

Appendix A

BWI Marshall Airport Planning Documents

Draft Environmental Assessment
Proposed Airport Traffic Control Tower and Associated Improvements at BWI Marshall Airport

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APPENDIX A:

BWI Marshall Airport Planning Documents

The following BWI Marshall Airport planning documents are included in this appendix to support the analysis of the Proposed Action and alternatives:

- Attachment 1: BWI Marshall Airport Future Airport Layout Plan, Draft, November 2022.
- Attachment 2: BWI Marshall Airport Replacement ATCT AFTIL-2, Comparative Safety Analysis with Hazards, January 29, 2022.
- Attachment 3: BWI Hotel Site Selection Study, Final Report, June 2006.
- Attachment 4: BWI Hotel Market Analysis, January 2012.

Attachment 1:

BWI Marshall Airport Future Airport Layout Plan

Draft

November 2022

EXISTING FACILITY LEGEND

Table with 3 columns: FACILITY No., FACILITY DESCRIPTION, TOP ELEV. (MSL). Lists existing airport infrastructure including passenger terminals, cargo buildings, maintenance shops, and various support areas.

ASDEX - RU SITES

Table with 3 columns: FACILITY No., NEAREST TO, TOP ELEV. (MSL). Lists sites for future runway and taxiway construction.

FUTURE FACILITY LEGEND - PHASE 1

Table with 3 columns: FACILITY No., FACILITY DESCRIPTION, TYPE, USE, ESTIMATED TOP ELEV. (MSL). Lists Phase 1 future facilities like terminal expansion and parking.

FUTURE FACILITY LEGEND - PHASE 2

Table with 3 columns: FACILITY No., FACILITY DESCRIPTION, TYPE, USE, ESTIMATED TOP ELEV. (MSL). Lists Phase 2 future facilities including terminal and parking expansions.

FUTURE FACILITY LEGEND - PHASE 3

Table with 3 columns: FACILITY No., FACILITY DESCRIPTION, TYPE, USE, ESTIMATED TOP ELEV. (MSL). Lists Phase 3 future facilities such as terminal and parking expansions.

NOTES

- 1. THE DEPICTED AIRPORT LAYOUT PLAN IS BASED ON GIS TOPOGRAPHY DATA AND OTHER SOURCES...
2. ALL TYS ARE 75' WIDE UNLESS OTHERWISE NOTED...
3. FOR ADDITIONAL INFORMATION, SEE DATA SHEET...
4. FOR PROPERTY INFORMATION, SEE AIRPORT PROPERTY MAP (SHEET 227)...

14. SUBJECT TO FAA PROPERTY RELEASE PROCESS...

- 14. SUBJECT TO FAA PROPERTY RELEASE PROCESS, MAA PROPOSES TO RETAIN THE PARCEL, PENDING REFORESTATION MASTER PLAN...
15. THE FAA DOES NOT SUPPORT THE FUTURE RUNWAY 10R-28, AS IDENTIFIED...
16. TREE CLEARING REQUIRED FOR CLEAR LINE-OF-SIGHT FROM PROPOSED ATCT SITE 1A (PH 1) IF NOT PREVIOUSLY CLEARED BY PROPOSED SITE DEVELOPMENT OR OBSTRUCTION REMOVAL PROJECT...
17. ALL NEW TAXIWAY GEOMETRY WILL MEET THE CURRENT FAA ADVISORY CIRCULAR DESIGN STANDARDS FOR TAXIWAY EDGE SAFETY MARKING (TESM)...
18. MODIFICATIONS TO THESE MAA PARCELS WILL MEET THE SUPPORT OF THE AIRTRAK 4TH RAIL PROJECT...
19. ATCT SITE 1A: LATITUDE 39° 10' 48.4787N, LONGITUDE 76° 40' 00.8710W, TOP OF TOWER: MSL: 397', CONTROLLER EYE LEVEL: MSL: 397'...
20. ALP PHASE 1 AS SHOWN INCLUDES ALL PROJECTS FOR WHICH AN ENVIRONMENTAL FINDING EXISTS.

N39° 11' 34.67"
N:556000.00
E:1396000.00

N39° 09' 35.51"
N:544000.00
E:1396000.00

N39° 09' 36.07"
N:544000.00
E:1396000.00

N39° 09' 35.51"
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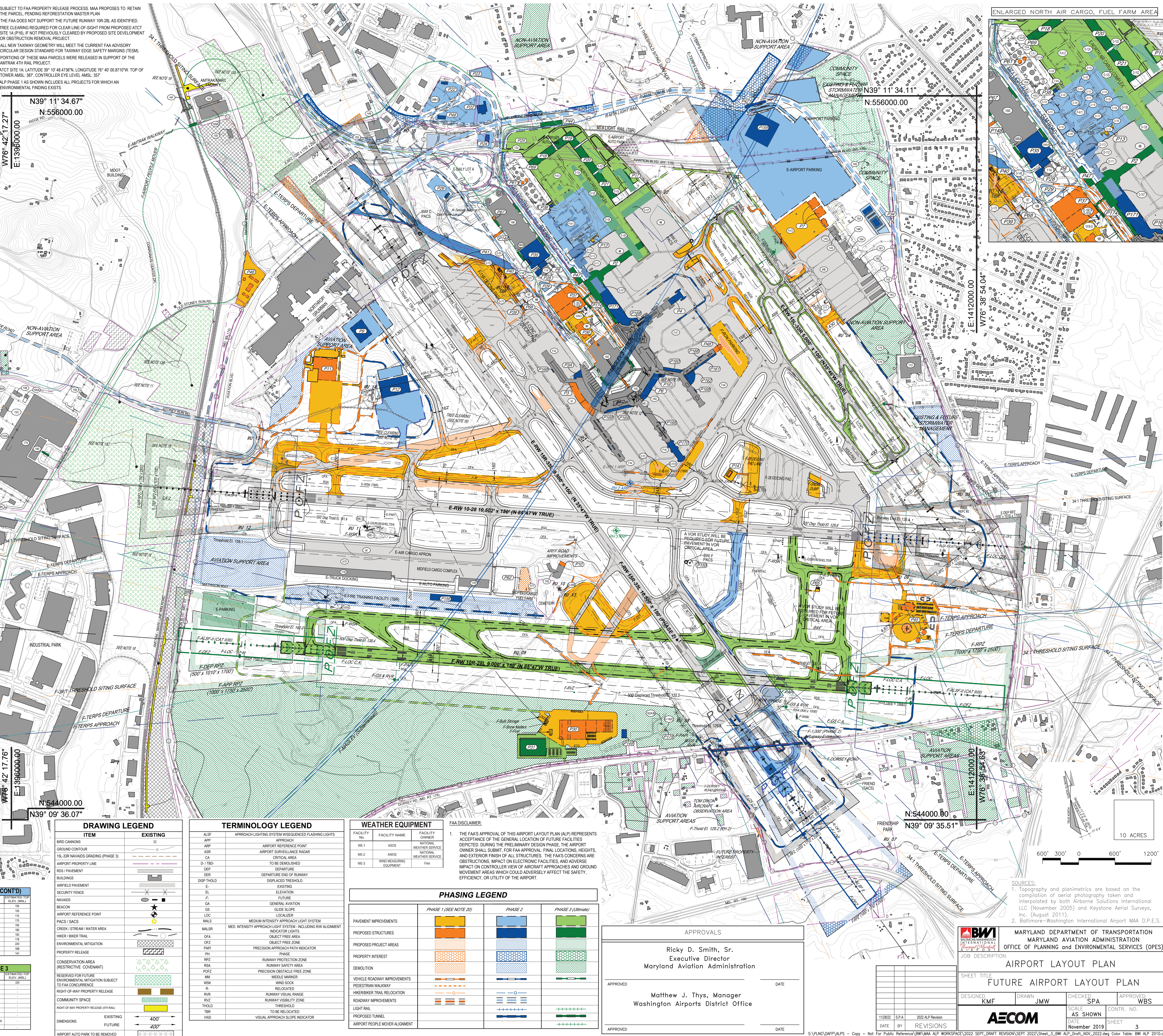
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N39° 09' 35.51"
N:544000.00
E:1396000.00



DRAWING LEGEND: Table with 2 columns: ITEM, EXISTING. Lists symbols for various drawing elements like runways, taxiways, and aprons.

TERMINOLOGY LEGEND: Table with 2 columns: ITEM, EXISTING. Lists symbols for various terminology elements like aprons, taxiways, and runways.

WEATHER EQUIPMENT: Table with 2 columns: FACILITY No., FACILITY NAME, FACILITY OWNER. Lists weather equipment locations and owners.

PHASING LEGEND: Table with 3 columns: PHASE 1 (SEE NOTE 20), PHASE 2, PHASE 3 (Ultimate). Lists symbols for different phasing stages.

APRON DIMENSIONS: Table with 3 columns: APRON No., APRON SQ. FT., LOCATION. Lists apron dimensions and locations.

FUTURE FACILITY LEGEND - PHASE 2 (CONT'D): Table with 3 columns: FACILITY No., FACILITY DESCRIPTION, TYPE, USE, ESTIMATED TOP ELEV. (MSL). Lists Phase 2 future facilities.

FUTURE FACILITY LEGEND - PHASE 3: Table with 3 columns: FACILITY No., FACILITY DESCRIPTION, TYPE, USE, ESTIMATED TOP ELEV. (MSL). Lists Phase 3 future facilities.

FUTURE FACILITY LEGEND - PHASE 1 (SEE NOTE 20): Table with 3 columns: FACILITY No., FACILITY DESCRIPTION, TYPE, USE, ESTIMATED TOP ELEV. (MSL). Lists Phase 1 future facilities.

FAA DISCLAIMER: Text block containing the FAA disclaimer regarding the approval of the airport layout plan.

APPROVALS: Table with 2 columns: APPROVED, DATE. Lists approvals from Rick D. Smith, Sr. and Matthew J. Thys.

Project information block including project title 'AIRPORT LAYOUT PLAN', client 'MARYLAND DEPARTMENT OF TRANSPORTATION', and contractor 'AECOM'. Includes a scale bar and north arrow.

10 ACRES
SOURCES:
1. Topography and planimetrics are based on the compilation of aerial photography taken and interpolated by both Airborne Solutions International LLC (November 2005) and Keystone Aerial Surveys, Inc. (August 2011).
2. Baltimore-Washington International Airport MAA O.P.E.S.
JOB DESCRIPTION: AIRPORT LAYOUT PLAN
SHEET TITLE: FUTURE AIRPORT LAYOUT PLAN
DESIGNED: KMF, DRAWN: JMW, CHECKED: SPA, APPROVED: WBS
SCALE: AS SHOWN, CONTR. NO.: 112922, DATE: 11/28/2022, SHEET: 3

Attachment 2:

BWI Marshall Airport Replacement ATCT AFTIL-2

Comparative Safety Analysis with Hazards

January 29, 2022

**Baltimore/Washington International Thurgood Marshall
Airport (BWI) Replacement Airport Traffic Control Tower
AFTIL-2
Comparative Safety Analysis with Hazards**



Version .07

January 29, 2022

**Baltimore/Washington International Thurgood Marshall Airport (BWI)
Replacement Airport Traffic Control Tower AFTIL -2
Comparative Safety Analysis with Hazards**

SRM Document Change Page

Date	Change Summary	Version Number
12/23/2019	AFTIL 2 Assessment	.01
04/24/2020	AFTIL 2 Assessment	.02
04/27/2020	AFTIL 2 Assessment	.03
04/29/2020	AFTIL 2 Assessment	.04
11/17/2020	AFTIL 2 Assessment	.05
05/26/2021	AFTIL 2 Assessment	.06
01/29/2022	AFTIL 2 Assessment	.07

DRAFT

**Baltimore/Washington International Thurgood Marshall Airport (BWI)
Replacement Airport Traffic Control Tower AFTIL -2
Comparative Safety Analysis with Hazards**

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SECTION 1. Executive Summary

Title: ESA BWI AFTIL-2 Tower Siting

Initiating Organization: ATO : AJW : AJW2 : AJW24 : AJW244 (Terminal Facilities EXECUTION team)

Safety Analysis Type: Comparative Safety Assessment (CSA)

A Comparative Safety Assessment (CSA) has been completed for an Airport Facilities Terminal Integration Laboratory (AFTIL)-2 as it relates to a new Airport Traffic Control Tower (ATCT) siting for the Baltimore/ Washington International Thurgood Marshall Airport (BWI) in Baltimore, Maryland. The panel met at the William J. Hughes Technical Center (WJHTC) in Atlantic City, NJ from October 22–24, 2019. Additional Zoom panels were convened September 29–30, 2020 to reassess the hazard’s severity, likelihood, rationales and mitigations, presented in the October 2019 Safety Assessment and March 19, 2021 to assess the impact of a proposed hotel. The purpose of conducting the CSA was to apply the Safety Risk Management (SRM) process defined in the Air Traffic Organization (ATO) Safety Management System (SMS) Manual, dated April 2019.

Three preferred sites; Site 1, Site 1A, and Site 2A were determined from the AFTIL-1 meeting, held at the William J. Hughes Technical Center (WJHTC) in Atlantic City, NJ during August 21-23, 2018. During the October 2019 AFTIL-2 meeting, due to the unavailability of area required for the proposed ATCT, Site 2A was deemed non-viable and agreed upon by all panel members. A CSA was not performed on Site 2A. The CSA did produce high hazards for the remaining Sites 1 and 1A, with reference to construction of the proposed ATCTs. Construction of both sites produced LOS issues with the existing ATCT's view of a portion of RWY 15L/33R and associated taxiways.

In a subsequent meeting, September 29–30, 2020, panel members reanalyzed and reassessed the hazards taking all available procedures and equipment into consideration and reevaluating use of a temporary tower as a mitigation. For both sites, the hazards were reduced to an acceptable low level risk.

During the March 2021 Zoom meeting, a proposed hotel, not assessed in either of the previous AFTIL 2 meetings, was found to be a Line-of-Sight (LOS) issue but, the BWI ATCT representatives determined the same mitigations would apply as to construction of the proposed ATCTs. A Preliminary Hazard List (PHL) (Appendix A&B) and the Hazardous Analysis Worksheet (HAW) (Section 5) were processed according to the SRM guidelines.

The BWI ATCT Safety Risk Management Panel (SRMP) followed the SMS policy and SRM process when conducting their safety analysis.

The SRM process involves the following steps: System Description, Hazard Identification and Analysis, Risk Assessment, and Hazard Monitoring.

**“ Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport
Traffic Control Tower AFTIL -2 Comparative Safety Analysis with Hazards**

This document describes how the SRM process was applied to BWI ATCT siting hazards and summarizes the results from this process. It is organized to follow the SRM steps. The Safety Risk Management Document (SRMD) does not address Occupational Safety and Health Administration (OSHA) and security issues.

Table 1.1: Hazard Summary

Hazard ID	Hazard Description	Initial Risk	Predicted Residual Risk
BWI-01-S1	Visual Blockage of portions RWY15L/33R and associated TWYS caused by construction of the proposed ATCT and Hotel	4D: Low	4E: Low
BWI-02-S1	Close Proximity of proposed ATCT and Hotel Construction to existing ATCT Controller Distraction	3E: Low	3E: Low
BWI-03-S1	Close Proximity of proposed ATCT and Hotel Construction to existing ATCT Loss of ATC equipment	5C: Low	5D: Low
BWI-01-S1A	Visual Blockage of portions RWY15L/33R and associated TWYS caused by construction of the proposed ATCT and Hotel	4D: Low	4E: Low
BWI-02-S1A	Close Proximity of proposed ATCT and Hotel Construction to existing ATCT Controller distraction	3E: Low	3E: Low
BWI-03-S1A	Close Proximity of proposed ATCT and Hotel Construction to existing ATCT Loss of ATC equipment	5C: Low	5D: Low

**“ Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport
Traffic Control Tower AFTIL -2 Comparative Safety Analysis with Hazards**

Table 1.2: Safety Requirement Summary

Safety Requirement	Associated Hazard ID(s)	Organization Responsible	POC Signature
Temporary Tower and associated necessary equipment. When Temporary not available, Not using RWY 15L/33R. Relocation of or supplemental ASDE X ¹ and Radio Antennas prior to the point of construction of the proposed ATCT or Hotel become a LOS issue.	BWI-01-S1 BWI-01-S1A	MDOT MAA	PAUL L. SHANK, P.E., C.M. Chief Engineer, MDOT MAA 410-859-7061 PShank@bwiairport.com
Collaborate with NATCA on staffing of CIC and supervisory awareness of construction distraction	BWI-02-S1 BWI-02-S1A	BWI ATCT ATM	Steve Batchelder
Scheduling work causing vibration during low activity times; construction techniques reducing vibration	BWI-03-S1 BWI-03-S1A	MDOT MAA	Alan Peljovich

Table 1.3: Monitoring Plan Summary

Safety Performance Target	Associated Hazard ID(s)
Zero RWY Inc Zero RWY Incursions on RWY15L/33R related to visual blockage	BWI-01-S1 BWI-01-S1A
No operational incidents contributed to controller distractions	BWI-02-S1 BWI-02-S1A
No unexpected loss of ATC equipment related to construction of proposed ATCT and Hotel	BWI-03-S1 BWI-03-S1A

¹ In telephone conversations, dated January 6 and January 25, 2022, Mr. Alan Peljovich, acting for the MDOT MAA, accepted responsibility as the Organization Responsible for the Safety Requirement for the Relocation of or supplementing the ASDE-X at BWI.

² Site 2A was deemed non-viable as agreed upon by all panel members.

Baltimore/Washington International Thurgood Marshall Airport (BWI)
Replacement Airport Traffic Control Tower AFTIL -2
Comparative Safety Analysis with Hazards

SECTION 2. SRM DOCUMENT SIGNATURES

Title: ESA BWI AFTIL-2 ATCT Siting

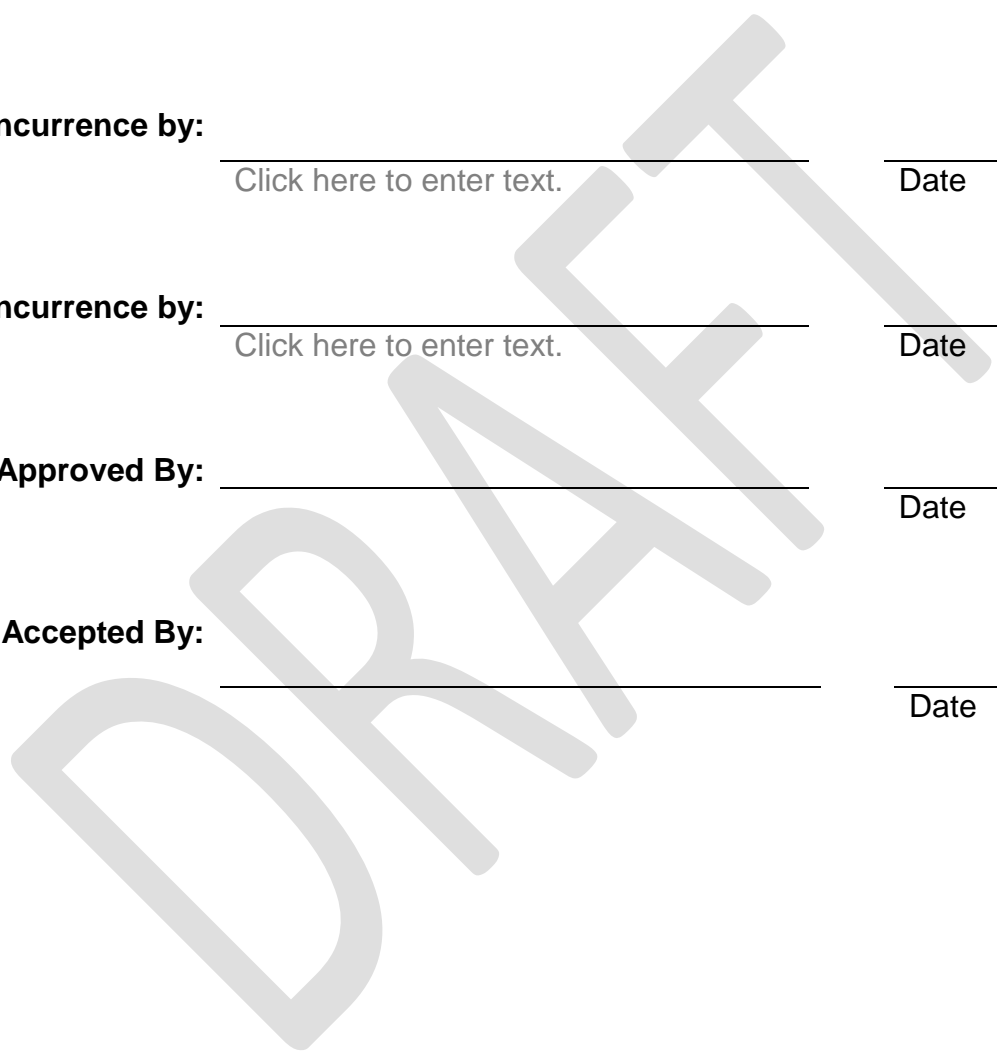
Submitted By: _____
Click here to enter text. Date

Concurrence by: _____
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Concurrence by: _____
Click here to enter text. Date

Approved By: _____
Date

Risk Accepted By: _____
Date



**Baltimore/Washington International Thurgood Marshall Airport (BWI)
Replacement Airport Traffic Control Tower AFTIL -2
Comparative Safety Analysis with Hazards**

SECTION 3. CURRENT SYSTEM

Introduction

The BWI ATCT is a sponsor-owned FAA maintained and operated facility that was commissioned in 1957.

The BWI ATCT is a Level 8 facility and operates 24 hours per day. The ATCT cab size is approximately 588 square feet (sq. ft.) and cab eye level is 257 feet (ft.) mean sea level (MSL) or 107 ft. above ground level (AGL). Ground elevation at BWI ATCT is 150 ft. MSL.

BWI has three active runways: Runway (RWY) 10/28, RWY 15R/33L, and RWY 15L/33R.

RWY 10/28 is 10,503 ft. long and 150 ft. wide. It is constructed of grooved asphalt. The runway is equipped with High Intensity Runway Lights (HIRL). The approach lights for RWY 10 are a standard 2,400 foot high intensity approach lighting system with centerline sequenced flashers (ALFS2) (Category II or III). RWY 10 is equipped with a 4-light Precision Approach Path Indicator (PAPI) (3.00 degrees glide path) on the right side of the runway, Runway Visual Range (RVR) (touchdown, midpoint, rollout) and an Instrument Landing System (ILS). RWY 28 has a 4-light PAPI (3.00 degrees glide path) on the left side of the runway, a 1,400 foot medium intensity approach lighting system with runway alignment indicator lights (MALSR), an ILS, and a RVR (touchdown, midpoint, rollout).

RWY 15R/33L is 9,501 ft. long and 150 ft. wide. It is constructed of grooved asphalt. The runway is equipped with HIRL. RWY 15R is equipped with a 4-light PAPI (3.00 degrees glide path) system on the right side of the runway, a 1,400 foot MALSR, RVR (touchdown, midfield, rollout) and an SA CAT II ILS Approach to RWY 33L. RWY 33R is equipped with a 4-light PAPI (3.00 degrees glide path) system on the left side of the runway, a 1,400 foot MALSR, RVR (touchdown, midfield, rollout), and an ILS/Distance Measuring Equipment (DME) system.

RWY 15L/33R is 5,000 ft. long and 100 ft wide and is constructed of grooved asphalt. The runway is equipped with HIRL and is capable of accommodating aircraft weighing up to 45,000 pounds with a double tandem wheel configuration. RWY 15L is equipped with RVR (Touchdown, rollout) and a 4-light PAPI (3.00 degrees glide path) system on the left side of the runway. RWY 33R has a RVR (touchdown, rollout), 4-light PAPI (3.00 degrees glide path) system on the left side of the runway, a 1,400 foot MALSR, and an ILS/DME.

Need for an SRM Panel

A BWI ATCT SRMP was formed and developed this CSA to identify the potential hazards, assess and analyze the associated risks, and determine existing and recommended safety requirements to mitigate or control the safety risk associated with an AFTIL -2 safety assessment of the preferred sites at BWI.

**“ Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport
Traffic Control Tower AFTIL -2 Comparative Safety Analysis with Hazards**

Scope of SRM Panel

The application of the SRM process was exercised through four AFTIL meetings. The AFTIL-1 meeting, held at the William J. Hughes Technical Center (WJHTC) in Atlantic City, NJ during August 21-23, 2018 established three preferred sites; Site 1, Site 1A and Site 2A. LOS issues were found with no hazards.

During the AFTIL 2 meeting, also held at the William J. Hughes Technical Center (WJHTC) in Atlantic City, NJ, October 22–24, 2019, Sites 1 and 1A were assessed for any LOS issues associated with Interior and Exterior Barriers and no hazards were found.²

Sites 1 and 1A were also assessed for any LOS issues associated with construction of the proposed ATCTs resulting in High Risk Hazards. The results, as reviewed by AJI-3, required further analysis and explanation.

An additional AFTIL 2 panel was convened, via Zoom, September 29–30, 2020. Panel members reanalyzed and reassessed the hazards taking all available procedures and equipment into consideration and reevaluating use of a temporary tower as a mitigation. For both sites, the hazards were reduced to an acceptable low level.

On March 19, 2021, representatives of the BWI Air Traffic Control Tower met via Zoom to determine the impact of a proposed Hotel on the AFTIL 2 Safety Assessment performed September 29–30, 2020. The proposed Hotel, which was submitted as an integral part of the Draft Long Range Strategic Plan to be built concurrently with the proposed ATCT (see Appendix F), was not assessed during either of the previous AFTIL 2s. The proposed Hotel produces a LOS issue with a portion of RWY 15R/33L and associated taxiways from the view of the existing ATCT. The panel agreed that the same mitigations as applied to Line of Sight issues caused by construction of the proposed ATCTs applied to construction of the Hotel and produced no additional Hazards. All factors of the 5M Model were considered in the analysis.

² Site 2A was deemed non-viable as agreed upon by all panel members.

" Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport
Traffic Control Tower AFTIL -2 Comparative Safety Analysis with Hazards

Table 3.1: 5M Model

<p>Mission: The clearly defined and detailed purpose of the National Airspace (NAS) change proposal or system/operation being assessed</p>	<ul style="list-style-type: none"> • Safely conduct ATC operations in a replacement BWI ATCT. Assess potential safety issues related to the proposed use of a supplementary control tower as assessed by the AFTIL
<p>(hu)Man: Operators, maintainers, and affected stakeholders</p>	<ul style="list-style-type: none"> • Controllers at BWI Tower • Tech Ops • Pilots • Tower design personnel • Construction personnel • AFTIL personnel • BWI MDOT MAA
<p>Machine: Equipment used in the system</p>	<ul style="list-style-type: none"> • Binoculars • ASDE-X and Feeds • FDIO • STARS • Communication Lines (Existing ATCT, Temporary ATCT, and Potomac Approach) • All position related equipment
<p>Management: Procedures and policies that govern the system's behavior</p>	<ul style="list-style-type: none"> • 7110.65 • Facility SOPs and LOAs • 6480.4B, Airport Traffic Control Tower Siting Process
<p>Media: The environment in which the system is operated/maintained</p>	<ul style="list-style-type: none"> • BWI Airport and associated airspace

**Baltimore/Washington International Thurgood Marshall Airport (BWI)
Replacement Airport Traffic Control Tower AFTIL -2
Comparative Safety Analysis with Hazards**

SECTION 4. DESCRIPTION OF CHANGE / EXISTING SAFETY ISSUE

The BWI Airport expansion, as proposed by the Maryland Department of Transportation (MDOT MAA) Maryland Aviation Administration (MAA), would produce Line of Sight (LOS) issues with the current ATCT location. The current ATCT is located between Concourse B and Concourse C at an ATC eye level of 107 ft. AGL. An AFTIL-2, held at the AFTIL at the William J. Hughes Technical Center (WJHTC) in Atlantic City, New Jersey, October 22–24, 2019 produced two sites as feasible locations to alleviate LOS issues. A safety assessment was conducted on the two proposed sites (Figures 1-3), concentrating on system safety hazards with respect to Interior and Exterior barriers. The intent was to compare the two sites against an identified set of AFTIL-2 system safety criteria. The AFTIL-2 assessment, dated October 22–24, 2019, produced initial High risk hazards for Sites 1 and 1A, with reference to construction of the new ATCT in relation to the existing ATCT. Both sites were located in close proximity to the existing ATCT with eye level heights 50–75 ft above the current ATCT. Construction of either of the proposed ATCTs would pose a partial blockage of RWY 15L/33R and associated TWYs and possible interruption of radio communications between Pilot and Controller. The High risk hazards could not be validated, without further rationalization, by ATO Safety and a decision to conduct a second panel was made. This panel was conducted with the understanding that ATC had the option to not use RWY 15L/33R when controllers thought there was a safety concern. In addition, the secondary control tower, provided by MDOT MAA, could be used whenever conditions warranted the use of RWY 15L/33R. On September 29th - 30th, 2020, a follow up assessment was held to reevaluate the severity, likelihood, rationales, and mitigations previously determined. Panel members reanalyzed and reassessed the hazards taking all available procedures and equipment into consideration and reevaluating use of a temporary tower as a mitigation. For both sites, the hazards were reduced to an acceptable low level. No other hazards were found related to the existing ATCT or working from either of the proposed sites. The SRMD, BWI AFTIL 2 CSA With Hazards Draft Review V 05, was remitted for comments and, Mr. Paul Shank, Chief Engineer MDOT MAA, replied that a proposed Hotel was included as an integral part of the Draft Long Range Strategic Plan to be built concurrently with the proposed ATCT. The impact of the Hotel was not assessed during either of the AFTIL 2s. On March 19, 2021, representatives of the BWI Air Traffic Control Tower met via Zoom to determine the impact of a proposed Hotel on the AFTIL 2 Safety Assessment performed September 29–30, 2020. The panel agreed that the same mitigations as applied to Line of Sight issues caused by construction of the proposed ATCTs applied to construction of the Hotel and produced no additional Hazards.

A PHL (Appendix A&B) and a HAW (Section 5) were processed for each site according to the SRM guidelines. A Monitoring Plan was developed to review whether the finalized proposed NAS change will be safe, operational, and effective once implemented.

**“ Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport
Traffic Control Tower AFTIL -2 Comparative Safety Analysis with Hazards**

The locations of the two preferred sites during the AFTIL -2 are as follows:

Site 1

Latitude: 39-10-45.0531 N

Longitude: 76-40-04.3812 W

Top of Tower (AMSL): 351 ft.

Eye Height (AGL): 171 ft.

Site 1A

Latitude: 39-10-48.4736 N

Longitude: 76-40-00.8710 W

Top of Tower (AMSL): 387 ft.

Eye Height (AGL): 207 ft.

**Baltimore/Washington International Thurgood Marshall Airport (BWI)
Replacement Airport Traffic Control Tower AFTIL -2
Comparative Safety Analysis with Hazards**

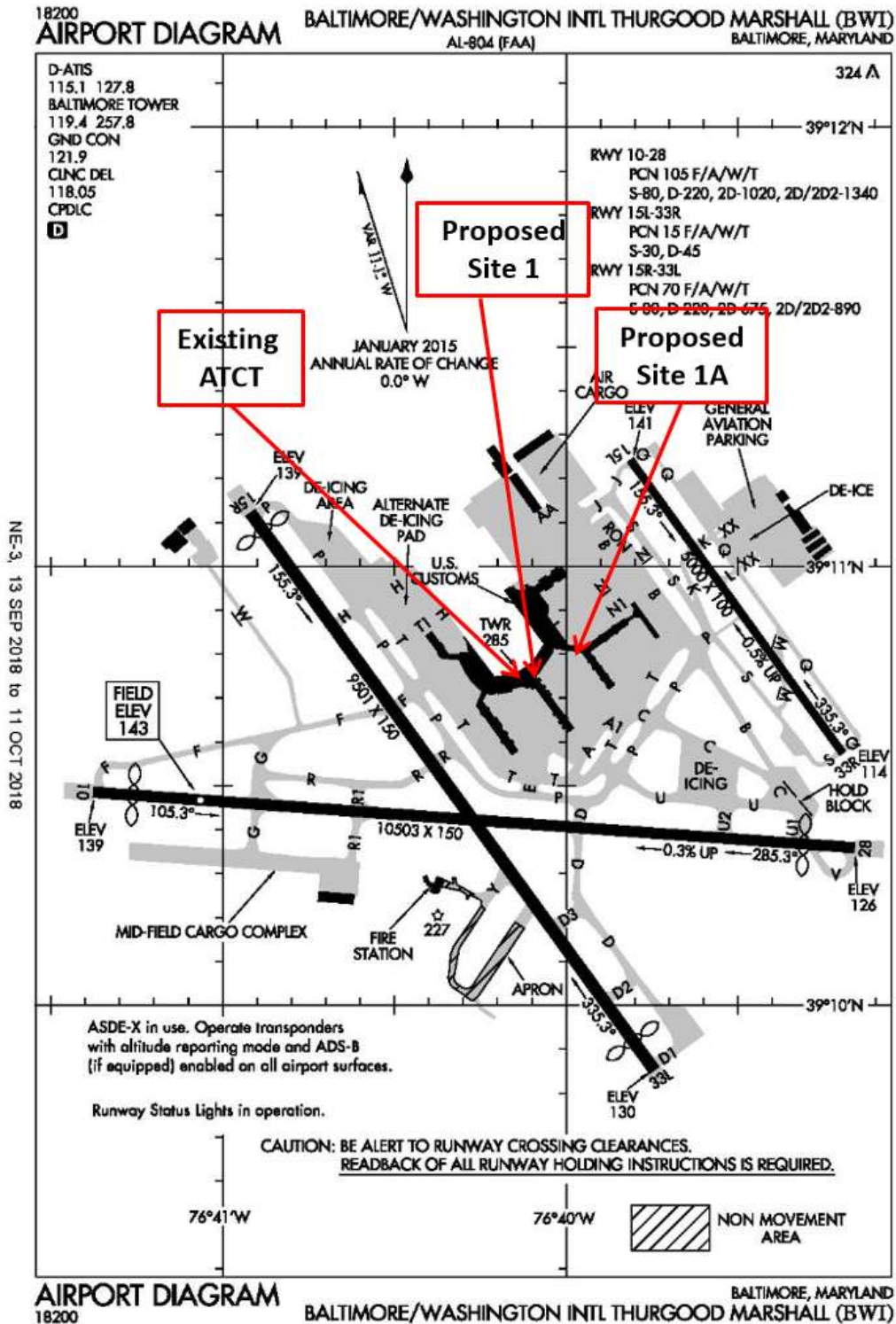


Figure 1. BWI Proposed ATCT Sites Airport Diagram

Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport Traffic Control Tower AFTIL -2 Comparative Safety Analysis with Hazards



Figure 2. BWI Proposed ATCT Sites Overhead

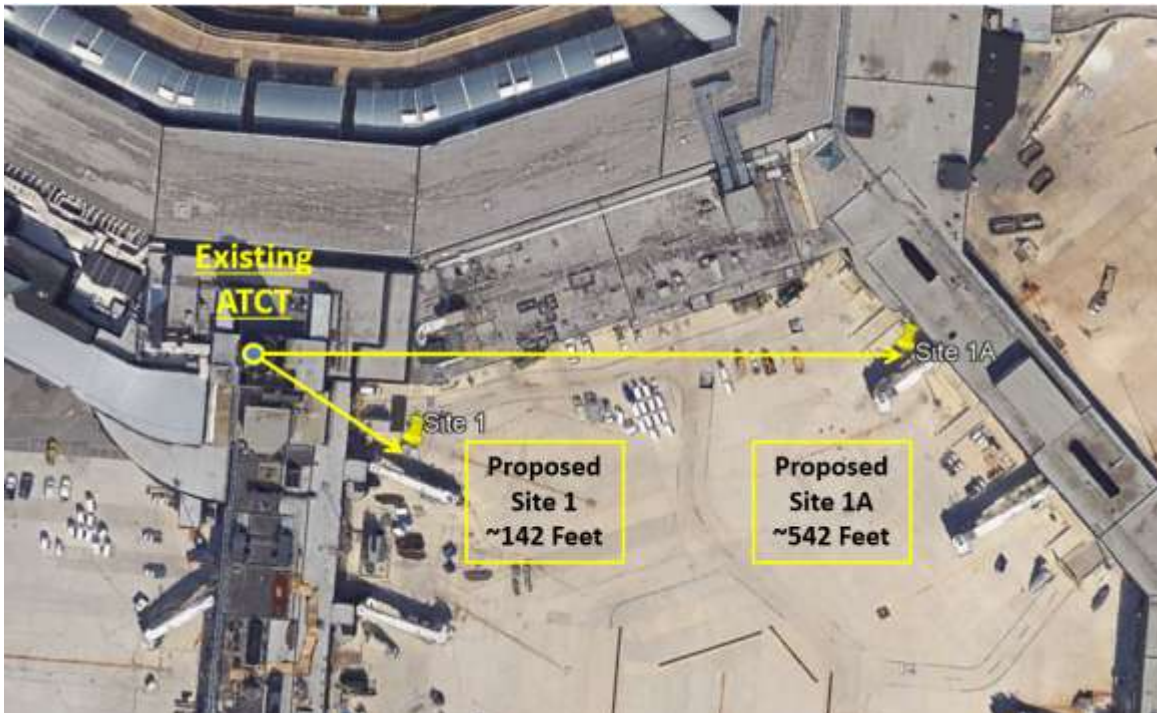


Figure 3. BWI Proposed ATCT Sites 1 and 1A Distances from Existing ATCT Overhead

SECTION 5. HAZARD AND RISK ANALYSIS

Table 3.1: Hazard Analysis Worksheet

Site 1

Hazard Table 1 of 3

1.	2.	3.	4.
Hazard ID *	Hazard Description *	Cause	System State
BWI-01-S1	Visual Blockage of portions RWY15L/33R and associated TWYS	Construction of the proposed ATCT and Hotel	Point at which construction of new ATCT and/or Hotel causes visual blockage until the new tower is operational

Controls for Hazard: BWI-01-S1

5.	6.
Controls	Control Justification
ASDE X, STARS, Position Reporting, Pilot Visual	ASDE-X and STARS provide visual representation of aircraft locations when not visible from the tower. Pilot reports of location (clear of runway or holding short of runway) are accepted means of determining aircraft location. Pilot maintains awareness to see and avoid other aircraft.

Initial Risk for Hazard: BWI-01-S1

7.	8.	9.	10.	11.	12.
Effect	Severity	Severity Rationale	Likelihood	Likelihood Rationale	Initial Risk
Cat C RWY Incursion	4 (Minor)	The panel determined that the worst credible effect would be a Category C runway incursion or Low Risk Analysis Event (RAE)	D (Extremely Remote)	The panel determined that an event would not occur more than once every 3 years	4D: Low

“ Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport Traffic Control Tower AFTIL -2 Comparative Safety Analysis with Hazards

Safety Requirements for Hazard: BWI-01-S1

13a.	13b.	14a.	14b.
Safety Requirement Description *	Planned for Implementation?	Organization Responsible for Implementing *	Point of Contact *
Temporary Tower and associated necessary equipment. When Temporary not available, not using RWY 15L/33R. Temporary Tower and associated necessary equipment. When Temporary not available, Not using RWY 15L/33R. Relocation of or supplemental ASDE X and Radio Antennas prior to the point of construction of the proposed ATCT or Hotel become a LOS issue.	Yes	MDOT MAA	PAUL L. SHANK, P.E., C.M. Chief Engineer, MDOT MAA 410-859-7061 PShank@bwiairport.com

Predicted Residual Risk for Hazard: BWI-01-S1

15a.	15b.
Predicted Residual Risk	Predicted Residual Risk Rationale *
4E: Low	The panel determined provision of Safety Requirements would reduce the possibility of Cat C RWY incursions.

Safety Performance Targets for Hazard: BWI-01-S1

16.
Safety Performance Target *
<ul style="list-style-type: none"> Zero RWY Incursions on RWY15L/33R related to visual blockage

**Baltimore/Washington International Thurgood Marshall Airport (BWI)
Replacement Airport Traffic Control Tower AFTIL -2
Comparative Safety Analysis with Hazards**

Hazard Table 2 of 3

1.	2.	3.	4.
Hazard ID *	Hazard Description *	Cause	System State
BWI-02-S1	Close Proximity of proposed ATCT and Hotel Construction to existing ATCT: Controller Distraction	Construction of the proposed ATCT and Hotel	Start of construction of proposed Site 1 and/or Hotel until the new tower is operational

Controls for Hazard: BWI-02-S1

5.	6.
Controls	Control Justification
Controller and Supervisor focus on awareness. ASDE X Operational supervision Scanning	Supervisory updates as to daily construction levels aids in Controller awareness. Additional reliance on ASDE-X and scanning of movement areas. Additional Supervisory awareness during operations where blockages and distraction are heightened aid Controllers in maintaining awareness.

Initial Risk for Hazard: BWI-02-S1

7.	8.	9.	10.	11.	12.
Effect	Severity	Severity Rationale	Likelihood	Likelihood Rationale	Initial Risk
Cat B RWY Incursion	3 (Major)	The panel determined that the worst credible effect would be a Category B runway incursion or Low Risk Analysis Event (RAE)	E (Extremely Improbable)	The panel determined that an event would occur less than once every 3 years	3E: Low

“ Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport Traffic Control Tower AFTIL -2 Comparative Safety Analysis with Hazards

Safety Requirements for Hazard: BWI-02-S1

13a.	13b.	14a.	14b.
Safety Requirement Description *	Planned for Implementation?	Organization Responsible for Implementing *	Point of Contact *
Collaborate with NATCA on staffing of CIC and supervisory awareness of construction distraction	Yes	BWI ATCT ATM	Steve Batchelder (or current ATM)

Site 1 Hazard Table 2 of 3 (cont'd)

Predicted Residual Risk for Hazard: BWI-02-S1

15a.	15b.
Predicted Residual Risk	Predicted Residual Risk Rationale *
3E: Low	Controllers determined maintaining additional awareness during construction of proposed Site 1 ensures the low level of severity and likelihood

Safety Performance Targets for Hazard: BWI-02-S1

16.
Safety Performance Target *
No operational incidents contributed to controller distractions

“ Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport Traffic Control Tower AFTIL -2 Comparative Safety Analysis with Hazards

Site 1 Hazard Table 3 of 3

1. Hazard ID *	2. Hazard Description *	3. Cause	4. System State
BWI-03-S1	Close Proximity of proposed ATCT and Hotel Construction to existing ATCT: Loss of ATC equipment.	Construction of the proposed ATCT and/or Hotel. Vibration causing loss of ASDE X or Cable Cutting affecting loss of other ATC equipment.	During preparation and early construction phase of new ATCT and/or Hotel.

Controls for Hazard: BWI-03-S1

5. Controls	6. Control Justification
Normal construction protocol of relocating cables and equipment. Partnering identifying potential construction problems.	Design, preconstruction, and construction review of relocating and installing electrical systems to prevent ATCT equipment outages. Use of construction techniques to reduce loss of ATC equipment.

