Denver International Airport
Hotel and Transit Center
Project Integration
Performance Audit

April 2015

Office of the Auditor
Audit Services Division
City and County of Denver

Dennis J. Gallagher
Auditor
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Kim Day, Chief Executive Officer  
Department of Aviation  
City and County of Denver  

Dear Ms. Day:  

Attached is the Auditor's Office Audit Services Division's report of their audit of Denver International Airport (DIA) Hotel and Transit Center (HTC) Project Integration. The purpose of the audit was to examine DIA's implementation plan for activation and operation of the hotel and public transit center. We reviewed and evaluated the transition plan to move HTC work and operation from the project management team to DIA divisions.

Airports are vital national resources and economic engines, as has been evident with the initial construction and current expansion of DIA. DIA generates more than $26 billion in annual economic impact for Colorado and supports nearly 190,000 jobs. DIA recently celebrated its twentieth anniversary and still remains the largest and newest commercial airport in the United States. What you and your team out at DIA do to successfully run this massive operation day in and day out is no small feat. The Auditor’s Office wants to ensure that the success of DIA continues.

With the opening of the new hotel this fall and the transit center next year, I thought it would be beneficial to conduct this audit to verify whether the transition from temporary HTC entities to the long-term DIA divisions was on schedule. Our audit found that DIA appears to be taking the necessary steps to prepare for this important transition. Although we developed a few recommendations to ensure that the process continues successfully, overall I am pleased with DIA’s commitment to and focus on transition-related activities.

If you have any questions, please call Kip Memmott, Director of Audit Services, at 720-913-5000.

Sincerely,

Dennis J. Gallagher  
Auditor
Honorable Members of City Council
Members of Audit Committee
Ms. Cary Kennedy, Deputy Mayor, Chief Financial Officer
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Mr. David P. Edinger, Chief Performance Officer
Ms. Beth Machann, Controller
Mr. Scott Martinez, City Attorney
Ms. Janna Young, City Council Executive Staff Director
Mr. L. Michael Henry, Staff Director, Board of Ethics
Mr. Stuart Williams, DIA HTC Program Manager
AUDITOR’S REPORT

We have completed an audit of the Denver International Airport (DIA) Hotel and Transit Center (HTC) Project Integration. The purpose of the audit was to determine whether DIA’s implementation plan to activate HTC is adequate. We evaluated the coordination, communication, and collaboration strategy between the activation team and working groups. In addition we reviewed the risk associated with the additional roles and responsibilities of various DIA divisions as it relates to HTC. Lastly, we examined whether DIA is prepared to oversee the operations of the new Westin hotel.

This performance audit is authorized pursuant to the City and County of Denver Charter, Article V, Part 2, Section 1, General Powers and Duties of Auditor, and was conducted in accordance with generally accepted government auditing standards. Those 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 finding and conclusions based on our audit objectives.

The audit revealed that DIA appears to be taking the necessary steps to prepare for HTC activation. DIA has established a sound governance structure and developed the proper tools to ensure timely activation of HTC. In addition, DIA divisions have initiated the appropriate steps to activate, operate, and maintain HTC. Lastly, we found that the hotel management agreement is within industry norms. Although our audit did not reveal any significant issues, we offer some recommendations to further facilitate a successful HTC activation.

We extend our appreciation to DIA personnel who assisted and cooperated with us during the audit.

Audit Services Division

Kip Memmott, MA, CGAP, CRMA
Director of Audit Services

To promote open, accountable, efficient and effective government by performing impartial reviews and other audit services that provide objective and useful information to improve decision making by management and the people.

We will monitor and report on recommendations and progress towards their implementation.
Denver International Airport Hotel and Transit Center Project Integration April 2015

The audit examined DIA’s implementation plan to activate and operate the Hotel and Transit Center.

Background
The Hotel and Transit Center (HTC) at Denver International Airport is scheduled to open incrementally over the course of the next year. The HTC includes a hotel and conference center, a public plaza, and a public transit center. Operating the new facility will have an impact on various DIA divisions, which will have responsibilities such as asset management and financial tracking.

Purpose
The objective of the audit was to determine whether DIA’s implementation plan to activate HTC is adequate to:

- Ensure the HTC Core Activation Team and Working Groups have an effective coordination, communication, and collaboration strategy
- Identify and mitigate risk associated with roles and responsibilities of various DIA divisions as it relates to budgeting, staffing levels, maintenance, and contracts
- Ensure DIA is prepared to own a hotel and oversee Starwood’s management of the hotel

Highlights
Although it is still early in the activation process, we found that DIA management appears to be on track to successfully transition from constructing to operating DIA’s new hotel, transit center, and public plaza.

Specifically, DIA has established a governance structure to ensure timely activation. The structure includes the following primary groups: the HTC Core Activation Team; specialized working groups; the commissioning agent, Ambient Energy; and a hotel asset management consultant, Capital Hotel Management. The tools being used by these primary groups are consistent with industry norms and include a facility activation plan, activation checklist, milestone schedule, transition to sustainable operations plan, systems testing, systems training, and regular activation meetings. Members of the primary groups express confidence that HTC will experience a successful activation.

Additionally, three primary DIA divisions have initiated appropriate steps to activate, operate, and maintain HTC: DIA Accounting and Finance (DIA Finance), Airport Infrastructure Management (AIM), and Business Management Services (BMS). DIA Finance appears to be adequately preparing to separately account for hotel and non-hotel revenues, although it may need to enhance some fund reconciliation procedures. AIM appears to be adequately preparing to operate and maintain the new facilities, based on 2015 budget and staffing increases, relevant changes to DIA’s asset management strategies, and the development of a succession planning program. BMS is working on resolving issues arising from the addition of HTC, including updating certain service contracts and securing additional storage space to accommodate HTC-related supplies.

Further, DIA management’s preparation activities related to overseeing the operations of the hotel appear to be sound. We found that the hotel management agreement with Starwood is within industry norms.

For a complete copy of this report, visit www.denvergov.org/auditor or contact the Auditor’s Office at 720.913.5000
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Overview of the DIA Hotel and Transit Center Project
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INTRODUCTION & BACKGROUND

Overview of Denver International Airport

Denver International Airport (DIA) opened in February 1995 and has the largest airfield of any U.S. airport, encompassing fifty-three square miles located approximately twenty-four miles northeast of Denver’s central business district. DIA was designed to incorporate the latest technology and safety and has developed an accomplished record for on-time performance, safety, and convenience.1 DIA was recently voted the “Best Airport in North America” by Premier Traveler magazine readers.2 The honor was attributed to a number of factors that include stimulating art exhibitions, eco-friendly solar energy panels, friendly volunteer ambassadors, and cleanliness. DIA is ranked as the fifteenth-busiest airport worldwide and the fifth-busiest airport nationwide. Airport management recently reported that 2014 may have been a record-setting year for passenger traffic.3

Overview of the DIA Hotel and Transit Center Project

The City initiated the Hotel and Transit Center (HTC) project to improve services at DIA and to create convenient intermodal transportation options between the airport and downtown Denver, which was part of the vision when the facility was originally constructed in the 1990s. HTC consists of three primary projects: an airport hotel, an open-air plaza, and a public transit center.

- **Hotel and Conference Center**—The new 519-room Westin hotel will feature conference center space for meetings, banquets, conventions, and trade shows, as well as a restaurant, fitness center, and indoor pool. The hotel will allow business travelers to conduct meetings in a facility connected to DIA, saving them time and offering a convenient alternative to traveling downtown.

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1 Among Colorado commercial service airports, DIA is the busiest of fourteen Colorado airports in terms of the number of enplaned passengers in 2012. Colorado Springs Airport, a small hub airport south of DIA, principally serves local demand and ranks second in the State of Colorado after DIA. For rough comparison, in 2012, approximately 822,000 passengers were enplaned at Colorado Springs compared with 26.6 million passengers at DIA. CITY AND COUNTY OF DENVER, COLORADO, DEPARTMENT OF AVIATION, Airport System Subordinate Revenue Bonds, SERIES 2013A and SERIES 2013B, Bond Report, July 10, 2013.


- **Public Plaza**—An open-air plaza will connect the transit center and hotel to the existing Jeppesen Terminal and will feature a large open area partially covered by a glass canopy. The plaza will provide a venue for programs and events where passengers and visitors can find entertainment, relaxation, art, and restaurants.

- **Public Transit Center**—This aviation commuter rail station will serve trains connecting DIA with downtown Denver’s Union Station as part of the Regional Transportation District’s (RTD’s) East Rail Line, under construction by Denver Transit Partners.

The project also includes an extension of the Automated Ground Transportation System (AGTS), which is the train that currently serves the concourses, as well as an expansion of the airport’s existing baggage system.

### Primary Groups Involved in HTC Project Integration

The construction and eventual operation—or activation—of a large project such as HTC requires input and support from both internal and external groups. The following internal groups have significant roles in the transition from the construction phase to the activation phase:

- **HTC Program Managers**—The HTC Program Managers include a Program Manager, a Deputy Program Manager of Administrative Oversight, and a Deputy Program Manager of Technical Oversight. These individuals are DIA employees.

- **HTC Project Management Team**—The HTC Project Management Team (PMT) includes the three HTC Program Managers and various personnel from Parsons Transportation Group (Parsons). The PMT is instrumental in the transition due to their involvement with the project from the beginning.

- **HTC Core Activation Team**—The HTC Core Activation Team includes the PMT, staff from the general contractor, and other contract staff with significant roles related to facility coordination, closeout, warranties, and systems.

