

**Performance Audit:  
Department of Aviation  
Hartsfield-Jackson  
Development Program**

**June 2007**

**City Auditor's Office  
City of Atlanta**





## CITY OF ATLANTA

City Auditor's Office  
Leslie Ward, City Auditor  
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June 2007

### ***Why We Did This Audit***

We did this audit of the Hartsfield-Jackson Development Program because of its size, complexity and high public profile. Moreover, the city's external financial auditor recommended that we devote more audit effort to the program, and City Council members expressed interest in an independent assessment of program operations.

### ***What We Recommended***

We recommend that the airport general manager require program officials:

- include original baseline budget data in project budget documents and program reports;
- develop a total program budget to use as a benchmark for monitoring overall program costs; and
- improve quality control procedures to ensure that data entered into the cost management system are accurate.

To provide flexibility for management without sacrificing transparency and competitive procurement, we recommend that the airport general manager:

- request a separate appropriation for contingencies of no more than 10% of the contract amount when seeking authorization to execute a construction contract;
- seek authority to enter into annual contracts for construction services that may be required to support other projects and to minimize delay and operational impact; and
- obtain written authorization for brand name specifications prior to a contractor's purchase of such brand name items.

We also recommend that:

- the chief procurement officer ensures change orders and contract modifications comply with the city's code of ordinances, and the
- Procurement and Law departments propose code revisions as necessary and provide administrative guidelines on the use of contingency allowances.

For more information regarding this report, please contact Amanda Noble at 404.330.6750 or [anoble@atlantaga.gov](mailto:anoble@atlantaga.gov).

## ***Performance Audit:***

### **Hartsfield-Jackson Development Program**

#### ***What We Found***

Financial risks are inherent in large capital projects. The airport and the city adequately manage the program's funding risks protecting the city's financial position through sound fiscal planning and analysis, varied financing strategies, maintaining reserve funds, and monitoring compliance requirements for federal funds.

The program, however, will cost more and take longer to complete than initially presented in 1999. In May 2006, estimated costs for budgeted projects were 18% over the original figures, and 5 of the 8 program elements were expected to take longer to complete.

Airport officials do not view the 1999 figures as a budget constraint but rather as a preliminary estimate used to establish the airlines' share of funding. Program budgets evolve as projects are planned, designed, and executed; as a result, the South Complex does not yet have a budget.

Without a firm total budget, the program is limited primarily by available resources. With ample revenue, cost is less of a constraint than other factors. We found examples of airport decisions to expedite projects that have added costs. Delays in completing project activities, third-party requirements, and market factors also have contributed to the increase in program costs.

The airport's use of miscellaneous modification (contingency) allowances in construction contracts limited external oversight and competitive procurement practices. We found the Department of Aviation:

- authorized miscellaneous modifications for work that appears unrelated to contract scope;
- used miscellaneous modifications to specify brand names for equipment purchases without authorization from the Department of Procurement; and
- spent miscellaneous modification funds for unspecified work.

# Management Responses to Audit Recommendations

## Summary of Management Responses

<b>Recommendation:</b>	1. The airport general manager should include original baseline budget data in the project budget documents and monthly status reports to help decision-makers better evaluate a budget and increase transparency to external stakeholders.	
<b>Department:</b>	Department of Aviation (DOA)	<b>Agree</b>
<b>Response &amp; Proposed Action:</b>	The DOA agrees to include baseline budget information in program documents.	
<b>Timeframe:</b>	Reporting period June 2007	
<b>Recommendation:</b>	2. The airport general manager should develop a total program budget to use as a benchmark for monitoring overall program costs.	
<b>Department:</b>	Department of Aviation (DOA)	<b>Partially Agree</b>
<b>Response &amp; Proposed Action:</b>	The DOA maintains they have a Program budget. The question is to what extent they can make the budget more accurate. Currently, they do not believe it is advisable or even possible to produce a more accurate budget that includes the South Terminal (the one major element for which they have insufficient definition as a basis for developing budget information). Given the continuing volatility in the airline industry, the pending negotiations with the airlines over the extension of the Airport use agreements, and the lack of an agreed upon concept with the airlines for the South Terminal, fixing a budget today would be tantamount to taking a stab in the dark at what the budget might be. Every other project in the capital plan can be accomplished within the existing \$6.2 billion budget.	
<b>Timeframe:</b>	Continuing	
<b>Recommendation:</b>	3. The program controls director should develop improved quality control procedures to ensure that data entered in the cost management system are accurate.	
<b>Department:</b>	Department of Aviation (DOA)	<b>Agree</b>
<b>Response &amp; Proposed Action:</b>	The DOP agrees to focus on quality control.	
<b>Timeframe:</b>	Implemented	
<b>Recommendation:</b>	4. Instead of including a miscellaneous modification allowance in the contract, the airport general manager should request a separate appropriation for contingencies of no more than 10% of the contract amount when seeking authorization to execute a construction contract. The contingency appropriation should be used in a manner consistent with the city code and guidelines established by the Departments of Procurement and Law.	
<b>Department:</b>	Department of Aviation (DOA)	<b>Agree</b>
<b>Response &amp; Proposed Action:</b>	The DOA agrees to seek authorization for a contingency allowance no greater than 10% of the contract amount.	
<b>Timeframe:</b>	3 <sup>rd</sup> Quarter, 2007	
<b>Recommendation:</b>	5. The airport general manager should seek authority to enter into annual contracts for services such as landscaping, tree trimming, and routine maintenance and repairs of existing facilities that may be required to support other projects and to minimize delay and operational impact.	
<b>Department:</b>	Department of Aviation (DOA)	<b>Agree</b>
<b>Response &amp; Proposed Action:</b>	The DOA agrees to seek authorization to enter into annual contracts for services.	
<b>Timeframe:</b>	3 <sup>rd</sup> Quarter, 2007	
<b>Recommendation:</b>	6. The airport general manager should obtain written authorization for brand name specifications from the chief procurement officer per the city's procurement code prior to a contractor's purchase of such brand name items.	
<b>Department:</b>	Department of Aviation (DOA)	<b>Agree</b>
<b>Response &amp; Proposed Action:</b>	The DOA agrees to seek authorization for brand name specifications.	
<b>Timeframe:</b>	Immediately	
<b>Recommendation:</b>	7. The chief procurement officer should ensure that change orders and contract modifications issued for all departments comply with the city's procurement code.	
<b>Department:</b>	Department of Procurement (DOP)	<b>Agree</b>

<b>Response &amp; Proposed Action:</b>	The DOP will provide additional training to user agencies on the procurement policies and procedures affecting change orders and contract modifications for city contracts. Additionally, the DOP will continue to encourage user agencies to include DOP staff in the Planning and Development phase of projects - particularly, large volume capital projects - so that staff can explain the policies and procedures affecting change orders and modifications and address any questions regarding same.
<b>Timeframe:</b>	Immediately
<b>Recommendation:</b>	8. <b>The chief procurement officer and Law department should work together to propose code revisions if necessary and to provide guidelines to user agencies on the appropriate use, documentation, and reporting of contingency expenditures.</b>
<b>Department:</b>	Department of Procurement (DOP) <span style="float: right;"><b>Agree</b></span>
<b>Response &amp; Proposed Action:</b>	The DOP will update its Standard Operating Procedures to include guidelines for user agencies on the appropriate use, documentation, and reporting for contingency expenditures.
<b>Timeframe:</b>	Effective, May 15, 2007





# CITY OF ATLANTA

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June 4, 2007

Honorable Mayor and Members of the City Council:

We conducted this audit of the Hartsfield-Jackson Development Program because of its size, complexity and high public profile. Moreover, the city's external financial auditor recommended that we devote more audit effort to the program, and City Council members expressed interest in an independent assessment of program operations.

The program, like other large capital programs, carries inherent risk. Although the airport and the city adequately manage risks related to program funding, other program risks have proved more challenging. The development program will cost more and take longer to complete than initially presented in 1999. In May 2006, estimated costs for budgeted projects were 18% over the original figures, and completion of 5 of the 8 program elements is expected to take longer. Both internal and external factors have contributed to delays and higher costs.

We made recommendations intended to improve the reliability and usefulness of budget and program reports and to provide flexibility for management without sacrificing transparency and competitive procurement. The Departments of Aviation and Procurement agreed with our recommendations, and their responses are appended to the report.

The Audit Committee has reviewed this report and is releasing it in accordance with Article 2, Chapter 6 of the City Charter. We appreciate the courtesy and cooperation of city staff throughout the audit. The team for this project was Jeremy Weber, Dawn Williams, Eric Palmer, and George Peoples.

Leslie Ward  
City Auditor

Don Penovi  
Audit Committee Member





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# Hartsfield-Jackson Development Program

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# Introduction

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We conducted this audit of the Hartsfield-Jackson Development Program pursuant to Chapter 6 of the Atlanta City Charter, which establishes the City of Atlanta Audit Committee and City Auditor's Office and outlines their primary duties.

A performance audit is an objective, systematic examination of evidence to independently assess the performance of an organization, program, activity, or function. The purpose of a performance audit is to provide information to improve public accountability and facilitate decision-making. Performance audits encompass a wide variety of objectives, including those related to assessing program effectiveness and results; economy and efficiency; internal controls; compliance with legal or other requirements; and objectives related to providing prospective analyses, guidance, or summary information.<sup>1</sup>

We included the Hartsfield-Jackson Development Program (program) in our audit plan for 2006 because of its size, complexity and high public profile. The city's external financial auditor recommended in 2005 that we devote more audit effort to the program. Moreover, City Council members expressed interest in an independent assessment of the program to provide context for individual legislative decisions they make about the program.

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## Background

Hartsfield-Jackson Atlanta International Airport is the world's busiest airport. Except for a slight downturn in passenger traffic after September 11, 2001, both the number of flights and the number of airport passengers have increased consistently since 1991 – a trend industry analysts expect to continue. To accommodate the increased traffic, the Department of Aviation developed a master plan between 1996 and 1999 to expand and improve airport facilities. A majority of airlines approved projects identified in the plan in 1999. These approved projects constitute the department's Hartsfield-Jackson

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<sup>1</sup> Comptroller General of the United States, *Government Auditing Standards*, Washington, DC: U.S. Government Accountability Office, 2003, p. 21.