Initial Risk for Hazard: BWI-03-S1

7. Effect	8. Severity	9. Severity Rationale	10. Likelihood	11. Likelihood Rationale	12. Initial Risk
Loss of ASDE X and other ATC equipment	5 (Minimal)	The panel determined that the worst credible effect would be Loss of ASDE X and other ATC equipment	C (Remote)	The panel determined that an event would not occur more than once every 3 years	5C: Low

**Baltimore/Washington International Thurgood Marshall Airport (BWI)
Replacement Airport Traffic Control Tower AFTIL -2
Comparative Safety Analysis with Hazards**

Safety Requirements for Hazard: BWI-03-S1

13a.	13b.	14a.	14b.
Safety Requirement Description *	Planned for Implementation?	Organization Responsible for Implementing *	Point of Contact *
Scheduling work causing vibration during low activity times, use of vibration monitors, construction techniques reducing vibration	Yes	MDOT MAA	PAUL L. SHANK, P.E., C.M. Chief Engineer, MDOT MAA 410-859-7061 PShank@bwiairport.com

Predicted Residual Risk for Hazard: BWI-03-S1

15a.	15b.
Predicted Residual Risk	Predicted Residual Risk Rationale *
5D: Low	Controllers determined use of Safety Requirements would reduce the likelihood to less than once per 3 years

Safety Performance Targets for Hazard: BWI-03-S1

16.
Safety Performance Target *
No unexpected loss of ATC equipment related to construction of proposed ATCT and/or Hotel

**Baltimore/Washington International Thurgood Marshall Airport (BWI)
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Comparative Safety Analysis with Hazards**

	Minimal 5	Minor 4	Major 3	Hazardous 2	Catastrophic 1
Frequent A					
Probable B					
Remote C	△ 01				
Extremely Remote D		□ 01			
Extremely Improbable E			○ 02		

Figure 4. Site 1 HAW Matrix: Initial Risk

Hazard ID Legend		
BWI-01-S1	BWI-02-S1	BWI-03-S1
□ 01	○ 02	△ 03
Low Risk	Medium Risk	High Risk

	Minimal 5	Minor 4	Major 3	Hazardous 2	Catastrophic 1
Frequent A					
Probable B					
Remote C					
Extremely Remote D	△ 03				
Extremely Improbable E		□ 01	○ 02		

Figure 5. Site 1 HAW Matrix: Residual Risk

Baltimore/Washington International Thurgood Marshall Airport (BWI)
Replacement Airport Traffic Control Tower AFTIL -2
Comparative Safety Analysis with Hazards

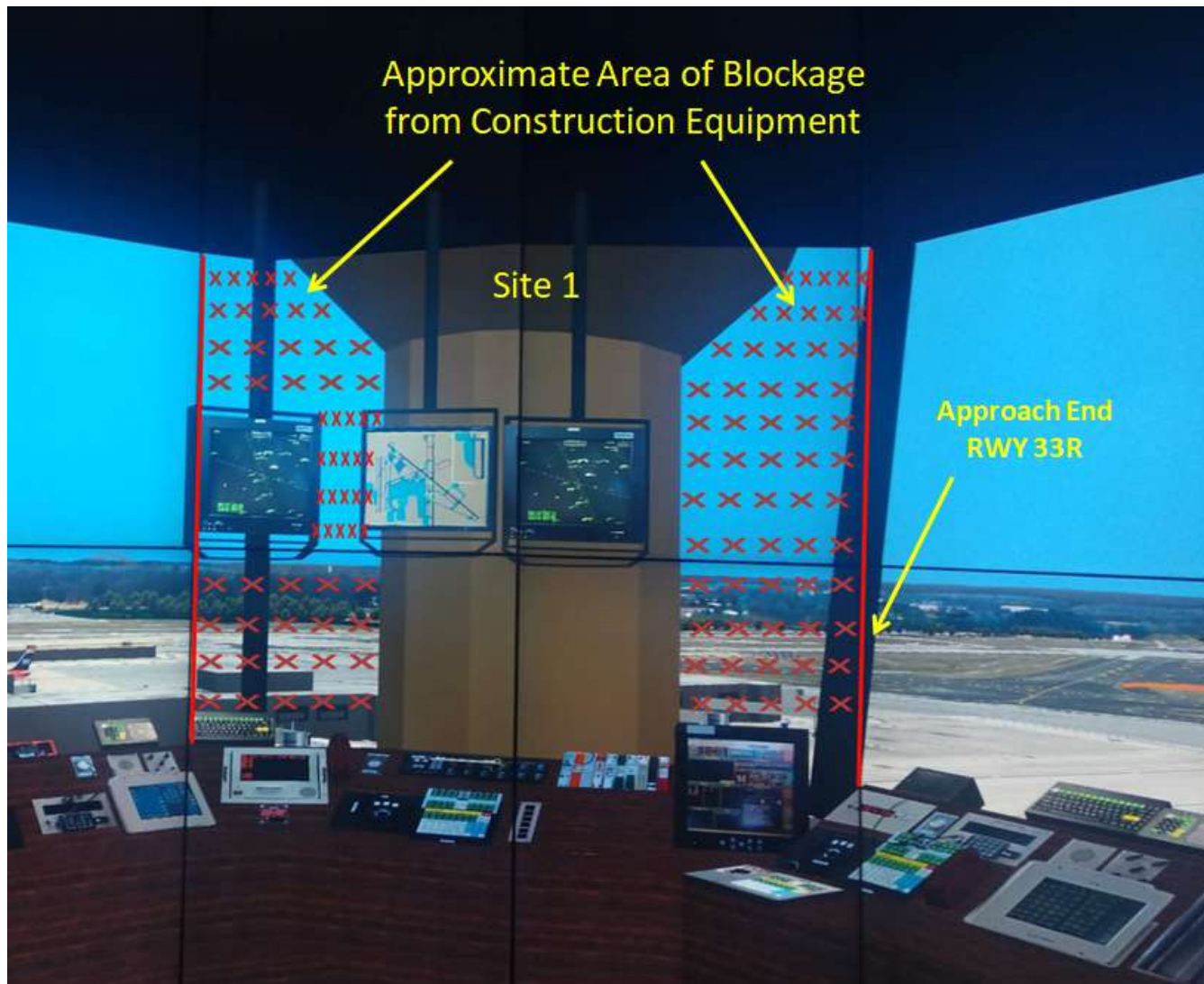


Figure 6. Existing ATCT View of Proposed ATCT Site 1

Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport Traffic Control Tower AFTIL -2 Comparative Safety Analysis with Hazards

Site 1A

Hazard Table 1 of 3

1. Hazard ID *	2. Hazard Description *	3. Cause	4. System State
BWI-01-S1A	Visual Blockage of portions RWY15L/33R and associated TWYS	Construction of the proposed ATCT and Hotel	Point at which construction of new ATCT and/or Hotel causes visual blockage until the new tower is operational

Controls for Hazard: BWI-01-S1A

5. Controls	6. Control Justification
ASDE X, STARS, Position Reporting, Pilot Visual	ASDE-X and STARS provide visual representation of aircraft locations when not visible from the tower. Pilot reports of location (clear of runway or holding short of runway) are accepted means of determining aircraft location. Pilot maintains awareness to see and avoid other aircraft.

Initial Risk for Hazard: BWI-01-S1A

7. Effect	8. Severity	9. Severity Rationale	10. Likelihood	11. Likelihood Rationale	12. Initial Risk
Cat C RWY Incursion	4 (Minor)	The panel determined that the worst credible effect would be a Category C runway incursion or Low Risk Analysis Event (RAE)	D (Extremely Remote)	The panel determined that an event would not occur more than once every 3 years	4D: Low

Safety Requirements for Hazard: BWI-01-S1A

13a. Safety Requirement Description *	13b. Planned for Implementation?	14a. Organization Responsible for Implementing *	14b. Point of Contact *
Temporary Tower and associated necessary equipment. When Temporary not available, Not using RWY 15L/33R. Relocation of or supplemental ASDE X and Radio Antennas prior to the point of	Yes	MDOT MAA	PAUL L. SHANK, P.E., C.M. Chief Engineer, MDOT MAA 410-859-7061

Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport Traffic Control Tower AFTIL -2 Comparative Safety Analysis with Hazards

construction of the proposed ATCT or Hotel become a LOS issue.			PShank@bwiairport.com
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Hazard Table 1 of 3 (cont'd)

Predicted Residual Risk for Hazard: BWI-01-S1A

15a. Predicted Residual Risk	15b. Predicted Residual Risk Rationale *
4E: Low	The panel determined provision of Safety Requirements would reduce the possibility of Cat C RWY incursions.

Safety Performance Targets for Hazard: BWI-01-S1A

16. Safety Performance Target *
<ul style="list-style-type: none"> Zero RWY Incursions on RWY15L/33R related to visual blockage

Hazard Table 2 of 3

1. Hazard ID *	2. Hazard Description *	3. Cause	4. System State
BWI-02-S1A	Close Proximity of proposed ATCT Construction to existing ATCT: Controller Distraction	Construction of the proposed ATCT and Hotel	Start of construction of proposed Site 1 and/or Hotel until the new tower is operational

Controls for Hazard: BWI-02-S1A

5. Controls	6. Control Justification
Controller and Supervisor focus on awareness. ASDE X Operational supervision Scanning	Supervisory updates as to daily construction levels aids in Controller awareness. Additional reliance on ASDE-X and scanning of movement areas. Additional Supervisory awareness during operations where blockages and distraction are heightened aid Controllers in maintaining awareness.

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Initial Risk for Hazard: BWI-02-S1A

7.	8.	9.	10.	11.	12.
Effect	Severity	Severity Rationale	Likelihood	Likelihood Rationale	Initial Risk
Cat B RWY Incursion	3 (Major)	The panel determined that the worst credible effect would be a Category B runway incursion or Low Risk Analysis Event (RAE)	E (Extremely Improbable)	The panel determined that an event would occur less than once every 3 years	3E: Low

Safety Requirements for Hazard: BWI-02-S1A

13a.	13b.	14a.	14b.
Safety Requirement Description *	Planned for Implementation?	Organization Responsible for Implementing *	Point of Contact *
Collaborate with NATCA on staffing of CIC and supervisory awareness of construction distraction	Yes	BWI ATCT ATM	Steve Batchelder (or current ATM)

Hazard Table 2 of 3 (cont'd)

Predicted Residual Risk for Hazard: BWI-02-S1A

15a.	15b.
Predicted Residual Risk	Predicted Residual Risk Rationale *
3E: Low	Controllers determined maintaining additional awareness during construction of proposed Site 1A ensures the low level of severity and likelihood

Safety Performance Targets for Hazard: BWI-02-S1A

16.
Safety Performance Target *
No operational incidents contributed to controller distractions

**Baltimore/Washington International Thurgood Marshall Airport (BWI)
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Hazard Table 3 of 3

1. Hazard ID *	2. Hazard Description *	3. Cause	4. System State
BWI-03-S1A	Close Proximity of proposed ATCT and Hotel Construction to existing ATCT: Loss of ATC equipment.	Construction of the proposed ATCT and/or Hotel. Vibration causing loss of ASDE X or Cable Cutting affecting loss of other ATC equipment.	During preparation and early construction phase of new ATCT and/or Hotel.

Controls for Hazard: BWI-03-S1A

5. Controls	6. Control Justification
Normal construction protocol of relocating cables and equipment. Partnering identifying potential construction problems.	Design, preconstruction, and construction review of relocating and installing electrical systems to prevent ATC equipment outages. Use of construction techniques to reduce loss of ATC equipment.

Initial Risk for Hazard: BWI-03-S1A

7. Effect	8. Severity	9. Severity Rationale	10. Likelihood	11. Likelihood Rationale	12. Initial Risk
Loss of ASDE X and other ATC equipment	5 (Minimal)	The panel determined that the worst credible effect would be Loss of ASDE X and other ATC equipment	C (Remote)	The panel determined that an event would not occur more than once every 3 years	5C: Low

Safety Requirements for Hazard: BWI-03-S1A

13a. Safety Requirement Description *	13b. Planned for Implementation?	14a. Organization Responsible for Implementing *	14b. Point of Contact *
Scheduling work causing vibration during low activity times, use of vibration monitors, construction techniques reducing vibration	Yes	MDOT MAA	PAUL L. SHANK, P.E., C.M. Chief Engineer, MDOT MAA 410-859-7061 PShank@bwairport.com

“ Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport Traffic Control Tower AFTIL -2 Comparative Safety Analysis with Hazards

Hazard Table 3 of 3 (cont'd)

Predicted Residual Risk for Hazard: BWI-03-S1A

15a.	15b.
Predicted Residual Risk	Predicted Residual Risk Rationale *
5D: Low	Controllers determined use of Safety Requirements would reduce the likelihood to less than once per 3 years

Safety Performance Targets for Hazard: BWI-03-S1A

16.
Safety Performance Target *
No unexpected loss of ATC equipment related to construction of proposed ATCT and/or Hotel

**Baltimore/Washington International Thurgood Marshall Airport (BWI)
Replacement Airport Traffic Control Tower AFTIL -2
Comparative Safety Analysis with Hazards**

	Minimal 5	Minor 4	Major 3	Hazardous 2	Catastrophic 1
Frequent A					
Probable B					
Remote C	△ 01				
Extremely Remote D		□ 01			
Extremely Improbable E			○ 02		

Figure 8. Site 1A HAW Matrix: Initial Risk

Hazard ID Legend		
BWI-01-S1A	BWI-02-S1A	BWI-03-S1A
□ 01	○ 02	△ 03
Low Risk	Medium Risk	High Risk

	Minimal 5	Minor 4	Major 3	Hazardous 2	Catastrophic 1
Frequent A					
Probable B					
Remote C					
Extremely Remote D	△ 03				
Extremely Improbable E		□ 01	○ 02		

Figure 9. Site 1A HAW Matrix: Residual Risk

Baltimore/Washington International Thurgood Marshall Airport (BWI)
Replacement Airport Traffic Control Tower AFTIL -2
Comparative Safety Analysis with Hazards

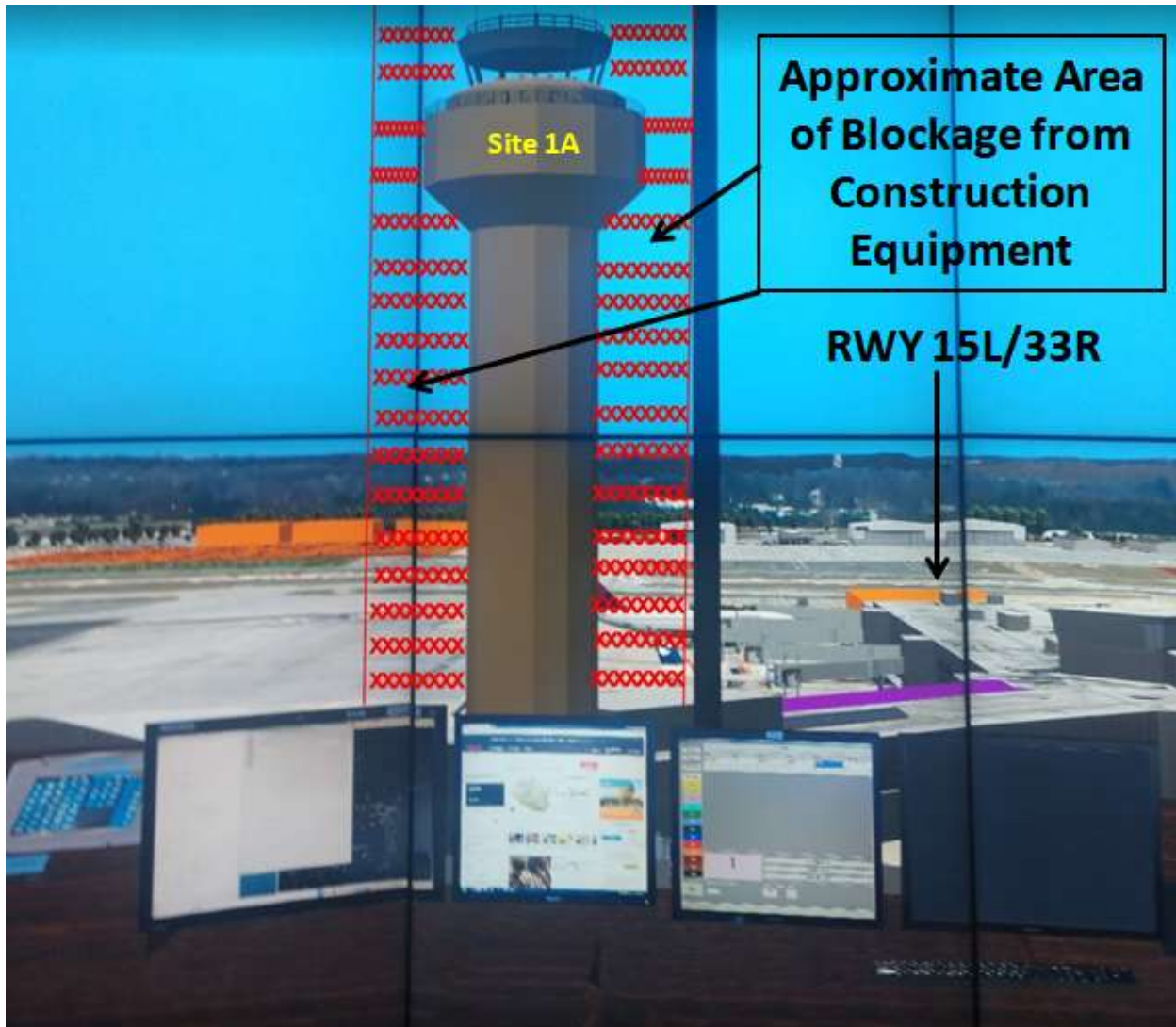


Figure 10. Existing ATCT View of Proposed ATCT Site 1A

SECTION 6. MONITORING PLAN

SITE 1

Table 6.1: Monitoring Plan: BWI-01-S1

Monitoring Plan Site 1: BWI-01-S1		
1.	Safety Performance Target	Zero RWY Incursions on RWY15L/33R related to visual blockage
2.	Hazard ID(s)	BWI-01-S1
3.	Initial Risk	4D: Low
4.	Safety Requirements	Temporary Tower and associated necessary equipment. When Temporary not available, Not using RWY 15L/33R. Relocation of or supplemental ASDE X and Radio Antennas prior to the point of construction of the proposed ATCT or Hotel become a LOS issue.
5.	Organization Responsible for Implementing Safety Requirements	MDOT MAA
6.	Predicted Residual Risk	4E: Low
7.	Monitoring POC(s)	BWI ATCT ATM
8.	Monitoring Activities	MOR, ATSAP, CEDAR, ASDE, Incident Reports
9.	Monitoring Start Date	Initial construction phase to startup of new ATCT
10.	Reporting Frequency	As soon as it happens
11.	Reporting Duration	Startup of new ATCT

Table 6.2: Monitoring Plan: BWI-02-S1

Monitoring Plan Site 1: BWI-02-S1		
1.	Safety Performance Target	No operational incidents contributed to controller distractions
2.	Hazard ID(s)	BWI-02-S1
3.	Initial Risk	3E: Low
4.	Safety Requirements	Collaborate with NATCA on staffing of CIC and supervisory awareness of construction distraction
5.	Organization Responsible for Implementing Safety Requirements	BWI ATCT ATM
6.	Predicted Residual Risk	3E: Low
7.	Monitoring POC(s)	BWI ATCT ATM
8.	Monitoring Activities	MOR, ATSAP, CEDAR, ASDE, Incident Reports
9.	Monitoring Start Date	Initial construction phase to startup of new ATCT
10.	Reporting Frequency	As soon as it happens
11.	Reporting Duration	Startup of new ATCT

Table 6.3: Monitoring Plan: BWI-03-S1

Monitoring Plan Site 1: BWI-03-S1		
1.	Safety Performance Target	No unexpected loss of ATC equipment related to construction of proposed ATCT
2.	Hazard ID(s)	BWI-03-S1

**“ Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport
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Monitoring Plan Site 1: BWI-03-S1		
3.	Initial Risk	5C: Low
4.	Safety Requirements	Scheduling work causing vibration during low activity times, use of vibration monitors, construction techniques reducing vibration
5.	Organization Responsible for Implementing Safety Requirements	MDOT MAA
6.	Predicted Residual Risk	5D: Low
7.	Monitoring POC(s)	BWI ATCT ATM
8.	Monitoring Activities	MOR, ATSAP, CEDAR, ASDE, Incident Reports
9.	Monitoring Start Date	Initial construction phase to startup of new ATCT
10.	Reporting Frequency	As soon as it happens
11.	Reporting Duration	Startup of new ATCT

SITE 1A

Table 6.4: Monitoring Plan: BWI-01-S1A

Monitoring Plan Site 1: BWI-01-S1A		
1.	Safety Performance Target	Zero RWY Incursions on RWY15L/33R related to visual blockage
2.	Hazard ID(s)	BWI-01-S1A
3.	Initial Risk	4D: Low
4.	Safety Requirements	Temporary Tower and associated necessary equipment. When Temporary not available, Not using RWY 15L/33R. Relocation of or supplemental ASDE X and Radio Antennas prior to the point of construction of the proposed ATCT or Hotel become a LOS issue.
5.	Organization Responsible for Implementing Safety Requirements	MDOT MAA
6.	Predicted Residual Risk	4E: Low
7.	Monitoring POC(s)	BWI ATCT ATM
8.	Monitoring Activities	MOR, ATSAP, CEDAR, ASDE, Incident Reports
9.	Monitoring Start Date	Initial construction phase to startup of new ATCT
10.	Reporting Frequency	As soon as it happens
11.	Reporting Duration	Startup of new ATCT

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Table 6.5: Monitoring Plan: BWI-02-S1A

Monitoring Plan Site 1: BWI-02-S1A		
1.	Safety Performance Target	No operational incidents contributed to controller distractions
2.	Hazard ID(s)	BWI-02-S1A
3.	Initial Risk	3E: Low
4.	Safety Requirements	Collaborate with NATCA on staffing of CIC and supervisory awareness of construction distraction
5.	Organization Responsible for Implementing Safety Requirements	BWI ATCT ATM
6.	Predicted Residual Risk	3E: Low
7.	Monitoring POC(s)	BWI ATCT ATM
8.	Monitoring Activities	MOR, ATSAP, CEDAR, ASDE, Incident Reports
9.	Monitoring Start Date	Initial construction phase to startup of new ATCT
10.	Reporting Frequency	As soon as it happens
11.	Reporting Duration	Startup of new ATCT

Table 6.6: Monitoring Plan: BWI-03-S1A

Monitoring Plan Site 1: BWI-03-S1A		
1.	Safety Performance Target	No unexpected loss of ATC equipment related to construction of proposed ATCT
2.	Hazard ID(s)	BWI-03-S1A
3.	Initial Risk	5C: Low
4.	Safety Requirements	Scheduling work causing vibration during low activity times, use of vibration monitors, construction techniques reducing vibration
5.	Organization Responsible for Implementing Safety Requirements	MDOT MAA
6.	Predicted Residual Risk	5D: Low
7.	Monitoring POC(s)	BWI ATCT ATM
8.	Monitoring Activities	MOR, ATSAP, CEDAR, ASDE, Incident Reports
9.	Monitoring Start Date	Initial construction phase to startup of new ATCT
10.	Reporting Frequency	As soon as it happens
11.	Reporting Duration	Startup of new ATCT

SECTION 7. DISSENTION

At the end of this AFTIL-2 CSA, there were No Dissentions with the official findings of the SRMP.

**Baltimore/Washington International Thurgood Marshall Airport (BWI)
Replacement Airport Traffic Control Tower AFTIL -2
Comparative Safety Analysis with Hazards**

SECTION 8. SRM PANEL ATTENDEES

The SRM panel convened on October 24, 2019 and September 29, 2020 to perform a thorough analysis of the mission statement. SMEs from across the Agency were invited to leverage their operational experience, and experts in the SRM process were present to maintain its integrity. Table 8.1 lists the panel participants by their organizations.

Table 8.1: SRM Panel Members, SMEs, Observers, and Facilitation Team

BWI Repanel September 29-30, 2020 Attendees					
Name	Organization	Title Experience	Email	Phone	SRM Trained
Change Proponent					
Steve Batchelder	TEDC1-BWI	SATCS, AIR TRAFFIC MANAGER	Steve.Batchelder@faa.gov	(410) 859-7269	Y
Panel Members					
John Dunkerly	TEDC1-BWI	NATCA ATCS	john.dunkerly@faa.gov	(410) 859-7259	Y
Dana Plagmann	TEDC1-BWI	NATCA ATCS	dana.plagmann@faa.gov		Y
Connie Thompson	TEDC1-BWI	Supervisor ATCS	connie.thompson@faa.gov	(410) 859-7256	N
Subject Matter Experts					
Richard Hastings	AJW-2431	Eastern Service Area Lead	alex.silva@faa.gov	(202) 267-6090	Y
Charles Freburger	WES31-BWI	Baltimore RADAR/ENV Service Support Center	charles.freburger@faa.gov	(410) 859-7258 ext. 406	Y
Curby Fowler	AJV-E21	Airspace & Procedures North Team	curby.fowler@faa.gov	(404) 305-5595	Y
Tim Smith	AJV-E3D	Requirements Team North Specialist	timothy.d.smith@faa.gov	(404) 305-7178	Y
Glenn Beaupre	AJW-243	Terminal Facilities Planning Team	glenn.ctr.beaupre@faa.gov	(678) 448-6396	Y
Paul Shank	MDOT MAA	Chief Engineer	PShank@bwairport.com	(410) 859-7061	Y
Steven Berube	AJW-2E11A	Project Manager Terminal Surveillance	steven.berube@faa.gov	(603) 881-1263	Y
Observers					
Kenneth Ward	AJW-243	Terminal Facilities Planning Team	Kenneth.CTR.Ward@faa.gov	(202) 267-8720	Y

**`` Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport
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BWI Repanel September 29-30, 2020 Attendees					
Name	Organization	Title Experience	Email	Phone	SRM Trained
Garry Brown	AJV-W29	AIR TRAFFIC CONTROL Safety Specialist	Garry.F.Brown@faa.gov	(206) 231-2317	Y
Alan Peljovich	MDOT MAA	ADCI Inc. Program Manager	APeljovich@adci-corp.com	(410) 935-6975	Y
Kevin Clarke	MDOT MAA	Director Office of Planning	KClarke@bwiairport.com		Y
Shawn Ames	MDOT MAA	Deputy Director Office of Planning	sames@bwiairport.com		P
Kendra C Beane	AJV-E29	ATCS Eastern Service Area Support Specialist Team	kendra.c.beane@faa.gov	(404) 305-6179	Y
Gregory R Garmon		ATCS Operational Evaluations North Team	gregory.r.garmon@faa.gov	(404) 305-6123	Y
Greg Solek	MDOT MAA			(410) 859-7024	Y
Anthony Rodriguez	ANG-E18	AFTIL MGR	anthony.rodriguez@faa.gov		Y
Steve Szehner	AJV W13	Tech Writer	Stephen.Szehner@faa.gov		Y
Ryan Drexel	ANG-E18	VR Specialist	Ryan.CTR.Drexel@faa.gov		N
Terence Moore	ANG-E18	National Coordinator AFTIL	terence.d.moore@faa.gov		Y
John Pallante	ANG-E18	ATCS Safety Support Specialist	John.CTR.Pallante@faa.gov	(609) 485-8452	Y
Larry Crowley	AJV-W29	Safety Risk Management Specialist WSA	larry.crowley@faa.gov	(206) 231-2320	Y
Anjan Maj	AJV-W13	Safety Engineer Operational Evaluations North Team	anjan.majumder@faa.gov	(206) 231-2313	Y
Facilitation Team					
Ed Snyder	AJI-340	ATCS Safety Support Specialist MGR	edward.l-ctr.snyder@faa.gov	(570) 850-8865	Y
David Ailes	ANG-E18	ATCS Safety Support Specialist	david.l-ctr.ailes@faa.gov	(609) 485-5256	Y

SECTION 9. ABBREVIATIONS

AFTIL – Airport Facilities Terminal Integration Laboratory
AGL – Above Ground Level
AJI – Office of Safety and Technical Training
ALP – Airport Layout Plan
AMSL – Above Mean Sea Level
ASDE-X - Airport Surface Detection Equipment, Model X
ATC - Air Traffic Control
ATCS – Air Traffic Control Specialist
ATCT – Airport Traffic Control Tower
ATM – Air Traffic Manager
BWI – Baltimore/Washington International Thurgood Marshall Airport
CSA – Comparative Safety Assessment
DME – Distance Measuring Equipment
ESA – Eastern Service Area
FAA – Federal Aviation Administration
HAW – Hazard Analysis Worksheet
IFR – Instrument Flight Rules
ILS – Instrument Landing System
LOA – Letter of Agreement
LOS – Line of Sight
MAA – Maryland Aviation Administration
MALSR – Medium Intensity Approach Lighting Sys w/Runway Alignment Indicator
Lights
MDOT – Maryland Department of Transportation
MSL – Mean Sea Level
NAS – National Airspace System
NASWATCH – Airway Facilities Radio Frequency Screening Tool
NOTAM – Notice To Airmen
PAPI – Precision Approach Path Indicator
PHL – Preliminary Hazard List
RTR – Remote Transmitter/Receiver
RVR – Runway Visual Range
RWY – Runway
SMS – Safety Management System
SMTS – Safety Management Tracking System
SOP – Standard Operating Procedure
SRM – Safety Risk Management
SRMD - Safety Risk Management Document
SRMP – Safety Risk Management Panel
TERPS – United States Standard for Terminal Instrument Procedures
TRACON – Terminal Radar Approach Control
TWY – Taxiway
VFR – Visual Flight Rules
WJHTC – William J. Hughes Technical Center

SECTION 10. REFERENCES

BWI – PCT Interfacility Coordination Procedures

BWI 7210.3S Baltimore Tower Facility Operation and Administration

BWI SOP January 2019

BWI-MAA LOA Jurisdiction of Movement Non Movement Areas

FAA Order 6480.4B, Air Traffic Control Tower Siting Criteria

FAA Order 6480.4B, Airport Traffic Control Tower Siting Process

FAA Order 7360.1, Aircraft Type Designators

FAA Order 8260.3, United States Standard for Terminal Instrument Procedures
(TERPS)

FAA Pilot/Controller Glossary

FAA Terminal Facilities Planning

JO 7110.65Y, Air Traffic Control

MAA -FAA Runway Safety Area LOA Requirements for Operating in the Runway Safety
Areas (RSA)

ATO Safety Management System Manual, April 2019

APPENDIX A: Site 1: AFTIL-2 Preliminary Hazard List

AFTIL Trip #2 BWI Site 1	September 29–30, 2020
<u>16. Interior Physical Barriers</u>	
16 a. Position of ATC in Tower Cab	
<p>A 650 sq. ft. cab slat wall design was selected to allow space for all necessary positions. Control positions (LC1, LC2, GC1 and GC2) were established and agreed upon by the Panel Members for proposed ATCT Cab at Site 1 to provide for optimal visibility and operation. LC1 is positioned looking South West towards the intersection of RWYs 15R/33L and 10/28 providing a good view of LC1 control area. GC1 is positioned to the left of LC1 looking mainly South with a good view of all movement areas under GC1 control. The Controllers discussed concern over a proposed Concourse E extension which would impact LOS visibility to portions of the TWY routes to 15R/33L for both the existing TWYs and future parallel TWYs. GC2 is positioned to the left of GC1 looking South East with a good view of all movement areas under GC2 control. LC2 is positioned to the left of GC2 looking East South East with a good view of all movement areas under LC2 control. A proposed hotel within the area of the C/D Connector would produce LOS issues, blocking a portion of RWY 15L/33R and associated TWYs. The MDOT MAA agreed the hotel would not be feasible if Site 1 was selected. Site 1 was rejected at AFTIL for this reason. The Hotel is an integral and necessary part of the MDOT MAA C/D Connector project.</p>	
Finding: No Hazards	
16 b. Position of Tower Cab Equipment	
<p>The Controllers determined the necessary equipment and positioning which included Radio and Communications, Stars, and ASDE-X scopes. A slat wall design was chosen allowing movement to conform to each positions' needs while providing an unblocked view of the airport environment.</p>	
Finding: No Hazards	
16 c. Position of Tower Cab Mullions	
<p>Mullions were selected and the Controller determined their placement so as to provide optimal visibility of all movement areas.</p>	
Finding: No Hazards	
<u>17. Exterior Physical Barriers</u>	
17 a. Construction Equipment	
<p>Construction equipment associated with a proposed Concourse "A/B" and Baggage Handling System expansion was discussed as a possible LOS issue. The Controllers determined any LOS issues were minimal and the MDOT MAA agreed to coordinate with BWI ATCT so as to minimize further any LOS issues. Other than equipment associated with Site 1 construction, there were no other LOS issues associated with construction equipment.</p>	
Finding: No Hazards	

SITE 1: AFTIL TRIP 2 PRELIMINARY HAZARD LIST (CONT'D)

17 b. Proposed New Structures and Airport Expansion

LOS issues were raised, caused by proposed parking garage expansion. Proposed garage expansion is located north of Site 1 and, at the proposed height, would impact LOS with the northwest portions of TWY routes to RWY 15R. A simulated height of the proposed garage was lowered and slope adjusted to a level where BWI ATC and MDOT MAA agreed would provide minimal impact to visibility. Issues with proposed Concourse E Extension were determined to be causing impacts to LOS with a portion of TWY routes to RWY 15L. The Controllers determined minimal effect through use of existing controls.

Finding: No Hazards

17 c. Existing ATCT: Construction of the Proposed ATCT at Site 1

17 c1. Inability to see and separate aircraft/vehicles visibly on portions of RWY 15L/33R and associated Taxiways

ATC Panel Members determined construction of the proposed ATCT at Site 1 causes LOS issues with portions of RWY 15L/33R and associated TWYs. Proposed Site 1 lies in very close proximity to the existing ATCT, approximately 140 ft. ESE. The eye level of the existing ATCT is 170 ft AGL and the proposed Site 1 ATCT eye level is 171 ft. AGL. The actual physical structure, size and positioning would cause blockages to a portion of RWY 33R, approximately 2,300 ft. from the approach end to TWY P, located west of RWY 15L/33R. Portions of TWYs P, Q, M, S, B and T would also be blocked. Construction equipment, associated with Site 1, would cause additional partial blockages. BWI ATC determined the impacted visibility of the portion of the approach end of RWY 33L and associated TWYs are critical for control. The Controllers had previously discussed concerns with RWY 15L/33R used primarily by General Aviation traffic whose pilots may be less familiar with BWI airport layout. The blockages caused by construction of proposed Site 1 would have an effect of not being able to control traffic visibly. Closing of RWY 15L/33R, at a point of construction where the LOS issue begins, was discussed as mitigation. MDOT MAA personnel proposed use of a refurbished US Airways tower, located atop Concourse D, as mitigation to the LOS issue precluding closing of RWY 15L/33R. Existing controls, ASDE-X, Stars, Pilot reports of location were presented as aids to lessen impacts of the LOS issue. ATC panel members determined this visual blockage of portions RWY15L/33R and associated TWYS caused by construction of the proposed ATCT as a Hazard for further mitigation.

Finding: Hazard

SITE 1: AFTIL TRIP 2 PRELIMINARY HAZARD LIST (CONT'D)

17 c2. Inability to utilize ASDE-X as a reliable tool to aid in taxiing aircraft to and from RWY15L/33R from the General Aviation ramp and the northeast side of the commercial terminal ramp

The Controllers emphasized the necessity of ASDE-X, due to RWY/TWY complexity and traffic density, in their daily operations as a visual aid in assuring Pilot/Vehicle ATC instruction compliance. Tech Ops explained there will be a point in construction where the proposed ATCT will cause a shadow or wedge and create loss of primary returns in the affected area. A siting study would be necessary to see if there is a way to alleviate problem by relocating or adding MRUs to mitigate problem during construction. The existing ASDE-X antenna is on top of the existing ATCT. In addition to no returns ATC brought up the possibility of false returns due to construction equipment and proposed Site 1. MDOT MAA presented, their plans for construction include supplementing ASDE-X system prior to construction of Site 1. With this mitigation, the Controllers eliminated this concern as a Hazard.

Finding: No Hazards (with the provision of supplementing ASDE-X system prior to construction of Site 1 resolving any ASDE-X issues)

17 c3. Possible loss of two way Radio Communications with aircraft and or vehicles between Controller/Pilot and Controller/Vehicle on the northeast side of the field

The radio antennas are located on top of the existing ATCT. BWI ATC determined the impact on communications to/from air/ground traffic could cause dangerous ATC/Pilot interruptions. MDOT MAA has included, in their construction plans of Site1, relocation of antenna site to alleviate this concern. Tech Ops noted only the Pet 2000 emergency radios, which would remain in the existing ATCT, would still remain affected but the effect would be minimal. MDOT MAA has begun plans of relocating the RTR site which provides a clear LOS between the existing ATCT and proposed sites. Construction of this relocation site will be completed well in advance of construction of the proposed ATCT. The panel members agreed elimination of this as a concern under the premise relocation of the antennas must be completed prior to start of Site 1 construction.

Finding: No Hazards (Relocation of the antennas would be completed prior to start of Site 1 construction)

SITE 1: AFTIL TRIP 2 PRELIMINARY HAZARD LIST (CONT'D)

17 c4. Inability to see aircraft and/or vehicles on portions of Taxiways S,Q,T P, B, M, K, and L

An initial assessment from the AFTIL-2, dated October 2019, addressed these movement areas as a separate concern. The intent was to draw more attention to the east side of the field where attention to General Aviation traffic was concentrated. After discussion, the Controllers determined this fell within the parameters of Concern 1: Inability to separate aircraft visibly RWY 15L/33R and associated Taxiways. This specific concern was eliminated by combining with Concern 1.

17 c5. Controller distraction due to close proximity of proposed ATCT

Proposed Site 1 lies in very close proximity to the existing ATCT, approximately 140 ft. ESE. The eye level of the existing ATCT is 107 ft. AGL and the proposed Site 1 ATCT eye level is 171 ft. AGL. Distractions, caused by pounding and vibrations as well as the actual physical structure during construction of the proposed ATCT, were discussed. Due the close proximity of Site 1 to the existing ATCT, the distraction would have an effect of reducing situational awareness, especially during periods of heavy traffic. Included in the distraction concern is the actual physical structure distraction. Normal distractions, such as seeing around stanchions, are considered minor and dealt with on daily basis. With construction of Site 1, especially being within close proximity to the existing ATCT, would create a large distraction requiring additional situational awareness. The same would be applied to construction equipment. The Controllers were in consensus to further review as a Hazard.

Finding: Hazard

17 c6. Possible loss of ATC equipment due to close proximity construction of proposed ATCT

Prior instances of equipment loss due to airport construction, within close proximity to the existing ATCT, were discussed. Although existing controls are in place, due to the close proximity of proposed Site 1, increases the level of concern. Initial discussion combined this concern and Concern 4: Controller distraction due to close proximity of proposed ATCT as effects of close proximity of construction Site 1 to the existing ATCT. After further discussion, the Controllers determined this concern as a separate hazard to further review.

Finding: Hazard

18. Other

No Other items were brought up for Concern with Site 1.

APPENDIX B: Site 1A: AFTIL-2 Preliminary Hazard List

AFTIL Trip #2 BWI Site 1A	September 29–30, 2020
<u>16. Interior physical barriers</u>	
16 a. Position of ATC in Tower Cab	
<p>Site 1A offered the best LOS visibility to all movement areas with future conditions (ALP & Draft Long Range Plan) modeled. A 650 sq. ft. cab slat wall design was selected to allow space for all necessary positions. Control positions, LC1, LC2, GC1 and GC2, were established and agreed upon by the Panel Members for proposed ATCT Cab at Site 1A to provide for optimal visibility and operation. LC1 is positioned looking South West towards the intersection of RWYs 15R/33L and 10/28 providing a good view of LC1 control area. GC1 is positioned to the left of LC1 looking mainly South with a good view of all movement areas under GC1 control. GC2 is positioned to the left of GC1 looking South East with a good view of all movement areas under GC2 control. LC2 is positioned to the left of GC2 looking East South East with a good view of all movement areas under LC2 control. Partial LOS blockage of the 15R deicing pad (i.e. non-movement area) can be supplemented with cameras.</p> <p>Finding: No Hazards</p>	
16 b. Position of Tower Cab equipment	
<p>The Controllers determined the necessary equipment and positioning which included Radio and Communications, Stars and ASDE-X scopes. A slat wall design was chosen allowing movement to conform each positions needs while providing an unblocked view of the airport environment.</p> <p>Finding: No Hazards</p>	
16 c. Position of Tower Cab mullions	
<p>Mullions were selected and the Controller determined their placement so as to provide optimal visibility of all movement areas.</p> <p>Finding: No Hazards</p>	
<u>17. Exterior physical barriers</u>	
17 a. Construction equipment	
<p>Other than equipment associated with Site 1A construction, there were no LOS issues associated with construction equipment.</p> <p>Finding: No Hazards</p>	

SITE 1A: AFTIL-2 PRELIMINARY HAZARD LIST (CONT'D)

17 b. Proposed new structures and Airport expansion (ALP)

LOS issues were raised, caused by proposed parking garage expansion. Proposed garage expansion is located west of Site 1A and at the proposed height would impact LOS with the northwest portions of TWY routes to RWY 15R. A simulated height of the proposed garage was lowered and slope adjusted to a level where BWI ATC and MDOT MAA agreed would provide minimal impact to visibility. The western edge of a proposed hotel within the area of C/D Connector obscures LOS to Gate C2, but BWI ATC is willing to accept this as a non-movement area. Additional camera surveillance could be provided if deemed beneficial.

Finding: No Hazards

17 c. Existing ATCT: Construction of the proposed ATCT at Site 1

17 c1. Inability to see and separate aircraft/vehicles visibly on portions of RWY 15L/33R and associated Taxiways

ATC Panel Members determined construction of the proposed ATCT at Site 1A causes LOS issues with portions of RWY 15L/33R and associated TWYs. Proposed Site 1A lies in very close proximity to the existing ATCT, approximately 540 ft. East. The eye level of the existing ATCT is 107 ft.AGL and the proposed Site 1A ATCT eye level is 207 ft. AGL. The actual physical structure size and positioning would cause blockages to a portion of RWY 15L/33R, approximately 1,000 feet, and portions of TWYs K, Q, S, B and N. Construction equipment associated with Site 1A would cause additional partial blockages. BWI ATC determined the impacted visibility of the portion of RWY 15L/33R and associated TWYs are critical for control. TWY K is a primary entry/exit route from the General Aviation ramp, which is located on the east side of the field. TWY K is also a primary crossing route of RWY 15L/33R. "Historically at BWI, the intersection of TXY Kilo and RWY 33R has been a 'problem area' for alerts (false/nuisance) for the ASDE-X and AMASS (before ASDE-X). The ASDE antenna is located on top of the tower cab and the terminal building has expanded 'outward' over the years; thereby causing reflection issues off the terminal building itself or aircraft parked at the end of the 'D' Pier." The Controllers discussed concerns with RWY 15L/33R used primarily by General Aviation traffic whose pilots may be less familiar with BWI airport layout. The blockages caused by construction of proposed Site 1A would have an effect of not being able to control traffic visibly. Closing of RWY 15L/33R, at a point of construction where the LOS issue begins was discussed as mitigation. MDOT MAA personnel proposed use of a refurbished US Airways tower, located atop Concourse D, as mitigation to the LOS issue precluding closing of RWY 15L/33R. Existing controls, ASDE-X, Stars, Pilot reports of location were presented as aids to lessen impacts of the LOS issue. ATC panel members determined this visual blockage of portions RWY15L/33R and associated TWYs caused by construction of the proposed ATCT as a Hazard for further mitigation.

Finding: Hazard

SITE 1A: AFTIL-2 PRELIMINARY HAZARD LIST (CONT'D)

17 c2. Inability to utilize ASDE-X as a reliable tool to aid in taxiing aircraft to and from RWY15L/33R from the General Aviation ramp and the northeast side of the commercial terminal ramp

The Controllers emphasized the necessity of ASDE-X, due to RWY/TWY complexity and traffic density, in their daily operations as a visual aid in assuring Pilot/Vehicle ATC instruction compliance. Tech Ops explained there will be a point in construction where the proposed ATCT will cause a shadow or wedge and create loss of primary returns in the affected area. A siting study would be necessary to see if there is a way to alleviate the problem by relocating or adding MRUs to mitigate the problem during construction. The existing ASDE-X antenna is on top of the existing ATCT. In addition to no returns, ATC brought up the possibility of false returns due to construction equipment and proposed Site 1A. MDOT MAA presented; their plans for construction include relocation or supplementing the ASDE-X system prior to construction of Site 1A. With this mitigation, the Controllers eliminated this concern as a Hazard.

Finding: No Hazards (with the provision of relocating or supplementing ASDE-X system prior to construction of Site 1A resolving any ASDE-X issues)

17 c3. Possible loss of two way Radio Communications with aircraft and or vehicles between Controller/Pilot and Controller/Vehicle on the northeast side of the field

The radio antennas are located on top of the existing ATCT. BWI ATC determined the impact on communications to/from air/ground traffic could cause dangerous ATC/Pilot interruptions. MDOT MAA has included in their construction plans of Site1A, relocation of antenna site to alleviate this concern. Tech Ops noted only the Pet 2000 emergency radios, which would remain in the existing ATCT, would still remain affected but the effect would be minimal. MDOT MAA has begun plans to relocate the RTR site which provides a clear LOS between the existing ATCT and proposed sites. Construction of this relocated site will be completed well in advance of construction of the proposed ATCT. The panel members agreed that elimination of this as a concern under the premise relocation of the antennas would be completed prior to start of Site 1A construction.

Finding: No Hazards (Relocation of the antennas must be completed prior to start of Site 1 construction)

SITE 1A: AFTIL-2 PRELIMINARY HAZARD LIST (CONT'D)

17 c4. Inability to see aircraft and/or vehicles on portions of Taxiways S,Q,T P, B, M, K, and L

An initial assessment from the AFTIL-2, October 2019, addressed these movement areas as a separate concern. The intent was to draw more attention to the east side of the field where attention to General Aviation traffic was concentrated. After discussion, the Controllers determined this fell within the parameters of Concern 1: Inability to separate aircraft visibly RWY 15L/33R and associated Taxiways. This specific concern was eliminated by combining with Concern 1.

17 c5. Controller distraction due to close proximity of proposed ATCT

Proposed Site 1A lies in very close proximity to the existing ATCT, approximately 540 ft. east. The eye level of the existing ATCT is 107 ft.AGL and the proposed Site 1A ATCT eye level is 207 ft. AGL. Distractions, caused by pounding and vibrations as well as the actual physical structure during construction of the proposed ATCT, were discussed. Although Site 1A is further from the existing ATCT than Site 1, ATC panel members determined the same conditions would exist concerning distractions as with Site 1. Due to the close proximity of Site 1 to the existing ATCT, the distraction would have an effect of reducing situational awareness, especially during periods of heavy traffic. Included in the distraction concern is the actual physical structure distraction. Normal distractions, such as seeing around stanchions, are considered minor and dealt with on daily basis. With construction of Site 1, especially being within close proximity to the existing ATCT, would create a large distraction requiring additional situational awareness. The same would be applied to construction equipment. The Controllers were in consensus to further review as a Hazard.

