

**CITY OF BALTIMORE, MARYLAND**  
**Baltimore, Maryland**

**QUADRENNIAL PERFORMANCE AUDIT REPORT**  
**Mayor's Office of Information Technology**

**November 17, 2016**

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Members of the Baltimore City Council  
Baltimore, Maryland

This report represents the results of our performance audit of the City of Baltimore Mayor's Office of Information Technology's (MOIT) management assertions of performance found within the agency's detail budget document. The performance audit included a review of the performance metric process during the period July 1, 2010 to June 30, 2014. As part of our work, we interviewed key Department officials with budgetary responsibility, and reviewed relevant policies and procedures related to the performance audit. The performance audit approach and methodology are detailed later in this report.

We conducted our performance audit in accordance with generally accepted government auditing standards, as applicable to performance audits contained in the *Government Auditing Standards* issued by the Comptroller General of the United States. 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 objectives.

Our summary is hereby incorporated as the Executive Summary of the report.

Our work did not include an assessment of the sufficiency of internal control over financial reporting or other matters not specifically outlined in the enclosed report. CliftonLarsonAllen LLP (CLA) cautions that projecting the results of our performance audit to future periods is subject to the risks that conditions may materially change from their current status. The information included in this report was obtained from the Division on or before November 17, 2016. We have no obligation to update our report or to revise the information contained therein to reflect events and transactions occurring subsequent to November 17, 2016.

CLA's policy requires that we obtain a management representation letter associated with the issuance of a performance audit report citing generally accepted government auditing standards. We requested a management representation letter from MOIT on November 17, 2016, and received the signed representation letter on November 17, 2016.



**CliftonLarsonAllen LLP**

Baltimore, Maryland  
November 17, 2016

## EXECUTIVE SUMMARY

CliftonLarsonAllen LLP (CLA) completed a performance audit of the City of Baltimore Mayor's Office of Information Technology's (MOIT) management assertions of performance found within the agency's detail budget document for the period covering July 1, 2010 to June 30, 2014. The purpose of the audit was to identify areas of improvement and provide recommendations to increase the accuracy, consistency, relevance and usage of the performance metrics used by MOIT. Our work was completed at the direction of the City of Baltimore City Council between May and October 2016.

Overall, MOIT has done a fairly good job in establishing and selecting performance measures for outcome-based budgeting for most of its key services. Nonetheless, we identified certain areas where performance metric processes and controls can be improved. We believe these recommendations will strengthen the budgeting process for MOIT and improve the quality of performance information reported. The detail of our work is found in the *Findings and Recommendations* section of this report. Following is a summary of findings by topic area.

### Reliability of the performance metric's actual value

The results of a performance measure must be reproducible for a fixed set of conditions irrespective of who makes the measurement or when it is made; reliability testing is documented. CLA was able to recalculate actual results for some of the selected performance metrics based on available documentation, noting, in some instances in which the recalculated value did not agree to the actual value included in the budget. Inaccurate actual data could lead to misleading information and result in inaccurate future targets. CLA was not able to recalculate actual results for the Enterprise Innovation and Application Services Division (see Finding 8.)

For example, the Enterprise Unified Call Center's report on the number of 911 Calls was accurate in FY 2013. For FY 2012 and FY 2014 however, a difference of 9% and 10%, respectively, between the actual value reported and the CLA recalculation was found (see Finding 6.)

To improve, MOIT should methodically review the process for gathering performance information and verify the accuracy of the records used to support performance metrics reported in the budget.

### Validity of the performance measure's target value

There does not appear to be a clearly defined process for reviewing the validity of all the target values established from year to year. Target values do not consistently appear to reflect past achievement in alignment with desired future results. For example, the performance measure for the percent of Help Desk requests for critical service acknowledged within 15 minutes reasonably represented past performance for FY 2012 and FY 2014 but not for FY 2013, in which the target was established at 0.5 days when the FY 2012 result was 3.0 days. See Finding 2.

To arrive at valid target values, MOIT should establish a process for supporting and reviewing changes in target metrics year after year. The process should also demonstrate the target's representation of the service's improvement goal. Further, the target should be in alignment with MOIT's and the City's mission and initiatives.

### Relevance of the performance measures

We determined through observation and discussion that although the metrics were utilized in the development of the budget, the metrics of service areas Enterprise IT Delivery Services Division (budget section 805) and Enterprise Unified Call Center (budget section 804) generally represented the core business processes and the efficiency and effectiveness with which those processes are carried out. However, this is not the case for the service area Enterprise Innovation and Application Services (budget section 803) likely because its services were represented too broadly or not organized in key sub-process areas. See Finding 8.

