

Date: August 11, 2021

To: Paula Boggs Muething, City Manager

From: Lauren Sundararajan, CFE, Internal Audit Manager *LS*

Copies to: Internal Audit Committee
William Weber, Assistant City Manager
Michael Forrester, Office of Environment & Sustainability Director

Subject: **Recycling Program Audit**

Attached is the Recycling Program audit report. The primary objectives of this performance audit were to assess program performance and operations and determine if a strong internal control structure was in place. This audit was conducted in accordance with the current audit agenda.

We would like to thank the management and staff of the Office of Environment & Sustainability for their assistance and cooperation during this audit.

If you need any further information, please contact me.

Attachment

Recycling Program Audit

August 2021



Lauren Sundararajan, CFE
Internal Audit Manager

Jennifer Sherman
Senior Internal Auditor

Table of Contents

Executive Summary	1
I. Introduction	2
Background	
Audit Selection	
Audit Objectives	
Audit Scope and Methodology	
Statement of Auditing Standards	
Commendations	
II. Audit Findings and Recommendations	5
III. Conclusion	10
IV. Office of Environment & Sustainability Response	11

Executive Summary

Internal Audit (IA) conducted a performance audit of the Office of Environment & Sustainability's (OES) Recycling Program. The primary objectives of this performance audit were to assess program performance and operations and determine if a strong internal control structure was in place. OES' Recycling Program is responsible for oversight and distribution of the City of Cincinnati's (City) approximately 90,000 residential recycling carts and responds to all recycling service requests. Additionally, OES has implemented several enhancements to the program to increase participation and decrease the amount of waste sent to landfills.

IA determined there is room for improvement in internal controls over key processes. This includes the lack of an adopted plan to address aging recycling carts. Although OES does maintain a small budget to purchase new carts each year for recycling collection, it does not meet the needs for replacement of all original carts, which have now surpassed their 10-year warranty. Additionally, internal controls for estimating residential counts need strengthening. OES currently uses a methodology that may inaccurately reflect residential counts, and therefore, allows the City to be potentially overbilled.

Several current practices also expose OES to unnecessary risk; for example, succession plans have not been implemented for the Recycling Coordinator or Recycling Operations Technician. These positions perform critical functions that ensure the continuity of program operations and sudden personnel changes could allow for disruption to the program and a significant backlog of service requests to occur. In addition, internal controls over managing operations need strengthening. Since OES' expertise primarily involves environmental related tasks and promoting green initiatives, there are key processes that could be managed more efficiently if OES had a business management professional on staff.

Overall, IA found that OES is meeting the objectives of the Recycling Program and commends them for proactively working on ways to increase diversion rates; however, to further strengthen internal controls and ensure the continuity of business within the program, IA recommends adopting a plan to address aging carts, and working with the Enterprise Technology Solutions (ETS) department and City's Office of Performance and Data Analytics (OPDA) to develop a methodology for determining accurate residential counts. Additionally, developing succession plans for the Recycling Coordinator and Recycling Operations Technician, and hiring a business professional to manage administrative and accounting related tasks in an effort to reduce the risk in daily operations.

I. Introduction

Background

The mission of OES is to lead the City and the larger community toward sustainability and the practice of good environmental stewardship. An integral component in achieving these goals is through managing the City's Recycling Program. In 1989, the City became the first municipality in Ohio to offer free curbside recycling to all residents. Presently, OES' Recycling Program is responsible for oversight and distribution of the City's approximately 90,000 residential recycling carts and responds to all recycling service requests. Further, OES has implemented several enhancements to the program to increase participation and decrease the amount of waste sent to landfills.