Finding: Hazard

17 c6. Possible loss of ATC equipment due to close proximity construction of proposed ATCT

Although Site 1A is further from the existing ATCT than Site 1, ATC panel members determined the same conditions would exist concerning loss of ATC equipment related to construction as with Site 1. A main cable runs from the base of the existing ATCT through the footprint of Site 1A to the main field and would add to the loss of ATC equipment concern. MDOT MAA would be relocating main duct bank prior to proposed ATCT construction. Prior instances of equipment loss due to airport construction, within close proximity to the existing ATCT, were discussed. Although existing controls are in place, due to the close proximity of proposed Site 1A, increases the level of concern. Initial discussion combined this concern and Concern 4: Controller distraction due to close proximity of proposed ATCT as effects of close proximity of construction Site 1A to the existing ATCT. After further discussion, the Controllers determined this concern as a separate hazard to further review.

Finding: Hazard

18. Other

No Other items were brought up for Concern with Site 1A

APPENDIX C: BWI ATC Panel Member notes reference Blockage of RWY 33L/15R

BWI ATC Panel Member notes reference Blockage of RWY 33L/15R

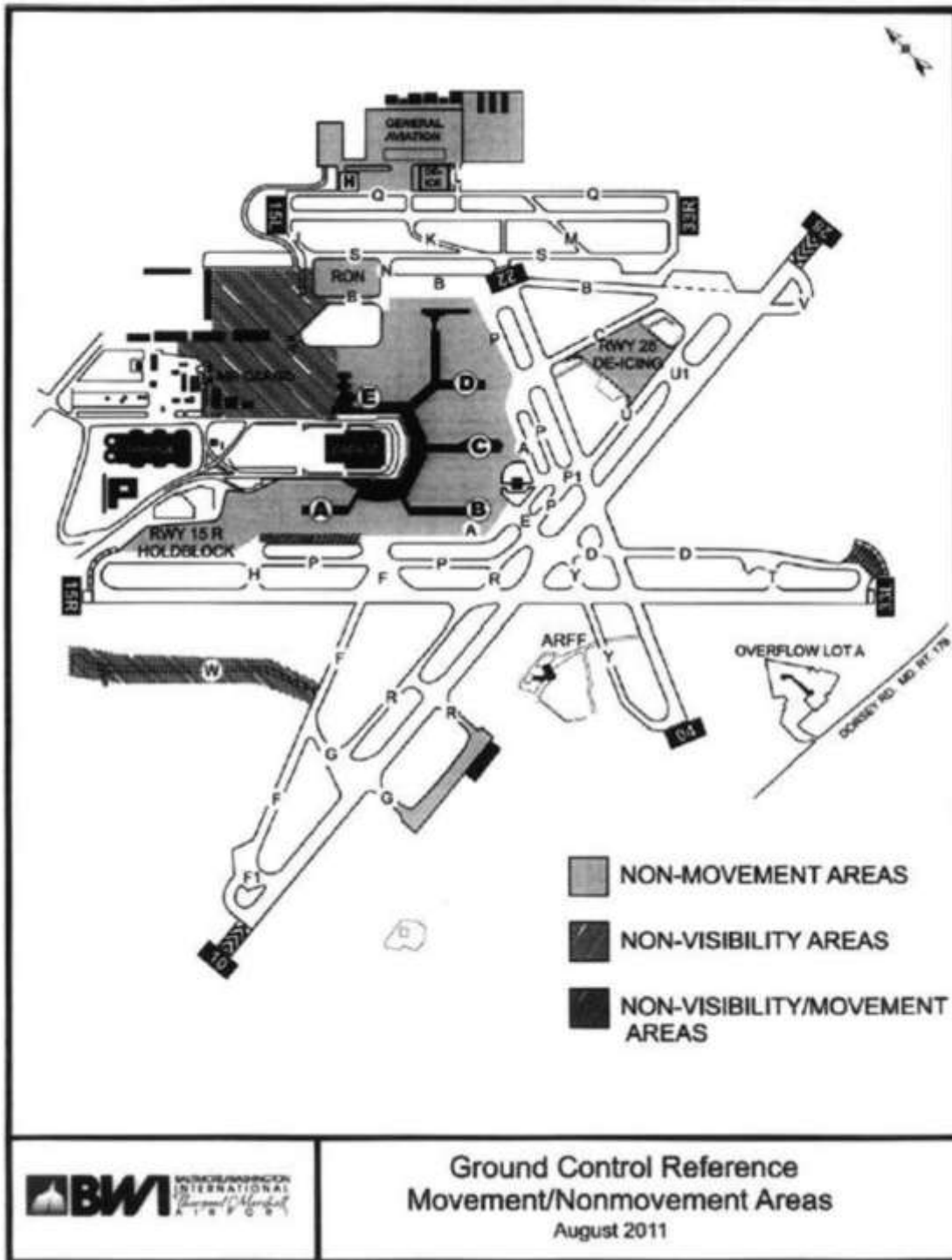
AFTIL 2 Meeting Wednesday, October 22 - 24, 2019

While I don't have readily available the exact MORs/reportsI can site instances that we know have occurred in the past.

1. Historically at BWI-the intersection of TXY Kilo and RWY 33R has been a “problem area” for alerts(false/nuisance) for the ASDE-X and AMASS(before ASDE-X). The ASDE antenna is located on top of the tower cab and the terminal building has expanded “outward” over the years; thereby causing reflection issues off the terminal building itself or aircraft parked at the end of the “D” Pier. This has been mitigated by reducing/removing ASDE primary radar coverage in those areas and increasing the amount of RMUs on that side of the airfield.
2. There were two instances of aircraft that landed on RWY 33R and upon landing had shut down. In one, the pilot and passenger vacated the aircraft on the runway and ran over to Signature flight Support and called the tower to advise us. In the other, the aircraft turned off the runway and shut down on Taxiway Lima. In this instance, the pilot reported clear of the runaway but he was not clear of the hold line; thereby causing an ASDE alert for the next arrival to Go Around.
3. There was an incident where a person drove a car across Runway 33R at night and drove onto the Terminal Ramp; all the while doing doughnuts with the car.
4. There is an on-going safety issue being monitored through CEDAR by the respective QC and Safety Councils at BWI and PCT involving aircraft inadvertently lining up on final for RWY 33R instead of RWY 33L at night. RWY 33R is a GA runway and is weight restricted to smaller aircraft.

Given these situations and requirement to focus (mostly) on the other side of the airfield where the runways intersect, having a clear view (ASDE or visually) is vitally important for RWY 33R/15L. It is on the side of the field where the least familiar and/or seasoned/professional pilots are generally operating.

APPENDIX D: BWI Movement/Non-movement Areas



**Baltimore/Washington International Thurgood Marshall Airport (BWI)
Replacement Airport Traffic Control Tower AFTIL -2
Comparative Safety Analysis with Hazards**

APPENDIX E: Temporary Tower

During the AFTIL-2 assessment, dated October 22–24, 2019, and the follow up assessment, dated September 29th - 30th, 2020, it was determined construction of either of the proposed ATCTs would pose a partial blockage of RWY 15L/33R and associated TWYs. The MDOT MAA proposed use of a vacated US Airways Ramp tower, located on top of Concourse D, as a temporary additional ATCT. BWI ATC personnel would utilize the temporary ATCT, equipped with the associated necessary equipment, when needed to control traffic on RWY 15L/33R. At other times, the option to 'not' use RWY 15L/33R is available. A safety study determining any LOS issues with the temporary ATCT would be necessary prior to use. The following figures were presented as virtual depictions from a model developed at the AFTIL facilities located at the William J. Hughes Technical Center (WJHTC) in Atlantic City, NJ.

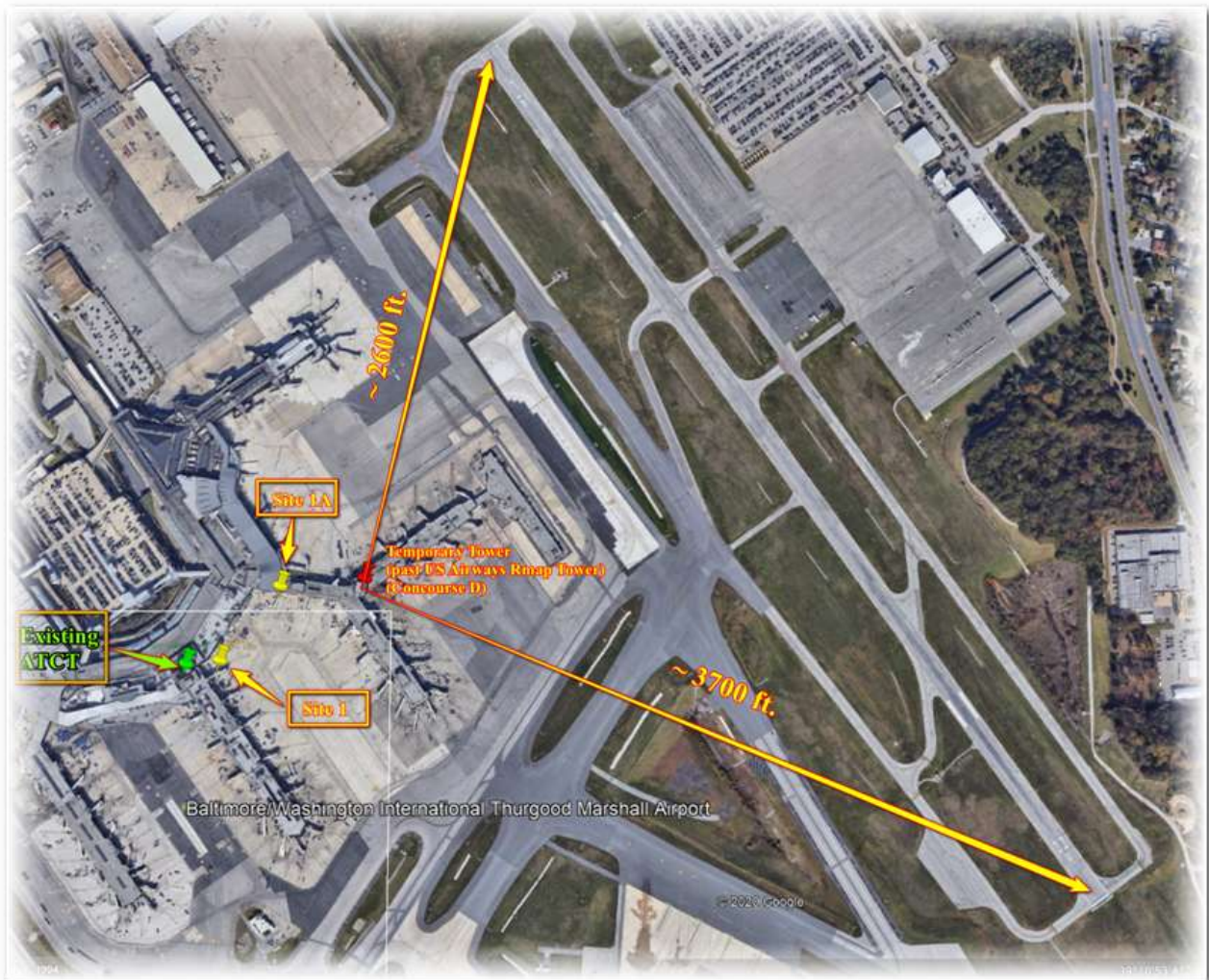


Figure 12. BWI Overhead with location of Temporary Tower

Baltimore/Washington International Thurgood Marshall Airport (BWI)
Replacement Airport Traffic Control Tower AFTIL -2
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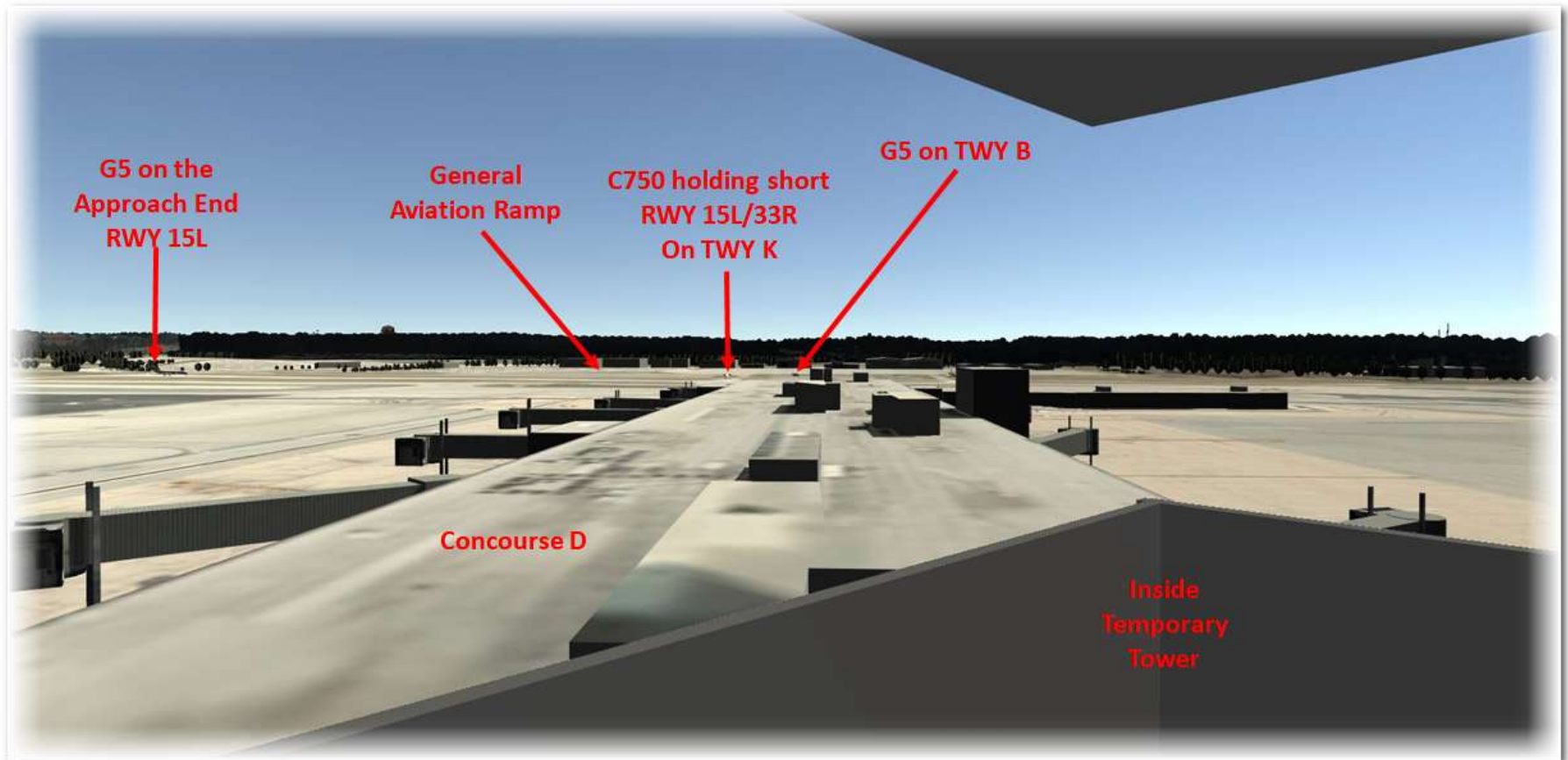


Figure 13. View from Temporary Tower looking East towards General Aviation Ramp

Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport Traffic Control Tower AFTIL -2 Comparative Safety Analysis with Hazards

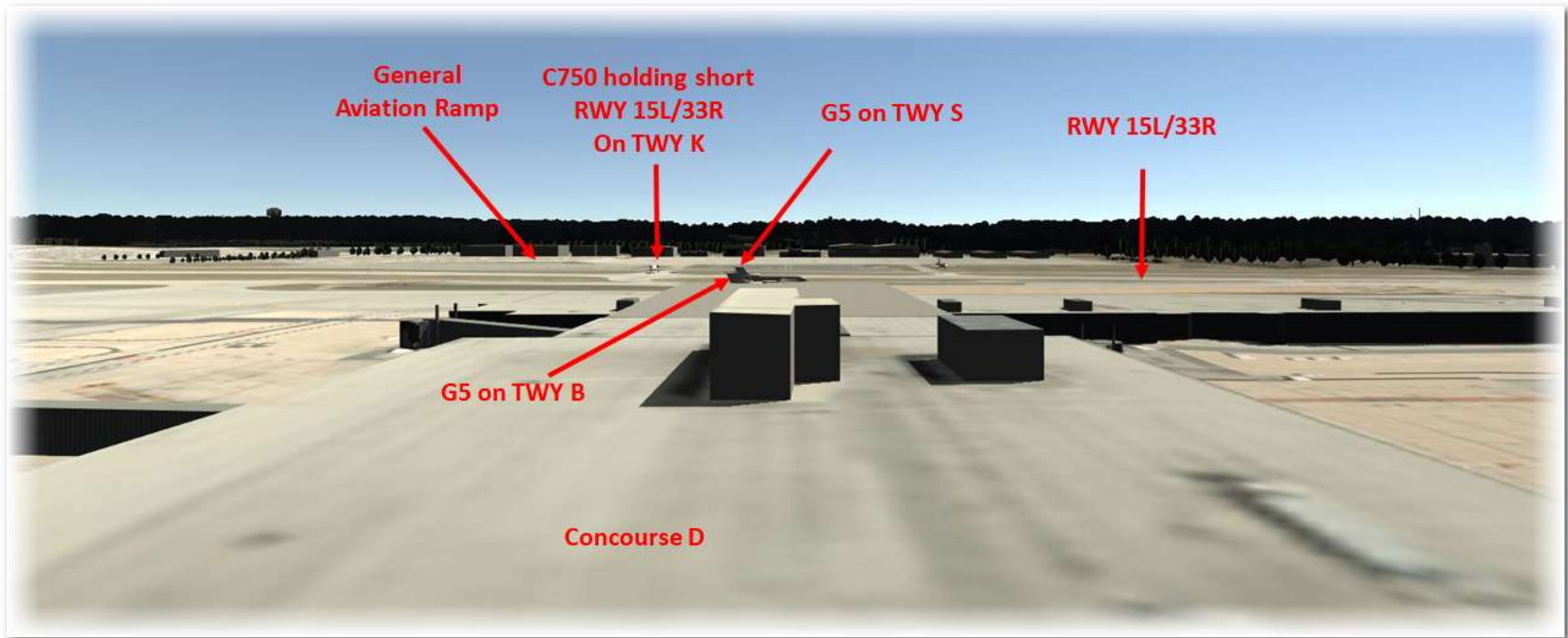


Figure 14. Binocular View from Temporary Tower looking East towards General Aviation Ramp

Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport Traffic Control Tower AFTIL -2 Comparative Safety Analysis with Hazards

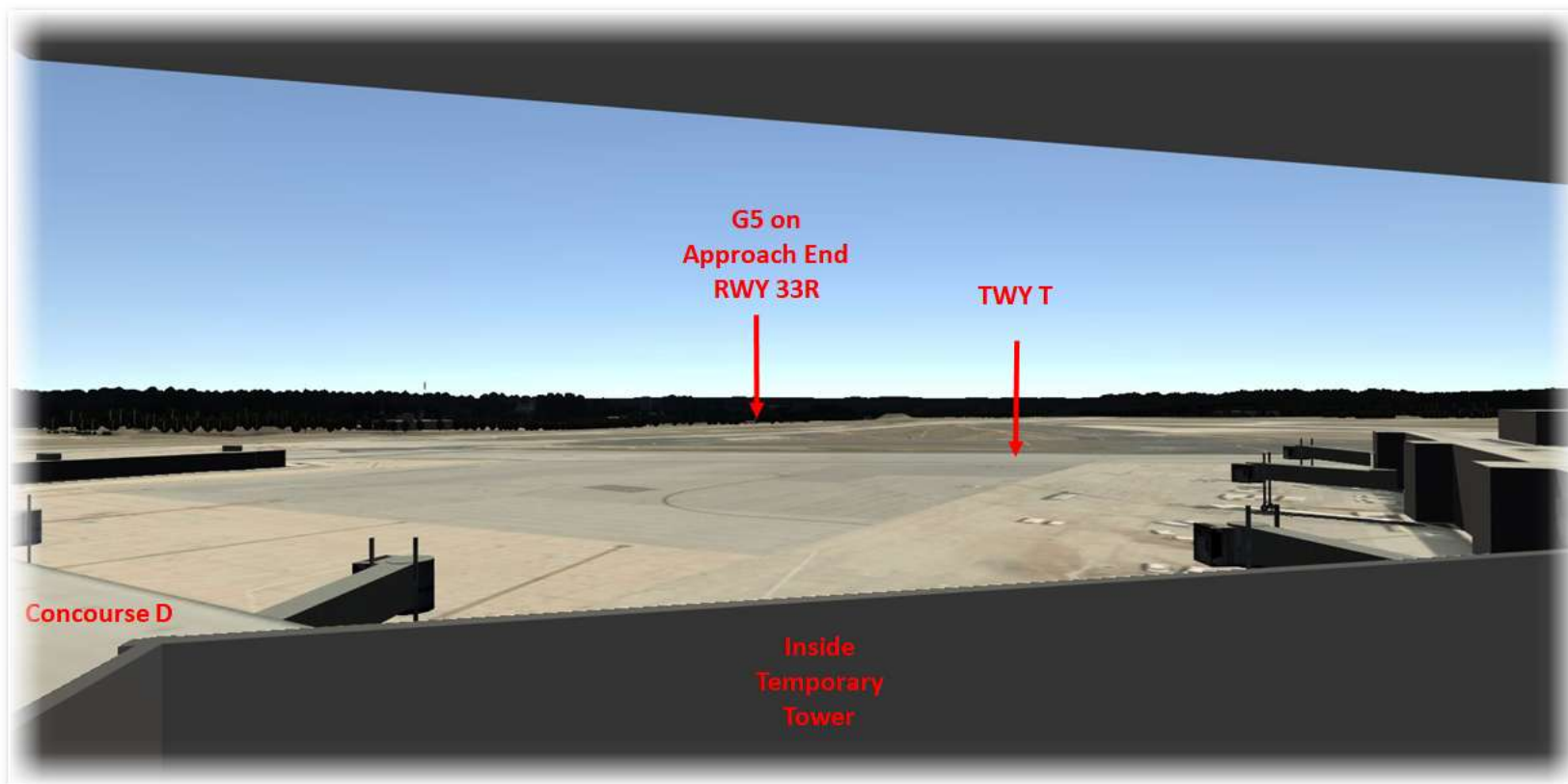


Figure 15. View from Temporary Tower looking SSE towards Approach End RWY 33R

APPENDIX F: Impact of proposed hotel on Safety assessment performed March 19, 2020

AFTIL-2 Meeting Minutes Hotel Impact to Safety Assessment for the Replacement ATCT at the Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport Traffic Control Tower

Date of Meeting:

Friday, March 19, 2021

Time: 0900Z - 1000Z (LCL)

Attendees:

Matt Sharp: Staff Specialist, BWI ATCT

Dana Plagmann: BWI NATCA ATCS

John Pallante: AFTIL Safety Specialist

David Ailes: Facilitator, AFTIL Safety Specialist

Ryan Drexel: AFTIL VR Specialist

Reason for Meeting: Attendees met to determine the impact of a proposed Hotel on the AFTIL 2 Safety Assessment performed September 29–30, 2020.

Background: An AFTIL 2, held at AFTIL Lab October 22–24, 2019 and a subsequent AFTIL 2 repanel Virtual Zoom, held September 29–30, 2020³ were performed for the Replacement Airport Traffic Control Tower at BWI. The SRMD, BWI AFTIL 2 CSA WithHazards DraftReview V 05, was sent out and Mr. Paul Shank, Chief Engineer MDOT MAA, replied that a proposed Hotel was included as an integral part of the Draft Long Range Strategic Plan to be built concurrently with the proposed ATCT. The impact of the Hotel was not assessed during either of the AFTIL 2s.

Method of Meeting: The meeting was conducted virtually via Zoom. Attendees were presented a simulation of the Baltimore/Washington International Thurgood Marshall Airport as modeled from the Virtual Zoom presented September 29–30, 2020. A 360

³ Due to the initial high risks associated with construction at the proposed sites, the SRMD had to be submitted to the ATO Office of Safety (AJI) in order to get Air Traffic Oversight Service (AOV) approval for the high risk hazard mitigations. It is highly unlikely that AOV would approve the mitigations without further justification. The recommended course of action, agreed upon by the Panel Members, was to reconvene a panel to reassess the Hazards Severity and Likelihood, rationales and mitigations, presented in the Safety Assessment.

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degree rotation view of the airport was displayed from inside the cab of the existing BWI ATCT to verify the model.

- 1. In-Brief:** David Ailes briefed the attendees on the purpose and background of the meeting. An assessment was performed on Site 1A construction from the view of the existing tower, September 29–30, 2020. In that assessment, BWI Air Traffic personnel, Steve Batchelder, BWI ATCT ATM, Dana Plagmann and John Dunkerly determined a visual blockage of portions RWY15L/33R and associated taxiways caused by construction of the Site 1A with mitigations of a temporary tower and/or not using 15L/33R. In this meeting, a view of the proposed Hotel will be examined for its impact on the safety assessment. BWI Air Traffic personnel will determine if the same mitigations will apply as with Site 1A construction blockage.
- 2. Presentation:** Ryan Drexel presented a three dimensional airport model of the BWI airport. The presentation began from inside the cab, eye level and location, of the current BWI ATCT. A view of the airport was displayed with proposed Site 1A (Figure 1) followed by display of the proposed Hotel from both inside the current ATCT (Figure 2) and the proposed temporary tower⁴ (Figure 3).

3. Discussion:

3.1 View from inside the current ATCT cab with the proposed Hotel displayed

BWI ATC personnel asked to move to the area of Ground Control 1 and Local Control 1 location to attain a better tower position view of the blockage.

Areas of blockage noted

- A portion of RWY 15L/33R (wider blockage than as with Site 1A construction)
- Portions of TWYs P, B, S, K and L
- Blockage of the General Aviation Ramp
- Concourse D alleyways from the west side of the north portion to the north side of the eastern portion

ATC would have to rely heavily on pilot reports and use of ASDE-X with special attention to runway crossings from the General Aviation ramp. There was concern with the blockage of Concourse D alleyways and its effect of more reliance on pilot report of push backs.

The approach ends of RWY 15L and 33R were visible.

No other concerns were noted from this view.

⁴ A vacant US Airways Ramp Tower is proposed for use as a temporary tower which is located on top of Concourse D close to the main terminal. The MDOT MAA has agreed to furnishing the temporary tower with all equipment deemed necessary by BWI ATC personnel to perform ATC duties and functions.

3.2 View from inside the temporary tower cab (Figures 4-6).

A view from inside the temporary tower location was presented at an approximated eye level. A previously performed onsite assessment, by BWI ATC personnel, of the temporary tower was reviewed. Although this meeting's attendees were not present for the onsite assessment, the temporary tower was considered to be a workable space to help mitigate the line of sight issues caused by Site 1A construction.

The blockages from within the existing ATCT caused by the proposed Hotel were reviewed:

- Concourse D alleyways from the northwest side of the northeastern arm to the north side of the eastern arm: The visibility of Concourse D alleyways, both northeastern and eastern arms, were reviewed for pushback visibility issues. Both alleyways were visible for necessary BWI Air Traffic purposes. To insure visibility of areas necessary and control position locations for BWI Air Traffic purposes, an additional assessment from the temporary tower was suggested. Use of the temporary tower would provide ample visibility of these areas and, in conjunction with the necessary coordination procedures with the existing ATCT, would help mitigate the LOS issues caused by the proposed Hotel.
- Blockage of the General Aviation Ramp: The General Aviation ramp is visible using the temporary tower.
- Portions of TWYs P, B, S, K and L: From the temporary tower, TWYs K and L could be seen and allowed for visibility of RWY 15L/33R crossings. A portion of TWYs B and S were not visible blocked by the end portion of the northwest edge of Concourse D. The vertical stabilizer of commercial aircraft was visible as they taxied through this area while smaller aircraft were totally blocked. Total blockage for smaller aircraft lasted approximately 5 to 8 seconds. A B737 was displayed and no visibility issues were determined as the aircraft moved down RWY15L. Coordination between existing ATCT Ground Control 1 and temporary tower Ground Control 2 for handoff points was discussed. Use of the temporary tower would provide ample visibility of these areas and, in conjunction with the necessary coordination procedures with the existing ATCT, would help mitigate the LOS issues caused by the proposed Hotel.

3.3 Temporary Tower Requirements

Items necessary for establishing use of the temporary tower were discussed.

- A further assessment of the temporary tower for any line of sight issues, necessary equipment and cab location of control positions.
- Ensuring functionality of necessary equipment prior to usage of the temporary tower and backup procedures in lieu of failed equipment. Special consideration should be given to ASDE-X and communications equipment performance.

Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport Traffic Control Tower AFTIL -2 Comparative Safety Analysis with Hazards

- Development of standard operating and coordination procedures between BWI Air Traffic and BWI Airport including Letters of Agreement in advance of construction and implementation of temporary tower.
- Training of BWI Air Traffic on temporary tower standard operating and coordination procedures prior to construction and implementation of the temporary tower.
- Decision point at which construction would impact operations and implementation of the temporary tower would be necessary.

4. Review of Process:

The process and purpose of the meeting was reviewed. A view from inside the current ATCT cab with the proposed Hotel was displayed and line of sight issues were determined. A view from inside the temporary tower cab was displayed and the line of sight issues determined from the existing ATCT with construction of the Hotel were examined to determine if usage of the temporary tower would mitigate these line of sight issues.

5. Outcome:

BWI Air Traffic agreed, as displayed during this presentation, use of the temporary tower would mitigate the line of sight issues caused by construction of the Hotel provided the above Temporary Tower Requirements are assured and completed prior to construction of the Hotel. The outcome of this meeting may require an additional assessment pending a decision by Mr. Steve Batchelder, Air Traffic Manager BWI ATCT.



Figure 16. BWI Existing ATCT East View towards Site 1A without Hotel

Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport Traffic Control Tower AFTIL -2 Comparative Safety Analysis with Hazards

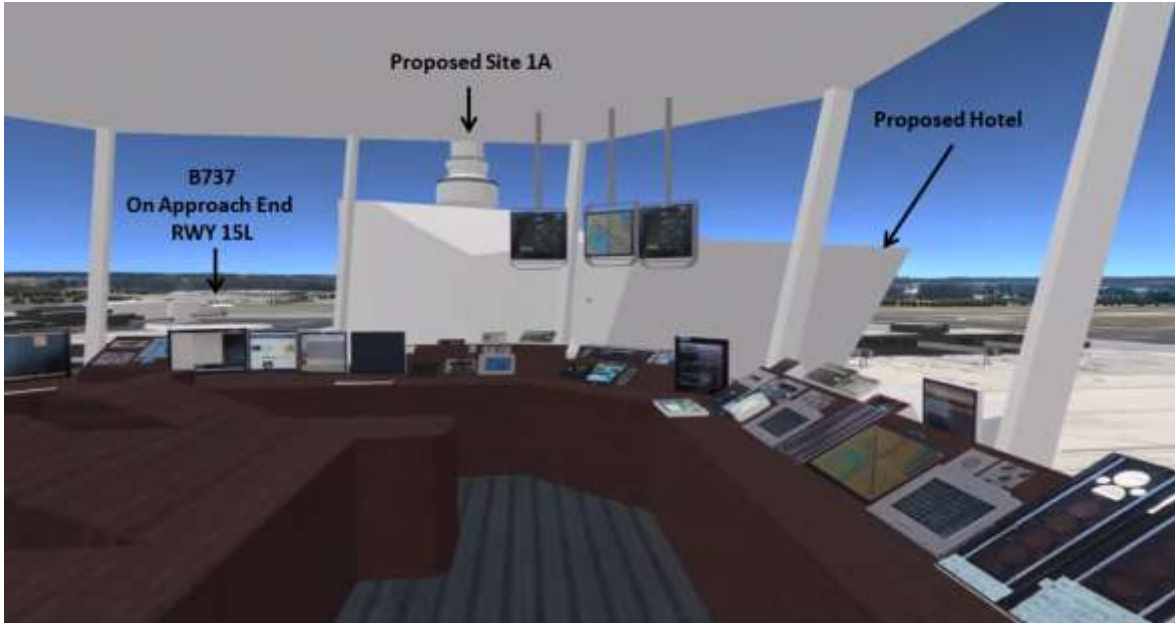


Figure 17. BWI Existing ATCT LC1 position East View towards Site 1A with Hotel



Figure 18. BWI Overhead View with Proposed Hotel

Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport Traffic Control Tower AFTIL -2 Comparative Safety Analysis with Hazards

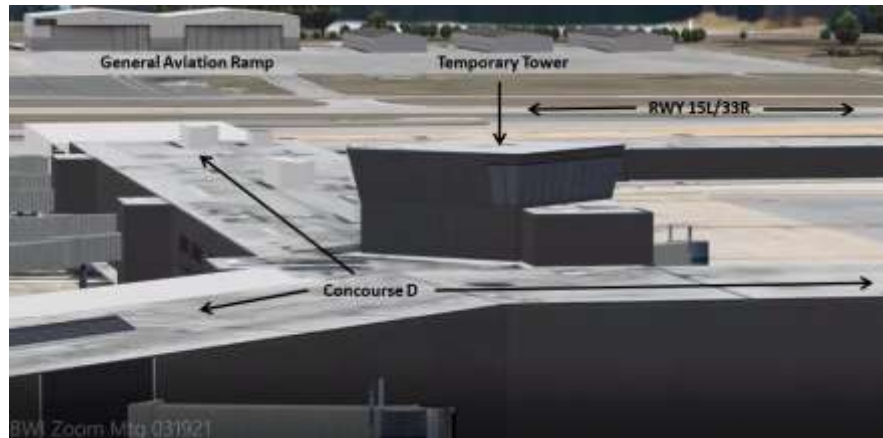


Figure 19. View of Temporary Tower on Concourse D



Figure 20. Temporary Tower View of Concourse D Northeastern Arm with B737 on Approach End RWY 15L



Figure 21. Temporary Tower View of Concourse D Northeastern Arm with B737 on Inner Taxiway

Baltimore/Washington International Thurgood Marshall Airport (BWI) Replacement Airport Traffic Control Tower AFTIL -2 Comparative Safety Analysis with Hazards



Figure 22. Temporary Tower View of Concourse D Eastern Arm



Figure 23. Temporary Tower View of Concourse D Northeastern Arm Alleyway

Attachment 3:

BWI Hotel Site Selection Study

Final Report

June 2006

Final Report

BWI Hotel Site Selection Study

Prepared for



Maryland Department of Transportation
Maryland Aviation Administration
Office of Planning and Environmental Services



Prepared by



June 2006

Hotel Image Developed by
Gresham Smith & Partners

HOTEL SITE SELECTION STUDY

FINAL REPORT

Prepared for:

Maryland Department of Transportation
Maryland Aviation Administration
Office of Planning and Environmental Services



Prepared by:

Parsons Brinckerhoff



JUNE 2006

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1.0 INTRODUCTION

Over the last ten years, BWI has been one of the fastest growing airports in the U.S. and strong growth is projected for the remainder of the decade. According to the FAA's 20-year Terminal Area Forecast, BWI is anticipated to have over 36 million passengers by 2025. In addition to strong air passenger growth, the local office, research, and industrial/warehouse space market has grown significantly, with a parallel increase in local employment and business activity. Currently, there is one hotel located on airport property, located approximately three-quarters of a mile from the main terminal. The Maryland Aviation Administration (MAA) has identified the need for a second hotel on airport property. Specifically, MAA identified the need for a full-service, first-class hotel to serve the business, group and meeting, and leisure travel market segments. The need for a new hotel was supported by two recent studies prepared for the MAA; these include a 2004 Ernst & Associates hotel market study and a 2004 Edwards & Kelcey hotel feasibility study. Highlights from the Ernst & Associates study and the Edwards & Kelcey study are included in Section's 1.1 and 2.7, respectively.

Therefore, MAA has requested a site selection study to identify a preferred location for this proposed airport hotel. The location for a new hotel will be selected from a current inventory of MAA owned land. The study will provide an evaluation of alternative locations, a recommended site, and a draft purpose and need statement of the project. These elements will assist the MAA in advancing the project to the environmental study and preliminary design phases as well as obtaining the necessary funding for the project.

1.1 Background

As indicated above, the number of air passengers using BWI has increased rapidly over the last decade. Development of office, research, and industrial/warehouse space has also increased substantially in the recent past with new and expanding business parks such as the Airport Square Technology Park and BWI Technology Park. Martin Associates prepared an economic estimate report in the year 2001 for MAA which indicated that approximately 36 percent of the new jobs created in Maryland were in Anne Arundel County during the year 2000. With this tremendous growth has come an increased demand for hotel rooms and meeting space. A number of hotels have been constructed in the market area. To further analyze the need for additional hotels in the market area, MAA commissioned Ernst & Associates to conduct a hotel market analysis which was completed in October 2004. This analysis focused on the hotel market within the immediate airport vicinity. To better understand some of the key elements included in the hotel market study, multiple passages describing the local economy, employment base, competing hotels and project vision have been included. These passages helped craft the overall purpose and need for the Hotel Site Selection Study.

"The county's economy is supported by a diverse set of economic drivers such as professional and business services, trade and distribution and the government sector. With key economic factors signaling the emergence from a 'recessionary' environment in the Baltimore-Washington D.C. region, most real estate experts agree that a moderate recovery began in 2003 and is expected to continue

throughout 2004. Fourth quarter job growth figures moved into positive territory for the first time in 2002 and marked improvement was shown in the sale of durable goods and consumer confidence. Industries such as defense, security and healthcare are primed to be the economic drivers for continued recovery trends in 2004. The overall strength of the Baltimore-Washington region remains its business diversity. Key industries such as bioscience, finance, insurance, telecommunications and the federal government support the anticipated growth within the region. Over 65 percent of total demand for lodging is generated from the individual business traveler."

... "Anne Arundel County's diverse employment base is one of the primary reasons for this area's resiliency to economic cycles". Anne Arundel County is considered to have excellent transportation facilities; including access to air, rail and water transportation. The growth of the airport has also fueled economic growth within the county and brought new industry to the area. Overall, the economic and demographic indices for the county and the macro area all point to excellent growth trends for the foreseeable future".

"It would appear that they (3 star hotels near the airport) were developed to serve a growing force of light industrial and research and development uses surrounding BWI. However, as this market has grown and matured, a number of very large, prominent employers have opened corporate offices in the area, fueling demand at a higher level and commanding full-service, first class facilities.."

"During the period of 1997-2002, we note that there has been no increase in the number of on-airport guest rooms. The only hotel located on airport grounds is the 201 room Sheraton Hotel. This property opened in 1966. This would indicate that substantial demand has been turned away from the Sheraton due to the lack of available rooms and modern first-class facilities/amenities. As a result, a first class, full service hotel at BWI would compete directly with the other full-service hotels in the defined market area".

"The market area is realizing significant growth, and with it, many new corporate users have entered the market. It is envisioned that this growth trend will continue. With the expansion of the airport, growth trends will be positively impacted. Therefore, we conclude that currently there is a lack of full-service hotels to meet the needs of the current and future demand."

"The majority of the demand captured by the BWI Airport hotels is generated from the commercial segment. The commercial market segment is composed of individuals visiting firms in the BWI Airport market area. Business travelers are usually not particularly rate sensitive and tend to use a hotel's food and beverage outlets and recreational facilities. The commercial segment represents a highly desirable and lucrative market that provides a consistent level of demand at relatively high room rates. Based on our review of the area's economic and demographic data and considering the expected growth at BWI Airport and surrounding market, we have anticipated commercial demand to increase at a base rate of 3 percent, increasing to between 5 and 6 percent during 2005-2006 and 3 percent thereafter."

"We are of the opinion that if first-class meeting facilities were available, they would be readily absorbed. This would appear to be the opinion of the developers of the proposed 300 room Hilton, slated for the BWI Airport market. A recent press release from the Capital Online, dated 10/19/2003, indicated that "A Virginia real estate developer plans to build a hotel and conference center near the BWI Airport, creating one of the largest meeting spaces in the country. The conference center will include an 8,600 square foot ballroom that can hold up to 1,000 people. Based on the relevant economic forces and the cyclical nature of convention business, we have estimated growth in this segment of 2 percent in the early years of the projection period, increasing to between 3-5 percent per year in the later years of the projection period."

"Considering all factors, we recommend that a 350-450 room, first-class, full-service hotel be constructed at the BWI Airport. There is a lack of full-service, first-class hotels in the market. In addition, we found a significant lack in full-service hotels that feature an appropriate complement of meeting and banquet space."

"When developed, we assume that the proposed hotel will be one of the highest quality lodging facilities in the competitive supply. In addition, it will enjoy a superior location at BWI Airport. We have assumed that the hotel will be affiliated with a well-recognized hotel company, with national as well as international presence. Based on our research in the competitive market, the analysis of market factors and the proposed location, we believe that there is an existing and potential future demand to support the proposed hotel at the BWI Airport. The proposed hotel will have one of the best, if not the best, locations in the BWI Airport market. Its location at the BWI Airport will set it apart from the competition. It will provide unsurpassed convenience to travelers making connecting flights, or corporate travelers doing business in the area."

As indicated in the passages above, Ernst & Associates concluded that there continues to be market support for a 450-room, first class, full-service hotel located on airport property. Currently, there is a Sheraton hotel on airport property, located just to the west of the new Daily Garage. The Sheraton hotel has 201 rooms and was opened in 1966. It is the oldest 3-star hotel in the market area. While it is in the terminal core area, it is not directly connected to the airport terminal or any other airport facilities. Shuttle bus service is provided between the Sheraton and the terminal.

1.2 Hotel Project Vision

Based on the market study results and internal discussions, MAA has developed a proposal for the new hotel as a minimum 450 room first-class, full-service commercial hotel with a recognized international brand. The hotel would include the following amenities: at least one full-service restaurant facility that can serve both hotel guests and airport patrons; a business center; swimming pool; fitness center; room service, around-the-clock maid service; and facsimile/modem/data communications access in every room.

MAA has developed a set of goals for the proposed hotel, which include the following:

- Develop a first-class, full-service, internationally recognized brand, commercial hotel;
- Meet the needs of the traveling public through a high level of customer service, and enhance the Airport's image;
- Maximize the Administration's revenue stream from the proposed hotel;
- Seek to realize a rental revenue stream that is equal to or greater than historical returns from BWI Airport Hotel operations;
- Minimize or eliminate the need for the Administration to incur any operating costs for the proposed hotel; and
- Complete the proposed hotel and have it open for use in a timely fashion.

1.3 Study Elements and Purpose

There are six primary study elements:

1. Prepare a statement of project purpose and need;
2. Review and refine the project definition;
3. Select appropriate MAA owned sites for evaluation;
4. Select evaluation criteria to compare one site to another;
5. Assess and compare the benefits and drawbacks of each site; and
6. Select a preferred hotel development site.

The study identifies five potential hotel development sites on airport property with the ultimate goal of recommending a preferred site for the project.

1.4 Project Purpose and Need

The purpose of the proposed hotel project is to achieve excellence in meeting the hospitality, restaurant, service, and meeting space needs of BWI air passengers and other BWI customers including tenants and partners in a manner that maximizes revenue for BWI and enhances the image of BWI and the region. The major needs for the project are outlined below.

1. There is a current shortage of first-class, full-service hotels with appropriate meeting space. The 2004 hotel market study concluded that "There is a lack of full-service, first-class hotels in this market. In addition, we found a significant lack in full-service hotels that feature an appropriate complement of meeting and banquet space." It also stated that there is "market support for a 450-room, first class, full-service hotel." This shortage of first-class, full-service hotel rooms reduces customer service and convenience for BWI air passengers. There are also no hotels within a reasonable and convenient walking distance of the main terminal.
2. Air passenger traffic is expected to increase approximately from 20 million passengers per year to nearly 36 million passengers per year over the next 20 years. This will result in an increase in the demand for hospitality services in the

area. MAA needs to promote development that will provide a high level of service to these passengers.

3. Development in the BWI Region has grown significantly over the last 20 years as presented in the 2003 BWI / Linthicum Small Area Plan. Key markets have included office, high-tech/research, government office, industry, and warehouse. Strong future growth is projected for the market due to the national and regional emphasis on safety, security, and high-technology fields. This new development and the associated increase in regional employment increases demand for sufficient hospitality space and facilities.
4. MAA continues to require additional revenue to support current and future operations and maintenance needs. MAA also has land available that could be used to generate additional revenue in support of BWI. A first-class, full-service hotel with meeting space could play an important role in enhancing revenue generation to MAA, while also promoting BWI as the airport of choice in the region.
5. Additional hospitality space will further promote BWI as the 'Easy-Come, Easy-Go' airport.
6. BWI would benefit from a major new development that could promote the image of BWI as a world-class airport. [Depending on design and location, this development would be viewed by landside passengers].

