Date: January 12, 2022

To: Paula Boggs Muething, City Manager

From: Lauren Sundararajan, CFE, Internal Audit Manager *L S*

Copies to: Internal Audit Committee
William Weber, Assistant City Manager
Jerry L. Wilkerson, Jr., Director of Public Services

Subject: **Traffic Signs Audit**

Attached is the traffic signs audit report. The primary objective of this performance audit was to determine if effective and efficient controls are in place over the procurement, security, distribution and maintenance of traffic signs.

We would like to thank the management and staff of the Department of Public Services for their assistance and cooperation during this audit.

If you need any further information, please contact me.

Attachment

Traffic Signs Audit

January 2022

CITY OF CINCINNATI
INTERNAL AUDIT

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Executive Summary

Internal Audit (IA) conducted a performance audit of traffic signs manufactured by the Department of Public Services (DPS). The primary objective of this audit was to determine if effective and efficient controls are in place over the procurement, security, distribution and maintenance of traffic signs.

The audit revealed several opportunities for DPS to strengthen its internal controls over the inventory management of traffic signs. For example, IA found DPS does not have an inventory management process to account for the production, maintenance, and disposal of traffic signs. To make planning, working, and budgetary decisions, management needs to know how much inventory is on hand, where it is located and be able to accurately account for all items. Also, IA found that there are no annual physical counts performed. Annual physical inventory counts are a necessary process and are designed to uncover errors and irregularities.

Maintaining physical control over inventory is essential to protecting City assets. IA found security features are not routinely tested and replaced. For example, a security camera on the exterior of the building does not operate due to cut wires, and the front door to the facility has a broken keypad.

Policies and procedures are key components of an internal control structure. Policies are designed to provide direction to staff on how to properly manage a particular function. Procedures provide employees with instructions on how to carry out the day-to-day activities. IA found DPS's standard operating procedures (SOP) need to be updated and distributed. This includes determining when a traffic sign needs repair and maintenance, and documenting the division's policy on emergency situations.

DPS's accounting section is responsible for overseeing the collection and payment of work orders processed for installation and removal of traffic signs. They create interdepartmental ID bills for the work completed by Traffic Road Operations Division (TROD) employees, which includes the employees' wage rates. To ensure proper billing, the wage rates in Maximo must reflect the current wages listed in the Cincinnati Human Resources Information System (CHRIS). IA found discrepancies with the wage rates and DPS has been underbilling departments.

To strengthen the internal controls over the management of the traffic signs inventory, the following should be incorporated: establish an inventory management process to account for all inventory assets, perform annual physical inventory counts, routinely test and replace security equipment, update and distribute the department's SOPs, and ensure wages maintained in Maximo are accurate. Implementing these recommendations will ensure proper internal controls over the management of traffic signs inventory.

I. Introduction

Background

Traffic signs are critical elements of the roadways because they communicate rules, warnings, guidance, and other useful information that allows drivers to navigate City streets. Well maintained traffic signs are also vital to enhancing road and pedestrian safety.[1]

TROD, located within DPS, oversees a variety of services including traffic control, road maintenance and snow removal. Additionally, TROD is responsible for the production, maintenance, and disposal of traffic signs.

TROD is managed by one superintendent, one operations supervisor, and three supervising area coordinators. Collectively, these positions oversee the installation and replacement of traffic signs completed by laborers, truck drivers and traffic aid workers. Additionally, TROD employs two sign painters that are responsible for the production and maintenance of traffic signs.

Thousands of traffic signs are produced by TROD each year. The production of these signs may include: regulatory signs (aka stop signs and yield signs), warning signs (curve signs and traffic signs), and guide signs (street names). To produce a large volume of traffic signs, TROD must have in place the proper equipment and supplies to meet the demands of the City.

The traffic signs produced and maintained by TROD are stored in a City-owned garage. The supporting equipment including poles, posts, and tools needed to install or replace traffic signs are also kept in the same location, making them accessible for TROD employees to use when completing their assignments.

To track the production of traffic signs, the software Maximo is used by TROD employees. In Maximo, work orders are created by staff to manage the installation, removal, and hours worked.

