Performance Audit: Department of Aviation Plane Train

August 2023

City Auditor's Office

City of Atlanta

File #23.04



CITY OF ATLANTA

City Auditor's Office Amanda Noble, City Auditor 404.330.6750

Why We Did This Audit

The Department of Aviation requested the audit of the Plane Train due to the inherent risks associated with a thirdparty contractor managing the project, the importance of the service to airport operations, and the sizable dollar amount of the contractual agreement (over \$22 million per year). This audit assesses whether controls were in place to ensure that the third-party contractor complied with contract requirements related to performance incentives, maintenance requirements, wages, overtime pay, and allowable expenses.

What We Recommended

To better manage the contract, the airport general manager should:

 create internal standard operating procedures for how Aviation monitors Alstom

If a competitive procurement is not possible, the chief procurement officer should:

 document thorough justification for a sole source procurement as required by city code and ensure that the term of the sole source agreement is reasonable

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

Performance Audit:

Department of Aviation Plane Train

What We Found

The city should establish stronger controls for contract administration. Although Alstom, the contractor, has procedures for managing the Plane Train, the Department of Aviation does not have standard operating procedures for overseeing the contractor and monitoring contract terms.

The city did not comply with overtime requirements of the contract. The contractor's overtime costs for fiscal year 2022 exceeded the budgeted amount by \$127,000. Also, the contract requires Alstom to obtain written pre-approval from the city's representative for overtime, but Aviation was unable to provide preapproval forms in all instances in which overtime was used.

Alstom follows most procurement best practices for contract management, but system controls could improve. Best practices include collecting meaningful data, assessing contract risks, establishing performance metrics, and using tools to monitor spending. Alstom uses SIMS, an automated system, to operate and maintain the Plane Train, but some data are manually entered.

The contractor met its preventative maintenance requirements, completing 95% of scheduled work orders within 90 days, consistent with contract requirements. Preventative maintenance reporting could be improved—Alstom shares a manually generated report with the city's representative to substantiate that it fulfilled its maintenance obligations, and we found several minor discrepancies between the system data and reports provided to the city.

The city has used a sole source contract with the same vendor since 2005 to operate and maintain the Plane Train. Cost-reimbursable, sole source contracts are risky, and Procurement could not provide us with the required sole source written justification for the current contract.

Summary of Management Responses

Recommendation #1:

We recommend that the Department of Aviation create internal standard operating procedures that would allow the department to track and monitor all requirements and deliverables in the contract with Alstom.

Response:	Status:	Estimated Completion Date (M/Y):
Agree	Not Started	December 2023
Recommendation #2:		
We recommend that the chief procu procurement as required by city cod		justification for a sole source sole source agreement is reasonable.
Response:	Status:	Estimated Completion Date (M/Y):
Agree	Implemented	January 1, 2023



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CITY OF ATLANTA

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

August 3, 2023

Honorable Mayor and Members of the City Council:

The Department of Aviation requested this audit of the Plane Train contract due to the inherent risks associated with a third-party contractor managing the project, the importance of the service to airport operations, and the significant amount of the \$22 million annual contractual agreement. Our recommendations are intended to strengthen contract management and justify continued use of the sole source contract.

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 Aviation management on June 27, 2023, and received their response on July 13, 2023. We sent a draft report to Procurement on July 17, 2023, and received their response on July 27, 2023. We appreciate the courtesy and cooperation of city staff throughout the audit. The team for this project was Rebecca Robinson, Imani Adams, and Lindsay Kuhn.

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Amanda Noble City Auditor

Danielle Hanston

Danielle Hampton Chair, Audit Committee

Department of Aviation Plane Train

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Introduction

The Department of Aviation requested the audit due to the inherent risks associated with a third-party contractor managing the project, the importance of the service to airport operations, and the sizable dollar amount of the contractual agreement (over \$22 million per year). This audit assesses whether controls were in place to ensure that the thirdparty contractor complied with contract requirements related to performance incentives, maintenance requirements, wages, overtime pay, and allowable expenses.