Revise current measures, and consider developing and tracking additional efficiency and effectiveness measures for each of the key functions/services within the Enterprise Innovation and Application Services Division and its units/activities. Management should that the performance measures provide a reliable representation of what these units are producing not only in terms of workload, but also in terms of what is it costing to produce the service.

Management should also develop policies or procedures for recording, reviewing, maintaining or reporting performance measurement.

### Mechanisms used to capture client satisfaction

Management should develop mechanisms to summarize and periodically report survey results by client City agency from the data automatically captured by the Help Desk ticketing system.

## OBJECTIVES, SCOPE AND METHODOLOGY

### Objectives and Scope

The core objectives of our performance audit are as follows:

1. Assess the reliability, validity, and relevance of selected performance measures for the four fiscal years 2011 to 2014, including an evaluation of the mechanisms in place to track and generate performance data. See selected measures in the table below.
2. Assess the mechanisms used to capture client satisfaction.
3. Determine whether all key Department services are fairly represented in the performance measurement system.

The scope of our audit covered the period from July 1, 2010 through June 30, 2014 (FY 2011 – 2014). Our audit was limited to certain performance measures based upon our evaluation of the existing measures in conjunction with feedback from key stakeholders, including the City's Bureau of the Budget and Resource Management (BBMR), City Council and MOIT.

### Methodology

Our work included an evaluation of the processes and procedures in place for gathering and reporting performance data, and testing of selected performance metrics to determine whether MOIT procedures were followed and performance metrics were properly reflected in the budget document. Procedures included:

- Interview of Department employees that oversee the selected performance metrics. Interviews focused on understanding of how performance metrics are established and defined; and how the results are collected, reviewed, and utilized.
- Review of pertinent policies and procedures.
- Develop a methodology to select and test specific performance metrics.
- Analyze the results, identified areas for improvement, and developed recommendations to advance MOIT's outcome-based budgeting processes.

### Selection of performance measures

For each of the 19 performance metrics included by MOIT within the audit period, we established a weighted score using a 1 to 5 scale and used the scale to rank the measures. The following criteria and weighting were used to determine the ranking:

- 50% Measurement Type: Effectiveness = 5, Efficiency = 4, Outcome = 3, Output = 2
- 30% Financial Score - Total amount of the service unit budget: Top 5 = 5, Middle 5 = 4, Smallest = 3
- 20% Service Unit Size - Total Positions: Top 5 = 5, Middle 5 = 4, Smallest = 3

The ranked metrics were then subjected to a second ranking step that included:

- 30%- Measure Type: same as above
- 10%- Financial Score: same as above

- 10%- Service Unit Size: same as above
- 30%- Subject Type: The context of the metric
- 20%- Variability Score: Difference between FY12 & FY13 target and actual results, high variability = 5, moderate variability = 3, no variability = 1

We applied the methodology described above to the set of measures in place during the audit period, generally selecting measures that scored 3.65 and above, plus two measures to render an appropriate coverage of core Department services. No measures were selected for the Enterprise Innovation and Application Services Division (see Finding 8.) The final selection of metrics for testing was adjusted with management, and is presented in the table below.

**Performance Measures Selected for Evaluation**

No.	Measure	Type	Responsible Section
1	Average resolution time per ticket	Effectiveness	Enterprise IT Delivery Services Division (805)
2	Number of City Services and General Information calls received	Output	Enterprise Unified Call Center (804)
3	Percent of City Services and General Information calls answered within 20 seconds	Effectiveness	Enterprise Unified Call Center (804)
4	Number of 911 calls received	Output	Enterprise Unified Call Center (804) <sup>(1)</sup>
5	Percent of 911 calls answered within 10 seconds	Effectiveness	Enterprise Unified Call Center (804)
<sup>(1)</sup> Function under the responsibility of MOIT during FY 2012-FY 2014 and transferred to the Fire Department in FY 2016.			

## **OUTCOME-BASED BUDGETING OVERVIEW**

The City's BBMR utilizes outcome based budgeting to allocate City departments and agencies funding based on seven priority outcomes and results that matter to citizens. The Mayor's Office of Information Technology formally began using the outcome based budgeting concept and reflecting performance measures in the agency's FY 2012 budget, which included actual performance metric results for FY 2011 and targeted performance metric results for FY 2012 and FY 2013.