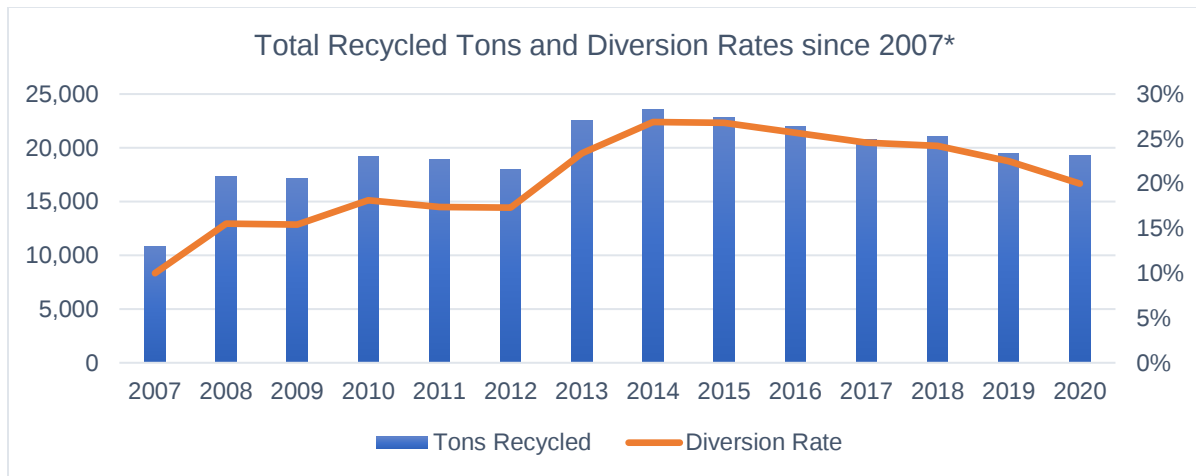
Rumpke Waste and Recycling (Rumpke), the City's recycling service provider, also encourages recycling by offering the City a monetary incentive based on the amount of tons recycled per month. Additionally, the City also participates in the Hamilton County Recycling and Solid Waste District (Hamilton County) Residential Recycling Incentive (RRI) program. In 2021, OES received approximately \$319k in additional funding through the RRI program.

In addition to being funded through the City's general fund and recycling incentive programs, OES receives funding from collaborative partnerships and grants in order to accomplish their goals. For example, in 2019 OES entered into a Memorandum of Understanding (MOU) with Hamilton County and Rumpke to launch the *Feet on the Street* project. This project aims to utilize educational and outreach efforts to improve the material quality, resident engagement, and material recovery of the residential curbside Recycling Program within a selected targeted area of the City. Additionally, in 2021 OES was awarded a Recycle Ohio Grant from Ohio's Environmental Protection Agency in order to research outreach methods in the form of updated recycling cart labels in an effort to increase awareness and waste diversion.

In 2008, the City administration was directed by City Council to renegotiate recycling contracts and set diversion goals. The diversion rate is the percentage of waste materials diverted from traditional disposal and instead recycled or re-used. According to a Hamilton County memo, the City recycled 19,268 tons of waste material and achieved a diversion rate of 20% in 2020.¹ A future goal of the department is to eventually reach 34% as guided by the *Beyond 34 Program* in partnership with the U.S. Chamber of Commerce.² Below is a graphical depiction of total recycled tons and diversion rates since 2007:

¹ "RRI COC 20% diversion 2020." Hamilton County Recycling and Solid Waste District. June 8, 2021.

² "MOU Beyond 34 signed City of Cincinnati & U.S. Chamber Foundation." March, 2019.



**Diversion rate data was not available prior to 2007.*

Audit Selection

IA conducted this audit in accordance with the Audit Work Plan.

Audit Objectives

The primary objectives of this performance audit were to assess program performance and operations and determine if a strong internal control structure was in place.

Audit Scope and Methodology

In order to achieve the prior objectives, IA compared current practices to industry standards, reviewed pertinent policies and procedures, sought verification of actions through documented reports, interviewed appropriate staff, analyzed invoices, and calculated statistics of relevant data. Records reviewed included data generated during calendar year 2019 through the present.

Statement of Auditing Standards

As required by the Cincinnati Administrative Code Article II §15, this audit was conducted in accordance with the Generally Accepted Government Auditing Standards (GAGAS), except for standard 5.90 pertaining to external peer review requirements. This exception did not have a material effect on the audit.

