

**Performance Audit:
Department of Aviation
Facilities Management Staffing and Scheduling**

February 2022

City Auditor's Office
City of Atlanta

File #21.09



Performance Audit:

Facilities Management Staffing and Scheduling

What We Found

The Department of Aviation's Facilities Management division is responsible for ensuring the maintenance and repair of buildings, roadways, runways, taxiways, lighting facilities, landscaping and drainage systems within the airport. These duties contribute to the airport's ability to maintain continuous operations. Thus, adequate staffing and scheduling in Facilities Management is vital to airport operations and safety.

Facilities Management lacks a clear management strategy for resource allocation. The division's work order management system, Maximo, did not contain a record of all work. The division uses eight systems and methods to manage and document work, including hard copy. As a result, the division is unable to confirm whether current staffing and scheduling meet workload needs. When work is recorded in Maximo, it is incomplete and inaccurate. We found that 99.7% of work orders recorded between Jan. 1, 2019, and Jun. 30, 2019, were missing a complete status. Data capture has improved since the division increased the number of mandatory data fields. Additionally, staff credentials are not centralized or maintained. We found that 17% of technical staff did not have the required licenses or certifications. Finally, there is no overtime policy. Between November 2020 and August 2021, there were 125 instances where 55 employees earned over the proposed maximum threshold for overtime, which poses safety and effectiveness concerns.

We also found that the division's salary structure presented hiring barriers. We found potential evidence of salary compression. As of March 2021, the median hourly wage for regular Facilities Maintenance Mechanics was \$1.08 higher than the senior mechanics' median. Additionally, 52% of technical staff earned less than the market median wage for their positions as of March 25, 2021. The division created a career progression plan and tiered salary structure for fiscal year 2022, which raised the salary midpoints for most positions to exceed the market median.

Why We Did This Audit

In a previous risk assessment by our office, we identified potential staffing issues in the Facilities Management division. We undertook this audit to assess whether the staffing and scheduling models and controls support workload needs.

What We Recommended

To increase efficiency, reduce compression, and manage overtime, the Facilities Management Assistant General Manager should:

- ensure that one system has a record of all work
- document a strategy and procedures for using each system
- identify data needed for decision-making
- require that data in the system is entered timely and accurately
- develop a centralized credential tracking method
- create a training program
- implement an overtime policy, controls, and review process
- assess incumbent salaries before hiring new employees

To ensure that the division's technology is viable, the Chief Information Officer should:

- review the business case for work order management systems

To mitigate recruiting and retaining challenges, the Commissioner of Human Resources should:

- annually review compensation within salary grades

For more information regarding this report, please use the "contact" link on our website at www.atlaudit.org

Management Responses to Audit Recommendations

| Summary of Management Responses | | |
|---|---------------------------------------|--|
| <p>Recommendation #1:</p> <p>We recommend that the Chief Information Officer review the business case for work order management systems that Atlanta Information Management conducted in 2018 to ensure that it is still viable. If not, we recommend the Facilities Management Assistant General Manager prepare an updated business case.</p> | | |
| <p>Response: Partially Agree</p> | <p>Status: Not Started</p> | <p>Estimated Completion Date (M/Y): 02/2022</p> |
| <p>Recommendation #2:</p> <p>We recommend that the Facilities Management Assistant General Manager ensure that one system has a record of all maintenance work orders, by integrating auxiliary work systems and applications as possible.</p> | | |
| <p>Response: Agree</p> | <p>Status: Started</p> | <p>Estimated Completion Date (M/Y): 06/2022</p> |
| <p>Recommendation #3:</p> <p>We recommend that the Facilities Management Assistant General Manager create a strategy for using each system, document procedures, and establish a process for reconciling these systems for reporting.</p> | | |
| <p>Response: Agree</p> | <p>Status: Started</p> | <p>Estimated Completion Date (M/Y): 04/2022</p> |
| <p>Recommendation #4:</p> <p>We recommend that the Facilities Management Assistant General Manager identify specific information needed for decision making and modify existing reports if needed.</p> | | |
| <p>Response: Agree</p> | <p>Status: Started</p> | <p>Estimated Completion Date (M/Y): 04/2022</p> |
| <p>Recommendation #5:</p> <p>We recommend that the Facilities Management Assistant General Manager require that data in the work order management system is entered timely and accurately, including a process to check for duplicates, develop a performance metric for system input, and define roles and responsibilities for system use, data entry, and supervisory review.</p> | | |
| <p>Response: Agree</p> | <p>Status: Not Started</p> | <p>Estimated Completion Date (M/Y): 04/2022</p> |

| | | |
|---|--|--|
| <p>Recommendation #6:</p> <p>We recommend that the Facilities Management Assistant General Manager develop a centralized credential tracking method, including establishing a process for checking and handling suspended licenses.</p> | | |
| <p>Response: Agree</p> | <p>Status: Started</p> | <p>Estimated Completion Date (M/Y): 04/2022</p> |
| <p>Recommendation #7:</p> <p>We recommend that the Facilities Management Assistant General Manager create and enforce a training program with requirements by position and deadlines, such as seasonal requirements for inclement weather.</p> | | |
| <p>Response: Agree</p> | <p>Status: Started</p> | <p>Estimated Completion Date (M/Y): 06/2022</p> |
| <p>Recommendation #8:</p> <p>We recommend that the Facilities Management Assistant General Manager implement an overtime policy that establishes maximum hours in a day and pay period and establish overtime controls and a review process to ensure employee safety.</p> | | |
| <p>Response: Partially Agree</p> | <p>Status: Started</p> | <p>Estimated Completion Date (M/Y): 04/2022</p> |
| <p>Recommendation #9:</p> <p>We recommend that the Facilities Management Assistant General Manager assess incumbent salaries before hiring new employees to prevent potential salary compression as the department fills its vacant positions.</p> | | |
| <p>Response: Agree</p> | <p>Status: Partly Implemented</p> | <p>Estimated Completion Date (M/Y): 01/2022</p> |
| <p>Recommendation #10:</p> <p>We continue to recommend that the Commissioner of Human Resources annually review compensation within salary grades across all departments and report the findings to City Council prior to the annual budget proposal, as first recommended in our 2015 Compensation audit.</p> | | |
| <p>Response: Agree</p> | <p>Status: Partly Implemented</p> | <p>Estimated Completion Date (M/Y): 10/2022</p> |



CITY OF ATLANTA

AMANDA NOBLE
City Auditor
anoble@atlantaga.gov

STEPHANIE JACKSON
Deputy City Auditor
sjackson@atlantaga.gov

CITY AUDITOR'S OFFICE
68 MITCHELL STREET SW, SUITE 12100
ATLANTA, GEORGIA 30303-0312
<http://www.atlaudit.org>
(404) 330-6452
FAX: (404) 658-6077

AUDIT COMMITTEE
Danielle Hampton, Chair
Daniel Ebersole, Vice Chair
Amanda Beck, PhD
Donald T. Penovi, CPA
Dargan Burns, III

February 3, 2022

Honorable Mayor and Members of the City Council:

We conducted this audit to assess potential staffing risks in the Department of Aviation Facilities Management Division. This audit reviews whether the division's staffing and scheduling models and controls support their workload needs.

We found that workload data to assess the appropriateness of the division's current staffing and scheduling model are incomplete and inaccurate. Our recommendations are intended to improve data collection, accuracy, and completeness; mitigate the challenge of recruiting and retaining staff; improve overtime practices; and ensure staff have the appropriate credentials.

The Audit Committee has reviewed this report and is releasing it in accordance with Article 2, Chapter 6 of the City Charter. We sent a draft report to management on October 26, 2021, and received their response on December 28, 2021. We appreciate the courtesy and cooperation of city staff throughout the audit. The team for this project was Myra Hagley, Lindsay Kuhn, and Patty Westerfield.

Amanda Noble
City Auditor

Danielle Hampton
Chair, Audit Committee

Facilities Management Staffing and Scheduling

Table of Contents

| | |
|--|----|
| Introduction..... | 1 |
| Background..... | 1 |
| Facilities Management is Organized by Function..... | 3 |
| Facilities Management Uses a Shift Schedule..... | 6 |
| Facilities Management Uses Maximo for Work Management..... | 8 |
| Audit Objectives..... | 9 |
| Scope and Methodology..... | 9 |
| Findings and Analysis..... | 11 |
| Clarifying Management Strategy Should Improve Resource Allocation..... | 11 |
| Multiple Information Systems Diminish Usefulness..... | 12 |
| Division Lacks Necessary Information to Make Operational Decisions..... | 16 |
| Stronger Controls Are Needed to Track Licenses and Certifications..... | 21 |
| Salary Structure Presented Hiring Barriers..... | 23 |
| Salary Compression Reduces Employee Morale..... | 24 |
| Some Employees Earned Below the Market Median..... | 24 |
| Recommendations..... | 28 |
| Appendices..... | 31 |
| Appendix A: Management Review and Response to Audit Recommendations..... | 32 |

List of Exhibits

| | |
|--|----|
| Exhibit 1: Department of Aviation Organization..... | 2 |
| Exhibit 2: Facilities Management has Four Units..... | 3 |
| Exhibit 3: Most Vacancies Were in Airside and Landside..... | 4 |
| Exhibit 4: Airside Crew Clears Drainage Area Near Taxiway..... | 5 |
| Exhibit 5: Landside Crew Maintains Slope Near Airport Terminal Area..... | 5 |
| Exhibit 6: Facilities Management Crews and Tasks Are Assigned by Function and Shift..... | 7 |
| Exhibit 7: Maximo Work Order Process..... | 8 |
| Exhibit 8: Facilities Management Uses Eight Methods to Manage Work..... | 13 |
| Exhibit 9: There is No Monthly or Seasonal Trend for Work Order Started..... | 17 |
| Exhibit 10: Department Has Fewer Acres but More Passengers than Comparable Airports..... | 19 |
| Exhibit 11: Facilities Management FY11-FY22 Turnover is Below Benchmark..... | 20 |
| Exhibit 12: Licenses and Certifications Required by Position..... | 21 |
| Exhibit 13: 17% of Technical Staff Do Not Have Required Licenses or Certifications..... | 23 |

Exhibit 14: 52% of Technical Staff Earned Less Than Market Median as of March 25, 2021..... 25
Exhibit 15: Most New Position Salary Midpoints Meet or Exceed Market Median 26

Introduction

We undertook this audit because a previous risk assessment identified potential staffing issues in the Department of Aviation's Facilities Management Division. The city auditor's office had previously conducted an investigation of overtime practices in the airport's maintenance division, and an audit of city departments' overtime spending in 2018 and 2019 respectively. In these reports, our office found evidence of unfair overtime allocation, inconsistent compliance with commercial driver's licenses medical card regulations, and an increase in citywide overtime spending. This audit also serves as a follow-up to overtime and licensure recommendations.

