

CAD Post Implementation Follow-Up Audit

July 2017

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July 17, 2017

Honorable Mayor and Members of the City Council:

In accordance with the 2017 Annual Audit Plan, the City Auditor's Office has completed the CAD Post Implementation Follow-Up Audit. The audit objective was to determine the implementation status of prior audit recommendations.

Audit follow-up procedures indicate management has addressed all but one of the thirteen prior audit recommendations.

We would like to thank the Fire, Information Technology and Finance Department staff for their assistance and cooperation during the audit.

Lori Brooks

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City Auditor

c: Trey Yelverton, City Manager
 Theron Bowman, Deputy City Manager
 Jim Parajon, Deputy City Manager
 Gilbert Perales, Deputy City Manager
 Don Crowson, Fire Chief
 Will Johnson, Police Chief
 Mike Finley, Chief Financial Officer
 Dennis John, Chief Information Officer

CAD Post Implementation Follow-Up Audit

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Background

The City Auditor's Office conducted a follow-up audit of the CAD Post Implementation Audit completed in September 2015. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate, evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. The audit objective was to determine the implementation status of prior audit recommendations.

Management concurred with all thirteen recommendations in the initial audit report. Audit follow-up procedures indicate management has addressed all but one of the recommendations.

Audit Scope and Methodology

The scope of the project was limited to following up on management's implementation of previous audit recommendations. The following methodology was used in completing the audit:

- Interviewed pertinent Fire, Information Technology and Finance Department personnel
- Reviewed relevant supporting documentation provided by management

Status of Prior Audit Recommendations

AUDIT RECOMMENDATION	CONCUR /DO NOT CONCUR	MANAGEMENT RESPONSE	RESPONSIBLE PARTY	DUE DATE	CURRENT IMPLEMENTATION STATUS
<p>1. The City Auditor’s Office recommends that the Fire Chief ensure there are strong application controls in place to support enforcement of Ambulance contract clauses.</p>	<p>Concur</p>	<p>The Optima project, a third party resource management application, is currently in the beginning stages of implementation. Optima will automate the majority of dispatch functions for EMS. Dispatch Services has already engaged Intergraph to determine the feasibility of setting up a separate instance of Intergraph MDT Server specific to EMS mobile units and a quote is forthcoming.</p>	<p>Jim Self Rhonda Shipp Jeremy Hensley</p>	<p>Final date to be determined based on Optima implementation and funding availability</p>	<p><u>Status:</u> Implementation In Progress <u>Management Response:</u> <i>The Optima project is currently underway. The vendor is in the process of analyzing CAD, AVL (automatic vehicle location), and GIS data in order to prepare for the upcoming build process.</i></p>
<p>2. The City Auditor’s Office recommends that the Fire Chief consider conducting a robust CAD software load test that is representative of a mass casualty event, and includes consideration of a high volume of mobile (MDC) use by public safety staff. A robust load test should be conducted with vendor assistance by a third party software load testing entity to ensure impartiality.</p>	<p>Concur</p>	<p>Additional load testing outside of a CAD load test will require additional funding for a third party to evaluate the efficacy and efficiency of a computer aided dispatch and mobile environment during peak utilization. A third party organization should be able to provide feedback to the health and stability of the public safety communication system. The Dispatch team will investigate service and cost options regarding this issue and provide feedback to the City Manager’s Office</p>	<p>Jim Self Rhonda Shipp CAD Assessment Team</p>	<p>December 2015</p>	<p><u>Status:</u> Implemented <u>Management Response:</u> <i>Dispatch Services has not been able to find a third party vendor that can provide an end-to-end load test solution of this nature. However Dispatch Services has worked alongside Intergraph Engineers and the City’s Infrastructure and Server engineers to create an environment with more than enough computing power and input/output bandwidth to handle any large scale incident.</i></p>