IA continues to conduct internal quality reviews to assure the conformance with applicable GAGAS. IA performed the fieldwork between March 2021 through June 2021.

Commendations

IA commends the staff of the Office of Environment & Sustainability for their cooperation throughout the audit.

II. Audit Findings and Recommendations

The City has not adopted a plan to address aging recycling carts.

In 2011, the City approved the initial purchase of approximately 90,000 recycling carts. These were purchased through the sale of bonds, with all payment on those bonds coming from federal Energy Efficiency and Conservation Block Grant (EECBG) funds and totaled approximately \$501,972.³ These recycling carts were estimated to last ten years due to normal wear-and-tear and subsequently are covered under a 10-year warranty. As the carts are now surpassing the ten-year mark (at the time of this audit), more and more of the recycling carts are needing to be replaced either due to regular use or being lost or stolen.

Although OES does maintain a small budget to purchase new carts each year for recycling collection, it does not meet the needs for replacement of all original carts. For example, in fiscal year 2021 the budget allotted \$25,000 in funds to purchase new recycling carts, amounting to a replacement of approximately 5% of the original recycling carts.⁴ Since the recycling carts only last on average ten years, the need to be replaced over the next few years will increase exponentially. IA was informed that although requests have been made to procure a bulk cart replacement, these requests have been denied and the current budget does not address the impending need for a bulk replacement.

Recommendation 1: OES should work with the Budget Office to develop and approve a plan that would routinely phase out and replace recycling carts over the next few years in order to mitigate increasing issues related to the City's recycling carts nearing the end of their useful life.

Department Response: Agree. OES is aware that an asset replacement plan is necessary to support ongoing recycling in Cincinnati. This is a continual issue and OES can document a rise in cart replacement requests due to cart structural failure. Additional meeting with the Budget Office will be scheduled to further discuss. Not only will an increase in funding be required to purchase additional carts, but resources will also need to be allocated to support delivery of the carts to residents and to remove damaged and out of warranty carts.

Internal controls for estimating residential counts need strengthening.

The current contract with Rumpke for curbside recycling services invoices the City for an estimated 86,000 residential units. The methodology used to determine this rate was based on water billing rates throughout the City and is adjusted through water shut offs. Water billing rates were used since it was determined that it would provide the closest number of occupied residences, and therefore, an approximate number of current or potential recycling participants. IA was informed by OES that they rely on this methodology because it has historically been difficult for them to obtain an accurate residential count.

For example, when the recycling cart program was initially launched, there was an employee within the ETS department who possessed the skillset to create a methodology that accurately determined residential counts through raw data provided by radio-frequency identification (RFID) tags that were placed on each recycling cart. However, when that individual left City employment ownership of the RFID data was transferred to OPDA. Since then, software

³ "Recycling Costs Memo." City of Cincinnati. February 24, 2011.

⁴ "Fiscal Year 2021 Approved All Funds Budget Update." City of Cincinnati.

incompatibility and aging and failing RFID tags have rendered this methodology obsolete. Without proper data analysis the City could potentially be overcharged for a total residential count that does not accurately reflect the total number of recycling participants within the City.