During our audit, the department upgraded its Maximo system to enhance system capabilities and improve work order and asset management in early July 2021. We assessed whether the division's staffing and scheduling processes and controls met workload needs. While our audit encompassed staffing levels in inventory and fleet, we did not assess controls over inventory or fleet management; our fiscal year 2022 audit plan includes an audit of Facilities Management inventory and fixed assets.

Background

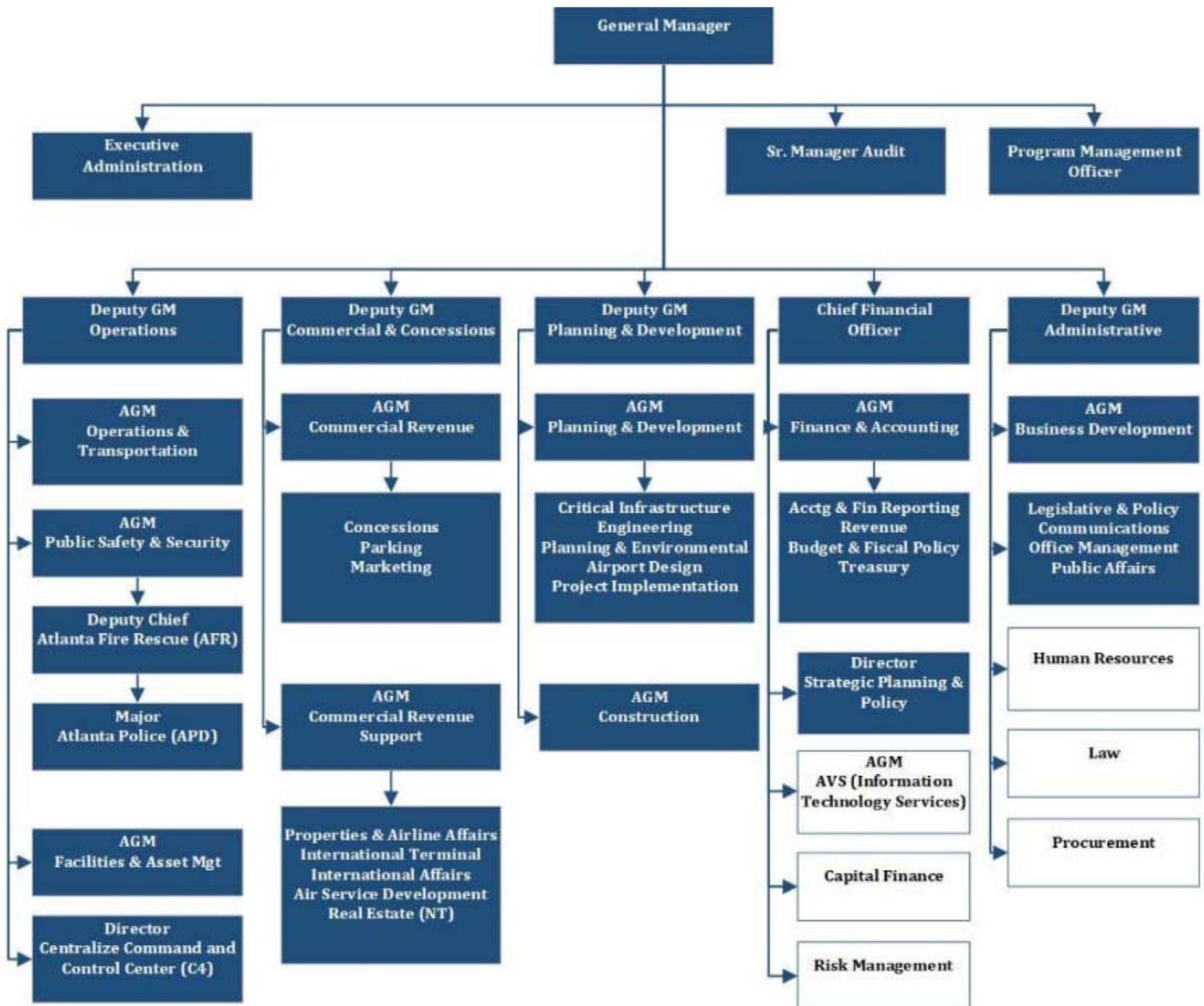
Hartsfield-Jackson International Airport is one of the world's busiest airports, with an estimated total regional economic impact of \$82.4 billion annually. The airport is owned by the City of Atlanta and operated by the Atlanta Department of Aviation (Aviation). Facilities Management is a division of the Atlanta Department of Aviation. The division comprises four business units: Airside, Landside and Asset Management, Facilities, and Administration.

Adequate staffing and scheduling in the Facilities Management division is vital to airport operations and safety. Under the Federal Aviation Administration's (FAA) regulations CFR Part 139, the city must maintain an Airport Operating Certificate and an approved Airport Certification Manual which describe operational procedures and responsibilities to meet operational and safety standards. Through City Code Sec. 22-30(a), the department meets its federal requirements by designating the division responsible for ensuring the maintenance and repair of buildings, roadways, runways, taxiways,

lighting facilities, landscaping and drainage systems within the airport. Facilities Management works with Operations for the ongoing and continuous operation of the airport and maintaining a constant state of readiness, including managing air traffic control coordination and inspections of the airfield, terminal, concourses, parking decks, roadway systems and other facilities.

The deputy general manager of operations oversees the Facilities Management division. See Exhibit 1 for an illustration of the Department of Aviation organization.

Exhibit 1: Department of Aviation Organization

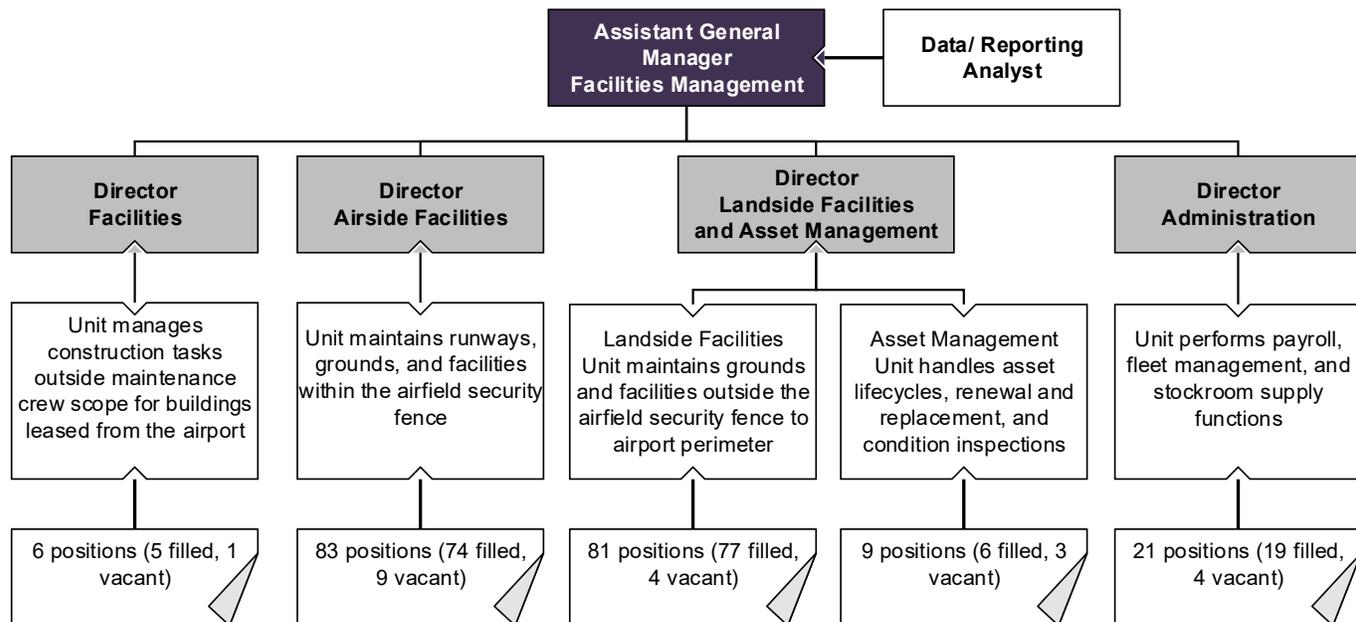


Source: City of Atlanta FY2022 Adopted Budget

Facilities Management is Organized by Function

In October 2019, the department reorganized its aviation maintenance structure to provide leadership at all levels and ensure 24-hour daily coverage to handle maintenance needs (see Exhibit 2). Based on the Facilities Management Division’s organization chart, dated February 2021, the assistant general manager leads the division with four directors who manage the four business units and the data/reporting analyst.