- **HTC Working Groups**—The HTC Working Groups include staff from various DIA divisions such as Airport Legal Services, Finance and Administration, Business Management, RTD, Technologies, Commercial/Concessions, Operations, and Airport Infrastructure Management.

- **DIA Airport Infrastructure Management (AIM) Division**—AIM is responsible for maintaining all airport assets in a safe and efficient manner.

- **DIA Finance and Administration Division**—The DIA Finance and Administration Division leads DIA’s financial strategy and manages its financial operations.

The following external groups also have significant roles in the transition to activation:

- **Mortenson, Hunt, and Saunders (MHS)**—MHS is the Construction Manager/General Contractor for the hotel and public transit center. Specific

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4 Parsons was selected by DIA in 2009 to act as the program manager for HTC. However, as a result of an organizational structure change in 2011, Parsons was removed from the project manager role but retained to help provide staff resources and technical expertise.
roles and responsibilities for these groups are explained in greater detail in the Finding section of this report.

- **Stanwood Hotels and Resorts (Stanwood)**—Stanwood is responsible for the management of the Westin hotel.
- **Capital Hotel Management**—Capital Hotel Management (CHM) will serve as the hotel asset manager and primary advisor and consultant to DIA on all matters related to owning and operating a hotel.
- **Ambient Energy**—Ambient Energy (Ambient) serves as the Commissioning Agent for the facility.

Specific roles and responsibilities for these groups are explained in greater detail in the Finding section of this report.

## Overview of Facility Commissioning and Activation

When a building is commissioned, it undergoes an intensive quality assurance process that begins during design and continues through construction, occupancy, and operations. Commissioning ensures that the new building operates as the owner intended and that building staff are prepared to operate and maintain systems and equipment. Commissioning is important because in today's complex buildings, systems are highly interactive. Due to increased system interactivity and sophisticated control systems, minor problems can have significant effects on performance and overall building operations. The California Commissioning Collaborative indicates that building commissioning is a proven way to achieve improved building performance.5

Airport facility activation is the process used to bring a new or renovated facility from the state of static completion to normal ongoing operations. Activation activities should be implemented to mitigate risks during the early stages of operation. For the purposes of this report, we will define commissioning as the oversight of installation of, testing of, and training on major systems. Activation will be defined as the overall process, encompassing all activities and all stakeholders, of moving the facility from construction to operation. Accordingly, commissioning is a part of the larger activation process. A commissioning process is typically led by a Commissioning Agent, who can either be a member of the owner's staff, the construction contractor, or an independent third-party commissioning provider. The general consensus among industry professionals is that using a third-party Commissioning Agent offers owners the greatest assurance of objectivity.

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All new and renovated City and County of Denver buildings go through the commissioning process and incorporate green building provisions. As outlined in the Mayor’s Executive Order No. 123, all new City buildings and major renovations, including those at DIA, are to be designed, constructed, operated, and maintained according to the principles described in the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) program. Further, new City buildings must achieve LEED Certification at the Gold level. Commissioning goes hand-in-hand with LEED standards as it is a formal requirement to implement a commissioning process that meets LEED rating system guidelines as part of LEED Certification. DIA contracted with a third-party commissioning firm, Ambient, for the LEED Commissioning of HTC. Ambient will work directly with MHS and be heavily involved in the integrated testing and start-up of major systems, safety and security certifications, completion and thoroughness of operations and maintenance manuals, training, and warranty administration.

The specific costs related to activation are supported by various funding sources for the overall HTC project, including general aviation revenue bonds, DIA general operating fund, and a specific hotel operating fund. Once operational, DIA and Starwood estimate that the hotel will generate nearly $479 million in total revenue and $160 million in net operating revenue from 2015 through 2024.

Systems Integral to HTC Construction, Activation, and Operations

Two systems have been integral to the activities of the HTC Core Activation Team and the Working Groups: Building Information Modeling (BIM) and Maximo. Both systems have been utilized by DIA personnel prior to activation activities. BIM has been utilized as a tool in designing and building HTC by the architects, engineers, and construction contractors. Maximo has been utilized by various DIA divisions for purchasing, materials management, and asset management purposes. The following bullets describe these systems in greater detail.

- **BIM**—BIM is a system used to digitally represent physical and functional characteristics of a facility. It is also used to share information with various parties involved with designing, engineering, constructing, and maintaining and

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6 There are four levels of LEED certification: Certified, Silver, Gold, and Platinum. A project seeking LEED certification earns points during the certification process which place it into one of the four categories. Requirements for achieving LEED Gold Certification are more stringent than for Certified and Silver but not as stringent as for Platinum.
8 Mortenson, Hunt and Saunders (MHS) is the integrated tri-venture serving as the Construction Manager/General Contractor for the hotel and public transit center.
operating a facility to form a reliable basis for decisions during its life-cycle. BIM enables collaboration by different stakeholders at different phases of the life cycle of a facility to insert, extract, update, or modify information in the system to support and reflect the roles of that stakeholder. In 2013, DIA and its partner design company, HNTB, were recognized as a leader in utilizing BIM.¹⁰

- Maximo—Maximo is a system used for several purposes at DIA, including purchasing and procurement, inventory, and asset management. Prior audits have noted DIA’s use of Maximo for these purposes.¹¹ For HTC activation, AIM is utilizing Maximo to manage assets within the facility such as HVAC, electrical, and mechanical systems. By utilizing Maximo, AIM will have a central database of all HTC-related warranties in addition to information for maintenance purposes.

Previous Hotel and Transit Center Related Audits

The Denver Auditor’s Office began conducting oversight of HTC in 2011 when we initiated an audit of the project, which was initially known as the South Terminal Redevelopment Program (STRP). This was our first in a planned series of audits to address risk areas from inception to completion of the project, followed by a second audit in 2014. This current audit of HTC project integration is the third audit we have issued examining this critical project.

2012 South Terminal Redevelopment Program Audit—In January 2012, we released a performance audit of South Terminal Redevelopment Program (STRP), through which we sought to understand and report on STRP’s organizational structure, financing, and task schedule, as well as to identify any significant risks.¹² The audit revealed that there was some risk that the project’s components would not be completed on time or on budget.

2014 Hotel and Transit Center Audit—In November 2014, we released an audit of HTC as a continuation of the STRP audit. The audit assessed the efficiency and effectiveness of the governance of the project.¹³ The audit identified areas of improvement related to oversight of the change order process, close-out review of the project, organization and review of project invoices, costs related to the project that were not captured in current budgets, and project management structure for future construction projects.

SCOPE

We examined Denver International Airport’s (DIA’s) implementation plan for activation and operation of the Westin hotel and public transit center. Our engagement reviewed and evaluated the transition plan to move Hotel and Transit Center (HTC) work and operation from the HTC Project Management Team (PMT) to the Airport Infrastructure Management (AIM) Division.

OBJECTIVE

The objective of the audit was to determine whether DIA’s implementation plan to activate HTC is adequate to:

- Ensure that the HTC Core Activation Team and Working Groups have an effective coordination, communication, and collaboration strategy
- Identify and mitigate risks associated with roles and responsibilities of various DIA divisions with regard to budgeting, staffing levels, maintenance, and contracts
- Ensure that DIA is prepared to own a hotel and oversee Starwood’s management of the hotel

METHODOLOGY

We utilized several methodologies to achieve the audit objective. These evidence gathering techniques included, but were not limited to:

- Reviewing all applicable City rules and regulations and DIA policies and procedures
- Reviewing prior Auditor’s Office and other local government audit reports
- Interviewing relevant DIA leadership and personnel that will be impacted by HTC
- Interviewing DIA HTC Program Managers, HTC Project Management personnel, and members from the various HTC activation groups
- Reviewing DIA budget documents and financial reports
- Reviewing relevant internal and external reports related to commissioning
- Reviewing relevant Airport Cooperative Research Program guides and reports
- Attending Building Information Modeling system training
- Evaluating the utilization of the Maximo system
• Interviewing external consultants with expertise in commissioning and hotel management
• Comparing and benchmarking HTC warranties to best practices and projects
• Conducting benchmarking of other hotel agreements
• Surveying members of the HTC Core Activation Team and Working Groups to evaluate the communication, coordination, and collaboration activities

14 The four other hotel management agreements we reviewed include the Detroit Westin, the Dallas-Fort Worth Hyatt, the Orlando Hyatt, and the Denver Convention Center Hyatt.
FINDING

While Early in the Process, DIA Management Appears To Be on Track for a Successful Activation of the Hotel and Transit Center

Now that the Hotel and Transit Center (HTC) project at Denver International Airport (DIA) is nearing completion, it is vital that the project successfully transition from the construction phase to the operation phase. Transitioning a project as large as HTC from static completion to normal ongoing operation requires input and support from both internal and external groups. While still in the preliminary phase, we determined that DIA appears to have implemented a sound activation approach. Our assessment is based on three specific areas.

First, the primary groups involved in the activation process appear to be on track for a successful activation, both due to the governance structure in place as well as the tools being used by the primary groups within that governance structure. Second, the existing DIA divisions responsible for finance and accounting, infrastructure management, and other business management services have initiated appropriate steps to activate, operate, and maintain HTC. Third, DIA management has hired a third party to manage the hotel. DIA’s agreement with Starwood Hotels and Resorts reflects industry norms.