Development Program (program). These projects were later refined in the program's budget documents. Program officials are guided by a management plan in executing the program.

### **The City Council and Airlines Approved a \$5.4 Billion Development Program**

The department's master plan, released in November 1999, envisioned a \$5.4 billion development program to be implemented by 2010. The program consisted of constructing a new runway, international terminal, south complex, and consolidated rental car facility; expanding the existing terminal; and improving the airfield and support facilities. The City Council adopted the plan in January 2000 and included it in the City's Comprehensive Development Plan.

**Airlines committed to funding \$1.27 billion of the \$5.4 billion plan.** Under the city's airport use and lease agreements, a majority-in-interest of contracting and signatory airlines<sup>2</sup> must approve projects that affect their rates and charges for use of airport facilities through a process referred to as a majority-in-interest (MII) ballot. The department's usual practice is to seek the airlines' approval on a project-by-project basis. However, in 1999, the airlines approved a multiple-projects ballot totaling \$5.4 billion and agreed to pay \$1.27 billion of project costs in general airport revenue bonds secured through increased rates and charges.

**MII ballot provided for the airlines' ongoing participation in program decisions.** The ballot established an Airline Steering Committee (ASC) composed of the four largest air carriers operating at the airport, with a representative from the largest airline serving as chairman. The ballot also authorized a staff for the committee, called the Airline Master Plan Team (AMPT), to represent the interests of the airlines and provide business and technical support during review of the program projects. Additionally, the ballot established an executive committee, comprising the department's general manager and ASC chairman, to review and resolve issues obstructing achievement of program's goals. Finally, the ballot outlined specific steps that airline-supported projects must go through for approval

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<sup>2</sup> The airport use agreements define a majority-in-interest as at least four of the Signatory Airlines accounting for at least 90% of landed aircraft weight. The lease agreements define a majority-in-interest as at least 51% of the contracting airlines that lease at least 75% of exclusively leased terminal buildings and aircraft parking aprons.

and established the Planning and Design Committee to oversee planning and design of program projects.

### **The MII Ballot Outlined the Program's Plan of Finance**

The ballot included a funding plan, known as the plan of finance, which identified the following sources: federal airport improvement grants, federally-authorized passenger facility charges (PFCs), special facility bonds, general airport revenue bonds, and surplus revenues generated from operations at the airport. (Appendix 1 shows the allocation of funding sources included in the 1999 MII ballot.)

**Grants.** The Federal Aviation Administration (FAA) has awarded entitlement and discretionary grants each year for airport improvements. Entitlement grants are based on the number of passenger boardings and the airport's classification as both a passenger and cargo facility. Once all entitlement grants are allocated, the FAA distributes the remaining funds as discretionary grants to airports with eligible projects based on priority.

**Passenger Facility Charges (PFCs).** The FAA has authorized the department to impose PFCs on individuals enplaned at the airport. PFC revenues may be used to fund specific FAA approved projects to preserve or enhance the security or capacity of the air transportation system, reduce or mitigate the impact of aircraft noise, or enhance competition among the airlines. The department can either use PFC collections for pay-as-you-go financing or issue bonds backed by future PFC collections to fund projects.

**Bonds.** The City of College Park has issued special facility bonds to finance construction of a Consolidated Rental Car Facility at the airport. These bonds are payable solely from a customer facility charge (CFC) assessed on airport rental car companies. Effective October 2005, a city ordinance requires rental car companies serving airport passengers to collect a \$4 CFC for each daily rental of a vehicle to generate revenues for paying off these bonds. The City of Atlanta has issued general airport revenue bonds to finance a wide range of program projects that affect the airlines. These bonds are paid through airport general revenues, including increased rates and charges.

**Surplus Operating Revenue.** The airport has consistently generated revenues that exceed its operating costs and debt service

obligations. The department accounts for the surplus revenues in its Renewal and Extension Fund, which can be used for capital improvement projects at the airport.

**Updated plan of finance calls for \$6.3 billion; airline commitment remains \$1.27 billion.** A subcommittee of the Planning and Design committee, comprising airport and airline employees, has updated the plan of finance as project funding needs have changed. The subcommittee ensures that updates comply with the MII ballot funding requirements and that sufficient funding is available to meet program commitments. As of May 2006, the program's plan of finance outlined funding for \$6.3 billion in program costs, including \$312 million for management reserve funds not included in the original MII ballot (see Appendix 2 for a breakdown of element costs by funding sources per the May 2006 Plan of Finance). Although the May 2006 Plan of Finance has increased over the \$5.4 billion plan from the MII ballot, the portion of the program funded by the airlines has remained \$1.27 billion.

### **The Development Program Consists of Nine Elements**

The MII ballot identified the projects necessary to complete the major components envisioned in the department's master plan. In order to better manage the program, the department restructured the project organization in 2002 by grouping the related projects listed in the MII ballot together under overarching projects called elements. Elements and projects have been further defined in element-level and project-level budget documents. As of May 2006, the program included at least 182 projects grouped into eight elements (groups of related projects) with a ninth element to track the program's indirect costs:

- **Runway 10-28 (5th Runway).** This element contained 24 projects for construction of a new 9,000 foot-long by 150 foot-wide runway.
- **Other Airfield.** This element contained 25 projects associated with the rehabilitation and improvement of the existing airfield.
- **Central Passenger Terminal Complex (CPTC).** This element contained 32 projects for renovation and expansion of the existing terminal including new or improved fire alarm and suppression systems; heating, ventilation and air conditioning

systems; electric power supply and lighting systems; as well as cosmetic finishes.

- **Maynard Holbrook Jackson, Jr. International Terminal (MHJIT).** This element contained 26 projects for construction of an international terminal with 10 common-use gates, a new federal inspection services facility, and its own baggage and landside transportation facilities.
- **South Complex.** This element involved the construction of a new complex south of the existing terminal. It is not yet broken down into specific projects and does not have a budget. Plans for this complex were included in the master plan, MII ballot, and the program's management plan based upon an anticipated need for additional gates.
- **Consolidated Rental Car Facility (CONRAC).** This element contained 15 projects for construction of a facility to house the rental car companies and rental vehicles, and an automated people mover system between the rental car facility and the airport passenger terminal.
- **Facilities and Maintenance.** This element contained 60 projects for expanding and renovating airport support facilities including parking, storage, hazardous waste, air cargo, ground services, and emergency facilities.
- **Noise Mitigation.** This element expanded the airport's noise mitigation activities, which have existed for over twenty years. These activities included acquiring single-family residential structures within a certain distance from the airport, and acoustically treating other structures to mitigate the impact of aircraft noise.
- **Indirect Cost.** This element did not contain any specific projects, but was used for management of general and administrative expenses not directly attributable to specific elements and projects. These costs are allocated to program projects upon completion.

## **The Management Plan Guides Program Activities**

The program's management plan, revised in August 2005, provides technical and administrative guidelines for coordinating program activities through planning, design, and construction. The plan outlines program goals, establishes operating and administrative requirements, and serves as the basis for the program's policies and procedures.

The management plan also defines the roles of program personnel. Department of Aviation Planning and Development employees and several consultant groups manage the program. The consultants assist department staff with planning, architectural and engineering services, and help manage elements, projects and construction work performed by contractors. The consultants also developed administrative and technical control systems and procedures, including the various information systems for managing program elements and projects.

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## **Audit Objectives**

This report addresses the department's performance in managing program risks and costs. It is designed to answer the following questions:

- What are the inherent risks to the city in the program's plan of finance, and how is the Department of Aviation addressing these risks?
- What has caused the program's current cost estimate to exceed the original \$5.4 billion plan approved by the City Council and airlines?

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## **Scope and Methodology**

We conducted this audit in accordance with generally accepted government auditing standards. The audit scope was from the inception of the program through May 31, 2006. We conducted audit fieldwork from June through September 2006. Our audit methods included:



- researching and analyzing the sources of funding included in the program's plan of finance to identify eligibility requirements, limitations, restrictions, and risks inherent with the funds;
- interviewing department officials and examining records to assess the reasonableness of the methodology used to develop the 1999 MII ballot;
- interviewing department and program officials and examining records to obtain an understanding of the program's management information systems, procedures for preparing management reports, and methods used to allocate general and administrative expenses to the benefiting projects;
- analyzing the program's budget and cost data to identify trends in cost escalations and delays;
- reviewing a sample of three project files to identify factors contributing to cost escalation and delays; and
- reviewing previous audit work performed for the "Review of Central Passenger Terminal Complex (CPTC) Cosmetic Upgrades" in March 2006 to identify factors contributing to cost escalation under the seven projects examined in that review.



# Findings and Analysis

## Department’s Management Strategies Protect the City from Program Funding Risks

The department has effectively managed the financing risks inherent in the Hartsfield-Jackson Development Program’s plan of finance through fiscal planning, analysis, short- and long-term financing strategies, availability of reserve funds, and monitoring compliance with federal requirements. Large capital improvement projects carry inherent risks. The Department of Aviation is managing risks related to program funding adequately to protect the city’s financial position. Exhibit 1 shows risks and associated mitigating factors.

### EXHIBIT 1

#### SUMMARY OF MAJOR FUNDING RISKS AND MITIGATING FACTORS

Major Funding Risks	Mitigating Factors				
	Financial Planning & Management	Analysis of Revenue Collections	Availability of Reserve Funds	Availability of Short-Term Financing	Controls Over Compliance with Federal Requirements
<i>Insufficient Funding for Project Costs</i>	✓	✓			
<i>Insufficient Revenue for Debt Service and O&amp;M Expenses</i>	✓	✓	✓		
<i>Inadequate Cash Flow</i>			✓	✓	
<i>Non-Compliance with Federal Funding Requirements</i>					✓

**Source:** This chart summarizes risks and mitigating factors developed from our review of the following sources: (1) Federal Aviation Administration regulations, administrative orders, and policies and procedures; (2) PFC applications; (3) City legislation; (4) City bond ordinances and official bond statements; (5) H-JDP Plan of Finance; (6) Department of Aviation financial records; and (7) Interviews with city staff.