Performance metrics are a critical component within the outcome-based budgeting process and each City department/agency is required to present them within their budget submissions. These performance metrics are intended to help the Mayor determine whether the proposed service represents a good value for the dollars requested, clarify the performance expectations and aspirations for the service, enable the Mayor to assess the service's performance over time, and communicate to the community the results they are getting for tax dollars.

Although there are no exact requirements for the specific performance metrics used by the service area the metrics ideally incorporate four types, output, outcome, efficiency, and effectiveness as they are relevant to the core operations or business processes within the area. The performance metrics are updated annually and new actuals, along with future targets, are reported and submitted as part of the City's comprehensive budget.

During the annual budgeting process, every service unit owner compiles actual and target figures for each performance metric for prior and future years, which is reviewed by the service unit leadership. The unit's Chief Financial Officer (CFO) or equivalent, compiles all of the final performance metric and budget information for each service unit, and discusses it with unit leadership. The business unit's finalized budget is then submitted to BBMR to be reviewed and incorporated within the City-wide budget.



## **MAYOR'S OFFICE OF INFORMATION TECHNOLOGY OVERVIEW**

The Mayor's Office of Information Technology is responsible for providing information technology leadership to the entire City of Baltimore, utilizing and leveraging information technology to enhance productivity, broadening operational capabilities, reducing the operating costs of City government, and, ultimately, improving the quality and timeliness of services delivered to the citizenry.

MOIT is also responsible for the development, implementation and continuing support of the CitiTrack Customer Service Request System which provides a universal, standardized, inter-agency call-intake and work order management methodology with a direct linkage to the CitiStat system and process. The CitiTrack system is the Customer Relations Management (CRM) tool for the City's One Call Center which is also directly supported and managed by MOIT.

In July 2012 MOIT took over 911 and Police Dispatch under the first phase of moving toward a Unified Communications Center to improve efficiency; this function however, transitioned to the Fire Department in FY 2016.

During FY 2011 to FY 2014, MOIT was organized in four service areas, described below.

### **ENTERPRISE INNOVATION AND APPLICATION SERVICES**

This service area develops, installs, maintains and operates the computer systems and applications that enable City agencies to effectively and efficiently manage operations. MOIT supports both mainframe based business applications and internet applications that allow citizens to access information and perform transactions online. MOIT also supports the Enterprise-wide Geographic Information System (EGIS).

### **ENTERPRISE UNIFIED CALL CENTER**

The 311 call center was created in 2002 as a means to track agency responsiveness and to support the City's accountability to its customers. The Police Department Non-emergency unit was transferred to MOIT in 2005. In July 2012 MOIT took over 911 calls operations and Police Dispatch under the first phase of moving toward a Unified Communications Center to improve efficiency.

### **ENTERPRISE IT DELIVERY SERVICES**

This service is responsible for maintaining the City's Internet connectivity, Closed-Captioned Television System (CCTV) operation, the Safety Radio System infrastructure and connectivity, mainframe infrastructure and Help Desk support. The Help Desk processes approximately 500 service requests per week.

Operating budget

The table below shows MOIT's budget breakdown by service area and by each of the fiscal years under evaluation.

**Total Department Budget by Service**

<b>Fiscal Year</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Administration	\$938,287	\$811,222	\$1,372,182	\$1,318,379
Enterprise IT Delivery Services	5,574,715	5,377,168	8,504,279	8,589,534
Enterprise Unified Call Center	1,871,059	2,064,876	20,367,866	21,213,084
Enterprise Innovation and Application Services	4,671,079	4,752,773	3,708,755	5,536,204
<b>Total</b>	<b>\$13,055,140</b>	<b>\$13,006,039</b>	<b>\$33,953,082</b>	<b>\$36,657,201</b>

Source: Agency budget detail FY 2011 – 2014.

## FINDINGS AND RECOMMENDATIONS

**Service 805: Enterprise IT Delivery Services**

**Responsible unit: Enterprise IT Delivery Services Division**

**Metric evaluated: 1. Average resolution time per ticket**

MOIT Help Desk operations uses BMC FootPrints (FootPrints) to support the delivery of IT services. FootPrints is a ticketing system that works like a shared email inbox that all employees can access in order to work on incoming customer assistance requests. The ticketing system includes statistic features that track and store the number of tickets created, the time the ticket was acknowledged, and the time spent working on resolution. The system also enables permission management and an audit-proof storage of ticket information.

FootPrints was implemented during FY 2014; prior to this and during the audit period, MOIT used OTRS Business Solutions, a similar ticketing system.

