

**Performance Audit
The Accuracy and Validity of
311 Data Could Be Improved**

June 2015



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Office of the City Auditor

City of Kansas City, Missouri

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June 10, 2015

Honorable Mayor and Members of the City Council:

This audit focuses on the accuracy and validity of the city's 311 data. The meaningfulness of information reported from the 311 system is dependent on the validity of established work group goals, an understanding of departments' various definitions of "closed," and actions of staff in 311 and other city departments.

311 response time goals are created for work groups during periodic meetings between the city manager, 311 management, and department management. For some of the cases we reviewed, however, contractual and legal requirements did not appear to be reflected in the work group's goals.

Meaningful goals also require an understanding of how "closed" is defined for each work group. Definitions of "closed" range from when a work order is written to when an inspection verifies the work was properly completed. Residents and visitors who report cases to 311 can become frustrated, confused, and angry when they discover their case is closed, but the problem has not been fixed.

Actions by some 311 staff also affect the accuracy of data. Although 311 performance management staff should have excluded all mowing cases from their analyses, only a portion of the mowing cases were removed. In addition, because 311 staff did not exclude holidays from timeliness calculations, some on time cases were reported as late. And, the assignment of cases to the wrong work groups can also affect reported results.

We make recommendations to improve the accuracy and validity of 311 data.

The draft report was sent to the city manager on May 1, 2015 for review and comment. His response is appended. We would like to thank 311 staff, Information Technology, and department work group staffs for their assistance and cooperation during this audit. The audit team for this project was Jason Phillips and Nancy Hunt.

A handwritten signature in blue ink that reads "Douglas Jones". The signature is fluid and cursive.

Douglas Jones
City Auditor

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Introduction

Objective

We conducted this audit of the accuracy and validity of the city's 311 data under the authority of Article II, Section 216 of the Charter of Kansas City, Missouri, which establishes the Office of the City Auditor and outlines the city auditor's primary duties.

A performance audit provides findings or conclusions based on an evaluation of sufficient, appropriate evidence against criteria. Performance audits provide objective analysis to assist management and those charged with governance and oversight in using the information to improve program performance and operations, reduce costs, facilitate decision making, and contribute to public accountability.¹

This report is designed to answer the following question:

- Is recorded and reported 311 data accurate and valid?

Scope and Methodology

Our review focuses on determining whether recorded and reported 311 data is accurate and valid. Our audit methods included:

- Interviewing city staff about practices and reviewing written policies and procedures to understand the city's 311 processes.
- Listening to incoming 311 phone calls to understand the roles of and processes used by 311 call takers.
- Matching Information Technology Division's (ITD's) database of 311 service requests closed in May 2014 with on-line records to establish the completeness of the extracted data.

¹ Comptroller General of the United States, *Government Auditing Standards* (Washington, DC: U.S. Government Printing Office, 2011), p. 17.

- Calculating and comparing due dates for 311 service requests closed in September 2014 with system data to determine whether holidays were excluded from the system calculations.
- Comparing original 311 case data to management's reported 311 results to verify the accuracy of reported results.
- Reviewing a judgmental sample of 30 cases closed during fiscal year 2015, to understand the 311 process, determine whether information was consistent, and identify factors affecting the timeliness of case closures.

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 objectives. No information was omitted from this report because it was deemed privileged or confidential.

In conducting our work, we identified an issue involving service requests without goals and due dates. We spoke with ITD staff about the problem and a service request was written to investigate and resolve the problem.

In conducting our audit work, we identified several miscellaneous items that can have some impact on data. We communicated these items to the city manager in a separate memorandum.

Background

311 Call Center

The 311 Call Center is a one-stop information resource and point of contact for the city. Residents and visitors can contact 311 to report a problem, request a city service, or obtain information. Call Center employees answer requests for information and schedule some requests for service, clarify information submitted by the public, and electronically assign and forward reported problems to city departments for investigation and resolution. Departments review, resolve, and sometimes reassign reported problems. In fiscal year 2014, the 311 Call Center opened over 100,000 service requests.