## Sound Planning Reduces Risk of Insufficient Funding

Any large capital improvement program faces the risk of insufficient funding, which could require additional sources of funds to complete projects or result in the postponement or deletion of projects from the program. The department has reduced this funding risk through extensive financial planning and management. The plan of finance relies on multiple funding sources. The amounts of funds anticipated from each source seem reasonable based on historical data. The department has taken the necessary steps to obtain project funding. Ultimately, if funding were lacking, department personnel stated that they would prioritize the remaining projects and postpone or delete lower-priority projects as necessary. It is unlikely that city revenues will be required to make up a shortfall.

**The program uses multiple funding sources to mitigate the risk of insufficient funding.** The program's plan of finance relies on multiple funding sources. Although uses of some of the sources are restricted, the department has flexibility in deciding how to fund individual projects. Program officials have updated the plan of finance periodically as project funding plans were developed. As of May 2006, the plan of finance showed a total of \$6.3 billion to be collected from five specific funding sources (see Exhibit 2).

### EXHIBIT 2 ANALYSIS OF FUNDING SOURCES FOR PROGRAM PROJECTS AS OF MAY 31, 2006

Funding Source	Plan of Finance	Total Funds Received		Remaining to Be Collected	
	Amount	Amount	Percent of POF	Amount	Percent of POF
Federal Grants	\$ 395,095,000	\$ 345,399,975	87	\$ 49,695,025	13
PFCs & PFC Bonds	3,025,307,000	2,029,628,505	67	995,678,495	33
R&E Funds	672,677,000	196,252,509	29	476,424,491	71
SFBs	378,355,000	220,332,690	58	158,022,310	42
GARBs	1,274,435,000	1,005,897,071	79	268,537,929	21
To Be Determined	516,913,000	- 0 -	-	516,913,000	100
<b>Total</b>	<b>\$ 6,262,782,000</b>	<b>\$ 3,797,510,750</b>	<b>61%</b>	<b>\$ 2,465,271,250</b>	<b>39%</b>

**Source:** 1) H-JDP Plan of Finance, (2) Department of Aviation Financial Data, and (3) the Official Statement for the 2006 Customer Facility Charge Bonds.

**Note:** The exhibit includes bond proceeds from the CFC-backed special facility bonds issued for the CONRAC element in early June 2006. An estimated \$220 million in bond proceeds and investment earnings will be applied to project costs.

**The department has obtained \$3.8 billion of the funds in the plan of finance.** Through May 2006, the department has applied for and received 87% of the federal grants anticipated in the plan of finance. The department has also applied for and received FAA approval to impose and use passenger facility charges to fund many projects. The department has received 67% of the PFC funding anticipated in the plan of finance through PFC collections and PFC bond proceeds. In addition, the city has received 79% percent of the general airport revenue bond proceeds and 58% of the special facility bond proceeds anticipated in the plan of finance. Lastly, the department has set aside monies in the renewal and extension fund to provide 29% of the city funding anticipated in the plan of finance.

**The remaining amounts to be collected are reasonable based on historical patterns.** About \$2.5 billion remains to be collected. The amount anticipated from each source seem reasonable based on historical data.

- **PFCs and PFC-backed bonds:** The department plans to fund about 40% of the remaining \$2.5 billion with PFC revenues. Aviation collected \$165 million in PFC revenue in 2005. Because the development program is now expected to be completed after 2012, and the city can issue additional PFC bonds for capital projects upon FAA approval, plans to collect an additional \$955.7 million of PFC revenues are reasonable.
- **Special Facility and General Airport Revenue Bonds (SFBs and GARBs):** The department plans to fund about 17% of the remaining \$2.5 billion with special facility and general airport revenue bond proceeds. Because the city can issue additional bonds with City Council's approval, the department's plan to collect the remaining \$427 million in bond proceeds to fund project costs is reasonable.
- **Renewal and Extension Fund (R&E Funds):** The department plans to fund about 19% of the remaining \$2.5 billion from surplus revenues deposited in the renewal and extension fund. Surplus revenues deposited in the fund have averaged \$59 million per year over the past four years, and the fund balance has been about \$100 million per year. The department will generate the anticipated funds if it is able to continue to reserve \$59 million each year through 2015. The

department could accelerate receipt of program funds by using accumulated reserves or short-term financing.

- **Federal grants:** The department plans to fund about 2% of the remaining \$2.5 billion with federal grants. The \$49.7 million in federal grants remaining to be collected consists of \$24.8 million in entitlement grants and \$24.9 million in discretionary grants. In recent years, the department has received awards totaling at least \$8 million per year in entitlement grants and several discretionary grants for which it has applied. Based on past awards and letters of intent from the Federal Aviation Administration, it appears likely that the department will receive the remaining \$49.7 million in federal grants within the next few years.

**The department had not yet determined the source of funding for the remaining \$517 million as of May 2006.** One or any combination of the funding sources may be used to fund the remaining costs. Department officials said they intend to fund projects with additional PFCs and federal grants whenever allowable. Since May 2006, the remaining amount has been reduced to approximately \$337 million. A significant portion of the decrease resulted from funding additional projects with PFC revenues. In addition, the department has received discretionary grant funds not anticipated in the May 2006 Plan of Finance. The department's plan to acquire an additional \$337 million to fund projects appears feasible.

### **Financial Analysis and Prudent Management Reduce Risk of Insufficient Revenues for Increased Expenses**

Large capital improvement programs also pose longer-term funding risks for meeting increased debt service obligations and increased operating and maintenance (O&M) expenses resulting from the projects. Failure to generate sufficient revenue could result in deferred maintenance costs or default on debt service. The department has reduced these risks through analysis and management of airport revenue streams and financial reserves. Even with reduced passenger traffic, revenues should exceed debt coverage requirements.

**Aviation will likely generate sufficient revenue to cover increased O&M and debt service obligations.** The city's bond

ordinances establish debt coverage requirements. For general airport revenue bonds, the airport must generate general airport revenue sufficient to cover 100% of all airport operating expenses and additional revenues equal to 120% of the annual debt service. For PFC-backed and special facility bonds, the city must collect PFC and CFC (customer facility charge) revenues to demonstrate coverage of 100% of the annual debt service for PFC-backed bonds and 125% of the annual debt service for CFC-backed bonds, respectively.

Recent baseline forecasts by airport consultants project much higher coverage than needed through 2012. These forecasts incorporate anticipated increases in both airport revenues and operating and maintenance expenses resulting from the completion of capital projects, as well as debt service requirements for future bonds issued for the program (see Exhibit 3 on page 14). For example, forecasted debt service coverage for general airport revenue bonds in 2006 is nearly 200% – well above the required amount. Similarly, forecasted coverage for PFC-backed bonds is nearly three times the required amount.

Forecasts show that even with reduced passenger traffic, the city should generate enough net general airport revenues, PFCs, and CFCs to meet requirements.

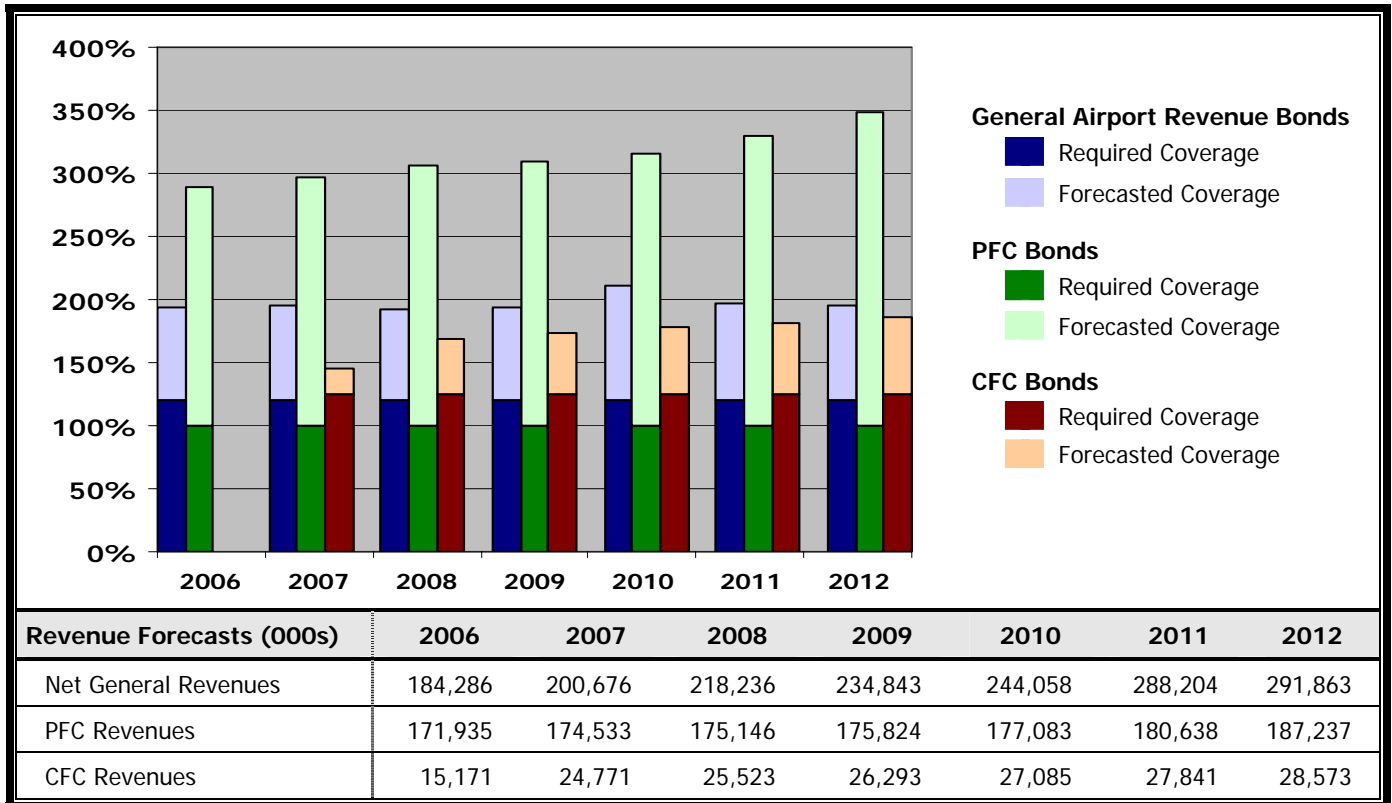
Although the forecasts end in 2012, it seems likely that the airport will continue to generate sufficient revenue to cover the program's future operating and maintenance expenses and debt service obligations. To ensure that it has sufficient revenue, the department estimates the increase in operating and maintenance expenses as elements are completed and develops strategies to generate additional revenue to cover the costs. For example:

- The department will negotiate for an increase in the landing fee rate in 2010 to cover the long-term operating and maintenance expenses of the airfield, including the 5<sup>th</sup> Runway.
- The department will increase certain airline rates and charges in accordance with the airport use and lease agreements to generate additional revenues to retire outstanding general airport revenue bonds. The rate increases should generate sufficient revenue to pay the debts.
- The department has received approval from the FAA to collect and use PFCs to pay debt service on PFC-backed bonds.