Background

The Department of Aviation is responsible for the Plane Train, located in the Hartsfield-Jackson Atlanta International Airport, which facilitates passenger movement throughout the airport. There are two city employees who work with the city's Plane Train. The city contracts for Plane Train operations and maintenance through the contractor, Alstom.

Plane Train Transports Passengers to Airport Terminals

Hartsfield-Jackson International Atlanta Airport is known as the busiest airport in the world. It includes seven concourses and two terminals. The Plane Train is an automated guideway transit system designed to move people between terminal buildings and concourses. The Plane Train, shown in Exhibit 1, runs a three-mile loop between the concourses and terminals for passengers. The Plane Train operates inside the airport's secure area behind Transportation Security Administration checkpoints. It operates underground in two tunnels, with a train departing every two minutes. The airport currently has 59 cars in inventory, with four cars connected to form a train. During peak hours, the airport runs 11 trains (or 44 cars) simultaneously.

Exhibit 1: Alstom Maintains the Plane Train



Source: Image taken by auditors in the Hartsfield-Jackson Atlanta International Airport

The eight stations on the Plane Train's route include concourses A, B, C, D, E, F, T, and baggage claim (Exhibit 2). Audible announcements on the train notify passengers of the train's stops and movements.



Exhibit 2: Plane Train Departs Every Two Minutes

Source: Image taken by auditors in the Hartsfield-Jackson Atlanta International Airport

City Contracts Out Plane Train Operations and Maintenance

The Plane Train was originally built in 1980 by Westinghouse Electric Corporation under a sole source contract. In 2001, Bombardier Transportation acquired Westinghouse Transportation, and, in 2021, Alstom acquired Bombardier Transportation. It appears that Bombardier Transportation inherited the original sole source contract after acquiring Westinghouse Transportation. The city then entered into a second sole source agreement with Bombardier Transportation, which Alstom inherited after acquiring Bombardier Transportation.

The city entered into a sole source agreement with Bombardier Transportation (now Alstom) for the operation and maintenance of the Plane Train, effective July 1, 2005, through <u>Resolution 05-R-1118</u>. This contract was for 10 years plus two five-year renewal options at the city's discretion. The city authorized renewal number one through <u>Resolution 15-R-3910</u> for the period of July 1, 2015, to June 30, 2020. The city authorized renewal number two through <u>Resolution 20-R-3915</u> for the period of July 1, 2020, to June 30, 2025. The second renewal raised the "not to exceed rate" for the first year of the renewal by over \$150,000, bringing it to nearly \$22 million. Additionally, Atlanta City Council amended the second renewal to adjust the labor burden and overtime rates to match Bombardier's actual costs as determined by a certified public accountant, and then a change order increased the notto-exceed amount to a current total of just over \$22 million.

The contract outlines the role of the city, scope of services, budget, reimbursable payments, management reports, cost reporting, and standard operating procedure requirements. It also states that the city will provide a city representative to monitor the contractor in operating and maintaining the Plane Train. The city's representative is the primary point of contact with the contractor and is responsible for monitoring the train's operations and maintenance, ensuring that the contractor adequately maintains and safeguards the city's property, and evaluating the vendor's performance against contract requirements.

The scope of services includes the contractor operating the Plane Train on a three-shift basis and providing continuous loop mode service during the hours specified by the city. Loop mode is the normal mode of operation in which the trains travel in a counterclockwise loop.

The contract states the city will:

- provide the contractor with a proposed operating schedule annually
- provide feedback on the contractor's pro forma budget
- finalize the budget with the contractor annually

approve any cost-saving initiatives proposed by the contractor in writing

Reimbursable expenses under the contract include direct labor, labor burden, overtime, overtime burden, materials/equipment and services, a management fee, and special projects/incentives. Exhibit 3 elaborates on the reimbursable expense categories.

One key category of reimbursable expense is the management fee. The management fee is the annual fee that Alstom charges for its professional services in the administration, operation, and management of the Plane Train. The contract sets specific annual management fees for each year from one through ten and specified a management fee of 20% of reimbursable costs for the subsequent years. The Plane Train contract is currently on year 17. The management fee is a percentage markup of the sum of the accepted budgets for direct labor, labor burden, overtime, overtime burden, material/equipment, and service costs.