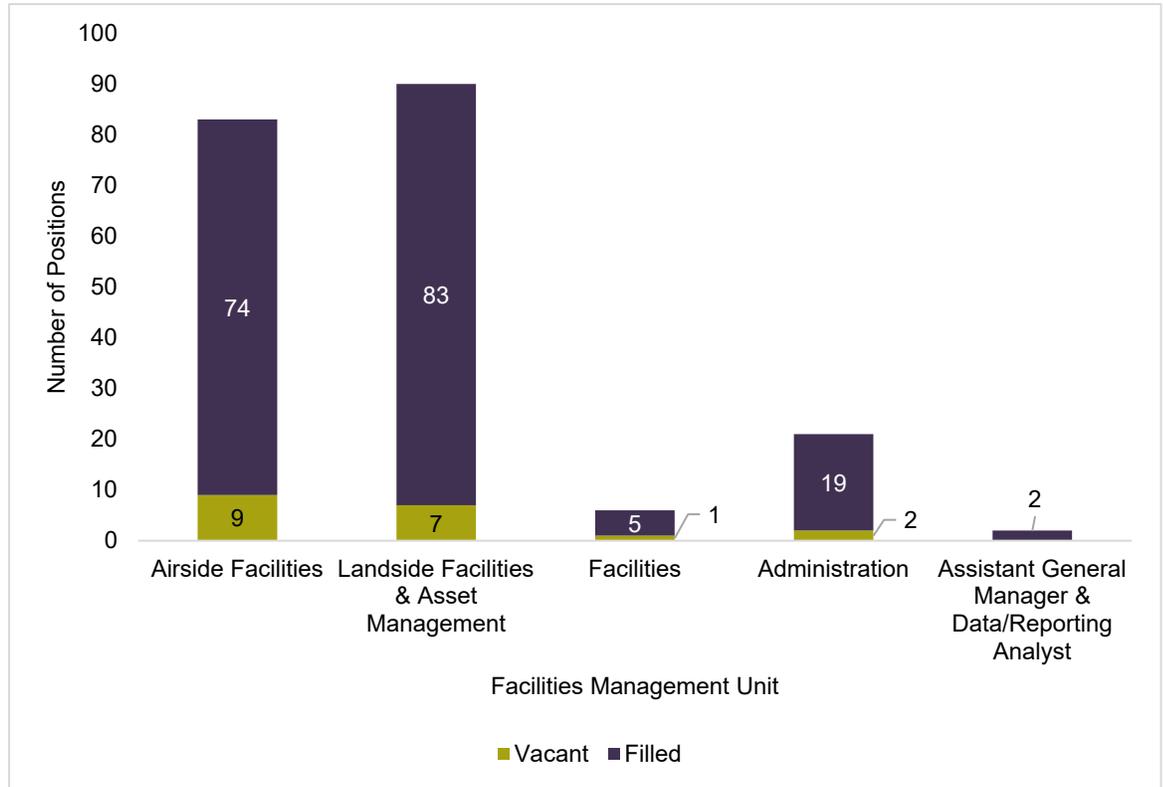
Exhibit 2: Facilities Management has Four Units



Source: Prepared by auditors using Facilities Management interviews and organizational chart as of February 2021

The majority of staff are in the Airside and Landside Units. Facilities Management had 183 filled positions and 19 vacancies (9%) as of February 2021. The Airside and Landside units had the highest share of staff overall, as well as the largest number of vacant positions, as shown in Exhibit 3.

Exhibit 3: Most Vacancies Were in Airside and Landside



Source: Prepared by auditors using Facilities Management organizational chart as of February 2021

Airside is responsible for the airfield. The Airside Unit covers the area inside the airport’s security fence to the airfield. Nine crews maintain runways, taxiways, cargo areas, lights, pavement, grass areas, the fence line, and anything else on the airfield (see Exhibit 4). Airside works closely with the Aviation Operations Division, which is responsible for conducting daily inspections to ensure compliance with federal airfield safety requirements. All Airside staff are required to hold an Aircraft Movement Area license issued by the airport, which is used to satisfy federal safety requirements.

Exhibit 4: Airside Crew Clears Drainage Area Near Taxiway



Source: Photo taken by audit team during Facilities Management Airside crew observation on July 15, 2021

Landside and Asset Management is responsible for the areas outside the airfield. The Landside maintenance crews maintain the areas outside of the security fence to the perimeter of the airport. The Landside Facilities unit performs day-to-day maintenance and beautification of the grounds, repair along the 26 miles of fencing, waste management, and maintenance of approximately 30 buildings outside of the main terminal. Nine crews maintain the grass and facilities in this area (see Exhibit 5).

Exhibit 5: Landside Crew Maintains Slope Near Airport Terminal Area



Source: Photo taken by crew supervisor on July 12, 2021.

The Asset Management staff is responsible for overseeing airport needs, including asset lifecycles, renewal and replacement, and condition inspections. The assistant director of Asset Management manages the Maximo team, which validates service requests created by any Aviation stakeholder to ensure that they are properly assigned to the right division or contractor. If the information is accurate, then the Maximo team creates a work order.

The Maximo team also works with consultants to perform data cleanup and system upgrades. According to staff, IBM will no longer support their version of Maximo after September 30, 2021. Staff also said that the Department of Aviation has used Maximo for many years; however, data has not been consistently maintained.

The Facilities unit is responsible for the buildings leased from the airport. This unit manages small construction tasks that are too extensive for Landside and Airside staff, but too small to obtain a general contractor. Our audit did not review this function because these staff primarily support buildings leased from the airport and do not work a shift schedule.

The Administration Unit comprises the payroll, fleet, and stockroom support services functions. Payroll staff handles payroll, leave, and overtime. Fleet staff coordinates preventive maintenance and repair for the department's vehicle and equipment inventory. The stockroom is set up for 24-hour staffing to ensure that maintenance crews always have access to parts and supplies. This audit does not focus on Payroll, which is an administrative function and does not operate on a shift schedule.

Facilities Management Uses a Shift Schedule

Facilities Management Airside, Landside, and Stockroom staff are grouped into "crews." Each crew has a crew supervisor. Crew members are assigned based on their job responsibilities, which include maintenance mechanics, electricians, HVAC technicians, and storekeepers.

The division uses an eight-hour shift with three shifts per day to ensure 24-hour coverage at the airport, and most crews follow a staggered weekend schedule. All staff are scheduled to be at the airport from Tuesday through Thursday. A staggered weekend schedule provides crew members with three options to assign their weekends as 1) Friday and Saturday; 2) Saturday and Sunday; or 3)

Sunday and Monday. Exhibit 5 describes crews and tasks assigned per shift.

The first shift includes nine different crews that work 7am - 3pm. The 2nd shift works from 3pm - 11pm and includes two airside and two landside crews. Staff told us that the 2nd crew covers work that was not completed during the 1st shift, as well as corrective and preventative maintenance. The 3rd shift works from 11pm - 7am; and includes three airside and two landside crews. The runway can be closed more easily during the 3rd shift and allows crews to complete work orders that are more difficult to access during the day (see Exhibit 6).

Exhibit 6: Facilities Management Crews and Tasks Are Assigned by Function and Shift

| Shift | Number of Crews | Unit | Tasks |
|---|---|----------|---|
| 1 st Shift 7:00 am – 3:00 pm | <ul style="list-style-type: none"> • 3 Facilities Maintenance • 1 Electrician | Airside | <ul style="list-style-type: none"> • Must have 2 electricians (Department of Aviation Operations Requirement) • Typically handle emergency issues, generally the busiest shift |
| | <ul style="list-style-type: none"> • 1 Facilities Maintenance • 2 Grounds • 1 Public works • 1 HVAC | Landside | <ul style="list-style-type: none"> • Drywall, paint, carpet • Grounds maintenance • Public works (waste management), maintain international flags, move furniture |
| 2 nd Shift 3:00 pm – 11:00 pm | <ul style="list-style-type: none"> • 1 Facilities Maintenance • 1 Electrician | Airside | <ul style="list-style-type: none"> • Must have 2 electricians • Can do preventive maintenance and corrective work orders • Does work the first shift is unable to finish |
| | <ul style="list-style-type: none"> • 1 Facilities Maintenance • 1 Grounds | Landside | <ul style="list-style-type: none"> • Drywall, paint, carpet • Security along 26 miles of fence and security gate maintenance |
| 3 rd Shift 11:00 pm – 7:00 am | <ul style="list-style-type: none"> • 2 Facilities Maintenance • 1 Electrician | Airside | <ul style="list-style-type: none"> • Must have 2 electricians • Can do preventive maintenance and corrective work orders • Can close runway more easily to do painting, marking, grass-cutting, etc. |
| | <ul style="list-style-type: none"> • 1 Facilities Maintenance • 1 Public works | Landside | <ul style="list-style-type: none"> • Drywall, paint, carpet • Waste removal from the curb, pressure washing |
| Contract Crew | As needed | | <ul style="list-style-type: none"> • Completes larger work than maintenance crews- e.g., repairing sinkholes, repainting runway |

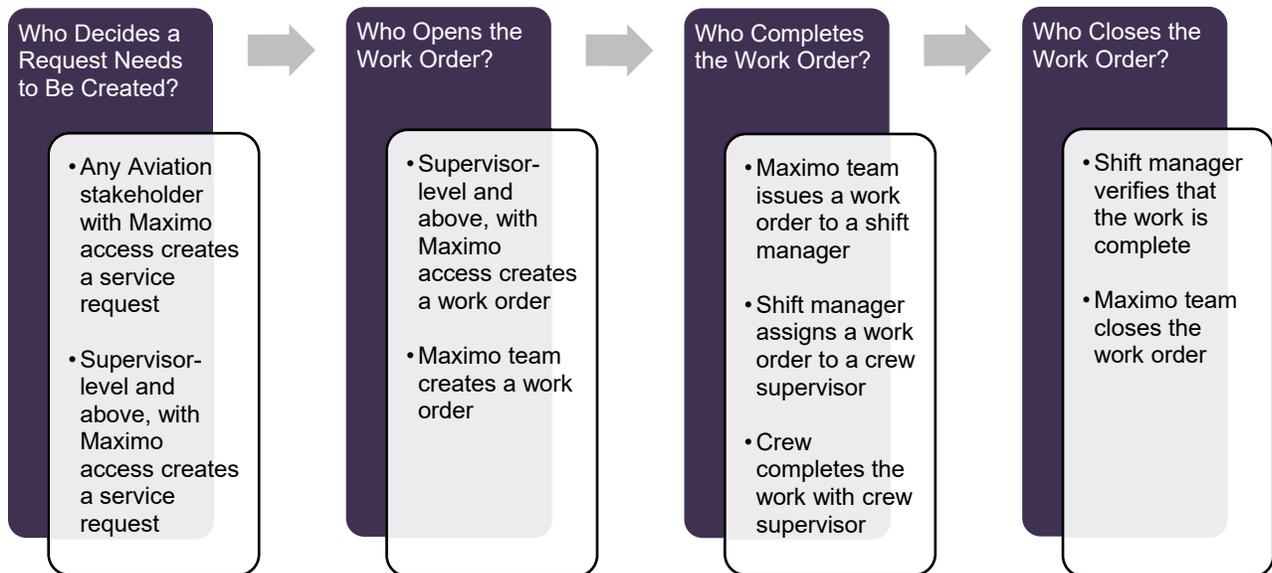
Source: Prepared by audit team based on interviews with Aviation staff

Facilities Management Uses Maximo for Work Management

Facilities Management staff use Maximo, an IBM software and computerized asset management system, for work order management. The division has used Maximo since 2007, although staff told us that much of the historical data is limited because data fields were not mandatory. The division is currently upgrading the system and cleaning historical data with assistance from two consultants. The system upgrade is necessary because IBM will no longer support the division's version of Maximo after September 30, 2021.

