



Calgary

City Auditor's Office

Utilities Delivery's Utilization of the Program and Project Management System (P2M) Audit

June 4, 2024



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Audit Objective

The objective of this audit was to assess the effectiveness of Utilities Delivery's (UD) utilization of the Program and Project Management System (P2M) to manage and report on projects. The objective was achieved by reviewing the design and operating effectiveness of key processes and controls in the pre-implementation, implementation, and sustainment phases.

Why it Matters

P2M is a corporate wide standardized IT system solution. The scope of the P2M implementation included all capital City of Calgary (City) Programs, Projects, and Annual Investment Programs. In November 2023, there were 1,617 Projects and Programs listed in P2M from multiple business units such as Parks, Open Spaces, UD, Facility Management, and Water Services.

Within the Infrastructure Services Department, the UD business unit had 330 projects and programs in P2M. Effective utilization of P2M supports consistent, transparent, and timely oversight of projects and programs both across The City and in individual business units.

What We Concluded

UD's utilization of P2M to manage and report on projects was partially effective. The implementation of P2M is relatively recent, and both UD and Business & Engineering Services (BES) are continuing to take steps to support on-going sustainment. Our recommendations are intended to support UD and BES on this journey by ensuring UD users are consistently using P2M to manage and report on their projects and BES continue to effectively support P2M.

The pre-implementation phase of P2M was effective. We identified 89% (55) of UD users attended P2M training sessions and concluded that the structure of P2M was aligned with the City's Corporate Project Management Framework (CPMF), which supports consistent P2M use. We identified control improvements to ensure all P2M users complete all relevant training before being granted access.

The implementation phase in UD was partially effective. We confirmed all open UD projects in the Linear Infrastructure Delivery division were included in P2M and based on a survey of Project Managers (PM), 83% indicated implementation was complete. However, we identified opportunities for UD and BES to improve P2M utilization by developing guidance and providing training for PM on where to store project documentation, reinforcing monthly reporting responsibilities and monitoring financial data integration to ensure timely correction of errors.

Sustainment completed to date has been effective with operational and technical support available through multiple channels to assist P2M users and support continuous improvement.

We raised six recommendations to improve the effectiveness of project management and reporting in P2M. UD and BES have agreed with our recommendations with plans to implement by December 31, 2024.

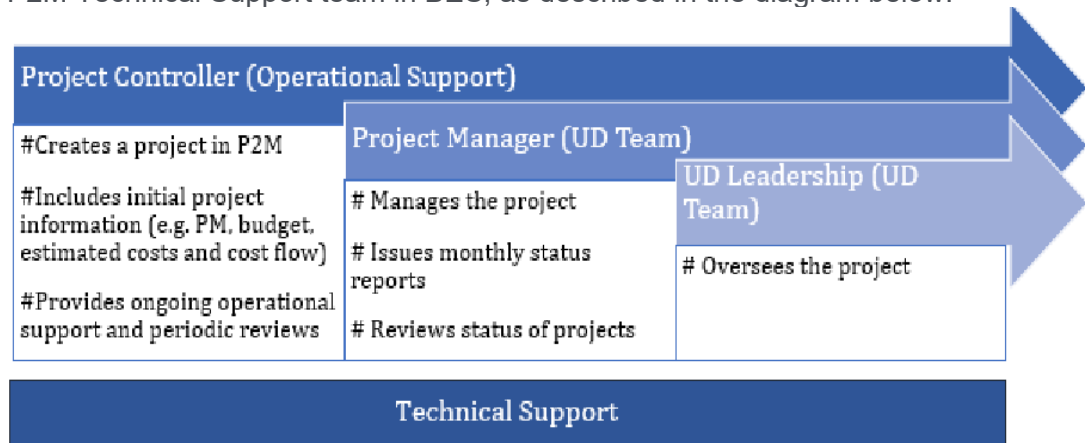
Background

P2M is a corporate wide standardized IT system solution to provide consistent, transparent, and timely oversight of programs, projects and infrastructure portfolio management, aligned to the CPMF. P2M was designed to provide a One City approach for planning, execution, monitoring, control, and financial transparency related to capital projects executed by The City.

