

Office of the City Auditor

PERFORMANCE AUDIT OF THE STREETS DIVISION'S POTHOLE REPAIR OPERATIONS

AUDIT COMMITTEE, MAY 13, 2013

Background

The Streets division is responsible for maintaining and repairing City streets, alleys, sidewalks, bridges and other infrastructure.

In fiscal year 2012, the division reported that it filled more than 30,000 potholes and had a pothole repair operations budget of approximately \$1.3 million dollars.

Audit Objectives

As requested by Councilmember and Audit Committee Chair Kevin Faulconer, the Office of the City Auditor conducted a performance audit of the Streets Division's (division) pothole repair and tracking system.

Our Audit Objectives included:

- Analyzing reliability of pothole operations data system;
- Reviewing the pothole repair response times;
- Reviewing pothole operations used by other local governments for best practices; and
- Assessing effectiveness of the City's pothole repair program.

Scope and Methodology

To accomplish our audit objectives we performed the following procedures:

- Data reliability testing;
- Interviewing program management and observing operations through ride-alongs;
- Analyzing available pothole repair data;
- Comparing the City of San Diego's pothole repair operations with other cities' pothole repair operations;
- We reviewed pothole repair operations for the period of July 1, 2009 through December 31, 2012.

Summary of Audit Findings

- The division needs to improve data reliability and strengthen data collection and input controls;
- The division is unable to determine the average response time to repair reported potholes due to data reliability issues;
- The number of requests for service differ by council district; and
- Repair crew deployment strategy can be improved to increase efficiency.

Recommendations

Recommendation #1: To improve the quality of data, the Streets Division should standardize its data collection tool. Specifically, it should specify the types of data that should be collected, and revise the form so that each data type has its own field. Further, it should establish a process to ensure supervisory review and approval prior to data entry.

Recommendation #2: The Streets Division should improve controls over data entry including modifying the date field controls.

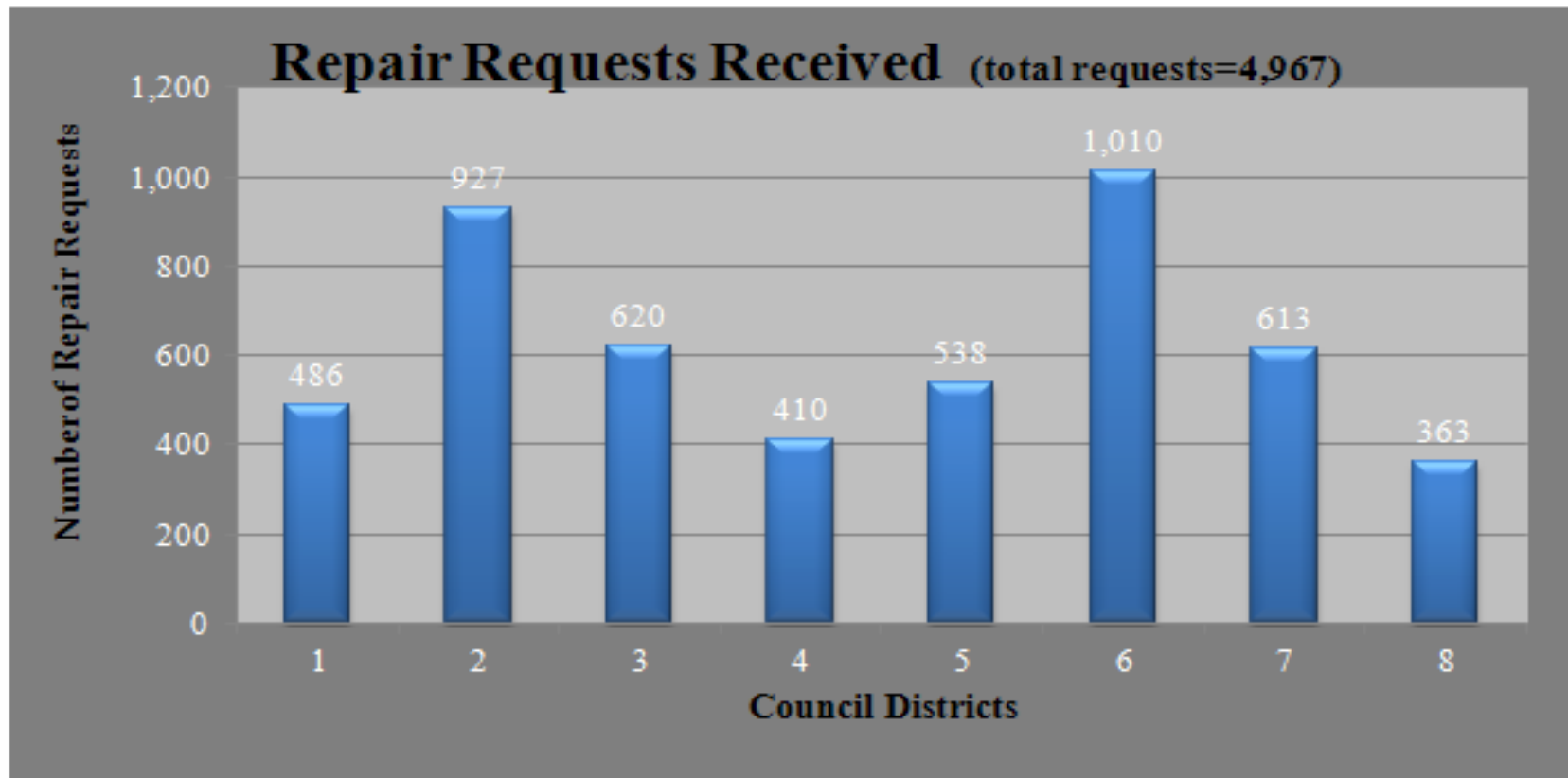
The division agreed with our recommendations.