1.5 Report Sections

This report has been divided into six sections:

- Section 1: Introduction
- Section 2: Project Definition
- Section 3: Site Descriptions
- Section 4: Evaluation Criteria
- Section 5: Detailed Site Evaluation
- Section 6: Summary and Conclusions

2.0 PROJECT DEFINITION

In 2003-2004 MAA commissioned a hotel market analysis to evaluate the demand for a first-class hotel at BWI. The market analysis made specific recommendations regarding the number of rooms and types of facilities and amenities that should be included in a new hotel at BWI. The project definition provided here is based on those recommendations.

The proposed hotel is defined as one of the highest quality overnight lodging facilities in the market area. Key amenities proposed for the new hotel include spacious guest rooms, group meeting space, food and beverage facilities, business services, and recreational facilities. The combination of these amenities and its location at BWI are expected to make the new hotel a desired place to stay for both business and leisure travelers.

2.1 Guest Rooms

According to the 2004 Market Analysis, the new hotel should provide a minimum of 350 to 450 guest rooms. Each room was recommended to be a minimum of 375 to 400 square feet, with 10 percent of the rooms designed as suites. High quality furniture, fixtures and equipment were recommended with an emphasis on accommodating the busy corporate traveler, as well as the domestic and international leisure traveler. For this site evaluation study, it was assumed that the hotel would include 450 rooms with an average room size of 400 square feet.

2.2 Group Meeting Space

The market study also recommended approximately 40 to 50 square feet of meeting space per guest room. Therefore, with 450 rooms, the total allocation of meeting space would range from 18,000 to 22,500 square feet for the new hotel. The meeting space should be designed as flexible space in order to accommodate various meeting needs. The meeting facilities would include a large functional type ballroom (divisible), junior ballrooms, and at least six to eight smaller meeting rooms able to accommodate groups of between 30 and 75 people. In addition, several guest suites were proposed to provide meeting space for even smaller groups. For this study, it was assumed that the hotel would include 22,500 square feet of meeting room space.

2.3 Food and Beverage Facilities

The 2004 market study recommended the following food and beverage facilities:

- A 150 to 175 seat all purpose restaurant, serving breakfast, lunch and dinner in a casual setting;
- A 60 to 75 seat fine-dining restaurant and cocktail lounge;
- A small deli/bakery outlet, providing quick and convenient food service to travelers;
- A 60-75 seat lobby lounge; and
- 24-hour room service.

2.4 Business and Recreational Facilities

In addition to the facilities previously identified, business and recreational facilities are also necessary in order to ensure the proposed hotel's competitive position in the marketplace. The recommended facilities include:

- A fitness center, with steam and sauna, exercise machines and whirlpool bath;
- A heated indoor swimming pool;
- A business center;
- A small gift and sundry shop;
- A travel desk; and
- Concierge desk in the lobby.

The study also recommended that the hotel be linked to the proposed automated people mover (APM). This link was not included in the building size estimates presented below, but the possibility of such a connection was assessed in the evaluation.

2.5 Estimated Hotel Building Size

Several planning assumptions were made in order to estimate the total square footage required for the proposed hotel. These assumptions were based on information provided in the 2004 market analysis as well as concept planning level architecture assumptions for each of the support facilities. A 35 percent factor was used to estimate support, service, and common areas not already listed. These spaces would include items such as stairs, elevators, hallways, mechanical rooms, and public bathrooms. **Table 2.1** presents the estimated space requirements for each of the proposed facilities in the new hotel as well as an overall total. Approximately 300,000 square feet of space is needed to accommodate the recommended hotel facilities.

Table 2.1: Estimated Hotel Building Size

Item	Quantity	Unit	Space per Unit (square feet)	Total Space (square feet)
Rooms	450	Room	400	180,000
Meeting Space	10*	Room	2,250	22,500
All Purpose Restaurant	175	Seats	35	6,125
Fine Dining Restaurant with Lounge	75	Seats	50	3,750
Bakery/Deli	1	NA	450	450
Lobby	75	Seats	20	1,500
Fitness Center	1	NA	600	600
Indoor Pool	1	NA	2,600	2,600
Business Center	1	NA	300	300
Gift/Sundry Shop	1	NA	200	200
Travel Desk	1	NA	100	100
Administration/Support Space	1	NA	3,600	3,600
Concierge Desk	1	NA	100	100
Building Subtotal				221,825
			Factor	35%
				77,639
Building Total				299,464

* The market analysis recommended a ballroom, junior ballrooms, and at least 6 to 8 small meeting rooms for a total of 18,000 to 22,500 square feet of meeting space for the hotel.

2.6 Estimated Parking Requirements

Based on prior MAA hotel studies and on data from the Institute of Transportation Engineers, Parking Generation (3rd Ed.) we assumed that one parking space per room would be provided. Therefore, 450 parking spaces were included in the development requirements. The number of parking spaces could possibly increase for some of the sites that are more remote from the main terminal and it could potentially decrease for sites with convenient access to the main terminal, however 450 spaces provides a reasonable concept planning level estimate. This study assumed a parking space efficiency of 350 square feet per parking space. This assumption yielded the requirement for 157,500 square feet of parking area (including parking aisles, landscaping, etc.) shown in **Table 2.2**.

Table 2.2: Estimated Hotel Parking Requirement

Item	Quantity	Unit	Space per Unit	Total Space
Parking Spaces	450	Space	350	157,500
Building Subtotal				157,500

2.7 Project Requirement Summary

The project size assumptions used in the study are:

- 300,000 square feet of hotel building space assumed to be designed as a multi-level structure of four or more stories.
- 157,500 square feet of parking area assumed to be either at grade or in parking facilities of four stories or less (with the possible exception of the core area).

Based on the size and shape of each potential hotel site, several hotel and parking development concepts were created. Each scenario assumed a specified number of hotel floors and parking levels in order to determine an overall building footprint on the site. In most cases a buffer was added to the building footprint to accommodate access, service areas, landscaping, and other related functions. This then provided a proposed development (or redevelopment) envelope for the site.

According to the 2004 hotel feasibility study conducted by Edwards and Kelcey, accessibility is one of the key issues that must be established in order for a new hotel to operate successfully. Two key passages noted in this report focus on developing a dual access system to serve both the passenger terminals and the new hotel.

"With the exception of traffic to and from the Daily A Garage along Elm Road, BWI terminal traffic arrives and departs via the I-195 system. The potential future Concourse G and H terminal expansion along Elm Road will require a dual terminal system to avoid overloading the curbside along the existing terminal. With this dual system comes the need for careful signage at the I-195 to direct traffic to the appropriate terminal, prior to the start of the dual system. Since the split will be located just east of the MD 170 interchange, terminal signage will need to be

provided at the I-295 interchange or earlier to provide enough advanced warning to motorists.”

“Providing a hotel adjacent to the existing garage may further complicate the future wayfinding issue related to the dual terminal roadway system. Traffic to the hotel will need to be directed to the route for the existing hourly terminal garage. This signage should be placed in advance of the signing for the dual system, or as a supplemental sign with the sequencing signing for the split. If provided in advance, it will likely be needed on both the I-195 and I-295, prior to the interchange of I-195/I-295, since there is limited distance between I-295 and MD 170 along I-195 to provide this signing.”

3.0 SITE INVENTORY

Based on previous MAA studies and a review of existing MAA owned land, five potential sites were considered for the proposed new hotel. Each site is owned by MAA and has unique development opportunities and constraints. Many of the sites under consideration are outside the center of activity for BWI; however one site is located within the terminal core. **Exhibits 3.1 through 3.6** located at the back of the report illustrate the five potential sites under consideration. The five sites are:

- Site 1: Terminal Core Area Site
- Site 2: ESP Lot Site
- Site 3: Managers' Lot Site
- Site 4: Amtrak Station Area Site
- Site 5: Consolidated Rental Car Facility (CRCF) Area Site

3.1 Site 1: Terminal Core Area

The Terminal Core Area is located in the BWI Terminal Core area just north of the existing Hourly Parking Garage on land previously occupied by the rental car agencies. As shown in **Figure 3.1** and Exhibit 3.2 (at the back of the report), the boundary of the Terminal Core Area site is delineated by an area between the planned Hourly Garage expansion and the terminal return roads in the vicinity of the central utility plant. It should be noted that the planned Hourly Garage has been evaluated for potential environmental impacts by the FAA. The terminal core area site is approximately 10.3 acres in size and has been identified by the MAA as an area for future landside development on the proposed BWI Airport Layout Plan (ALP).

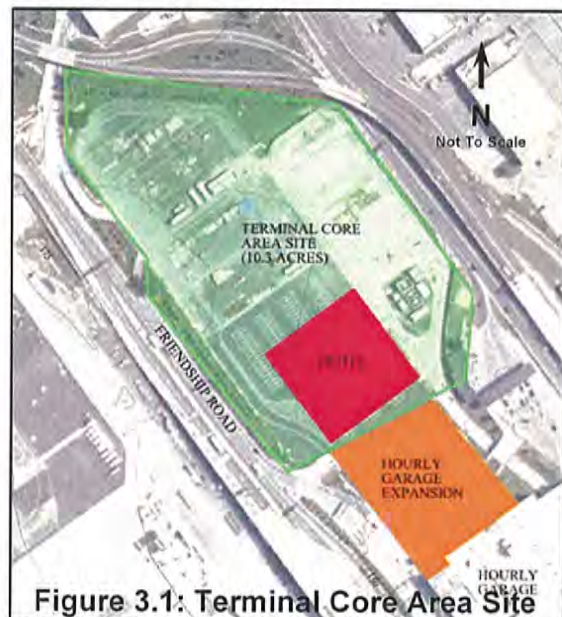


Figure 3.1: Terminal Core Area Site

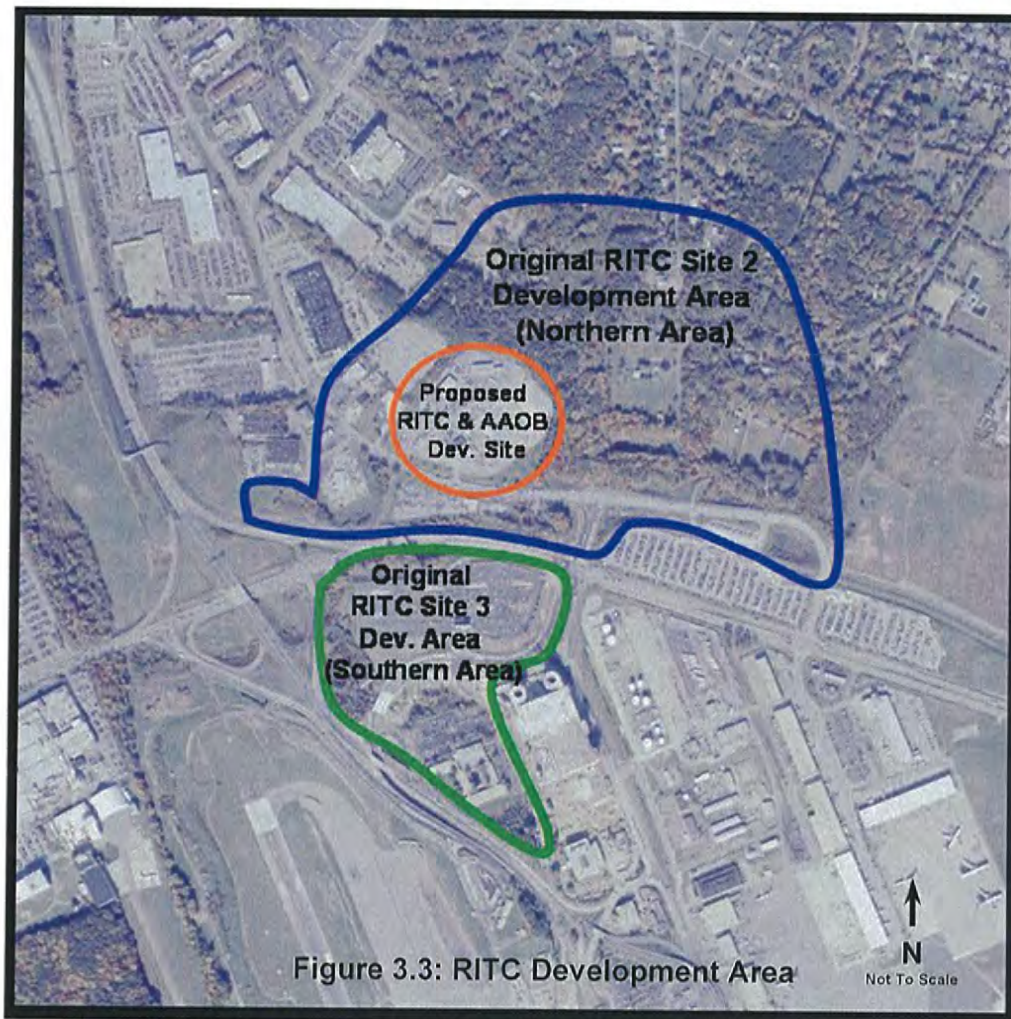
3.2 Site 2: ESP Lot Site

The ESP Lot site is located between the new Daily Garage and Aviation Boulevard. It is currently used for daily parking when demand warrants. The southeast corner of the site has been designated as a “cell phone lot”, where people waiting to pick up passengers can wait. The ESP Lot site is approximately 10 acres and has good access to major highways such as I-195 and Aviation Boulevard. The site is shown in **Figure 3.2** and Exhibit 3.3.



Figure 3.2: ESP LOT

A number of sites were originally considered in the vicinity of the proposed RITC development; including sites in both the northern and southern RITC development areas (see **Figure 3.3**). The proposed RITC building and the planned Airport Administration Office Building (AAOB) are both proposed for the former rental car area in the northern area as shown. Therefore, that site was not studied further at this time. The former Thrifty Rental Car parcel located just south of the RITC / AAOB site was determined to be too small (1.3 acres) and oddly shaped (narrow and triangular) to accommodate a 300,000 square foot hotel with 157,500 square feet of parking efficiently. As a result that site was also dismissed from further analysis. The remaining parcel under consideration in the RITC vicinity is the ESP Lot Site described above.



3.3 Site 3: Managers' Lot

The Managers' Lot is located on the northwest corner of the intersection of Aviation Boulevard and Amtrak Way. (See **Figure 3.4** and Exhibit 3.4) The site is currently used for overflow vehicular parking during peak travel periods, but has been identified as the site of a proposed second gas station on the proposed BWI ALP. It is approximately 3.8 acres in size. It is across Aviation Boulevard from Northrop Grumman and is approximately 1.5 miles from the main terminal. This site's western edge is bordered by the BWI Trail.



Figure 3.4:
Managers' Lot

3.4 Site 4: Amtrak Station Area Site

This Amtrak Station Area site is located approximately two miles northwest of the terminal and is approximately 13.5 acres in size. (See **Figure 3.5** and Exhibit 3.5) The site is bordered by Amtrak Way to the east and the Amtrak rail lines to the west. Access to this site is provided by Amtrak Way. This Amtrak site lies just outside of the Runway Protection Zone (RPZ) of Runway 15R. The Kauffman Building is located in the northern portion of Site 4. This building houses the Office of Airport Technology and Community Affairs.

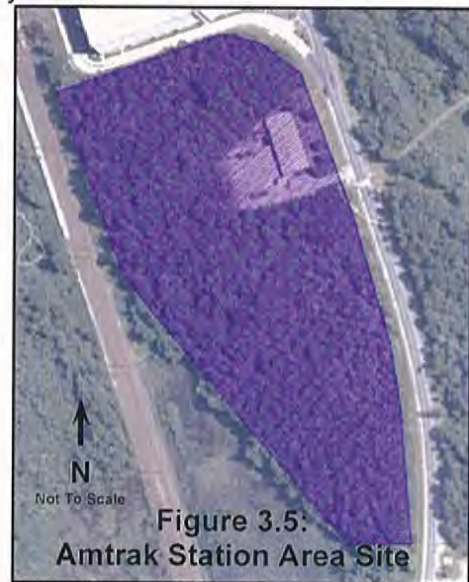


Figure 3.5:
Amtrak Station Area Site

3.5 Site 5: Consolidated Rental Car Facility Area

The Consolidated Rental Car Facility (CRCF) Area site is over two miles from the terminal area. Initially, two parcels were considered in this area. This first parcel is located west of New Ridge Road. This 8.4 acre parcel is currently occupied by a rental car maintenance facility for one of the CRCF tenants. (See **Figure 3.6** and Exhibit 3.6) It was determined that it may be physically feasible to develop a hotel on this parcel (however the current tenant would have to be relocated). The second parcel is located across the road in a forested area bordered by Stoney Run Road to the north and New Ridge Road to the east. The eastern CRCF site was dismissed from further consideration due to the potential for environmental resource impacts on the site, including forest, wetland, sensitive species, and floodplain concerns.



Figure 3.6: CRCF Area Site

4.0 EVALUATION CRITERIA

To develop a clear understanding of the specific benefits and drawbacks of each of the proposed hotel sites, a set of eight evaluation criteria was selected. These criteria address the critical site selection and development issues and will facilitate a comparison between the five potential sites, leading to a final recommended site for the project. The eight main evaluation criteria include:

- | | |
|--|--------------------------------|
| 1. Terminal Access | 5. Airport Development Impacts |
| 2. Customer Service and Access to Amenities | 6. Capital Costs |
| 3. Location, Visibility, and Market Presence | 7. Environmental Resources |
| 4. Development Potential | 8. Physical Characteristics |

4.1 Terminal Access

Convenient access to the terminal is necessary to achieve MAA's objectives for the new hotel. Access to the terminal could include pedestrian, vehicular, and proposed automated people mover (APM) connections to the terminal building. The convenience in terms of travel time, distance, and mode changes will be considered. **Table 4.1** lists each of the subcategories used in evaluating access to the terminal for each site.

Table 4.1: Terminal Access

Criteria	Approach	Source
Walking distance / time	Calculate walking distance and time to the terminal	Alternatives map
Distance to APM Station	Estimate walking distance and time to the nearest proposed (conceptual) APM station location	APM figures, alternatives map
Bus/Shuttle Frequency	How close is the site to an existing bus/shuttle route to the terminal and what is the frequency?	Bus/shuttle route map and schedule
Overall travel time	Estimate the shortest travel time to reach the terminal	Sources listed above

4.2 Customer Service and Access to Amenities

The overall level of customer service and access to amenities is another factor in differentiating each site's ability to accommodate a new hotel. Analyzing surrounding amenities such as retail, food and beverage, and entertainment services can assist in determining the anticipated level of customer service and convenience for each site (assuming all on-site amenities are similar for each site). **Table 4.2** displays the subcategories proposed to evaluate customer access to off-site amenities for each of the sites under consideration.

Table 4.2: Customer Service & Access to Amenities

Criteria	Approach	Source
Food and Beverage Services	Identify the food and beverage services available within the immediate area for each site	Vicinity Map
Retail Services	Identify the retail services and amenities available near each site.	Vicinity Map
Entertainment/ Recreation Services	Identify entertainment and recreational opportunities/services within the immediate area of each site.	Vicinity Map

4.3 Location, Visibility, and Market Presence

Location, visibility, and market presence are all key factors in the successful siting of a new BWI hotel. The hotel should be located in or adjacent to a major activity center or corridor. It should be highly visible from major highways and/or the terminal core area. The site should also offer the opportunity for the project to become a major element of the BWI landscape, possibly even a symbol of BWI's high level of customer service and convenience. **Table 4.3** identifies subcategories to be used to evaluate and compare each site in these areas.

Table 4.3: Location and Visibility

Criteria	Approach	Source
Location	Is the hotel in or near a major activity center or corridor?	Aerial photo
Visibility	Is the site clearly visible from major highways and/or the main terminal area?	Aerial photo, topography map
View Shed/Vistas	Examine potential view sheds and vistas (outward) from each hotel site	Aerial photo, topography map
Market Presence	Analyze the perceived market presence of each site, including the opportunity to become a symbol for BWI	Aerial photo, site visit

4.4 Development Potential

Development related opportunities and constraints will be reviewed for each site. **Table 4.4** shows the approach used for each development potential subcategory.

Table 4.4: Development Potential

Criteria	Approach	Source(s)
Site Size	Evaluate site size relative to development requirements	Site map
Site Shape	Evaluate site shape relative to development requirements	Site map
Buildable Area	Identify space available for buildings, given topographic and environmental constraints	Site Map
Building Requirements	Can building requirements be accommodated on site?	Site map
Site Availability	What MAA owned properties are available?	Property map, aerial
Site Access	Examine access to major highways and transport systems	Site map, traffic flow map, site visit
Development Synergy	Consider joint-use options that could lower the building requirements	Site Map

4.5 Airport Development Impacts

For each site, PB will examine the relationship between the proposed hotel and both existing and potential future airport development and operations. This will include an examination of what uses would be displaced as well as what uses may be hindered from future development. It also includes consideration of any potential benefits that may accrue to the airport due to selection of a specific site. **Table 4.5** lists the airport development evaluation subcategories that will be addressed in the analysis.

Table 4.5: Airport Development Impacts

Criteria	Approach	Source
Existing Airport Development and/or Operations	Identify potential impacts and benefits to current airport development and/or operations	ALP
Future Airport Development and/or Operations	Identify potential impacts and benefits to future airport development and/or operations (including future flexibility considerations)	ALP, Other planning documents
Airspace Restrictions / Issues	Examine sites relative to Part 77 surfaces and other airspace constraints	ALP, site elevation information

4.6 Capital Costs

The comparative cost of development for each site is another key consideration in selecting the most appropriate site for a new hotel. For each location, the site preparation costs will be estimated and compared to the costs for the other sites. In addition, the key factors that will affect the actual hotel construction cost will also be assessed. This will allow for a comparative evaluation of which sites will have the

lower and higher development costs. For example, a small odd shaped parcel may require an unusual and inefficient building form, which is likely to be more expensive to construct than a more typical building form. **Table 4.6** shows the subcategories proposed to evaluate and compare the capital costs for the sites.

Table 4.6: Capital Costs

Criteria	Approach	Source
Site Preparation Costs	Development of order of magnitude site preparation cost estimates	Topography mapping, aerial photo, environmental mapping
Comparative Hotel Construction Costs	Develop a ranking of how expensive building construction is expected to be for each site based various development factors such as buildable area and environmental mitigation issues.	Topography mapping, aerial photo, environmental mapping

4.7 Environmental Resources

Several of the sites under consideration are located on or near known sensitive environmental areas on Airport property. This overview of environmental resources will facilitate an evaluation and comparison of each site's potential for impacting key environmental resources. **Table 4.7** reflects the environmental subcategories to be considered for each site.

Table 4.7: Environmental Resources

Criteria	Approach	Source
Surface Waters, Water Quality, Water Quantity	Examine potential stream, water quality, and stormwater runoff issues	USGS, BWI SWMP, Other available doc.
Rare, Threatened, or Endangered Species	Identify the presence of any rare, threatened, or endanger species on or near each site	MERLIN resource mapping, MAA doc.
Noise	Review BWI FAR Part 150 Noise Compatibility Plan	Noise Exposure Map
Hazardous Materials	Analyze potential for on-site hazardous materials	Available maps/reports
Floodplains	Identify 100-year and 500-year floodplain	FEMA-FIRM
Wetlands	Identify existing on-site wetlands	NWI Map, MAA maps
Historic/Archeological Sites	Identify existence of historic/archeological sites	Available maps/reports
Forests	Determine presence of forest resources	BWI Reforestation Master Plan, Forest Maintenance Plan
Air Quality	Examine the potential air quality issues	Available maps/reports
LEEDS	Examine potential to achieve Silver Rating for LEEDs compatibility on each site	Available maps/reports

4.8 Physical Characteristics

Physical characteristics and features will be examined to compare and analyze the physical conditions that may affect the development of a new hotel on each site. **Table 4.8** presents comparison subcategories and the quantitative and/or qualitative approach used to evaluate each topical area.

Table 4.8: Physical Characteristics

Criteria	Approach	Source(s)
Topography	Identify existing site topography and slopes	USGS Quad sheet, contour maps
Soil Type	Examine soil types	Anne Arundel County Soil Survey
Land Use	Define current site and adjacent land uses	BWI/Linthicum Land Use Plan, site visit
Vegetation	Determine vegetation on site	Aerial photo, site visit

5.0 SITE EVALUATION

The five alternative hotel sites were evaluated using the criteria presented in Section 4.0. At the beginning of the write-up for each of the eight major criteria, a summary is presented for that criterion. This is followed by a detailed discussion for each of the supporting sub-criteria in that category. A complete summary for all eight criteria is presented at the end of Section 6.0 in conjunction with the summary evaluation matrix.

5.1 Physical Characteristics

The physical characteristics of each site were examined to evaluate the site's ability to accommodate the proposed hotel development. Three of the five sites received an overall rating of Good in this category. The Amtrak Station Area Site received a Poor rating because it is forested, has an existing office structure on the site, and has more topographical and slope considerations than any of the other sites. The CRCF was rated fair due to the prevalence of industrial and warehouse land uses in the area as well as the existing rental car maintenance use on the site. The remaining three sites are flat and paved, with little if any vegetative cover, and few substantial permanent structures that could not be avoided if necessary.

Table 5.1 provides a summary of the ratings for each of the physical characteristics sub-criteria. A detailed explanation of the evaluation follows.

Table 5.1: Physical Characteristics Summary

Criteria	Site 1: Terminal Core Area	Site 2: ESP Lot	Site 3: Managers' Lot	Site 4: Amtrak Station Area	Site 5: CRCF
Topography	●	●	●	◐	●
Soil Type	●	◐	●	○	◐
Land Use	●	●	◐	◐	○
Vegetation	●	●	●	○	●
Overall Rating	Good (4)	Good (3.5)	Good (3.5)	Poor (1)	Fair (2.5)

Legend: ● = Good (1) ◐ = Fair (.5) ○ = Poor (0)

5.1.1 Topography and Site Slope

The existing site topography including contours for each site is shown in Exhibits 3.2 to 3.6 at the back of the report. The USGS map is shown in **Figure 5.1** for additional reference.

Terminal Core Area: The terminal core area site is occupied by a parking lot and contractor staging areas. It is predominantly flat and paved. While, the Parking Administration Building and Hourly Garage border the site, there are no permanent enclosed structures on the site itself. It was rated good.

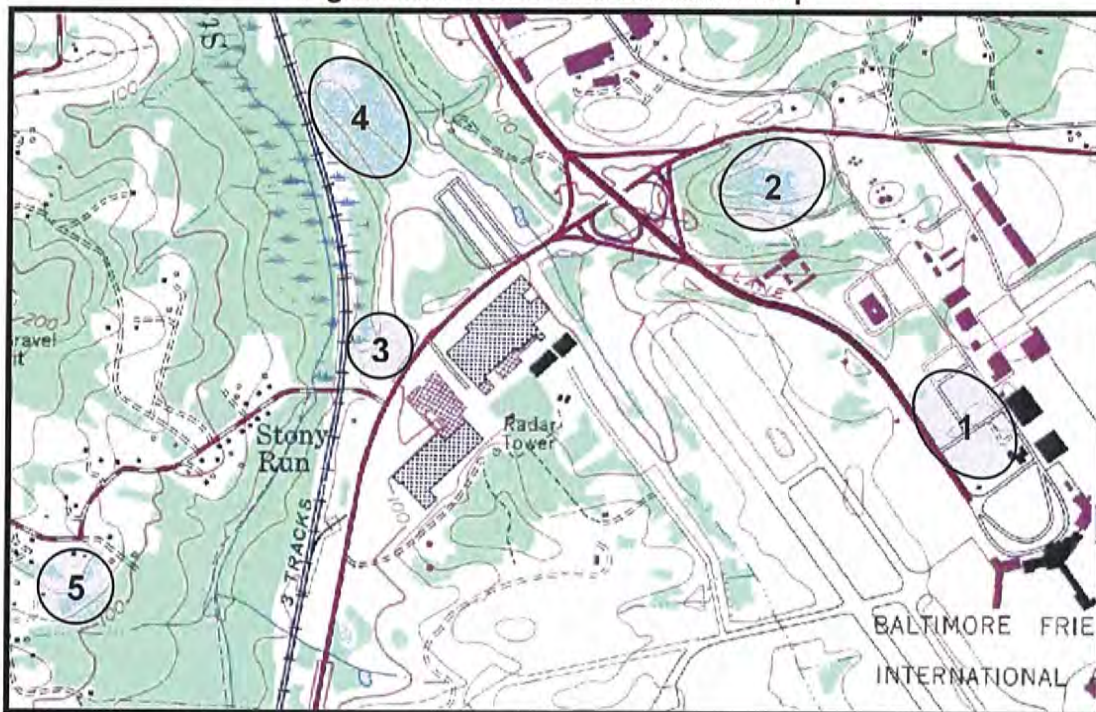
ESP Lot: The ESP Lot site is also relatively flat and paved. There are parking lot exit booths on the site. However, no significant topographical issues preclude hotel development on this site. It was rated good.

Managers' Lot: The Managers' Lot site is a flat, paved parking lot. Topography would not impede the development of a hotel on the site. It was rated good.

Amtrak Site: The Amtrak Site consists of a hill, rising well above the surrounding road, rail, and floodplain areas. There is one building on the site (Kauffman Building); however, the majority of the parcel is undisturbed and forested. It has steep slope areas along the western boundary and there is a retaining wall on the northern edge of the site, near the Amtrak parking garage. The central higher elevation portion of the site is flat. Considerable earthwork may be required to develop a hotel on the site, depending on the site configuration and access. It was rated fair.

CRCF Site: The CRCF site is located west of New Ridge Road, and is part of the new consolidated rental car facility. The site has been previously graded and is now relatively flat and paved. It was rated good.

Figure 5.1: USGS Site Location Map



5.1.2 Soil Type

Terminal Core Area: Based on the soil survey maps for Anne Arundel County, Maryland, the terminal core area site is made up of Urban Land (Uz) soils (refer to **Figure 5-2**). The soil should not restrict the proposed hotel development. This site was rated good.

ESP Lot: The ESP Lot site consists of three different soil types: Downer Hammonton (DvB), Sassfrass Fine Sandy Loam (SaD), and Downer Hammonton Urban Complex (DwB). These soil types can present some limitations for excavation, but, given the disturbed nature of the site, the soil properties may be very different. The ESP Lot site was rated fair.

Managers' Lot: The Managers' Lot site consists of Urban Land (Uz) and Urdothents Loamy (UoB) type soils. These soils are not expected to significantly restrict the proposed hotel development; therefore the site was rated good.

Amtrak Site: The Amtrak site consists of Downer Hammonton type soils (DvB/DvC). These soils can present limitations for excavation; therefore, the Amtrak site was rated poor.

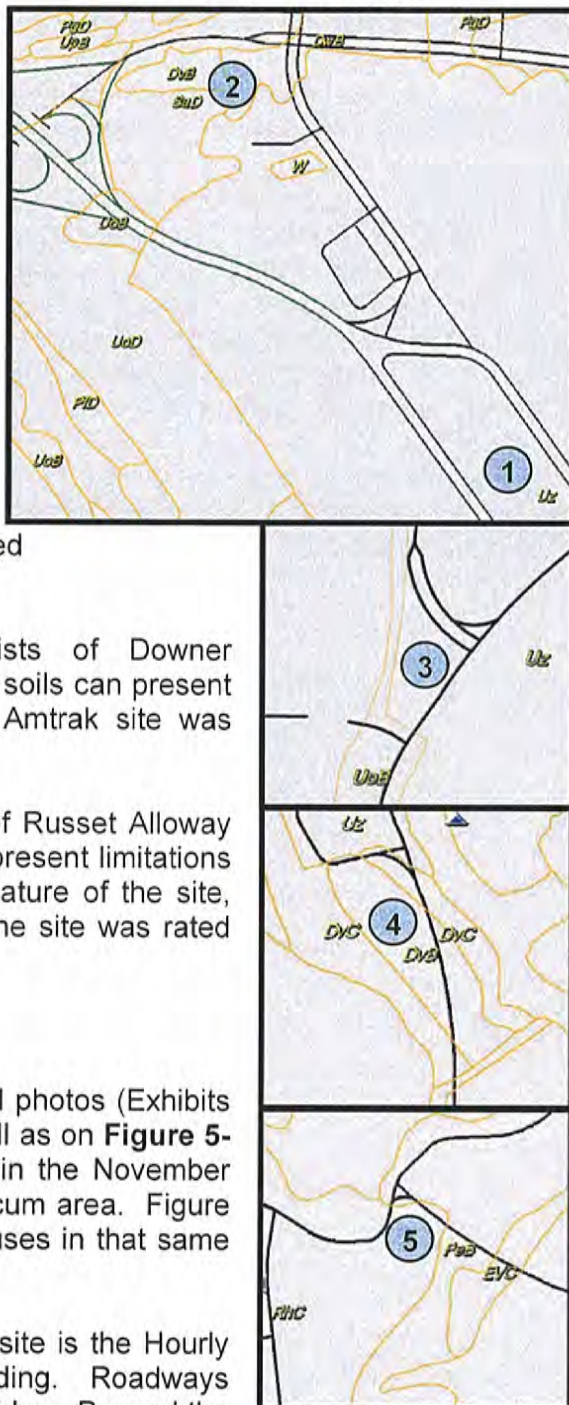
CRCF Site: The CRCF site is made up of Russet Alloway Hambrook (RhC) soil. This soil type can present limitations for excavation; but, given the disturbed nature of the site, the soil properties may vary. Therefore the site was rated fair.

5.1.3 Land Use

Existing land uses are shown on the aerial photos (Exhibits 3-2 to 3-6) at the back of the report) as well as on **Figure 5-3**, which shows the land uses presented in the November 2003 Small Area Plan for the BWI / Linthicum area. Figure 5-3 also shows the proposed future land uses in that same document.

Terminal Core Area: To the south of the site is the Hourly Garage and the BWI Main Terminal building. Roadways directly border the site on the other three sides. Beyond the roadways to the north of the site are the Central Utility Plant, Daily Garage, and existing Sheraton Hotel. To the west is the Concourse A apron area and to the east is the Concourse E apron and the north airfield cargo area. Overall, the site was rated good due to the land use relationship between the hotel and the main terminal and concourses.

Figure 5.2: Soil Types



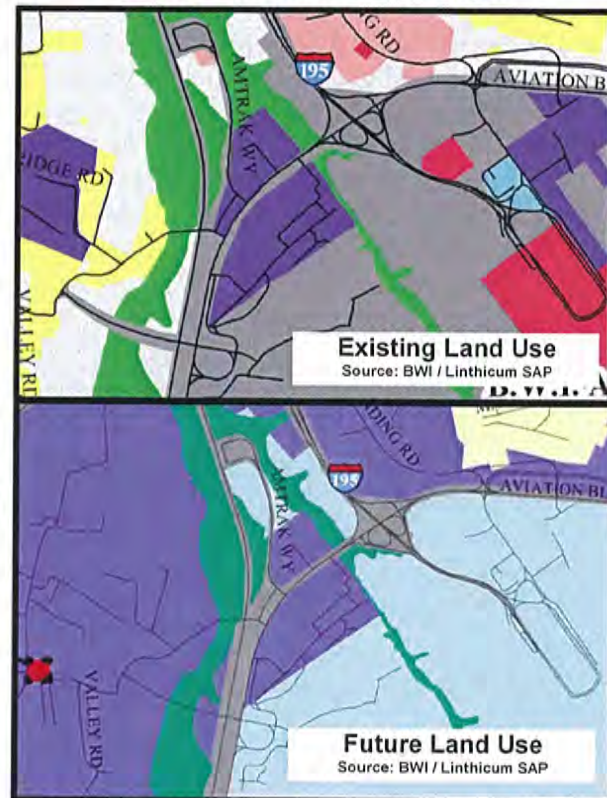
ESP Lot: The ESP Lot site is mainly surrounded by transportation facilities, with the new Daily Garage located south of the site, the I-195 interchange west of the site, and Aviation Boulevard north of the site. The north airfield cargo and maintenance complex areas are located east of the site. The Sheraton hotel is southwest of the site. The land uses are compatible with an airport based hotel and the site is large enough that a landscaped buffer area could also be provided, so the site was rated good.

Managers' Lot: Managers' Lot is located across Aviation Boulevard from Northrop Grumman at Amtrak Way. The land across Amtrak Way is used by Northrop Grumman for parking. The land to the west is natural open space and includes forested wetland areas. The Amtrak rail line is located just west of the site. Overall, the site was rated fair.

Amtrak Site: The Amtrak site is primarily forested, with one small office building located on the site. To the north is the Amtrak station and two parking garages. The site is bordered by forested open space (some with streams, wetlands, and floodplains) on the other three sides. The Amtrak rail line is west of the site. The site was rated fair.

CRCF Site: The CRCF site is bordered on the south by the main CRCF building. North and east are undeveloped forested areas. Northwest of the site is a private airport parking company. The major land uses in the broader area are industrial and warehouse uses. Due to the industrial nature of the area and the distance from related and supporting uses, the CRCF site was rated poor.

Figure 5.3: Land Use Maps



5.1.4 Vegetation

Terminal Core Area: The Terminal Core Area site is paved with no substantial vegetation. The site is rated good.

ESP Lot: The ESP Lot site is mainly paved, with a grass border. The site was rated good.

Managers' Lot: the Managers' Lot site is paved and was rated good.

Amtrak Site: The Amtrak site is predominantly forested. The development of a new hotel could require the removal of approximately 8 acres of forest land. The Amtrak site was rated poor.

CRCF Site: The CRCF site is mainly paved and was rated good.

5.2 Development Potential

An evaluation of each site's development potential is necessary in order to identify those sites which can best accommodate the development of a new hotel. The overall results of the development potential evaluation indicated that two of the five sites were rated good for their ability to support a new hotel. The sites rated good were the Terminal Core Area site and the ESP Lot site. Each of these sites is considered appropriate for the development of a new hotel due to their size, shape, availability, and their ability to be developed efficiently. The Managers' Lot, Amtrak, and CRCF sites were rated fair or poor overall because of constraints identified during the sub-criteria evaluation. These constraints included small site size, limited buildable area, access limitations, and poor development synergy opportunities. **Table 5.2** depicts the individual rating for each sub-criteria element. A detailed explanation of the sub-criteria evaluation is provided below.

Table 5.2: Development Potential Summary

Criteria	Site 1: Terminal Core Area	Site 2: ESP Lot	Site 3: Managers' Lot	Site 4: Amtrak Station Area	Site 5: CRCF
Site Size	●	●	○	●	◐
Site Shape	●	●	◐	●	●
Buildable Area	●	●	●	○	●
Building Requirements	●	●	◐	○	●
Site Availability	●	●	●	◐	○
Site Access	●	●	◐	◐	○
Development Synergy	●	◐	○	○	○
Rating	Good (7)	Good (6.5)	Fair (3.5)	Poor (3)	Fair (3.5)

Legend: ● = Good (1) ◐ = Fair (.5) ○ = Poor (0)

5.2.1 Site Size

Terminal Core Area: The Terminal Core Area is the second largest site at approximately 10.3 acres in size. The development of a new hotel is estimated to require four acres leaving just over six acres available for future use. Just outside the delineated terminal core area, nine acres of this site are planned for the expansion of the Hourly Parking Garage. While, the site could accommodate some surface parking, structured parking would be more appropriate for the terminal core area. Assuming structured parking is built for a new hotel, the Terminal Core Area site provides adequate space development. The site was rated good.

ESP Lot: The ESP Lot site is approximately 10 acres, which is more than sufficient for development of a new hotel and related parking. This site was rated good.

Managers' Lot: The Managers' Lot site is the smallest site under consideration at approximately 3 acres. Development of a new hotel on this site is feasible, but would require taller structures and structured parking. This site was rated poor.

Amtrak Site: The Amtrak site is the largest site at approximately 14 acres. This site provides ample space for development of a new hotel and was therefore rated good.

CRCF Site: The CRCF site is approximately 8 acres, which provides adequate space for a new hotel and parking, however some of the parking may need to be structured depending on the site layout. The site was rated fair.

5.2.2 Site Shape

Terminal Core Area: The Terminal Core Area's shape is predominantly rectangular, but narrows at the northern and southern ends. The shape is appropriate for the development of a new hotel and was therefore rated good.

ESP Lot: The ESP Lot site is predominantly rectangular with a large rounded eastern edge. This site is considered appropriate for the development of a new hotel and was rated good.

Managers' Lot: The Managers' Lot site is wedge-shaped. This wedge shape makes full use of the site challenging. This is problematic given the small site size and need to make efficient use of the available space. Managers' Lot is less desirable than the other sites that have more efficient shapes (i.e. square or rectangular). The site was rated fair.

Amtrak Site: The shape of the Amtrak site is somewhat triangular, with the northern most corners of the site being square and the southern most point forming a point. The northern portion of the site is more conducive to a hotel development than the southern portion of the site. However, the Amtrak site shape was rated good overall.

CRCF Site: The CRCF site is square and considered appropriate for the development of a new hotel. This site was rated good for its shape.

5.2.3 Buildable Area

This evaluation category evaluates how much of the site is considered buildable given the various known building limitations.

Terminal Core Area: The Terminal Core Area site has few building limitations with most of the 10.3 acres available for development. Some of the few limitations include ingress and egress to the hourly garage and the Parking Administration Building. The site was rated good.

ESP Lot: The ESP Lot site is currently being used for surface parking and has minimal building limitations. The site was rated good for its buildable area.

Managers' Lot: Managers' Lot is also used as a parking lot. The entire site is compatible with development of a new hotel. This site was rated good.

Amtrak Site: the Amtrak site has major environmental limitations that restrict new construction on the site. The most significant of these is the presence of a documented prehistoric site. (Refer to the environmental section for more details.) Therefore, the site was rated poor.

CRCF Site: The CRCF site is currently used for rental car maintenance operations and is predominately paved. It has no significant known building limitations (but it would require the relocation of the existing rental car operations). The site was rated good.

5.2.4 Building Requirements

This evaluation category examines whether the proposed hotel development requirements defined in Section 2.0 can be adequately accommodated on each site.

Terminal Core Area: Based on the desired size and scope of the hotel, the Terminal Core Area site is considered highly suitable for the new hotel. The site can accommodate various hotel designs ranging from three to ten stories in height. All building requirements including parking can be met; therefore the site was rated good.

ESP Lot: The ESP Lot site is able to accommodate many different hotel layouts and is anticipated to meet all the necessary building requirements. This site was rated good.

Managers' Lot: Given the small site size, the minimum hotel building height is taller than for the other sites. This could result in a less efficient building design. Parking would also have to be in a multi-level structure. This site was rated fair.

Amtrak Site: The Amtrak site is large enough to accommodate the building requirements for the project, including a number of possible hotel and parking facility designs. The major issue is the environmental resources on the site that are expected to significantly limit development on the site. (Refer to the environmental section for more details.) This site was rated poor.

CRCF Site: The CRCF site is capable of accommodating the necessary hotel building requirements. Some of the parking may have to be decked depending on the site layout. However, this site was rated good overall.

5.2.5 Site Availability

Terminal Core Area: As shown in **Figure 5.4**, the Terminal Core Area site is owned by MAA. The site is currently occupied by a surface parking and a contractor staging

area; however, these functions could be relocated to other locations on the Airport. The Terminal Core Area site was rated good for its site availability.

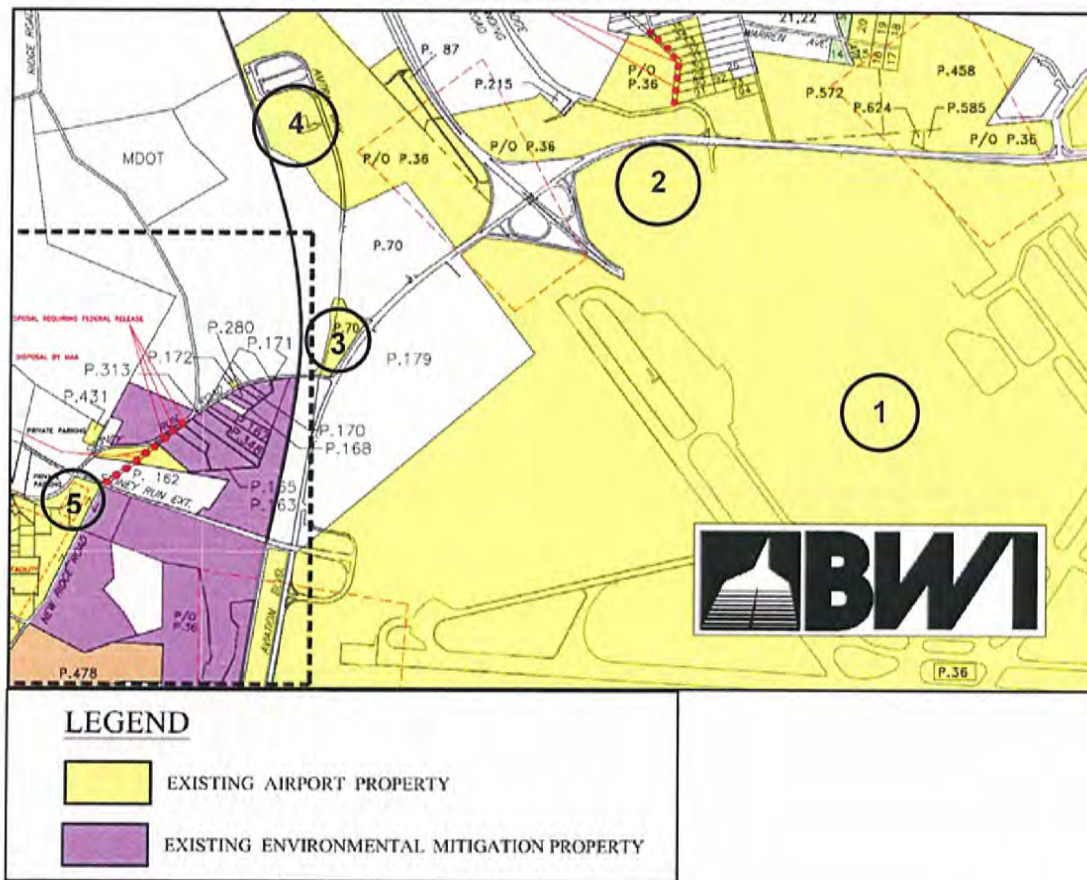
ESP Lot: MAA owns the ESP Lot site. This site is currently being used as a surface parking lot. Assuming this parking function could be relocated, the ESP Lot site was rated good for its site availability.