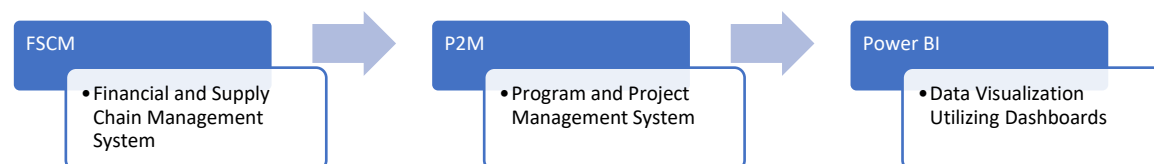
The Project Implementation Team in BES, within the Infrastructure Services department, was responsible for implementing P2M in UD. During pre-implementation, BES provided training to UD staff and supported UD’s implementation starting in March of 2023 when UD projects moved from PRT (former project management system) to P2M. UD had 330 projects and programs documented in P2M by November 11, 2023.

Project Management in P2M

The three main project management roles that utilize P2M, PM, Project Controller and UD Leadership (Director, Managers and Leaders), are all supported by the P2M Technical Support team in BES, as described in the diagram below.



Information from The City’s Financial and Supply Chain Management (FSCM) system is uploaded daily to P2M, which keeps project costs up to date. Project reporting utilizes data visualization in Power BI. The Power BI Dashboard Report updates automatically to show the latest data when cost flows in P2M are updated and approved by the PM or Project Controller. The diagram below summarizes the flow of data between the three solutions.



Scope & Approach

The scope of this audit included activities from pre-implementation prior to P2M being used by UD PM in March of 2023, through to sustainment up to October 31, 2023. The audit focused on UD's Linear Infrastructure Delivery's division and focused on projects in Wastewater & Stormwater.

We assessed the design and operating effectiveness of processes and controls by:

- Interviewing UD and BES staff to gain further understanding of processes and controls;
- Reviewing user training records;
- Surveying a sample of 6 PM out of a total of 13 to support assessment of effective utilization of P2M and Project Implementation Team support;
- Reviewing implementation and support provided by the Project Implementation Team and feedback mechanisms, including Lessons Learned and surveys;
- Reviewing a sample of projects and project reports to assess the utilization of P2M to manage and report on projects;
- Reviewing project status and cost monitoring; and
- Reviewing the FSCM and P2M interface, including logs and issue resolution, if applicable.

Results

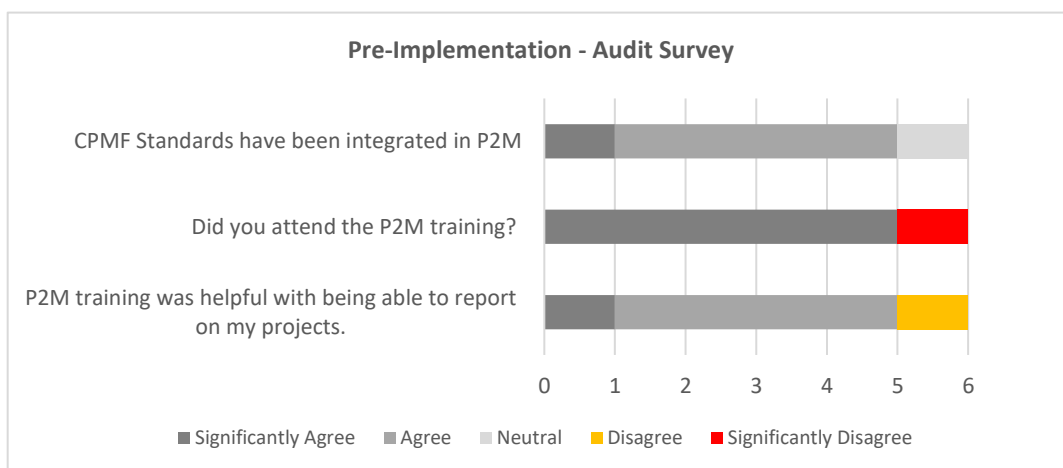
We reviewed three phases of the P2M project: **Pre-implementation**, **Implementation**, and **Sustainment**. The audit work we performed for each phase is outlined below including the results of our survey of six PM.

Pre-implementation

P2M pre-implementation was effective based on our review of processes and controls to ensure users were trained and P2M aligned to CPMF.