- The department has received legislative approval from the city to collect and use CFCs to pay debt service on CFC-backed bonds and will continue to generate CFC revenues until all outstanding CFC bonds are paid.

### EXHIBIT 3

#### BASELINE FORECASTS OF REVENUES AND DEBT SERVICE COVERAGE



*Source: The Official Statement for the 2006 Customer Facility Charge Bonds.*

**Financial reserves and bond insurance also mitigate the risk of insufficient revenue for long-term obligations.** The renewal and extension fund functions as an additional reserve account for annual debt service payments. According to the master bond ordinance, the renewal and extension fund “is used first to prevent default in the payment of interest or principal of any general [airport] revenue bonds.” The fund can also be used to pay operating expenses where revenues from airport operations are insufficient. Furthermore, the department maintains bond insurance and is required to maintain sufficient reserves to pay one year of debt service on all outstanding bonds at any given time. These factors ultimately mitigate the risk of default.



## **Financial Flexibility Reduces Risk of Inadequate Cash Flow**

Inconsistent cash flow poses a potential risk to the program. The city's procurement code prevents departments from executing contracts without sufficient funds. A lack of timely funds could delay the implementation of projects. Short-term financing and reserve funds available to the department reduce this risk significantly. Department officials told us that the program has not experienced any significant cash-flow problems.

**Aviation can issue commercial paper notes for short-term financing.** In 2005, the city was authorized to issue up to \$550 million in commercial paper notes: \$350 million backed by general airport revenue or general airport revenue bonds, and \$200 million backed by PFC revenue or PFC bonds. The commercial paper notes serve as a line of credit, and funds acquired can be used for the following purposes: (a) finance or refinance a portion of the program; (b) repay in whole, or in part, bond notes; (c) finance debt service requirements; and (d) pay commercial paper note issuance costs. According to the latest bond statement, the department did not have any outstanding funds under the general airport revenue line of credit and only \$27 million under the PFC line of credit as of April 2006.

**Aviation has significant funding reserves and financial flexibility.** As of May 2006, the department had approximately \$195 million in unencumbered and reserved general airport revenue bond proceeds; \$817 million in unencumbered pay-as-you-go PFC revenue and bond proceeds; and \$100 million of reserves in the Airport Renewal and Extension Fund. These reserves mitigate the risk of inadequate cash flow and provide for short-term financial flexibility as well. For example, the department had used general airport revenue bond proceeds to pay for projects awaiting PFC approval. Once FAA approved the use of PFCs for those projects, the department planned to refund the bond account with PFC revenues.

## **Monitoring Reduces Risk of Non-Compliance with Federal Funding Requirements**

The department plans to fund about half of the development program with PFCs and federal grants. The department must comply with applicable federal requirements. Non-compliance is a key risk

associated with these funding sources, which could result in the suspension and/or termination of federal grant funding or approval to impose and use PFCs.

**The city's financial auditor reports on compliance with federal requirements.** As part of the city's annual financial audit, the external auditor reviews the city's PFC accounts as required by the FAA and audits compliance with requirements for federal grants above a certain threshold. The external auditor reports the findings and recommendations in both a single audit report and a management letter, and management develops a corrective action plan.

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## Program Costs Exceed MII Ballot Estimates

The Hartsfield-Jackson Development Program will cost more and take longer to complete than initially presented in the 1999 MII ballot. While several factors have contributed to the increase, a primary reason is that department and program officials did not consider the MII ballot to be a realistic baseline for measuring program performance, and did not try, therefore, to hold overall costs within \$5.4 billion. Staff refined cost estimates and developed budgets for individual elements and projects based on detailed project planning and/or design. However, the department has not yet approved a budget for the South Complex, which would account for one-third of the MII ballot total. By operating without an overall program budget in an environment with ample resources, the program lacks institutional mechanisms for controlling total program costs. While officials did not consider the MII ballot amount to be a fixed budget, the ballot did fix the amount the airlines agreed to pay through higher rates and charges. As costs increase, other airport revenues must make up the difference.

Staff measure and report on project performance against each project's most current budget. These comparisons can be misleading, however, because established project budgets are often "re-baselined" if actual costs vary from budgeted costs by more than 5%. When the budget is re-baselined, it is adjusted to reflect actual costs and the variance is essentially erased. In addition, program budget performance reports, in some cases, contained inaccurate and

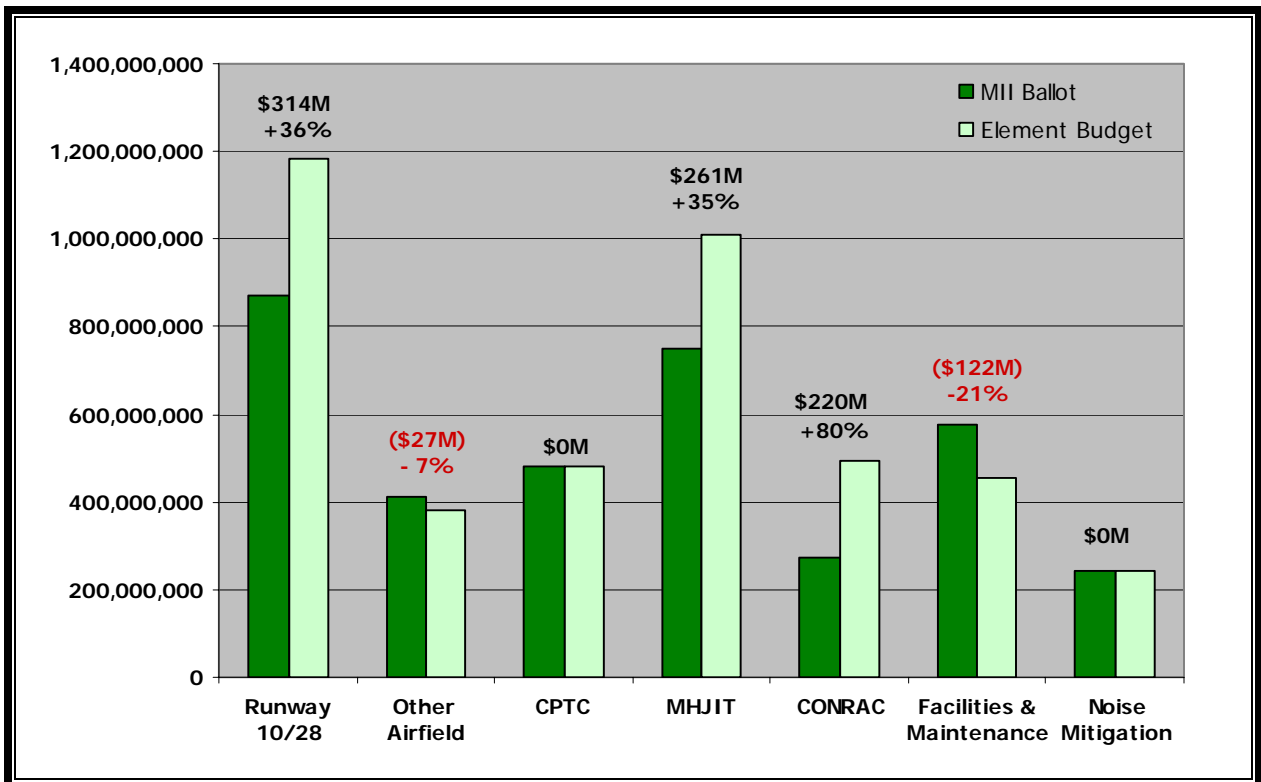
incomplete information, which reduces the reliability and usefulness of the reports in tracking budget performance.

**Element Budgets Exceed the MII Ballot Estimates**

Excluding the South Complex element and all management reserves, element budgets as of May 2006 exceeded their MII ballot estimates by \$646 million – an 18% increase.<sup>3</sup> The net increase primarily results from significant budget increases for the 5<sup>th</sup> Runway, MHJIT, and CONRAC elements despite budget decreases for the Other Airfields and Facilities and Maintenance elements (see Exhibit 4).

**EXHIBIT 4**

**MAY 2006 BUDGET VARIANCE FROM THE MII BALLOT ESTIMATES**



Source: (1) 1999 MII Ballot and (2) Department of Aviation budget documents.

The 5<sup>th</sup> Runway is the only element completed. Based on current construction cost trends, other element budgets are likely to increase as remaining projects progress from planning and design through

<sup>3</sup> We excluded the South Complex from this comparison because it does not have an approved budget. We excluded management reserve because the MII ballot did not include estimates of management reserve.

construction. The elements for which budgets have significantly increased are large, new construction projects. This pattern suggests that either the South Complex budget may be substantially higher than its MII ballot estimate of \$1.8 billion when finalized, or its scope may need to be substantially reduced.

**Aviation officials question the usefulness of comparing current budgets with the MII ballot.** According to aviation officials, the MII ballot estimates were based on broad concepts without detailed project planning or design. In their view, the MII ballot did not represent a realistic estimate of program costs and functioned primarily as an instrument to establish the amount the airlines agreed to pay – \$1.27 billion. The department’s general manager described the \$5.4 billion estimate as “an order of magnitude agreed to between the contracting airlines and the airport as the threshold basis for establishing a preliminary funding plan.” Although budgets have increased over the MII ballot and may continue to do so, the amount funded by the airlines has remained constant. The MII ballot expires in 2010, and a new one may be negotiated to take effect at that time.