Managers' Lot: The Managers' Lot is owned by MAA. Currently this site is used for surface parking; however this parking could be relocated and/or consolidated with other surface parking elsewhere on the Airport. Once moved, this site would be available for a new hotel. The Managers' Lot was rated good.

Amtrak Site: The Amtrak site is owned by MAA; however the environmental resources on the site are likely to limit its availability for development and would certainly limit short-term use of the site. The Amtrak site was rated fair for site availability.

CRCF Site: The CRCF site is currently occupied by a rental car company maintenance and operations facility. The parcel was recently developed, and would require the relocation of the rental car company's maintenance facility to another location within the consolidated rental car facility development area. As a result, the CRCF site was rated poor for its site availability.

Figure 5.4: MAA Property Map



5.2.6 Site Access

Terminal Core Area: Highway access into the Terminal Core Area site is provided by I-195, Elm Road, and the other terminal core area roadways. There is also good access to transit and the main terminal. Various site access and egress configurations are possible. One simple method would be access from the west side of the site and egress on the east side; maintaining the one-way traffic circulation pattern. Traffic congestion in the core area is one potential issue for this site; however the traffic demand for this site is expected to be less than for the other sites because of the proximity to the main terminal and shuttles to the CRCF, Amtrak Station and nearby taxi stands. Provision will also have to be made for maintaining access and egress for the Hourly Garage. Overall, site access is considered good for this site.

ESP Lot: Similar to the Terminal Core Area site, highway access to the ESP Lot site is provided by I-195, Aviation Boulevard, Elm Road and the terminal roadways. A traffic signal is located at the site entrance which could facilitate the ingress and egress of vehicular traffic. No major access limitations are expected at this site. The site was rated good for site access.

Managers' Lot: Direct access into the Managers' Lot is provided by Aviation Boulevard and Amtrak Way. A traffic signal is located at Aviation Boulevard and Amtrak Way on the northeastern corner of the site. This intersection experiences considerable congestion during peak commute periods and may require improvements as part of the project. Improvements to Amtrak Way may also be necessary to provide an adequate driveway connection into the site; however, overall these limitations appear modest and could likely be addressed through roadway improvements. The site was rated fair overall for site access.

Amtrak Site: Access to the Amtrak site is provided by Amtrak Way from Aviation Boulevard. The site is located a short distance north on Amtrak Way near the current parking garages. This site has adequate access for traffic entering and exiting the site. Similar to the Managers' Lot site, this site was rated fair for site access.

CRCF Site: Access to the CRCF site is provided by Stoney Run Road from Aviation Boulevard. Highway access to the site is considered difficult for potential hotel patrons. It requires using the Aviation Boulevard / railroad tracks overpass. The site was rated poor for site access.

5.2.7 Development Synergy

Terminal Core Area: The development of a new hotel within the Terminal Core Area site is anticipated to create multiple joint-use opportunities (synergies) between a new hotel and the terminal building as a result of the number of people using the terminal area. Facilities within the terminal building such as restaurants and retail shopping outlets are anticipated to be used by hotel patrons. For the hotel, facilities such as meeting rooms, a business center, and the hotel restaurant are expected to be used by passengers within the terminal building. Perhaps the best joint-use development synergy is the opportunity to establish shared vehicular parking between the new hotel

and current or future core area parking facilities. This could result in a lower parking demand for the new hotel and maximize the development efficiency at this site. The Terminal Core Area site was rated good for its potential for development synergy.

ESP Lot: Based on the Airport's long range plans, the development of a Regional Intermodal Transportation Center is proposed near this site. If the RITC and new hotel were developed close enough for strong connections, then there would be significant opportunities for development synergies. However the exact timing and location of the RITC are not set and there are few development synergy opportunities at the site at present. Shuttle service to the main terminal would provide a link to development there. However, the ESP Lot site was rated fair for its development synergy overall.

Managers' Lot: The size and location of the Managers' Lot, limits the ability to create joint-use development synergies at this site. Currently, a surface parking lot is located on the site; however it is anticipated that the development of a new hotel would require the relocation of this facility in order to build a new hotel. The Managers' Lot was rated poor for development synergy.

Amtrak Site: If the hotel were developed on this site, there may be opportunities to create joint-use development synergies with the Amtrak station. However, the current station development is fairly limited outside of parking. The Amtrak site was rated poor.

CRCF Site: If developed at the CRCF site, a new hotel may offer opportunities to develop joint-use synergies with the consolidated rental car facility, however similar to the Amtrak station these opportunities appear to be limited. As a result, the CRCF site was rated poor.

5.3 Access to the Terminal

Each site's access to the terminal was evaluated based on three sub-criteria: Walking Distance, Distance to an APM Station, and Overall Travel Time. The results of this analysis indicated that the Terminal Core Area site was the strongest among all sites under consideration. This site is within a reasonable walking distance of the terminal building (with the moving sidewalk), is near a potential APM station, and has the shortest vehicular travel time to the terminal. The ESP Lot and Amtrak sites rated fair due to their estimated travel time and proximity to an APM station. The Managers' Lot and CRCF sites were determined to be poor based on their distance from the terminal building and from the potential APM stations. **Table 5.3** shows the summary ratings for each site for the three criteria.

Table 5.3: Access to the Terminal

Criteria	Site 1: Terminal Core Area	Site 2: ESP Lot	Site 3: Managers' Lot	Site 4: Amtrak Station Area	Site 5: CRCF
Walking Distance	●	○	○	○	○
Distance to APM Station	●	◐	○	◐	◐
Overall Travel Time	●	●	◐	◐	○
Rating	Good (3)	Fair (1.5)	Poor (.5)	Fair (1.0)	Poor (.5)

Legend: ● = Good (1) ◐ = Fair (.5) ○ = Poor (0)

5.3.1 Walking Distance

Terminal Core Area: The Terminal Core Area site is closest in proximity to the terminal building. Pedestrian access to the terminal building would likely require walking through the lower level of the Hourly Garage when traveling to or from the hotel. The estimated walking distance from the proposed hotel site to the center of the terminal building is approximately 1,300 feet. However, there is currently a moving sidewalk in the lower level of the Hourly Garage, which significantly reduces the actual walking distance (or speeds up the walking time). In addition, the hotel site is less than 1,000 feet from the new Concourse A. Therefore, the Terminal Core Area site was rated good for walking distance.

ESP Lot: The ESP Lot is approximately one mile from the main terminal. This exceeds a reasonable walking distance for hotel customers, resulting in a poor rating.

Managers' Lot: The estimated walking distance from Managers' Lot to the terminal building is approximately 1.5 miles, resulting in a rating of poor.

Amtrak Site: The estimated walking distance from the Amtrak Site to the terminal building is approximately two miles, well above a reasonable walking distance of approximately 1,000 feet. The Amtrak site was rated poor for walking distance.

CRCF Site: The estimated walking distance from the CRCF site to the terminal building is approximately three miles, resulting in a rating of poor.

5.3.2 Distance to APM Station

Terminal Core Area: The Terminal Core Area site is located near a proposed automated people mover (APM) station. The exact location of the APM station is not currently known; however, it is anticipated that the distance to the APM station would be within a reasonable walking distance from the new hotel. The Terminal Core Area site was rated good.

ESP Lot: An APM station is proposed to serve both the potential new RITC and the Daily Garage. The exact locations of these APM stations are not yet known; however,

it is anticipated that at least one station will be within walking distance (no more than 1,000 feet) from the ESP Lot site. APM users would be required to traverse Elm Road to get to the hotel. The ESP Lot site was rated fair.

Managers' Lot: an APM station is not planned on or near the Managers' Lot site. This site was rated poor based on its distance to the nearest APM station.

Amtrak Site: An APM station is proposed at the existing Amtrak station. The development of a new hotel at the Amtrak station area site is anticipated to be within an acceptable walking distance to the APM station. The Amtrak site was rated good.

CRCF Site: An APM station is also proposed for the CRCF site. The location of a new APM station at the CRCF site is not yet known; however it may be over 1,000 feet from the proposed hotel. As a result of the uncertainty of the future APM station location, the CRCF site was rated fair.

5.3.3 Overall Travel Time

Assumed travel speeds were used to estimate the overall travel time to the Main Terminal for each potential site. A travel speed of 25 mph was assumed when traveling by vehicle and a speed of 4 feet per second when walking. The only walking time estimate provided was for the Terminal Core Area as the others were well beyond a reasonable walking distance. Vehicular travel times were provided for all five sites. **Table 5.4** depicts the estimated travel time for each site below.

Terminal Core Area: The estimated vehicular travel time from a new hotel to the terminal building is 1 to 2 minutes. When walking, the estimated travel time is approximately 5 to 6 minutes to the main terminal building. As a result of the low travel times and multiple travel options, the Terminal Core Area site was rated good.

ESP Lot: The estimated vehicular travel time from the ESP Lot site to the main terminal is 2.5 minutes, resulting in a rating of good.

Managers' Lot: The estimated travel time from the Managers' Lot site to the terminal building is 4 minutes by vehicle. The Managers' Lot site was rated fair for travel time.

Amtrak Site: The estimated travel time between the proposed Amtrak site and the terminal building is 4 to 6 minutes by vehicle. As a result, this site was rated fair due to the longer time period required to reach the terminal building.

CRCF Site: The vehicular travel time from the proposed site to the terminal building is estimated at 7 to 10 minutes. Based on the travel time at other sites, the CRCF was rated poor.

Table 5.4: Travel Time Comparison

Criteria	Site 1: The Terminal Core Area	Site 2: ESP Lot	Site 3: Managers' Lot	Site 4: Amtrak Station Area	Site 5: CRCF
Distance from Site to Terminal Building	1,300 ft	1 Mile	1.5 Miles	2 Miles	3 Miles
Travel Time (vehicle)	1-2 min (5-6 min walking)	2-3 min	3-4 min	4-6 min	7-10 min

5.4 Environmental Resources

Three of the five sites under consideration for a new hotel were rated good for the lack of potential environmental issues. The ESP Lot and Managers' Lot sites had the best overall scores, with the fewest potential impacts. The Terminal Core Area site scored very similarly. Overall, the Amtrak site was affected most by potential environmental resources on the site. In particular, there is a significant known prehistoric archaeological site at the Amtrak location. The site is also forested and is bordered by wetlands, floodplains, and has the potential for rare threatened and endangered species on or near the site. The major environmental drawback at the CRCF site is due to noise. **Table 5.5** provides the results of the environmental resource evaluation for each of the five sites under consideration. Exhibits 5.1 and 5.2 are included in the Appendix to provide a graphical view for several of the environmental resources evaluated in this section.

Table 5.5: Environmental Resources Summary

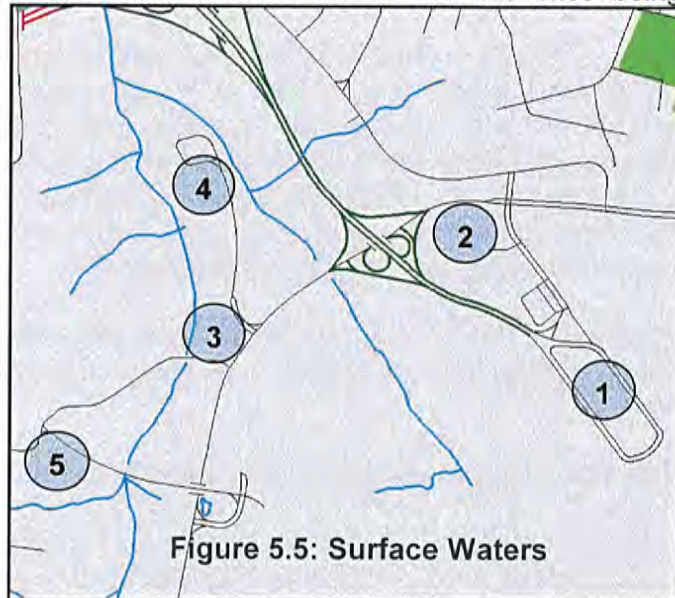
Criteria	Site 1: Terminal Core Area	Site 2: ESP Lot	Site 3: Managers' Lot	Site 4: Amtrak Station Area	Site 5: CRCF
Surface Waters, Water Quality and Quantity	●	●	●	◐	●
Rare, Threatened and Endangered Species	●	●	●	◐	●
Noise	●	●	●	●	◐
Hazardous Materials	◐	●	●	●	◐
Floodplains	●	●	●	●	●
Wetlands	●	●	●	◐	●
Historic/Archeological Sites	●	●	●	○	●
Forests	●	●	●	○	●
Air Quality	●	●	●	●	●
LEEDS	●	●	●	◐	●
Rating	Good (9.5)	Good (10)	Good (10)	Poor (6)	Good (9)

Legend: ● = Good (1) ◐ = Fair (.5) ○ = Poor (0)

5.4.1 Surface Waters, Water Quality and Water Quantity

Readily available published information was examined to identify potential water resources in the vicinity of the five alternative sites. Four of the five sites being

considered are currently paved and/or developed for other land uses. However, redevelopment of these sites would still require a Storm Water Management (SWM) analysis addressing both water quantity and water quality. According to the Maryland Department of the Environment's Maryland Stormwater Management Guidelines for State and Federal Projects any project that exceeds 5,000 square feet on existing impervious surface is a "redevelopment" project and would be required to reduce impervious area by 20 percent or provide qualitative control for a minimum



of 20 percent of the project's predevelopment impervious area. For the fifth site, appropriate SWM measures must also be provided to ensure that the quality and quantity of storm water associated with the development would not have direct or indirect effects on nearby streams. To the extent possible, site specific SWM facilities would be designed to mitigate potential impacts identified in the analysis stage for any of the sites. In addition, all of these sites drain into the Stony Run watershed, which is known to contain sensitive habitats for rare, threatened, and endangered species, therefore special attention should be paid to designing SWM facilities to minimize impacts to this watershed.

Terminal Core Area: No streams exist within the Terminal Core Area site (see **Figure 5.5**). The site is impervious, and would therefore qualify as a redevelopment project. It is anticipated that additional green space associated with the redevelopment will decrease current surface water runoff. The Terminal Core Area site was rated good.

ESP Lot: The ESP Lot site lies between two intermittent streams located to the north and south (see USGS map in Figure 5.1). The northern stream is an unnamed tributary of Sachs Branch. The southern stream is Sachs Branch. The site is currently paved, with surface runoff collected in a detention basin southwest of the parking lot. The site is impervious, and would therefore qualify as a redevelopment project. It is anticipated that additional green space associated with the redevelopment will decrease current surface water runoff. However, if the parking lot is replaced on another unpaved site, then this could be a "connected action" leading to increased runoff that would have to be accommodated in MAA's SWM Plan. The site is rated good.

Managers' Lot: Managers' Lot does not contain any streams within its boundary, though Stony Run lies west of the site near the rail line. The site is paved and surface runoff at this site is collected and drained in the King Branch drainage basin. The site is impervious, and would therefore qualify as a redevelopment project. The site was rated good.

Amtrak Site: Stony Run is considered a major stream and lies just west of the of the Amtrak site boundary (see Figure 5.5). The development of a new hotel on this site could potentially have water quantity and quality issues due to the required deforestation of the site and the increase in impervious area. Typical measures such as the creation of stormwater detention ponds and appropriate grading techniques would be necessary to reduce the potential impacts. However, the Amtrak site was rated fair for potential impacts in this category.

CRCF Site: The CRCF site contains no streams within its boundary. The site is impervious, and would therefore qualify as a redevelopment project. This site was rated good.

5.4.2 Rare, Threatened, or Endangered Species

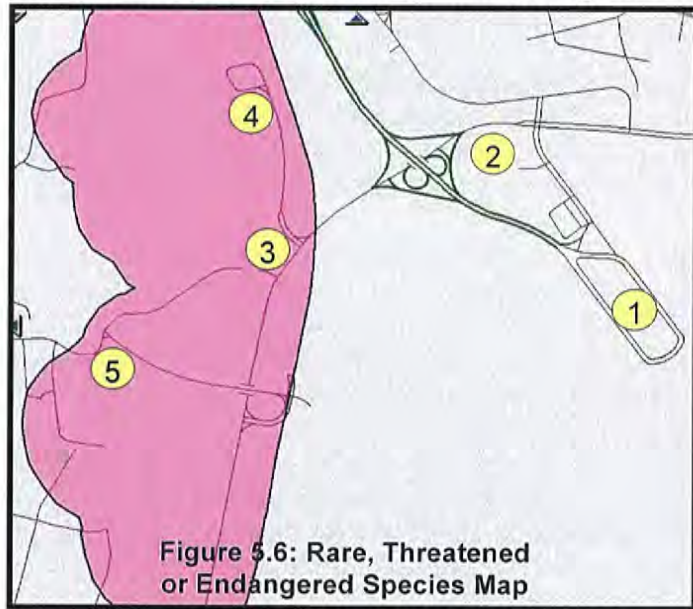
Mapping for rare, threatened or endangered species (RTEs) was obtained from prior studies and Maryland on-line mapping (MERLIN). The shaded area in **Figure 5.6** depicts the approximate boundaries of RTEs in the vicinity of the five sites.

Terminal Core Area: No RTEs or their habitats are known to occur in the terminal core. As a result, no impacts to RTEs are anticipated and the site was rated good.

ESP Lot: No RTEs or their habitats are known to occur on the ESP Lot site. This site was rated good.

Managers' Lot: No RTEs or their habitats are known to occur on the Managers' Lot site; therefore the site was rated good. However it is important to note that the site is located in an area designated as a Sensitive Species Review Area (SSPRA) because populations of state and federally listed rare, threatened, or endangered species or their supporting habitats are known to occur in the area.

Amtrak Site: The Amtrak site is also located in the SSPRA. Information collected from previous documents indicates that a federally threatened and state endangered flora species, known as Swamp Pink, may occur in the Stony Run watershed. Overall, a rating of



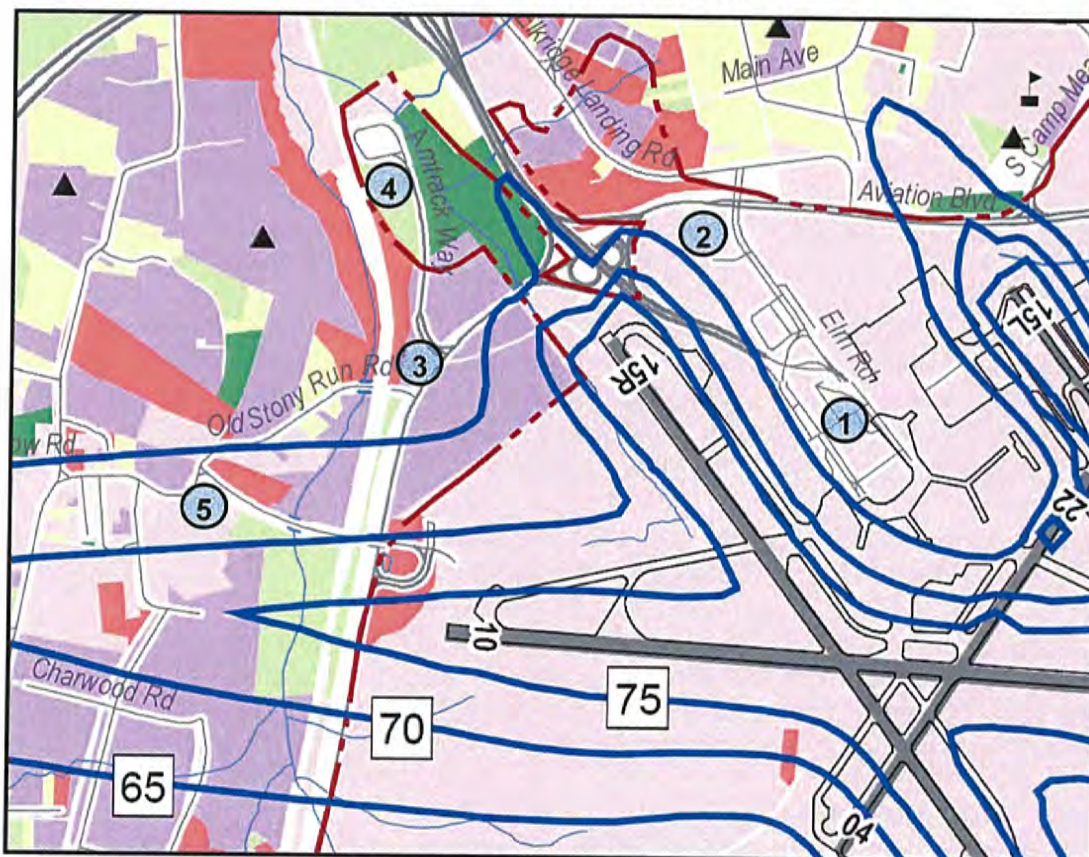
fair was assigned based on the possibility of a federally protected species existing within or adjacent to the site area.

CRCF Site: The CRCF site is also located in the SSPRA. Information collected from previous documents indicated that a federally threatened and state endangered flora species, known as Swamp Pink, may occur within the Stony Run watershed; however, field investigations conducted in May of 2000 did not identify any Swamp Pink within the CRCF area. The Environmental Assessment prepared for the Airport in 2000 indicated no species of RTEs were expected at this site. As a result, no impacts to rare, threatened or endangered species are anticipated within the CRCF site which is now paved. This site was rated good.

5.4.3 Noise

The noise analysis is based on the 2010 noise contour figure from the Federal Aviation Regulation (FAR) Part 150 Noise Analysis for BWI Airport (2005-2010), completed by HMMH in April of 2006. This figure shows the 65, 70 and 75 Average Day Night Sound Level (DNL) noise contours. Refer to **Figure 5.7** for the site locations.

Figure 5.7: Noise Contours



Source: BWI FAR Part 150 Noise Analysis Study HMMH, 2006.

Table 5.6 lists the residential land use compatibility designations (including hotel/motel uses) published by the Federal Aviation Administration for development near airports. This is a partial listing of the complete FAA table.

Table 5.6 Land Use Compatibility with Yearly Day-Night Average Sound Levels*

Land Use	Yearly Day-Night Average Sound Level (DNL) in Decibels					
	Below 65	65-70	70-75	75-80	80-85	Over 85
Residential						
Residential, other than mobile homes and transient lodgings	Y	N ¹	N ¹	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient lodgings (Hotels/Motels)	Y	N¹	N¹	N¹	N	N

Source: Federal Aviation Administration Regulations 14 CFR Part 150, effective January 18, 1985.

Y(Yes) = Land Use and related structures compatible without restrictions.

N(No) = Land Use and related structures are not compatible and should be prohibited.

NLR = Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.

Notes:

¹ *Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dB; thus, the reduction requirements are often stated as 5, 10 or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria would not eliminate outdoor noise problems.*

* The designations contained in this table do not constitute a Federal determination that any use of land covered by the program is acceptable or unacceptable under Federal, State, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.

Terminal Core Area: The Terminal Core Area site is located outside the 65 DNL noise contour shown for 2010. As a result, the Terminal Core Area site was rated good.

ESP Lot: The ESP Lot site is located outside the 2010 65 DNL noise contour as well. While the cumulative noise for this site does not require noise mitigation for the development of a new hotel, it is possible that the ESP Lot site may experience single event noise levels above 65 decibels (dB) during some aircraft operations. The ESP Lot site was rated good for minimal noise impacts.

Managers' Lot: The Managers' Lot site is located also outside the 2010 65 DNL noise contour. This site was rated good for potential noise impacts.

Amtrak Site: The Amtrak site is outside the 2010 65 DNL noise contour boundary. Single noise events over 65 dB are anticipated due to the proximity of the end of Runway 15R; however, soundproofing is not mandatory under federal or state law. The Amtrak site was rated good given its location outside the 65 DNL contour.

CRCF Site: The CRCF site is inside the 2010 65 to 70 DNL noise contour. It is also in the vicinity of the end of Runway 10. The development of a new hotel at this site would likely require noise mitigation measures. The CRCF site was rated fair because it is located within the 65 DNL noise contour.

5.4.4 Hazardous Materials

A general assessment of the potential for hazardous materials was based on current or known prior uses for each of the sites as well as any available recent study documentation.

Terminal Core Area: Certain rental car operations were previously located within the Terminal Core Area site (including a former Chevron Station, Dollar-Rent-A-Car facility, and the Car Rental Quick-Turn-Around area). There have been recent assessments of this site that have shown the presence of contaminated soils and groundwater. As a result, a rating of fair was given to this site.

ESP Lot: No known hazardous materials are located on the ESP Lot site. This site was rated good for the absence of hazardous materials.

Managers' Lot: The Managers' Lot site has no previously identified hazardous materials located on site. This site was rated good.

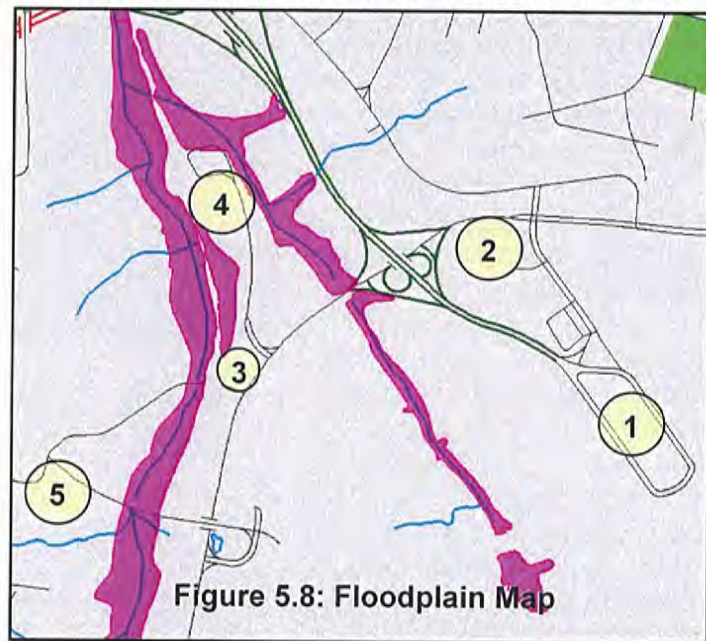
Amtrak Site: The Amtrak site is predominantly undisturbed and considered free from existing hazardous materials. As a result, the Amtrak site was rated good.

CRCF Site: Currently, the CRCF site is used as a consolidated rental car facility for all agencies at the Airport. Based on the operations conducted at this site, it is possible that some hazardous materials may exist on site. While the existence of hazardous materials is not known for certain, a rating of fair was given.

5.4.5 Floodplains

Floodplain mapping was obtained from the MERLIN GIS system as shown in **Figure 5.8**. Additional floodplain information was obtained from previous studies and mapping.

Terminal Core Area: No floodplains exist within the Terminal Core Area site. This site was rated good for no impacts to floodplains.



ESP Lot: The 500-year floodplain is located near the southwest corner of the ESP Lot site. While, not shown in Figure 5.7 (from MERLIN), it did appear in previous environmental mapping. This floodplain is associated with Sachs Branch. However, the floodplain does not directly impact the proposed development area. The ESP Lot site was rated good for having no known floodplain impacts.

Managers' Lot: No floodplains exist within the Managers' Lot site. The closest floodplain to this site is the Stony Run floodplain. This floodplain is over 500 hundred feet from the site and not expected to result in any floodplain impacts. This site was rated good.

Amtrak Site: The Amtrak site is located between floodplains on the east and west sides of the site. Fortunately, the elevation of the Amtrak site protects against any potential impacts from flooding. As a result, no floodplain impacts are anticipated. The Amtrak site was rated good.

CRCF Site: The CRCF site does not have any existing floodplains within its boundary. As a result, this site was rated good for not impacting floodplains.

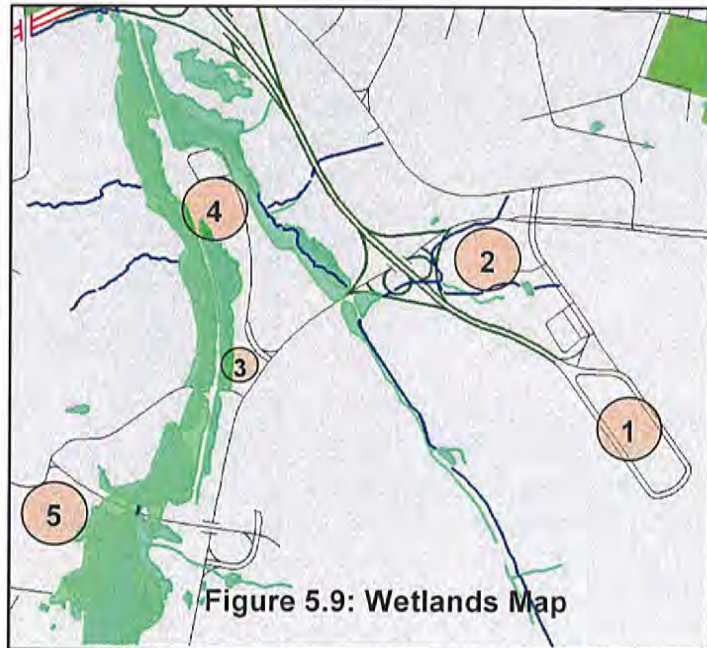
5.4.6 Wetlands

Wetland mapping was obtained from the MERLIN GIS system as shown in **Figure 5.9**. Additional wetland information was obtained from previous studies and mapping.

Terminal Core Area: No wetlands exist within the Terminal Core Area site boundary. No impacts to wetlands are expected at this site. The Terminal Core Area site was rated good.

ESP Lot: No wetlands exist within the boundary of the ESP Lot site, which is mainly paved. One small wetland exists approximately 150 feet from the southwestern corner of the site. It is not anticipated that development on the site would impact any wetlands. The site was rated good.

Managers' Lot: One small wetland exists just beyond the southern corner of the of the Managers' Lot site. Since the site is already paved, impacts to this wetland are deemed unlikely if the new hotel is constructed within the paved area and stormwater management is designed according to the redevelopment requirements in the *Maryland Stormwater Management Guidelines for State and Federal Projects*. As a result, the Managers' Lot site was rated good for potential impacts to wetlands.



Amtrak Site: Known wetlands exist on the east and west side of the Amtrak site. The development of a new hotel will increase the imperious area and therefore increase stormwater runoff from the site. This may impact surrounding wetlands near the site. As a result, the Amtrak site was rated fair due to the possibility of impacts to wetlands.

CRCF Site: The CRCF site does not contain any wetlands. A rating of good was given to the CRCF site.

5.4.7 Historic/Archeological Sites

The MAA prepared a Historic Preservation Plan (MAA, 1996), which documents known historical and archaeological resources as well as areas that have been previously evaluated and therefore require no additional studies. The document also delineates the remaining areas and designates areas with regards to probability of historical and archaeological resources. This information, combined with other known previous studies was used for the following site analysis.

Terminal Core Area: No known historic/archaeological sites exist within the Terminal Core Area Site. The Terminal Core Area site was rated good since a low probability for impacts to historic/archaeological sites is expected. (Refer to Exhibit 5.1 in the Appendix.)

ESP Lot: Based on previous archaeological assessments, the ESP Lot site contains an area having a moderate to low probability of prehistoric and historic sites within its boundary. However, follow-up research conducted for the 2000 EA indicated that there are no inventoried sites in the area. Referring to the original parking facility and roadway construction, it also determined that "archaeological investigations are unwarranted for the project and that the project is unlikely to affect historic properties in the area." For these reasons, the ESP Lot site was rated good.

Managers' Lot: No known historic/archaeological sites exist within the Managers' Lot boundary. As a result, no impacts to historic/archaeological sites are expected at this site. The Managers' Lot site was rated good.

Amtrak Site: The Amtrak site lies within an area previously identified as having a known sensitive prehistoric site. This site is documented as being a site of statewide importance. Prior archaeological studies recommended that this site be preserved in place. The Amtrak site was rated poor for known archaeological resources.

CRCF Site: No known historic/archaeological sites exist within the CRCF boundary. This site has previously been developed and redevelopment is not expected to impact historic/archaeological resources. The CRCF site was rated good.

5.4.8 Forests

Forested areas were considered in evaluating the potential environmental considerations for each site. MAA has prepared a Reforestation Master Plan for BWI (MAA, 2003) and a Forest Maintenance Plan for BWI (MAA, 2003 revised). While four of the sites are not forested, one does contain a significant forest stand.

Terminal Core Area: No forest land exists within the boundary of the Terminal Core Area site. As a result, no impacts to forest land are expected at this site. The Terminal Core Area site was rated good. (Refer to Exhibit 5.2 in the Appendix.)

ESP Lot: North and west of the ESP Lot site is an identified forest stand. However, the development of a new hotel is expected to occur on the portion of the site which is already developed. The ESP Lot site was rated good.

Managers' Lot: The Managers' Lot site is adjacent to one forested area located west of the site. The proximity of the forests to this site creates the potential for impacts to forests if development extends outside the paved area. Assuming the development remains on the paved area, it is unlikely that forest impacts will occur. The site was rated good.

Amtrak Site: The Amtrak site is primarily forested. Development of a new hotel could result in the elimination of much of this forested area. An initial estimate showed the need to remove approximately 8 acres of forest. This would require mitigation in accordance with the Maryland Forest Conservation Act, including the preparation and approval of a Forest Stand Delineation/Forest Conservation Plan (FSD/FCP). A Forest Stand Delineation documents existing forest resources and habitat quality for a site; a Forest Conservation Plan documents proposed impacts to forest resources and tree protection measures that minimize impacts to these resources during construction and provides detail on mitigation plans to compensate for the proposed impacts. A penalty in the form of 2:1 replacement for impacted areas, which is in addition to the calculated mitigation ratio, is assessed for any project that impacts a previously designated Forest Conservation Area. State agencies, such as the MAA, submit FSDs/FCPs directly to the Maryland Department of Natural Resources Forest Service for review and approval. The Amtrak site was rated poor based on expected forest impacts.

CRCF Site: The CRCF site contains no forests. This site was rated good.

5.4.9 Air Quality

Air quality is an important health issue in the U.S. Under the Federal Clean Air Act (CAA), if a region does not meet the National Ambient Air Quality Standards (NAAQS), its regional council/association of governments is required to develop a State Implementation Plan (SIP) to demonstrate how it will meet these standards. The SIP includes a long-range forecast of all activities that contribute to air emissions. The Baltimore Metropolitan region, which includes Anne Arundel County, does not meet NAAQS and is designated as a severe ground level ozone "non-attainment area" by the US EPA.

Terminal Core Area: While, it is not anticipated that air quality will be negatively impacted by the development of a new hotel, a more detailed air quality analysis will be necessary to confirm that this is not an issue. The most likely source of emissions that would be scrutinized during the environmental review process would be temporary emissions associated with construction traffic and permanent stationary sources such as heating and air conditioning units. Air quality concerns would include emissions and dust associated with construction as well as the potential for increased emissions of air pollutants from the hotel's heating and air conditioning system. Vehicle traffic generated by the development would also be considered. The Terminal Core Area site was rated good for its ability not to impact air quality.

ESP Lot: Impacts to air quality are expected to be similar to those outlined for the Terminal Core Area. The ESP Lot site was rated good for its likelihood not to impact air quality.

Managers' Lot: Impacts to air quality are expected to be similar to those outlined for the Terminal Core Area. The Managers' Lot site was rated good for its likelihood not to impact air quality.

Amtrak Site: Impacts to air quality are expected to be similar to those outlined for the Terminal Core Area. The Amtrak site was rated good for its likelihood not to impact air quality.

CRCF Site: Impacts to air quality are expected to be similar to those outlined for the Terminal Core Area. The CRCF site was rated good for its likelihood not to impact air quality.

5.4.10 LEED

In order to help build a better understanding of Sustainable Design practices, and to establish a means of objectively measuring how "Green" a building is, the US Green Building Council created the Leadership in Energy and Environmental Design (LEED) Green Building rating system. The state of Maryland recommends (though does not require) that all state-sponsored building projects attain a Silver Certification based on the LEED system. The LEED point system is divided into six categories including one that addresses sustainable sites. Some of the design opportunities to consider in this category include minimizing paving not necessary to meet code or functional requirements, minimizing the development footprint, removing existing pavement, and developing a comprehensive, site-specific, stormwater management plan.

Terminal Core Area: The Terminal Core Area is located in an area that has previously been disturbed and paved. In order for a LEED certification to be granted, a site has to have the ability to incorporate the concept of sustainable development as well as avoid impacts to the surrounding environment. Sites which have been previously disturbed and paved are considered more likely to comply with LEED requirements than an undisturbed green site. The ability for a LEED certification of silver for this site is considered obtainable and resulted in a rating of good.

ESP Lot: Based on few impacts to the surrounding environment and the ability for sustainable development to be utilized at the site, the ESP Lot site was given a rating of good for its ability to incorporate the founding principles of a LEED silver certification.

Managers' Lot: This site has few impacts to the surrounding environment and has previously been disturbed and paved. The Managers' Lot site was given a rating of good for its ability to achieve a LEED rating of silver.

Amtrak Site: The majority of the Amtrak site is undeveloped. Nearby floodplains, forests and wetlands make this site a less desirable candidate from a sustainable

development standpoint. It is not disturbed or paved. As a result, the Amtrak site received a rating of fair.

CRCF Site: This site has been previously disturbed and paved and has few environmental impacts resulting from the development of a new hotel. The CRCF site is considered favorable for obtaining a LEED silver rating. The site was rated good.

5.5 Airport Development Impacts

The results of the airport development impact evaluation indicated that four of the five sites were considered good for their ability to comply with existing and future development at the Airport. The CRCF site was determined to have the most significant concerns with respect to airport development because use of this site would require relocating existing rental car maintenance facilities. An evaluation of the Horizontal Surface Limit (HS) for each site showed no Federal Aviation Regulations (FAR) Part 77 limitations that would preclude meeting the hotel building requirements identified in Section 3.0. **Table 5.6** provides the results of the airport development impact analysis.

Table 5.6: Airport Development Impacts

Criteria	Site 1: Terminal Core Area	Site 2: ESP Lot	Site 3: Managers' Lot	Site 4: Amtrak Station Area	Site 5: CRCF
Existing Airport Development and/or Operations	●	◐	●	◐	○
Future Airport Development and/or Operations	●	●	○	●	●
Airspace Restrictions / Issues	●	●	●	●	●
Rating	Good (3)	Good (2.5)	Fair (2)	Good (2.5)	Fair (2)

Legend: ● = Good (1) ◐ = Fair (.5) ○ = Poor (0)

5.5.1 Existing Airport Development and/or Operations

Terminal Core Area: The Terminal Core Area site is currently being used as a vehicular parking lot and a base for ongoing construction operations at the Airport. As identified in the 2004 Edwards and Kelcey Hotel Feasibility Study, the development of a new hotel on this site is not anticipated to impact airside operations. It should be noted that this report also recommended a traffic analysis to determine the potential impact to landside operations such as vehicular access within the terminal core. This site received a rating of good for its ability not to impact existing airport development and/or operations.

ESP Lot: Currently, the ESP Lot site is used for surface parking. A review of airside and landside activities on this site indicated the relocation of ESP Lot would be required if a new hotel were developed at this site. The ESP Lot site was rated fair as a result of the impact to existing airport operations.

Managers' Lot: The Managers' Lot site is used for surface parking only during peak travel periods. Development of a new hotel at this site is not expected to impact existing airport development or airport operations. The Managers' Lot site was rated good.

Amtrak Site: The Kauffman Building on the Amtrak site is used as a Remote Airport Administration Building. While the exact location of a new hotel at this site is not yet known, it is possible that this building may have to be relocated in order to build a new hotel. In the event the hotel would have to be built on the same site as the Kauffman Building, impacts to existing airport development would occur. Based on a potential relocation and ultimate impact to existing airport development, the Amtrak site was rated fair.

CRCF Site: The CRCF site is currently used by one of the rental car agencies as an operations center for vehicular maintenance, washing, and service. This site is considered a piece of the overall consolidated rental car facility for the Airport. Development of a new hotel on this site would require the rental car operation to relocate to another parcel within the overall consolidated rental car facility. As a result, the CRCF site was rated poor.

5.5.2 Future Airport Development and/or Operations

Terminal Core Area: A review the Airport's proposed future Airport Layout Plan (ALP) indicates that a new hotel within the Terminal Core Area site is compatible with the desired type of development planned for the future (see **Figure 5.10**). Development of a new hotel is not expected to impact future airport development projects or negatively affect future airport operations at this site. This Terminal Core Area site was rated good for its ability to comply with future airport plans.

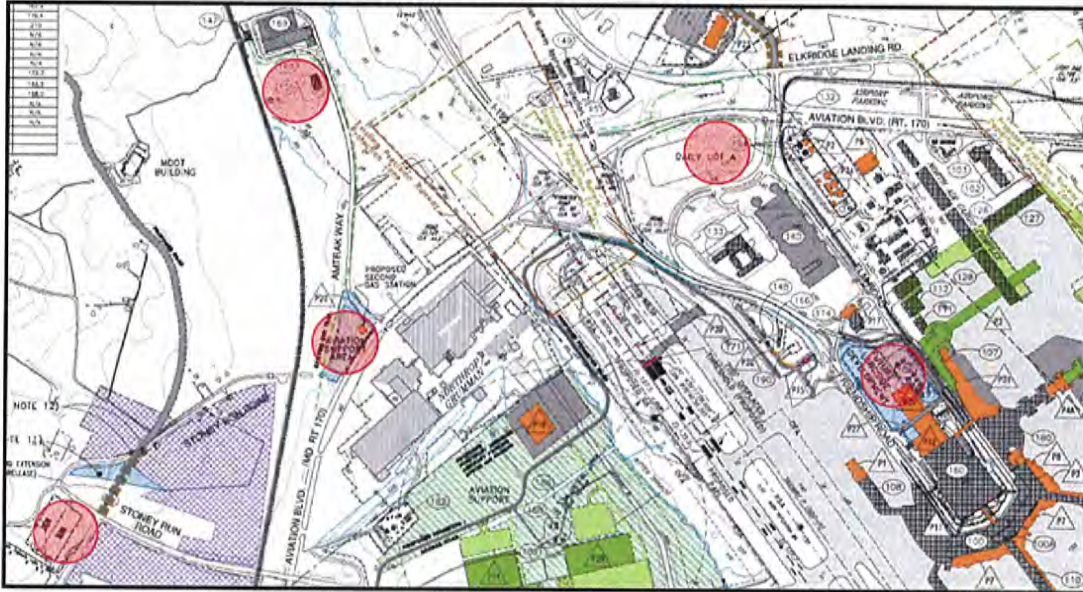
ESP Lot: Future development of the Regional Intermodal Transportation Center is planned near the boundary of the ESP Lot site. The exact location of this planned facility is not yet known; however, the development of a new hotel at the ESP Lot site is not anticipated to impact future airport projects or future airport operations. The overall size of this site versus the projected size of a new hotel led to a rating of good for this site.

Managers' Lot: According to the Airport and the proposed future ALP, the Managers' Lot site has been identified as an area for future aviation support. Subsequently, this site has also been identified as a potential site for a future gas station. Development of a new hotel at this site may not be compatible with the future plans for this site. As a result, the Managers' Lot site was rated poor due to the potential for future airport related development on this site.

Amtrak Site: No future airport development plans have been identified on the Airport's proposed future ALP for the Amtrak site. Should the hotel development occur at this site, no impacts to future airport development and operations are expected. This site was rated good.

CRCF Site: While the development of a hotel on this site will impact current airport operations, it is compatible with future airport plans and is not expected to affect any other future airport facilities or operations. As a result, the CRCF site was rated good.

Figure 5.10: Proposed Future Airport Layout Plan (ALP)



5.5.3 Airspace Restrictions / Issues

Terminal Core Area: The ground elevation at the Terminal Core Area site was determined using the proposed future Airport Layout Plan (ALP). The elevation at this site is 150 Mean Sea Level (MSL). Based on the Airport's existing Horizontal Surface (HS) limit of 296 MSL, approximately 146 feet are available Above Ground Level (AGL) for the development of a new hotel. Given the available clearance, no elevation constraints are known to exist. The Terminal Core Area site was rated good.

ESP Lot: The ESP Lot site has a published elevation of 170 MSL. This site has approximately 126 feet AGL which is usable for the vertical development of a new hotel. The elevation of the site is not anticipated to impact the Airport's HS limit of 296 MSL, the ESP Lot site was rated good.