The Facilities Management Maximo team developed Maximo training guides to help users create service requests and work orders, assign specific crews to work orders, and complete the work order workflow. Exhibit 7 shows the Maximo work order process from creation to completion.

Exhibit 7: Maximo Work Order Process



Source: Prepared by audit team based on interviews with Facilities Management staff

Facilities Management's Maximo users can designate the work order type for the maintenance crews. Facilities Management staff described their three primary work order types as: 1) routine maintenance, which are public works-type activities like pressure washing, street sweeping and waste management; 2) corrective maintenance, which are repair requests from any Aviation

department stakeholder; and 3) preventive maintenance, which are scheduled maintenance activities to reduce the need for corrective work orders. Additional work order types, used less frequently, include training, responding to emergencies, escorting contractors in restricted areas, special projects, events, and staff meetings.

Audit Objectives

This report addresses the following objectives:

- Do current staffing and scheduling models meet workload needs?
- Do controls support staffing and scheduling needs?

Scope and Methodology

We conducted this audit in accordance with generally accepted government auditing standards. This audit includes Facilities Management procedures, staffing and workload between January 2019 to June 2021. Our scope primarily covers technical staff in the division (Airside, Landside, Inventory, and Fleet staff).

Our audit methods included:

- Interviewing facilities management division management and staff to understand policies, procedures, and practices
- Observing facilities management crews to understand the scope of various maintenance activities
- Reviewing licensing and certification records to assess if maintenance employees possess required licenses and certifications
- Analyzing Department of Aviation facilities management division and Department of Watershed Management fleet staff and fleet data to compare staffing and fleet resources
- Benchmarking to determine if the city's facilities maintenance staffing is comparable to other large airports
- Researching best practices for aviation maintenance including staffing, preventive maintenance, and work order management
- Analyzing Department of Aviation's overtime usage and staff compensation

Generally accepted government auditing standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Findings and Analysis

Clarifying Management Strategy Should Improve Resource Allocation

The Facilities Management Division's enterprise work order management system, Maximo, does not contain a record of all asset maintenance requests completed. Division staff reported using several systems and methods to manage and document workload, which may not be recorded in Maximo in time for weekly and monthly reporting or may not be captured in Maximo at all. In addition, the division still relies on paper-driven processes to manage its staffing, including scheduling and certification and license requirements. The department tracks leave and overtime use within Kronos, but overtime justifications and approvals are maintained using paper forms that must be manually reconciled. As a result, the division is unable to confirm whether current staffing and scheduling meet workload needs. Lack of complete historical work order records affects Facilities Management's ability to plan and manage its resources to ensure that crew staffing meets workload, assets are repaired and replaced timely, and that warehouse supply and fleet inventory meet crew needs. We recommend that the assistant general manager of facilities management develop a strategy for managing its resources to ensure adequate staffing to meet workload needs.

Also, best practices in facilities maintenance suggest that at least 65% of work orders should be preventive and predictive maintenance activities to extend useful life, prevent or discover failures, and reduce early replacement costs. The division could not accurately track this metric because staff did not consistently populate the work order type data field in Maximo. Work order input data entry was not mandatory for several data fields. The division has made some progress in improving its data completeness by configuring mandatory data fields with its recent Maximo system upgrade. With the department's implementation of its Maximo upgrade in July 2021, the system has additional capabilities, such as asset registry and labor tracking. Also, work order records have mandatory fields that must be filled before the work order can be completed. The Maximo data team said they have updated the system by adding failure reporting and scheduling preventive maintenance, and they are currently working to integrate GIS mapping functions. The Maximo system's improved capabilities should reduce reliance on other systems and improve workload reporting.

In November 2020, the division drafted an overtime policy establishing 32 hours per pay period as the maximum overtime for an employee. This policy has not yet been adopted. In our review of payroll data, we found 125 instances where 55 employees earned over this proposed maximum threshold between November 2020 to August 2021. We also found one employee worked double- and triple-shifts. These factors bolster the need to adopt and implement the overtime policy. We also found that staff certification and license records are not centralized or maintained within a training function and are instead maintained within individual crews. In addition, some staff lacked required certifications or licenses. Airport best practices recommend that the department maintain staff with appropriate licenses/certifications based on their positions.

Multiple Information Systems Diminish Usefulness

Facilities Management lacks a strategy to coordinate among its eight work management methods. The division uses six different systems and two manual methods to manage work orders. The systems are not integrated with Maximo and staff must enter updates manually. The division handles most scheduling outside of the system, and some processes are paper based. As a result, Facilities Management's workload information is incomplete and inaccurate. Without this data, the division cannot assess current staffing against operational needs.

Facilities Management uses multiple systems to receive and document work. The division lacks an enforced, centralized location to receive and document work. As a result, division management cannot analyze workload and determine resource needs. Staff enter some work orders into multiple systems, and no system has a record of all work. Using several systems also increases the risk of dual entry errors and inefficiency.

Crews can complete work without capturing them in Maximo. In addition to Maximo, staff told us that they receive work requests through ASOCS, email, radio, and telephone. The division uses the following methods to manage work: Maximo, ASOCS, CityWorks, ALIS, Samsara, ATLGIS, Microsoft Office, and hard-copy documents. Exhibit 8 shows which staff use each method, along with a brief description of how the method is used.

Exhibit 8: Facilities Management Uses Eight Methods to Manage Work

| System | Description | Used For | Which Staff Use |
|---------------------|--|---|------------------------------------|
| Maximo | Asset management system. Current contract in place until 2023 with two one-year extensions | Work order input and tracking, asset tracking | All staff |
| ASOCS | Operations and inspections data management system | FAA compliance, maintenance needs on the airfield | Airside staff, Aviation operations |
| CityWorks | Work order management system | Managing airside work with GIS tracking | Airside staff |
| ALIS | Airfield lighting management application | Airfield lighting management | Electricians |
| Samsara | Asset tracking software | Airside asset, equipment, and labor tracking for work-integrated with CityWorks | Airside staff |
| ATLGIS (ArcGIS) | Geographic data mapping system | Airside GIS tracking- integrated with CityWorks | Airside staff |
| Microsoft Office | Suite of desktop and cloud apps | Routine maintenance planning and other work plans, crew reports, shift reports, presentations | All staff |
| Hard-copy documents | N/A | Leave requests and tracking, overtime requests, overtime sign-ups, work order documentation | All staff |

Source: Prepared by audit staff based on interviews and observations with Aviation staff

Division leadership told us that Facilities Management’s work order management system is Maximo; however, some users prefer using CityWorks, Samsara, and ATLGIS (geographic information system), which they stated has features such as cloud hosting, mobile options and GIS. Staff told us that CityWorks is an interim solution until the division implements more of these features in Maximo. AIM (Atlanta Information Management) told us they compared Maximo, CityWorks, and similar systems for the division in 2018. According to AIM, the group identified Maximo as the best option; however, AIM staff could not provide us with the business case for Maximo. CityWorks, Samsara, and ATLGIS appear to be bottom-up solutions to address gaps in the previous version of Maximo.

To meet federal regulations, the Aviation Operations Division records inspection results and work orders necessary to address unsatisfactory conditions on the airfield in ASOCS. The division also

records these work orders in Maximo for Facilities Management crews to make repairs. Facilities Management staff told us they are working with AIM to integrate Maximo and ASOCS, ending the need for dual entry. AIM staff told us ALIS provides extra features for electricians that Maximo and CityWorks lack. AIM also told us they plan to integrate ALIS into Maximo.

Staff also showed us Microsoft Office and hard copy documents they use to manage staffing, scheduling, and work orders. These include hard copy leave and overtime forms, as well as spreadsheets for daily, weekly, and bimonthly work plans. Crew members currently lack Maximo access due to limitations in the number of licenses purchased, so other methods are more accessible. However, division leadership said that the division has prepared legislation to purchase additional Maximo licenses.

We recommend the Chief Information Officer review the business case for work order management systems that AIM conducted in 2018 to ensure that it is still viable. If not, we recommend the Facilities Management Assistant General Manager prepare an updated business case.

We also recommend the Facilities Management Assistant General Manager ensure that one system has a record of all work orders. To achieve this, the department should work with AIM to integrate all additional systems and applications as possible. The Facilities Management Assistant General Manager should create a strategy for using each system, document procedures, and establish a process for reconciling these systems for reporting.

Inconsistent data entry and errors skew workload reporting. Records in Maximo that conflict with individual crews' internal records suggests weak internal controls. We obtained a sample of weekly reports prepared by the Maximo team for the weeks of May 9-15, 2021; June 6-12, 2021; and June 13-19, 2021. We identified seven crews with no work orders completed during the week of May 9-15, 2021. Supervisors for five of the crews were able to provide evidence to show their crews completing work orders; staff told us one of the crews did not have a supervisor, and the position was vacant. The other crew supervisor responded saying that he had been on vacation. Because the division has no written policy for when crews update completed work orders, weekly workload reporting may be pulled from the system before crews update completed work orders.

We also identified work orders in which start times and finish times were the same. Maximo data is also incomplete—key fields such as crew number, location and asset type, were not captured in the system, which is necessary to identify workload.

We recommend the department work with crew supervisors and other Maximo end-users to identify specific information needed for decision making and modify existing reports if needed.

We also recommend the Facilities Management Assistant General Manager ensure data in the work order management system is entered timely and accurately. To achieve this, the Facilities Management Assistant General Manager should create a process to check for duplicates, develop a performance metric for system input, and define roles and responsibilities for system use, data entry, and supervisory review.

Facilities Management could improve workload data by using more system functions. Aviation Maintenance currently uses Maximo for tracking work orders and service requests but does not currently use all available features. For example, Maximo is capable of allowing users to schedule preventive maintenance work orders and track certifications, but these features are not used. Facilities Maintenance also uses multiple systems that have similar capabilities.