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<p>3. The City Auditor’s Office recommends that the City Manager consider operating the City’s GIS unit under a centralized management structure that is capable of oversight of the entire unit and coordinating efforts of all City entities that contribute to updating the City’s GIS data.</p>	<p>Concur</p>	<p>Staff will evaluate options for reorganizing the components of the City's overall GIS resources into a centralized or more integrated approach. The analysis will look at cost/benefit, legal requirements, and operational needs/efficiencies.</p>	<p>Gilbert Perales, Deputy City Manager</p>	<p>March 31, 2016</p>	<p><u>Status:</u> Implementation In Progress</p> <p><u>Management Response:</u> <i>The consolidation of the City’s GIS efforts was suspended pending the selection of a new Community Development & Planning Director. Now that the new director is on board, we are working with him to determine the appropriate course of action.</i></p>
<p>4. The City Auditor’s Office recommends that the Fire Chief consider adding a GIS-specific staffing resource to current Dispatch Services CAD System administration staff, who is capable of ensuring ESRI data operability in Intergraph CAD software.</p>	<p>Concur</p>	<p>A staffing study conducted in 2013 made the same recommendation, and the Fire Department has included such a request for consideration in each budget year since. The request to add technical resources has been denied every year. The budget request for 2016 has now been approved. As such, hiring will begin in the first quarter of FY2016.</p>	<p>Jim Self Rhonda Shipp HR</p>	<p>November 2015</p>	<p><u>Status:</u> Implemented</p> <p><u>Management Response:</u> <i>Dispatch Services worked with I.T. to hire two dedicated resources in June of 2016. One of these resources is a GIS specialist. He has been instrumental in performing GIS related tasks and is in the process analyzing and building a new Public Safety map.</i></p>
<p>5. The City Auditor’s Office recommends that the Fire Chief request Dispatch Services to conduct research on ESRI routing feature to determine if it is compatible with Tarrant County GIS data and</p>	<p>Concur</p>	<p>Although there has been discussion within Intergraph to incorporate the ESRI Routing service as an option, currently there is no solution for using the ESRI Routing Service within the Intergraph suite of products. Dispatch Services will evaluate the various available</p>	<p>Jim Self Rhonda Shipp Jeremy Hensley</p>	<p>Complete for current environment but there will be an ongoing assessment of the Intergraph</p>	<p><u>Status:</u> Implemented</p> <p><u>Management Response:</u> <i>The current version of CAD is compatible with various real time GIS web services and it is on Intergraph’s roadmap to integrate routing services in</i></p>

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<p>Intergraph CAD software. If it is compatible and accurate, secure funding for inclusion of routing data layers in ESRI software, and coordinate with City Information Technology Staff to include the routing data layer in Tarrant County GIS data file.</p>		<p>routing options compatible with the Intergraph software suite and incorporate the best option for meeting the City of Arlington public safety needs.</p>		<p>software to evaluate system capability with ESRI software.</p>	<p><i>future CAD versions. However, currently ESRI routing service is still not compatible with Intergraph, or any other CAD system we have evaluated.</i></p>
<p>6. The City Auditor’s Office recommends that the Fire Chief request the Firehouse software vendor to add a queryable data field to current software to accommodate the initial CAD call number.</p>	<p>Concur</p>	<p>The Fire Department’s Firehouse administrator will work with the Firehouse RMS vendor to determine a methodology to capture the CAD call number in an additional data field, once migration to a hosted environment is complete. Final implementation may be cost-prohibitive if there is a fee for software customization.</p>	<p>Jim Self Janice Williams Michael Lark</p>	<p>March 2016 (Final date TBD pending on IT work plan schedule)</p>	<p><u>Status:</u> Implemented <u>Management Response:</u> A custom field was added to the on-premise installation of Firehouse that allows the CAD Callsheet number to be imported along with the rest of the data. Implementing this functionality in the cloud installation of Firehouse is a part of the currently in-progress project.</p>
<p>7. The City Auditor’s Office recommends that the Fire Chief request that Fire Prevention Services include routine review to identify calls requiring a report that had not been assigned a report number, due to human error.</p>	<p>Concur</p>	<p>Prevention staff has received briefings on a methodology to manually audit Firehouse incident records to ensure all CAD calls that require an incident report are assigned an incident number and transferred to Firehouse. Additional training and documentation of</p>	<p>Jim Self Stephen Lea Mary Nicholls</p>	<p>September 2015.</p>	<p><u>Status:</u> Not Implemented <u>Management Response:</u> Currently there is still no process in place to take a random sampling of CAD reports and compare to Firehouse. We are only aware of CAD incidents with No</p>