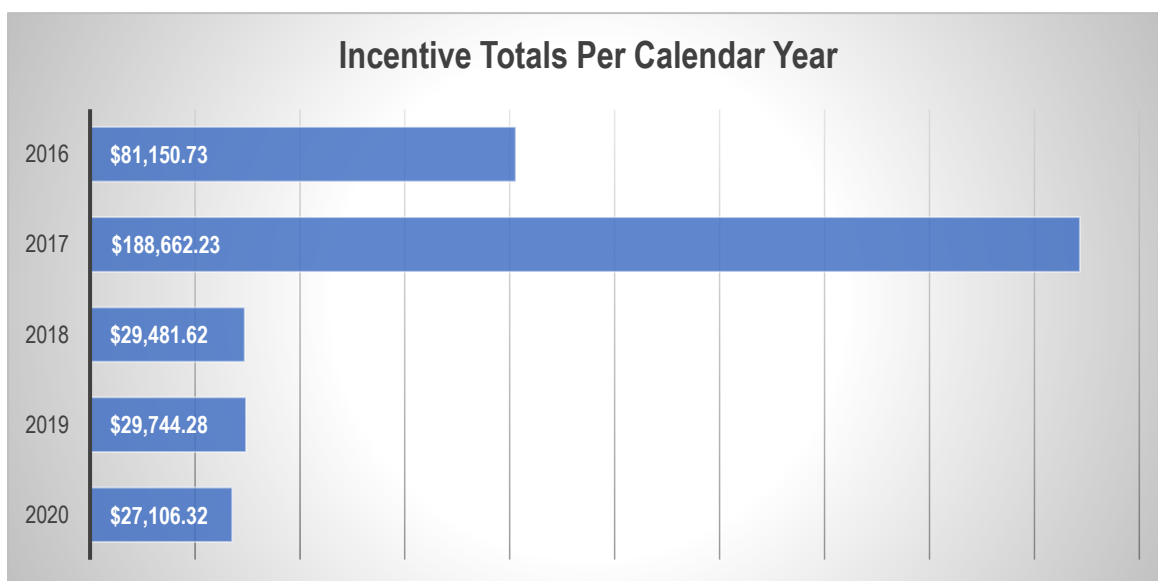
Recommendation 2: OES should work with ETS and OPDA to identify an individual with the technical skillset whose duties will include routinely determining an accurate residential count for the purposes of recycling billing. Ideally, this individual would also possess the skills to perform forensic data analysis.

Department Response: Agree. OES would like an accurate house count for the recycling program. We recognized that this report exposed the City to financial risk due to its current inaccuracies. As such, OES recently renegotiated the contract to remove this house count report as the basis for billing. Instead, the City will be billed a flat house count of 86,500 houses thought July of 2023. This provides budget certainty for the City and allows for conversations with OPDA and ETS to reevaluate the resources needed to produce an accurate house count report.

Contract terms should be evaluated for terms more favorable to the City.

When the original Rumpke contract was undergoing negotiations, provisional incentives were included to monetarily benefit both the City and Rumpke through increases in recycling output. Through this contract, Rumpke is able to sell post-consumer recycled materials collected through the City's curbside recycling collections and reimburse the City accordingly based on the number of tons of recycled materials received and the market value of each recycled material.

Although the City does benefit from these incentives, these benefits have been minimal in recent years due to fluctuations in the post-consumer recycling market. This has led to a significant reduction in the total amount of incentives the City is reimbursed. Below is a graphical depiction of incentive totals reimbursed to the City per calendar year and highlights the significant reduction in reimbursements that occurred in 2018:



Recommendation 3: OES should renegotiate future contract terms so that incentive provisions are more realized for the City's benefit.

Department Response: Agree. OES's recent renegotiation with Rumpke addressed this issue. Due to the lack of revenue generated from the post-consumer recycled material market OES eliminated this as an incentive and increased the revenue the City would receive from the volume based incentive. It is estimated this change will generate an additional \$15,000 in revenue annually for the City and provide budget certainty in the revenue that would be returned to the City. As the City prepares to select a recycling provider in 2023, these incentives will be reevaluated based on current market conditions.

Configuration of the customer service request portal needs improvement.

Requests for recycling carts or related recycling services can be made via telephone or online through the City's Customer Service Request (CSR) portal or the 'Fix it Cincy!' mobile application. The CSR portal is maintained by ETS' Cincinnati Area Geographic Information System (CAGIS) division, in collaboration with OES and other City departments. Regardless of point of origin, all requests are entered into the CSR portal and are tracked there until the request is completed.

IA sought to analyze all recycling requests data within the CSR portal to determine if requests were completed in a timely manner and if there were any other identifiable issues that did not appear to be an anomaly. IA reviewed all recycling service requests from April of 2020 through April of 2021, consisting of 5,816 service requests. IA determined that service requests are completed in a timely manner, with missed collection service requests being completed on average less than 24 hours after the request was made. Since OES' contract with Rumpke requires that all missed collection service requests be completed within 24 hours, no issues were noted.