Facilities Management is making progress in ensuring data completeness. Work order data entry improved after the Maximo system upgrade in July 2021, in part because of increased mandatory data fields. We analyzed work orders reported between July 1, 2021, and August 23, 2021, and found that implementing mandatory fields improved completeness, resulting in:

- almost a 50% increase in start and finish date fields populated
- about 134% increase in facilities management crew name entered
- increased documentation of completion status from 0.3 percent to 54.8%

As Aviation's information systems team builds out Maximo's asset-related features, the staff should be better able to document work performed and forecast future needs. AIM leadership also said that they added the Maximo's Health Safety & Environment (HSE) module to meet federal safety requirements.

Additionally, Facilities Management leadership told us that they updated most of the preventive maintenance work order schedules, integrating ASOCS with Maximo is underway, and they are documenting the requirements to integrate ATLGIS. They said that Maximo is mobile as of October 11, 2021, and includes mandatory fields for corrective maintenance work orders to improve failure tracking. Leadership also told us that the division's Maximo team has been reconciling daily work reports with Maximo since July 2021 to ensure that all work orders are documented and reported.

We recommend the Facilities Management Assistant General Manager ensure data in the work order management system is entered timely and accurately. To achieve this, the Facilities Management Assistant General Manager should create a process to check for duplicates, develop a performance metric for system input, and define roles and responsibilities for system use, data entry, and supervisory review.

Division Lacks Necessary Information to Make Operational Decisions

Assessing whether resource allocation meets operational needs is difficult without reliable workload data. Several factors indicate that the division's current allocation needs improvement. Issues include exceeding the maximum proposed threshold for overtime in a pay period, scheduling the minimum number of electricians on the weekends, and having a passenger-to-staff ratio four times higher than the median for comparable airports. A staffing model that fails to meet operational needs may increase the risk of noncompliance with federal requirements, safety concerns, inefficiencies, and waste of taxpayer funds.

Facilities Management is missing work order data. Crew productivity and workload are not transparent in Maximo; some staff shared copies of daily, weekly and monthly workplans that they created outside of the Maximo system. These workplans did not always list a corresponding work order. Aviation leadership may not have sufficient monthly, seasonal, or annual data for maintaining adequate staffing numbers or resources and supplies to meet preventive and corrective maintenance needs.

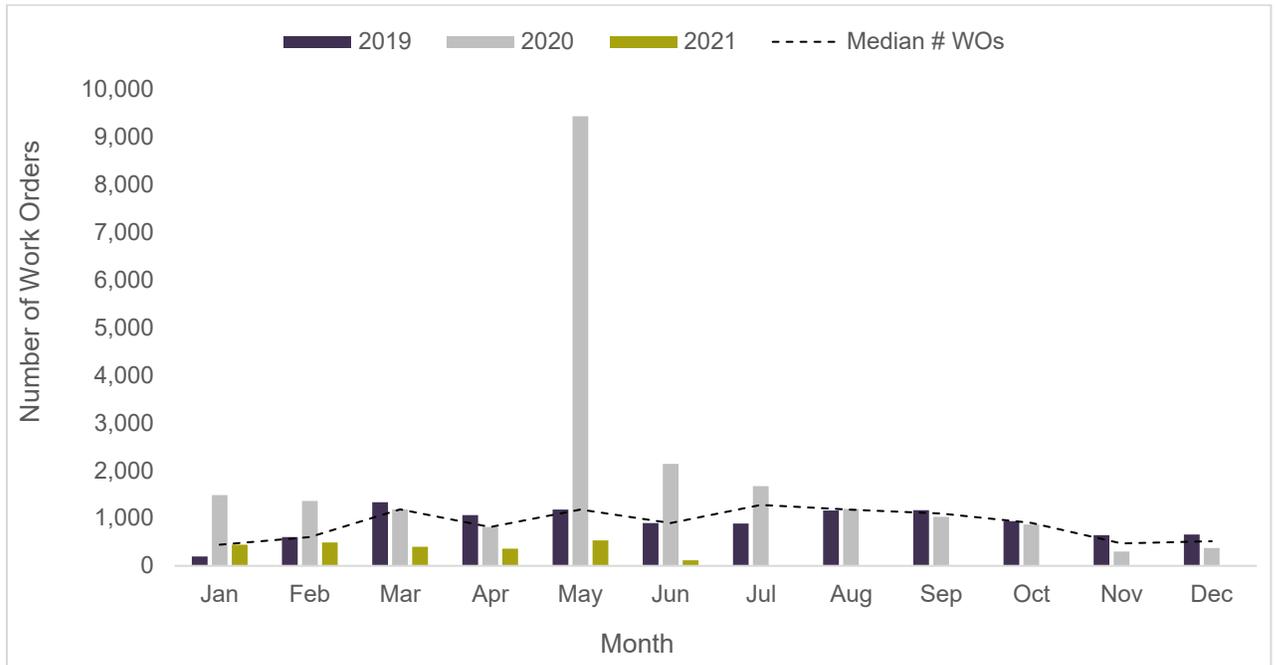
Aviation staff reported 48,300 work orders in Maximo between January 1, 2019, and June 30, 2021. However, about 99.7% (48,172 of 48,300) of these work orders do not have a completed status; therefore, the department cannot confirm whether the majority of

work orders were completed. We identified the following characteristics of the work orders:

- about 62% (29,911 of 48,300) of these work orders were for preventive maintenance activities
- about 43% of work orders contained the assigned crew number
- about 65% of the work orders contained start dates and finish dates
- about 16.9% (126,439 of 621,063) of the data fields were blank
- critical fields needed to understand workload, such as asset type, crew assigned, description of the work, and location are either blank or filled with inconsistent naming conventions

Exhibit 9 shows the number of work orders started per month. We did not identify a monthly or seasonal effect to the number of work orders performed. Facilities Management staff believe that the spike in May 2020 work orders was due to staff clearing out the backlog of outstanding preventive maintenance and inspection work orders prior to Maximo system improvements; about 59% (5,552) were for preventive maintenance activities and 35% (3,316) were inspections.

Exhibit 9: There is No Monthly or Seasonal Trend for Work Order Started



Source: Prepared by audit staff using Maximo system work order data

We recommend the Facilities Management Assistant General Manager ensure that one system has a record of all work orders. To achieve this, the department should continue to work with AIM to integrate all additional systems and applications as possible. We also recommend that the Facilities Management Assistant General Manager create a strategy for using each system, document procedures, and establish a process for reconciling these systems for reporting.

Facilities Management has implemented practices to compensate for perceived staffing shortages without first aligning resources to reliable workload data. Staff told us they use employees from other crews, overtime, supervisor labor, and contractors to cover work. There is no written strategy for using contractors to supplement work. The division also hires seasonal temporary staff to assist with landscaping and groundskeeping.

We found several potential indicators of both adequate and inadequate staffing levels. However, these are inconclusive without a workload analysis. Facilities Management needs this analysis to identify gaps and inefficiencies.

We identified 55 employees and 125 instances that exceeded the proposed threshold for overtime in a pay period between November 1, 2020, and August 13, 2021. In November 2020, Facilities Management drafted a policy for 32 hours as the maximum overtime for employees in a pay period; this policy has not yet been adopted. We also found that at least one employee worked double- and triple-shifts, which is a safety concern. The division's overall use of overtime also increased over this period.

Two of three shifts have only the minimum number of electricians on weekends. Staff told us that Facilities Management and Aviation Operations require a minimum of two electricians on each shift for safety. Two of the electrician crews only have five staff total. Due to the division's staggered weekend schedule, these crews only have two electricians scheduled for two days each week. This poses a risk of not meeting the requirement if either of these electricians takes leave.

We also compared Facilities Management to other comparable airports, as determined by the size of airports. We found that Atlanta has at least 100 fewer Facilities Management-type staff than the airports that responded. Atlanta also has a passenger to staff ratio four times higher than the median of the other airports (see

Exhibit 10); however, Atlanta has only about half the median acreage of the other airports.

For this comparison, we reached out to the ten largest airports in the U.S. as identified by *Airport Technology* in 2020: Detroit Metropolitan Airport in Michigan, John F. Kennedy International Airport in New York, San Francisco International Airport in California, O’Hare International Airport in Illinois, Salt Lake City International Airport in Utah, George Bush Intercontinental Airport and Dallas/Fort Worth International Airport in Texas, Orlando International Airport in Florida, Denver International Airport in Colorado, and Washington Dulles International Airport in Washington, D.C. Six airports responded. The data relies on self-reported statistics by the airports.

Exhibit 10: Department Has Fewer Acres but More Passengers than Comparable Airports

| | Atlanta | Other Airports | | | Atlanta compared to Other Airports' Median |
|--|------------|----------------|------------|------------|--|
| | Total | Median | Minimum | Maximum | |
| Number of Facilities Management equivalent staff | 183 | 385 | 296 | 408 | (202) |
| Total acres assigned to Facilities Management equivalent staff | 4,544 | 8,640 | 1,760 | 34,000 | (4,096) |
| Number of runways | 5.0 | 5.5 | 4.0 | 7.0 | (0.5) |
| Median Annual Passengers | 98,835,003 | 54,392,176 | 40,967,945 | 73,470,752 | 44,442,827 |

Source: Prepared by audit staff using data obtained from sample of six airports

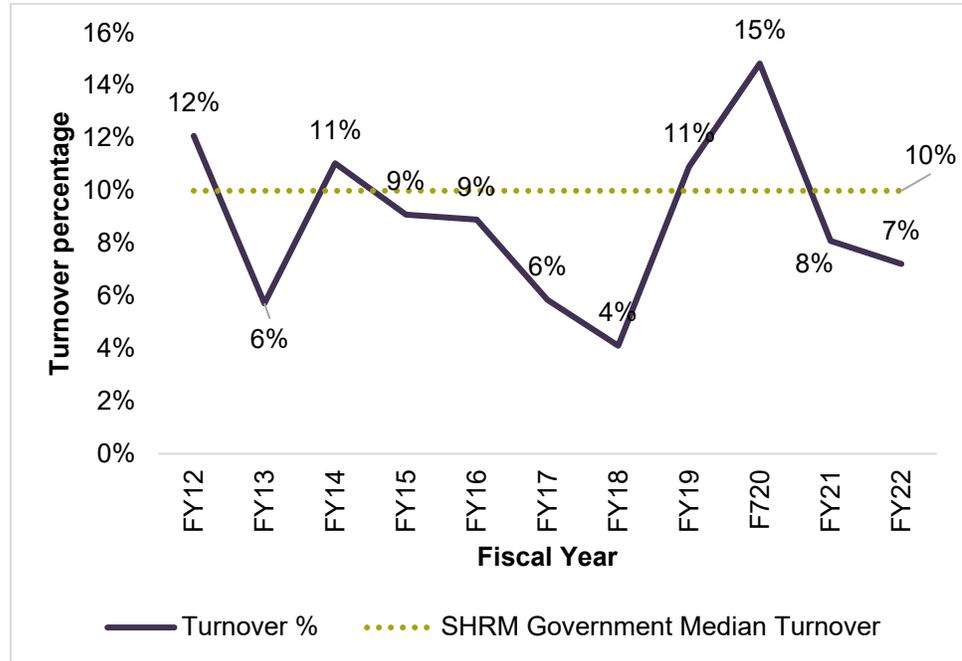
Facilities Management’s ratio of vehicles and equipment to Fleet staff is 154% higher than the Department of Watershed Management’s. We compared the division to Watershed Management because both are enterprise funds. Facilities Management’s ratio is 426 vehicles higher than Watershed Management’s. However, the division should analyze workload to determine whether staffing levels are adequate.