Finding 2- Operations Can Achieve a Better Balance of Services

- We found that certain districts request services more frequently, and therefore receive more pothole repair services.
- The request for repair operational model does not have a method to systematically address potholes that are not reported.

Finding 2- Operations Can Achieve a Better Balance of Services

Pothole Repair Requests by Council District, January 1, 2012 through September 30, 2012



Finding 2- Operations Can Increase Efficiency

We were asked to analyze the efficiency of pothole repair operations. We found the following:

- Deployment strategy can be improved to operate more efficiently
- Cost-per-Pothole is a way for management to relate total cost with work accomplished
- Other cities repair processes are similar to San Diego

Finding 2- Operations Can Increase Efficiency

Utilizing LEAN Process Improvement:

The LEAN model is used to increase efficiency of operations through:

- 1) Isolating “waste activity”, such as redundant trips
- 2) Reducing “non-value added activities”, such as driving
- 3) Focusing on the “value added activities,” in this case, repairing potholes.

Application of LEAN—Efficiency Gains

	Average Number of Daily Stops	Days Taken to Make 51 Repair Stops	Total Miles Driven
Current Operations (actual)	3.2	16	317.32
Lean model: three daily stops	3	17	167.8
Lean model: six daily stops	6	9	108.8
Lean model: ten daily stops	10	6	82.5

Source: Auditor generated using the Vehicle Routing Problem Solver efficiency calculation program and actual repair request data from June 2012.

Recommendations

- **Recommendation #3:** The division's pothole repair group should implement a regional deployment strategy to reduce redundant trips to the same areas and systematically address pothole repair.
- **Recommendation #4:** The division should change its primary performance metrics to include a measure of production efficiency. Specifically, the department should utilize the cost-per-pothole as their primary performance measure.

The division agreed with our recommendations.

Recommended Action

- We ask the Audit Committee to accept the report and forward the report to the City Council.

Questions?

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