However, IA also noted that the over half of recycling service requests were for new or replacement carts and that several of these were requesting a trash cart even though they selected the option for a new or replacement recycling cart. Although new or replacement recycling carts are still provided to residents, the City's trash carts are overseen by the Department of Public Services (DPS) and replacements are no longer available to residents due to budgetary constraints. Because of this, residents are not given the option within the portal to request a trash cart. IA was informed by OES that this has created problems for the Recycling Program, especially through the CSR portal.

For example, customers will go to the portal to request a trash cart but will only find an option for requesting a recycling cart. This issue is further compounded by the fact that both 'Trash' and 'Recycling' are grouped together within the same category on the CSR portal. Further, with both 'Trash' and 'Recycling' grouped together in the 'Service Type' needed category options, this can create confusion among users who believe the programs and services are interchangeable. This has led to an abundance of users requesting trash carts through the Recycling Program, which is a waste of their resources.

Recommendation 4: OES should work with both DPS and CAGIS to update trash and recycling in the 'Service Needed' categories on the CSR portal to reflect two separate options. Additionally, communication on the CSR portal needs to be updated to include language that

explains to residents that although new recycling carts are available for request, trash carts are not and must be purchased at the resident's expense.

Department Response: Agree. OES will work with DPS and CAGIS to update the recycle and trash cart ticket types to reduce user error. OES will request DPS create a "trash cart request button" for educational purposes. This request will inform the residents that trash carts are not available, and it must be purchased at the residents' expense. This will clearly differentiate recycling from trash carts. Currently, since lacking this information on the app and website, by default the residents request the recycle cart, and use it for trash reducing cart inventory and increasing costs to the City. OES would also encourage DPS to make trash carts available to residents, or low-income residents if the budget allows. Residents who live below the poverty line often do not have the funds to purchase or a car to transport a trash cart.

Lack of documented and established succession planning for key personnel roles.

Succession planning is the process of identifying internal personnel with the ability to fulfill key roles within an organization and fostering the development of these individuals. As personnel turn over, a succession plan facilitates business continuity. The Recycling Coordinator for the Recycling Program is an integral position tasked with overseeing the entire program along with managing projects, the program's budget, and administrative functions. IA was informed that although there are individuals employed by OES with the knowledge and skillset to fulfill the role of the Recycling Coordinator, the extensive duties of this position are not entirely documented.

IA also found that a succession plan has not been implemented for the Recycling Operations Technician. This position oversees duties at the recycle cart service center in addition to performing daily routes to fulfill service requests for recycling cart delivery and pickup. And without an alternate identified to fulfill these duties, routes cannot be performed. As there are on average 50 service requests per week, sudden personnel changes could significantly compromise internal control systems and allow for a considerable backlog of service requests to occur.

Recommendation 5: OES should develop a succession plan for the Recycling Coordinator position and an alternate backup position for the Recycling Operations Technician position in the event that these individuals are on extended leave.

Department Response: Partially Agree. The Recycling Program currently utilizes 3 positions 1) Recycling Coordinator who oversees the overall program, 2) Recycling Operations Technician (full time) who operates a large box truck, delivers and services recycling carts 3) Recycling Operations Technician (part time) who manages the recycling hotline, schedules cart servicing, and develops servicing routes.

There is significant cross training between the Recycling Coordinator and the part time Recycling Operations Technician as both interact with the Rumpke and residents. Both can manage contract oversight, recycling service calls and social media outreach for the Recycling Program. However, the full time Recycling Operations Technician does not have a succession plan in place, or a temporary alternative should the person fall ill or choose to leave City service. OES has identified this a threat to the long-term sustainability to the program. The Recycling Coordinator is currently working with various partners including Groundworks ORV, Rumpke, temporary service agencies, DPS and others for short- and long-term replacement options until the positions can be filled. OES will have identified a path forward in the next 3 months.