Despite our broad assurance that the necessary elements are in place, we make three recommendations that will further strengthen the efforts that DIA has made for a successful activation.

DIA Has Established a Governance Structure To Ensure Timely Activation of HTC

We found that DIA appears to have all the requisite groups, both internal and external, involved in the HTC activation process to ensure a successful transition from completion to operation. In addition to having a comprehensive governance structure in place, these primary groups are using the proper tools to ensure timely activation of HTC.

In determining whether DIA has an effective coordination, communication, and collaboration strategy in place to activate HTC, we found that DIA has established a governance structure consisting of four primary groups: the HTC Core Activation Team, eight Working Groups, the commissioning agent, and a hotel asset management consultant. Collectively, these four primary groups have been tasked with developing and implementing an activation plan.

- **HTC Core Activation Team**—The HTC Core Activation Team (Activation Team) consists of the HTC Project Management Team (PMT) and other contract staff
with significant roles related to facility coordination, closeout, warranties, and systems. The PMT is acting as the main coordinator and facilitator for HTC activation and commissioning activities. In addition to the PMT, a Facility Activation Manager position serves as the primary DIA point of contact for activation activities. The Activation Team’s primary role is to establish, maintain, and update a checklist outlining the items that each DIA division and contractor is responsible for completing to ensure the facility is successfully brought online. The Activation Team is also responsible for coordinating systems training between the construction contractor, the commissioning agent, and DIA Airport Infrastructure Management (AIM) Division personnel.

- **Working Groups**—Along with the Activation Team, eight Working Groups have been established to assist with HTC activation. The Working Groups represent the DIA divisions and external stakeholders that will be directly involved with activation, and include the following:
  - Airport Legal Services
  - Starwood Hotels and Resorts
  - The Regional Transportation District
  - DIA Technologies—Technologies Division
  - Operations—Airport Operations Division
  - Commercial/Concessions—Consisting of the Commercial Division and Concessions Division
  - Finance/Business Management—Consisting of the Finance and Administration Division and Business Management Services Section
  - Airport Infrastructure Management Division

Each Working Group identified a main point-of-contact who is responsible for attending bi-weekly HTC activation meetings, led by the Facility Activation Manager, and ensuring progress on the activation tasks assigned to his or her division. Auditors attended an HTC activation meeting in January 2015 where all Working Groups were represented. A representative from each Working Group briefed the larger group on activation progress being made in his or her division and any problems encountered along the way. Auditors found this meeting to be a productive format for collaboration among the Working Groups as some activation tasks and issues affect more than one division. The meeting also allows the Activation Team to monitor progress and work to solve problems as they arise.

DIA’s AIM Division is a good example of the types of communication and coordination working groups are contributing to the activation process. The AIM working group has been updating job-specific roles and responsibilities in preparation for HTC activation. AIM designated one of their full-time employees

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15 The HTC Project Management Team (PMT) includes the three HTC Program Managers and various Parsons personnel. The PMT is instrumental in the transition due to their involvement with the project from the beginning.
to work solely on HTC activation. This individual also serves as the AIM HTC Program Manager and is responsible for facilitating and coordinating all AIM tasks related to HTC including integration, maintenance, sustainment, operations, hotel, and asset management. The AIM HTC Program Manager is also responsible for reviewing detailed specifications for HTC systems. This individual attends the bi-weekly HTC activation meetings and leads parallel meetings for AIM personnel to disseminate important information regarding HTC activation. AIM personnel noted that having a single point of contact for the AIM activation team is a positive move and ensures AIM’s roles and responsibilities regarding HTC activation are understood and addressed.

- **Ambient Energy**—DIA hired Ambient Energy (Ambient) as the HTC commissioning agent to lead the quality assurance process for new buildings, which is a standard practice. Since HTC is being commissioned as a LEED-certified project, it was important to hire a commissioning agent with knowledge about LEED certification, a highly defined process that can be integrated into activation activities. Early in the commissioning process, Ambient will conduct design and submittal reviews to ensure that systems are being installed in accordance with design plans and that the correct equipment is being ordered and used. Additionally, Ambient will use these reviews to monitor construction progress.

Mortenson, Hunt, and Saunders (MHS) is the contractor that is in charge of construction of the hotel and the public transit center. With regard to commissioning, MHS has been coordinating significantly with Ambient on performing the following:

- Scheduling the commissioning of the project systems based on construction and installation progress.
- Conducting mechanical and electrical functionality testing to ensure that systems are working correctly, making any required changes.
- Providing comprehensive and timely systems training to DIA and Starwood personnel to establish a comfort level with the operation and maintenance of each piece of equipment.

- **Capital Hotel Management**—To mitigate risk associated with not having experience in the hotel industry, DIA hired a hotel asset management consultant, Capital Hotel Management (CHM), which specializes in hotel asset management for publicly owned hotels. CHM managers have been attending monthly meetings with DIA personnel, bi-weekly HTC activation meetings, and certain smaller DIA and Starwood meetings on an issue-by-issue basis. One CHM manager noted that he attends the monthly meetings in person, which he finds important for establishing rapport with key players and to observe group dynamics.

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The HTC Activation Governance Structure Reflects Industry Norms for Successful Activation

The objective of activation governance is to encourage all of the project participants to operate as one team with common goals, as opposed to a league of teams with different competing goals. To achieve this, an activation team, including representatives of all stakeholders and project participants, is generally established. The organizational governance of HTC activation mirrors the structure recommended for successful airport facility activation by the Airport Cooperative Research Program in a 2010 report about airport facility activation.17

According to the ACRP Synthesis report, successful facility activation can be achieved by:18

- Confirming that the contractor has delivered on all contractual obligations and that the new facility is fully commissioned in accordance with contract requirements, and fit for purpose
- Tracking progress to make sure that the construction team, the activation team, the airport authority, the airlines, and all stakeholders are ready and have the processes, staff, skills, training, and tools necessary to effectively operate the new facility
- Developing and executing recruiting, training, and familiarization programs necessary to help the airport authority, airlines, and all stakeholders prepare to operate the new facility
- Preparing Plans of Operation that address normal, irregular, and emergency conditions
- Managing media and public relations so that expectations are controlled and accurate timely information is shared as appropriate

Accordingly, we determined that the elements of a sound governance structure are in place to ensure timely activation of HTC.

Members of Primary Groups Express Confidence that HTC Will Experience a Successful Activation—Most DIA personnel who have significant involvement in the activation governance structure express confidence that the facility will be brought on-line on time. This confidence was especially apparent in results of a survey that we sent to members of

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17 The Airport Cooperative Research Program (ACRP) is an industry-driven, applied research program that develops solutions to problems faced by airport operators. ACRP is managed by the Transportation Research Board of the National Academies and sponsored by the FAA. Airport Cooperative Research Program Synthesis Report 20: Airport Terminal Facility Activation Techniques, 2010.
the HTC Core Activation Team and Working Groups. Results from the survey reflect perceptions of effective collaboration and sufficient communication among the Core Activation Team and Working Groups towards HTC activation. Survey respondents provided open-ended examples of effective collaboration around HTC activation that included the following general concepts:

- Stakeholders with the necessary expertise are meeting monthly and there is candor and openness at all discussions
- Meetings with all stakeholders to define future needs, roles, and responsibilities are held to ensure critical organizations' needs are met when the facility is operational
- Various groups have worked collaboratively to obtain data from other airports for reference

Additionally, survey results show perceptions that DIA is adequately prepared to operate and maintain HTC. Specifically:

- 94 percent of respondents strongly agree or agree that the Core Activation Team and Working Groups are collaborating in an effective manner toward HTC activation.
- 83 percent of respondents strongly agree or agree that DIA Executive Leadership is prepared to manage the future operations and maintenance of HTC.
- 76 percent of respondents strongly agree or agree that their division has the resources to assist with the future operations and maintenance of HTC. Approximately 21 percent of respondents neither agreed nor disagreed with the aforementioned statement. Only one respondent (approximately 3 percent) disagreed.

According to the Commissioning Agent, commissioning is progressing well and any comments or concerns that arise are always quickly addressed by the HTC Core Activation Team. Additionally, the Commissioning Agent attends weekly coordination meetings where all parties seem to be on the same page and issues are openly discussed and decisions made on how to move forward. AIM managers commented that they do not foresee any problems related to HTC activation and are confident that there will be no significant surprises moving into operations and maintenance. Their confidence, they explained, is due in large part to having the AIM HTC Program Manager in place ahead of opening. From the perspective of the CHM managers, coordination around HTC activation is consistent and effective. The HTC Core Activation Team echoed this confidence in regards to making substantial progress on activation activities and being ahead of schedule. The HTC Facility Activation Manager intends for

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19 We distributed the survey to sixty-one individuals, thirty-two of whom completed the survey, for a response rate of 52 percent.
20 The HTC Program Manager and HTC Facility Activation Manager emphasized that the final decision on opening date is up to the Mayor and DIA’s Chief Operating Officer. Further, this decision will likely not be made or released to the public until sometime in the spring of 2015.
the HTC activation to serve as a guide for other DIA and City and County of Denver projects.

Proper Tools Being Utilized to Ensure Timely HTC Activation

Based on the governance structure in place and our review of related industry common practices, we assessed the tools the primary groups are using or plan to use to carry out the HTC activation process. The tools selected appear to be sufficient to ensure a timely activation. These tools include a Facility Activation Plan, an Activation Checklist, a Milestone Schedule, a Transition to Sustainable Operations Plan, systems testing, systems training, and activation meetings.