Staff also told us the division had high turnover, but we found that turnover from FY2011 through FY2022 was less than the industry benchmark. During this period, median annual turnover was 8.9%, lower than SHRM’s (Society for Human Resources Management) metric of 10%. SHRM is a human resources industry leader and

created this metric by surveying governments' annual turnover in 2016.

The highest turnover during this period was 15% in FY2020, as shown in Exhibit 11. Between FY2011-2022, 161 staff left Facilities Management, and the division hired 265 employees.

Exhibit 11: Facilities Management FY11-FY22 Turnover is Below Benchmark



Source: Prepared by auditors using Facilities Management organizational chart as of February 2021, the “Headcount Report” from Oracle Reports and Analytics downloaded on 9/1/2021, and data from Oracle 11i queries provided by AIM on 7/23/2021.

We recommend the Facilities Management Assistant General Manager implement an overtime policy that includes maximum hours in a day and pay period and establish overtime controls and a review process to ensure employee safety.

To assess whether staffing meets workload needs, we also recommend the Facilities Management Assistant General Manager ensure that one system has a record of all work orders. To achieve this, the department should work with AIM to integrate all additional systems and applications as possible. We also recommend that the Facilities Management Assistant General Manager create a strategy for using each system, document procedures, and establish a process for reconciling these systems for reporting.

Stronger Controls Are Needed to Track Licenses and Certifications

We found that 17% of crew staff lack at least one required certification or license. Facilities Management requires some positions to hold certain licenses and certifications. However, the division lacks a centralized way to track these credentials. The requirements are also not clear for all credentials, especially for the commercial driver’s license, although the division has since outlined which positions require the license. Lacking a centralized tracking location prevents management from effectively allocating staff and ensuring staff credentials meet regulations.

Facilities Management lacks centralized license and certification tracking. We found that Facilities Management staff track licenses and certifications inconsistently and ineffectively. The division requires certain credentials based on the position. We reviewed four required licenses and certifications and one preferred license (see Exhibit 12). The division needs access to each employee’s credentials to assign staff based on work needs. Currently, different staff track each of the five licenses and certifications.

Exhibit 12: Licenses and Certifications Required by Position

| Certification/License | Who is Required to Have it | Applicable Positions |
|--------------------------------|---|--|
| Airfield Movement Area license | Everyone who accesses movement and safety areas on the airfield (14 CFR § 139.303(c)). | All Airfield staff |
| EPA Refrigerant certification | All technicians who maintain, service, repair, or dispose of equipment that could release refrigerants into the air (40 CFR § 82.161(a)(1)). | All HVAC crew staff |
| Commercial driver’s license | Anyone operating a commercial motor vehicle (City of Atlanta Vehicle Use Policy) | Unclear. Staff told us the division requires the license for all Facilities Maintenance Mechanic, Senior staff. However, this is not documented. |
| Forklift certification | All staff operating fork trucks (29 CFR § 1910.178(a) and (l)(6)) | All Inventory staff |
| Electrician license | Electrical contractors working with over 400 amperes need a Class II electrician license (Georgia Code § 43-14-6(a)(1)). Code does not detail guidance for non-contractors. City job descriptions say the division prefers a Class I license. | Electricians (desired, not required) |

Source: Prepared by audit staff using CFR, Georgia Code, City of Atlanta Vehicle Use Policy, and job descriptions

It is more difficult to track whether staff meet credential requirements without a centralized database. Decentralization increases the risk of not meeting requirements. For example, 14 CFR § 139.303 requires annual training for everyone who accesses

movement and safety areas. The airport meets this requirement through its Airfield Movement Area license program. The Aviation Operations Division handles this licensing program.

We recommend the Facilities Management Assistant General Manager develop a centralized credential tracking method, including establishing a process for checking and handling suspended licenses.

Commercial driver's license requirements were unclear. Regular and Senior Facilities Maintenance Mechanic position descriptions show duties requiring this license. However, staff told us that only the senior position needs the commercial driver's license. The division recently changed these positions' titles and presented proposed credential requirements by position to division staff, which clarify which titles need the license. Facilities Management staff must have the license for several types of equipment. These include dump trucks, truck mounted sweepers, and bucket trucks. Clear, documented requirements ensure that crews have enough licensed staff to perform work.

The division also lacks an effective process to monitor whether drivers have suspended licenses. Facilities Management staff currently prepare a monthly credential report that includes staff's driver's license number, class, and expiration date. Some staff told us the division implemented a procedure to check for valid licenses. We found one employee out of 10 with a suspended license in our review of one crew's July 2021 credential report. However, staff said no employees had a suspended license. Operating city vehicles without a valid driver's license violates the city's vehicle use policy. The division could reduce this risk with a written process for checking and following up on suspended licenses.

We recommend the Facilities Management Assistant General Manager develop a centralized credential tracking method, including establishing a process for checking and handling suspended licenses.

We also recommend the Facilities Management Assistant General Manager create and enforce a credential and skills training program with requirements by position and deadlines. We recommend this include job-related training requirements, such as seasonal equipment and debris removal.

We found that 17% of crew staff lack at least one required certification or license (see Exhibit 13). Staff lacking credentials can constrain work, especially when credentialed staff leave. As of February 2021, every crew had at least one person who held the

required credential. However, four crews only had one employee with a commercial driver’s license. We reviewed credentials for staff to determine whether staff had required license or certification.

Exhibit 13: 17% of Technical Staff Do Not Have Required Licenses or Certifications

| Certification/License Name | Number of Required Staff Lacking Certification/License |
|--------------------------------|---|
| Airfield Movement Area license | 14 of 52 Airside staff (21%) as of May 11, 2021 |
| EPA Refrigerant certification | 2 of 10 HVAC staff (20%) unable to show evidence of certification as of June 8, 2021 |
| Commercial driver's license | 8 of 33 Facilities Maintenance Mechanic, Senior staff (20%) as of May 28, 2021 |
| Forklift certification | 3 of 10 Inventory staff (30%) as of May 20, 2021 |
| Electrician license | No staff required to have license per job description. Currently, 5 of 19 staff lack an electrician’s license (26%). Of those with an electrician’s license, 13 of the 14 have a Class II license (93%). Data obtained on June 15, 2021 |

Source: Prepared by audit staff using information from Aviation staff

Based on this population, 14 of 52 Airside staff lacked the required movement area license. Of these, two people failed at least one of the required license tests and a third had to reschedule due to FMLA. Additionally, two of 10 HVAC staff could not show their required EPA refrigerant certification. Of ten Inventory staff, three did not have a forklift certification. Eight of 33 Facilities Maintenance Mechanic, Seniors lacked a commercial driver’s license.

We also found that 5 of 19 staff did not have an electrician license. Aviation Human Resources said they are hiring unlicensed electricians to improve recruitment. Some staff noted there were skill gaps for using certain equipment, such as using chainsaws for removing fallen trees.

We recommend the Facilities Management Assistant General Manager develop a centralized credential tracking method, including establishing a process for checking and handling suspended licenses.

Salary Structure Presented Hiring Barriers

Facilities Management had not conducted a salary and compensation study at the time of our audit. Division staff stated that the salaries were not competitive with the market. Lack of competitive salaries has affected the department’s ability to hire technical staff, such as

electricians. The division created a career progression plan and tiered salary structure for fiscal year 2022, which was adopted by City Council on June 7, 2021. We recommend the Facilities Management Assistant General Manager assess incumbent salaries before hiring new employees to prevent potential salary compression as the department fills its vacant positions. We also continue to recommend that the Commissioner of Human Resources annually review compensation within salary grades across all departments and report the findings to City Council prior to the annual budget proposal, as first recommended in our 2015 Compensation audit.

Salary Compression Reduces Employee Morale

Salary compression occurs when tenured staff are paid less than new hires with the same position title, despite having the same minimum skills and potentially more experience. Reorganizations can also cause salary compression. We identified indicators of salary compression in Facilities Management. The department hired 23 Airport Facilities Maintenance Mechanics between 2019 and 2020 at more than \$17.45/hour, which is more than the minimum wage for an Airport Facilities Maintenance Mechanic Senior. In addition, we identified five Facilities Maintenance Mechanics with a salary of \$25 per hour with one year of employment with the city. All but one senior mechanic earned less than \$25 per hour, and four supervisors earned \$25 per hour or less. As of March 2021, the median hourly wage for regular Facilities Maintenance Mechanics was \$1.08 higher than the senior mechanics' median. Salary compression can result in employee disgruntlement, perceptions of inequity, and low morale.

In our 2015 Compensation Audit, we found both real and perceived pay inequities. We found little correlation between years of service with the city and percent of midpoint earned within the pay grade. We recommend the Facilities Management Assistant General Manager assess incumbent salaries before hiring new employees to prevent potential salary compression as the department fills its vacant positions.

Some Employees Earned Below the Market Median

As of February 2021, Facilities Management had seven electrician vacancies out of 23 total positions (30%). Additionally, the staff person who earned the most overtime between August 14, 2020, and August 13, 2021, was an electrician. Several staff noted challenges with hiring and retaining electricians, particularly licensed

electricians. Human Resources employees told us the key barrier was wages lower than the market.

As of March 25, 2021, 76 out of 145 technical staff (52%) earned less than the market median wage for their positions. We compared these positions to the Bureau of Labor Statistics' median wages for the Atlanta-Sandy Springs-Roswell, Georgia area. We found that five positions were below and five positions above the market median as of March 2021, as shown in Exhibit 14. The Bureau of Labor Statistics did not disaggregate data for regular and senior positions in a job series.