The contract also includes incentive payments or deductions to motivate improved service. Incentive payments are based on a monthly calculation of system availability, which evaluates fleet availability and fleet reliability. Reliability is calculated as minutes delayed divided by the minutes operated. Alstom must notify the city's representative in writing within 24 hours of any major delay. The contract defines a major delay as anything over ten minutes. Fleet availability is calculated as actual car hours divided by the scheduled car hours.

Category	Description	Other Notes
Direct labor	 actual salaries paid to employees for the performance of services at the airport 	
Labor burden	 costs paid or incurred by the contractor for payroll, taxes, insurance, contributions, assessments, and benefits required by law or collective bargaining agreements must be related to direct labor on the Plane Train 	• current rate is 40.32%
Overtime	 based on the contractor's definition of overtime overtime labor is paid at one and one-half times the employee's normal pay rate for hours worked 	
Overtime burden	 a calculation done by combining only the rates related to the costs incurred as overtime hours, such as payroll taxes, 401k retirement plan contributions, and contributions to the defined benefit plan 	• current rate is 18.75%
Materials/ equipment and services	• all tangible materials, parts, tools, equipment, supplies, expendable or consumable inventory, or other similar items of personal property necessary to perform any of the services required by the contract	
Management fee	 annual fee charged by Alstom for its professional services in the administration, operation, and management of the Plane Train additional percentage charged on the sum of the budgeted amounts for the above costs (direct labor, labor burden, overtime, overtime burden, and materials/equipment and services) 	 fixed dollar value for contract years one through ten 20% for contract years 11 through 20
Special projects	 any additional agreed-upon special projects that Alstom employees complete 	
Incentives	 additional payment or deduction based on whether the Plane Train met the system availability metric motivates improved services 	 system availability metric is 99.59%

Exhibit 3: Expenses Are Somewhat Restricted for Contractor Reimbursement

Source: Developed by auditors based on the Plane Train contract, interviews with Plane Train staff, and labor and overtime burden studies completed by an outside accounting firm

If the Plane Train exceeds 99.59% of system availability, Alstom receives an incentive payment. If system availability is lower than 99.50%, Alstom's monthly payment is reduced instead. The additional payments or deductions are based on a calculation determined by actual system availability, which is automated and calculated through a subcontractor's SIMS (Site Information Management System). The contract also defines costs that are not reimbursable. These include:

- recruiting/relocation expenses
- unrelated personnel compensation
- unrelated site personnel compensation
- unrelated office expenses
- capital costs
- advertising and public relations
- home office accounting department costs
- contributions and donations
- general travel expenses
- taxes
- unrelated overhead expenses
- general overhead not specifically related to this contract
- costs of a contractor claim

The contract requires the contractor to submit monthly cost reporting and management reports to the city representative. Cost reporting is an analysis report of the monthly amounts invoiced for payment/ reimbursement as a result of its performance of services. Management reports require the contractor to keep detailed operations and maintenance records and inventory data.

The contractor must adhere to the preventative maintenance schedule of the contract. The contract requires the contractor to complete at least 95% of its scheduled monthly maintenance. It grants the contractor a 90-day grace period to catch up, but if the contractor does not meet the required maintenance after this period, the contract states that the management fee will be reduced until the contractor is back on schedule.

Lastly, the contractor must publish and maintain written standard operating procedures that detail, among other things, how the Plane Train should operate and how technicians will respond to incidents and emergencies.

Audit Objectives

This report addresses the following objectives:

• Are controls in place to ensure Alstom complies with contract requirements, particularly in terms of performance incentives, maintenance requirements, wages, overtime pay, and allowable expenses?

Scope and Methodology

We conducted this audit in accordance with generally accepted government auditing standards. We reviewed the Plane Train Fourth Amended Contract and analyzed data from fiscal year 2022 to assess controls.