Information from the 311 system is used for multiple purposes and communicated to multiple audiences including the public, city management, and elected officials. 311 data is used to respond to reported problems, determine the city's timeliness in resolving reported problems, and communicate with the public about the city's response and resolution of reported problems.

Goals

Goals are created for work groups during periodic meetings between the city manager, 311 management, and department management. Historic performance, an improvement element, and current conditions are considered when establishing goals.

311 management and system use multiple terms to describe the same thing. To make this report easier to understand, we are using the term "goal" when we are referring to the number of business days a work group is assigned to close a service request and be on time. 311 management refers to this numeric value as median days, established timeframes, or service level agreements. The ordinary meaning of each of these terms is not consistent and the interchangeable usage can be confusing.

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Findings and Recommendations

Summary

Valid goals are critical to the reporting of meaningful performance results. Although the city manager, 311 management and department management set goals together, some goals did not appear to account for legal and contractual requirements that can restrict how soon steps are taken to resolve a case.

The definition of what constitutes a “closed” case varies and can be changed. As a result, the meaningfulness and usefulness of data based on varied and changing definitions is lessened. Also, the public can become confused, frustrated, and angry when they realize a case has been closed but the problem is not fixed.

Employee actions have also impacted the accuracy of 311 data. Analysis that did not treat cases consistently resulted in the overstatement of May 2014 on-time results. Not excluding holidays from on time calculations caused on-time cases to be reported as late. And, assigning cases to the wrong work groups can delay the resolution of the cases.

Valid Goals Critical to Meaningful Results

Legal and contractual requirements may cause some goals to be unachievable. Departments’ definitions of when a case is closed vary, which affects the meaningfulness of reported results. The closing of cases before a problem is actually fixed can frustrate and anger residents and visitors who report problems.

Some Goals Invalid Because of Legal and Contract Requirements

Some work groups we reviewed have been assigned goals that do not appear to be valid. There are legal requirements that restrict the removal of abandoned vehicles and contractual standards that set how quickly streetlights must be repaired. 311 goals for these activities do not appear to account for established legal and contractual requirements.

Some goals are not met because the city code requires more time.

Most abandoned vehicle 311 cases closed in May 2014 were late. Under

city code, a vehicle “shall be presumed to be abandoned if it is left unattended on a street or highway for a period in excess of 48 hours”² and may be removed by the police. In most situations, the Police Department’s process for towing abandoned vehicles includes waiting the requisite 48 hours. The 311 work group goal to close the case, however, is one day. As a result, in most situations the 311 goal cannot be met since the department is legally obligated to wait 48 hours. City code requirements should be taken into consideration when setting 311 goals.

Some goals were not met because contractors are given more time to make repairs. A number of streetlight repair cases closed in May 2014 were late. The city contracts for streetlight repairs. Under the contract, an individual streetlight outage is supposed to be repaired in two days and an outage of five or more successive streetlights in five days. The 311 goal for streetlight repair is one day, one to four days less than the contractor is allowed. A work group should not be held accountable for achieving a goal when the goal allows fewer days for the problem to be resolved than the contract.

In order to report valid and meaningful results, goals should not be less than what the law or a contract requires. In setting 311 goals, the city manager should ensure goals do not contradict legal and contractual limitations.

Definitions of “Closed” Impact the Usefulness and Validity of Data

Variations and changes in definitions used as the basis for defining when a case is resolved or “closed” can lessen the relevance and meaningfulness of the data. The reported “closed” or resolved status of cases in which the problem is not fixed can frustrate and confuse the public, and raise doubts about the reliability of city provided information.

Varying definitions of “closed” affect the meaningfulness of data.

There is no consistent approach to when a 311 service request or case is closed. Although staff in the City Manager’s Performance Management Division reports statistics on cases “closed” within established timeframes, 311 management does not define “closed” and did not have a list defining what “closed” meant to each work group for which it reports information.

The decision on when a case is “closed” is left to the discretion of management in each department. There are wide variations in what “closed” means and the time it takes to resolve a case. The variations for

² Code of Ordinances, Kansas City, Missouri, Sec.70-641(d).