- **Facility Activation Plan**—The Facility Activation Plan (Plan) was put in place nearly two years prior to the anticipated opening of the Westin hotel to manage the HTC activation process. The Plan is a high-level document utilized as a starting point and outlines the goals of facility activation and the role of the HTC Core Activation Team. The Plan outlines the core activation processes of identifying, defining, organizing, and facilitating all of the tasks that are required for the occupations of the new facility in a logical, timely, safe, and cost-effective manner. Additionally, the goals included in the Plan line up directly with the items identified in the ACRP Synthesis report found to contribute to successful airport facility activation, such as confirming that contractual obligations have been met by the contractor, the facility is fully commissioned, and all stakeholders are properly prepared to operate the facility.

The Activation Checklist (Checklist) and the Milestone Schedule are the primary documents used to plan for and track HTC activation. Along with other supplemental planning tools, these documents appear to be sufficient and appropriate to manage and track HTC activation. According to the HTC Program Manager, the HTC Activation Checklist and Milestone Schedule are the two most significant tools in the activation process and they are being used appropriately to bring the facility on-line in November 2015.

- **Activation Checklist**—An activation checklist in the context of facility activation is a tool used to ensure that all necessary tasks are completed prior to operation, and we found that the Checklist presents all of the tasks to be planned and executed prior to the opening of HTC, incorporating assigned responsibilities. It is comprehensive and, according to HTC Program Managers, identifies all actions necessary for managing, operating, and maintaining HTC. Further, HTC Program Managers explained that the Checklist is dynamic; tasks are continuously added, consolidated, and removed. Additionally, users are continuously looking for ways to enhance efficiency of the Checklist. For example, the Activation Team determined that the format of the Checklist could be in a more user-friendly format. Therefore, the Core Activation Team is revising the format which will allow
users to add columns for the date the task is due to be complete, as well as use the comment function to include more details about progress, problems that arise, or anything else that may be pertinent to include. Lastly, the Checklist includes the divisions that have been delegated authority for leading each task. The AIM Working Group representative is responsible for working with the AIM HTC Program Manager on tailoring the Checklist to specific AIM divisions, incorporating their specific requirements.

The HTC Activation Checklist was primarily developed using Seattle-Tacoma International Airport’s Activation Checklist for the SEA South Terminal Expansion Project. The SEA South Terminal Expansion Project Activation Checklist was highlighted as a comprehensive and appropriate tool to guide airport facility activation in the ACRP Synthesis report. Both the HTC Activation Checklist and the SEA South Terminal Expansion Project Activation Checklist include the activation task, a description of the task, the airport division that has been delegated authority for leading each task, a team lead, and a due date. The SEA Terminal Expansion Project was identified in the ACRP Synthesis report as a successful facility activation.

- **Milestone Schedule**—The Milestone Schedule compliments the Checklist by visually displaying task status in relation to the progress of other tasks. The Core Activation Team and Working Groups use this tool to maintain appropriate progress on the various activation tasks that are being managed simultaneously. For example, the schedule includes, among many other activities, dates for key construction milestones such as punch-list walk-through activities. As areas of the facility are completed, walk-throughs will verify that elements of the contract work have complied with design, such as repairing broken windows, obtaining elevator use permits, and testing the boiler for fire and pressure handling. The schedule is organized by each group responsible for reaching each milestone. Additionally, external groups such as Ambient and Starwood have sections with corresponding tasks and milestone dates for completion. According to industry experts, coordination of schedules with construction and operations teams is important for successful facility activation.

- **Transition to Sustainable Operations Plan**—Another primary document used by the Activation Team and Working Groups is the Transition to Sustainable Operations (TSO) Plan. According to HTC Program Managers, the TSO contains the most current information specifically related to the transition from construction to occupancy of the new facility. The goal of the TSO Plan is to help
DIA and hotel personnel understand and operate the facility during the critical initial operations phase and help ensure the continuity of knowledge and operation resulting in a smooth transition. The TSO Plan includes sections on hotel and DIA operations for move-in, operations and maintenance, completion of construction, information on Building Information Modeling (BIM) and warranties, commissioning and owner training, materials and tools, and specific schedules and logs. HTC Program Managers informed us that the plan is continuously updated and re-distributed to the primary groups involved in HTC activation.

- **Systems Testing**—Mechanical and electrical functionality testing will be performed during normal commissioning activities, conducted by MHS and observed by Ambient, the Commissioning Agent. All parties are welcome to attend any testing or commissioning activities. The Commissioning Agent from Ambient emphasized that coordinating with MHS on functional testing is important so they can ensure systems are working correctly and make the required changes, if necessary. Ambient has been conducting site visits, and will continue to do so, to verify that equipment is installed correctly and that commissioning policies related to installation and testing are being followed. For example, Ambient explained that they will verify that systems are properly covered when not in use or only partially installed so that dust and debris from construction do not get into them. This can be particularly problematic for air duct systems. We found in speaking with industry experts that site visits are recommended to identify potential system operating issues. It is standard practice to hire a commissioning firm to work with the contractor and owner to test all systems.

- **Systems Training**—The goal of systems training is to provide comprehensive and timely information to designated DIA and Starwood personnel such that they can establish a comfort level with the operation and maintenance of each piece of HTC-related equipment. MHS is responsible for providing the training with the assistance of Ambient. MHS and Ambient have discussed training schedules with DIA and the training roles and responsibilities are clearly defined in the TSO Plan, the Milestone Schedule, and Ambient’s Commissioning Plan. Additionally, Ambient documented all of the HTC systems, the training requirements associated with each system, and came to a conclusion on which specific training is needed for certain employees. The Milestone Schedule includes training timeframes, and most training is anticipated to take place in March through July of 2015. The HTC Core Activation Team, AIM, and Ambient all confirmed that systems trainings will be video recorded and turned over to DIA for use with future employees. Attendance at training sessions will be documented,
which is a requirement of LEED certification. According to industry experts, it is standard practice to hire a commissioning firm to provide systems training, which should be recorded for use with new operations and maintenance personnel.

- **Activation Meetings**—Primary groups within the HTC activation governance structure are meeting regularly, which enhances communication and improves the usage of the other tools. Members of the HTC Core Activation Team and Working Groups meet on a regular basis to discuss specific activation issues. For example, there are regularly scheduled meetings to discuss items such as incident responses, construction closeout, the TSO plan, commissioning, building finishes, and quality control. The Activation Team also has regularly scheduled meetings with RTD and Starwood. According to the survey we administered, the Activation Team meets with the Working Groups regularly but at variable frequencies. Some survey respondents are meeting daily to discuss HTC activation, the majority of individuals (55 percent) are meeting weekly and bi-weekly, and others are meeting monthly or as necessary. Furthermore, thirty of the thirty-one respondents replied in an open-ended format that their meeting frequency is sufficient to successfully activate HTC. Survey respondents also broadly agree that the correct individuals with the appropriate expertise are present at the meetings, which are candid and open. Meeting discussions effectively define future needs, roles, and responsibilities. We found that weekly meetings with all work groups are recommended, especially considering the complexities of large airport projects and the number of primary groups involved. Activation working groups, construction contractors, and external groups should be included in meetings and construction progress, third-party progress, and the activation schedule should be discussed.

We determined that DIA has integrated these tools into the HTC activation process and will continue using them through the opening of the facility. However, the ACRP Synthesis report warns that a successful opening is contingent on how closely these tools are followed and implemented. The report notes that the same or similar tools were used to activate airport facilities that opened successfully as well as by those that experienced problems. Determinants of success appear to be how closely the practices were followed, whether decisions were made based on the reality of how complete the facilities were, whether airport operations and maintenance staff and other stakeholders were ready, and when the opening date was set. Ideally, opening date is set when there is certainty that facilities will be 100 percent complete and commissioned and when airport authority, airlines, and other stakeholders are all familiar with the new facility and trained on normal, irregular, and emergency operations. Therefore, we encourage DIA to continue using these tools for a successful activation.

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Key Systems, BIM and Maximo, Will Aid in the Activation of HTC

Two key systems, both of which have been in use since the inception of the HTC project, will further enhance the activities of the core groups involved in the HTC activation process. BIM, or Building Information Modeling, is being used to digitally represent physical and functional characteristics of the facility and enhance information sharing among the various groups involved in design, engineering, construction, maintenance, and operations activities for HTC. Maximo is used widely at DIA, and for HTC is being used to manage HTC-related assets and their warranties. The use of building information modeling systems and asset management systems, such as BIM and Maximo, are standard practice in large construction projects. In fact, according to the HTC Program Manager, HTC Facility Activation Manager, and BIM Manager, because of the efficiencies associated with BIM, the facility designers and contractors would not have signed on to a project of this size and complexity without engaging a comprehensive BIM process. Both systems are all the more relevant for airport projects given the need to improve ongoing facility management and maintenance. Both systems appear to be integrated into the activation process in a way that will enhance activation activities.