Exhibit 14: 52% of Technical Staff Earned Less Than Market Median as of March 25, 2021

| Position Title | Median Annual Salary as of 3/25/21 | Median Market Salary as of May 2020 | Total staff | Number of Employees Earning Below Market Average as of 3/25/21 |
|--|------------------------------------|-------------------------------------|-------------|--|
| Facilities Maintenance Mechanic | \$41,600 | \$40,580* | 53 | 22 |
| Facilities Maintenance Mechanic, Senior | \$39,359 | \$40,580 | 41 | 23 |
| Facilities Maintenance Mechanic Supervisor | \$54,835 | \$71,640 | 14 | 14 |
| HVAC Technician | \$44,011 | \$47,640* | 6 | 4 |
| HVAC Technician, Senior | \$52,426 | \$47,640 | 2 | 0 |
| HVAC Supervisor | \$63,619 | \$71,640 | 1 | 1 |
| Electrician Specialist | \$59,573 | \$57,740 | 16 | 5 |
| Electrician Supervisor | \$67,500 | \$66,830 | 3 | 1 |
| Storekeeper | \$34,320 | \$34,410* | 6 | 6 |
| Storekeeper, Senior | \$39,359 | \$34,410 | 3 | 0 |

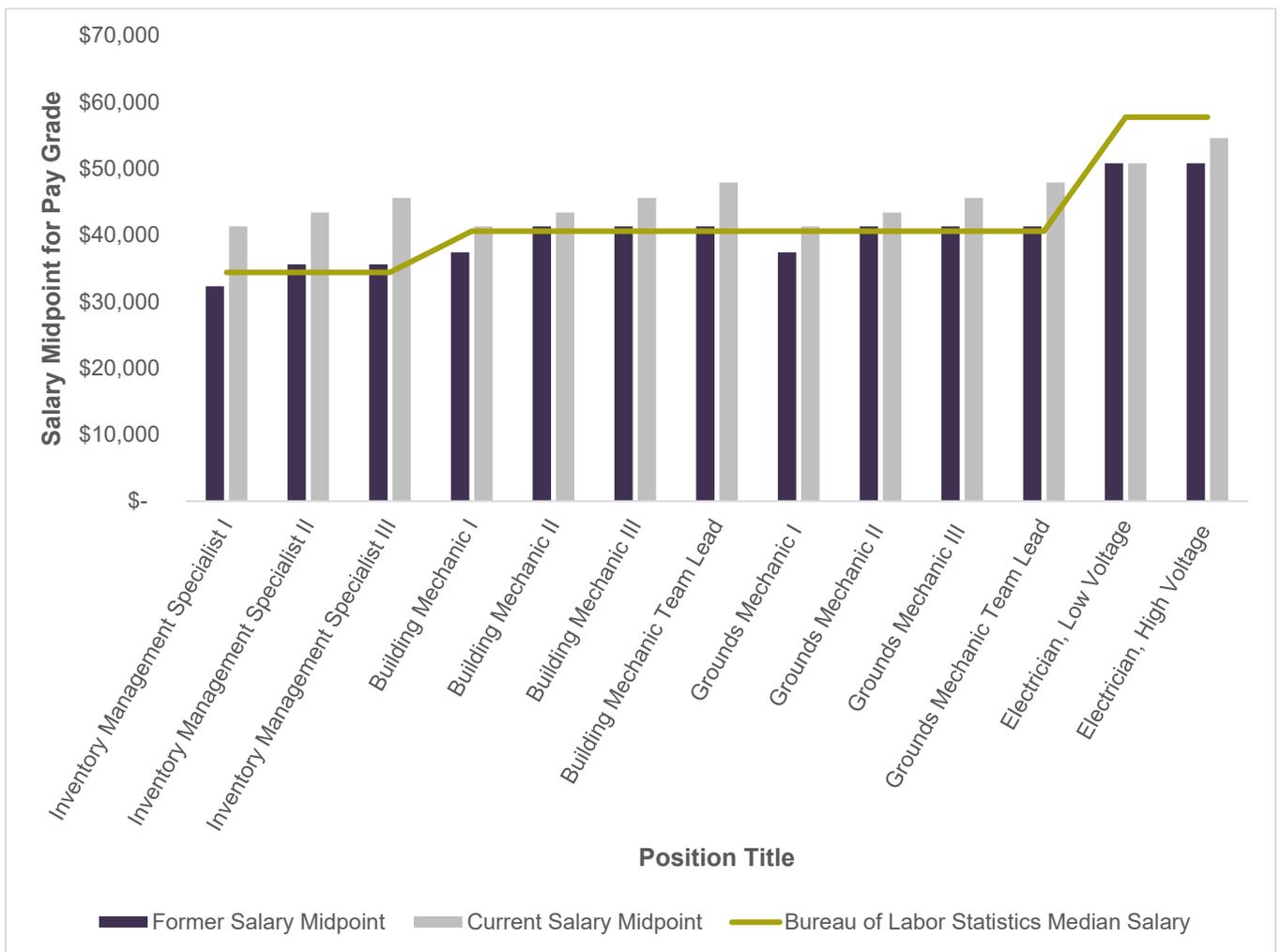
***Note:** The Bureau of Labor Statistics Occupational Employment Wage Statistics does not break out salaries by level of experience, so we are using the same median salary to compare regular and senior positions.

Source: Bureau of Labor Statistics Occupational Employment Wage Statistics for Atlanta-Sandy Springs-Roswell, GA, as of May 2020 and Oracle report, "Active Employees List with FTE Info," from March 25, 2021

However, Facilities Management recently reorganized the division, created a career progression plan, and increased pay grades for four positions. The pay grade changes were adopted through a personnel

paper on June 7, 2021. The increased pay grades raised the salary midpoints for most positions to exceed the market median. The personnel paper made 89 changes affecting Facilities Management, including creating new position titles and abolishing some old titles. Human Resources staff also told us they recently completed an analysis of current staff's experience, education, and credentials. The FY22 Personnel Paper identifies pay ranges for created positions. Exhibit 15 below shows our analysis of the former and new pay grades compared to market median salary.

Exhibit 15: Most New Position Salary Midpoints Meet or Exceed Market Median



Source: Bureau of Labor Statistics Occupational Employment Wage Statistics for Atlanta-Sandy Springs-Roswell, GA, as of May 2020; fiscal year 2022 Personnel Paper; and July 2021 Pay Grade and Classification Table

We recommend the Facilities Management Assistant General Manager assess incumbent salaries before hiring new employees to prevent potential salary compression as the department fills its vacant positions. We also continue to recommend that the

Commissioner of Human Resources should annually review compensation within salary grades across all departments and report the findings to City Council prior to the annual budget proposal, as first recommended in our 2015 Compensation audit.

Recommendations

In order to ensure that Facilities Management's work order management system is still viable, the Chief Information Officer should

1. Review the business case for work order management systems that AIM conducted in 2018. If not, we recommend the Facilities Management Assistant General Manager prepare an updated business case.

In order to ensure that Facilities Management's work order management system provides staff with timely and relevant work order and asset data, the Facilities Management Assistant General Manager should

2. Ensure that one system has a record of all maintenance work orders by continuing to work with AIM to integrate all work systems and applications as possible.
3. Create a strategy for using each system, document procedures, and establish a process for reconciling these systems for reporting.
4. Identify specific information needed for decision making and modify existing reports if needed.
5. Require that data in the work order management system is entered timely and accurately, including a process to check for duplicates, develop a performance metric for system input, and define roles and responsibilities for system use, data entry, and supervisory review.

To ensure that Facilities Management staff have appropriate licenses/ certifications based on work requirements, the Facilities Management Assistant General Manager should

6. Develop a centralized credential tracking method, including establishing a process for checking and handling suspended licenses.
7. Create and enforce a training program with requirements by position and deadlines, including seasonal requirements for inclement weather.

In order to manage overtime usage and ensure employee safety, the Facilities Management Assistant General Manager should

8. Implement an overtime policy that includes maximum hours in a day and pay period and establish overtime controls and a review process.

In order to mitigate the challenge of recruiting and retaining technical maintenance staff, the Facilities Management Assistant General Manager should

9. Assess incumbent salaries before hiring new employees to prevent potential salary compression as the department fills its vacant positions.

In order to mitigate the challenge of recruiting and retaining technical maintenance staff, the Commissioner of Human Resources should

10. Annually review compensation within salary grades across all departments and report the findings to City Council prior to the annual budget proposal, as first recommended in our 2015 Compensation audit.

Appendices

Appendix A: Management Review and Response to Audit Recommendations

| | | |
|---|--|---|
| Report # 21.09 | Report Title: Department of Aviation Facilities Management Staffing and Scheduling | Date: February 2022 |
| <p>Recommendation 1:</p> <p>We recommend that the Chief Information Officer review the business case for work order management systems that Atlanta Information Management conducted in 2018 to ensure that it is still viable. If not, we recommend the Facilities Management Assistant General Manager prepare an updated business case.</p> | | |
| <p>Risk Category:</p> <p>Process Improvement</p> | | <p>Response:</p> <p>Partially Agree</p> |
| <p>Related Findings:</p> <p>1. Multiple information systems diminish usefulness. Facilities Management uses multiple systems to receive and document work. CityWorks, Samsara, and ATLGIS appear to be bottom-up solutions to address functionality gaps in Maximo. AIM determined Maximo was the best option; however, AIM could not provide us with this business case.</p> | | |
| <p>Proposed Action:</p> <p>Facilities Management AGM will meet with DOA AGM CIO in mid-January 2022 to review the 2018 report and update the business case to reflect the current environment, emerging technology and performance measures.</p> <p>Not all platforms identified in the findings are work order management systems or can document work. Samsara and ATLGIS are geospatial applications which can be extension integrated into Maximo.</p> | | <p>Current Status:</p> <p>Started</p> |
| <p>Business Owner:</p> <p>Chris Jackman, AGM</p> | | <p>Estimated Implementation Date (M/Y):</p> <p>02/2022</p> |
| <p>Additional Comments:</p> | | |