We assessed training records and noted 89% (55) of P2M users in UD attended the training, which was designed to demonstrate in general terms how P2M works. However, control improvements are needed to ensure all users complete training since 11% of users had not completed the training before getting access (Recommendations 5 & 6).

Outlined below are the Audit Survey Results indicating agreement CPMF was integrated in P2M, and the training was helpful to report on projects (83%). In addition, one PM did not attend the training.



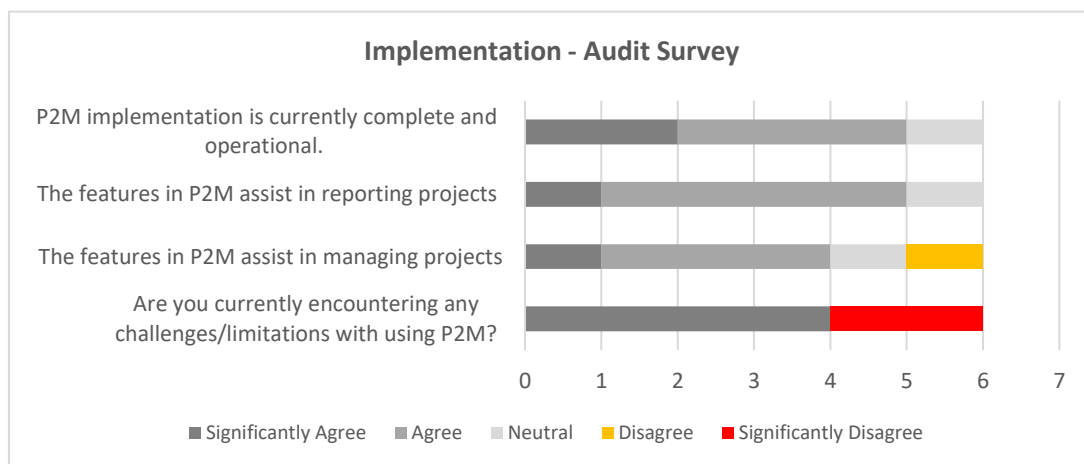
Implementation

Although P2M has been fully implemented in the Linear Infrastructure Delivery division, improvements are required to ensure consistent utilization to manage and report on projects and effective integration of financial data as detailed below.

Utilization

We confirmed all UD projects in the Linear Infrastructure Delivery division were included in P2M by cross checking to the list of approved projects on the Capital Budget Dashboard. Since we noted there were projects in the Process Infrastructure Delivery division that had not transitioned to P2M, we recommended UD review projects managed in PRT and develop an action plan to reduce the risk of inaccurate reporting due to the use of multiple systems (Recommendation 3).

The majority of PM surveyed agreed P2M implementation was complete and operational (83%) and the features in P2M assisted in reporting (83%) and managing (67%) projects. However, 67% of PM were experiencing challenges, due to occasional issues, system complexity, and concerns including risk management.



Project Controllers created projects in P2M and met monthly with PM to discuss and update project status. We determined there was an effective process to balance the number of projects between the Project Controllers. We also verified, for a sample of ten projects, that Project Controllers included expected financial information (budget, cost flow, commitments, and estimated costs) in P2M and held a monthly meeting with PM in November. One PM surveyed who encountered occasional challenges with P2M indicated the Project Controllers were able to resolve concerns.

We selected ten projects to assess P2M utilization and noted inconsistent project documentation in P2M for 60% (e.g. Risk, Issue and Change Logs, Interested Parties, and Project Objectives). We recommended updated guidance and training on documentation storage and P2M capabilities to support effective P2M utilization (Recommendation 1).

Reporting

PM publish a monthly status report in P2M to inform UD leadership on project status, including budget, schedule and performance. We reviewed 20 status reports from October and November for the projects sampled and noted inconsistencies in three reports with P2M schedule information, and two missing reports. We recommended reinforcing PM reporting responsibilities to improve accuracy and timeliness and support decision making when projects are off track (Recommendation 2).

In June 2023, the Project Implementation Team began developing a Power BI Dashboard Report, which was implemented before year-end. The process to develop the Dashboard Report was effective and followed good practices such as requirement assessment, consultation, user acceptance testing, and approvals to move to production. UD Leadership provided positive feedback on the usefulness of the Dashboard Report to monitor projects.