### PERFORMANCE MEASURE BACKGROUND

#### 1. **Measure: Percent of Help Desk requests for critical service acknowledged within 15 minutes**

The City's information technology end-users report issues to the Help Desk via telephone and email; each issue becomes a ticket in the system, which is a trackable electronic paper trail that logs the problem and steps necessary to reach resolution. Once the ticket is active, Help Desk staff works with the caller to determine the issue and fix the problem based on the level of priority. .

Considering the number of end-users, the complexity of the City and the size of the Help Desk workforce, the Division has established a goal of 15 minutes between the time of the call or the email, and the time that a Help Desk staff acknowledges the issue through an email reply or a return call. Additionally, the Division has a goal of resolving critical issues within two hours from the time the ticket was created.

**PERFORMANCE MEASURE ANALYSIS**

**a. Performance measure attributes**

- Reliability of the actual value

**Finding 1**

CLA was not able to recalculate the actual value of the performance measure due to unavailable data. There was no operational data transferred to FootPrints from OTRS Business Solutions when the system was changed in FY 2014, and the OTR Business Solutions data could not be located.

**Recommendation 1**

None.

- Validity of the target value

**Finding 2**

The performance measure target reasonably represented past performance for FY 2012 and FY 2014 but not for FY 2013, in which the target was established at 0.5 days when the FY 2012 result was 3.0 days. Establishing unreasonable targets decreases the overall impact of outcome-based budgeting and limits the ability of MOIT to effectively improve performance.

**Average resolution time per ticket FY 2011 – 2014**

FY 2011			FY 2012			FY 2013			FY 2014		
Target	Actual	CLA Actual	Target	Actual	CLA Actual	Target	Actual	CLA Actual	Target	Actual	CLA Actual
1.0 days	1.5 days	NC	1.5 days	3.0 days	NC	0.5 days	1.0 days	NC	1.0 days	NA <sup>(1)</sup>	NC <sup>(2)</sup>

<sup>(1)</sup> This performance measure was discontinued in FY 2015, thus the actual FY 2014 result was not reported.

<sup>(2)</sup> CLA was not able to calculate actuals due to unavailable data.

**Recommendation 2**

We recommend MOIT to evaluate the process for supporting and reviewing the changes in target values from year to year based on actual performance results to ensure that the proposed targets reasonably represent a goal for improving performance.

**City Response**

**Service 805: Enterprise IT Delivery Services.** MOIT acknowledges and concurs with the findings and recommendations for the measure “Average resolution time per ticket”. However, MOIT would also indicate that resource fluctuations had a direct impact in developing target values. MOIT is also taking steps to develop a sustainable customer satisfaction program to ensure continuous improvement across all service areas.

- Relevance of the performance measure

Although the measure used in FY 2011 – FY 2014 to report on Help Desk performance was broad and lacked specificity with respect to the priority level of the incidents reported, the measure was relevant to the operation because it directly addressed responsiveness to client issues. In FY 2014 the Division modified the Help Desk responsiveness measure breaking it down by the priority level of the incident being reported. The new measures, which are the ones used today illustrate the Help Desk response times for Critical, High, Normal priority-level issues, are shown in the table below. The response times established for critical issues are comparable to private industry practice.

**Current Help Desk Responsiveness Measures**

<b>Priority Level</b>	<b>Critical</b>	<b>High</b>
Time to acknowledge the issue	15 minutes	1 hour
Time to resolve the issue	2 hours	4 hours

**b. Other observations**

Mechanisms used to capture client satisfaction

According to management, current system settings automatically offer stakeholders a service satisfaction survey after each ticket is closed. The Division however, does not have formal policies and procedures in place to evaluate and report the survey results on a periodic basis, or to use the results in a structure manner for process improvement initiatives.

Management should develop mechanisms to summarize and periodically report survey results by client City agency from the data automatically captured by the ticketing system. Best practice information technology surveys are short (five-questions or less) to increase participation level.

**Service 804: Enterprise Unified Call Center**

**Responsible unit: Enterprise Unified Call Center Division**

**Metrics evaluated: *City Services and General Information calls***

2. **Measure: Number of City Services and General Information calls received**
3. **Measure: Percent of City Services and General Information calls answered within 20 seconds**

**PERFORMANCE MEASURE BACKGROUND**

The Enterprise Unified Call Center is central intake call system that administers two telephone lines, one dedicated to *General Services calls* and one to *Non-Emergency calls*. Calls to 311 go to the "One Call Center," a 24/7 in-bound call and dispatch operation. About 3,000 311 calls are processed each day.