**Officials didn’t consider the MII ballot to be a constraint.** For example, program officials considered the \$869 million estimate in the MII ballot for the 5<sup>th</sup> Runway to be unrealistic even though the 5<sup>th</sup> Runway was the most conceptually well-developed element in the November 1999 ballot. In early 2000, program officials re-estimated the costs for the 5<sup>th</sup> Runway to be \$1.12 billion based on additional planning and design, as well as more accurate cost information. The May 2006 budget is \$1.24 billion – \$375 million more than the MII ballot estimate, but only \$120 million more than the program officials’ refined cost estimate. The element was opened for use May 27, 2006. Program officials expect that once the final costs are tabulated, they will total \$1.135 billion – below the last budget and \$15 million more than the cost estimated in 2000.

**The department has not established an overall baseline budget for the program.** Program officials established baseline budgets for most elements and related projects between 2002 and 2004. But they have not set an overall program budget and have yet to approve a budget for the South Complex, which was by far the largest element in the MII ballot. Without an overall program budget, program officials reconcile status reports to the original \$5.4 billion estimate using a “plug figure” (what’s left over) for the

South Complex. The plan of finance also includes an unsupported figure for the South Complex. Program officials acknowledge that the reports could be misleading to people unfamiliar with the status of the project (see Exhibit 5).

**EXHIBIT 5**  
**COMPARISON OF PROGRAM ESTIMATES PER PROGRAM DOCUMENTS**  
**(in thousands)**

Element	MII Ballot November 1999	Status Reports May 2006	Element Budget May 2006	Plan of Finance May 2006
Runway 10/28	869,236	1,244,467	1,244,468	1,244,468
Other Airfield	409,856	403,924	400,549	400,549
CPTC	481,718	464,697	464,697	464,697
MHJIT	751,124	1,041,166	1,041,166	1,041,166
<b>South Complex</b>	<b>1,812,585</b>	<b>897,078</b>	<b>TBD</b>	<b>1,784,995</b>
CONRAC	275,184	500,800	506,619	506,619
Facilities & Maintenance	576,847	463,314	463,582	463,582
Noise Mitigation	240,680	237,709	240,680	240,680
Indirect Costs	N/A	164,075	164,075	116,027
<b>TOTAL</b>	<b>5,417,230</b>	<b>5,417,230</b>	<b>TBD</b>	<b>6,262,782</b>

*Source:* (1) 1999 MII Ballot; (2) May 2006 Status Reports; (3) Element Budget Documents; and (4) H-JDP Plan of Finance.

**Note:** The May 2006 Status Report figure for Other Airfield includes approved budget transfer funds not yet reflected in May 2006 Element Budget or Plan of Finance documents; the May 2006 Status Report figures for CONRAC, Facilities & Maintenance, and Noise Mitigation elements contain errors; and the Indirect Costs figure in the plan of finance does not include general and administrative expenses for the South Complex.

The Plan of Finance May 2006 total is not the exact column total; all of the numbers in the column are rounded figures.

**Budgets can be re-baselined with approval.** According to the program’s management plan, program officials can change or “re-baseline” an element and/or project budget under two conditions: a variance in costs of more than 5% over or under the budget, or the transfer of work among projects or elements. Upon approval by appropriate program committees, including the executive committee representing the Airlines and the Department of Aviation, the re-baselined budget becomes the current budget for the element and/or project, as applicable.

**Budgetary control documents may understate project variances.** While element budget documents include historical

budget information, project budgets do not. Element budget documents contain the original MII estimate, the baseline budget established at the end of the design process, the current budget, and the proposed budget. The inclusion of these four budgets allows decision-makers to understand the true budget variance over time. The project budget documents, however, only contain the current budget (possibly a re-baselined amount after schematic design) and a proposed new budget. As a result, decision-makers may have an incomplete picture of a project's budget variance over time, which makes it more difficult to control overall costs.

Similarly, program officials measure budget performance in monthly reports by calculating the variance between the current budget and their estimate of final costs based on a project's progress. However, they do not track variance from the original baseline budget. Measuring variance against only the current budget does not provide an accurate depiction of budget performance against original expectations and reduces transparency to external stakeholders.

We recommend that the department include initial baseline budget data in the project budget documents and monthly status reports to help decision-makers better evaluate budget variance and increase transparency to external stakeholders.

We also recommend that the department develop a total program budget to serve as a benchmark for monitoring overall program costs.

### **Program Reports on Budget Performance Contained Inaccurate and Incomplete Information**

Managers track program status primarily using two monthly reports: the closing and status reports. These reports contain element and project data on current budgets and schedules, actual costs, and estimated costs at completion. About 13% of the financial transactions (1.6% of the total dollar amount) we reviewed from the May 2006 closing report was inaccurate or unsupported. The closing report was missing information on the Noise Mitigation element, and the status report omitted information on nine projects. These errors and omissions reduce the reliability and usefulness of the reports in tracking budget performance.

### **The May 2006 closing report overstated three transactions by \$1.6 million and lacked support for an additional four**

**transactions totaling \$2.8 million.** Out of over 1500 cost transactions totaling \$1.9 billion, we randomly sampled 55 transactions totaling \$272 million. We traced the entries to the program's supporting records. Three transactions in our sample were overstated by about \$1.6 million:

- Two overstatements totaling \$1.5 million occurred because program employees used non-approved invoices from contractors rather than approved invoices to record entries into the program's cost management system.
- One overstatement totaling \$72,000 occurred because program employees allocated more money for MHJIT planning work than records supported.

Additionally, program officials were unable to provide supporting records for the following four cost entries in the reports:

- Three entries totaling \$2.8 million were payments for services under contract for which no matching invoice or combination of invoices for the reported amounts could be located.
- The last entry, a \$15,945 credit, was an adjustment made to reduce costs charged previously to a task order. However, the program's invoice payment records did not reflect any costs under this task order.

**The May 2006 program closing and status reports excluded some project data and contained other errors.** The closing report excluded \$29.7 million spent for land acquisition and administrative expenses under the Noise Mitigation element. The closing report also misstated the element's budget by roughly \$3 million. During the audit, program officials stated that they would incorporate noise mitigation costs into program reports. In addition, the status report omitted information on nine program projects without explanation. Project managers were responsible for, but had not submitted, updated data on these projects.

The closing report also misstated the management reserve amounts for the CONRAC and Facilities and Maintenance elements by approximately \$6.1 million. These differences were attributable to program officials' failure to include updated information in the reports.

The program devotes considerable effort to collecting and reporting information. To ensure that reports are complete and transactions are accurate and supported, we recommend the program controls director develop improved quality control procedures to ensure that data entered in the cost management system are accurate.

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## Internal and External Factors Contributed to Increased Costs

Both internal and external factors have contributed to increased program costs. We reviewed contract files and supporting documents for three nearly-completed projects<sup>4</sup> under the 5<sup>th</sup> Runway and seven CPTC Renovation projects in different stages of completion to identify reasons why costs increased and to assess whether procedural changes could help control costs as the program progresses (see Exhibit 6).

### EXHIBIT 6 LIST OF CONTRACTS REVIEWED

Contract No.	Contract Description	Original Contract Amount	Contract Amount as of May 2006
FC-7241-00	Construction Contract for Trunk Drainage and Sewers	\$ 17,827,490	\$ 30,390,000
FC-7319-01	Design-Build Contract for Interstate-285 (I-285) Bridge Structures	\$ 159,500,000	\$ 159,500,000
3004007832	Construction Contract for Fire Station #33	\$ 5,006,697	\$ 5,006,697
Resolution 05-R-1047	Reimbursable Agreement with Atlanta Airlines Terminal Complex to manage seven (7) CPTC Renovation projects	\$ 32,887,325	\$ 59,735,881

**Source:** Department of Aviation project files.

While most of the program's cost increase above the original \$5.4 billion estimate occurred when program staff developed budgets based on schematic designs, project costs have increased for other reasons as well. In an environment without firm budget constraint, the department approved increased costs and, in some cases, made decisions on project activities that added unanticipated costs. The department's use of miscellaneous modification provisions in its

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<sup>4</sup> We selected these three projects based on a number of factors, including: (1) element completion status; (2) projects whose budgets were a relatively large percentage of their element's overall budget; (3) projects whose costs were estimated to increase prior to completion; and (4) recommendations from program personnel.



construction contracts limits external oversight and could allow non-competitive procurement practices. Competition and transparency help assure that the city is paying a fair price. In addition, delays in completing project activities, third-party requirements, and market factors have also contributed to the increase in program costs.

### **Management Decisions Have Increased Project Costs**

The department is ultimately responsible for decisions regarding project costs. In making these decisions, the department has to balance issues of cost versus timely completion of projects, current versus future airport needs, and the interests of the airport versus other stakeholders in a changing construction environment. Operating with ample resources and evolving budgets, the department has made decisions to expedite the program that have added costs.

**Cost is less of a constraint than other factors.** The department has substantial resources available, the majority of which are dedicated to the development program and cannot be used for other purposes. As a result, the project budgets are marginally constrained by available funding and, therefore, do not function as firm spending constraints. The program does not have a fixed total budget, and budgets for elements and projects are adjusted when costs increase by more than 5%. Consequently, program personnel operate in an environment where cost may be a less important consideration than other program goals.

We noted examples in which decisions to expedite program activities added unanticipated costs. For example, under the site preparation project, department officials allowed the construction contractor to place its dirt conveyor system in an area where the future I-285 bridge structures project would require unfettered use. Department officials agreed to pay the site preparation contractor \$8.4 million to move the dirt conveyor when the I-285 bridge structures project construction began. However, the relocation of the dirt conveyor occurred behind schedule. As a result, the department paid the I-285 bridge structures contractor an additional \$1.1 million to adjust the scope and sequence of the bridge construction work.