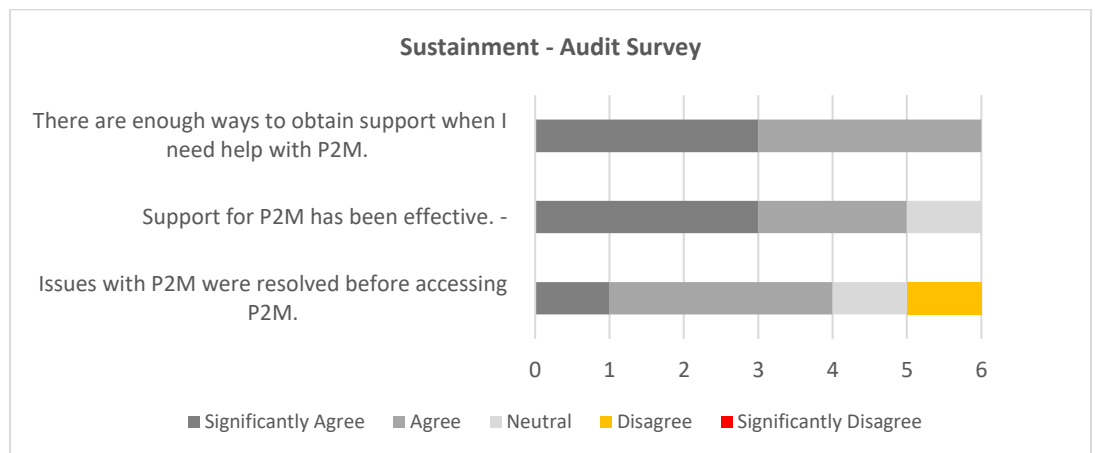
Integration

Lastly, we assessed the integration of data from FSCM to P2M. We reviewed a sample of five daily integration logs with errors and noted the error emails were not monitored consistently. We recommended clarifying roles and responsibilities between IT and P2M Technical Support to ensure timely monitoring and resolution of integration errors to support the accuracy and completeness of P2M data (Recommendation 4).

Sustainment

During the audit we assessed the processes in place to sustain P2M users and determined they were effective.

BES provided multiple channels to P2M users to obtain operational and technical support, such as monthly meetings with Project Controllers, a dedicated email, and daily support sessions from initial implementation through to sustainment. Audit survey results indicated 100% agreement there were enough ways to obtain support and 83% agreement support was effective.



P2M Technical support conducted a survey in the fall of 2023 to support continuous improvement. As noted under the Implementation Phase above, 67% of PM were having challenges and issues using P2M. BES is well positioned to support P2M users as they continue to utilize and refine P2M to manage and report on projects. We shared an opportunity with BES to utilize an existing City ticket system to record and track P2M issues to support continuous improvement by identifying and addressing recurring issues.

Observations & Recommendations

#1: Inconsistent P2M Use	
OBSERVATION	RECOMMENDATION
<p>PM should use P2M consistently to manage projects. However, six of ten projects in our audit sample were inconsistently populated with project documentation. For example, six projects had no Interested Parties or Project Objectives in P2M, and logs such as Risk Logs, Issues Logs, and Change Logs were not fully populated in P2M. Three of ten PM were exclusively using Enterprise Connect (Content Server) to store project files. We also noted that three PM interviewed were not aware of some P2M capabilities, such as saving files in SharePoint and adding links to files stored in Enterprise Connect.</p> <p>P2M Operational Support indicated project documentation should be stored in Enterprise Connect. However, we did not identify robust guidance on Enterprise Connect included in P2M training. Although UD created a P2M handbook, PM indicated they were not aware of guidance on project documentation storage, which increases the risk of inconsistent project documentation and difficulties finding documentation when moving projects from one PM to another and impacts the efficiency and effectiveness of project management.</p> <p>Summary survey results indicated four out of six (67%) PM are encountering challenges/limitations using P2M because they are not familiarized with P2M.</p>	<p>1. UD review and update guidance and provide training for PM on where to store project documentation (e.g. P2M, SharePoint or Enterprise Connect), including how the information stored in other tools will be linked in P2M.</p> <p>MANAGEMENT RESPONSE</p> <p>Agreed</p> <p>ACTION PLAN</p> <p>A P2M handbook was created providing additional guidance for PM on how to use P2M including identifying the storage location for files and was previously shared with staff. The handbook will be reviewed to see if any updates are required and will be recirculated to PM. Refresher training will also be arranged for UD staff to ensure a consistent approach to data entry.</p> <p>LEAD</p> <p>UD – Manager Linear Infrastructure Delivery</p> <p>SUPPORTED BY</p> <p>BES – Manager Engineering and Project Support</p> <p>COMMITMENT DATE</p> <p>2024 June 30</p>