Capital funds are allocated to TROD each year to cover the costs associated with traffic signs. The chart below reflects the amount of funding available over a five year period.

	FY2018	FY2019	FY2020	FY2021	FY2022
Engineering	$92,200	$100,300	$63,000	$62,310	$65,450
Construction	$49,600	$186,200	$117,000	$115,690	$121,550
General Capital Total	$141,800	$286,500	$180,000	$178,000	$187,000

Chart 1: Capital Budget for TROD

[1] *Maintenance of Signs and Sign Supports*. US Dept of Transportation, Federal Highway Administration, January 2010, page 1.

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

Audit Objective
To determine if effective and efficient controls are in place over the procurement, security, distribution and maintenance of traffic signs.

Audit Scope and Methodology
To achieve the audit objective, Internal Audit interviewed appropriate staff, examined the traffic sign inventory, reviewed department policies and procedures, collected key data to support findings, and compared current practices to industry standards. Records reviewed included data from 2018 to 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 5.60 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 August 2021 to November 2021.

Commendations
IA commends the staff of the Department of Public Services for their cooperation throughout the audit.

II. Audit Findings and Recommendations

The audit report is divided into four sections: Inventory Management and Data, Physical Security, Policies and Procedures, Fiscal Operations and Oversight. The risks identified within these areas are discussed below.

Inventory Management and Data

DPS does not have an inventory management process to account for the production, maintenance, and disposal of traffic signs.

Best practices in inventory management advises us that exact and dependable information is fundamental to a proficient and productive working environment. To make planning, working, and budgetary decisions, management needs to know how much inventory is on hand and where it is located. Inventory responsibility requires that detailed records of delivered or procured goods be maintained, and accurately reported. Itemized records are an essential component of safeguarding inventory assets.

IA found that DPS does not have an inventory management process to accurately account for the production, maintenance and disposal of traffic signs. This prohibits management from calculating the life cycle of the signs, tracking maintenance and inspections, and budgeting for the appropriate supplies and equipment needed.

A robust inventory management software system helps maintain an appropriate level of stock and quantities while reducing excess. With the help of technology, software can produce data to help with management decisions. DPS has the ability to utilize this technology with Maximo; however, this has not been implemented.

Recommendation 1: Establish an inventory management process to account for all inventory assets.

Recommendation 2: Once a process has been established, utilize Maximo to efficiently manage the inventory. Additionally, DPS should research if a barcoding feature is available with the current version of Maximo. Barcoding would allow for more accurate tracking of all traffic signs since it requires each item to be electronically scanned.

Department Response: Agree. DPS would need the addition of a supervising store keeper to its table of organization. This FTE can be depended on to used our Maximo system to accomplish the recommendations of this finding.

Annual physical inventory counts are not performed.

According to the General Accounting Office (GAO), “Physical counts of inventory are only one aspect of inventory controls that contribute to accurate and reliable inventory records.” Annual physical inventory counts are a necessary process of an inventory operation, and are designed to uncover errors and irregularities. Additionally, they assist management with making effective budgeting, operating, and financial decisions for the department. Through staff interviews, IA found management does not perform annual physical inventory counts of traffic signs. Instead, employees rely upon institutional knowledge and visual inspection of inventory volumes to determine future restock in inventory.

Recommendation 3: Perform an annual physical inventory count of traffic signs. At a minimum, use the United States General *Accounting Office's Executive Guide: Best Practices in Achieving Consistent, Accurate, Physical Counts of Inventory and Related Property* as a resource to ensure the accuracy of the counts.

Department Response: Agree. The addition of the above FTE could spear head the effort in the counting of the inventory.

TROD does not employ a storekeeper to oversee inventory.

Having a storekeeper to oversee the inventory operations of a division is critical for strong internal controls. The storekeeper is responsible for replenishing stock while overseeing the ordering, issuing, billing, and record keeping of inventory. Through staff interviews with DPS, IA found the storekeeper position was eliminated from the department's organization chart in 2019. As a result, the oversight for inventory management has been neglected.