- **City Services and General Information call line**

Through this line, operators document City resident requests on a wide variety of services such as bulk trash pick up, repairing a pothole, to reporting a water main break or a streetlight outage. Following a script, each request type is scripted with a basic set of questions, which the operators follow to get appropriate information and ensure uniform service. Request are documented and processed in a Motorola Customer Relationship Management (CRM) which tracks calls and routes the request in the form of a work order directly to the City agency responsible for resolving the issue. When the Agency completes the work or addresses the issue, the Agency closes the case in the CRM.

- **Non-Emergency call line**

The Non-Emergency calls line is used by citizens to report non-emergency criminal issues such as such as property damage and noise complaints, or to post non-emergency questions. The line also handles can non-emergency robbery issues under three circumstances: the value is less than \$1,000, the robbery is not in progress, or and there is no evidence of the robbery.

Non-emergency calls go directly to the Police Department. The process is supported by the Police Department's Computer-Assisted Dispatch (CAD) system, a database system that tracks activities of records and documents calls where police goes out to inspect or address the issue.

The telephone system in place (Verizon Switch) stores detailed call volume and time to answer data for calls received through both the *General Services calls* line and the *Non-Emergency calls* line.

**PERFORMANCE MEASURES ANALYSIS**

**a. Performance measure reliability and validity**

**Measure 2: Number of City Services and General Information calls received**

- Reliability of the actual value  
 CLA was able to reproduce the actual value of the performance measure by recalculating the actual performance results from One Call Center data and reports. The performance measure’s *actual* results were accurate in the three years where actual results were reported. See table below.
- Validity of the target value

**Finding 3**

The performance measure target established for FY 2014 reasonably represents the performance in FY 2013. However, the FY 2013 target (1.3M calls) is not reasonable since it is three times larger than the FY 2012 result (422K calls). Because of this, the FY 2013 target does not reasonably represent performance improvement expectations. See table below.

**Performance Measure: Number of 311 General Services calls received**

FY 2011			FY 2012			FY 2013			FY 2014		
Target	Actual	CLA Actual	Target	Actual	CLA Actual	Target	Actual	CLA Actual	Target	Actual	CLA Actual
310K	NA	NA	320K	422K	422K	1.3M	433K	433K	450K	487K	487K

**Recommendation 3**

We recommend MOIT to evaluate the process for supporting and reviewing the changes in target values from year to year based on actual performance results. The process should also ensure that proposed targets reasonably represent a goal for improving performance.

**City response**

See City’s general response to recommendations for Service 804: Enterprise Unified Call Center, found on page 17.

**Measure 3: Percent of City Services and General Information calls answered within 20 sec.**

- Reliability of the actual value

**Finding 4**

The performance measure’s *actual* results were accurate in the two of the three years CLA recalculated the value reported in the budget from One Call Center data and reports. The actual value reported in FY 2013 was inaccurate. See table below.

**Recommendation 4**

None.

- Validity of the target value

The performance measure target established for the four fiscal year evaluated reasonably represents the performance of the prior years, as well the performance improvement he group planned to achieve. See table below

**Performance Measure: Percent of 311 General Services calls answered within 20 seconds**

FY 2011			FY 2012			FY 2013			FY 2014		
Target	Actual	CLA Actual	Target	Actual	CLA Actual	Target	Actual	CLA Actual	Target	Actual	CLA Actual
85%	83%	Not Calculated	85%	89%	89%	85%	89%	84%	90%	84%	84%

**b. Performance measures relevance**

The tabulation of the number of 311 calls received during the year adequately reflects the effort of the 311 operator group. In conjunction with the measure Percent of 311 General Services calls answered within 20 seconds, the group portrays a reasonable representation of the level of customer service with regards to answering the phone and assigning the issue to the appropriate agency.

**Finding 5**

Although performance data on call volume and percent of calls answered within 20 minutes for Non-Emergency calls is also available in the One Call Center database, the Division does not report that information. Non-Emergency calls typically represent between 35 and 44 percent of the total calls received and not reporting results in this area, depicts an incomplete picture of the Enterprise Unified Call Center operation. See table below.

Fiscal Year	Total Calls Answered (City Svces. and General Info. and Non-Emergency calls)	Non-Emergency calls as a percent of Total Calls
FY 2012	747,719	44%
FY 2013	767,219	44%
FY 2014	785,946	38%
FY 2015	808,116	34%
FY 2016	831,201	35%



**Recommendation 5**

Include and report for Non-Emergency calls the same performance measures reported from City Services and General Information calls. Together, the two types of calls will illustrate a more complete representation of the success of the operation as a whole.