#2: Status Report Inconsistencies	
OBSERVATION	RECOMMENDATION
<p>UD PM must publish a monthly status report in P2M on the 25th day of the month to keep UD leadership (Leaders and Managers) informed on project status, including budget, schedule, and performance. The PM selects the status color (Red- At Risk, Yellow-Concern and Green- On Track) from a drop-down and add comments in Status Manager in P2M.</p> <p>We reviewed the October and November monthly status reports for our sample of projects and noted inconsistencies between P2M schedule information and three reports as outlined below:</p> <ul style="list-style-type: none"> The P2M schedule information did not match the monthly status report since the PM did not update the P2M schedule information. However, the monthly report was accurate. The schedule was on track in P2M. However, the status in the monthly report was Yellow since the PM was anticipating delays. We also noted the PM did not flag the relevant schedule lines (Column “include in report”), which caused divergences between the status report and schedule since not all scheduled tasks were included. There were delays in the schedule in P2M that were not captured in the monthly status report since the PM did not refresh the report. <p>Two projects had no status report for November 2023:</p> <ul style="list-style-type: none"> One report was published late. However, the report accurately reflected P2M information. One report was not published in October since the project was coming to an end and there were no changes. The November status report was published after the deadline. <p>Monthly status reports should be accurate to support timely leadership decisions on actions required where projects are not on track. Although manually generated status reports increase the risk of reporting inaccurate or inconsistent information, BES advised status reports will not be automated to support reporting flexibility.</p>	<p>2. UD reinforce monthly status report responsibilities, including reporting deadlines, keeping information up to date in P2M, selecting the correct status, and refreshing monthly reports.</p> <p>MANAGEMENT RESPONSE</p> <p>Agreed</p> <p>ACTION PLAN</p> <p>UD will discuss P2M responsibilities at regular team meetings and arrange for refresher training.</p> <p>Staff will be reminded of the daily P2M drop-in help sessions that are offered by BES. In addition, BES will complete quarterly quality checks to ensure consistent and regular reporting is completed.</p> <p>LEAD</p> <p>UD – Manager Linear Infrastructure Delivery</p> <p>SUPPORTED BY</p> <p>BES – Manager Engineering and Project Support</p> <p>COMMITMENT DATE</p> <p>2024 June 30</p>

#3: Projects Managed in PRT	
OBSERVATION	RECOMMENDATION
<p>Not all UD projects have transitioned to P2M. All UD projects with a completion date longer than six months after P2M implementation were to transition from PRT to P2M.</p> <p>One of six PM surveyed confirmed they were not using P2M to manage 100% of their projects because P2M was cumbersome, and they believed there were areas where efforts were being duplicated. Furthermore, we were advised that Capital Investment Planning needs to obtain information from PRT to consolidate forecast information since there are PM from the Process Infrastructure Delivery division in UD who are still using PRT to manage their projects. Utilizing multiple sources of project information (i.e. P2M and PRT) increases the risk of inaccurate project reporting.</p>	<p>3. UD review projects managed in PRT, identify the reason they are not using P2M, and develop an action plan to fully transition to P2M.</p> <p>MANAGEMENT RESPONSE</p> <p>Agreed</p> <p>ACTION PLAN</p> <p>PRT is still used to reference historical information on projects delivered by UD. UD will review project data and ensure that all projects are using P2M.</p> <p>In addition, UD will work with Capital Investment Planning to ensure a consistent approach is applied for all projects.</p> <p>LEAD</p> <p>UD – Manager Linear Infrastructure Delivery</p> <p>SUPPORTED BY</p> <p>BES Manager Engineering and Project Support, CIP – Leader Infrastructure Investment Planning</p> <p>COMMITMENT DATE</p> <p>2024 September 30</p>