Additionally, under the trunk drainage and sewer project, the department designed a new sewer system for the

City of College Park<sup>5</sup> around the 5<sup>th</sup> Runway and incorporated lift stations rather than a gravity line as requested by the City of College Park. College Park has refused to maintain the lift stations. As a result, the department has approved nearly \$500,000 in miscellaneous modifications over the past four years for various contractors to maintain the lift stations, of which it has paid at least \$434,668. Furthermore, the department recently hired a consultant to conduct a feasibility study and investigate alternatives to the lift stations. Any solution selected will further increase program costs. Until resolved, the department continues to maintain the lift stations and incur increased program costs.

### **Miscellaneous Modifications Limit External Oversight and Competition**

The department's construction contracts include a provision for miscellaneous modifications to fund work that is consistent with, and related to, the contract but not shown on drawings and/or specifications. Unlike most change orders, miscellaneous modifications are executed by the department without additional legislative oversight. The three contracts in our sample had original miscellaneous modifications allowances of between 4.5% and 14% of the contract amount. We reviewed all 106 miscellaneous modifications and miscellaneous modification amendments under these contracts totaling \$31.6 million. Under the contracts we reviewed, we found the department:

- authorized miscellaneous modifications for work that appear to have been unrelated to the original scope<sup>6</sup>;
- used miscellaneous modifications to specify brand names for equipment purchases without authorization from the Department of Procurement; and
- expended miscellaneous modification funds for unspecified work.

In addition, the chief procurement officer issued a change order authorizing work to be added to a contract that appears unrelated to the original contract scope and paid for through miscellaneous

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<sup>5</sup> This work was pursuant to an interagency agreement, dated March 16, 2000, among the City of College Park, the College Park Business and Industrial Development Authority, and the City of Atlanta.

<sup>6</sup> Our conclusions about miscellaneous modifications that appear to be unrelated to contract scope are not intended to express a legal opinion.

modifications. These uses limit oversight and competition, which are important controls in public procurement.

**Miscellaneous modifications are intended to fund contingencies.** The program's construction contracts include special condition number 33, which defines miscellaneous modifications as work items that are "consistent and related to the contract but are not shown on the drawings and/or specifications and may be necessary to the successful completion of the contract." Per the condition, the miscellaneous modification allowance is "an allowance only and not a compensable pay item ... [the] contractor shall have no claim to such funds."

Although the program has no documented process for establishing the miscellaneous modification allowance in construction contracts, according to program construction managers, the allowances are typically between 5% and 15% of the contract amount. The allowances are based on a percentage – between 0% and 10% – of engineers' pre-bid estimates and are included in solicitation documents as fixed amounts. Because the miscellaneous modification allowance is fixed in the solicitation documents, it may be a greater percentage of the awarded contract amount if the bids are lower than the pre bid estimate. Having relatively large miscellaneous modification allowances creates the opportunity to misuse these funds for work that is not properly miscellaneous modification work.

**The department executed \$6.4 million in miscellaneous modifications for work that appear unrelated to the I-285 bridge structures contract.** The department entered into a \$159.5 million contract with Archer Western Contractors in December 2002 to design and construct two bridge structures for the 5<sup>th</sup> Runway and Taxiway "U" over I-285. The contract included a \$22.9 million allowance for miscellaneous modifications. During construction, department officials used miscellaneous modifications to pay the contractor for the following apparently-unrelated work:

- designing and building a third bridge across I-285 for the airport's non-licensed maintenance vehicles for \$5.4 million;
- landscaping and improving access and security at Hart Cemetery for \$71,000; and

- installing closed-circuit television cameras at Fire Station #43 for \$45,000.

In addition, the department executed at least \$926,311 in miscellaneous modifications for other apparently-unrelated work that was added to the contract under a “no cost” change order issued by the Department of Procurement:

- landscaping, fencing, and paving a parking area and access road at Flat Rock Creek Cemetery for \$164,958;
- maintaining the lift stations constructed under the trunk drainage and sewer project (to replace the City of College Park sewer lines that were displaced by the 5<sup>th</sup> Runway) for \$248,000;
- restoring Sullivan Creek for \$254,478;
- clearing trees obstructing the view of the 5<sup>th</sup> Runway from the FAA tower for \$258,875.

We also noted other examples where the use of miscellaneous modifications was of questionable relationship to the contracted scope.

Program officials told us that these miscellaneous modifications were authorized, in part, because funds were available under the contract to complete the work and that the unit prices charged were reasonable. However, Aviation should have bid the unrelated work to meet the procurement code purpose of fostering effective, broad-based competition, which might also have obtained lower prices.

Department officials also told us that going through a formal procurement process for the work would have delayed the completion of the projects and could have had a detrimental effect on operations. We agree that the department should have the flexibility to respond quickly to contingencies that arise in capital projects. In order to provide for flexibility while promoting transparency and competitive procurement practices, we recommend that, instead of including a miscellaneous modification allowance in the contract, the airport general manager request a separate appropriation for contingencies of no more than 10% of the contract amount when seeking authorization to execute a construction contract. The Departments of

Procurement and Law should work together to propose code revisions, if necessary, and provide guidelines to user agencies on the appropriate use, documentation, and reporting of contingency expenditures.

We also recommend the aviation general manger seek authority to enter into annual contracts for services such as landscaping, tree trimming, and routine maintenance and repairs of existing facilities that may be required to support other projects and to minimize delay and operational impact.

**Work added under the “no cost” change order appears unrelated to the contract scope.** According to section 2-1292, a change order may be executed “when the contractor’s ability to meet the terms and conditions of the contract are materially affected.” This change order does not appear to address the contractor’s ability to meet the terms and conditions of the original contract scope. In addition, a program official indicated that some of the work in the change order was added because there were funds available under the contract. The chief procurement officer should ensure that change orders and contract modifications comply with the city’s procurement code.

**The department used two miscellaneous modifications to purchase brand name equipment in apparent violation of the city’s procurement code.**<sup>7</sup> After awarding the contract for the trunk drainage and sewer project, the department specified the brand name for two types of equipment:

- The department requested the contractor to purchase a specific brand of pump for the lift stations, and executed a \$55,217 miscellaneous modification to pay for the higher cost of the requested equipment.
- The department requested the contractor to purchase and install a specific brand of control panels after another brand had been installed, and executed a \$52,411 miscellaneous modification for the equipment and re-installation costs.

According to section 2-1240, brand name specifications “may only be used when the chief procurement officer makes a written

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<sup>7</sup> This conclusion is not intended to express a legal opinion.

determination that only the identified brand name will satisfy the city's needs." The project files did not contain any written authorization from the Department of Procurement for these brand name specifications. The airport general manager should obtain written authorization for brand name specifications from the chief procurement officer per the city's procurement code prior to a contractor's purchase of such brand name items.

**The department paid a contractor the unused balance in the miscellaneous modification allowance account without specifying the nature of the additional services provided.**

Under the trunk drainage and sewer project, the department approved \$9.7 million in miscellaneous modifications. However, the department paid the contractor the full contract amount, which included \$10.95 million budgeted for miscellaneous modifications. As previously stated, the special condition governing the miscellaneous modification allowance clearly states that the contractor "shall have no claim to such funds." Program officials also confirmed that the allowance should be spent only for specific authorized work. Consequently, the department appears to have inappropriately paid the contractor \$1.2 million for unspecified work.

**Schedule Delays Have Increased Program Costs**

Overall, the program – originally slated to be largely complete by 2010 – is behind schedule. Aviation officials have not estimated a completion date for the South Terminal, but have said that construction will likely begin after 2012. Delays increase costs through changes in the market; added overhead; and the need to accelerate, restructure or re-sequence planned work.

**Five of eight program elements are expected to be behind schedule at completion.** Four program elements (5<sup>th</sup> Runway, MHJIT, CONRAC, and South Complex) are behind schedule compared to the estimated completion dates in the airport's master plan and are estimated to be further behind schedule upon completion. Although CPTC is not currently behind schedule, it is estimated to be so at completion (see Exhibit 7).

**EXHIBIT 7**  
**ANALYSIS OF CHANGES IN ELEMENT OCCUPANCY DATES**

Program Element	Master Plan Schedule	Original Schedule	May 2006 Schedule	May 2006 Forecast	Change in Schedule
Runway 10/28	2005	2006	2007	2008	+
Other Airfield	2010	2010	2010	2010	=
CPTC	2010	2009	2009	2011	+
MHJIT	2005	2006	2008	2011	+
South Complex	2010	TBD	TBD	TBD	+
CONRAC	2003	2006	2008	2008	+
Facilities & Maintenance	2015	2011	2011	2012	-
Noise Mitigation	N/A	2010	2010	2010	=

*Source: (1) Airport Master Plan; (2) Element Budget Control Documents; and (3) May 2006 Program Closing Report.*

**Note:** The occupancy date is the date at which the element is available for use. An occupancy date is not listed for Noise Mitigation in the Master Plan Schedule.

The May 2006 schedule shows the occupancy date of the final project for the entire element. The occupancy date for the 5<sup>th</sup> Runway itself was 2006.

**Element delays are fueled by project delays.** The element occupancy date is actually the project occupancy date for the last project scheduled to be completed under the element. As a result, element schedules are susceptible to changes in project schedules. Projects have been delayed for a variety of reasons:

- **Late Submittal of Design Documents.** Late submission of design documents have led to project delays. For example, according to a press release from the airport general manager dated August 15, 2005, the department terminated the design service contract for the international terminal because of “timing, design, and cost issues” despite “numerous deadline extensions.” As shown in Exhibit 7, the forecasted finish date is 2011. Under the CPTC renovation projects, the design consultants failed to submit the estimates on time, which delayed procurement.
- **Unforeseen Site Conditions.** Unforeseen site conditions have led to project delays. For example, under the trunk drainage and sewer project, the contractor encountered several site

conditions not depicted in the original design: (a) unexpected soil conditions; (b) a lack of adequate load-bearing rock; (c) unanticipated utility lines; and (d) an underground river which often filled the drilling site. These conditions delayed the completion of the project by more than one year.