“closed” range from the creation of a work order for an outside vendor to verification of work properly completed and the problem fixed.

Although the method of calculating and reporting the percentage of cases closed on time is the same for each work group, differences in definitions mean that results reported for work groups on the timeliness of case closures are not always comparable. For example, one work group with a fourteen day goal considers a case closed when they write a work order to a contractor while another group only closes a case when the work has been performed to fix the problem. The performance of these two work groups may not be comparable. In addition, since work group definitions of “closed” can easily change, results for a work group may not be comparable over time. At least one work group changed its definition of when a case is “closed” in order to improve its “on-time” results.

“Closing” a case before fixing the problem frustrates the public.

The inconsistent definition of “closed” can also confuse, frustrate, and anger residents and visitors who report a problem to 311. Most individuals could reasonably assume “closed” means the case is resolved. When individuals become aware their case is “closed,” but realize that the actual problem has not been fixed, they can become frustrated and angry. The individuals could contact 311, the department, or elected officials to complain. They may also question the reliability of the information they receive from the city.

In order to report meaningful results, the city manager should establish a more consistent approach to defining and changing work group definitions of “closed.”

311 Employee Actions Impact the Accuracy of Data

Some 311 employee actions impacted the accuracy of reported 311 data. Performance management staff’s closing of mowing cases resulted in an overstatement of on-time closures for May 2014. Some on time cases were reported as late because 311 staff did not identify holidays in the 311 system. 311 employees’ assignment of cases to the wrong groups can impact reported results and delay problem resolution.

Selective Exclusion of Cases Inflated May 2014 Results

In May 2014, 311 performance management staff closed over 4,200 mowing cases. The staff member who closed the city maintained property and Land Trust mowing cases told us that these cases were not actually service requests and should not be included in 311 statistics. We found, however, that only the “late” cases were removed from the data and the “on time” mowing cases were included in the reported statistics, inflating the reported on-time results by almost 5 percentage points. The on-time cases were removed after we pointed out the inconsistent handling of cases.

In order to ensure the accuracy of data, the city manager should establish controls over the closing of 311 data by performance management staff and the selective exclusion of data from analysis.

Some Cases Reported as Late Because Holidays Were Not Excluded

Some 311 results were inaccurate because staff did not exclude holidays from computations. 311 staff did not set up fiscal year 2015 city holidays in the 311 system; as a result, some on time cases were reported as late. Holidays are supposed to be excluded from the 311 system’s calculation of the due date. For cases closed in September 2014, 15 work groups had on time cases incorrectly reported as late because of this problem. Three of these work groups would have met or exceeded the city performance goal of closing 80 percent of their cases on time had holidays been properly excluded from the due date calculations. After we brought the holiday data problem to staff’s attention they reported holidays had been entered into the system and the problem fixed. However, when we checked again in March 2015, the problem still had not been not corrected.

In order to correctly calculate the due dates for 311 cases and improve the 311 data accuracy for timeliness of closed cases, the city manager should ensure that 311 staff enter holidays in the city’s 311 system timely.

Assigning a Case to the Wrong Group Makes Data Less Meaningful

311 staff does not assign all cases to the proper work group for resolution. When a 311 employee assigns a case to the wrong work group, there is less time for the responsible work group to resolve the case and data is less accurate. Sometimes a case may be reassigned multiple times before it is closed. Of the cases closed in May 2014, 455 were reassigned at least once.

A work group receiving a misdirected service request can send the request back to 311 Call Center Support for reassignment to the proper work group. Some work group employees, with higher levels of authority, can also redirect the service request to another, hopefully correct, work group within their department or, in some instances, in other departments. The reassignment of a misdirected case takes time, which can delay resolution of the case. In addition, the work group receiving the case in error may fail to redirect the request in a timely manner. One case was held for more than 100 days before being directed to another work group.