Additionally, add a measure for the average time to answer a call, which is another set of data readily available for both Non-Emergency and City Services and General Information calls. By adding this measure, the Division will be able to provide an even clearer representation of customer service level.

**City response**

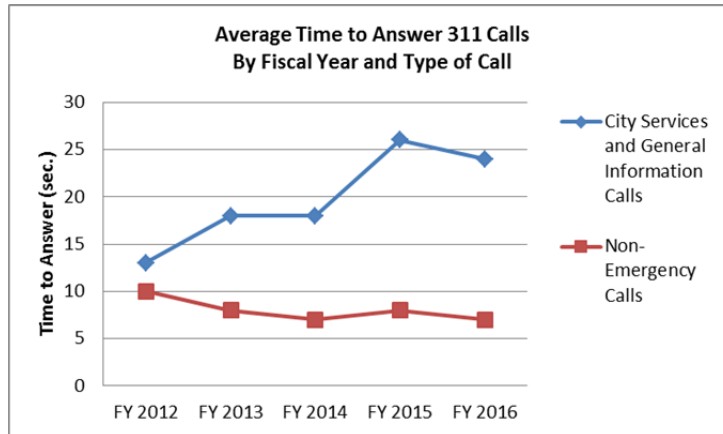
See City’s general response to recommendations for Service 804: Enterprise Unified Call Center, found on page 17.

**c. Other observations**

- CLA completed a five-year analysis that showed that the average time to answer City Services and General Information calls increased 11 minutes between FY 2012 and FY 2016, approximately a 50% increase. Conversely, the average time to answer Non-Emergency calls decreased 3 min in between FY 2012 and FY 2016, approximately a 30% decrease. See table and graphic below.

**Five-Year Analysis of the Average Time to Answer City Services and General Information Calls**

Fiscal Year	City Services and General Information Calls	Non-Emergency Calls
FY 2012	13	10
FY 2013	18	8
FY 2014	18	7
FY 2015	26	8
FY 2016	24	7
Increase/Decrease	11	-3



**Service 804: Enterprise Unified Call Center**

**Responsible unit: Enterprise Unified Call Center Division**

**Metrics evaluated: *City Services and General Information calls***

- 4. Measure: Number of 911 calls received**
- 5. Measure: Percent of 911 calls answered within 10 seconds**

**PERFORMANCE MEASURE BACKGROUND**

The purpose of this measure is to represent the volume (output) of 911 calls that were processed by the Enterprise Unified Call Center Division during the audit period, FY 2011 to 2014. The goal of the Division was to receive communication regarding potential emergencies and provide first responders with as much accurate and complete information as possible and to ensure the most immediate response possible by critical personnel to all emergency situations.

In FY 2013 Police Emergency (911) Communication Center was transferred from the Police Department to MOIT (source: FY 2013 Agency Budget Detail). The purpose of the consolidation of 911 and 311 call center operations was improve effectiveness by integrating applications and technologies, and leveraging knowledge and resource sharing. From FY 2013 to FY 2016, MOIT’s Enterprise Unified Call Center Division was the first step in handling emergency calls from citizens for the City’s Police Department. The 911 operators process calls 24 hours a day, 365 days a year. In FY 2016, the 911 operation transitioned to the Fire Department.

During the audit period, 911 calls would go directly to the Police Department via a connection with the Police Department’s Computer-Assisted Dispatch (CAD) system, a database system that tracks activities of records and documents calls where police goes out to inspect or address the issue.

Similar to the 311 calls operation, the telephone system stores detailed data on the call volume and time to answer for 911 calls.

## PERFORMANCE MEASURES ANALYSIS

### a. Performance measure reliability and validity

#### **Measure 4: Number of 911 calls received**

- Reliability of the actual value

#### **Finding 6**

CLA was able to reproduce the actual value of the performance measure directly from One Call Center data and performance reports. The performance measure's *actual* results were accurately reported in one of the three years where actual results were available. For two years however, a difference of 9% and 10% between the actual value reported and the CLA recalculation for FY 2012 and FY 2014, respectively. See table below.

The One Call Center reports include two values, the Number of Calls Accepted and the Number of Calls Answered; the difference between the two, are the number of calls abandoned. The report also includes data on the number of calls answered within specific time ranges, which is calculated using the calls answered data. Even if the difference between the reported and the CLA recalculated value had been calculated using the Number of Calls Accepted (which would not have been appropriate based on the reason previously described), there would have been differences as well.