Should a replacement for the full time Recycling Operations Technician not be identified or be filled in a timely manner, the Cart servicing aspect of the program may need to revert to a contracted service position, but this would require additional City resources and is not a recommended course of action at this time.

Internal controls over managing operations need strengthening.

OES' expertise primarily involves environmental related tasks and promoting green initiatives. Throughout the audit, IA observed key processes that could be managed more efficiently if OES had a business management professional on staff. Employing a business management professional to handle administrative and accounting related tasks would improve efficiency and accountability.

Recommendation 6: OES should consult with the Budget Office and Human Resources department and communicate their need to hire a professional who has the knowledge and expertise to manage administrative and accounting related tasks.

Department Response: Agree. OES would welcome the return of a business administrator to handle administrative and accounting related tasks. OES has requested additional staff for various roles for multiple budget cycles. We are grateful for the assistance from the City Manager's Office, but the CMO is growing overall, and current administrative staff have a very heavy workload. Additional roles and responsibility of this person could include communications, and social media for OES which is an area that the Office is looking to strategically grow but lacks the capacity to do so.

Inventory counts are not formally documented.

IA was informed that inventory counts of recycling carts are performed quarterly or monthly, depending on if discrepancies occur. When asked if these counts are documented, OES explained that when performed, they are written in an informal format and totals are forwarded to the Recycling Coordinator. Although inventory counts are being performed there should be a formal paper trail established. Without this internal control in place, it is difficult for a third party to reconcile the historical data and ensure that no weaknesses in the internal control system exist.

Recommendation 7: Implement a formal inventory count process that is documented properly.

Department Response: Agree. OES will develop a formal cart inventory that can be documented properly over the next 3 months.

III. Conclusion

Internal Audit conducted a performance audit of the Office of Environment & Sustainability's Recycling Program. The primary objectives of this performance audit were to assess program performance and operations and determine if a strong internal control structure was in place. OES' Recycling Program is responsible for oversight and distribution of the City of Cincinnati's approximately 90,000 residential recycling carts and responds to all recycling service requests. Additionally, OES has implemented several enhancements to the program to increase participation and decrease the amount of waste sent to landfills.

IA determined there is room for improvement in internal controls over key processes. This includes the lack of an adopted plan to address aging recycling carts. Additionally, internal controls for estimating residential counts need strengthening. OES currently uses a methodology that may inaccurately reflect residential counts, and therefore, allows the City to be potentially overbilled. Several current practices also expose OES to unnecessary risk; for example, succession plans have not been implemented for the Recycling Coordinator or Recycling Operations Technician. Further, internal controls over managing operations need strengthening. Since OES' expertise primarily involves environmental related tasks and promoting green initiatives, there are key processes that could be managed more efficiently if OES had a business management professional on staff.

Overall, IA found that OES is meeting the objectives of the Recycling Program and commends them for proactively working on ways to increase diversion rates; however, to further strengthen internal controls and ensure the continuity of business within the program, IA recommends adopting a plan to address aging carts, and working with the Enterprise Technology Solutions department and the Office of Performance and Data Analytics to develop a methodology for determining accurate residential counts. Additionally, developing succession plans for the Recycling Coordinator and Recycling Operations Technician, and hiring a business professional to manage administrative and accounting related tasks in an effort to reduce the risk in daily operations.

IV. Office of Environment & Sustainability Response

Recommendation 1: OES should work with the Budget Office to develop and approve a plan that would routinely phase out and replace recycling carts over the next few years in order to mitigate increasing issues related to the City's recycling carts nearing the end of their useful life.

Department response: Agree. OES is aware that an asset replacement plan is necessary to support ongoing recycling in Cincinnati. This is a continual issue and OES can document a rise in cart replacement requests due to cart structural failure. Additional meeting with the Budget Office will be scheduled to further discuss. Not only will an increase in funding be required to purchase additional carts, but resources will also need to be allocated to support delivery of the carts to residents and to remove damaged and out of warranty carts.

Recommendation 2: OES should work with ETS and OPDA to identify an individual with the technical skill set whose duties will include routinely determining an accurate residential count for the purpose of recycling billing. Ideally this individual would also possess the skill to perform forensic data analysis.