BIM and Maximo Will Be Integrated—DIA is currently developing the capability for BIM and Maximo to connect and share information. According to HTC Program Managers, in using BIM, HTC management is trying to solve past issues involving the transfer of project information developed using a design that could be used for facility asset management. When fully implemented, BIM will provide information on when a piece of equipment was purchased, the cost, the equipment’s specific location, when it was installed, the maintenance schedule, and other information important to maintaining DIA facilities. Once the systems are connected, if maintenance work is done on a system that requires an equipment change, the maintenance record in Maximo will update the current equipment in BIM. Additionally, systems upgrades or equipment changes in BIM will automatically populate in Maximo. The AIM Asset Manager explained that connecting the two systems will improve the quality of information early in the process and eliminate risks associated with manually entering equipment updates and transferring information from system to system. This tool will be ready for use DIA-wide by the end of 2015, if not sooner. For HTC, AIM and the Activation Team are planning a one-time data pull from BIM into Maximo. This will be a snapshot in time, but it will populate Maximo with all systems and current equipment. According to HTC Program Managers, the physical model content will be complete in BIM and ready for use by AIM in July 2015. Maximo will, in turn, be populated and operational prior to HTC occupancy in November 2015. The implementation of this comprehensive BIM process will allow DIA to begin HTC operations with a complete and functional Maximo asset catalog.
DIA Divisions Have Initiated Appropriate Steps to Activate, Operate, and Maintain HTC

With the addition of the new facilities, DIA is required to account for hotel and non-hotel revenues and expenses separately to ensure accurate financial reporting and to properly track the financial performance of the hotel. Since DIA will now be responsible for maintaining and operating the new facility there will be an impact on staff and maintenance operations. As a result of activating the new facility, various service contracts will be impacted so it is necessary to review, amend and procure the contracts. DIA will also need to identify the materials, supplies, and stock room requirements needed to operate and maintain the facility.

DIA Finance and Administration Appear to Be Appropriately Segregating HTC Expenses but Need To Enhance Funds Review

HTC consists of three main components: the transit center, public plaza, and hotel. Costs associated with each of these components are to be accounted for in specific operating funds. The DIA Finance and Administration Division (DIA Finance) is using an existing fund, the General Operating Fund, to account for the transit center and public plaza but created a new fund for the hotel with a full chart of accounts. In addition to revenues and expenses that exclusively relate to the hotel, central/shared services such as the hotel’s use of DIA’s central plant heating and cooling system will also be allocated to the hotel fund but on a prorated basis based on estimated usage. DIA Finance has been working, with assistance from CHM, to identify all of the central/shared services ahead of time that will need to be partially allocated to the hotel fund. DIA Finance personnel indicated that utilizing segregated accounting funds can be a challenge, but it is not a new challenge for DIA, which has always operated in an accounting environment that utilizes segregated accounting funds. Figure 1 outlines specific costs associated with the hotel, transit center, and public plaza and their associated funds.
To date, only expenses have been coded to the Hotel Operating Fund because revenues will not begin until the hotel becomes operational. We reviewed general ledger detail of the fund to obtain an understanding of the types of expenses that have already been allocated. This review indicated that the majority of the expenses in the Hotel Operating Fund are related to hotel art, consulting services, and furniture, fixtures, and equipment. These types of expenses appear reasonable.

We then reviewed general ledger detail of DIA’s General Operating Fund to determine if any hotel related expenses have been incorrectly coded to the fund. We identified one hotel related expense, for hotel asset management services of $4,526, which was incorrectly coded. After further inquiry, we found that the initial contract was coded to the incorrect fund by the contract manager and there are limited quality controls in place to identify these types of errors. In addition, DIA Finance does not have a review process in place for the General Operating Fund. DIA Finance agreed that this item was incorrectly coded and is making the appropriate accounting adjustments to reclassify the expense to the Hotel Operating Fund.

As a result of the limited controls, future errors could accumulate to material amounts. Further, considering the significant amount of concern that has been expressed regarding the overall budget of HTC, as reported in our previous DIA HTC performance audit and by the media, ensuring that the hotel’s future financial data is tracked...
appropriately is critical. Since the use of two operating funds is new to DIA, and to close the gap in DIA’s control processes, we recommend that the Chief Revenue Officer create a quality control process to ensure that contracts are coded to the correct funds. In addition, we recommend that the DIA Controller develop a process to ensure that reconciliations of the operating funds are conducted.

**Airport Infrastructure Management Appears to be Adequately Preparing to Operate and Maintain HTC**

AIM is charged with maintaining all of DIA’s City-owned facilities, as well as overseeing contract maintenance services. With regard to HTC, AIM has been heavily involved in the facility activation process as well as the development of maintenance plans for when the facility becomes operational.

**2015 Operating and Maintenance Budget Increased from 2014**—The Operating and Maintenance (O&M) budget is utilized for expenditures to operate and maintain all DIA facilities, including HTC. The budget includes expenditures for personnel services, contractual services, and maintenance, supplies, and materials. We found that the O&M budget for 2015 increased from 2014 due to HTC-related expenses. We interviewed AIM and DIA Finance personnel to obtain an understanding of the development of the 2015 O&M budget. They noted that although HTC will result in additional facilities to maintain, increasing 2015 O&M expenditures, DIA is not responsible for maintaining all areas of the new facilities. For example, Starwood will be responsible for maintaining the hotel while DIA is only responsible for maintaining lower level mechanics, common areas, and shared services. In addition, the hotel is not planned to open and become operational until late 2015 so the increased O&M expenditures only pertain to a small portion of the year. They also noted that when HTC becomes operational, the facilities will have brand new systems and equipment that should not have immediate issues. There are also warranties on new systems and equipment that can be utilized to replace faulty equipment and reduce first year maintenance expenditures.

DIA’s methodology to develop the 2015 O&M budget first included calculating a target baseline budget by applying two years of three percent growth to the 2013 actual spend. 2013 actuals were used as the basis of the calculation because 2014 figures were not yet available during the timing of the 2015 budgeting process. The baseline budget calculated by this methodology was then adjusted to include estimates for HTC and other known changes such as a new firehouse and strategic planning initiatives. The 2015 baseline O&M budget was approximately $375 million and was adjusted by almost $7 million to include the known changes and the estimated percent growth resulting in a final O&M budget of approximately $392 million.

We performed a reasonableness test analysis based on historical trends from the 2008 through 2014 annual budgets and compared them to the 2015 budget to determine if it appears to be sufficient to operate and maintain the facilities. We would expect the

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22 “Denver International Airport Hotel and Transit Center Performance Audit,” City and County of Denver Auditor’s Office, November 2014, [www.denvergov.org/auditor/DenverAuditor/AuditServices/AuditReports](http://www.denvergov.org/auditor/DenverAuditor/AuditServices/AuditReports).

23 Actual expenditure figures were obtained for 2008 through 2012 from the Mayoral Budgets. 2013 actual expenditures, 2014 appropriated expenditures, and 2015 recommended expenditures were obtained from the 2015 Mayoral Budget.
2015 O&M budget to increase at a higher rate than historically due to the new facilities DIA will need to maintain. The average O&M budget from 2008 through 2014 was approximately $327 million, compared to the 2015 O&M budget of approximately $392 million. The average year over year increase from 2008 through 2014 was approximately $10 million or 3 percent. The 2015 O&M budget of $392 million is a $22 million or 6 percent increase from the prior year budget. Based on our review of historical O&M budgets, the 2015 O&M budget increased with our expectations. As such, there does not appear to be a significant issue with the adequacy of the 2015 O&M budget. However, we were unable to determine whether the budgets developed for future years will be adequate. Table 1 shows the 2015 O&M expenditure budget compared to the average from 2008 through 2014.

Table 1. 2015 Operating and Maintenance Expenditure Budget Compared to 2008 through 2014 Average

<table>
<thead>
<tr>
<th>Operating and Maintenance Budget</th>
<th>2008 - 2014 Average</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expenditures</td>
<td>$327,241,472</td>
<td>$391,863,500</td>
</tr>
<tr>
<td>Annual Increase ($)</td>
<td>$10,489,361</td>
<td>$22,136,800</td>
</tr>
<tr>
<td>Annual Increase (%)</td>
<td>3%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Source: 2010 through 2015 Mayoral Budgets.

Twenty-Three Additional Full-Time Equivalent (FTE) Employees Are Joining AIM in 2015—
The addition of the HTC facilities will increase the level of operations and maintenance activities, which will require additional staffing. As part of the 2015 budgeting process, each AIM division conducted an internal review to determine if their division needed additional FTEs for 2015. For each additional FTE, position justification documents were completed that explain the position duties, why the new position is needed, and what the risk would be if the position is not filled. The request for additional FTEs reflected needs for all DIA facilities, not just HTC. This process resulted in approval of twenty-three additional AIM FTEs for 2015. The twenty-three new FTEs are allocated to the AIM divisions as described in Table 2:
Table 2. 2015 New Budgeted Airport Infrastructure Management Full-Time Equivalent Employees

<table>
<thead>
<tr>
<th>AIM Division</th>
<th>Positions</th>
<th>FTEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility Management</td>
<td>Building Engineers/HVAC Mechanical Staff</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Multiple Trades Supervisor</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Plumbers</td>
<td>2</td>
</tr>
<tr>
<td>Technical Maintenance</td>
<td>Electricians</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Electronic Systems Technicians</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Graphics Technician</td>
<td>1</td>
</tr>
<tr>
<td>Fleet Management</td>
<td>Associate Heavy Equipment Mechanics</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Management Analyst</td>
<td>1</td>
</tr>
<tr>
<td>Field Maintenance</td>
<td>Equipment Operators</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>23</strong></td>
</tr>
</tbody>
</table>

Source: Denver International Airport, Airport Infrastructure Management personnel.