- **Weather Conditions.** Weather conditions have led to project delays. For example, under the trunk drainage and sewer project, heavy rains flooded the site, damaged the subcontractor's equipment, and resulted in the loss of the subcontractor's flood insurance. These conditions resulted in a two-month delay. While the contractor on the I-285 bridge structures project also experienced adverse weather conditions, the crew worked overtime to avoid delay.
- **Late Permit Acquisitions.** Late permit acquisitions have led to project delays. For example, under the trunk drainage and sewer project, the department did not acquire the required construction permits as quickly as planned, which, according to the contractor, contributed to the project's delay of at least two months.

**Project costs have increased due to schedule delay.** Delays expose projects to market-driven cost escalation. For example, the design consultant submitted documents late for several CPTC renovation projects, which delayed procurement. Consequently, the department had to pay a premium for contract labor. Additionally, department officials stated in the transportation committee work session on August 22, 2006, that construction costs for MHJIT were escalating at a conservatively-estimated rate of \$2.1 million per month. Both examples illustrate that costs are increasing; any projects currently delayed are subject to this type of cost escalation.

Delays also expose projects to increased construction costs due to extended overhead and overtime expenses. For example, under the trunk drainage and sewer project, the department paid the contractor an additional \$1.6 million for overhead and equipment costs resulting from the project's delay. Also, as mentioned above, the department paid the contractor at least \$229,000 in overtime pay to prevent project delays on the I-285 bridge structures project.

In addition, delays on one project can increase costs on another project. For example, under the I-285 bridge structures project, the



department intended to use the dirt from the 8R end-around taxiway project as fill for the I-285 bridge structures project. Due to construction delays in the 8R end-around taxiway project, the dirt was unavailable when needed. Consequently, the department paid the contractor approximately \$1.8 million to locate an alternate source for dirt. Delays on one project can not only increase costs under another project, but often require contractors to accelerate, re-sequence, or perform additional work. As previously mentioned, the department paid an additional \$1.1 million to the I-285 bridge structures contractor to adjust the scope and sequence of work due to delays under the site preparation project.

### **External Factors Contributed to Program Cost Escalation**

External factors, such as third-party requirements and industry market conditions, have contributed to the program's cost escalation.

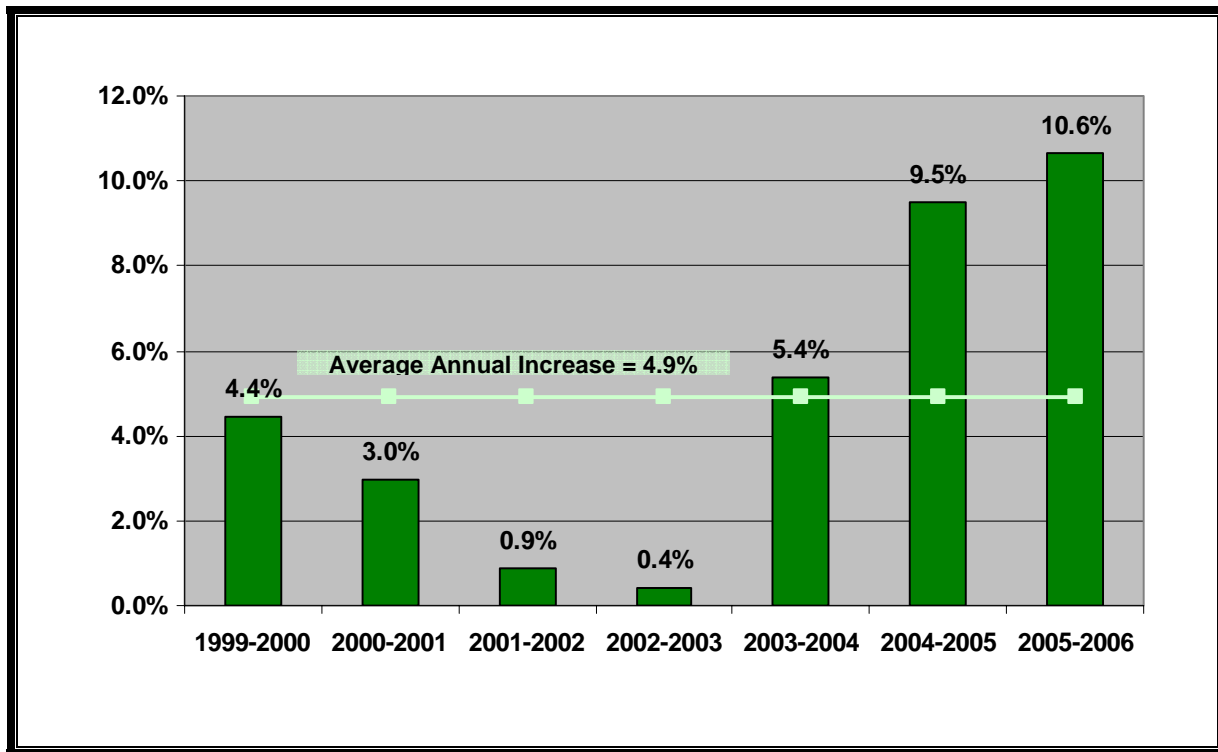
#### **Third-party requirements have led to program cost increases.**

Many projects require approval from, or must comply with, requirements from the FAA, the Georgia Department of Transportation, and other state and local entities, such as utility companies and adjacent cities. During construction of the I-285 bridge structures and trunk drainage and sewer projects, the department paid at least \$1.8 million in miscellaneous modifications to satisfy apparently unanticipated third-party requests and required revisions.

**Industry market conditions also have increased construction material and labor costs.** A nationally recognized construction cost index shows an average increase of 4.9% between 1999 through 2006. Cost index increases were moderate between 1999 and 2001, slight between 2001 and 2003, but more dramatic between 2003 and 2006 (see Exhibit 8). Several industry officials attribute this increase to escalation in the price of cement, steel, aluminum, copper, asphalt, and fuel, which has driven up the cost of services related to concrete, masonry, mechanical, electrical and paving items.

## EXHIBIT 8

### ANNUAL PERCENT CHANGE IN THE TURNER CONSTRUCTION COST INDEX



**Source:** [www.turnerconstruction.com](http://www.turnerconstruction.com)

**Note:** The Turner Construction Cost Index tracks national building costs and prices trends, and is based on several nationwide factors: (1) labor rates and productivity, (2) material prices of goods and services, and (3) marketplace competition.

The program's project costs reflect these market increases. For example, market forces contributed to higher bids for the program's CPTC renovation projects. Contractors' bids on these projects were approximately 34% - 46% over the program's construction cost estimates. In addition, the department recently increased the budget for the CONRAC element from \$479 million to \$517 million largely due to the escalated price of steel and concrete. These materials are the primary components of the CONRAC facility. Future material price escalations will likely continue to increase program costs associated with those elements that have been significantly delayed.

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## Recommendations

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To improve the reliability and usefulness of budget data and program reports, we recommend that the airport general manager require program officials to:

1. Include original baseline budget data in the project budget documents and monthly status reports to help decision-makers better evaluate a budget and increase transparency to external stakeholders.
2. Develop a total program budget to use as a benchmark for monitoring overall program costs.

The program devotes considerable effort to collecting and reporting information. To ensure that reports are complete and transactions are accurate and supported, we recommend:

3. The program controls director develop improved quality control procedures to ensure that data entered into the cost management system are accurate.

In order to provide for flexibility while promoting transparency and competitive procurement practices, we recommend:

4. Instead of including a miscellaneous modification allowance in the contract, the airport general manager should request a separate appropriation for contingencies of no more than 10% of the contract amount when seeking authorization to execute a construction contract. The contingency appropriation should be used in a manner consistent with the city code and guidelines established by the Departments of Procurement and Law.
5. The airport general manager should seek authority to enter into annual contracts for services such as landscaping, tree trimming, and routine maintenance and repairs of existing facilities that may be required to support other projects and to minimize delay and operational impact.

6. The airport general manager should obtain written authorization for brand name specifications from the chief procurement officer per the city's procurement code prior to a contractor's purchase of such brand name items.
7. The chief procurement officer should ensure that change orders and contract modifications issued for all departments comply with the city's procurement code.
8. The chief procurement officer and law department should work together to propose code revisions as necessary and provide guidelines to user agencies on the appropriate use, documentation, and reporting of contingency expenditures.

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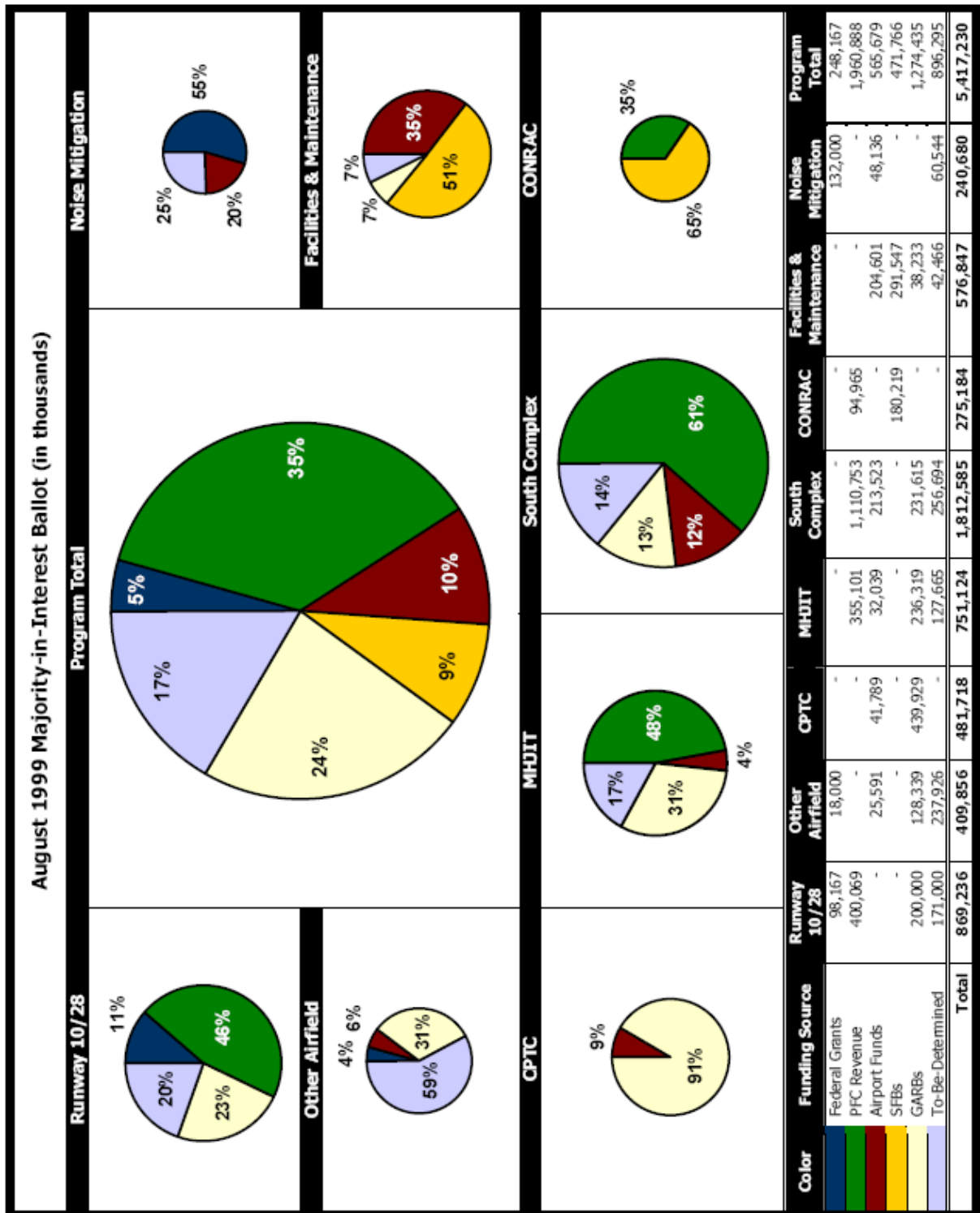
# Appendices