Department response: Agree. OES would like an accurate house count for the recycling program. We recognized that this report exposed the City to financial risk due to its current inaccuracies. As such, OES recently renegotiated the contract to remove this house count report as the basis for billing. Instead, the City will be billed a flat house count of 86,500 houses through July of 2023. This provides budget certainty for the City and allows for conversations with OPDA and ETS to reevaluate the resources needed to produce an accurate house count report.

Recommendation 3: OES should renegotiate future contracts terms so that incentive provisions are more realized for the City's benefit.

Department response: Agree. OES's recent renegotiation with Rumpke addressed this issue. Due to the lack of revenue generated from the post-consumer recycled material market OES eliminated this as an incentive and increased the revenue the City would receive from the volume based incentive. It is estimated this change will generate an additional \$15,000 in revenue annually for the City and provide budget certainty in the revenue that would be returned to the City. As the City prepares to select a recycling provider in 2023, these incentives will be reevaluated based on current market conditions.

Recommendation 4: OES should work with both CAGIS and DPS to update trash and recycling in the "Service Needed" categories on the CSR portal to reflect two separate options. Additionally, communication on the CSR portal needs to be updated to include language that explains to residents that although new recycling carts are available to request, trash carts are not and must be purchased at the resident's expense.

Department Response: Agree. OES will work with DPS and CAGIS to update the recycle and trash cart ticket types to reduce user error. OES will request DPS create a "trash cart request button" for educational purposes. This request will inform the residents that trash carts are not available, and it must be purchased at the residents' expense. This will clearly differentiate recycling from trash carts. Currently, since lacking this information on the app and website, by

default the residents request the recycle cart, and use it for trash reducing cart inventory and increasing costs to the City. OES would also encourage DPS to make trash carts available to residents, or low-income residents if the budget allows. Residents who live below the poverty line often do not have the funds to purchase or a car to transport a trash cart.

Recommendation 5: OES should develop a succession plan for the Recycling Coordinator position and an alternate back up position for the Recycling Operations Technician position in the event that these individuals are on extended leave.

Department Response: Partially Agree. The Recycling Program currently utilizes 3 positions 1) Recycling Coordinator who oversees the overall program, 2) Recycling Operations Technician (full time) who operates a large box truck, delivers and services recycling carts 3) Recycling Operations Technician (part time) who manages the recycling hotline, schedules cart servicing, and develops servicing routes.

There is significant cross training between the Recycling Coordinator and the part time Recycling Operations Technician as both interact with the Rumpke and residents. Both can manage contract oversight, recycling service calls and social media outreach for the Recycling Program. However, the full time Recycling Operations Technician does not have a succession plan in place, or a temporary alternative should the person fall ill or choose to leave City service. OES has identified this a threat to the long-term sustainability to the program. The Recycling Coordinator is currently working with various partners including Groundworks ORV, Rumpke, temporary service agencies, DPS and others for short- and long-term replacement options until the positions can be filled. OES will have identified a path forward in the next 3 months. Should a replacement for the full time Recycling Operations Technician not be identified or be filled in a timely manner, the Cart servicing aspect of the program may need to revert to a contracted service position, but this would require additional City resources and is not a recommended course of action at this time.

Recommendation 6: OES should consult with the Budget Office and Human Resources departments and communicate their need to hire a professional who has the knowledge and expertise to handle administrative and accounting related tasks which would improve efficiency and accountability.

Department response: Agree. OES would welcome the return of a business administrator to handle administrative and accounting related tasks. OES has requested additional staff for various roles for multiple budget cycles. We are grateful for the assistance from the City Manager's Office, but the CMO is growing overall, and current administrative staff have a very heavy workload. Additional roles and responsibility of this person could include communications, and social media for OES which is an area that the Office is looking to strategically grow but lacks the capacity to do so.

Recommendation 7: Implement a formal cart inventory count process that is documented properly

Department Response: Agree. OES will develop a formal cart inventory that can be documented properly over the next 3 months.