Our audit methods included:

- reviewing the Plane Train contract
- reviewing Alstom's standard operating procedures to understand processes
- reviewing legislation related to the Plane Train
- reviewing data related to invoicing, reporting requirements, and wages for fiscal year 2022
- interviewing Aviation staff to understand processes
- interviewing Alstom staff to assess risks and document controls
- documenting the results of previous internal audits
- researching best practices related to contract management
- researching best practices for fleet availability
- observing the Plane Train to document its controls
- reviewing invoices to determine whether purchases complied with contractual terms
- analyzing direct labor backup for June 2022 to evaluate whether Alstom billed the city correctly
- reviewing the fiscal year 2022 budget for the Plane Train
- reviewing overtime hours to assess compliance with contractual terms
- reviewing preventive maintenance work order reporting and data for June 2022 to evaluate if Alstom met contract requirements

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

Sole Source, Reimbursable Contract Lacks City Oversight

Aviation has contracted with the same vendor since 2005 to operate and maintain the airport's Plane Train, using a sole source, cost reimbursable contract, an inherently risky type of procurement. The contractor, Alstom, has met its preventative maintenance requirements, and has not exceeded the contract's annual amount. But we found that the city has been managing the contract by relying on the vendor's procedures to monitor the contract rather than closely reviewing reports provided by the vendor. Overtime costs for fiscal year 2022 exceeded the budgeted amount by nearly \$127,000, and the city did not consistently enforce the contract provision requiring the vendor obtain pre-approval for overtime. Although the vendor is operating within the contract amount, the city still needs to closely monitor contract performance and costs.

Aviation staff told us that the city has been using a sole source contract because the same contractor has manufactured the cars and has been running them since the Plane Train began in the 1980s, which staff said leads to better safety outcomes. While this could be a valid justification, city code requires—and best practices recommend—using non-competitive, sole source contracts after conducting a due diligence review that shows only one vendor is capable of providing the service. Procurement could not provide us with the required sole source written justification for the current contract. Best practices also recommend limiting the term of sole source contracts and providing stronger controls for contract administration.

We recommend that Aviation staff provide more proactive oversight by developing standard operating procedures to manage the contract and that the Department of Procurement document thorough justification for a sole source procurement.

City Should Establish Stronger Controls for Contract Administration

Under the current contract, the primary controls to prevent excess costs are the city's negotiation of the annual budget, monitoring procedures, and reviewing and approving invoices.

NASPO contract administration best practices state that a contract is more likely to be successful when elements such as a contract administration plan are in place. A contract administration plan documents all aspects of the procurement process from the development of the details of the contract to the contract closeout. Specifically, it includes details about:

- contract administration team members
- justification of solicitation source selection method
- scope of work or specifications
- contract goals, pricing structure
- delivery terms and requirements
- potential contractual risks and assignment of risk levels
- key contract terms and conditions to include risk mitigation and information security
- contract monitoring methods
- method to measure performance
- payment terms
- reporting method and frequency
- documentation required
- names of contract administration team members responsible for measuring performance, reporting, files, payment, approval of change orders, contract closeout checklist, procedures, and who is responsible for contract closeout files

The Department of Aviation, however, did not have written standard operating procedures or a contract administration plan to detail processes for monitoring performance under the contract. Alstom has standard operating procedures, but because the city relies on the vendor's procedures, the department lacked the ability to monitor contractual terms. Aviation did not enforce contract terms for overtime approval.

The city does not have standard operating procedures for managing the Plane Train contract. Although Alstom had standard operating procedures, Aviation did not have written procedures for its functions and appeared to have some overlapping job duties among staff. This is contrary to one of NASPO's best practices for contract administration, which includes having a well-defined process, procedures, and plan for managing the contract.