#4: Monitoring Data Integration – FSCM to P2M	
OBSERVATION	RECOMMENDATION
<p>The final stage of the interfaces between FSCM and P2M are not monitored in a timely fashion to support complete and accurate financial information transferring into P2M. If there is an error in the data integration, the record with the error would not be transferred to P2M meaning P2M data would be incomplete. Emails of the pass or failed integrations would be sent to members of the IT- PMIS (Project Management Information Systems) team.</p> <p>We obtained the population of the daily integrations from August 1 to November 20, 2023, and the error emails as part of our sample testing of five days of integration errors. We confirmed the IT- PMIS team was not monitoring the integration error emails on a regular basis.</p> <p>The errors identified in our sample related to the OnePlan module rather than Cost Manager. While UD only uses Cost Manager, unresolved OnePlan errors may impact other City business units. We noted P2M Technical Support may be in the best position to resolve issues related to OnePlan if there is missing information.</p> <p>Clarifying and communicating the roles and responsibilities between IT and P2M Technical Support will ensure the timely monitoring and resolution of integration errors and the accuracy and completeness of P2M data. There is also an opportunity to improve integration monitoring by incorporating a dashboard to easily identify and resolve failed integrations.</p>	<p>4. P2M Technical Support clarify and communicate the roles and responsibilities between IT and P2M Technical Support to ensure timely monitoring and resolution of integration errors and consider the opportunity to improve monitoring of the data integration by incorporating a dashboard.</p> <p>MANAGEMENT RESPONSE</p> <p>Agreed</p> <p>ACTION PLAN</p> <p>BES and IT will clarify roles and responsibilities and will share the results with team members. In addition, BES P2M Support and IT PMIS agree that an integration outcome dashboard would simplify integration status monitoring and facilitate issue identification. BES P2M Support and IT PMIS will work collaboratively to create the dashboard and monitor the integrations performance daily. Dashboard planning and preparation work to start in Q2, with planned deployment to production in Q4.</p> <p>LEAD</p> <p>BES – Manager Engineering and Project Support</p> <p>SUPPORTED BY</p> <p>IT – Leader IT and vendor (OnePlan Solutions)</p> <p>COMMITMENT DATE</p> <p>2024 December 31</p>

#5: P2M User Access	
OBSERVATION	RECOMMENDATION
<p>In order to have access rights to manage projects in P2M, all users must attend P2M training divided into two portions, the first one online, and the second one homework.</p> <p>We compared a list of users that had access to P2M to a list of users that had completed P2M training and identified seven users in UD that had PM access in P2M that had not completed the P2M training. Of the seven, six had completed the first portion of the online training but not the homework portion and were granted access to support completion of their day to day work. The remaining user’s access was upgraded to PM access from “Read Only” Director access as they are a PM. However, they did not complete either portion of the training.</p> <p>User access controls require improvement to ensure training is completed prior to granting access to P2M. In addition, there is no user access review for P2M. The Program Management System Manager confirmed that P2M Technical Support and IT are working on a process to review user access in P2M.</p>	<p>5. P2M Technical Support strengthen controls to ensure training is completed before granting user access.</p> <p>MANAGEMENT RESPONSE Agreed</p> <p>ACTION PLAN A new Ticket system is being created with two requirements: all new users (without any exception) will have to complete the training before accessing the production environment and must also confirm they have access to the financial system (FSCM). Included in the current P2M Work Plan.</p> <p>LEAD BES – Manager Engineering and Project Support</p> <p>SUPPORTED BY IT – Leader IT</p> <p>COMMITMENT DATE 2024 May 31</p>

	<p>6. P2M Technical Support periodically conduct a documented user access review to identify P2M users who have not completed the required training and take appropriate action.</p> <p>MANAGEMENT RESPONSE Agreed</p> <p>ACTION PLAN On a monthly basis the P2M Technical Support team will work with IT PMIS to review the user base and ensure all users have the training completed.</p> <p>The access to the production environment is only provided to users that complete the training in LMS and send the certification of completion on the email requesting access.</p> <p>LEAD BES – Manager Engineering and Project Support</p> <p>SUPPORTED BY IT – Leader IT</p> <p>COMMITMENT DATE 2024 September 30</p>
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Acknowledgements

The City Auditor’s Office conducts projects, including this audit, in conformance with the International Standards for the Professional Practice of Internal Auditing.

The City Auditor’s Office would like to thank the staff from UD, BES and IT for their cooperation and support during this audit.