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		procedures will be necessary to formalize the process.			<p><i>Firehouse report when a report is requested from an open records request.</i></p> <p><u>Audit Note:</u> The department stated this is a current priority and should be completed by September 30, 2017.</p>
<p>8. The City Auditor’s Office recommends that the Fire Chief require the ambulance services vendor to notify CAD dispatch staff when an employee terminates and ensure CAD access is terminated upon notification.</p>	Concur	<p>Dispatch Services will create a procedure that will require timely notifications be made by AMR to dispatch staff on employee separations. The procedure will include monthly correspondence with the ambulance service to ascertain compliance.</p>	<p>Jim Self Rhonda Shipp Dana Craig</p>	August 2015	<p><u>Status:</u> Implemented</p> <p><u>Management Response:</u> A procedure has been created in which the EMS MedOps Coordinator communicates employee additions and separations to the CAD Team ensuring the contracted EMS vendor’s staffing is always up-to-date in the system.</p>
<p>9. The City Auditor’s Office recommends that in future implementation projects the Chief Information Officer require quality assurance reviews of hardware setup conducted by IT staff in order to meet software setup requirements, and provide necessary expertise to</p>	Concur	<p>In September, 2014, the IT Department modified its system build procedures with a formal Quality Advocate System Engineer role in addition to the Primary System Engineer Role when building servers. IT has also improved system build documentation with an improved uniform Server Request Form for the requestors and Server Build Form for IT System Engineers</p>	IT Network Infrastructure Manager	Completed September, 2014	<p><u>Status:</u> Implemented</p>

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conduct the needed review.		and the process has been centralized in COA's Microsoft SharePoint system. The Server Request Form includes a checklist for the Primary System Engineer and Quality Advocate System Engineer which assist management to ensure staff is following the build checklist with documentation and reduce errors. IT has also formalized documentation during the handover process requiring written acceptance of the delivered hardware and configuration.			
10. The City Auditor's Office recommends that the Purchasing Division revise the purchasing manual to clarify requirements related to DIR contracts. The manual may specifically require that departments, when attempting to purchase goods and or services from a DIR contract, verify that specific DIR contracts exist for the goods/services being purchased, and that the pricing quoted from DIR vendors is at the agreed upon DIR contract pricing, prior to issuing the purchase order.	Concur	The policy sections related to department responsibilities and use of cooperative contracts will be revised to specify department responsibilities and requirements when using the DIR contract, especially related to documentation of process, options, pricing, and follow-up in the payment process and the Purchasing Division's responsibilities prior to issuance of the Purchase Order(s).	Debra Carrejo, CPPO, CPPB Purchasing Manager	November 15, 2015	<p><u>Status:</u> Implemented</p> <p><u>Management Response:</u></p> <p><i>Section 4.0 of the Purchasing Manual was updated to include:</i></p> <p><i>8g. When using cooperative contracts, the department shall work with the Purchasing Division. The department is responsible for ensuring the resulting PO and any payments are in accordance with pricing and terms quoted in the cooperative being used.</i></p> <p><i>8h. Purchases involving IT products, maintenance, or</i></p>

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					<p><i>systems must have the prior approval of the IT Governance Board. The Purchasing Division cannot proceed on these types of purchases without this written approval. The department is responsible for obtaining the approval and providing it to the Purchasing Division.</i></p> <p><i>Updated Section 5.6 Cooperative Purchases:</i></p> <p><i>The Purchasing Division can help locate cooperative options, upon request, but it is the requesting Department's responsibility for verifying that a current cooperative remains available for use throughout the life of the purchase. The department is also responsible for verifying that any resulting Purchase Orders and invoices reflect the pricing and terms contained in the referenced cooperative; and, in the case of negotiable cooperatives such as State of Texas DIR, the vendor, pricing, scope must be detailed prior to issuance of the Purchase order.</i></p>