We reviewed labor costs for June 2022 and found that the invoice was missing the costs for three employees included in the payroll backup. After we identified the issue, Alstom corrected this error in December 2022 by charging the city for the three employees' wages mistakenly excluded in June. Written policies and procedures for Aviation's management of the contractor could help to identify issues earlier in the process. Aviation employees told us that they are developing written procedures, which they should complete by the end of 2023. The contractor exceeded annual overtime by 103%, and the city did not enforce contract terms for overtime approval. We found that actual overtime costs for fiscal year 2022 (\$250,249) exceeded the budgeted amount (\$123,331) by nearly \$127,000. Aviation staff told us that approximately \$30,000 of the overtime overage was accidentally used on two other contracts that Alstom holds with the city. Aviation employees also told us that the additional \$100,000 in overtime was to maintain operations while the project was understaffed. Although the Plane Train did not exceed its total annual budget of approximately \$22 million, it did exceed the overtime amount.

The contract requires that Alstom obtain prior written approval from the city's representative for overtime. We requested overtime approval sheets for fiscal year 2022; Aviation provided the required preapproval forms for 8 of 12 months. We found that overtime hours exceeded the preapproved amount in these eight months. Half of the eight overtime preapproval forms did not contain the required signature by the city representative.

The city lacks a procedure for monitoring and tracking overtime, which could lead to potential overspending. Aviation employees told us that they are developing procedures for overtime pre-approval, including DocuSign approval. They also told us that during our audit scope at times overtime was approved verbally or through email.

Data management follows best practices, but system controls could improve. NASPO states contract management is more likely to be successful when a few essential elements are in place. These include collecting meaningful data from user agencies, assessing contract risks and monitoring after the contract has been awarded, establishing performance metrics, and using tracking tools to monitor spending patterns and whether a contract is working as intended.

The city's contractor, Alstom, follows most of these practices through its automated system, SIMS. Alstom uses SIMS to operate and maintain the Plane Train. SIMS collects data, such as delays, which are used to track spending. Alstom receives an incentive payment based on train availability and reliability. The contract establishes performance metrics, which is consistent with NASPO best practices. If the trains are delayed past the established metric, payment is deducted from Alstom's monthly incentive payment.

While SIMS is an automated management system, the contractor stated that the system requires manual entry in some instances. These instances include technicians entering data for corrective and preventative maintenance, and site supervisors overriding performance delays in the system.

Overtime burden costs could be higher than necessary. The city is not aware of the contractor's overtime burden expense. Overtime burden is based on a consultant's analysis from 2018, while the former Canadian-based company, Bombardier, was party to the operations and maintenance contract. The analysis may not still be relevant, considering that a new company, Alstom, is now party to the contract. Overtime burden rate includes 401k retirement plan and defined benefit plan contributions. Alstom and city staff could not provide written support for these overtime hours being included in its retirement plan.

Contractor met its preventive maintenance requirements, but both Alstom and the city need to strengthen the process. The contract requires the contractor to complete 95% of scheduled preventive maintenance monthly but grants a 90-day grace period. We reviewed Alstom's data for June 2022 and found that Alstom had completed all scheduled preventive maintenance work orders within the required 90 days.

We noted several issues with data collection, reporting, and oversight for preventive maintenance. We found several minor discrepancies between Alstom's preventive maintenance data and the June 2022 report that Alstom provided to the city. Alstom reported completing two more PMs in June than the data showed. The preventive maintenance schedule is embedded in SIMS, but SIMS produces PDF rather than Excel reports on work orders. Staff uses this to manually create a report to share with the city representative because the categories Alstom tracks are more granular than the contract and must be aligned. Because Alstom manually creates its preventive maintenance report for contractual requirements, its manual entry could lead to duplicates and increases the risk of inaccurate reporting.

The report Alstom provides to Aviation only shows a snapshot of each month and does not include 90-day updates. We followed up with Aviation employees on how they monitor the 95% threshold and enforce the 90-day grace period. They told us that Alstom informs them if it is over the 90-day grace period. This is an ineffective control, as Alstom has an incentive not to report this information to retain its full payment.

We recommend that the Department of Aviation create internal standard operating procedures that would allow the department to track and monitor all requirements and deliverables in the contract with Alstom.