Managers' Lot: BWI's current ALP indicates the Managers' Lot has an elevation of 100 MSL. Based on this elevation, 196 feet AGL may be used for vertical hotel development. No elevation impacts exist at this site. The Managers' Lot site was rated good.

Amtrak Site: The majority of the Amtrak site has an elevation of 90 MSL. The remaining elevations at this site slope downward toward a low lying area. This site lies within the approach and transitional surfaces for Runway 15R. However, given the distance from the runway end, there are no significant elevation restrictions that would preclude hotel development on the site. This site was rated good.

CRCF Site: The CRCF site has an estimated elevation of 120 MSL. This site is anticipated to provide ample vertical space for development of a new hotel. It should also be noted; however, that the Approach Surface (AS) for R/W 10L is very close to CRCF site. Should the length of R/W 10L change, this site should be reevaluated for potential impacts the AS limit. This site was rated good.

5.6 Location and Visibility

An evaluation of the location and visibility of those sites considered for a new hotel was conducted. Results indicated two of the five sites were rated good for their individual location, visibility, view shed/vistas and market presence characteristics. These sites include the Terminal Core Area and ESP Lot. Both these sites were determined to have excellent locations and high visibility. These sites could provide guests with a desirable view overlooking the airfield. The overall market presence of the Terminal Core Area and the ESP Lot sites was rated good due to the ability to capture a significant share of the hotel market. Those sites further from the Airport were rated from fair to poor. **Table 5.7** shows the results of the location and visibility evaluation.

Table 5.7: Location and Visibility

Criteria	Site 1: Terminal Core Area	Site 2: ESP Lot	Site 3: Managers' Lot	Site 4: Amtrak Station Area	Site 5: CRCF
Location	●	◐	◐	○	○
Visibility	●	●	◐	○	○
View Shed/Vistas	●	●	◐	◐	○
Market Presence	●	●	◐	○	○
Rating	Good (4)	Good (3.5)	Fair (2)	Poor (.5)	Poor (0)

Legend: ● = Good (1) ◐ = Fair (.5) ○ = Poor (0)

5.6.1 Location

Terminal Core Area: The Terminal Core Area is the closest site in proximity to the terminal building. A new hotel at this site would provide hotel patrons with access to conveniences such as food and beverage, retail shopping outlets and individual airline stations within the terminal building. The Terminal Core Area site was rated good for its location near the terminal.

ESP Lot: The ESP Lot site was rated fair based on the development of a new hotel at this location. Support for this rating stems from the anticipated level of convenience hotel patrons bound for the terminal building would be provided at the ESP Lot site. When compared to Terminal Core Area site, this site is considered less favorable and received a fair rating.

Managers' Lot: The location of the Managers' Lot site is further away from an established activity center than other sites under consideration for a new hotel. If developed at this site, hotel patrons would have to travel outside the hotel property for

many of desired services offered at the terminal. The Managers' Lot site received a rating of fair.

Amtrak Site: The location of the Amtrak site was considered the less desirable for the development of a new hotel. This site not only requires a longer travel distance, but it also is isolated from nearby services desired by hotel patrons. This site was rated poor for its location to an activity center.

CRCF Site: The CRCF site also received a rating of poor based on its proximity to a known activity center. Development of a new hotel at this site is anticipated to lack the desired conveniences located near other sites within a more developed area.

5.6.2 Visibility

Terminal Core Area: The visibility of a new hotel within the Terminal Core Area site is considered exceptional from the main entrance into the Airport. Located in the center of the terminal area, a new hotel could become a focal point for many passengers entering and exiting the terminal area. The Terminal Core Area site was rated good for visibility.

ESP Lot: A new hotel at the ESP Lot site would be visible from the main entrances into the Airport including both I-195 and Elm Road. The ESP Lot site was rated good for its visibility.

Managers' Lot: The overall visibility of the Managers' Lot site was rated fair based on the distance from the main Airport entrance and I-195. In addition, this site is small in scale compared to the existing focal point of the Northrop Grumman facility located across Aviation Boulevard from the propose hotel site.

Amtrak Site: Visibility from the main Airport entrance and I-195 is very limited and could only be overcome by building the hotel tall enough to be seen more widely. The distance between the proposed hotel location and the major highways is too far for people to see and ultimately resulted in a poor rating.

CRCF Site: Visibility between the CRCF site and Aviation Boulevard is obstructed by forests. At this site, the development of a new hotel building is not expected to be easily identifiable for hotel patrons. This site was rated poor for visibility.

5.6.3 View Shed / Vistas

For the view shed/vistas analysis each site was evaluated for its potential view shed overlooking the surrounding area. It should be noted that the actual view shed/vistas will be determined in the next phase of the hotel's development.

Terminal Core Area: The development of a new hotel at this site is expected provide hotel patrons with an excellent view shed of the airfield looking outward from inside the hotel. It is anticipated that the development of a new hotel at this site would be known for its world-class view of the airfield. This site was rated good for its view shed/vista capability.

ESP Lot: The ESP Lot site's proximity to the airfield creates an opportunity to establish a desirable view shed/vista for future hotel patrons. Still considered within visual range of the Airport, this site was rated good for its ability to provide a desirable view of the airfield looking outward from within a new hotel.

Managers' Lot: The location of the Managers' Lot site is not conducive to a developing a desirable airfield view shed/vista for a new hotel; however, the forested areas surrounding three sides of this site create an equally desirable scenic view shed when looking outward from a new hotel. Unfortunately, the eastern side of a new hotel at this site faces the Northrop Grumman facility and creates a less desirable view when looking outward. This site was rated fair for its view shed/vista potential.

Amtrak Site: The Amtrak site is considered a decent site for creating a scenic view shed/vista when look outward from a new hotel. The forests surrounding the Amtrak site create a panoramic view shed for future hotel patrons to lookout on from inside the hotel. Overall, this site was rated fair for its view shed/vista potential.

CRCF Site: If developed on the CRCF site, the view shed/vista created by a new hotel is not anticipated to be desirable for those hotel patrons looking outward on the south side of the hotel. Looking outward to the north and west, a scenic view of the surrounding forest land can be seen presently; however future development in these areas is anticipated. It is anticipated that the development of these areas would ultimately result in a view shed overlooking industrial buildings and parking. The CRCF site received a rating of poor.

5.6.4 Market Presence

Terminal Core Area: A new hotel within the Terminal Core Area is anticipated to become an icon for the Airport. The perceived market presence of a new hotel which is located within walking distance from the terminal building is expected to achieve more than its fair share of the hotel market. Conveniences such as retail shopping, food and beverage shops, and access to airline ticket counters create a distinct advantage for a new hotel within the core area. As a result, the Terminal Core Area site was rated good.

ESP Lot: The perceived market presence of a new hotel within the ESP Lot site is expected to draw a significant amount of market share compared to other hotels within the immediate area. Development of a new hotel on this site would likely become a symbol at the Airport. The ESP Lot site was rated good for its ability to attain a strong market presence in the area.

Managers' Lot: The development of a new hotel located on the Managers' Lot site is anticipated to have a less favorable market presence than other sites under consideration. Based on the sites visibility and distance from the Airport's main entrance, a new hotel is not likely to become an icon for the Airport. The Managers' Lot site received a rating of fair.

Amtrak Site: The development of a new hotel on the Amtrak site is considered less favorable than most of the other sites. Visibility constraints created by the forests between Aviation Boulevard to the site limit the anticipated exposure a new hotel would get from people traveling to and from the Airport. As a result, the Amtrak site was rated poor for its ability to capture market presence within the area.

CRCF Site: A new hotel development at the CRCF site is also not expected to generate significant market presence among other hotels in the immediate area. Visibility to this site is constrained by forests existing between the site and Aviation Boulevard. Development of a new hotel at this site is not expected to become a symbol for the Airport. This site received a rating of poor.

5.7 Customer Service and Access to Amenities

The results of the customer service and access to amenities evaluation indicated a clear advantage for the Terminal Core Area site. Its presence near the terminal building provides hotel patrons with the opportunity to choose outside food and beverage and retail services for those customers desiring non-hotel services. The ESP Lot site was the next best, with a short shuttle connection to the terminal. All of the other sites were rated poor for their lack of food/beverage and retail services near their location. **Table 5.8** displays the results of the customer service and access to amenities evaluation.

Table 5.8: Customer Service and Access to Amenities

Criteria	Site 1: Terminal Core Area	Site 2: ESP Lot	Site 3: Managers' Lot	Site 4: Amtrak Station Area	Site 5: CRCF
Proximity to Food and Beverage Services	●	◐	○	○	○
Proximity to Retail Services	●	◐	○	○	○
Rating	Good (2)	Fair (1)	Poor (0)	Poor (0)	Poor (0)

Legend: ● = Good (1) ◐ = Fair (.5) ○ = Poor (0)

5.7.1 Proximity to Food and Beverage Services

Terminal Core Area: Development of a new hotel on the Terminal Core Area site would provide hotel patrons with the opportunity to use the various food and beverages services within the terminal building, in addition to the planned restaurants within the hotel. Patrons could access the terminal services either by walking or by using a shuttle. Therefore, this site would offer more choices than any of the other four sites. The Terminal Area Core site was rated good.

ESP Lot: Outside the proposed restaurant within the new hotel, direct access to food and beverage services at this site is limited. Patrons could use a shuttle to access the terminal. Most additional food and beverage choices would require hotel patrons to travel 5 to 10 minutes. The ESP Lot site was rated fair.

Managers' Lot: The Managers' Lot site is also not near existing food and beverages services. Travel to the nearest location of restaurant choices is approximately 5 to 10 minutes from the site of a new hotel. The Managers' Lot site was rated poor.

Amtrak Site: The Amtrak site is also distant from existing food and beverages services (other than the Amtrak station snack shop). Travel to nearby restaurants is estimated at 6 to 11 minutes. The Amtrak site was rate poor.

CRCF Site: The CRCF site is not near existing food and beverages services. Hotel patrons seeking nearby restaurants would be required to travel over 10 minutes before reaching multiple food and beverage options. Overall, the CRCF site was rated poor.

5.7.2 Proximity to Retail Services

Terminal Core Area: A variety of retail services such as bookstores and gift shops are located within the main terminal building. Customers of a new hotel in the core area would have access to these services either by walking or using a shuttle. The site was rated good.

ESP Lot: Patrons at a hotel on this site could use a shuttle to access the terminal. It would be necessary to drive some distance to reach other retail stores. This site was rated fair.

Managers' Lot: It is necessary to drive some distance to reach the closest retail stores from the Managers' Lot site. Considering the required travel and inconvenience to hotel patrons, this site was rated poor.

Amtrak Site: The Amtrak site requires driving a considerable distance before reaching the nearest retail establishments. Based on the distance and travel time, this site was rated poor.

CRCF Site: The CRCF site was also rated poor based on its lack of retail stores near the proposed hotel location.

5.8 Capital Costs

An evaluation of potential project costs indicated that only the ESP Lot site was considered good. It had both low site preparation costs and could be developed with few complicating factors that would drive up building costs. The Terminal Core Area site was rated fair, mainly because construction in the terminal core can be complex and a hotel in that area is likely to be more expensive to build than on some of the other sites. The Amtrak Station and CRCF sites were both rated poor in large part due to the expected high site preparation costs associated with each site. **Table 5.9** provides a graphical depiction of the capital cost evaluation for each site.

Table 5.9: Capital Costs

Criteria	Site 1: Terminal Core Area	Site 2: ESP Lot	Site 3: Managers' Lot	Site 4: Amtrak Station Area	Site 5: CRCF
Site Preparation Costs	●	●	●	○	○
Comparative Hotel Construction Costs	◐	●	◐	◐	●
Rating	Fair (1.5)	Good (2)	Fair (1.5)	Poor (.5)	Poor (1)

Legend: ● = Good (1) ◐ = Fair (.5) ○ = Poor (0)

5.8.1 Site Preparation Costs

Order of magnitude site preparation costs were estimated for each land parcel. Sites were rated good if the estimate was less than \$500,000. Sites were considered fair if the estimate was between \$500,000 and \$1 million. Site preparation costs of over \$1 million resulted in a rating of poor. Exhibits 5.11-5.15 located in the Appendix provide a breakdown of the anticipated preparation costs for each site.

Terminal Core Area: The site preparation cost for the Terminal Core Area site was estimated at less than \$500,000. This includes the necessary pavement removal and site clearing for the development of a new hotel. Utility relocation estimates are not included in this amount. Based on the range of site preparation costs for the other sites, the Terminal Core Area site was rated good.

ESP Lot: The site preparation cost for developing a new hotel on the ESP Lot site was estimated at less than \$500,000. This amount includes pavement removal and site clearing. This site was rated good.

Managers' Lot: According to preliminary cost estimates, the Managers' Lot site has the lowest site preparation cost at less than \$500,000. This amount includes pavement removal, site clearing and demolition of a small ticket booth on the site. Overall, this site was rated good for site preparation costs.

Amtrak Site: The preliminary site preparation cost for the Amtrak site was initially estimated at between \$500,000 and \$1 million, including clearing and grubbing, pavement removal, building demolition, and projected reforestation costs. However, this cost did not include any archaeological mitigation costs. Given the presence of a documented prehistoric site, archaeological work through Phase III (artifact recovery) is anticipated. The cost of this work is expected to be significant. Therefore the total expected site preparation cost exceeds \$1 million and the Amtrak site was rated poor.

CRCF Site: The preliminary site preparation cost for the CRCF site was estimated at less than \$500,000 for site clearing, pavement removal, and building demolition. However, it is expected that MAA will have to relocate the existing rental car maintenance facility to another nearby site. The cost of this relocation could increase the total site preparation cost to well over \$1 million. Therefore, the CRCF site was rated poor.

5.8.2 Comparative Hotel Construction Costs

Terminal Core Area: The construction of a new hotel on the Terminal Core Area site is expected to be more expensive than the cost for some of the other proposed sites. One major reason for this is the high demand for the land, which would likely lead to a taller building and structured parking, while a low rise structure with surface parking may be possible on at least one of the other sites. In addition, the hotel design is expected to tie to the existing Hourly Garage, while maintaining garage ingress and egress. Construction staging, parking, maintenance of traffic, and other similar issues could also be more complex in the terminal core. Overall, this site was rated fair.

ESP Lot: The ESP Lot site has few significant building limitations or complicating factors. The hotel construction cost for the ESP Lot site is expected to be low compared to other sites under consideration. As a result, the site was rated good.

Managers' Lot: The major limitations associated with the Managers' Lot site are its size and shape. These two factors will lead to a tall hotel design with a multi-level parking garage. Garage access and egress could also be challenging. Therefore, hotel construction costs are expected to be higher than for the other larger sites. Overall, the ESP Lot site was rated fair.

Amtrak Site: The results of the various development and environmental analyses highlighted a number of known building limitations. Some of the costs associated with these limitations will result in higher site preparations costs; however the actual hotel construction could also be more expensive as the buildable area may have to be limited and special attention given to a number of key issues. Schedule slippage could also become a problem for the building. Based on the known site limitations and risks associated with developing this site, it was rated fair.

CRCF Site: As mentioned previously, the site preparation costs for the CRCF site are expected to be high due to relocating the existing rental car maintenance facilities. However, beyond this initial relocation cost, the hotel construction cost is expected to be reasonable with few complicating factors compared to the other sites. Overall, this site was rated good for hotel development cost.

6.0 EVALUATION SUMMARY

Using the eight evaluation criteria, each of the potential hotel sites was rated to determine which site was best suited to development of the proposed new hotel. **Table 6.1** provides a summary of this cumulative evaluation.

6.1 Evaluation Summary

The Terminal Core Area site was rated the best overall site for the development of a new hotel. It rated "Good" in seven of the eight categories (it also had the most points overall). Several criteria in the evaluation contributed significantly in making this site better than the other sites considered, these include physical characteristics, development potential, compatibility with airport development, and location and visibility. The Terminal Core Area's most prominent advantage over other sites is its proximity to the terminal building. A new hotel at this site can result in the development of several synergistic opportunities including parking, retail services, food and beverage services and conferences (meeting space). Passengers within the terminal are expected to utilize these facilities since they exist so close to the terminal building. Another distinct advantage of the Terminal Core Area is minimal impact to the environment. The only fair rating was for capital costs and this was related to the expected higher costs of construction in the core area.

The ESP Lot site was also highly rated for development of a new hotel. This site shared some of the same benefits as the Core Area site; however, its distance from the main terminal resulted in fair rankings in a few key areas when compared to the Terminal Core Area site. One of the ESP Lot site's more notable disadvantages was its lack of multiple joint-use synergistic opportunities with the main terminal or other developments. Other evaluation criteria used to determine this site's feasibility for a new hotel frequently matched that of the Terminal Core Area site. Criteria such as topography, land use, size, access, airspace compatibility, site preparation costs, and market presence all rivaled the Terminal Area Core site's ability to accommodate a new hotel. While rated good overall, the ESP Lot site does not offer the cumulative benefits offered at the Terminal Area Core site.

Overall, the Managers' Lot site was rated fair for the development of a new hotel. This site rated good for criteria such as minimal potential impacts to environmental resources and capital costs; however, the site's size and shape make it challenging to meet the project development requirements and there are potential impacts to proposed future airport development. The Managers' Lot site also did not rate well in key areas such as access to the terminal, location and visibility, and customer service and access to amenities. These areas also play a vital role in achieving the hotel vision identified in Section 1.2.

The Amtrak Station site was rated poor for the development of a new hotel. Aside from poor ratings in physical characteristics, location and visibility, customer service and access to amenities, and capital costs; the Amtrak Station site has a significant

historic/archeological site identified within its boundary and a recommendation of preservation in place was previously made for this site. Development of a new hotel on the Amtrak site would be very challenging and could be infeasible. As a result, the Amtrak Station site was rated poor.

The CRCF site was also rated poor for the development of a new hotel. One of the most significant disadvantages of the CRCF is the required relocation of one rental car agency's maintenance facility. This facility is associated with the newly developed consolidate rental car facility and could cost in excess of \$1 million to relocate within the consolidated rental car area. In addition, the site is located in a 65-70 DNL noise contour, which would require the use of some noise mitigation measures prior to the development of a new hotel. Based on several poor ratings and costs, this site was rated poor for a new hotel.

Table 6.1: Evaluation Criteria Matrix Summary

Criteria	Site 1: Terminal Core Area	Site 2: ESP Lot	Site 3: Managers' Lot	Site 4: Amtrak Station Area	Site 5: CRCF
	Rank	Rank	Rank	Rank	Rank
Physical Characteristics	Good (4)	Good (3.5)	Good (3.5)	Poor (1)	Fair (2.5)
Development Potential	Good (7)	Good (6.5)	Fair (3.5)	Poor (3)	Fair (3.5)
Access to Terminal	Good (3)	Good (2.5)	Poor (.5)	Fair (1.0)	Poor (.5)
Environmental Resources	Good (9.5)	Good (10)	Good (10)	Poor (6)	Good (9)
Airport Development Impacts	Good (3)	Good (2.5)	Fair (2)	Good (2.5)	Fair (2)
Location and Visibility	Good (4)	Good (3.5)	Fair (2)	Poor (.5)	Poor (0)
Customer Service & Access to Amenities	Good (2)	Fair (1)	Poor (0)	Poor (0)	Poor (0)
Capital Costs	Fair (1.5)	Good (2)	Fair (1.5)	Poor (.5)	Poor (1)
OVERALL SITE RANKING	Best Site	Good	Good	Poor	Poor

Note: (#) Indicates total cumulative points in the category



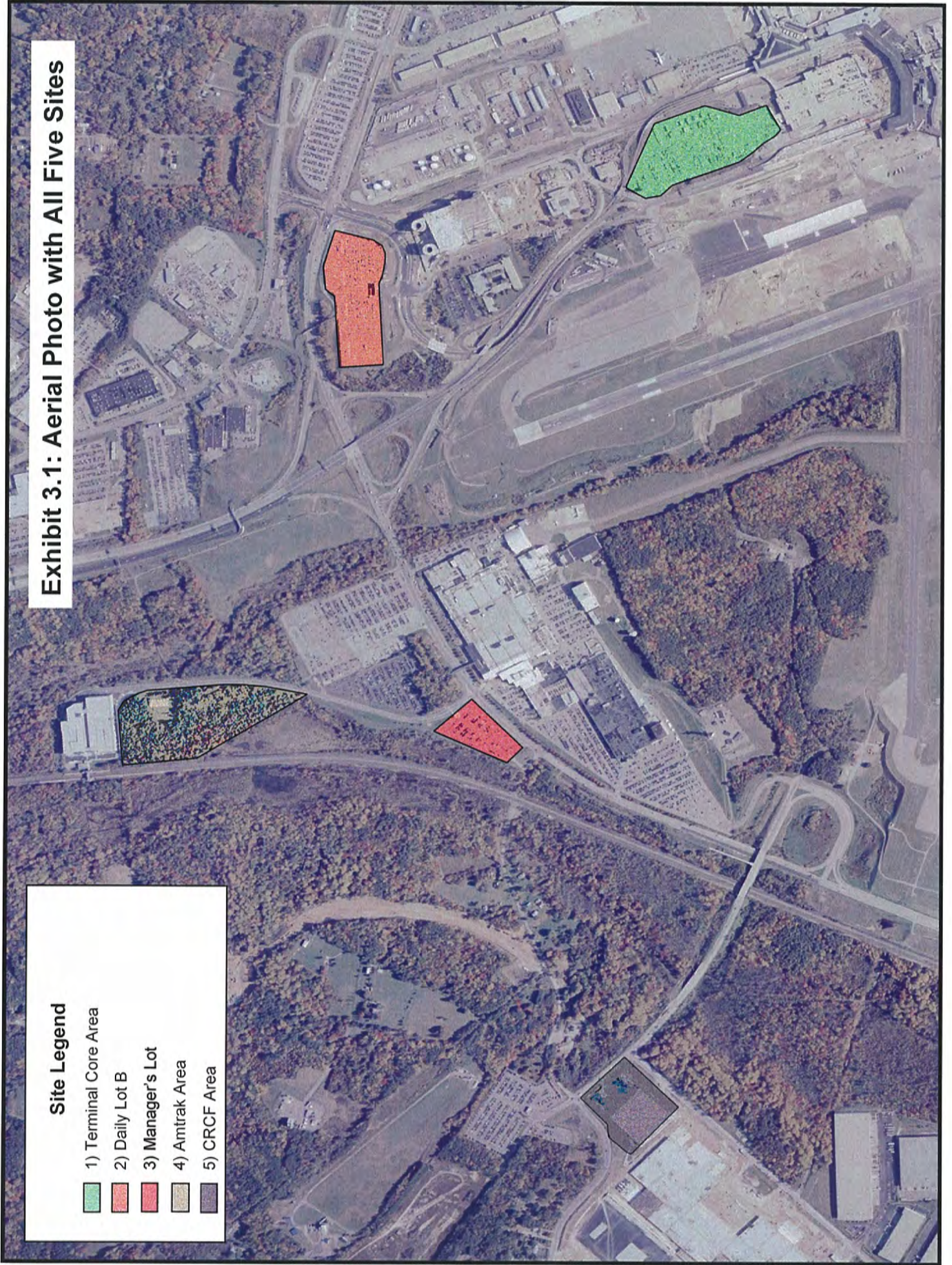
APPENDIX

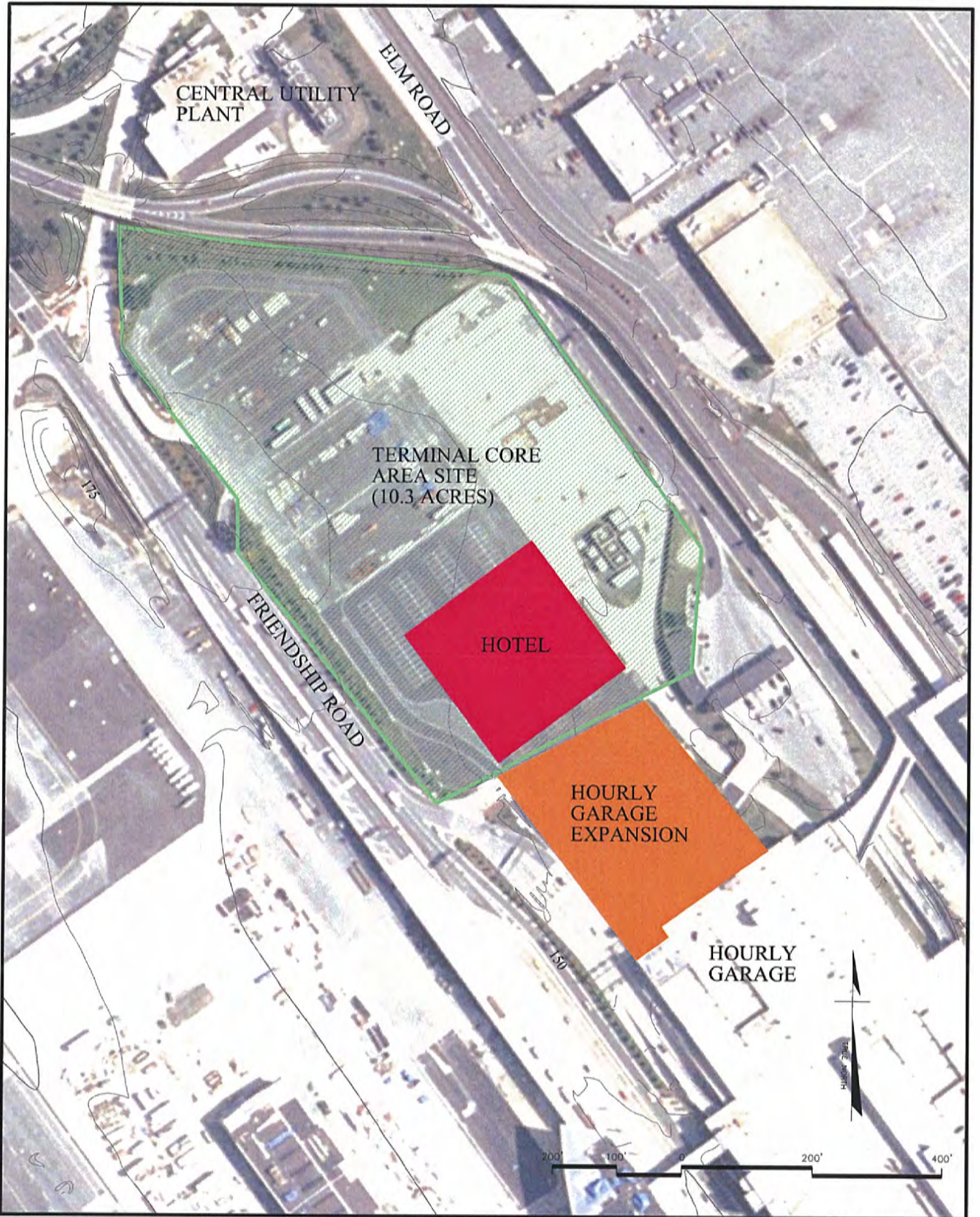


Exhibit 3.1: Aerial Photo with All Five Sites

Site Legend

- 1) Terminal Core Area
- 2) Daily Lot B
- 3) Manager's Lot
- 4) Amtrak Area
- 5) CRCF Area





BW I
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TERMINAL CORE AREA SITE

EXHIBIT
3.2



BWI
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INTERNATIONAL AIRPORT

DAILY LOT B SITE

EXHIBIT
3.3



MANAGERS' LOT SITE
AT AVIATION BOULEVARD
AND AMTRAK WAY

EXHIBIT
3.4



AMTRAK STATION
PARKING GARAGE

AMTRAK
SITE
(13.5 ACRES)

BWI TRAIL

AMTRAK WAY

AMTRAK RAIL LINE

NORTHROP
GRUMMAN
PARKING



BW I
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AMTRAK SITE

EXHIBIT
3.5

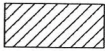

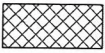
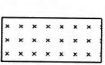




BWI
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INTERNATIONAL AIRPORT

CRCF SITE

EXHIBIT
3.6

LEGEND

-  PREVIOUSLY EVALUATED—NO ADDITIONAL ARCHAEOLOGICAL STUDY REQUIRED
-  NO PROBABILITY FOR SITES
-  HIGH PROBABILITY FOR HISTORIC SITES
-  HIGH PROBABILITY FOR PREHISTORIC SITES (BURIED DEPOSITS)
-  MODERATE TO LOW PROBABILITY FOR PREHISTORIC & HISTORIC SITES
-  AIRPORT PROPERTY BOUNDARY





LEGEND

- 100 YEAR FLOOD PLAIN
- WETLANDS
- FORESTS
- AIRPORT PROPERTY BOUNDARY

600' 300' 0 600' 1200'

10 ACRES

TRUE NORTH



Exhibit 5.3

Terminal Core Area Site				
Description	Quantity	Unit	Unit Cost	Total Cost
Removal of Existing Pavement	9,400	CY	\$35.00	\$329,000
Clearing Existing Site	6	Acre	\$4,000.00	\$23,200
			Total =	\$352,200
			Say =	\$353,000

Note:

1) Utility Relocation Cost not included

Exhibit 5.4

ESP Lot Site				
Description	Quantity	Unit	Unit Cost	Total Cost
Removal of Existing Pavement	11,400	CY	\$35.00	\$399,000
Clearing Existing Site	7	Acre	\$4,000.00	\$28,400
			Total =	\$427,400
			Say =	\$428,000

Note:

1) Utility Relocation Cost not included

Exhibit 5.5

Managers' Lot Site				
Description	Quantity	Unit	Unit Cost	Total Cost
Removal of Existing Pavement	6,900	CY	\$35.00	\$241,500
Clearing Existing Site	5	Acre	\$4,000.00	\$18,800
Demolition of Existing Parking Booth (8'x8')	640	CF	\$0.50	\$320
			Total =	\$260,620
			Say =	\$261,000

Note:

1) Utility Relocation Cost not included

Exhibit 5.6

Amtrak Site				
Description	Quantity	Unit	Unit Cost	Total Cost
Removal of Existing Pavement	1,000	CY	\$35.00	\$35,000
Clearing and Grubing Existing Site	9	Acre	\$13,000.00	\$113,490
Demolition of Existing Buildings (1 story)	301,000	CF	\$0.50	\$150,500
Reforestration	8	Acre	\$30,000.00	\$240,000
			Total =	\$538,990
			Say =	\$539,000

Note:

- 1) Archaeological Cost not included, If archeological costs included, total site preparation cost could exceed \$1 million
- 2) Utility Relocation Cost not included

Exhibit 5.7

CRCF Site				
Description	Quantity	Unit	Unit Cost	Total Cost
Removal of Existing Pavement	6,100	CY	\$35.00	\$213,500
Clearing and Grubing Existing Site	8	Acre	\$6,000.00	\$48,000
Demolition of Existing Buildings (2 story)	260,000	CF	\$0.50	\$130,000
			Total =	\$391,500
			Say=	\$392,000

Note:

- 1) Utility Relocation Cost not included
- 2) Does not include Consolidated Rental Car Facility Relocation & Reconstruction, inclusion of these costs could increase site preparation over \$1 million

Attachment 4:
BWI Hotel Market Analysis
January 2012



FINAL REPORT

Hotel Market Analysis

Baltimore/Washington International Thurgood Marshall Airport

Prepared for

Maryland Aviation Administration
Baltimore, Maryland

January 17, 2012



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EXECUTIVE SUMMARY

LeighFisher, and our subconsultants, Mary A. Lynch and Ernst & Associates are pleased to present this Hotel Market Analysis for a proposed hotel at Baltimore/Washington International Thurgood Marshall Airport (BWI Airport or Airport.) This report: (1) develops a passenger market analysis reflecting how future air traffic could influence the demand of hotel rooms and services; (2) conducts a market analysis to determine supply and demand factors in the Airport lodging market and forecast the number of rooms supported; and (3) evaluates possible financing and leasing structures for any proposed hotel development. The purpose of this analysis is to lay the groundwork to determine if a market currently exists or is projected to exist for additional hotel development.

PASSENGER MARKET ANALYSIS

Market projections for the Airport were developed to support analysis of the market for on-Airport hotel rooms/services. The analysis assisted in determining supply and demand factors in the Airport lodging market and projecting the number of rooms that might be supported. Market traffic will be projected to provide a basis for assessing potential hotel demand. Origin/destination and enplaned passengers at the Airport were projected in 5-year, 10-year and 20-year increments. Carrier-specific traffic for the major carriers was given consideration.

Three projections were developed and the results are summarized in Table 1 below:

- *Medium Case Market Scenario* – Assumes the most commonly held expectations regarding carrier commitments to service development and overall national passenger traffic growth.
- *High Case Market Scenario* – Assumes that Southwest’s plans for development of international traffic out of the Airport will be fulfilled, overall national traffic growth will be strong, and other carriers at the Airport will prosper in their service developments.
- *Low Case Market Scenario* – Assumes that overall national traffic growth in the future is slower than expectations, and that this slower growth prevents full realization of international service plans at the Airport.

	2010	LOW			MEDIUM			HIGH		
		2016	2021	2031	2016	2021	2031	2016	2021	2031
Passengers (000's)										
Enplanements	10,997	12,440	13,633	16,152	12,912	14,574	17,203	13,468	15,419	18,826
CAGR		2.1%	1.8%	1.7%	2.8%	2.5%	1.7%	3.5%	2.7%	2.0%
CAGR 2010-2031				1.8%			2.2%			2.6%
Connecting	2,629	3,234	3,817	4,846	3,873	4,809	6,021	4,444	5,397	7,154
Connecting %	23.9%	26%	28%	30%	30%	33%	35%	33%	35%	38%
Originating	8,368	9,205	9,816	11,306	9,038	9,764	11,182	9,024	10,022	11,672
CAGR 2010-2031				1.5%			1.5%			1.7%
Other Air Traffic										
Departures	376	383	404	437	394	426	462	406	440	487
Seats per Departure	122.5	127.3	131.0	137.9	128.0	131.9	138.7	129.0	134.1	140.8
Non-Stop Cities	75	75	75	79	75	79	84	78	82	87

A description of the approach, methodology and underlying data used to develop these market analysis is presented in Attachment A.

The reasonableness of the enplanement analysis results were evaluated by comparing the numbers to the growth rates embodied in the FAA Terminal Area Forecast (FAA) for the Airport. The Low and Medium hotel analysis enplanements grow more slowly than the FAA TAF for BWI Airport, while the High scenario enplanements exceed FAA TAF growth rates in 2016 and 2021.

Table 2
SCENARIO ENPLANEMENT GROWTH RATES VERSUS FAA TAF
Baltimore/Washington International Thurgood Marshall Airport

	Average Annual Growth Rates			
	2010-2016	2016-2021	2021-2031	2010-2031
FAA TAF BWI	3.1%	2.7%	2.7%	2.7%
MARKET ANALYSIS				
Low	2.1%	1.9%	1.7%	1.8%
Medium	2.8%	2.5%	1.7%	2.2%
High	3.5%	2.7%	2.0%	2.6%

HOTEL MARKET ANALYSIS

Drawing upon the passenger market analysis, future market demand and segments for the Airport hotel market were estimated. The Airport hotel market and both potential hotel development sites were studied and optimum site(s) were recommended. Once it was determined that the market can support a hotel in the 5 to 10 year timeframe, forecast occupancy and room rates were estimated. Attachment B contains all supporting documentation and analysis.

Based on this research, market support for one, first-class 250-room hotel was identified to be developed within the BWI Hotel Market Area during the analysis period with a target opening year of 2015. The Airport Site is considered superior to the Amtrak Site and optimum for this development.

Table 3 below summarizes the market area characteristics for Anne Arundel County and the BWI Hotel Market Area.

Table 3
BWI HOTEL MARKET AREA CHARACTERISTICS

Economic Indicator	Period	CAGR
Historical BWI Enplanements	2005-2010	1.9%
Market Analysis for Future BWI Enplanements	2010-2031	1.8% - 2.6%
Population	2005-2025	0.9%
Employment	2005-2025	1.1%
Mean Household Income	2005-2025	1.0%
Hotel Tax Collections	2005-2010/11	1.3%
Taxable Retail Sales	2005-2011	0.1%
Available Rooms – BWI Hotel Market Area	2005-2010	7.5%
Occupied Room nights – BWI Hotel Market Area	2005 - 2010	7.0%

With its primary economic reliance on the federal government, government contractors, as well as its ports, the greater Baltimore metropolitan area has an economy fueled primarily by its proximity to Washington, D.C. and the eastern seaboard. Although the area did feel the impact of the recent recession, due to the diversity of its economy, Anne Arundel County did not experience the sizable downturns seen in other market areas in 2008 and 2009.

Airport enplanements, hotel tax data, taxable retail sales figures, and unemployment statistics have shown improvements in 2010, indicating that the area is bouncing back from the recent economic downturns it experienced. While it is difficult to predict the economic health of any market area, particularly with the dramatic changes in the economy in recent years, the overall outlook for Anne Arundel County is good.

Site Analysis

Airport Site

We believe the subject site has the following strengths and/or constraints:

- The BWI Airport is considered to be the major generator of lodging demand by the direct competitive supply.
- The site's visibility from Elm Street is excellent from a southbound direction for motorists travelling onto the airport and to the main terminal buildings.
- The site's exposure at the airport will enhance its recognition in the market place.
- The site is located eight miles from Ft. Meade and is proximate to numerous corporate demand generators that surround the airport.
- The terminal buildings have a good selection of fast-food, limited service and a few full-service restaurants, as well as several retail establishments that are situated before entering the TSA security checkpoints. It is assumed that a proposed hotel at this location will also feature a variety of full-service food and beverage venues.
- The subject site is only 30 miles north of Washington, D.C.
- The subject site is slightly challenged by a lack of freeway visibility; however, none of the competitive hotels in the vicinity of the subject have prime freeway visibility, so it is not considered a significant issue in evaluating the site.
- The site is somewhat challenged by its close proximity to the airport's runway system with its inherent noise issues. While noise issues are manageable with current construction and technology, this issue could necessitate higher construction costs.

Overall, the subject property appears to be **excellent** for its proposed use.

Amtrak Site

We believe the subject site has the following strengths and/or constraints:

- The Amtrak rail, as well as the MARC lines, is not considered to be major generators of lodging demand, which lessens the overall appeal of this site.
- The site's visibility from Amtrak Way is good as motorists loop around in front of the train station; however, the site does not have visibility from Aviation Boulevard or any of the freeways in the area.

- The site only has 1.5 acres of buildable space, which places a constraint on the site’s development potential.
- The site has certain constraints including surrounding uses that make construction difficult on a relatively small footprint.
- Adjacent to a parking garage and rail station, as well as tracks, the site’s aesthetics are considered inferior and convenience to the train does not mitigate these issues, as it is not considered to be a major generator of lodging demand.
- The site will be impacted by noise from the trains as they arrive and depart from the Amtrak Train Station. Service is provided nearly 24 hours every day, with arrivals and departures approximately every half hour during peak hours of operation. While noise issues are manageable with current construction and technology, this issue could necessitate higher construction costs.
- The site is located eight miles from Ft. Meade; 30 miles north of Washington, D.C., and is proximate to numerous corporate demand generators that surround the Airport.
- The immediate area surrounding the site suffers from a lack of restaurants and retail establishments.

Overall, the subject property’s suitability in connection with a hotel development appears to be **below average** for the foreseeable future. Future development of the greater area surrounding the site, with commercial and/or retail uses, would strengthen its overall appeal, as well as its competitive position when considered for a hotel development.

Supportable Guest Rooms - Next 10 Years

The hotels included in the Smith Travel Research report were selected based on interviews with representatives of the direct competitive supply and our field research. Table 4 presents occupancy, average daily room rate (ADR), and revenue per available room (RevPAR) for the direct competitive supply.

Year	Occupancy	Average Daily Room Rate (ADR)	Revenue per Available Room	RevPAR % Inc.Dec
2005	75.2%	\$121.94	\$91.69	--
2006	73.5	129.00	94.84	3.4%
2007	69.2	130.98	90.63	(4.4)
2008	69.0	122.26	84.38	(6.9)
2009	69.0	111.04	76.65	(9.2)
2010	73.3	106.61	78.09	1.9
2011 YTD	76.4	107.27	81.92	0.7
2010 YTD	75.5	107.82	81.35	1.5
YTD - October				

The supportable rooms analysis indicates that 200 to 250 rooms are supportable in the target year: 2015. Considering all factors, we have concluded that a 250-room hotel is market supportable by the year 2015. Demand is estimated to continue to grow for the foreseeable future. As the area-wide annual occupancy level exceeds 75%-85%, it is likely that an addition to the supply, unknown at this time, will enter the market. Therefore, even though additional rooms appear market supportable in 2016 and beyond, once the subject hotel enters the market, area-wide occupancy will drop in order to absorb the new guest rooms that were added to the market in 2015.

It is estimated that if the supply of direct competitors were to maintain an area-wide occupancy level of 75%, and based on the one addition to the supply in 2013 (100-room Candlewood), there would be approximately 214 rooms supportable in 2015, increasing to 280 by 2016. Table 5 illustrates the point that if the market were to maintain an area-wide occupancy of 80% or above, there is insufficient support for additional rooms until late in the projection period. On the other hand, even at a healthy occupancy level of 80%, this very resilient lodging market would support up to 263 rooms by 2019.

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Supportable Rooms at 80% A/W	(123)	(67)	(109)	(50)	10	71	134	198	263	329
Supportable Rooms at 75% A/W	66	126	87	150	214	280	346	414	483	554

Source: Ernst & Associates, Inc.

FINANCING AND LEASING OPTIONS

Once a market for a new hotel was identified, alternative lease and financing structures were evaluated to determine options available to the Maryland Aviation Administration (MAA). Alternatives were evaluated on the following criteria: (a) viability under the MAA's procurement codes and financing arrangements, (b) maximizing the financial benefits of a new deal to the MAA, and (c) create the least disruption to the existing level of revenues paid to the MAA from hotel operations.

Contractual Arrangements at U.S. Airports

Two primary contractual arrangements are used by airport operators to develop hotels in the U.S.:

1. Lease and concession agreements are the most common arrangement, in which an independent hotel operator holds the equity interest in and management control of the hotel, through a ground lease with the airport sponsor and
2. Management agreements, in which the airport sponsor itself develops the hotel in consultation with a hotel company and contracts for the daily operation and management of the hotel once it is open.

Table 6 summarizes responsibilities, ownership, and compensation under both structures. Several advantages and disadvantages of each contractual structure as they relate to MAA are summarized in Table 7.

Table 6
SUMMARY OF HOTEL DEVELOPMENT CONTRACT STRUCTURES

	Lease and concession	Management agreement
Financing responsibility	Hotel developer	Airport
Primary development responsibility	Hotel developer	Airport
Hotel ownership	Hotel developer	Airport
Fixed compensation	Airport	Hotel operator
Rights to residual profits	Hotel developer	Airport

Table 7
TRADEOFFS BETWEEN HOTEL DEVELOPMENT CONTRACT STRUCTURES

	Lease and concession	Management agreement
Interest rate	↑ Private bank loan or taxable financing	↓ Tax-exempt or AMT debt
Cost to build	↓ No public procurement restrictions	↑ Possible public procurement restrictions
Financial return potential	↓ Negotiated fixed compensation	↑ Residual profit rights

Funding Sources

MAA has traditionally issued Airport debt through various conduit funding agencies. Each of those conduit agencies were reviewed for suitability in financing this potential hotel development.

Maryland Economic Development Corporation (MEDCO)

The Maryland Economic Development Corporation appears to be an excellent potential financing partner for a new BWI Airport hotel development since its primary purpose is to partner with state organizations and agencies to stimulate economic activity and promote business development. Additionally, MEDCO has previously financed hotel development projects, including the Hyatt Regency Chesapeake Bay and the Rocky Gap Lodge & Golf Resort.

Maryland Department of Transportation Trust Fund (MDOT TTF)

Under either a lease and concession agreement or management agreement, TTF funding would be the primary funding source for supporting infrastructure for the hotel development, such as roadway modifications or utilities. Activities funded by the Trust Fund are typically pure transportation projects such as roadways, bridges, and toll facilities. For this reason, it is unlikely that seeking hotel financing directly from the Transportation Trust Fund will be the preferred course.

Maryland Transportation Authority (MdTA)

The MdTA may issue either taxable or tax-exempt municipal bonds to finance the cost of large-scale projects that would otherwise exceed current available operating revenues.

Though MdTA maintains the Transportation Public-Private Partnership (TP3) program to supplement traditional transportation resources and project management structures, the program's focus on pure transportation facilities suggests that hotel development would be considered out of scope.

Next Steps to Maximize Returns to MAA

Lease and concession agreements are much more straight forward to implement. However, two key conditions at BWI Airport warrant continued review of the management agreement structure:

1. BWI Airport is positioned as a key driver of demand for hotel rooms in an exceptionally strong hotel market, which makes the higher return potential of a management agreement structure more appealing.
2. Second, MAA has more experience with conduit financing structures than other airports and an established relationship with MEDCO financing. MEDCO has supported these types of financings in the past.