To obtain an understanding of AIM staffing levels, we reviewed historical AIM FTEs from 2010 through 2014 and compared them to the 2015 Budgeted AIM FTEs. Since AIM is a new division, we estimated the historical AIM FTEs by combining the FTEs from the divisions that ultimately joined to create AIM. The average AIM FTE budget from 2010 through 2014 was 584, compared to 622 FTEs in 2015. The average year over year increase was 11 FTEs or 2 percent. AIM FTEs have increased in 2015 at a higher rate than historical trends and those tasked with managing maintenance operations believe that the AIM staffing levels are adequate with the addition of the twenty-three new FTEs. The 2015 AIM FTE budget of 622 is a 23 FTE or 4 percent increase from the prior year’s budget. Table 3 shows AIM’s FTEs from 2010 through 2015.

Although DIA plans to increase airport infrastructure management personnel by 23 FTE, a staffing analysis should be conducted to determine the optimal number of staff to meet the expanded maintenance needs of DIA due to HTC.

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24 In March 2013, DIA combined the Planning and Development Division with the Maintenance Division, creating the Airport Infrastructure Management (AIM) Division to ensure a more comprehensive approach to building, maintaining, and managing assets.
Table 3. Airport Infrastructure Management (AIM) Full-Time Equivalent (FTE) Employees, 2010 through 2015

<table>
<thead>
<tr>
<th>AIM FTE Budget</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIM FTEs</td>
<td>557</td>
<td>580</td>
<td>592</td>
<td>592</td>
<td>599</td>
<td>622</td>
</tr>
<tr>
<td>Annual Increase (#)</td>
<td>23</td>
<td>12</td>
<td>0</td>
<td>7</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Annual Increase (%)</td>
<td>4%</td>
<td>2%</td>
<td>0%</td>
<td>1%</td>
<td>4%</td>
<td></td>
</tr>
</tbody>
</table>

Source: 2012 through 2015 Mayoral Budgets.

We interviewed AIM personnel tasked with managing maintenance operations. Those individuals indicated that they believe the twenty-three additional FTEs will bring AIM staffing levels to a position to be able to adequately maintain and operate the facilities. However, some AIM personnel indicated, through interviews and survey responses, challenges regarding AIM’s current staffing levels. Without a formalized analysis supporting the adequacy of the additional AIM FTEs, we are unable to conclude whether or not the AIM staffing levels are sufficient for 2015 or the future. We recommend that the Senior Vice President for AIM should have a staffing analysis conducted to determine the amount of staff that is optimal to meet the needs of DIA in the most efficient manner.

Significant Progress Has Been Made to Enhance DIA’s Asset Management Strategies—Asset management is the approach through which an organization optimally manages its assets, their operations and maintenance performance, risks, and expenditures over their lifecycles to achieve the organization’s strategic plan. In 2012 our office issued an audit of DIA Facility Management which found that DIA did not have a comprehensive asset management strategy. We recommended that DIA create a plan that defines the mission and goals of the Maintenance Division, aligns the asset management plan with the division’s goals, ensures resources are available to carry out the plan, and addresses how data will be tracked for each asset. The audit further recommended that DIA develop and implement performance measures to improve monitoring activities.

The ACRP developed a guidebook of best practices for airport asset management. Some of the elements recommended to be incorporated into asset management policies and plans include:27

- Overall vision and goals of the organization
- Asset management vision and goals
- Key position roles and responsibilities
- Audit and review procedures
- Information systems
- Overview of the assets included in the plan
- Current and target levels of service
  - Measurable levels of performance or condition required of assets
  - Measurable outcomes or achievements required of the asset management framework or system
- Capital plan

To address the audit finding regarding developing a comprehensive asset management plan, DIA has placed an Asset Manager in charge of a newly created Asset Management team within AIM. This new team has completed a comprehensive plan that contains the following three main sections:

- **Asset Management Policy**—The policy describes DIA’s high level asset management goals and guiding principles. The policy identifies key personnel and teams responsible for developing and implementing DIA’s asset management activities.

- **Asset Management Strategy**—Sets out the strategy for how AIM will improve its management of assets by outlining specific objectives and defining the approach to achieve those objectives.

- **Asset Management Handbook**—Sets out the processes and procedures that AIM will follow to achieve the organizational goals and objectives. The handbook specifies management’s responsibilities, the asset management planning process, asset lifecycle management, and monitoring and review procedures.

We reviewed the policy, strategy, and handbook and compared them to the best practices outlined in the ACRP Asset report noting that DIA’s documents appear to be developed in line with best practices. DIA’s asset management plan also identifies performance measures, which will be used to inform monitoring and decision making processes. The AIM Asset Manager noted that key performance indicators (KPIs) have been designed and implemented and they already have twelve full months of KPI data. As such, it appears that significant progress has been made to enhance DIA’s asset management planning strategies.

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DIA is Working toward Implementing Additional Audit Recommendations to Enhance Maintenance Planning—Our 2012 DIA Facility Management audit made a number of additional recommendations and DIA is in the process of implementing the following:

- Developing a five-year rolling operations and maintenance plan that details specific maintenance activities and schedules
- Utilizing Maximo, the asset management system, to its full potential
- Performing baseline condition assessments for assets that would include current condition, mission dependency, useful life, and replacement values

During follow-up work to assess progress on the operations and maintenance plan, we found that it was to be complete in June 2014 in time for the 2015 budget process. However, according to the AIM Asset Manager, the five-year maintenance plan is still in development and not yet finalized. Currently, specific maintenance activities are determined based on need by the AIM Directors who simply utilize their industry expertise and knowledge of the facilities factoring in the condition of systems and equipment, prioritizing components that are critical to operations, and balancing budgetary constraints.

The future plans for scheduling specific maintenance activities will be more formalized and will have an increased utilization of Maximo. AIM has been capturing specification data for all HTC systems and equipment within BIM, which will be connected to Maximo by the end of 2015. Once the connection is completed, Maximo will contain information for all HTC systems and equipment including but not limited to service start dates, current conditions, criticality, useful lives, and replacement values. Maximo will also be utilized to track maintenance work orders. This information will allow AIM to be more informed when decisions related to repairing or replacing assets.

The AIM Asset Manager further indicated that once all the HTC specifications are captured within Maximo, they will start performing condition assessments for all other existing DIA facility systems and equipment and capturing that information within Maximo as well. AIM plans to prioritize future assessments with a focus on the primary, critical, and expensive systems first.

The AIM Asset Manager has made progress to mitigate prior audit recommendations, but there is still a lot of work that needs to be done. When the five-year maintenance plan, enhanced utilization of Maximo, and asset condition assessments are successfully implemented, there will be significant improvements to DIA’s ability to properly manage facility assets and control lifecycle costs. Therefore, AIM is encouraged to continue full implementation of the comprehensive asset management improvement strategy and outstanding audit recommendations regarding the five-year rolling operations and maintenance plan and utilizing Maximo to its full potential.

AIM Has Made Significant Progress towards Developing a Succession Planning Program—Our 2012 DIA Facility Management audit recommended that the group enhance its succession planning program to identify critical positions. We interviewed AIM personnel who noted that significant strides have been made in implementing a comprehensive succession plan. A working group was formed and established a strategy for succession
planning, which has included the identification of all AIM positions that have a high risk of retirement or turnover, as well as those that are considered critical positions. After identifying twenty critical or at-risk positions, the group then summarized the key knowledge, skills, and abilities required to be successful in those positions, as well as commonalities among the job requirements.

The next steps in the process will be to develop training programs and recruiting strategies that target those common areas of key knowledge, skills, and abilities. Based on interviews with AIM personnel and review of the working succession planning documents, it appears that AIM is making good progress and has an adequate plan to move forward in the succession planning process. Since DIA has experienced turnover in key positions in the past, and due to the complexity of HTC activation, it is important to have a sufficient succession plan in place to successfully manage all of DIA’s facilities.

**Business Management Services Has Been Proactive in Identifying Operational Areas that Will Be Impacted by HTC**

Business Management Services (BMS) is a section of DIA Finance that provides services related to materials management, administrative support functions, and the procurement process. For HTC activation, BMS has been working with other DIA divisions to review, amend, and procure contracts that will be impacted by HTC operations. Additionally, BMS has been working with AIM and the HTC PMT to identify the materials, supplies, and stock room requirements AIM will need to operate and maintain the facility.

**Impacted Service Contracts Require Amendments Prior to HTC Opening**—Existing DIA service contracts such as window washing and janitorial do not include the HTC facilities. As such, service contracts will need to be extended, amended, or competitively bid through the request for proposal process so that DIA does not experience a gap in services.

BMS procurement staff performed an initial review of contracts to identify all those potentially impacted by the addition of HTC, including input from project managers who monitor the contracts. The project managers have been determining the specific adjustments needed and initiated the contract amendment process. They identified six contracts that require resolution prior to the opening of HTC and several others that will not require action until 2017. We verified that these contracts do not need modification until 2017. Our independent review did not identify any contracts requiring resolution prior to the opening of HTC that had not already been identified.

To determine if DIA is making sufficient progress towards updating the identified contracts requiring amendments prior to the opening of HTC, we obtained status updates from the project managers. The amendment process has either been initiated
or completed for all six impacted contracts. Table 4 summarizes the impacted contracts and amendment progress.