City Should Provide Sole Source Justification

A cost-reimbursable contract, like this one, is also inherently risky. A sole source contract, by definition, is non-competitive and negotiated in the absence of a direct market mechanism. NASPO (National Association of State Procurement Officials) guidance states that sole source contracts are not "categorically a bad thing," and there are circumstances when they are unavoidable, but that competition is the preferred method of procurement and that "when in doubt, bid it out."

<u>City code</u> states that a contract may be awarded without competition after a good-faith due diligence review, including, but not limited to, when research of available sources and contact with professional and trade associations finds that there is only one source. We were unable to obtain the required sole source justification form for this contract from Procurement, but the legislation for the current contract suggested that it was sole-sourced because Westinghouse (now Alstom) built the trains and the system to operate them, so the contractor possessed specialized expertise. NASPO also recommends due diligence postings of intent to sole source, timely market research processes, and requiring thorough justifications for sole source requests.

When a non-competitive sole source contract is necessary, NASPO recommends limiting the term of the contract, after which a new determination is made whether a sole source contract is still justified. We recommend that the Department of Procurement document thorough justification for a sole source procurement as required by city code and ensure that the term of the sole source agreement is reasonable.

Recommendations

In order to better manage the contract, the airport general manager should

1. create internal standard operating procedures that would allow the department to track and monitor all requirements and deliverables in the contract with Alstom.

If a competitive procurement is not possible, the chief procurement officer should

2. document thorough justification for a sole source procurement as required by city code and ensure that the term of the sole source agreement is reasonable

Appendices

Appendix A: Management	Review and Response t	to Audit Recommendations

Report # 23.04	Report Title: Plane Train		Date: Aug	just 2023
Recommendation 1:		Risk Category:		Response:
internal standard oper	he Department of Aviation create rating procedures that would allow ck and monitor all requirements and htract with Alstom.	Contract Managen	nent	Agree
 The contractor approval. Data managem Overtime burde 	ot have standard operating procedur exceeded annual overtime by 103%, nent follows best practices, but system en costs could be higher than necessa its preventive maintenance requirem	and the city did not n controls could imp ary.	enforce c rove.	ontract terms for overtime
process.	its preventive maintenance requirem	ents, but both Aistor		
and document interna monitor the fulfillment	viation (DOA) agrees with the recomn I standard operating procedures to a of the contract between the City and overnance and preventive maintenanc	dequately manage a Alstom including, bເ	nd ut not	Current Status: Not Started
	ant General Manager, Facilities Main port Transportation Systems Director,		sit	Estimated Implementation Date (M/Y): 12/2023
Carolyn Wilhight, Assis Additional Comment				
the overage was minin	eed the annual overtime budget by 1 nal, less than 1% of the \$22M cumula lget which we consistently monitor.			

	Risk Category:	Response:
We recommend that the chief procurement officer document thorough justification for a sole source procurement as required by city code and ensure that the term of the sole source agreement is reasonable.	Contract Management	Agree
Related Findings:		
1. We were unable to obtain the required sole source	justification form for this cont	ract from Procurement.
Proposed Action:		Current Status:
As part of the PREP review, the department of procureme determine the appropriate procurement vehicle to use. An fully meet the requirements of 2-1191 of the procurement	y sole source request must	Implemented
average number of sole source procurements from 32 a y agreement terms do not exceed 3-5 years total and prior t conducts market analysis to determine is the single source additional suppliers have entered the market.	ear down to 9. Sole source o contract expiration, DOP	
average number of sole source procurements from 32 a y agreement terms do not exceed 3-5 years total and prior t conducts market analysis to determine is the single source	ear down to 9. Sole source o contract expiration, DOP	Estimated Implementation
average number of sole source procurements from 32 a y agreement terms do not exceed 3-5 years total and prior t conducts market analysis to determine is the single source additional suppliers have entered the market.	ear down to 9. Sole source o contract expiration, DOP	Estimated Implementation Date (M/Y): January 1, 2023
average number of sole source procurements from 32 a y agreement terms do not exceed 3-5 years total and prior t conducts market analysis to determine is the single source additional suppliers have entered the market. Business Owner:	ear down to 9. Sole source o contract expiration, DOP	Date (M/Y):