Misdirected cases can put work groups in situations where they are measured against a goal that has no chance of being met. Because the on-time or late status of a case is calculated based on the date the case is originally entered into the 311 system, a misdirected case can be “late” by the time it is received by the correct work group, impacting that work group’s performance.

In order to improve the timeliness of case resolution and the meaningfulness of data, the city manager should minimize the number of cases assigned to the wrong work group.

Recommendations

1. In setting 311 goals, the city manager should ensure goals do not contradict legal and contractual limitations.
2. The city manager should establish a more consistent approach to defining and changing work group definitions of “closed.”
3. The city manager should establish controls over the closing of 311 cases by performance management staff and the selective exclusion of data from analysis.
4. The city manager should ensure that 311 staff enter holidays in the city’s 311 system timely.
5. The city manager should minimize the number of cases assigned to the wrong group.

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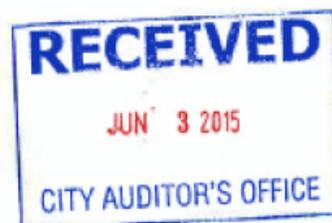
Appendix A

City Manager's Response

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Inter-Departmental Communication
Office of the City Manager



Date: June 1, 2015
To: Douglas Jones, City Auditor
From: Troy Schulte, City Manager *Troy M. Schulte*
Subject: Response to Performance Audit: *The Accuracy and Validity of 311 Data Could Be Improved*

1. In setting 311 goals, the city manager should ensure goals do not contradict legal and contractual limitations.

Agree: Currently the Customer Relationship Management (CRM) software is not set up with actual goals for completion times for work groups but instead has a Median Day set for each work groups' assignments. However, the CRM system is undergoing reconfiguration that will better delineate the specific work required. With this enhanced coding system, estimated days for completion can be established for each problem type. The estimated timeframe can be determined with input from the departments and on past performance data, current staffing, budgets, and legal and contractual obligations will be examined for conflicts with goals. Any reports on performance by departments in addressing service requests will clearly outline what data is used and how it is calculated.

2. The city manager should establish a more consistent approach to defining and changing work group definitions of "closed."

Agree: The goal of the 311 CRM system is to inform and update residents on the status of their requests. However, not all requests should remain open until work is actually completed. For example, requests for street striping requested in winter months should not remain open until spring but should be closed with information outlining the program and informing the residents that the location is recorded and will be addressed when the weather permits. The improvements to the CRM system allow for the creation of Standard Solutions (responses used by departments to close service requests) to be stored in the system for each type of service requested. Performance Management and 311 staff are working with departments to develop acceptable Standard Solutions. This methodology will set a more consistent approach for each work group closing requests and allow training to be provided to the CRM end users.

3. *The city manager should establish controls over the closing of 311 cases by performance management staff and the selective exclusion of data from analysis.*

Agree: In the past, the CRM system had two types of codes that were used for different reasons – one type was for requests generated by customers (used the majority of the time) and the second type was for requests that served as a “place holder” and was generated by staff. An example of this staff generated code was “Land Trust Lots” which was used to identify or label parcels with a continually open service request that informed residents of the ongoing process the city was using to maintain the properties. As these lots were maintained every year, the requests were not closed but continually remained open. If the Land Trust Lot sold, staff would also close the service request. Therefore, these types of staff generated or closed requests will not be included in the same data and analysis as the customer generated requests.

4. *The city manager should ensure that 311 staff enters holidays in the city’s 311 system timely.*

Agree: With the upgrade in the CRM system, the programming of holidays can be done for multiple years at one time, so the holiday schedule has been set up through 2017.

5. *The city manager should minimize the number of cases assigned to the wrong group.*

Agree: Changes are currently being made in the way requests are coded in the CRM system. This should assist any city staff opening a service request to select the correct type of code to direct it to the correct department. Training will also be provided citywide on the upgrades to the CRM system, including selecting the proper assignment of service requests.

cc: Pat Klein, Assistant City Manager
Jean Ann Lawson, Chief Performance Officer, City Manager’s Office
Diana Smith, 311 Call Center Manager, City Manager’s Office