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<p>11. The City Auditor’s Office recommends that the Chief Financial Officer ensure adequate oversight is provided by the Purchasing Division when departments use cooperative purchase programs, and ensure (1) appropriate training is provided to departments, if they are expected to assess vendor compliance with the programs and contracts, and (2) that departments have considered all viable alternatives to assure that the best pricing is attained.</p>	<p>Concur</p>	<p>1) Department quarterly training will be modified to reflect the policy additions addressed in item #10. This is due to be completed in first quarter of 2016, so the training will begin occurring during first quarter training cycle and continue thereafter in the form of a new “contracts management class.”</p> <p>2) Training will also be provided to departments on the newest policy requirement to document in the bid file all other alternatives the department considered before choosing the DIR contract.</p> <p>NOTE: Although Finance concurs with the finding in practical applicability, this finding also suggests an element of oversight (follow-up, price checking, verification on DIR contract requirements) by the Purchasing Division that is usually found in a more centralized model of purchasing--- but is currently built in to neither the current decentralized process or current division staffing levels. The position that would normally perform this function in a centralized model is called a Contracts Specialist. The purchasing</p>	<p>Debra Carrejo, CPPO, CPPB Purchasing Manager</p>	<p>TRAINING: November 15, 2015</p> <p>FOLLOW-UP CHECKS: Begin September 15, 2016</p>	<p>Status: Implemented</p> <p><u>Management Response:</u> <i>Quarterly Training materials were updated–</i></p> <p><u>Excerpt:</u> <i>As of January 1, 2016 departments will need to include a statement of why using a cooperative is a better value.</i></p> <p><i>Departments should review more than one cooperative, if available when making this determination.</i></p> <p><i>Departments will be responsible for ensuring the resulting PO and any payments are in accordance with pricing and terms quoted in the cooperative being used.</i></p>

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		<p>division does not currently have this position in-house.</p> <p>Logically, this type of oversight can be interpreted to include post-PO oversight of all cooperatives, and the City has 20+ such agreements with potential effect on hundreds of POs and this will require workload redistribution. In order to facilitate the follow-up implementation of this finding long-term and still maintain current workload output, it is likely that staff will need to be augmented to add a specialist for this particular aspect of centralization to meet this audit requirement perfectly.</p>			
<p>12. The City Auditor’s Office recommends that Dispatch Services attempt to verify that the pricing received was in fact the contracted price; and if any discrepancies are noted, the department should consult with the City Attorney’s Office to assist with resolution of the discrepancies.</p>	<p>Concur</p>	<p>Dispatch project leads will verify that individual project element(s) pricing is in fact at the contracted price. If not, Dispatch will contact the City Attorney’s office and/or Finance to address the issue.</p>	<p>Jim Self Rhonda Shipp Jeremy Hensley</p>	<p>September 2015</p>	<p><u>Status:</u> Implemented</p> <p><u>Management Response:</u> <i>Dispatch Services adopted the I.T. Governance process when it was introduced in order to safeguard against issues of this nature moving forward. Pricing is now confirmed when using DIR contracts or other cooperative purchasing.</i></p>
<p>13. The City Auditor’s Office recommends that the Chief Financial Officer develop a policy and procedures requiring credits for</p>	<p>Concur</p>	<p>Page 8 of the current P-card Policy states: “If an item has been returned and a credit voucher received, the</p>	<p>Debra Carrejo, CPPO, CPPB Purchasing Manager</p>	<p>Will complete as part of FY16 Business Plan Item: Review Citywide</p>	<p><u>Status:</u> Implementation in Progress</p> <p><u>Management Response:</u> <i>The business plan item from FY16</i></p>

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merchandise returns are applied to the original funding source, ensuring proper transparency.		<p>Cardholder shall allocate the credit to the same account number as the original debit so that the financial system shows both postings.”</p> <p>Applicable policy and procedures will be updated to expand language to include other forms of purchasing and detail the proper accounting treatment for processing credits for merchandise returns.</p>	Amy Trevino, CGFO Controller	Financial Policies	<i>was postponed and is one of our department's goals for FY18. We did add language to the AP Procedures manual and still have the quoted information in the P-card Policy.</i>