| | | |
|--|--|--|
| <p>Recommendation 2:</p> <p>We recommend that the Facilities Management Assistant General Manager ensure that one system has a record of all maintenance work orders, by integrating auxiliary work systems and applications as possible.</p> | | |
| <p>Risk Category:</p> <p>Process Improvement</p> | | <p>Response:</p> <p>Agree</p> |
| <p>Related Findings:</p> <p>1. Multiple information systems presents a risk to ensuring accuracy of information. Facilities Management uses multiple systems to receive and document work. The systems are not integrated with Maximo and staff must enter updates manually. Using several systems also increases the risk of dual entry errors and inefficiency.</p> | | |
| <p>Proposed Action:</p> <p>The FM bureau is in the process of integrating all work order systems into Maximo. Integration of ASOCS is in progress and GIS functionality will be adopted with the new IBM contractual agreement through Maximo Spatial/Linear Module. ALIS, and Samsara are support applications. CityWorks is the only other work order management system being used on an interim bases until GIS functions, via Maximo Spatial/Linear module are incorporated in the Maximo platform.</p> | | <p>Current Status:</p> <p>Started</p> |

| | |
|--|--|
| <p>ASOCS Integration - AVS is finalizing the contractual sole source agreement with CIVIX as part of the On-Call contract services. Once executed the ASOCS integration with Maximo will occur.</p> <p>GIS Integration – The Featured Requirements Documentation (FRD) needed by AVS was completed on 12/21/2021. The AVS, GIS, Asset Management, and FM will collaborate to determine the implementation schedule for the Maximo Spatial/Linear Module. Successful integration will provide the GIS functionality required by the Airside Facilities Team, eliminating the need to utilize CityWorks as a secondary work order management system.</p> | |
| <p>Business Owner: Chris Jackman, AGM</p> | <p>Estimated Implementation Date (M/Y): 06/2022</p> |
| <p>Additional Comments:</p> | |

| | | |
|---|--|--|
| <p>Recommendation 3: We recommend that the Facilities Management Assistant General Manager create a strategy for using each system, document procedures, and establish a process for reconciling these systems for reporting.</p> | <p>Risk Category: Process Improvement</p> | <p>Response: Agree</p> |
| <p>Related Findings:</p> <ol style="list-style-type: none"> 1. Division lacks necessary information to make operational decisions. Facilities Management is missing work order data. About 99.7% of (48,172 of 48,300) created between January 1, 2019, and June 30, 2021, do not have a completed status; therefore, the department cannot confirm whether the majority of work orders were completed. | | |
| <p>Proposed Action: The FM bureau will initiate a strategy for integration and reconciliation. FM will establish a task team to develop processes and procedures for the reconciliation of all work order systems currently used. These processes and procedures will be utilized until integrations are complete.</p> | | <p>Current Status: Started</p> |
| <p>Business Owner: Chris Jackman, AGM</p> | | <p>Estimated Implementation Date (M/Y): 04/2022</p> |
| <p>Additional Comments:</p> | | |

| | | |
|---|---|-----------------------------------|
| <p>Recommendation 4: We recommend that the Facilities Management Assistant General Manager identify specific information needed for decision making and modify existing reports if needed.</p> | <p>Risk Category: Monitoring and Reporting</p> | <p>Response: Agree</p> |
| <p>Related Findings:</p> <ol style="list-style-type: none"> 1. Multiple information systems presents a risk to ensuring accuracy of information. Inconsistent data entry and errors skew workload reporting. Key fields such as crew number, location and asset type and completion times | | |

| | |
|---|--|
| were either blank or filled with inconsistent naming conventions. Between January 1, 2019, and June 30, 2021, about 99.7% (48,172 of 48,300) of work orders did not have a completed status. | |
| Proposed Action: The FM AGM will evaluate the current reports and determine new criteria necessary to make workload and staffing improvements. Many of the findings related to key fields have been addressed, making these fields mandatory. Work order completion statuses have increased since this improvement within Maximo. | Current Status: Started |
| Business Owner: Chris Jackman, AGM | Estimated Implementation Date (M/Y): 04/2022 |
| Additional Comments: | |

| | | |
|---|--|---------------------------|
| Recommendation 5: We recommend that the Facilities Management Assistant General Manager require that data in the work order management system is entered timely and accurately, including a process to check for duplicates, develop a performance metric for system input, and define roles and responsibilities for system use, data entry, and supervisory review. | Risk Category: Monitoring and Reporting | Response: Agree |
| Related Findings: 1. Multiple information systems diminish usefulness. Inconsistent data entry and errors skew workload reporting. A sample of Maximo weekly crew reports showed that these reports did not match crew supervisors' internal crew records of work performed. Weekly workload reporting may be pulled from the system before crews update completed work orders. | | |
| Proposed Action: FM AGM has identified the need for managing the current work order output and processes while the Maximo integrations are in progress. FM will develop a task team to identify adequate procedures to address timeliness and accuracy of work order completion, cross reference for duplications, establish performance metrics, and define roles and responsibilities. | Current Status: Not Started | |
| Business Owner: Chris Jackman, AGM | Estimated Implementation Date (M/Y): 04/2022 | |
| Additional Comments: | | |

| | | |
|--|---|---------------------------|
| Recommendation 6: We recommend that the Facilities Management Assistant General Manager develop a centralized credential tracking method, including establishing a process for checking and handling suspended licenses. | Risk Category: Compliance with External Regulations | Response: Agree |
|--|---|---------------------------|

| | |
|--|--|
| Related Findings: | |
| 1. Stronger controls are needed to track licenses and certifications. Different staff track each of the five licenses and certifications. One crew sample from the July 2021 credential report identified one employee out of 10 with a suspended license, which is a violation of the city's vehicle use policy; this suspended license had not been identified by staff. | |
| Proposed Action: The organization has initiated a license, certification, and credential Employee Status Database to manage the needs of the business. We have identified one central group that will manage the process for all FM employees. We will establish a project to transfer all employee credentialing information into Maximo. | Current Status: Started |
| Business Owner: Chris Jackman, AGM | Estimated Implementation Date (M/Y): 04/2022 |
| Additional Comments: | |

| | | |
|--|--|---------------------------|
| Recommendation 7: We recommend that the Facilities Management Assistant General Manager create and enforce a training program with requirements by position and deadlines, such as seasonal requirements for inclement weather. | Risk Category: HR Management | Response: Agree |
| Related Findings: | | |
| 1. Stronger controls are needed to track licenses and certifications. Commercial driver's license requirements were unclear. Regular and senior facilities maintenance mechanic position descriptions show duties requiring this license; however, staff told us that only the senior position needs the commercial driver's license. Airport best practices recommend that the department maintain staff with appropriate licenses/certifications based on their positions. | | |
| Proposed Action: The FM will utilize the recently created positions requirements matrix to provide training as required by the job function. | Current Status: Started | |
| Business Owner: Chris Jackman, AGM | Estimated Implementation Date (M/Y): 06/2022 | |
| Additional Comments: | | |

| | | |
|---|--|-------------------------------------|
| Recommendation 8: We recommend that the Facilities Management Assistant General Manager implement an overtime policy that establishes maximum hours in a day and pay period and establish overtime controls and a review process to ensure employee safety. | Risk Category: HR Management | Response: Partially Agree |
|---|--|-------------------------------------|

| | |
|---|--|
| Related Findings: | |
| 1. Division lacks necessary information to make operational decisions. Facilities Management has implemented practices to compensate for perceived staffing shortages without first aligning resources to reliable work order data. In November 2020, Facilities Management drafted a policy for 32 hours as the maximum overtime for employees in a pay period; this policy has not yet been adopted during our audit. We identified 55 employees and 125 instances that exceeded the proposed threshold for overtime in a pay period between November 1, 2020, and August 13, 2021. | |
| Proposed Action: The FM Assistant General Manager will review the draft Overtime Policy and make necessary changes to ensure accuracy of information. Upon approval of a final draft, the Overtime Policy will be adopted and communicated throughout the FM bureau for use by all divisions. The FM bureau will establish adequate internal controls to monitor overtime usage. | Current Status: Started |
| Business Owner: Chris Jackman, AGM | Estimated Implementation Date (M/Y): 04/2022 |
| Additional Comments: | |

| | | |
|--|--|---------------------------|
| Recommendation 9: We recommend that the Facilities Management Assistant General Manager assess incumbent salaries before hiring new employees to prevent potential salary compression as the department fills its vacant positions. | Risk Category: HR Management | Response: Agree |
| Related Findings: | | |
| 1. Salary compression reduces employee morale. We found little correlation between years of service with the city and percent of midpoint earned within the pay grade. | | |
| Proposed Action: Salary compensation studies have been undertaken by Human Resources. The minimum salary for any DOA employee is \$20/hr. The salaries and positions have been evaluated and rectified for the FM bureau. These proposed salary and position changes were adopted on the via personnel paper by City Council on November 11, 2021. | Current Status: Partly Implemented | |
| Business Owner: Chris Jackman, AGM | Estimated Implementation Date (M/Y): 01/2022 | |
| Additional Comments: | | |

| | | |
|---|---|--------------------------------------|
| <p>Recommendation 10:</p> <p>We continue to recommend that the Commissioner of Human Resources annually review compensation within salary grades across all departments and report the findings to City Council prior to the annual budget proposal, as first recommended in our 2015 Compensation audit.</p> | <p>Risk Category:</p> <p>HR Management</p> | <p>Response:</p> <p>Agree</p> |
| <p>Related Findings:</p> <ol style="list-style-type: none"> 1. Some employees earned below the market median. Lack of competitive salaries has affected the department's ability to hire technical staff, such as electricians. As of March 25, 2021, 76 out of 145 technical staff (52%) earned less than the market median wage for their positions. | | |
| <p>Proposed Action:</p> <p>The Department of Human Resources (DHR) is in the process of issuing an RFP for the performance of a compensation study in compliance with Section Sec. 114-121 of the Code of Ordinances of the City of Atlanta, Georgia. Additionally, DHR is currently performing an at-risk missional critical employee compensation and retention study of all operating departments which is scheduled to be concluded by February 28, 2022. DHR is recruiting for a compensation manager position and plans to have a compensation team and methodology in place for its upcoming 2023 compensation study.</p> | <p>Current Status:</p> <p>Partly Implemented</p> | |
| <p>Business Owner:</p> <p>Compensation Manager, Department of Human Resources</p> | <p>Estimated Implementation Date (M/Y):</p> <p>10/2022</p> | |
| <p>Additional Comments:</p> | | |