#### **Number of Calls Answered: Comparison of Actual to Recalculated Results**

<b>Fiscal Year</b>	<b>Number of calls answered<sup>(1)</sup></b>	<b>Number of Actual calls reported in budget</b>	<b>Percent Difference</b>
FY 2011	NA	NA	NA
FY 2012	1.186M	1.310M	9%
FY 2013	1.111M	1.111M	0%
FY 2014	1.034M	1.143M	10%

<sup>(1)</sup> Source: One Call Center report.

#### **Recommendation 6**

Develop a mechanism to accurately report the actual performance measure results as extracted from the database. Make sure that the Number of Calls Answered, not the Number of Calls Accepted, is used to document the actual value reported in the budget.

#### **City response**

**Service 804: Enterprise Unified Call Center:** MOIT acknowledges and concurs with the findings and recommendations for measures two through six. With the 911 call taking service and police dispatch service being transferred to the Fire Department and Police Department respectively, the recommendations relating to those service activities are no longer applicable. However,

MOIT will share the relative findings and recommendations with the new service owners for their own consideration.

- Validity of the target value

The performance measure target established for FY 2012 to 2014 generally represents the performance (output) level of the previous year in a reasonable manner. Accordingly, the targets reasonably represent service level expectation in a reasonable manner. See table below.

**Performance Measure: Number of 911 calls received**

FY 2011			FY 2012			FY 2013			FY 2014		
Target	Actual	CLA Actual	Target	Actual	CLA Actual	Target	Actual	CLA Actual	Target	Actual	CLA Actual
NA	1.197M	Not Calculated	1.200M	1.310M	1.186M	1.300M	1.111M	1.111M	1.325M	1.143M	1.034M

<sup>(1)</sup> Source: One Call Center report used to calculate the CLA Actual value.

**Measure 5: Percent of 911 calls answered within 10 seconds**

- Reliability of the actual value

**Finding 7**

Although the differences were not significant, the performance measure's *actual* results reported in the budget were generally different from the data summarized from the One Call Center reports for the three year where data was available. See table below.

**Recommendation 7**

None.

- Validity of the target value

The performance measure target established for the four fiscal year evaluated reasonably represents the performance of the prior years, as well the performance improvement the group planned to achieve. See table below

**Performance Measure: Percent of 911 calls answered within 10 seconds**

FY 2011			FY 2012			FY 2013			FY 2014		
Target	Actual	CLA Actual	Target	Actual	CLA Actual	Target	Actual	CLA Actual	Target	Actual	CLA Actual
95%	NA	NA	90%	90%	88%	90%	90%	91%	90%	90%	94%

<sup>(1)</sup> Source: One Call Center report used to calculate the CLA Actual value.

**b. Performance measures relevance**

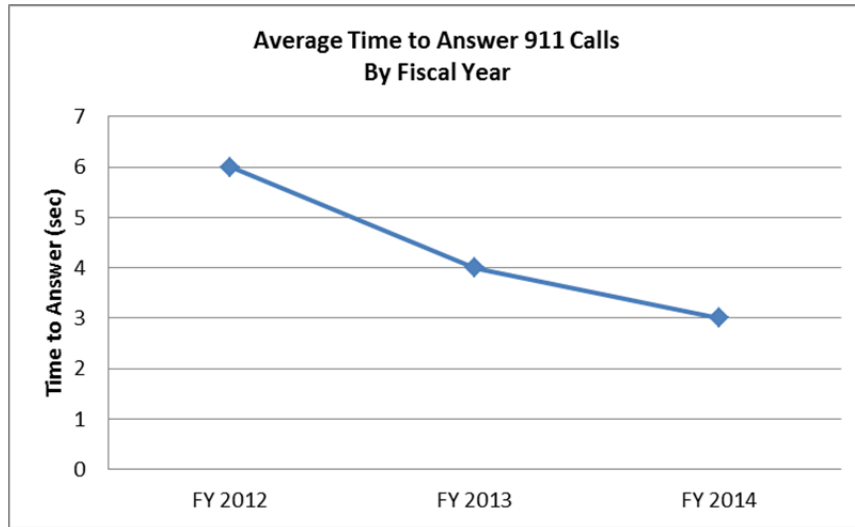
The tabulation of the number of 911 calls received during the year adequately reflects the effort of the 911 operator group. In conjunction with the measure Percent of 911 General Services calls answered within 10 seconds, the group portrays a reasonable representation of the level of customer service with regards to answering the phone and assigning the issue to the appropriate agency.