In the long run, we believe the best approach for MAA to maximize the revenue and financial returns generated from hotel rooms at BWI Airport is to adopt policies that will ensure the following:

- Determine whether or not the MAA has the flexibility to take advantage, either directly or indirectly, of tax-exempt financing and hybrid development transactions that involve management contracts.
- Confirm the framework for financing a new hotel within the framework of management/operating agreements and where the MAA would like to be on a spectrum of "lease and concession" versus "management" agreements. The compensation to be paid under any given model is best maximized through a competitive process or an independent appraisal process.
- Balance remaining economic life of BWI Four Points with facility concerns. BWI Four Points is a valuable asset that does have economic life beyond the current expiration date of the Lease Agreement. Developing a strategy for realizing the value of that asset before and after the scheduled expiration date of the Lease Agreement while ensuring the maintenance of a quality facility is essential to maximizing the return from hotel operations. Renegotiate Creative Inns lease to comply with a "best practices" approach to the deal. During such a negotiation process, numerous policy decisions would have to be made about core business provisions of the current business structure. More information is needed regarding the benefits of converting that property to another land use.

ATTACHMENT A
PASSENGER MARKET ANALYSIS

This market analysis is intended to provide enplaning passenger estimates to be used as a basis to evaluate the demand for hotel rooms and services at BWI. The analysis will assist in determining supply and demand factors in the Airport lodging market and projecting the number of rooms that might be supported. Market traffic will be projected to provide a basis for assessing potential hotel demand. A summary of the market analysis results is in the Table below:

EXECUTIVE SUMMARY										
BWI Airport										
Hotel Market Analysis Parameters Summary										
		LOW			MEDIUM			HIGH		
	2010	2016	2021	2031	2016	2021	2031	2016	2021	2031
Passengers (000's)										
Enplanements	10,997	12,440	13,633	16,152	12,912	14,574	17,203	13,468	15,419	18,826
CAGR		2.1%	1.8%	1.7%	2.8%	2.5%	1.7%	3.5%	2.7%	2.0%
CAGR 2010-2031				1.8%			2.2%			2.6%
Connecting	2,629	3,234	3,817	4,846	3,873	4,809	6,021	4,444	5,397	7,154
Connecting %	23.9%	26%	28%	30%	30%	33%	35%	33%	35%	38%
Originating	8,368	9,205	9,816	11,306	9,038	9,764	11,182	9,024	10,022	11,672
CAGR 2010-2031				1.5%			1.5%			1.7%
Other Air Traffic										
Departures	376	383	404	437	394	426	462	406	440	487
Seats per Departure	122.5	127.3	131.0	137.9	128.0	131.9	138.7	129.0	134.1	140.8
Non-Stop Cities	75	75	75	79	75	79	84	78	82	87

Given the overall uncertainties in the aviation industry, and the added issue of the Southwest/AirTran merger, three different scenarios have been developed to provide a range of potential hotel market sizes over the next twenty years. The combination of Southwest and AirTran traffic in calendar year 2010 represented approximately 70% of BWI Airport enplanements. Therefore, the direction Southwest takes in adding or maintaining service as a result of the merger will have a significant impact on enplanements and hotel demand at BWI Airport.

The BWI market analysis is presented as follows:

- Current BWI Airport market
- Proposed scenarios
- Development of market size projections
- Schedules and operations

1.0 CURRENT MARKET

In the period 2006 through 2010 the aviation industry has not been particularly robust. Total United States originating passenger traffic (true demand, independent of connections driven by airline schedules) declined at an average annual rate of 1.3%, and total enplanements (taking into account additional passenger boardings driven by connecting routings) declined at an average annual rate of 0.9%. At BWI Airport, traffic was stronger, with originations over that period declining at an average rate of only 0.1% per year, and enplanements increasing at an average annual rate of 1.5% annually. **Table 1.1** presents this activity.

Table 1.1
Historical Enplaned and Originating Passengers

CY	US Total		BWI Airport		BWI Airport Share of US	
	Origin	EPs	Origin	EPs	Origin	EPs
2006	503,801,200	736,933,560	8,392,320	10,342,883	1.67%	1.40%
2007	509,271,270	761,133,342	8,450,330	10,527,954	1.66%	1.38%
2008	489,392,190	732,297,287	8,267,100	10,251,860	1.69%	1.40%
2009	465,085,520	695,659,592	8,258,350	10,496,842	1.78%	1.51%
2010	478,876,430	711,528,193	8,367,960	10,996,713	1.75%	1.55%
CAGR	(1.3)%	(0.9)%	(0.1)%	01.5%		

Source: US DOT Data Bases; MAA Airport Records.

As a result of the Airport's stronger growth over this period, BWI Airport's share of US traffic increased in both measures, from 1.67% to 1.75% for originations, and from 1.40% to 1.55% in enplanements.

This performance is driven somewhat by the economy over the 5-year period. From 2006 through 2010, Woods & Poole Economics of Washington, DC estimates that United States population has increased, but that employment, total personal income, and per capita personal income have all declined. In the Baltimore-Towson Metropolitan Statistical Area, which is served by BWI, the economy has fared better. This is demonstrated in **Table 1.2** below.

Table 1.2
BWI Airport
National and Local Socioeconomics¹

	US TOTAL			BALTIMORE-TOWSON MSA ²		
	2006	2010	CAGR	2006	2010	CAGR
Population (000)	298,593	310,009	0.94%	2,650	2,691	0.39%
Employment (000)	176,125	174,063	(0.29)%	1,630	1,639	0.14%
Per Capita Personal Income 2005 \$ (PCPI)	36,691	35,336	(0.94)%	42,079	43,928	1.08%

1. Woods & Poole Economics – 2011

2. Baltimore-Towson MSA is comprised of the Maryland counties of Anne Arundel, Baltimore, Carroll, Harford, Howard, Queen Annes, Baltimore (Independent City).

The Baltimore-Towson MSA's population has grown more slowly than the US, 0.39% annually versus 0.94%. However, employment, total personal income and per capita personal income in the MSA have grown at a positive rate, while these economic measures have declined in the US overall. This economic performance supports BWI Airport's stronger originating traffic versus the US.

BWI Airport's enplanement traffic has increased while the US has not as a result of BWI's increase in connecting traffic. Connecting traffic is passenger traffic that neither initiates a trip at BWI, nor terminates there. Connecting traffic is simply connecting from one plane to another on the way to the passenger's ultimate destination. **Table 1.3** demonstrates that connecting traffic has increased from 18.9% of its enplanements to 23.9% from 2006 through 2010. This is due largely to Southwest's use of BWI Airport as a

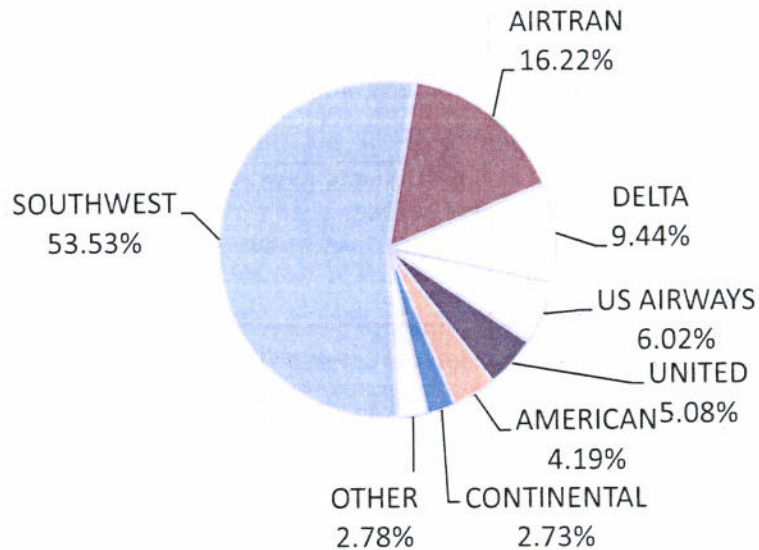
connecting point. Over time, Southwest has started timing its arrivals and departures to support more connecting traffic. **Exhibit 1.1** shows calendar year 2010 airline shares of traffic at BWI Airport.

Table 1.3
BWI Airport
BWI Connecting Percentage¹

CY	Origin	EPs	Connecting %
2006	8,392,320	10,342,883	18.9%
2007	8,450,330	10,527,954	19.7%
2008	8,267,100	10,251,860	19.4%
2009	8,258,350	10,496,842	21.3%
2010	8,367,960	10,996,713	23.9%

1. US DOT Data Bases; MAA Airport Records.

Exhibit 1.1
BWI Airport
AIRLINE MARKET SHARE CALENDAR YEAR 2010



Source: BWI Airport

The merged Southwest/AirTran operation represents 70% of passenger traffic at BWI. The next largest carrier is Delta with 9%, followed by the combined United/Continental operation at 8%. Southwest uses BWI to connect passengers, while the other carriers primarily serve their respective hubs

Southwest and AirTran do not operate any flights on regional aircraft; nor does JetBlue. However, United/Continental, US Airways, and American have all transitioned operations on large jets to regional aircraft over the last several years.

United has gone from 17% regional operations to 28%, Continental has gone from 0% to 34%, and American has gone from 27% to 36% in the 2006 to 2010 period. The transition leveled off in 2010 from 2009. This is because the primary growth carriers at BWI from 2009 to 2010 have been Southwest/AirTran and JetBlue, which do not use regional aircraft at BWI Airport. This accounts for the trends in regional aircraft share of operations shown in **Table 1.4**.

Table 1.4
BWI Airport
LARGE VS. REGIONAL AIRCRAFT SHARE OF OPERATIONS¹

CY	Large Jets	Regional Aircraft
2006	89.9%	10.1%
2007	88.9%	11.1%
2008	88.3%	11.7%
2009	86.5%	13.5%
2010	86.4%	13.6%

Source: US DOT T-100 Tables.

The March 2012 OAG schedule lists BWI Airport as having non-stop service to 75 points. 7 of these points are international; Aruba, Cancun, London, Montego Bay, Nassau, Rome and Toronto. Southwest/AirTran serves Aruba, Cancun, Montego Bay, and Nassau. Air Canada serves Toronto with its regional partner, Jazz. British Airways serves London, and Vision Airlines is proposing service to Freeport.

2.0 SCENARIOS

Three different scenarios were developed for the hotel market analysis. This was done because the many uncertainties in the industry today make it difficult and risky to conduct analysis without considering a range of alternatives. Airport representatives were contacted for their input on expectations regarding potential service changes by incumbent carriers. Among the factors contributing to uncertainty about the aviation industry future are:

- Evolution of the aviation industry
- Financial condition of carriers
- Carrier merger activity
- State of the economy

The aviation industry has drastically altered its thinking about the future over the last few years. Prior to 2001 the philosophy in the industry was that a carrier had to grow continuously to survive. Many carriers strove to serve as many points as possible, often serving multiple airports in a single city, such as Chicago (ORD and MDW), Houston (IAH and HOU), Dallas/Fort Worth (DFW, DAL), San Francisco (SFO, OAK, SJC), Baltimore/Washington (BWI, IAD, DCA) and multiple airports in the Los Angeles area and in Southern Florida. Carriers began using regional partners and regional aircraft extensively to feed traffic from small cities into hubs. Yield management techniques were refined and a plethora of low fares were offered on a limited number of seats to fill the ever-expanding capacity of carriers.

When the economy declined following 2001, air travel demand began to slow its growth and it became necessary to offer low fares on an expanding number of seats to fill aircraft. With increases in fuel costs these lower fares became less and less able to cover operating costs. Labor costs could no longer be

reduced to balance carriers' financial sheets and bankruptcy became a common solution for a number of carriers. Mergers between large, established carriers occurred, whereas previously mergers had concerned themselves with large carriers picking up smaller, regional, upstart operations.

With the mergers came the inevitable reductions in capacity to eliminate service duplications, and to rid the carriers of fuel-inefficient aircraft. As capacity was reduced to be more in line with demand, the need to lower fares to fill the "last few remaining seats" went away. Now, the industry is faced with lower demand due to the economy and higher fares, and reduced capacity.

The tendency in the industry to grow for the sake of growing has ended. Carriers are now carefully rationalizing their route structures and matching their capacity more carefully to market demand. The different directions that all of these factors might take in the future serve as the basis for different assumptions in the scenarios.

2.1 Scenario Methodology

Conversations with Airport staff provided input on expectations for the most likely service actions by incumbent carriers in the near future. Discussions also included staff thoughts on possible carrier activities in the longer term. This input was combined with information on likely carrier activity based upon each carrier's press statements, current financial condition, common patterns of schedule development, and expectations regarding industry growth to develop scenarios.

Table 2.1 outlines the assumptions behind development of the schedules and passenger estimates for each of the three scenarios. The specific markets identified for additional frequency were identified by reviewing recent load factors in these markets. New market additions were guided by the size and growth of specific markets, and how these markets might fit in with the existing route structures of the respective carriers. While these might not be exactly the markets receiving incremental frequency, or the new markets added, the overall size of the schedules and passenger volumes estimated reflect what would have to happen at BWI to achieve a size that would be reasonable given expected BWI growth and expected industry growth.

2.2 Schedule Development by Carrier

This section outlines how the schedules evolved, and the resulting passenger volumes.

Southwest (includes AirTran)

Southwest grows at BWI Airport in all scenarios by:

- Upgrading equipment from 124/137 seat equipment to 175 seat 737-800s
- Increasing frequency in markets with high load factors
- Adding new markets

Delta

Delta is the second largest carrier at BWI Airport. Its non-stop service is to its hubs, and to feed its international service at JFK. Delta's changes in service involve:

- Replacing older equipment (MD-88, MD-90, DC-9) with newer (A320, 737-700 and 737-800)
- Increasing frequency in markets with high load factors
- Adding new markets

<p align="center">Table 2.1 BWI Airport Low, Medium, and High Scenario Evolution Page 1 of 3</p>			
Carrier	High	Medium	Low
Southwest	<p>In addition to changes in MEDIUM scenario: Add frequencies</p> <ul style="list-style-type: none"> • 2016: ABQ, DAL (both sooner) • 2021: DAL, PIT, SRQ • 2031: DAL, DEN, LAX, SAN, SJU, ATL <p>New markets beyond MEDIUM scenario</p> <ul style="list-style-type: none"> • 2016: SMF, MEX, ACA sooner • 2031: OAK <p>Departures/day:</p> <ul style="list-style-type: none"> • 2016: 277 • 2021: 300 • 2031: 321 	<p>In addition to changes in LOW scenario: Add frequencies due to high load factors</p> <ul style="list-style-type: none"> • 2016: AUS, GSP, HSV, LIT, OKC <p>New markets beyond LOW scenario</p> <ul style="list-style-type: none"> • 2021: PDX, OMA • 2031: MEX, ACA <p>Upgrade capacity by adding 737-800</p> <p>Departures/day:</p> <ul style="list-style-type: none"> • 2016: 268 • 2021: 286 • 2031: 305 	<p>Base departures: 2011: 254/day</p> <p>Equipment:</p> <ul style="list-style-type: none"> • All 737-500 gone by 2016 • All 737-300 gone by 2021 • 737-800 arriving in 2016, many by 2021 <p>DFW becomes DAL</p> <p>Add frequencies due to high load factors</p> <ul style="list-style-type: none"> • 2016: DAL, LAS, LAX, SAN, SAT, SLC • 2021: ABQ, DAL, MSY, SEA, EWR, HOU, MCI, SFO • 2031: CHS, CLE, DTW, SFO, DAL, LAS, LAX <p>Only 1 new market: Spokane (GEG)</p> <p>Departures/day:</p> <ul style="list-style-type: none"> • 2016: 261 • 2021: 273 • 2031: 287
Delta	<p>In addition to changes in MEDIUM scenario: Add more frequencies</p> <ul style="list-style-type: none"> • 2031: More SLC <p>Departures/day:</p> <ul style="list-style-type: none"> • 2016: 35 • 2021: 38 • 2031: 44 	<p>In addition to changes in LOW scenario: Some capacity upgrade with 737-800</p> <p>New markets beyond LOW scenario</p> <ul style="list-style-type: none"> • 2021: LGA, CDG • 2031: SLC <p>Departures/day:</p> <ul style="list-style-type: none"> • 2016: 32 • 2021: 38 • 2031: 42 	<p>Base departures: 2011: 33/day</p> <p>Equipment:</p> <ul style="list-style-type: none"> • MD-88, MD-90, DC-9 gone by 2016 • A320, 737-700 come in <p>MEM gone 2016</p> <p>Add frequencies due to high load factors</p> <p>Add, due to high load factors</p> <ul style="list-style-type: none"> • 2016: CVG, DTW • 2021: CVG, JFK • 2031: MSP <p>Upgrade capacity with larger equipment in some markets</p> <p>Departures/day:</p> <ul style="list-style-type: none"> • 2016: 32 • 2021: 34 • 2031: 36

**Table 2.1
BWI Airport
Low, Medium, and High Scenario Evolution
Page 2 of 3**

Carrier	High	Medium	Low
United/ Continental	<p>In addition to changes in MEDIUM scenario: Upgrade some ORD and CLE to mainline Add frequencies due to high load factors</p> <ul style="list-style-type: none"> • 2031: DEN <p>Departures/day:</p> <ul style="list-style-type: none"> • 2016: 27 • 2021: 30 • 2031: 35 	<p>In addition to changes in LOW scenario: Upgrade capacity with larger equipment in some markets No additions beyond LOW scenario</p> <p>Departures/day:</p> <ul style="list-style-type: none"> • 2016: 27 • 2021: 30 • 2031: 34 	<p>Base departures: 2011: 16/day Equipment</p> <ul style="list-style-type: none"> • Not much evolution, stay with A319, A320, new 737-800 coming in • Regionals move to Q400(DH4) <p>ORD back to big aircraft 2021-2031 Add frequencies due to high load factors</p> <ul style="list-style-type: none"> • 2016: CLE • 2021: EWR, HOU, LAX • 2031: CLE, EWR, HOU <p>Upgrade capacity with larger equipment in some markets</p> <p>Departures/day:</p> <ul style="list-style-type: none"> • 2016: 27 • 2021: 30 • 2031: 34
US Airways	<p>In addition to changes in MEDIUM scenario: Upgrade regional aircraft to larger regionals Add frequencies due to high load factors</p> <ul style="list-style-type: none"> • 2031: PHX <p>Departures/day:</p> <ul style="list-style-type: none"> • 2016: 27 • 2021: 27 • 2031: 32 	<p>In addition to changes in LOW scenario: 2016 minimal difference LOW scenario Upgrade capacity with larger equipment in some markets</p> <p>Departures/day:</p> <ul style="list-style-type: none"> • 2016: 27 • 2021: 27 • 2031: 30 	<p>Base departures: 2011: 27/day Equipment</p> <ul style="list-style-type: none"> • 737-400 become A320 in 2016 • Dash aircraft become CRJ in 2021 <p>LAS gone Add frequencies due to high load factors</p> <ul style="list-style-type: none"> • 2031: CLT <p>Upgrade capacity with larger equipment in some markets</p> <p>Departures/day:</p> <ul style="list-style-type: none"> • 2016: 27 • 2021: 27 • 2031: 30

Table 2.1
BWI Airport
Low, Medium, and High Scenario Evolution
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Carrier	High	Medium	Low
American	<p>In addition to changes in MEDIUM scenario: Upgrade some ORD to 737-800 from regionals Departures/day:</p> <ul style="list-style-type: none"> • 2016: 16 • 2021: 17 • 2031: 18 	<p>In addition to changes in LOW scenario: Add frequencies beyond LOW additions Departures/day:</p> <ul style="list-style-type: none"> • 2016: ORD • 2016: 16 • 2021: 17 • 2031: 18 	<p>Base departures: 2011: 15/day Equipment</p> <ul style="list-style-type: none"> • MD-88, MD-90 become 737-800 by 2016 • ORD, JFK still regionals through 2031, upgrading from ERJ to CR7 & CR9 over time <p>Add frequencies due to high load factors</p> <ul style="list-style-type: none"> • 2021: MIA • 2031: MIA <p>Upgrade capacity with larger equipment in some markets</p> <p>Departures/day:</p> <ul style="list-style-type: none"> • 2016: 15 • 2021: 16 • 2031: 17
JetBlue	<p>In addition to changes in MEDIUM scenario: New markets beyond MEDIUM</p> <ul style="list-style-type: none"> • 2031: 2 LGB <p>Departures/day:</p> <ul style="list-style-type: none"> • 2016: 8 • 2021: 12 • 2031: 14 	<p>In addition to changes in LOW scenario: Upgrade capacity in some markets with A320 for E90 New markets earlier than in 2016 LOW</p> <ul style="list-style-type: none"> • 2016: FLL • 2021: SRQ <p>Departures/day:</p> <ul style="list-style-type: none"> • 2016: 8 • 2021: 12 • 2031: 12 	<p>Base departures: 2011: 5/day Equipment: Upgrade capacity in Boston with A320 for E90 on some frequencies New markets</p> <ul style="list-style-type: none"> • 2016: PUJ • 2021: FLL • 2031: SRQ <p>Departures/day:</p> <ul style="list-style-type: none"> • 2016: 6 • 2021: 8 • 2031: 12
International (Not including int'l service by carriers listed above)	<p>In addition to changes in MEDIUM scenario: New markets</p> <ul style="list-style-type: none"> • 2031: Lagos 5x/wk, Rome 5x/wk 	<p>In addition to changes in LOW scenario: New market</p> <ul style="list-style-type: none"> • Condor to FRA - 2016: 2x/wk all year - 2021: 5x/wk summer, 2x/wk otherwise - 2031: 5x/wk 	<ul style="list-style-type: none"> • BA continues to fly 767 to London daily through 2031 • Condor 2 per week through 2031 • Air Canada Jazz upgrades 37-seat DH1 to 70-seat CRJ through analysis period

United/Continental

United/Continental is expected to grow at BWI primarily through upgrades to larger aircraft. The carrier will stay with the A319 and A320, and some upgrades to the new 737-800 are expected. Regional aircraft will transition to the Q400. There is some small increase in frequency across the different scenarios. No new markets are foreseen, as the carrier sticks with service with its hubs at BWI Airport.

US Airways

US Airways grows over the analysis period primarily through upgrades of equipment. The 737-400 aircraft transition to A320 starting in 2016 for a small increase in capacity. The Dash equipment upgrades to larger CRJ regional jets. No new markets are added by US Airways in any of the scenarios.

American

American grows through equipment upgrades and very slight frequency increases. By 2016 the MD-88 and MD-90 equipment will transition to the 737-800. Some regional jets will be upgraded to larger regional jets.

JetBlue

JetBlue currently serves only Boston from BWI Airport with 5 departures per day. This carrier is the newest entrant, and the expectations in all scenarios are that JetBlue will grow, in terms of new markets and frequencies. In some cases they will also grow by upgrading equipment from the 100-seat ERJ 190 to the 150-seat A320, which will be coming on line in 2012.

International

The International section in **Table 2.1** refers to carriers besides Southwest and Delta, which have added international service in some scenarios, and which was discussed earlier. British Airways is expected to remain stable at one departure daily in all scenarios throughout the analysis period.

Departures on the typical day of the peak month in the three scenarios by carrier are presented in **Table 2.2**.

Carrier	2011	LOW			MEDIUM			HIGH		
		2016	2021	2031	2016	2021	2031	2016	2021	2031
Cape Air 9K	9	9	9	14	9	9	14	9	9	14
American AA	15	15	16	17	16	17	18	16	17	18
Air Canada AC	5	5	5	5	5	5	5	5	5	5
JetBlue B6	5	6	8	12	8	12	12	8	12	14
British BA	1	1	1	1	1	1	1	1	1	1
Continental CO	12	13	15	19	13	15	19	13	15	19
Delta DL	33	32	34	36	32	38	42	35	38	44
United UA	14	14	15	15	14	15	15	14	15	16
US Airways US	27	27	27	30	27	27	30	27	27	32
Southwest WN	254	261	273	287	268	286	305	277	300	321
Other Int'l Int'l	1	1	1	1	1	1	1	1	1	3
Total	376	384	404	437	394	426	462	406	440	487

2.3 Operations

Total annual operations at BWI Airport were calculated based upon the typical day departures schedules developed for each scenario. Because of FAA reporting conventions, historical data on the exact number of air carrier, major and regional, operations is not available. The FAA reports “Commercial Air Carrier” operations and “Air Taxi” operations. Flights are allocated to these categories depending upon the operating certificate held by the operator of the flight, and sometimes the number of seats on the aircraft. Some commuter flights are in the “Commercial Air Carrier” category and some are in the “Air Taxi” category. The “Air Taxi” category also includes flights by some non-airline operators certified to carry passengers. So, the total operations estimate included in the passenger market analysis for hotel demand include some operations flown by other than the airlines discussed here. However, the operations estimates for the scenarios are consistent with the operations reported for BWI by the FAA.

The historical statistical relationship between the typical day schedule for July 2010 and July 2009 and their respective total annual operations was calculated. This relationship was used to explode the departures in the projected schedules to total annual “Commercial Air Carrier” plus “Air Taxi” operations. **Table 2.3** presents annual operations, and the implied seats per departure. Seats per departure increase from 122.5 in the July 2011 schedule in all of the scenarios. Over time, new aircraft tend to be larger than the aircraft they replace, in both the large and regional aircraft categories.

	LOW			MEDIUM			HIGH		
	2016	2021	2031	2016	2021	2031	2016	2021	2031
Annual Operations	268,351	283,064	306,186	276,058	298,479	323,702	284,466	308,288	341,219
Seats per Departure	127.3	131.0	137.9	128.0	131.9	138.7	129.0	134.1	140.8

2.4 Fleet Mix

The fleet mix that results from the schedules developed above is presented in **Table 2.4**. In the July 2011 schedule, 83.8% of the passenger operations were large jet aircraft, and 16.2% were regional jets, turboprops or prop aircraft. In all of the forecast scenarios, the regional aircraft share falls below the 16.2% experienced in July 2011. This is because most of the additional flights added are on Southwest Airlines, which does not fly regional-size aircraft. Some regional flights are added to carriers that currently fly such equipment, especially in the last year of the projections. Carriers such as American and Delta, which serve primarily their hub cities from BWI, add frequencies on larger regional aircraft in the 2031 time frame.

3.0 PASSENGER MARKET ANALYSIS

BWI origin and destination traffic and enplanements, were compared to the socioeconomics of the area to establish statistical relationships that could be used to estimate traffic levels in the future. Regression analysis was done to relate originating traffic and enplanements to service area population, employment, total income, and per capita income. Different statistical approaches were attempted to account for the effects of the September 11, 2001 disruptions in air traffic, and the introduction of increased service by Southwest and AirTran over the past fifteen years.

The relationships identified using all of these statistical approaches were not statistically significant enough to be relied upon for projections. This lack of significant relationships is most likely due to the fact that, over

Mary A. Lynch

Table 2.4
BWI Airport
Fleet Mix

Equipment Type	Aircraft Category	LOW			MEDIUM			HIGH		
		2016	2021	2031	2016	2021	2031	2016	2021	2031
763 BOEING 767-300	WIDE BODY	0.26%	0.25%	0.23%	0.25%	0.23%	0.22%	0.25%	0.23%	0.21%
330 AIRBUS INDUSTRIE A330	WIDE BODY	0.00%	0.00%	0.00%	0.00%	0.23%	0.22%	0.00%	0.23%	0.62%
767 BOEING 767	WIDE BODY	0.26%	0.25%	0.23%	0.25%	0.23%	0.22%	0.25%	0.23%	0.21%
	Subtotal	0.52%	0.50%	0.46%	0.51%	0.70%	0.65%	0.49%	0.68%	1.03%
321 AIRBUS INDUSTRIE A321	NARROW BODY	1.30%	1.24%	1.60%	1.27%	1.17%	1.52%	1.23%	1.14%	1.44%
752 BOEING 757-200	NARROW BODY	0.52%	0.50%	0.46%	0.76%	0.47%	0.43%	0.74%	0.45%	0.62%
738 BOEING 737-800	NARROW BODY	6.77%	14.85%	30.43%	7.12%	15.26%	31.17%	9.36%	18.18%	33.06%
320 AIRBUS INDUSTRIE A320	NARROW BODY	7.03%	6.68%	7.32%	7.38%	7.28%	6.93%	7.14%	7.50%	7.39%
733 BOEING 737-300	NARROW BODY	11.46%	0.00%	0.00%	10.18%	0.00%	0.00%	9.85%	0.00%	0.00%
73G BOEING 737-700	NARROW BODY	55.21%	59.41%	42.79%	56.23%	58.92%	43.07%	55.17%	57.27%	41.48%
319 AIRBUS INDUSTRIE A319	NARROW BODY	1.56%	1.73%	1.60%	1.27%	1.64%	1.52%	1.23%	1.59%	1.44%
	Subtotal	83.85%	84.41%	84.21%	84.22%	84.74%	84.63%	84.73%	86.14%	85.42%
E90 EMBRAER 190	REGIONAL JET	0.78%	0.74%	0.69%	0.51%	0.70%	0.65%	0.49%	0.68%	0.62%
CR9 CANADAIR REGIONAL JET 900	REGIONAL JET	1.30%	2.48%	6.64%	1.27%	2.35%	6.28%	1.23%	2.27%	5.95%
E75 EMBRAER 175	REGIONAL JET	0.78%	0.50%	0.46%	0.76%	0.47%	0.43%	0.74%	0.45%	0.41%
CR7 CANADAIR REGIONAL JET 700	REGIONAL JET	1.56%	1.49%	0.23%	1.78%	1.64%	0.43%	1.72%	0.68%	0.41%
CRJ CANADAIR REGIONAL JET	REGIONAL JET	1.04%	1.98%	1.37%	1.02%	1.88%	1.30%	0.99%	3.18%	1.23%
ER4 EMBRAER RJ145	REGIONAL JET	0.78%	0.74%	0.00%	0.76%	0.70%	0.00%	0.74%	0.68%	0.00%
ERJ EMBRAER RJ 135/140/145	REGIONAL JET	1.04%	0.25%	0.00%	1.02%	0.23%	0.00%	0.99%	0.23%	0.00%
	Subtotal	7.29%	8.17%	9.38%	7.12%	7.98%	9.09%	6.90%	8.18%	8.62%
DH4 DE HAVILLAND DHC8-400 DASH 8Q	TURBOPROP	2.34%	2.48%	2.75%	2.29%	2.35%	2.60%	2.22%	2.27%	2.05%
DH3 DE HAVILLAND DHC8-300 DASH8/8Q	TURBOPROP	0.26%	0.25%	0.00%	0.25%	0.23%	0.00%	0.25%	0.00%	0.00%
DH1 DE HAVILLAND DHC8-100 DASH8/8Q	TURBOPROP	1.30%	0.74%	0.00%	1.27%	0.70%	0.00%	1.23%	0.68%	0.00%
DH8 DE HAVILLAND DHC8 DASH 8	TURBOPROP	2.08%	1.24%	0.00%	2.04%	1.17%	0.00%	1.97%	0.00%	0.00%
	Subtotal	5.99%	4.70%	2.75%	5.85%	4.46%	2.60%	5.67%	2.95%	2.05%
CNA CESSNA (LIGHT AIRCRAFT)	PROP	2.34%	2.23%	3.20%	2.29%	2.11%	3.03%	2.22%	2.05%	2.87%
	Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
	Total Large Jet	84.38%	84.90%	84.67%	84.73%	85.45%	85.28%	85.22%	86.82%	86.45%
	Total Regional	15.63%	15.10%	15.33%	15.27%	14.55%	14.72%	14.78%	13.18%	13.55%

the past several years, Southwest has established more hubbing activity at BWI. Growth in traffic there has been related to the increase in scheduling activity by Southwest, and its taking advantage of the connecting possibilities that this schedule growth offered. Also, AirTran's entry into the BWI market and its rapid growth also caused activity at BWI Airport to increase beyond what simple socioeconomic activity would historically indicate.

3.1 Passenger Market Projections

Given this lack of a statistically significant historical relationship between traffic at BWI and socioeconomic activity in the area, projections of passenger activity by market for the hotel analysis were developed using expectations of schedule growth by carrier. Historical activity by carrier and by market was reviewed. Historical load factors by market were examined. Where load factors were high, capacity was added to accommodate what would otherwise be unsatisfied demand over time.

The route structures and scheduling patterns of the carriers at BWI Airport were also analyzed. Where carriers had exhibited intentions to increase frequencies, capacity, or market coverage, these patterns were followed. Where carriers focused on a consistent pattern of service to hubs, those patterns were followed.

For each of the scenarios, for each of the analysis years of 2016, 2021, and 2031, a schedule was hypothesized by carrier, by market. Load factors by carrier were estimated using the seats in the July 2011 schedule by carrier and the MAA-reported enplanements by carrier. These load factors were expected to increase very gradually over the analysis period for each carrier. Using the schedules by carrier, by market, and by equipment type, load factors were applied to the seats, and enplaned passenger estimates by market for a typical day in July were developed to be used as a basis for the hotel demand analysis. The market source of the passengers is of import in the hotel demand analysis because passengers from different markets might have different propensities to require hotel accommodations.

The load factors for July are very high, as would be expected for the peak month of travel at BWI Airport. These July load factors were used to estimate passengers for a typical day in July. That typical July day was extrapolated to a monthly passenger estimate, and then an annual estimate based upon historical relationships of July passengers to annual passengers. The typical day was not simply multiplied by 365 to arrive at an annual estimate. The peak seasonality of the July month was taken into account. Therefore, it is not to be assumed that the load factors used in this analysis represent annual load factors for these carriers.

It should also be noted that the enplaned passenger number used to calculate the load factors was the Airport record number, which does not include any "through" passengers on-board the aircraft. A "through" passenger is one who stays on the aircraft while it is gated because that passenger came from an up line point in the aircraft's routing, and is destined for a down line point beyond BWI Airport. This "through" passenger does not get off the aircraft at BWI and so is neither a deplaned passenger nor an enplaned passenger. Also, this passenger is not a candidate for a hotel stay in the BWI Hotel Market Area. The enplanement estimates in this analysis for assessing hotel demand do not contain any "through" passengers. The July load factors used by carrier in the analysis are presented in **Table 3.1**.

Table 3.2 presents a summary of the passenger market analysis by carrier for 2016, 2021 and 2031, for each of the three scenarios.

At the bottom of the table the average annual growth of passengers from 2010 is included. The low scenario shows the passenger market increasing at 2.12% annually from 2010 through 2016, 1.85% from 2016 through 2021, and slowing to an average annual growth of 1.1% per year from 2021 through 2031. In the medium scenario, traffic grows at a rate higher than 2% throughout the analysis period. The high scenario has traffic increasing over 3% annually in the 2010 through 2016 period, 2.47% per year 2016

through 2021, and slowing to 2.02% annually 2021 through 2031. This reflects a scenario in which the economy recovers and many of the carriers expand markets and frequencies.

Table 3.1
BWI Thurgood Marshall Airport
July Load Factors

Carrier	2010 est.	LOW			MEDIUM			HIGH		
		2016	2021	2031	2016	2021	2031	2016	2021	2031
Cape Air	31.1%	35.0%	37.0%	45.0%	37.0%	42.0%	47.0%	39.0%	44.0%	49.0%
American	86.9%	86.9%	86.9%	89.0%	86.9%	88.0%	89.0%	87.0%	88.5%	89.5%
Air Canada	65.1%	68.0%	68.0%	72.0%	68.0%	70.0%	73.5%	69.0%	71.0%	72.0%
Jet Blue	71.8%	71.8%	71.8%	75.0%	71.8%	72.5%	75.0%	72.3%	73.0%	74.5%
Continental	90.1%	90.1%	90.1%	92.0%	90.1%	90.5%	91.0%	90.1%	90.1%	92.5%
Delta	84.0%	84.0%	84.0%	89.0%	84.0%	86.0%	88.0%	85.0%	86.5%	88.5%
United	87.8%	87.8%	87.8%	92.0%	87.8%	89.0%	90.0%	88.0%	89.5%	90.5%
US Airways	84.6%	84.6%	84.6%	87.0%	84.6%	86.0%	86.8%	85.3%	86.5%	88.0%
Southwest	81.0%	83.0%	83.5%	87.6%	83.5%	84.5%	87.8%	83.8%	85.2%	90.0%
Int'l		65.0%	65.0%	75.0%	65.0%	70.0%	70.0%	65.0%	70.0%	70.0%

In order to assess how reasonable these market estimates are, the numbers were compared to the Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF). The FAA annually develops forecasts for individual airports and for the United States as a whole. In **Table 3.3** on the following page, the market analysis estimates are compared to the FAA TAF forecast for BWI Airport, and they are compared to the FAA TAF US total forecast to evaluate the implications for BWI Airport as a share of the US total.

The next-to-last line in **Table 3.3** shows the percentage difference between the market analysis enplanement estimates and the FAA TAF forecasts for BWI. In 2010, actual BWI enplanements, as measured by the Airport, were 1.12% above the estimate developed by the FAA TAF for BWI. For all of the analysis years, the low and medium market analysis estimates are below the FAA TAF BWI forecasts for the comparable years, as indicated by the negative numbers in the next-to-last row of the table. In these two scenarios, BWI Airport is shown, in the last row of Table 3.3, to be a continually declining share of US total traffic, as forecast in the FAA TAF.

3.2 Passenger Connections

Early in the analysis of market demand for hotel rooms in the BWI Hotel Market Area, local origin/destination traffic was analyzed in an attempt to relate it to local socioeconomic variables. Measures from the service area comprised of the Baltimore-Towson Metropolitan Statistical Area were compared to O&D traffic to establish a statistical relationship between the measures of economic activity and air travel at BWI Airport. Population, employment, total income and per capita personal income were analyzed. No relationship with significant statistical validity could be established. Therefore, rather than projecting O&D traffic and then adding connecting passengers to assess the market size for hotel demand, total enplanements were projected based on assumptions regarding schedule activity by the various carriers. Given that most carriers besides Southwest serve, primarily, their respective hub cities, it is assumed that connecting passengers at BWI are largely Southwest passengers. Southwest is the carrier with service to a number of cities to which it can connect passengers over BWI Airport.

Table 3.2
BWI Airport
Calendar Year Annual Enplanements by Carrier, by Scenario

Carrier	LOW			MEDIUM			HIGH		
	2010	2016	2021	2016	2021	2031	2016	2021	2031
Cape Air	8,950	8,645	9,880	17,291	10,374	18,059	9,633	10,868	18,828
American	459,767	477,056	522,993	618,809	544,767	637,807	496,127	596,441	641,391
Air Canada	32,166	38,363	45,041	54,891	38,363	56,035	38,927	45,685	54,891
JetBlue	117,690	164,316	230,042	377,378	240,997	377,378	242,528	367,315	443,019
British	49,012	53,224	54,754	56,483	53,224	55,331	51,988	52,333	56,483
Continental	299,753	355,548	419,019	557,465	355,548	551,405	355,548	419,019	607,320
Delta	1,035,050	971,665	1,052,125	1,178,994	974,740	1,416,661	1,082,458	1,245,322	1,511,073
United	557,416	491,001	529,553	620,590	507,600	607,099	508,807	582,437	660,700
US Airways	660,577	692,055	724,231	1,000,478	692,055	998,178	697,393	754,157	1,092,485
Southwest	7,650,913	9,083,116	9,931,060	11,536,280	9,436,266	12,315,985	9,872,660	11,211,720	13,363,034
Other Int'l	22,881	18,252	19,656	21,060	18,252	49,140	18,252	26,460	246,064
Non-Sched	74,059	86,473	94,768	112,278	89,753	119,582	93,620	107,182	130,867
Total	10,996,713	12,439,714	13,633,123	16,151,997	12,911,544	17,202,660	13,467,941	15,418,940	18,826,155
CAGR		2.12%	1.85%	1.71%	2.76%	1.67%	3.48%	2.74%	2.02%

Table 3.3
BWI Airport
Comparison of Market Analysis Passenger Projections with FAA Terminal Area Forecasts (TAF)

Enplanements	LOW			MEDIUM			HIGH		
	2010	2016	2021	2016	2021	2031	2016	2021	2031
FAA TAF	2010	2016	2021	2016	2021	2031	2016	2021	2031
BWI	10,846,244	13,000,798	14,842,541	19,349,786	17,202,660	17,202,660	13,467,941	15,418,940	18,826,155
US Total	699,717,265	840,430,998	961,199,286	1,258,947,390	1,258,947,390	1,258,947,390	1,258,947,390	1,258,947,390	1,258,947,390
CAGR		3.10%	2.72%	2.74%	2.74%	2.74%	3.10%	2.74%	2.74%
MARKET ANALYSIS BWI	2010	2016	2021	2016	2021	2031	2016	2021	2031
MARKET ANALYSIS vs. TAF	1.12%	(4.32)%	(8.15)%	(16.53)%	(0.69)%	(1.81)%	(11.10)%	3.59%	3.88%
MARKET ANALYSIS BWI SHARE OF US TAF	1.57%	1.48%	1.42%	1.28%	1.54%	1.52%	1.37%	1.60%	1.50%

Note: FAA TAF projections are for a fiscal year, while the market analysis projections are for a calendar year. While in an individual year this would lead to differences in the numbers, growth rates over time and changes in the BWI share of the US total over time would not be materially affected by this.

After total enplanements were estimated, connecting passengers were derived by looking at the behavior of connecting traffic at other airports where Southwest has a significant and dominant presence. Southwest represents over 60% of traffic at Chicago Midway, Houston Hobby, Albuquerque and Nashville. The highest connecting percentages currently experienced at these airports are 24.2% at Houston Hobby, and 33.8% at Chicago Midway. Connections currently represent approximately 24% of enplanements at BWI Airport.

Southwest has expressed an interest in structuring its schedule to accommodate more connections at BWI Airport. A range of potential connecting percentage was hypothesized for the scenarios in the hotel demand market analysis. A short turn time for aircraft at an airport is a characteristic of the Southwest operating model. Large connecting banks at an airport require turn times longer than Southwest's current average to allow time for connecting passengers to transit between flights, and for the potential of some flight delays in the connecting banks. It is assumed that Southwest will not stray from the short-turn-time philosophy in a significant way, and that connections will not increase to the level of percentages seen at hubs such as Atlanta, Dallas-Fort Worth or Chicago O'Hare. The connecting percentages hypothesized in the various scenarios, and the resulting connecting passenger volumes are presented in **Table 3.4**. The high scenario 2031 connecting percentage of 38.0% is approximately 5% above Chicago Midway Airport.

Table 3.4
BWI Airport
Connecting Passengers (in thousands)

	LOW			MEDIUM			HIGH		
	2016	2021	2031	2016	2021	2031	2016	2021	2031
Enplanements	12,440	13,633	16,152	12,912	14,574	17,203	13,468	15,419	18,826
Connecting %	26.0%	28.0%	30.0%	30.0%	33.0%	35.0%	33.0%	35.0%	38.0%
Connecting Passengers	3,234	3,817	4,846	3,873	4,809	6,021	4,444	5,397	7,154

3.3 Passenger Peaking

In order to make the market analysis projections potentially useful for other analysis, an estimate of enplanements in the peak hour of the average day of the peak month (ADPM) was developed. The peak month at BWI Airport was July in five of the last six years, with 9.7% of annual enplanements. On the average day of the peak month, 1/31 of peak month enplanements occur.

The peak hour percentage of passengers for the average day of the peak month was calculated using the schedule. For each year, the number of departing seats was calculated by hour. It was assumed that the peak for enplaned passengers would correspond to the peak hour for seats in the schedule. The peak hour for seats in 2011, and in all of the scenario years, was the 8:00 AM to 9:00 AM hour. In each year, in each scenario, the percentage of seats in the 8:00 AM to 9: AM hour was calculated, and applied to the ADPM passenger market analysis estimate for that year/scenario. The results are presented in **Table 3.5**.

Table 3.5
BWI Airport
Passenger Peaking – Peak Hour of the Average Day of the Peak Month

	LOW			MEDIUM			HIGH		
	2016	2021	2031	2016	2021	2031	2016	2021	2031
Enplanements (000)	12,440	13,633	16,152	12,912	14,574	17,203	13,468	15,419	18,826
Peak Hour % of Day	9.5%	9.2%	8.9%	9.5%	9.4%	8.7%	9.4%	8.9%	8.2%
Peak Hour EPs	3,712	3,924	4,494	3,846	4,287	4,721	3,976	4,318	4,826

ATTACHMENT B
HOTEL MARKET ANALYSIS

**MARKET ANALYSIS - DEMAND FOR LODGING
BALTIMORE/WASHINGTON INTERNATIONAL AIRPORT
BALTIMORE, MARYLAND**

**Date of Report
January 17, 2012**

Prepared for:

**LeighFisher
555 Airport Boulevard, Suite 300
Burlingame, CA 94010**

Prepared by:

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Tel 916-543-6290 Fax 916-543-6172 sernst992@gmail.com

January 17, 2012

Mr. Warren Adams
Executive Director
LeighFisher
555 Airport Boulevard, Suite 300
Burlingame, CA 94010

Reference: Market Analysis - Proposed Hotel(s)
Baltimore/Washington International Thurgood Marshall Airport (BWI Airport)
Baltimore, Maryland

Dear Mr. Adams:

In accordance with your request, Ernst & Associates, Inc. has prepared a market analysis in connection with the future demand for additional lodging facilities at the BWI Airport in Baltimore, Maryland. Further, we were asked to analyze two specific site locations in connection with their suitability for a proposed hotel: 1) The Airport Site and 2) The Amtrak Site.