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APPENDIX 1

AUGUST 1999 MAJORITY-IN-INTEREST BALLOT (in thousands)

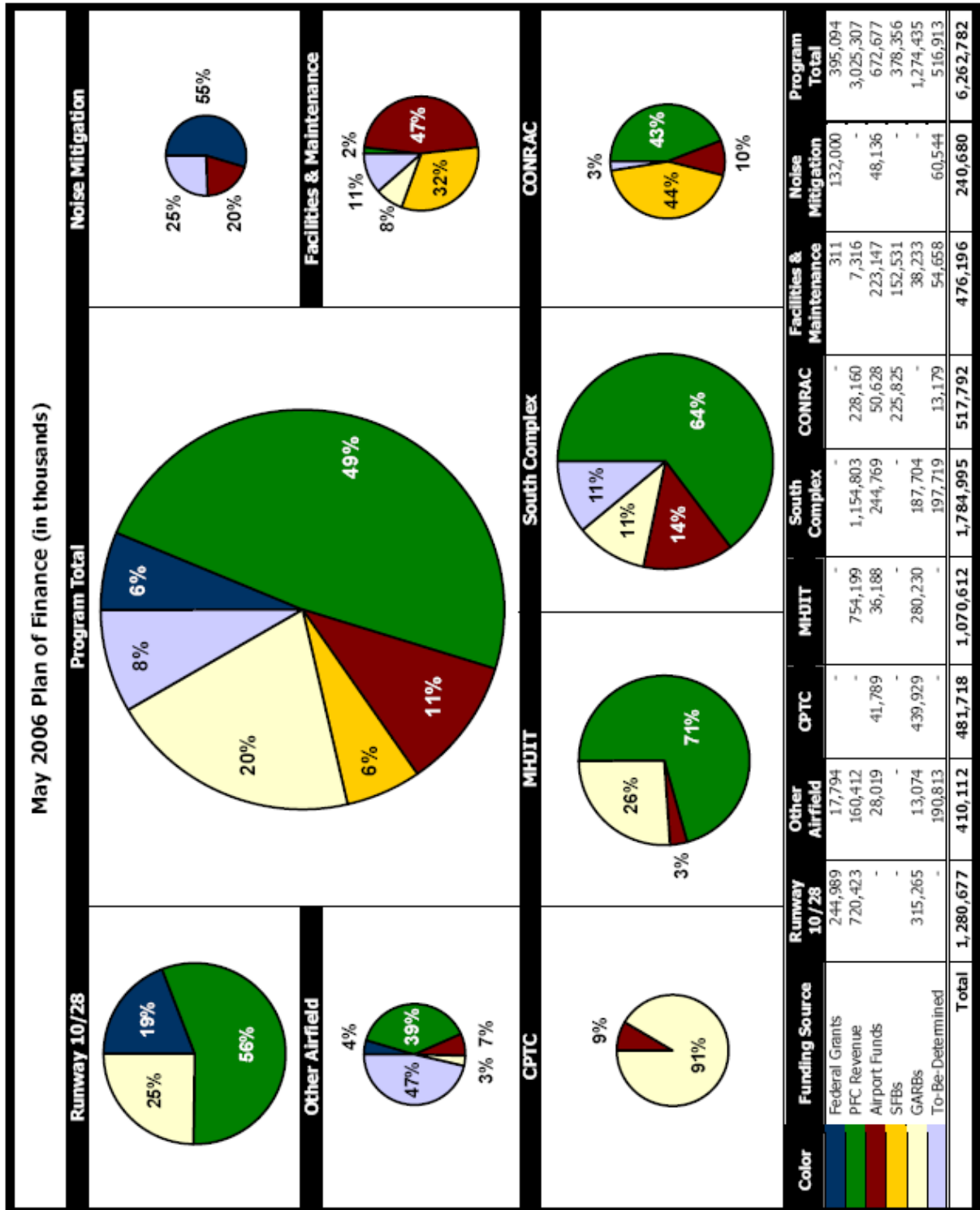






APPENDIX 2

MAY 2006 PLAN OF FINANCE (in thousands)





APPENDIX 3

AUDIT RESPONSE – DEPARTMENTS OF AVIATION AND PROCUREMENT

Report # <b>05.05</b>	Report Title: <b>Hartsfield-Jackson Development Program</b>	Date: <b>05/14/07</b>
<i>Recommendation Responses</i>		
Rec. # 1	<p><b>The aviation general manager should include original baseline budget data in the project budget documents and monthly status reports to help decision-makers better evaluate a budget and increase transparency to external stakeholders.</b></p> <hr/> <p><u>Proposed Action:</u> Include Baseline in documents</p> <p><u>Implementation Timeframe:</u> Reporting period for June 2007</p> <p><u>Comments:</u></p> <p><u>Responsible Person:</u> Manager of Controls</p>	
Rec. # 2	<p><b>The aviation general manager should develop a total program budget to use as a benchmark for monitoring overall program costs.</b></p> <hr/> <p><u>Proposed Action:</u> Update Budget When and As Necessary</p> <p><u>Implementation Timeframe:</u> Continuing</p> <p><u>Comments:</u> We maintain we have a Program budget. The question is to what extent we can make the budget more accurate. Currently, we do not believe it is advisable or even possible to produce a more accurate budget that includes the South Terminal (the one major element for which we have insufficient definition as a basis for developing budget information). Given the continuing volatility in the airline industry, the pending negotiations with the airlines over the extension of the Airport use agreements, and the lack of an agreed upon concept with the airlines for the South Terminal, fixing a budget today would be tantamount to taking a stab in the dark at what the budget might be. Every other project in the capital plan can be accomplished within the existing \$6.2 billion budget.</p> <p><u>Responsible Person:</u> Assistant GM, PD&amp;E</p>	
Rec. # 3	<p><b>The program controls director should develop improved quality control procedures to ensure that data entered in the cost management system are accurate.</b></p>	

Proposed Action: Focus on Quality Control  
Implementation Timeframe: Implemented  
Comments:  
Responsible Person: Manager of Controls

Rec. # 4 The aviation general manager should request appropriation of a contingency allowance no greater than 10% of the contract amount when seeking authorization to execute a construction contract. The contingency appropriation should be used instead of the miscellaneous modification allowance. Use of the contingency funds should be limited to the circumstances described in the city code under which contract modifications are authorized:

- Actual conditions differ materially from those stated in the specifications, invitation for bids, request for proposals, contract or purchase order;
- Actual conditions are unknown to both parties at the time of entering into the original contract;
- Estimating errors not apparent to either party at the time of entering into the original contract;
- Indefinitely stated quantities; and
- Errors in design.

Proposed Action: Seek authorization  
Implementation Timeframe: 3<sup>rd</sup> Quarter, 2007  
Comments:  
Responsible Person: Assistant GM, PD&E

Rec. # 5 The aviation general manager should seek authority to enter into annual contracts for services such as landscaping, tree trimming and routine maintenance, and repairs of existing facilities that may be required to support other projects and to minimize delay and operational impact.

Proposed Action: Seek authorization  
Implementation Timeframe: 3<sup>rd</sup> Quarter, 2007  
Comments:  
Responsible Person: Assistant GM, PD&E

Rec. # 6 The aviation general manager should obtain written authorization for brand name specifications from the chief procurement officer per the city's procurement code prior to the contract award.

Proposed Action: Seek authorization

Implementation Timeframe: Immediately  
Comments:  
Responsible Person: Assistant GM, PD&E

Rec. # 7 **The chief procurement officer should ensure that change orders and contract modifications issued for all departments comply with the city's procurement code.**

Proposed Action: The Department of Procurement (the "DOP") will provide additional training to user agencies on the procurement policies and procedures affecting change orders and contract modifications for city contracts. Additionally, the DOP will continue to encourage user agencies to include DOP staff in the Planning and Development phase of projects - particularly, large volume capital projects - so that staff can explain the policies and procedures affecting change orders and modifications and address any questions regarding same.

Implementation Timeframe: Immediately  
Comments: None  
Responsible Person: Chief Procurement Officer

Rec. # 8 **The chief procurement officer should provide guidelines to user agencies on the appropriate use, documentation, and reporting of contingency expenditures.**

Proposed Action: The DOP will update its Standard Operating Procedures to include guidelines for user agencies on the appropriate use, documentation, and reporting for contingency expenditures.  
Implementation Timeframe: Effective, May 15, 2007  
Comments: None  
Responsible Person: Chief Procurement Officer