Recommendation 4: DPS should work with the Budget and Human Resources Departments to determine if the position of storekeeper should be reinstated.

Department Response: Agree. DPS will work with and Budget and Human Resources to discuss the reinstatement of the storekeeper position.

Key duties and responsibilities are not properly and consistently segregated.

Maintaining a system of effective internal controls requires the appropriate segregation of duties. Management divides or segregates key duties and responsibilities among employees to reduce the risk of error, misuse or fraud. This includes separating the responsibilities for authorizing, processing, recording and reviewing transactions to ensure no individual controls all aspects of the transaction.

IA reviewed the internal process used by TROD to process work orders. This process entails inputting work order requests into Maximo from other City departments for approval. When reviewing this process, IA found a TROD employee is able to submit and approve his own work order.

Recommendation 5: Ensure proper segregation of duties among employees when entering and approving work orders in Maximo.

Department Response: Agree. The department will cross train our current SACs to enter Maximo numbers and then be approved by a Public Services Operations Supervisor.

Physical Security

Security features are not routinely tested and replaced.

Maintaining physical control over inventory is essential to protecting City assets. DPS stores traffic signs, supplies, equipment and tools inside of a City-owned garage that contains multiple areas; therefore, it is important that security cameras and locks are routinely tested and replaced.

IA found a security camera located on the exterior of the building that does not operate due to cut wires. Additionally, access to the front door is maintained through a keypad. However, IA was informed that the keypad is broken, and TROD employees leave the door unlocked during business hours. As a result, this creates the opportunity for unauthorized visitors to enter the facility.

Recommendation 6: Ensure that the security camera and the keypad are repaired and operating as intended.

Department Response: Agree. DPS is unaware of any of the keypads nonfunctional. TROD will contact facility maintenance to have inspected. DPS IT staff are working to resolve the current cameras non-operational status. A recommendation for additional cameras would require additional funding to purchase.

Policies and Procedures

DPS's standard operating procedures (SOP) need to be updated and distributed.

Policies and procedures are key components of an internal control structure. Policies are designed to provide direction to staff on how to properly manage a particular function. Procedures provide employees with instructions on how to carry out the day-to-day activities. IA found the department's SOPs need to be updated to include key information performed by the division and distributed accordingly.

For example, when determining if a traffic sign needs repair and maintenance, DPS must determine if the sign is leaning, faded from sunlight, has graffiti or stickers placed on its surface. Typically, these four factors are considered when determining whether a sign can be repaired or discarded. By documenting these steps, employees can be held accountable for their work and department expectations can be met.

Another example of where the department's SOPs need updating is to include the division's policy on emergency situations. IA was informed that when emergency situations arise, specific traffic signs must be fixed or replaced as soon as possible. Documenting which signs are of high priority is necessary to ensure employees follow department policy while maintaining public safety.

Recommendation 7: Update and distribute the department's SOPs.

Department Response: Agree. DPS will review the current SOPs. TROD will also review the SOPs every other year for potential changes.

Fiscal Operations and Oversight

Wage rates in Maximo are not accurate.

DPS's accounting section is responsible for overseeing the collection and payment of work orders processed for installation and removal of traffic signs. To ensure proper billing, the accountant runs a billing report monthly to show which departments requested the work performed by TROD. This report also allows the accountant to create ID bills to which departments are billed. When payment is received, the accountant updates the information into the Cincinnati Financial System (CFS).

Additionally, the employees hourly wage is maintained in Maximo and must accurately reflect the current payroll information in CHRIS. IA reviewed the work orders for August 2021 to ensure the employees' wages listed on the invoice were accurate. IA compared the wages listed on the paid invoices to the wages listed in CHRIS and found discrepancies. TROD undercharged departments by $190 for the month.

Recommendation 8: Ensure accurate wage entries are maintained in Maximo.

Department Response: Agree. DPS accounting section are making the necessary corrections so that what wages are in Maximo replicate what is in CHRIS.

Oversight of the Cohen Brothers, Inc contract is inadequate.

