



OFFICE OF THE CITY AUDITOR COLORADO SPRINGS, COLORADO

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17-32 Streets Maintenance Operations and Coordination

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Purpose

The purpose of this audit was to identify opportunities to improve the effectiveness and efficiency of coordination and operations effecting City street pavement. Our scope was refined to focus primarily on the previously published audit reported recommendations' status, project governance, and procurement.

Highlights

We conclude the level of cooperation and coordination between the City and Utilities concerning projects effecting the roads has improved significantly. Positive results include a measurable decline in water main breaks related to paving operations along with development of effective, integrated, City/Utilities planning sessions and tools. A commendable practice has been noted regarding the decrease in water main breaks related to paving activities.

This audit was a follow up to the previously published report 16-10 in which seven recommendations were made. All seven recommendations have been implemented. Work for this report also included an evaluation of procurement activities and governance related to Ballot Measure 2C. We concluded appropriate procurement processes were followed.

Ballot Measure 2C was passed by voters in November 2015 creating a new tax for road repair, maintenance, and associated concrete. Ballot Measure 2C funds were limited to paying contractors for providing services to the City for concrete and asphalt work to maintain roads. The effective implementation of this work required high levels of cooperation and coordination of work between the City and Colorado Springs Utilities. Because most of the infrastructure for Utilities' service lines is located below City streets and adjacent rights of way, Utility projects were likely to effect the streets. The Water division had the greatest impact on streets because of the location of those pipes and the potential for significant damage to the road when high pressure water mains break. With the prospect of 200 lane miles per year being paved with 2C funds, it became essential that Utilities address those lines effected by upcoming paving as quickly as possible to avoid the moratorium and protect newly paved streets.

We'd like to thank everyone from the City and Utilities who assisted with this audit.

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Commendable Practice

Data provided by City and Utilities' staff indicated a relationship between paving activities and water main breaks. The incidence of breaks, prior to 2016, was higher in road segments that had recently been paved versus those that had not been paved. Given the increase in planned paving to 200 miles per year, a projection was made as to the number of breaks that Utilities should be prepared to address.

Utilities implemented training for 2C paving contractors on the safe operation of fire hydrants used for paving. Utilities also changed its approach to pipe assessments making efforts to proactively identify, repair, and protect those pipes in the worst condition prior to paving.

The results show no Utility cuts into 2C pavement have been needed through the end of November 2017.

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17-32 STREETS MAINTENANCE OPERATIONS AND COORDINATION

Results

The previous report included seven recommendations, all of which have been implemented. Results of the implementation are listed below.

- 1) **Improve Meetings**—Coordination meetings have been improved since the previous audit by the creation of tools such as a standardized spreadsheet with limited access for editing that is updated to show which road segments planned for paving have been released to the City by each of the Utilities divisions. Meeting minutes and action items are routinely collected allowing for consistent follow up.
- 2) **Public Communications**—New web pages for the City and Utilities have been added to assist the public in navigating and understanding roadway projects. Mapping data of construction projects is available on the City's Cone Zone map and through integration with the application Waze. Individual projects funded by 2C utilize new roadway signs to alert citizens of these projects.
- 3) **Contracting/RFP issues**—The auditors reviewed the City's Requests for Proposal (RFP) for 2C contractors for consistency and best practices in construction contracts. Most suggestions were included in the final RFPs.
- 4) **Charges for services**—The City and Utilities have come to agreement on how to manage and pay for certain costs related to work in the roadways such as raising and lowering Utility valve and manhole covers during paving operations and application of City fees for road work by Utilities in support of City paving.
- 5) **Paving and water main breaks**—Data shows there were no water main breaks which required cutting into new 2C pavement as of November 2017. There were five breaks which occurred within 500 feet of and after a paving project had finished. This was a significant reduction from the projected number of breaks related to paving operations.
- 6) **Project Viewer tool**—Project Viewer is a shared mapping application, which allows project managers for both the City and Utilities to view projects and alerts them when conflicts are detected. Conflicts include a date range for a Utilities project that is planned during a pavement moratorium. Use of this tool has increased since the previous audit.
- 7) **Utilities budget for water main replacement**—Prior to 2C, the Water budget did not include provisions for assessing or repairing pipes in coordination with the City's paving activities. Utilities realigned their Water Main Replacement Program (WMRP) beginning in late 2015 to focus on assessment and repair of lines located beneath streets planned to be paved by 2C. Cathodic protection programs were also expanded to aid in the protection of water mains below streets.