>5A-1</b> Obtain and review all external service vendors' SSAE 16 reports, specifically the User's Complementary Controls, and document review results. This will ensure that risks identified in the report are properly and promptly addressed.	Concur – completed. Current custody SSAE 16 report on file. Annual review of report will be conducted annually when issued.

### Issue #6: Investment Information Technology (IT) Applications Audit Trails

**Observation:** We tested IT controls for the following investment applications: maintenance, posting, apportionment, and inquiry. We found that the applications do not provide logging mechanisms or audit trails of the transactions and changes. An audit trail is a history of changes that have been made to data and includes information such as who accessed an item, what operation was performed, when it was performed, and how the value was changed. The audit information is logged without any interaction from user. The Portfolio Manager stated that MCTO maintains hard copy documentation for all transactions.

<b>Conclusion #6A:</b> The IT system does not log transactions and changes.	
<b>Recommendation</b>	<b>MCTO Action Plan</b>
<b>6A-1</b> Develop audit trail reporting within the applications or use a separate compatible application.	Concur – implementation not currently possible. These recommendations are requirements for Treasurer's System Replacement currently underway.
<b>Conclusion #6B:</b> System logs are not regularly reviewed.	
<b>Recommendation</b>	<b>MCTO Action Plan</b>
<b>6B-1</b> Implement a process to regularly review system logs/events.	Concur – implementation not currently possible. These recommendations are requirements for Treasurer's System Replacement currently underway.

## Issue #7: Approval of Programming Changes in the Investment Applications

**Observation:** During our review of the change management process/flow chart for the Investment Applications, we noted that the Portfolio Manager can initiate change orders to the investment application without a supervisor's approval.

<b>Conclusion #7A:</b> Investment application program changes can be initiated by the Portfolio Manager without supervisory approval.	
<b>Recommendation</b>	<b>MCTO Action Plan</b>
<p><b>7A-1</b> Investment application program changes initiated by the Portfolio Manager should be approved by a supervisor before it goes through the change management process within the IT Department. This should be incorporated in the process flowchart and the approval should be documented on the IT Department tickets supporting all the changes. This will ensure that only authorized change orders to the investment application can be initiated by the IT Department.</p>	<p>See comments at beginning of 2A-1</p> <p>-----</p> <p>PM reports directly to Treasurer. PM includes accounting in all technical action requests (TARs) impacting investment application affecting their department directly.</p>

## Issue #8 Portfolio Manager's Access to Wire Transfers

**Observation:** During our review of relevant IT general and application controls, we noted that the Portfolio Manager has the authority to do wires and transfer funds between accounts to fund investment transactions.

This is a significant deficiency in the internal controls due to segregation of duties issues as the Portfolio Manager can:

- Execute investment trades without additional authorization
- Authorize transaction with the custodial bank
- Record transactions in the investment application

<b>Conclusion #8A:</b> The Portfolio Manager is able to perform wire transfers.	
<b>Recommendation</b>	<b>MCTO Action Plan</b>
<b>8A-1</b> Someone other than the Portfolio Manager should be in charge of the wire transfer during settlement of an investment transaction.	Concur – implementation not currently possible. Investment desk includes only the PM who is involved in daily investment transactions. This will be taken under future consideration when requesting FTE with OMB.

**Issue #9 Access to Trading Software**

**Observation:** We noted on our testing on the Bloomberg Application (trading platform) that the Portfolio Manager can access the system through the following:

- A dedicated terminal in the Portfolio Manager’s office. The application has multi-factor authentication: first, a username and password, and second, biometrics (fingerprint scan).
- Application in the smartphone of the Portfolio Manager. This does not have a multi-factor authentication.

<b>Conclusion #9A:</b> The risk associated with use of the trading application on a smartphone should be evaluated.	
<b>Recommendations</b>	<b>MCTO Action Plan</b>
<b>9A-1</b> Evaluate the risk associated with a device that does not require multi-factor authentication. This should include assessment of mitigating controls in place, if any.	Management accepts the risk. Bloomberg (BB) application on county-issued smartphone does not have trading module similar to BB desktop. Smartphone application is used for market news and data purposes only.
<b>9A-2</b> Obtain and review a SysTrust report for Bloomberg Anywhere. A SysTrust report evaluates and tests whether or not a specific system is reliable when measured against three essential principles: availability, security, and integrity.	Concur – in process.  Request made with Bloomberg representative for SysTrust report.  Target Date: August 2015.

## Issue #10: Collateral Requirements

**Observation:** We obtained the collateral reports for the fiscal years ended June 30, 2012, June 30, 2013, and June 30, 2014, to determine if the MCTO is in compliance with the requirement of 101% collateral for its deposits. We noted that the MCTO is in compliance with this requirement for the three years tested.

## Issue #11: Investments Purchased at a Premium or Discount

**Observation:** An outstanding issue, originally noted by the MCTO Chief Internal Auditor in his November 30, 2013, Internal Audit Report of Investments and per our follow up interview of the Chief Internal Auditor conducted in April 2015, that the recording of premiums or discount amortization associated with purchases of investments is not being recorded in the investment accounting subsidiary ledgers requiring year-end adjustments and/or significant adjustments when bonds mature. It is a GAAP requirement that amortization of premiums or discounts be recorded on a monthly basis over the life of the investment. It is our understanding that the investment software and the accounting software do not have the utility for the accounting department to keep track of the amortization of premiums and discounts.

Conclusion #11A: Record Premium or Discount Amortization in the general ledger on a Monthly Basis	
Recommendation	MCTO Action Plan
<b>11A-1</b> The Portfolio Manager and Accounting Manager should meet to ensure bond premiums or discounts are reported to the Accounting Department so that the Accounting Manager can record monthly premium or discount amortization in and investment subsidiary ledger. The subsidiary ledger should be made available to the pool participants on a monthly basis.	Concur – full implementation not currently possible. Subsidiary ledger targeted to be resolved when the new Treasurer’s Investment/Accounting System is implemented.