**c. Other observations**

- CLA completed a three-year analysis that showed that the average time to answer 911 calls decreased 3 minutes between FY12 and FY14, which represents approximately a 50% reduction in the response time. See table and graphic below.

**Three-Year Analysis of the Average Time to Answer 911 Calls**

Fiscal Year	Average Time to Answer 911 Calls (min)
FY 2012	6
FY 2013	4
FY 2014	3
Increase/(Decrease)	(3)



Going forward, the 911 operation should add a measure for the average time to answer a call, which is another set of data readily available for both Non-Emergency and City Services and General Information calls. By adding this measure, the Division will be able to provide an even clearer representation of customer service level.

**Service 803: Enterprise Innovation and Application Services**

**Responsible unit: Enterprise Innovation and Application Services Division**

**Metrics evaluated: Set of metrics documented during the FY 2011 – FY 2014 audit period**

**PERFORMANCE MEASURE BACKGROUND**

During the audit period, FY 2011 – FY 2014 the Enterprise Innovation and Application Services Division established and reported on the five performance measures shown in the table below. Due to change of leadership and emphasis of the Division, none of those measures are in place today.

**Performance measures in place from FY 2011 to FY 2014**

Fiscal Year	FY 2011		FY 2012		FY 2013		FY 2014	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual
# of Requests for Service Completed and Complexity (High/Medium)	# Not reported ---- (4/20)	40,673 ---- Not reported	# Not reported ---- (5/16)	40,679 ---- (3/10)	40,610 ---- (3/8)	# Not reported ---- # Not reported	# Not reported ---- (3/10)	# Not reported ---- # Not reported
# of bill types that can be paid on the Web	12	12	14	14	14	Not reported	15	Not reported
# of reports sent to PDF (reducing paper and making reports available online)	76,000	75,200	78,300	68,500	80,600	Not reported	80,600	Not reported
# of Maps downloaded from the Web	145	153	150	155	160	Not reported	165	Not reported
% of payments submitted online	19%	22%	21%	37%	37% <sup>(1)</sup>	Not reported	40%	Not reported

<sup>(1)</sup> Reported as 37% in the FY 2014 Budget Detail, and 24% in the FY 2013 Budget Detail.

**Finding 8**

CLA’s assessment of the reliability, validity, and relevance of selected performance measures for the four fiscal years 2011 to 2014, including an evaluation of the mechanisms in place to track and generate performance data, was limited due to several number of factors and no measures were selected for testing. Limiting factors included –

- Many target and actual data points were not reported from year to year (see table above.)
- Through inquiry with members of management it was noted that supporting documentation for the target performance was generally not available. Consequently, CLA was not able to determine whether the performance measure targets reasonably represented the performance of the prior years, or the performance improvement the group planned to achieve.
- Also through inquiry we determined that the data relating to actual performance measurements during the period evaluated was also generally not available or complete.
- Absence of internal controls, policies or procedures for recording, reviewing, maintaining or reporting performance measurement.

Current MOIT leadership recognizes the existing performance measurement constraints, particularly for Enterprise Innovation and Application Services and has made it a priority to develop a more robust performance measurement system. The lack of continuity and maturity of the performance measuring system for this business unit can be attributable to changes in leadership during the period evaluated.

**Recommendation 8**

Revise current measures, and consider developing and tracking additional efficiency and effectiveness measures for each of the key functions/services within the Enterprise Innovation and Application Services Division and its units/activities. Management should that the performance measures provide a reliable representation of what these units are producing not only in terms of workload, but also in terms of what is it costing to produce the service.

Management should work with each unit to identify relevant performance measures, prescribe realistic targets, and find or create sources for reliable data. With a comprehensive set of measures, corresponding operations can be managed more efficiently as Division management optimizes allocation of limited resources by integrating performance data into its decision-making process. This is especially important in light of the decision MOIT needs to make between keeping the existing mainframe infrastructure and acquiring a new Enterprise resource planning (ERP) solution.

Management should also develop policies or procedures for recording, reviewing, maintaining or reporting performance measurement.

**City Response**

**Service 803: Enterprise Innovation and Application Services:** MOIT acknowledges and concurs with the findings and recommendations regarding the evaluated metrics. As indicated in Finding 8, performance management is a priority and MOIT is dedicating resources to ensure the development and sustained capture of meaningful performances measures.