Table 4. Denver International Airport Contracts Impacted by Hotel and Transit Center

<table>
<thead>
<tr>
<th>Contractor</th>
<th>Services</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISS Facility Services</td>
<td>Window Cleaning</td>
<td>Drafting Amendment</td>
</tr>
<tr>
<td>Thyssen Krupp</td>
<td>Elevator Maintenance</td>
<td>Drafting Amendment</td>
</tr>
<tr>
<td>Intermountain Electric</td>
<td>Switchgear Maintenance and Testing</td>
<td>Drafting New Procured Agreement</td>
</tr>
<tr>
<td>ISS Facility Services</td>
<td>Janitorial</td>
<td>Amendment Completed</td>
</tr>
<tr>
<td>Waste Management of Colorado</td>
<td>Trash Hauling and Recycling</td>
<td>Competitively Bid – Proposals Due 2/5/15</td>
</tr>
<tr>
<td>Hospital Shared Services</td>
<td>Security Guards</td>
<td>Amendment Completed</td>
</tr>
</tbody>
</table>

Source: Denver International Airport Business Management Services personnel.

DIA appears to be adequately identifying impacted contracts and making necessary changes in an appropriate time frame.

**DIA Has the Appropriate Storage Space Needed For Supplies to Operate and Maintain HTC**—In addition to working with various project managers to amend the service contracts, BMS is actively working to resolve the stock room challenges that have arisen due to the need to store supplies for the operations and maintenance of HTC. Managers in charge of storage space and supplies estimate that approximately 10,000 square feet will be needed to stock supplies for the operations and maintenance of the facility. Although the Activation Team has communicated to BMS that the maximum potential storage space needed could be as much as 20,000 square feet, management indicated their best estimate is 10,000 square feet because not all supplies will necessarily need to be stored on site. Rather, a significant amount can be purchased as needed. The Activation Team and HTC contractors are currently working to identify local vendors and manufacturers that will be able to serve DIA as needed so that supplies do not need to be stored on-site, taking up valuable storage space.

Currently, DIA has nearly 78,000 square feet of storage space at three separate locations to stock approximately 14,000 unique line items that are needed to operate and maintain the airport. According to managers in charge of the storage space and supplies, DIA’s stock room capabilities are nearly at capacity. However, to prepare for the activation of HTC, managers proactively began to work with all DIA divisions to identify supplies that were not critical to operations or were not used in more than three years that could be removed from storage to free up space for future HTC supplies. Managers reported that this effort will allow them to accommodate the supplies needed to be held on-site.
Additionally, according to managers, nearly 50,000 square feet has recently become available. This space could be converted to additional storage space for supplies if needed. Furthermore, BMS has the option to rent off-site storage space. For these reasons, DIA managers are confident that they will have adequate storage space to accommodate HTC storage needs. As such, it appears that DIA will have the capacity to stock the supplies needed to operate and maintain HTC.

**DIA Management Is Making Preparations to Oversee the Operations of the Hotel**

As the owner of the DIA Westin hotel, DIA has contracted with four different companies to ensure that the hotel will be properly managed. Contracting with a hotel management company, an asset management company, and two companies to purchase and store hotel furniture, fixtures, and equipment mitigates some of the financial risk of owning a hotel. Additionally, we found that the terms of the contracts we reviewed are within industry norms according to our own benchmarking as well as the third-party subject matter experts we interviewed. Combined, the contracts DIA has established with these four companies are worth more than $37 million. Table 5 provides a breakdown of the value of the contracts we reviewed related to the management of the DIA Westin.

**Table 5. Contracts and Amounts Related to Denver International Airport Westin Hotel Activation and Management**

<table>
<thead>
<tr>
<th>Contract</th>
<th>Contract Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starwood - Hotel Management*</td>
<td>$30,647,496</td>
</tr>
<tr>
<td>Starwood - Pre-Opening Services</td>
<td>$3,635,401</td>
</tr>
<tr>
<td>Mesa Moving – Hotel Furniture, Fixture, and Equipment Storage</td>
<td>$1,600,001</td>
</tr>
<tr>
<td>Capital Hotel Management – Asset Management</td>
<td>$955,000</td>
</tr>
<tr>
<td>Parker Company – Hotel Furniture, Fixture, and Equipment Purchasing</td>
<td>$582,334</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$37,430,231</strong></td>
</tr>
</tbody>
</table>

**Source:** Contracts were pulled from Alfresco, the City’s contract management system.

**Note:** Asterisk (*) denotes the total value of this contract is worth more than the stated amount as DIA will pay ancillary fees for the use of various Starwood or Westin systems such as the hotel management system used to track hotel room reservations. The stated value of the contract provided is what DIA will be paying Starwood in terms of base management fees, subordinate management fees, and employee bonuses over the fifteen-year term of the agreement.
The Starwood Hotel Management Agreement is within Industry Norms

In 2011, DIA signed two agreements with Starwood to manage the DIA Westin: a pre-opening services agreement and a hotel management agreement. Combined, these two contracts are valued at more than $34 million; at approximately $31 million, the hotel management agreement is the more financial significant of the two. Accordingly, for the purposes of this audit, we concentrated our efforts on reviewing the hotel management agreement. It outlines the roles and responsibilities of DIA, the owner of the DIA Westin, and the roles, responsibilities, and expectations of Starwood, the manager of the hotel, once the hotel opens in late 2015. Due to the financial risk posed to DIA as the owner of the hotel, our analysis focused on the following four areas of the agreement:

1. Base management fees, subordinate management fees, and employee bonuses
2. Operating and revenue per operating room standards
3. Relocation cost of executive employees
4. Parking

Based on our interviews with industry experts and comparisons to four other relevant hotel management agreements, we found that the areas of the agreement reviewed are within industry norms.28

Fees Paid to Starwood to Manage the DIA Westin Are within Industry Norms—Over the course of fifteen years, DIA will pay Starwood more than $30 million to manage the DIA Westin, as follows:

- $21 million in base management fees
- $7 million in subordinate management fees29
- $3 million in executive employee bonuses

DIA and Starwood estimate that the hotel will generate nearly $479 million in total revenue and $160 million in net operating revenue from 2015 through 2024.30 Table 6 provides a breakdown of the fees DIA is contractually obligated to pay Starwood, and revenue the DIA Westin is expected to generate for the first ten years of operations.

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28 The four other hotel management agreements we reviewed include the Detroit Westin, the Dallas-Fort Worth Hyatt, the Orlando Hyatt, and the Denver Convention Center Hyatt.
29 Subordinate management fees are only paid to Starwood if they meet all thirteen obligations set forth in the hotel management agreement.
Table 6. Fees Paid to Starwood and Estimated Revenue Generated by the Denver International Airport Westin Hotel, 2015 through 2024

<table>
<thead>
<tr>
<th>Year</th>
<th>Fees Paid*</th>
<th>Total Revenue</th>
<th>Net Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>$659,257</td>
<td>$16,495,000</td>
<td>$5,839,000</td>
</tr>
<tr>
<td>2016</td>
<td>$1,150,743</td>
<td>$44,367,000</td>
<td>$17,314,000</td>
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<tr>
<td>2017</td>
<td>$1,684,993</td>
<td>$47,008,000</td>
<td>$17,997,000</td>
</tr>
<tr>
<td>2018</td>
<td>$1,942,984</td>
<td>$48,427,000</td>
<td>$17,178,000</td>
</tr>
<tr>
<td>2019</td>
<td>$1,999,654</td>
<td>$49,860,000</td>
<td>$17,046,000</td>
</tr>
<tr>
<td>2020</td>
<td>$2,051,487</td>
<td>$51,307,000</td>
<td>$16,485,000</td>
</tr>
<tr>
<td>2021</td>
<td>$2,114,531</td>
<td>$52,909,000</td>
<td>$16,503,000</td>
</tr>
<tr>
<td>2022</td>
<td>$2,162,320</td>
<td>$54,523,000</td>
<td>$17,022,000</td>
</tr>
<tr>
<td>2023</td>
<td>$2,221,356</td>
<td>$56,154,000</td>
<td>$16,972,000</td>
</tr>
<tr>
<td>2024</td>
<td>$2,281,028</td>
<td>$57,799,000</td>
<td>$17,447,000</td>
</tr>
<tr>
<td>Total</td>
<td>$18,268,353</td>
<td>$478,849,000</td>
<td>$159,803,000</td>
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</table>

Source: Starwood Hotel Management Agreement and PKF Consulting Report.

Note: Asterisk (*) denotes the total value of this contract is worth more than the stated amount as DIA will pay ancillary fees for the use of various Starwood or Westin systems such as the hotel management system used to track hotel room reservations. The stated value of the contract provided is what DIA will be paying Starwood in terms of base management fees, subordinate management fees, and executive employee bonuses over the fifteen-year term of the agreement.

As a percentage of total projected revenue, the fees DIA will pay Starwood average to 3.8 percent annually, which is similar to the fees in the four other hotel agreements we reviewed. Additionally, according to both PKF Consulting, which conducted a Market Demand and Financial Analysis of the DIA Westin, and HVS Global Hospitality Services, a consulting firm specializing in providing services to the hospitality industry, 3.8 percent is within the industry norm of between 3 and 5 percent.\(^{31, 32}\)

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The Operating Standard and Revenue-Per-Operating-Room Standard Are Comparable to Other Relevant Hotel Agreements—In addition to comparing the fees that DIA will pay Starwood to similar hotel agreements in other cities, we also evaluated the extent to which the operating standard and revenue-per-operating-room standard are on par with similar agreements in other cities. The operating standard outlines the degree of quality—both in terms of service and amenities—to which Starwood is contractually obligated in managing the DIA Westin. The revenue-per-operating-room standard outlines the contractual amount of revenue Starwood must generate per room. Based on our review, the standards outlined in the hotel management agreement with Starwood are comparable to the standards we found in management agreements with the Dallas-Fort Worth Hyatt, Orlando Hyatt, Denver Convention Center Hyatt, and Detroit Westin.

