FOLLOW-UP REPORT

Office of Emergency Management and Homeland Security and Office of Human Resources

Continuity of Operations

December 2018

Office of the Auditor
Audit Services Division
City and County of Denver

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December 6, 2018

AUDITOR'S REPORT

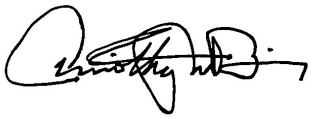
In keeping with generally accepted government auditing standards and the Audit Services Division's policy, as authorized by D.R.M.C. § 20-276, our Division has a responsibility to monitor and follow up on audit recommendations to ensure that audit findings are being addressed through appropriate corrective action and to aid us in planning future audits.

In our follow-up effort for the Continuity of Operations audit issued December 14, 2017, we determined that the Office of Emergency Management and Homeland Security and the Office of Human Resources have adequately implemented all recommendations made in the audit report.

For your reference, this report includes a highlights page that provides background and summary information on the original audit and the completed follow-up effort. Following the highlights page is a detailed implementation status update for each recommendation.

This concludes audit follow-up work related to this audit. I would like to express our sincere appreciation to you and to the Office of Emergency Management and Homeland Security and the Office of Human Resources personnel who assisted us throughout the audit and follow-up process. If you have any questions, please feel free to contact me at 720-913-5000 or Kevin Sear, Audit Manager, at 720-913-5068.

Denver Auditor's Office



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REPORT HIGHLIGHTS

Continuity of Operations
December 2018

Follow-up Status

The Office of Emergency Management and Homeland Security has fully implemented all 10 recommendations, while the Office of Human Resources has fully implemented the one recommendation we made.

Objective

The objective was to evaluate the City's readiness for recovery and restoration of mission-essential (or critical) citywide government operations in the event of an extended loss of City facilities or services. The audit included observing and understanding practices in place, and testing of the system of record that stores, develops, and modifies City agencies' recovery plans.

Background

Executive Order 85 establishes a set of rules for the City of Denver's preparedness for response and recovery in the event of a disaster. The Office of Emergency Management and Homeland Security collaborates with government agencies to help them prepare their continuity of operations plans, and includes advising and assisting the Mayor in determining the City's goals and policies for the performance of these functions. The executive order also directs City agencies to prepare individual continuity of operations plans which outline their prevention and mitigation processes.

Highlights from Original Audit

The audit found that the Office of Emergency Management and Homeland Security needed to take further action to improve the Continuity of Operations for City agencies. The City was not prepared to sustain mission-essential functions—such as providing frontline services to citizens and maintaining City infrastructure—in the event of a disaster; moreover, the software used to manage Continuity of Operations plans had user access control weaknesses.

The following list further specified the findings related to our evaluation:

- Three agencies did not certify their mission-essential functions;
- The contract to use the cloud-based planning software lapsed for three months;
- Continuity of Operations Plans (COOP) for City agencies could have been be enhanced;
- Alternate facilities may not have been available for some City agencies;
- There was a lack of sufficient training for agency development of COOPs;
- The Continuity of Government plan and agency Continuity of Operations plans were not exercised periodically;
- There was a lack of agency testing over alert and notification procedures; and
- Unauthorized users had access to the City's cloud-based Continuity of Operations planning software.
- Identified weaknesses over the processes involved in Continuity of Operations which increased the risk of the City not being prepared in the event of a disaster.

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RECOMMENDATION STATUS OF IMPLEMENTATION

FINDING 1: The City and County of Denver Is Not Prepared to Provide Essential Government Services in the Event of a Disaster

Recommendation

1.1 **Plan updates –** The Executive Director of the Office of Emergency Management and Homeland Security should create an annual schedule to request required continuity of operations plan updates from City agencies and a process to track compliance with the requested plan updates. All supplied documentation should be retained with the appropriate approvals.

Status: Implemented

Auditee Action

The Office of Emergency Management and Homeland Security initiated a Continuity Program Update to review and update City agencies' continuity of operations plans. The office is tracking and reporting on agencies' compliance with continuity of operations plan updates using the planning application.

Recommendation

1.2 **Contract Management –** The Executive Director of the Office of Emergency Management and Homeland Security should establish a process to review and update the contract with the continuity of operations software provider before the expiration of the current contract to prevent the potential loss of software services and access to agencies' continuity plans.

Status: Implemented

Auditee Action

The Office of Emergency Management and Homeland Security developed continuity workgroup sessions with a built-in process to review and update the contract with the third-party vendor to ensure there are no gaps in coverage. These workgroup sessions actively review the status of the current software and have generated recommendations for appropriate extensions in the contract.

Recommendation

1.3 **Guidance and Training –** The Executive Director of the Office of Emergency Management and Homeland Security should provide additional guidance to agencies on their Continuity of Operations plans, including timelines for completing and updating plans for new and existing agencies and a process for reviewing and notifying agencies that are not in compliance with the timelines.

Status: Implemented

Auditee Action

The Office of Emergency Management and Homeland Security provided written guidance to agencies on their Continuity of Operations plans, including timelines for completing and updating plans for new and existing agencies. The office implemented workgroups to provide more detail and included the appropriate level of management for successful updates, review and approval of the continuity of operations plans.

Recommendation

1.4 **Identify and Document Agencies –** The Executive Director of the Office of Emergency Management and Homeland Security should identify and document which agencies, courts, boards, commissions, and other quasi-governmental agencies should be required to create and keep current a Continuity of Operations plan.

Status: Implemented

Auditee Action

The Office of Emergency Management and Homeland Security, in coordination with the City Attorney's Office, identified and documented which agencies, courts, boards, commissions, and other quasi-governmental agencies should be required to create and keep current a Continuity of Operations plan.