The City has a concession agreement with Cohen Brothers, Inc (Cohen). Cohen is responsible for hauling scrap metal that is deemed unusable and placed in marked dumpsters on City property. Discarded traffic signs are just one example of the type of scrap metal (aluminum) eligible for recycling under the contract terms. IA was informed that DPS's accounting section does not maintain a copy of the contract on file; therefore, is unaware of the terms of the contract and provides minimal oversight.

Recommendation 9: Maintain a copy of the Cohen contract to ensure the terms are properly enforced.

Department Response: Agree. TROD will work with our Accounting Section to obtain the current contract and review the terms of the agreement.

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. IA was informed that there is currently no succession plan for key positions within TROD. As a result, sudden personnel changes could significantly compromise internal control systems.

For example, there are two sign painters who are responsible for the production and maintenance of all City traffic signs. A significant amount of institutional knowledge is retained by these employees, who collectively, retain multiple decades of work experience. However, succession planning for their positions has not been performed nor has a clear delineation of their responsibilities been documented.

IA also found that the positions of laborer and traffic aid worker retain a significant amount of responsibilities associated with traffic sign installations and removals, street painting, and traffic patterns. Implementing adequate succession planning for all positions that support traffic sign production, installation, maintenance and removal is essential to ensure business continuity.

Recommendation 10: DPS should coordinate their efforts with the Human Resources Department to develop a detailed succession plan for all positions that support the traffic signs operation.

Department Response: Agree. DPS needs to collaborate with Human Resources on the TAW job spec. TAW's need to be able to read a map, pass the ATSSA class, and demonstrate the ability to lay out a traffic pattern. DPS and Human Resources will need to work together on updating their classification specs.

Interdepartmental coordination efforts need improving.

DPS and the Department of Transportation and Engineering (DOTE) enter into a Memorandum of Understanding each year to maintain and upgrade the City's transportation infrastructure. This agreement provides a framework for cooperation between the two departments, reimbursements to DPS from major infrastructure programs of DOTE, allocation of resources by DPS to routine and preventive maintenance, and monthly status reports.[2]

Both departments utilize separate software systems to track work orders and process service requests. However, software is not shared between the two departments, with the exception of the Customer Service Response system, in which DOTE has been given access. The lack of shared electronic assets has led to the creation of additional steps that are needed in order to complete an already complex process.

For example, DPS utilizes the asset management system, Maximo, to track maintenance repairs, which includes both those originating from DPS and DOTE. However, DOTE does not share access to Maximo and must submit to DPS their work orders via email. DPS then processes and completes needed maintenance and repairs, and then inputs maintenance performed and hours worked into Maximo. The accounting section of DPS then invoices accordingly. Although this process achieves the objective of traffic sign installation, maintenance and disposal, it can sometimes be cumbersome as a result of trying to process requests that originate from multiple sources using different formats.

Further, DPS is responsible for notifying DOTE of when a work order is complete. This form of communication may be performed verbally or in writing. Although bi-weekly meetings occur between the departments and status updates are provided for specific work orders, a greater effort is needed by DPS to ensure the communication remains consistent and on-going.

Recommendation 11: Establish a shared electronic drive between DOTE and DPS and determine where improvement is needed to increase interdepartmental coordination duties.

Department Response: Agree. DPS and DOTE will need funding so that both departments have access to a shared work order system. A system will need to be in place to maintain this work order system as well. Work orders would easily be able to be issued from one department to the other as well as up to date information such as status and various query methods.

[2] MOU Draft between DPS & DOTE – 10/19/2021, page 1.

III. Conclusion

DPS is responsible for the management, installation and removal of the City's traffic signs. To ensure DPS properly accounts for all inventory assets, adequate controls should be implemented to oversee the inventory.

To improve DPS's internal control structure, IA recommends the following: establish an inventory management process to account for all inventory assets, perform annual physical inventory counts, routinely test and replace security equipment, update and distribute the department's SOPs, and ensure wages maintained in Maximo are accurate. Implementing these recommendations will ensure the proper internal controls over the management of traffic signs inventory.

IV. Department of Public Services Response

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