According to the section of the Starwood agreement that addresses the operating standard, Starwood will operate the DIA Westin as a “first-class hotel equal to or better than other Westin hotels in a manner that will generate a score of not less than one standard deviation below the mean score for the upscale segment in at least one of two consecutive JD Power and Associates Annual Hotel Guest Satisfaction Index Studies or comparable studies.” In other words, Starwood is contractually obligated to operate the DIA Westin in a manner that third-parties will rate it as a first-class hotel that will receive a score that is statistically no different from any other first-class hotel.

Additionally, the hotel agreement outlines that Starwood will operate the DIA Westin in a manner that will generate revenue that is equal to or greater than 90 percent of the average competitive revenue per operating room by year four of operations. Competitive operating rooms are defined within the hotel agreement and come from similar quality hotels such as Marriott, Embassy Suites, and Hilton hotels in Denver. Phrased differently, Starwood is contractually obligated to ensure that, on average, rooms that are available for reservations generate roughly the same amount of revenue as hotels of similar quality in the Denver area.

Paying for the Relocation of Executive Employees Is Typical in the Hotel Industry—Of the four hotel agreements we used as a basis for comparison, we found that only the Denver Convention Center Hyatt agreement included a clause that required the owner to pay for the relocation of executive employees if relocation costs exceeded a certain percentage of that individual’s annual base salary. This initially concerned us since the four other agreements we reviewed did not have such contract language. However, according to industry experts we interviewed, it is typical for hotel owners to pay for the relocation of executive employees if they are not hired locally. As such, our initial concerns have been mitigated. Additionally, it is unlikely that DIA will have to expend the funds budgeted for relocation of executive employees as both the General Manager and Director of Sales and Marketing for the DIA Westin have been hired locally.

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33 Operating room is a term used within the hotel and lodging industry to define rooms that are available for reservations.
34 A standard deviation is a measurement of variation or variability of data within a dataset. For a more thorough definition and explanation see: Stock, James H., and Mark W. Watson. Introduction to Econometrics. 2nd ed. Boston: Pearson/Addison Wesley, 2007.
Parking Reserved For the Hotel in the Airport Parking Garages Should Not Significantly Impact Airport Parking Revenue or Parking Availability—Parking revenue is the second-largest source of revenue for DIA. In 2013, parking generated nearly $160 million for the airport. DIA currently has more than 14,000 stalls in the east and west parking garages, which generated nearly $75 million in 2012, or roughly $5,300 per stall annually.36

The hotel management agreement outlines that as many as 250 parking stalls in the parking structure will be reserved for hotel guest or valet usage. At the time of this report, DIA and Starwood management expect that only 187 parking stalls will be needed to be reserved for hotel use instead of the originally expected 250 stalls.37

Based on our previous audit on parking administration at DIA, we were concerned about the potential financial impact of reserved hotel parking on overall airport parking revenue.38 However, DIA management has mitigated risk of financial impact by expanding the east parking garage. The expansion will increase DIA’s garage parking capacity by a minimum of 1,700 stalls. Based on 2012 revenue per stall, the expansion of the east parking garage could generate more than $9 million annually. The expansion project is expected to cost nearly $39 million, and will be opened before June 2016.

The Use of Third-Parties for the Purchasing and Storing of Hotel Furniture, Fixtures, and Equipment is on Par With Industry Standards—DIA has contracted with the Parker Company and Mesa Moving and Storage to purchase and store furniture, fixtures, and equipment (FF&E) for the DIA Westin. According to industry experts that were interviewed for this audit, it is typical for hotel owners to contract with third-parties for the purchasing and storage of FF&E instead of relying on hotel management companies such as Starwood for these responsibilities. This is because FF&E purchasing and storage is considered to be a separate industry from hotel management. FF&E purchasing also typically requires long lead times since furniture, fixtures, and equipment are often manufactured overseas and must be stored nearby so that they can immediately be installed without impacting project timelines. The contracts with Parker Company and Mesa Moving and Storage have a combined worth of more than $2 million.

The Use of a Hotel Asset Manager Helps Further Mitigate Risk

In addition to DIA’s use of a hotel management company and contracting out the purchasing and storing FF&E, DIA has contracted with a hotel asset manager to assist with the oversight of the management of the hotel. As discussed earlier in this section of the report, DIA is contracting with Capital Hotel Management (CHM) for this purpose and will pay the company nearly $1 million over the course of three years.

36 These figures exclude short-term and valet parking stalls and revenue totals.
37 The hotel management agreement does not have to be amended to reflect the total amount of parking stalls that will be reserved for hotel use unless it exceeds the 250 limit that was originally outlined.
As the asset manager, CHM will serve as DIA’s representative and primary liaison to Starwood. In this capacity, CHM will ensure that Starwood is complying with the hotel management agreement and monitor Starwood’s management and operations for quality and financial performance. Additionally, CHM will serve as the primary advisor and consultant to DIA on all matters related to owning and operating a hotel.

Having never owned a hotel or overseen the management of one, DIA does not have the expertise within its existing staff to ensure that Starwood is appropriately managing and operating the DIA Westin. As such, contracting with CHM will help ensure that DIA is able to appropriately oversee Starwood’s operations and mitigate other risks that are associated with owning a hotel. According to industry experts that we interviewed for this audit, it is typical and often expected for hotel owners to contract with a third-party asset manager such as CHM, and most investors expect that an asset manager will be utilized.
RECOMMENDATIONS

We offer the following three recommendations to assist in the activation process for the DIA Hotel and Transit Center (HTC).

1.1 **Contract Fund Coding**—The Chief Revenue Officer should create a quality control process to ensure that contracts are coded to the correct funds.

1.2 **Reconciliations**—The DIA Controller should develop a process to ensure that reconciliations of the operating funds are conducted.

1.3 **Staffing Analysis**—The Senior Vice President for Airport Infrastructure Management (AIM), should have a staffing analysis conducted to determine the amount of AIM staff that is optimal to meet the needs of DIA in the most efficient manner.
April 02, 2015

Mr. Kip R. Memmott, MA, CGAP, CRMA
Director of Audit Services
Office of the Auditor
City and County of Denver
201 West Colfax Avenue, Dept. 705
Denver, Colorado 80202

Dear Mr. Memmott:

The Office of the Auditor has conducted a performance audit of Denver International Airport (DIA) Hotel and Transit Center Project Integration.

This memorandum provides a written response for each reportable condition noted in the Auditor’s Report final draft that was sent to us on March 11, 2015. This response complies with Section 20-276 (c) of the Denver Revised Municipal Code (D.R.M.C.).

AUDIT FINDING
While Early in the Process, DIA Management Appears To Be on Track for a Successful Activation of the Hotel and Transit Center

<table>
<thead>
<tr>
<th>RECOMMENDATION 1.1</th>
<th>Contract Fund Coding—The Chief Revenue Officers should create a quality control process to ensure that contracts are coded to the correct funds.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree or Disagree with Recommendation</td>
<td>Target date to complete implementation activities (Generally expected within 60 to 90 days)</td>
</tr>
<tr>
<td>Agree</td>
<td>90 Days</td>
</tr>
</tbody>
</table>
**Narrative for Recommendation 1.1**
Revenue Management will work with Business Management Services and Finance to develop a Quality Control process to ensure that contracts are coded to the correct funds from inception of the contract.

**RECOMMENDATION 1.2**
**Reconciliations**—The DIA Controller should develop a process to ensure that reconciliations of the operating funds are conducted.

<table>
<thead>
<tr>
<th>Agree or Disagree with Recommendation</th>
<th>Target date to complete implementation activities (Generally expected within 60 to 90 days)</th>
<th>Name and phone number of specific point of contact for implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>90 Days (ongoing)</td>
<td>Gisela Shanahan (303) 342-2458</td>
</tr>
</tbody>
</table>

**Narrative for Recommendation 1.2**
The Controller will implement a new policy that requires quarterly reconciliations of the Airport’s operating funds to ensure that expenses are coded to the appropriate fund.

**RECOMMENDATION 1.3**
**Staffing Analysis**—The Senior Vice President for Airport Infrastructure Management (AIM), should have a staffing analysis conducted to determine the amount of AIM staff that is optimal to meet the needs of DIA in the most efficient manner.

<table>
<thead>
<tr>
<th>Agree or Disagree with Recommendation</th>
<th>Target date to complete implementation activities (Generally expected within 60 to 90 days)</th>
<th>Name and phone number of specific point of contact for implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>Immediately</td>
<td>Dave LaPorte (303) 342-2269</td>
</tr>
</tbody>
</table>

**Narrative for Recommendation 1.3**
Airport Infrastructure Management conducted an initial staffing analysis for the new facilities at DEN. The division took a conservative approach to the addition of staff. We will continually analyze our needs for staffing in all positions and make adjustments as necessary.
Please contact Stuart Williams at (720) 840-5292 with any questions.

Sincerely,

Kim Day
Chief Executive Officer

CC: Ken Greene
    Stuart Williams
    Bhavesh Patel
    Dave LaPorte
    Gisela Shanahan
    Amy Raaz
    Max Taylor
    Jacqueline Rainey