Recommendation

1.5 **Alternate Facilities –** The Executive Director of the Office of Emergency Management and Homeland Security should confirm annually that all agencies have properly reviewed, updated, and confirmed their alternative facilities details and that the deconflict report provides the appropriate details to allow for the prioritization of assignment of alternative facilities.

Status: Implemented

Auditee Action

The Office of Emergency Management and Homeland Security coordinated with City agencies to ensure their Continuity of Operations Plans have been properly reviewed and updated and that relocation to alternate facilities are appropriate. Several workgroup meetings focused on alternate facilities where the priorities and needs of all agencies were reviewed and approved.

Recommendation

1.6 **Training –** The Executive Director of the Office of Emergency Management and Homeland Security should enhance the annual training to include a listing of training areas available and to obtain feedback from agencies to better understand their training needs in the development and revision of their continuity of operations plans.

Status: Implemented

Auditee Action

On July 4, 2018, the Office of Emergency Management and Homeland Security coordinated a citywide table top exercise and training session and solicited feedback from agencies on how to improve the training and help improve continuity capabilities across the City.

Recommendation

1.7 **Testing, Training and Exercising –** The Executive Director of the Office of Emergency Management and Homeland Security should annually perform integrated testing, training, and exercising of the Continuity of Government Plan and coordinate the testing of the Continuity of Operations Plans to validate the City's continuity preparedness and operational capability. Problems noted during this testing should be identified, documented, and corrected in a timely manner.

Status: Implemented

Auditee Action

The Office of Emergency Management and Homeland Security coordinated testing, training, and exercising of the Continuity of Government Plan. The office conducted a citywide continuity tabletop exercise on July 24, 2018. All City agencies were requested to attend and bring along their continuity plans for scenario-driven validation of mission-essential functions, vital records and resources, and other critical continuity areas.

Recommendation

1.8 **Testing Alert Notifications –** The Executive Director of the Office of Human Resources should ensure the testing of the alert and notification system procedures on an annual basis for continuity planning personnel. Additionally, they should ensure quarterly testing of such procedures for personnel at the agency's headquarters. The results of these tests should be documented and retained. The reasons for failures of the alert process should be identified and corrected in a timely manner.

Status: Implemented

Auditee Action

The Office Human Resources set up, tested, and exercised a new alert notification system. The agency implemented a two-tiered notification system for use in continuity of operations planning and activation. The original process, a simple phone tree whereby each manager contacted staff in a cascading fashion, was tested successfully on December 14, 2017. While successful, a more streamlined process that includes the use of the City's alert notification application was implemented as the primary alert system and tested on June 20, 2018.

RECOMMENDATION STATUS OF IMPLEMENTATION

FINDING 2: The City's Continuity Planning Software Lacks Strong Access Controls

Recommendation

2.1 **Unauthorized Users –** The Executive Director of the Office of Emergency Management and Homeland Security, in coordination with all agencies, should conduct an annual review of all users with access to the cloud-based continuity planning software, remove any users who no longer need access, and update other users access to the lowest level necessary to carry out their job responsibilities. The results of this review should be documented and retained in accordance with the City's document retention policy.

Status: Implemented

Auditee Action

The Office of Emergency Management and Homeland Security created and performed a periodic access review of all users with access to the cloud-based continuity planning software.

Recommendation

2.2 **Software Access Policy –** The Executive Director of the Office of Emergency Management and Homeland Security should work with Technology Services to have the cloud-based continuity planning software user access managed by subject matter experts with knowledge of industry best practices. Technology Services should then develop, document, and implement policies and procedures for periodic user access reviews for the software.

Status: Implemented

Auditee Action

The Office of Emergency Management and Homeland Security created and performed a periodic access review of all users with access to the cloud-based continuity planning software. The office is also in the process of reviewing bids for continuity planning software and has identified the need to be able to perform these reviews as part of the requirements for the software.

Recommendation

2.3 **Software Evaluation and Replacement Process –** The Executive Director of the Office of Emergency Management and Homeland Security should work with Technology Services to assist in the evaluation of the cloud-based planning software to align with the City's Acceptable Use Policy.

Status: Implemented

Auditee Action

The Office of Emergency Management and Homeland Security performed an extensive evaluation of continuity of operations software and obtained bids for comparison purposes. The contract for the current software was extended to April of 2019, while the selection process is being completed.

CONCLUSION

We found that the Office of Emergency Management and Homeland Security and the Office of Human Resources fully implemented all recommendations and adequately mitigated the risks identified during the original audit. As a result, we conclude our follow-up effort related to the Continuity of Operations audit.

On behalf of the citizens of the City and County of Denver, we thank staff and leadership from the Office of Emergency Management and Homeland Security and the Office of Human Resources for their cooperation during our follow-up effort and their dedicated public service.

Office of the Auditor

The **Auditor** of the City and County of Denver is independently elected by the citizens of Denver. He is responsible for examining and evaluating the operations of City agencies and contractors for the purpose of ensuring the proper and efficient use of City resources. He also provides other audit services and information to City Council, the Mayor, and the public to improve all aspects of Denver's government.

The **Audit Committee** is chaired by the Auditor and consists of seven members. The Audit Committee assists the Auditor in his oversight responsibilities regarding the integrity of the City's finances and operations, including the reliability of the City's financial statements. The Audit Committee is structured in a manner that ensures the independent oversight of City operations, thereby enhancing citizen confidence and avoiding any appearance of a conflict of interest.

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We deliver independent, transparent, and professional oversight in order to safeguard and improve the public's investment in the City of Denver. Our work is performed on behalf of everyone who cares about the City, including its residents, workers, and decision-maker.