Based on our research, we have concluded that there is market support for one, first-class 250-room hotel to be developed within the BWI Airport market area during the analysis period with a target opening year of 2015. We have estimated its utilization levels for its first ten years of operation and have made recommendations regarding the proposed hotel's facilities and amenities. We have determined that the Amtrak Site is not suitable for a hotel development at this time. The Airport Site is considered superior to the Amtrak Site and optimum for this development.

Our estimates of the number of rooms supportable in the market are summarized in the following chart, assuming both 75% and 80% area-wide occupancy levels.

Estimated Supportable Guest Rooms BWI Airport Primary Competitive Supply										
Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Supportable Rooms at 80% A/W*	-123	-67	-109	-50	10	71	134	198	263	329
Supportable Rooms at 75% A/W*	66	126	87	150	214	280	346	414	483	554

*Assumed Area-Wide Occupancy Level

Source: Ernst & Associates, Inc.

LeighFisher
January 17, 2012

Major Assumptions

This market analysis is subject to the following major assumptions and subject to the assumptions and limiting conditions included in the exhibits to this report.

- For purposes of our analysis, we have assumed that the Four Points Sheraton exists throughout the period of analysis, in spite of the Creative Inns lease upcoming expiration date.
- We have assumed that the proposed hotel discussed in this report will begin operation in January 2015 for purposes of this analysis. In addition, we have assumed that the proposed hotel will be competently managed by a well-established hotel company. The project will be affiliated with a national hotel company and have access to its reservation system.
- The proposed hotel's quality and service levels will be equal to, if not superior to the other first-class, upscale hotels in the BWI Airport market area and aggressive program of advertising and sales promotion on a national, state, and regional level will be instituted at least one year prior to the project's opening and maintained throughout the analysis period.
- The proposed hotel's physical plant and appointments will be of first-class quality, and an adequate program of repair and maintenance will be instituted and maintained throughout the analysis period to ensure high-quality guest facilities at all times.
- The future additions to the lodging supply will not differ materially from the estimates in this report.
- Since the prospective utilization levels presented in the report are based on estimates and assumptions that are inherently subject to uncertainty and variation depending upon evolving events, we do not represent them as results that will actually be achieved.
- We have not been engaged to evaluate the effectiveness of prospective management, and we are not responsible for future marketing efforts and other management actions upon which actual results will depend.

On the following pages we have summarized our major findings, conclusions, and recommendations. We believe that our analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice. This report is subject to the Statement of Assumptions and Limiting Conditions located at the conclusion of the report. It has been our pleasure working on this project.

Respectfully submitted,
ERNST & ASSOCIATES, INC.
By:

Susan L. Ernst

Susan L. Ernst, ISHC
President
Certified General Real Estate Appraiser

Diane Blalock

Diane Blalock
Associate
Certified General Real Estate Appraiser

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Exhibits

- Exhibit A Site Plans
- Exhibit B Smith Travel Research Lodging Trends Report
- Exhibit C Anne Arundel County New and Proposed Hotel List

INTRODUCTION

Identification of Project

BWI Airport management is considering the development of one or more lodging facilities at two proposed site locations: at the airport adjacent to the hourly parking garage (the Airport Site) and/or adjacent to the nearby Amtrak train station (the Amtrak Site). Accordingly, Ernst & Associates, Inc. was retained to assist the client in assessing the market support for additional lodging facilities and the suitability of each of the sites for a lodging development.

Purpose, Intended Use, and Date of the Market Study

The purpose of this market analysis is to assess two potential sites to determine their suitability in connection with a hotel development(s). In addition, we were asked to identify how many additional guestrooms (and/or hotels) the market could support and to make recommendations regarding the hotel(s)' final design. Finally, we estimated utilization levels for the proposed hotel's first five full years of operation.

The intended use of this market study is for the internal planning purposes of LeighFisher and the Baltimore International Airport management team. Use of this report by others is not intended by the consultants.

The date of this report is January 17, 2012. The sites were inspected by Ernst & Associates, Inc. on November 10 and 11, 2011.

Scope of the Market Study

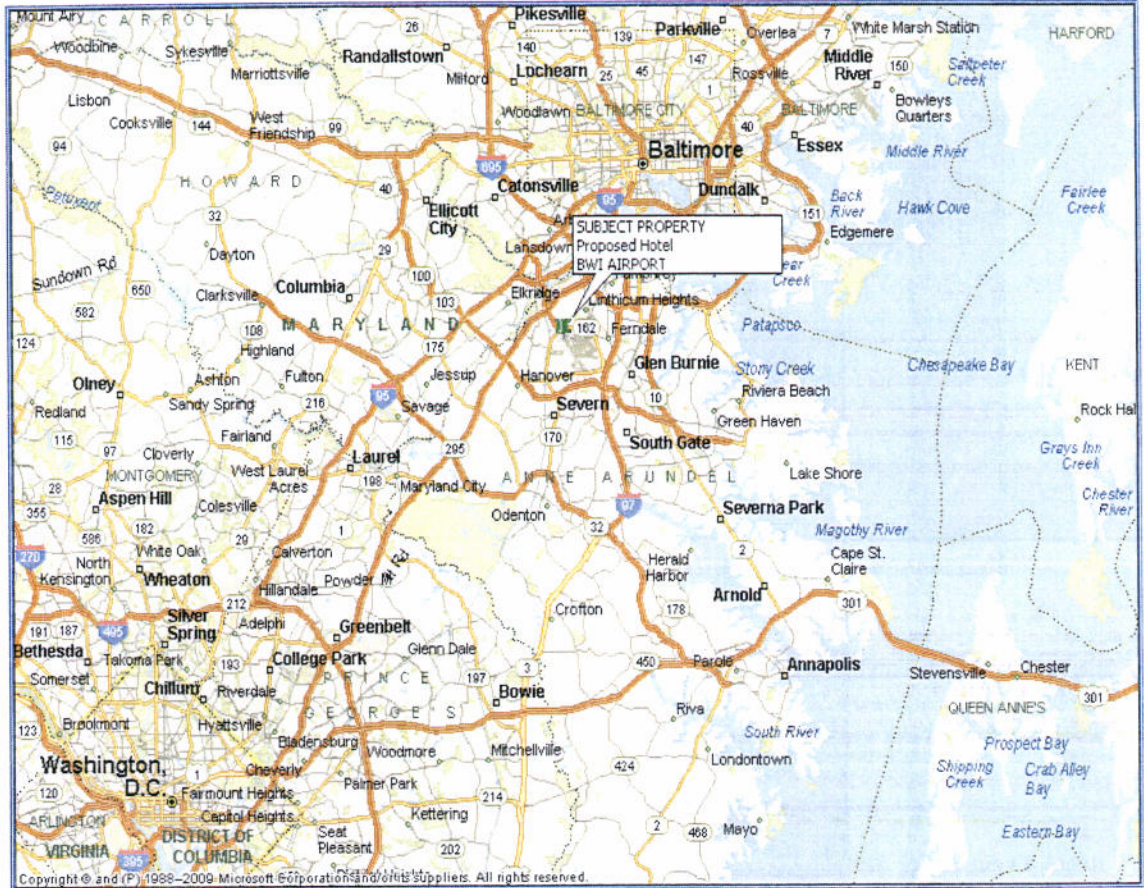
This market analysis has been prepared in accordance with the Uniform Standards of Professional Appraisal Practice. The following paragraphs summarize the work tasks completed in connection with this study.

- An analysis to determine the sites' relative strengths and/or weaknesses with respect to accessibility, visibility, and proximity to major lodging demand generators;
- Identification of trends in the defined market area's economy that will enhance or detract from the sites' suitability for development;
- A review of the market area's economic and demographic factors affecting the present and future market potential for lodging facilities;
- An assessment and analysis of the market area's hotel facilities to determine market trends, market demand segments, occupancy characteristics, average daily room rates, and range of services available. Each of the primary segments of demand for lodging, Commercial Travelers, Group and Convention Delegates, and Leisure and Other Travelers were analyzed;
- An evaluation of existing and proposed hotels which could be directly competitive in terms of location, room rate structure, size and type of facilities and services, occupancy characteristics, and degrees of market success;
- An estimate of future supply and demand for the defined market area's lodging market and the number of new guest rooms that the market can support;

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- Recommendations regarding the optimum site location and facilities and amenities that will maximize a new hotel's development potential for success;
- Estimates of occupancy levels, average daily room rates, and market segmentation for the subject hotel's first five full years of operation; and,
- The preparation of this written report, summarizing our findings, conclusions and recommendations.

AREA ORIENTATION MAP

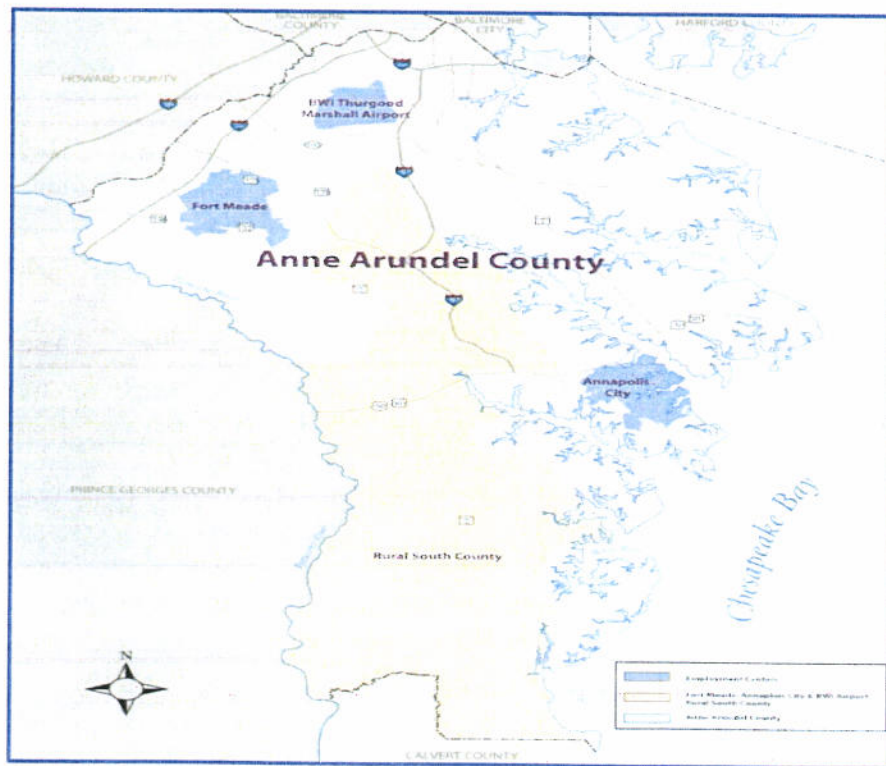


AREA ANALYSIS

Anne Arundel County and BWI Airport Overview

The two sites under consideration are located at the BWI Airport in Anne Arundel County, Maryland. Anne Arundel County is bordered on the east by the Chesapeake Bay, on the north by Baltimore County and Baltimore City, on the west by Howard and Prince Georges County, and on the south by Calvert County. The county contains 418 square miles and has 508 miles of shoreline.

The following map provides a view of the county with several key locations depicted, including BWI Airport, Fort Meade, Annapolis and Chesapeake Bay.



BWI Airport is situated approximately 10 miles south of Baltimore and 30 miles northeast of Washington D.C. The airport is named after Thurgood Marshall, a Baltimore native and the first African American to serve on the Supreme Court of the United States.

In 2010, BWI Airport was ranked as the best airport of its size in the world by Airports Council International based on its 2009 Airport Service Quality survey. In 2010, BWI Airport was ranked the second airport in North America by Airport Council International – North America for “Best Food and Beverage Program.”

The map on the following page provides an overview of the county’s location when compared to Baltimore, Washington, D.C. and other nearby counties and states.



Transportation

Anne Arundel County is well served by its transportation infrastructure. In addition to the BWI Airport itself, the region has a substantial network of freeways, train and railway services, and two other airports. These key transportation factors are described in the following sections.

Freeway Systems

There are several major freeway networks that provide a vital link to the area's major metropolitan areas, including Baltimore and Washington, D.C. I-95 is the major interstate freeway that runs the length of the eastern seaboard, from Houlton, Maine at the Canadian border, to Miami, Florida. I-95 is also the major freeway system that connects Baltimore to Washington, D.C. BWI Airport is located approximately five miles east of I-95, and is connected to that freeway by I-195, which provides direct access to the airport.

To the east of BWI is I-97, another freeway that runs in a north/south direction and connects Baltimore to Annapolis, Maryland, approximately 28 miles southeast of Baltimore. I-695, also known as the Baltimore Beltway, encircles the central Baltimore metropolitan area.

Amtrak, MARC and Light Rail

BWI Airport is served by the BWI Rail Station which provides rail connection for passengers on the Northeast Corridor through Amtrak as well as commuter rail service via MARC. The light rail service trains connect directly to the BWI Airport terminal.

The BWI Rail Station is located on the airport complex, approximately one mile from BWI's main terminal. Amtrak provides a 20-minute train ride to the north to Baltimore's Penn Station, a 20 minute ride in the southerly direction to New Carrollton, and a 35-minute ride southwest to Washington, D.C.'s Union Station.

- ❖ **Amtrak's** Northeast Corridor includes the Acela Express route, the Northeast

Regional and the Vermonter route, all of which have scheduled stops at the BWI Rail Station. The Acela Express route provides service between Washington, D.C. in the south through New York to Boston. The Northeast Regional route connects Virginia Beach, Washington, D.C., New York and Boston. The Vermonter begins in Washington, D.C., passing through various states including Maryland and New York, ending in St. Albans, Vermont.

BWI Airport became the first airport in the U.S. to be served by a dedicated intercity rail station which was constructed in 1980. A free shuttle bus runs between the station and airport terminal every 15 minutes, between 5:00 a.m. and 1:00 a.m. and every 25 minutes from 1:00 a.m. to 5:00 a.m.

The BWI Amtrak Station is ranked 16th of the 25 busiest stations in the United States. New York is ranked #1; Washington D.C. is ranked #2; and, Baltimore is ranked #8. The average annual growth rate in ridership between 2009 and 2011 is depicted in the chart below.

Amtrak Ridership - Selected Stations				
Year	BWI Amtrak	New York	Washington DC	Baltimore
2009	617,349	7,832,874	4,278,930	932,827
2010	654,151	8,377,944	4,572,878	926,245
2011	662,453	8,995,551	4,850,685	953,170
CAAG	3.6%	7.2%	6.5%	1.1%

- ❖ **MARC** (Maryland Area Regional Commuter) is a regional rail system that includes three lines in the Baltimore-Washington Metropolitan Area. The three lines include the Camden Line which runs between Washington, D.C. and Baltimore, the Penn Line which runs between Washington, D.C. and Perryville, Maryland on Amtrak's Northeast Corridor, and the Brunswick Line which travels from Washington, D.C. to Martinsburg West Virginia. MARC is strictly a commuter train and does not operate on weekends. With some equipment capable of reaching speeds of 125 miles per hour, MARC is considered the fastest commuter railroad in the United States.
- ❖ A light rail system serves the airport terminal at BWI Airport at the northern portion of the terminal itself. This rail serves the airport, downtown Baltimore and surrounding suburbs. There are essentially three lines which connect all areas to downtown Baltimore. One of the three lines is a shorter line that serves the downtown area only. A second line travels in a north/south direction from BWI Airport or Cromwell/Glen Burnie in the south to Hunt Valley, a northern Baltimore suburb. The third line travels in an east/west direction and connects Johns Hopkins University on the east, through downtown Baltimore to Owings Mills toward the west. In downtown Baltimore the system uses city streets, while in outlying suburbs the railways are situated on private rights-of-way. A popular use of the light rail system within the BWI Airport lodging market is for transportation to downtown Baltimore's Camden Park for Orioles games. Daily ridership in the fourth quarter of 2010 totaled 36,300.

Baltimore Area Airports

The Baltimore metropolitan area and Anne Arundel County are served by BWI Airport, the subject of this market study. In addition, there are two other airports providing service for the greater Washington, D.C. area: Dulles International Airport and Ronald Reagan Washington National Airport. Summaries of each of the three airports are provided below.

- ❖ **BWI Airport** is located south of Baltimore. Southwest Airlines recently built a new terminal at BWI Airport and offers flights at lower prices than some of its competitors. The MARC and Amtrak train station is nearby offering train service to Union Station in Washington, DC. BWI Airport is a test site for the Department of Homeland Security and is used to test new airport security screening methods.

BWI Airport's total enplanements and total passengers from 2005 through 2010 are presented in the chart that follows.

Enplanements and Total Passenger Counts						
BWI Airport						
	2005	2006	2007	2008	2009	2010
Enplanements	9,865,928	10,342,883	10,527,954	10,251,860	10,496,842	10,996,713
Percent Change	-	4.8%	1.8%	-2.6%	2.4%	4.8%
Total Passengers	19,742,113	20,698,967	21,044,344	20,488,881	20,953,615	21,936,461
Percent Change	-	4.8%	1.7%	-2.6%	2.3%	4.7%

Source: www.bwiairport.com/en/about-bwi/stats

As shown in the chart above, BWI's total passenger counts increased each year between 2005 and 2007. As the nation's economic downturn began to take effect in 2008, enplanements decreased by 2.6%. In 2009, however, as many airports across the country continued to see decreases in passenger travel, BWI Airport posted a gain of 2.3%. By year-end 2010, enplanements grew by 4.7%, similar to the increase experienced in 2006.

Preliminary projections for 2011 year-end enplanements provided by BWI Airport indicate 11,150,000 by year-end. This compares to 10,996,713 in 2010, and represents an increase of 1.4%.

According to a November 8, 2011 article in the Baltimore Sun, a \$100 million expansion will be constructed in the central section of the terminal. Set to begin in 2012, the improvements involve a widening of Concourse C to accommodate new security screening equipment, adding a connecting corridor with moving sidewalks between the secure zones of Concourses B and C, and adding more security checkpoints for Concourses A and B. Completion of the project is expected in the summer of 2013.

Estimated Future Enplanements at BWI

Three scenarios were developed for enplanements at BWI Airport in 2016, 2021, and 2031 to support this market analysis and are presented in the following chart.

BWI Enplanement Market Analysis Scenarios				
2016, 2021 and 2031				
	2016	2021	2031	CAAG*
Low	12,440,000	13,633,000	16,152,000	1.8%
Medium	12,912,000	14,574,000	17,203,000	2.2%
High	13,468,000	15,419,000	18,826,000	2.6%

*Compound Average Annual Change from 2010 through 2031
 Source: Mary A. Lynch, Hotel market Analysis Scenarios

Three scenarios are provided for each year: low, medium, and high, along with the compound average annual change.

As shown, enplanement projections on the low range indicate a compound average annual change of 1.8%, while the medium and high ranges show a 2.2% and 2.6% average annual change, respectively.

- ❖ **Dulles International Airport** is located 26 miles west of Washington, DC in Chantilly, Virginia. The airport is about a 40 minute drive from downtown Washington, DC in non-rush hour traffic. Shuttle and taxi services provide transportation around the region.

Dulles International Airport's total passenger counts from 2005 through 2010 are presented in the chart below.

Total Passengers Dulles International Airport 2005 - 2010						
	2005	2006	2007	2008	2009	2010
Passengers	27,052,118	23,020,362	24,737,528	23,876,780	23,213,341	23,741,603
Percent Change	-	-14.9%	7.5%	-3.5%	-2.8%	2.3%

Source: Metropolitan Washington Airports Authority

As shown in the chart above, Dulles International posted decreases in passenger travel between 2005 and 2010, with 2007 and 2010 being the only two years posting increases. In the last five years, the compound average annual percentage change at Dulles averaged a 2.6% decrease each year.

- ❖ **Ronald Reagan Washington National Airport**, commonly known as National Airport, is located in Arlington County, Virginia and is the closest airport to downtown Washington, D.C. National Airport is the most convenient of the area airports for visitors staying in the heart of the city and residents who live in the downtown area. The airport is accessible by Metro. During rush hour, National Airport can be difficult to get to, especially from the suburbs of Maryland and Virginia. A short runway limits the size of the aircraft that fly in and out, with the largest being the 767. As a result, the airport only offers domestic flights and a few flights to Canada and the Caribbean.

Population and Demographics

According to the U.S. Census Bureau, Anne Arundel County experienced a 0.9% increase in population between 2000 and 2010. The population of Anne Arundel County and the state of Maryland are presented in the following table along with compound average annual change rates for 1970 through 2010.

Population – State of Maryland and Anne Arundel County 1970 - 2010				
Year	State of Maryland	Average Annual % Change	Anne Arundel County	Average Annual % Change
1970	3,922,399	–	297,539	–
1980	4,216,975	0.7%	370,775	2.2%
1990	4,781,468	1.3%	427,239	1.4%
2000	5,296,486	1.0%	489,656	1.4%
2010	5,773,552	0.9%	537,656	0.9%
Compound Average Annual Change 1970 - 2010		1.0%		1.5%

Source: U.S. Census Bureau

As shown, the greatest proportion of the county's growth took place between 1970 and 1980. From 1970 through 2000 the population in Anne Arundel County grew at a faster annual average rate than that of the state. Growth rates have tended to slow since 2000 for both the state of Maryland and Anne Arundel County, yielding a compound average annual growth of 1.0% for the state and 1.5% for the county during the 40 year period.

Demographic trends provide a significant indication of the overall health and structural change within a region's economy. Population increases or decreases impact real estate values, for example. Population growth can lead to jobs growth and can also positively impact income levels and tax bases in counties and communities. Total population, employment, income data and taxable retail sales are provided for 2005 and 2010 in the chart below, as well as projections for 2015, 2020 and 2025.

Demographics Anne Arundel County 2005 – 2025						
	2005	2010	2015	2020	2025	CAAG*
Total Population	516,171	537,656	563,178	588,420	614,097	0.9%
Total Employment	345,711	353,608	374,560	402,131	430,780	1.1%
Per Capita Income	\$47,823	\$54,533	\$65,804	\$82,702	\$105,875	4.1%
Mean Household Income	\$124,958	\$129,558	\$132,812	\$140,949	\$152,614	1.0%
Total Retail Sales (millions)	\$8,352.767	\$7,945.907	\$8,992.006	\$9,831,016	\$10,756.96	1.3%

*Compound Average Annual Growth Rate: 2005-2025

Source: Woods and Poole

As shown in the chart above, while total population and employment figures are generally expected to grow by approximately 1.0% between 2005 through 2025, per capita income is expected to jump by 4.1% in the 20 year period, a sizable increase when compared to population growth.

Economy

The economic engines that fuel the economy of Anne Arundel County and the greater Baltimore metropolitan include transportation, federal government which includes government contractors, educational and medical research, and food production. The transportation sector is a major contributor to the area's economy due to the area's proximity to the Port of Baltimore and its related rail and trucking access. The port ranked 17th by tonnage in the U.S. in 2008. The second largest sector of the economy is the federal government and the related government contractors. This fairly large sector is related to the area's location near Washington, D.C. It encompasses technical and administrative jobs for the defense/aerospace industry and bio-research laboratories, as well as staffing of satellite government headquarters in the suburban Baltimore/Washington area. The third sector is the educational and medical research institutions that are located in the area, including Johns Hopkins University and its medical research facilities. These facilities are now the largest single employer in the downtown Baltimore area. Altogether, white collar technical and administrative workers comprise 25% of Maryland's labor force, attributable in part to sections of the area being part of the Washington Metro Area where the federal government office employment rate is relatively high. The fourth sector, food production, is related to commercial fishing in Chesapeake Bay as well as agricultural areas beyond the greater Baltimore metropolitan area.

The largest employers in Anne Arundel County are included in the following table:

Major Employers Anne Arundel County		
Government/Public Employers	Estimated # of Employees	Product/Service
Fort George G. Meade	55,365	Dept. of Defense
Anne Arundel County Public Schools	14,000	Public Education
BWI Airport	9,717	Regional Airport
State of Maryland	9,577	State Government
Anne Arundel County Government	4,163	Local Government
U.S. Naval Academy	2,340	Fed'l Naval Education
U.S. Postal Service	650	Mail Service
City of Annapolis	550	Government Services
Private Sector Employers	Estimated # of Employees	Product/Service
Northrup Grumman	7,500	HDQT, Electronic Systems
Southwest Airlines	3,200	Airline
Anne Arundel Health System	2,800	Hospital
Baltimore Washington Medical Center	2,650	Hospital
Booz Allen Hamilton	2,100	Info Assurance
CSC	1,829	Info Technology
Allegis Group	1,500	HDQT, IT, Telecomm.
ARINC	1,100	HDQT, Aircraft, Telecomm.
Lockheed Martin	925	Engineering services
Ciena	850	HDQT, Comm. Networking

Source: Anne Arundel Economic Development Corp.

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In addition to the major employers listed above, other large companies in the county include Raytheon, General Dynamics and Boeing.

The area's largest employer, Fort George G. Meade, is located less than ten miles south of BWI Airport. Situated midway between Baltimore, Annapolis and Washington, D.C., the Fort's primary mission is to provide a wide range of services to 95 partner organizations from the Army, Navy, Air Force, Marines and Coast Guard. In addition, several federal agencies are served by Fort Meade, including the National Security Agency, the U.S. Army Recruiting Command, the Defense Information School, the Defense Courier Service, the U.S. Army Field Band, and most recently the U.S. Cyber Command.

Fort Meade is situated on 5,067 acres and is located near the communities of Odenton, Laurel, Columbia and Jessup. The Fort includes 1,517 buildings and is home to approximately 10,000 military personnel along with about 25,000 civilian employees. Nearly 6,000 family members reside on the post. Of the total employees at Fort Meade, 44% are government employees, 26% are military and 30% are contractors. The Fort has 85 tenant units, entities or organizations located at the base. Fort Meade is Maryland's largest employer and is the fourth-largest workforce of any Army installation in the U.S. In response to the military's Base Realignment and Closure plan, construction is underway on a few facilities as the Department of Defense Media Activities, the Defense Information Systems Agency and Joint Network Systems Management prepare to relocate here.

Anne Arundel County is known for being home to several defense contractors. The following chart depicts, in red, the defense contractors located in Anne Arundel County.

8 Out of the Top 10 Department of Defense Contractors
Located in Anne Arundel County

Rank		Company Name	Award (Billions\$)	
FY2009	FY2008		FY2009	FY2008
1	1	LOCKHEED MARTIN CORPORATION	32.7	30.0
2	3	BOEING COMPANY THE	22.2	23.3
3	2	NORTHROP GRUMMAN CORPORATION	19.5	23.4
4	6	RAYTHEON COMPANY	15.3	14.2
5	5	GENERAL DYNAMICS CORPORATION	14.9	14.4
6	4	BAE SYSTEMS PLC	7.3	16.2
7	7	UNITED TECHNOLOGIES CORPORATION	7.2	8.3
8	8	L-3 COMMUNICATIONS HOLDINGS INC	6.9	6.7
9	28	OSHKOSH TRUCK CORP.	6.4	1.9
10	10	SAIC	5.1	4.7

MARKET ANALYSIS, BWI AIRPORT, BALTIMORE, MD

Anne Arundel County's civilian labor force in second quarter 2011 was estimated to be 281,839, with 263,825 of those residents employed, for an unemployment rate of 6.4%. This compares to the second quarter 2010 labor force of 282,110, with 263,362 people employed for a 6.6% unemployment rate.

Anne Arundel County's unemployment rates have remained within a range of 3.1% to 6.8% in the last six years, compared to the state's range of 3.6% to 7.5%.

Unemployment Rates Anne Arundel County and the State of Maryland 2005-2010						
	2005	2006	2007	2008	2009	2010
Anne Arundel County	3.5%	3.3%	3.1%	3.9%	6.5%	6.8%
State of Maryland	4.1%	3.8%	3.6%	4.4%	7.1%	7.5%

Source: U.S. Bureau of Labor Statistics

The most recent data available is from October 2011 when the unemployment rate in Anne Arundel County was 6.2%, a similar rate to the October 2010 figure of 6.3%.

Hotel Tax Collections

Hotel tax collections (transient occupancy taxes) are a good indicator of the health of a lodging market, measuring hotel revenue growth patterns county-wide or city-wide. The following table provides hotel tax collections for Anne Arundel County from fiscal year 2005-06 through fiscal year 2010-11, along with compound average annual growth rates. Fiscal year data is from July 1 through June 30 each year.

Hotel Tax Collections Anne Arundel County 2005/06 – 2010/11		
Fiscal Year	Anne Arundel County	Average Annual % Change
2005-06	\$12,828,700	–
2006-07	\$13,942,400	8.7%
2007-08	\$15,003,200	7.6%
2008-09	\$13,986,200	-6.8%
2009-10	\$12,812,500	-8.4%
2010-11	\$13,661,400	6.6%
Compound Average Annual Change		1.3%

Source: Anne Arundel County Finance Department

As shown, hotel tax collections for Anne Arundel County increased in fiscal years 2006-07 and 2007-08. The next two years posted declines as the economic downturn impacted lodging demand, but the most recent year ending June 2011 showed a healthy gain of 6.6%.

Tourism and Regional Amenities

The greater Baltimore area has many attractions and amenities for the leisure traveler visiting the area.

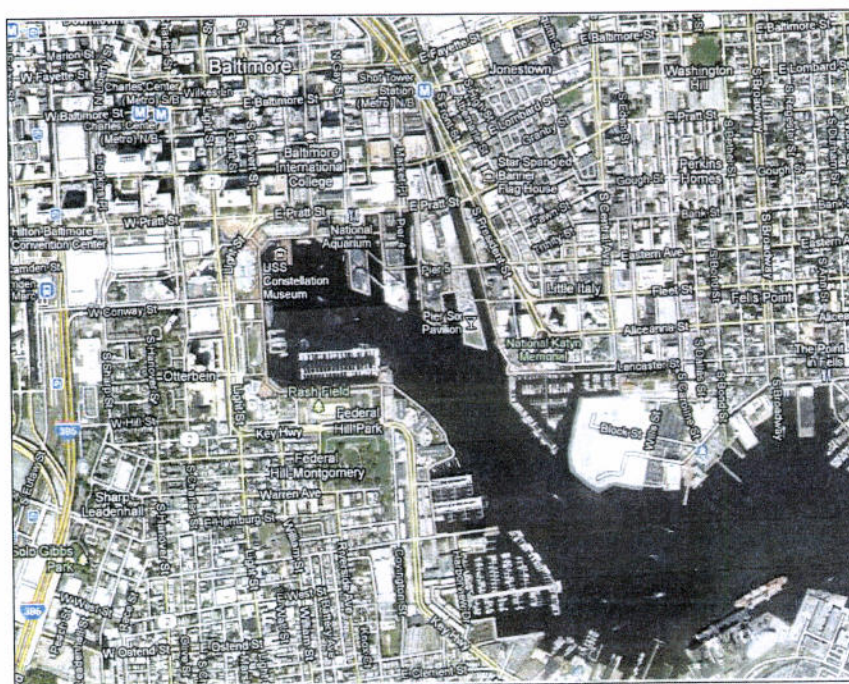
Baltimore Orioles Baseball

One of the regional attractions that impact the BWI Airport area hotels is the Baltimore Orioles Baseball games played at the Camden Park stadium in downtown Baltimore. The baseball season lasts from April through September or October each year and is a major tourism draw. Local hoteliers have indicated that when the New York Yankees or Boston Red Sox are playing the Orioles, for example, hotel rooms are in demand. Other professional baseball teams bring in fans requiring lodging as well. The BWI Airport area hotels provide easy access to the stadium via the light-rail train to the stadium, making the hotels near BWI Airport a good alternative to more expensive hotels downtown.

Inner Harbor

A popular tourist area of Baltimore is the Inner Harbor, one of the major seaports in the United States since the 1700s. It started blossoming into the cultural center of Baltimore in the 1970s. The Inner Harbor's amenities and attractions include the National Aquarium, the USS Constellation Museum, the 27-story World Trade Center with the "Top of the World" observation level, Fort McHenry, water taxis, several piers, as well as fine dining, other cultural experiences and nightlife.

The aerial view shown below depicts the location of the Inner Harbor and its proximity to downtown Baltimore. One can see the harbor area near the USS Constellation Museum. Downtown Baltimore is situated at the top left portion of the view.



Washington, D.C.

Located approximately 30 miles southwest of BWI Airport, Washington, D.C. has a wide range of tourist attractions and amenities. At the top of the list are often the White House, U.S. Capitol Building, Washington Monument, Lincoln Memorial, Smithsonian, Air and Space Museum, the recently renovated American History Museum, and the National Gallery of Art. In addition, there is Ford's Theatre, Mount Vernon, Arlington Cemetery, cruises on the Potomac River, and the World War II Memorial. The entire area is rich with American history and countless ways to explore our nation's past and present.

Chesapeake Bay

The Chesapeake Bay is a major tourist attraction in the area. According to commentator Terry Smith, the Bay is well-known for providing "glassy, smooth and gorgeous seas," perfect for sailing. In addition, fishing, crabbing, swimming, boating, and kayaking are popular activities on the waters of Chesapeake Bay on Maryland's Eastern Shore.

Retail Sales

Anne Arundel County's total taxable retail sales figures for 2005 through 2011 are provided in the following chart with compound average annual growth rates.

Taxable Retail Sales (in \$ millions)		
Anne Arundel County		
2005 - 2011		
Year	Anne Arundel County	Average Annual % Change
2005	\$8,352.767	-
2006	\$8,482.463	1.6%
2007	\$8,500.532	0.2%
2008	\$8,147.980	-4.1%
2009	\$7,571.852	-7.1%
2010	\$7,945.907	4.9%
2011 (Proj.)	\$8,378.282	5.4%
Compound Average Annual Change		0.1%
Source: Anne Arundel County Finance Department		

As shown, Anne Arundel County's taxable retail sales posted declines in 2008 and 2009 with the economic downturn that began in late 2008. Since that time, increases were shown in both 2010 and are projected in 2011. The compound average annual change for the six years shown is 0.1%.

Convention Center

The Baltimore Convention Center is located on West Pratt Street in the downtown area of Baltimore, between Baltimore's Inner Harbor and Oriole Park at Camden Yards. It is considered a convenient location for mid-Atlantic conventions, tradeshow and expositions. The Convention Center was originally constructed in 1979 and received a \$151 million renovation in 1996 and 1997. The Center features 1,225,000 square feet of space with 300,000 square feet of exhibit halls and 85,000 square feet of meeting rooms.

2005	102	JTT, 100
2006	201	544,682
2007	166	544,682
2008	172	514,144
2009	173	435,992
2010	131	368,834
2011	162	488,469

We understand that recessionary trends, as well as increased competition from the convention centers in Charlotte and Philadelphia, resulted in decreases in the number of events, and attendees during the last few years.

Office Market Report

According to Cushman & Wakefield's Third Quarter 2011 Office Market Report for Baltimore, "economic uncertainties lingered in the third quarter of 2011 as job creation numbers fell short of market expectations and government budgetary concerns further weakened consumer and investor confidence. Anticipated federal budget cuts were and remain a primary concern for states like Maryland, which depend on federal funding and the government contract industry. Leasing activity was steady in the third quarter of 2011, at 554,456 square feet, with activity concentrated in Baltimore County. Class A product continued to see the largest volume of lease transactions as it accounted for 78.3% of the year-to-date leasing activity in the Baltimore office market. In addition, a total of 488,000 square feet of Class A office product was delivered in the Baltimore market."

The Cushman & Wakefield's report further states that "vacancy rates are expected to largely hold in the Baltimore office market at year-end 2011, with the exception of Harford County due to construction activities. Overall net absorption for Baltimore's CBD in the fourth quarter is expected to be positive as Transamerica takes 140,526 square feet at 100 Light Street. Asking rental rates will most likely remain flat as the market continues its recovery by year-end 2011."

The greater Baltimore area and BWI Airport office market data are provided in the chart that follows.

Baltimore and BWI Office Market Report – Third Quarter 2011					
Market Area	Total Square Feet	Total Vacancy Percent	YTD Square Feet of Absorption	YTD Square Feet Under Construction or Completed	Rate – Class A
Baltimore CBD	13,381,776	17.9%	39,859	0	\$23.27
Baltimore Southeast	4,496,353	15.5%	83,761	0	\$36.58
BALTIMORE CITY TOTAL	22,203,339	16.6%	166,368	0	\$26.70
Annapolis	2,308,268	5.7%	42,788	0	\$30.88
BWI Anne Arundel	4,564,117	11.0%	129,963	575,378	\$29.49
BWI Linthicum	2,628,627	13.4%	(81,903)	0	\$22.98
ANNE ARUNDEL COUNTY TOTAL	10,256,524	10.3%	90,437	575,378	\$28.81
BWI Howard County	643,685	16.2%	51,006	0	\$25.35
HOWARD COUNTY TOTAL	11,183,854	16.2%	67,470	319,624	\$26.30
BALTIMORE COUNTY TOTAL	17,737,558	12.7%	104,607	354,460	\$23.22
HARFORD COUNTY TOTAL	1,316,717	28.5%	113,831	647,720	\$33.78
Non-CBD	49,316,416	13.8%	502,854	1,897,182	\$27.78
BALTIMORE TOTAL	62,698,192	14.6%	542,713	1,897,182	\$26.54
Source: Cushman & Wakefield, Third Quarter 2011 Office Market Report					

As shown in the chart above, Annapolis, BWI Anne Arundel, and BWI Linthicum are part of the Anne Arundel County total figures. It can easily be seen that the BWI and Anne Arundel submarket areas enjoy the lowest vacancy rates of all the charted locations, ranging from 5.7% in Annapolis to 13.4% at BWI Linthicum, with a county average of 10.3%. BWI Howard County is a smaller submarket close to BWI Airport and has a higher vacancy rate of 16.2%. The other submarkets in the chart fall within vacancy ranges of 12.7% in Baltimore County to 28.5% in the Harford submarket.

According to a Third Quarter 2011 report by CBRE (Coldwell Banker Richard Ellis), Baltimore is the 21st largest office market tracked by CBRE, with a total population of 2.74 million. Average per capita personal income (according to recent data from Moody's Economy.com) is estimated to be \$49,998, approximately 20.1% above the national average. Total employment in the area stands at 1.28 million workers. CBRE states that the Baltimore office market demand peaked in 2007 with 262,100 jobs in the office-using sectors. CBRE expects office employment to grow 2.0% per year over the next six years and expects office employment to reach the previous peak once again in 2013. Rents have declined 2.5% per year over the last three years which, combined with the forecasted job growth, will help to lift absorption in the coming years. Vacancy rates are forecasted to improve, dropping to 11.1%, while rents are forecasted to rise to \$28.57 per square foot, per year.

Conclusion

With its primary economic reliance on the federal government, government contractors, as well as its ports, the greater Baltimore metropolitan area has an economy fueled primarily by its proximity to Washington, D.C. and the eastern seaboard. Although the area did feel the impact of the recent recession, due to the diversity of its economy, Anne Arundel County did not experience the sizable downturns seen in other market areas in 2008 and 2009. Airport enplanements, hotel tax data, taxable retail sales figures, and unemployment statistics have shown improvements in 2010, indicating that the area is bouncing back from the recent economic downturns it experienced. While it is difficult to predict the economic health of any market area, particularly with the dramatic changes in the economy in recent years, the overall outlook for Anne Arundel County is good.

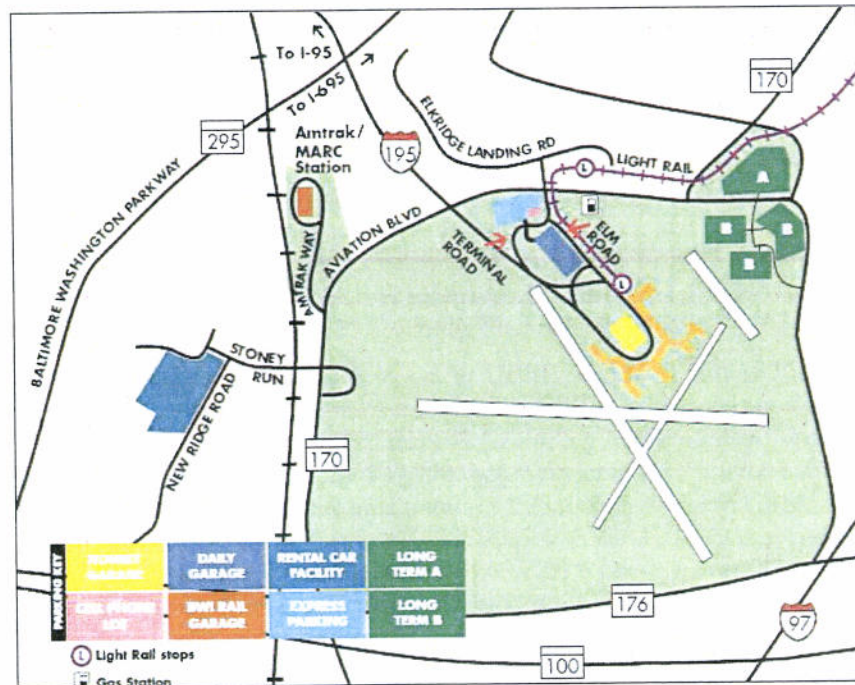
SITE ANALYSIS

This chapter provides an analysis of the suitability of two sites with regard to their suitability for a hotel development. The sites are referred to as (1) the Airport Site, and (2) the Amtrak Site.

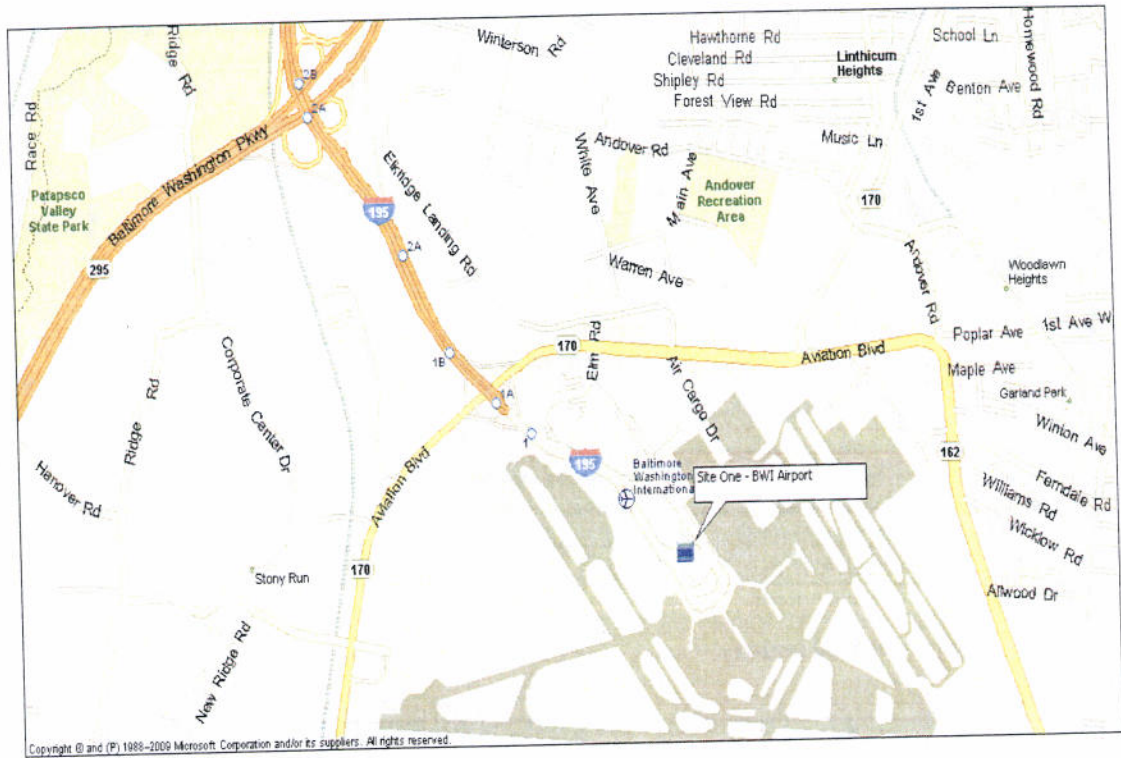
The Airport Site

Site Description

This analysis is based on a personal inspection of the site and a review of a site plan provided by airport management. The Airport Site is located on a prime location directly on the BWI Airport adjacent to the Hourly Parking Garage, with easy access to the passenger terminals. I-195 provides direct access to BWI Airport. Elm Road is the surface road that circles in front of the terminal buildings. The site is located directly northwest of the hourly parking garage that is ringed by Elm Road. On the following map the hourly parking garage is represented by the yellow block in front of the terminal buildings. The site's location characteristics are considered excellent in terms of its suitability for the development of a first-class hotel. The hotel site is proximate to all sources of demand for lodging in this market. The site is located at the center of the airport property with excellent visibility. The site is also proximate to a number of major corporate demand generators and has both excellent visibility and accessibility from Elm Road. With approximately eleven acres of available land, there is ample land for a potential hotel development.



Site Map



Access, Visibility, and Proximity to Demand for Lodging



As mentioned, the subject site has excellent visibility for automobile traffic along West Elm Street, the thoroughfare providing access to the airport from I-195. The hotel will also have excellent visibility for traffic traveling along Elm Street due to its height relative to the other airport structures. The proposed hotel site is situated directly in front of the daily parking garage and its design and quality should enhance the airport's overall visual appeal.

Access to the proposed hotel site is considered easy due to the airport loop. Surface parking and garage parking will flank the hotel on either side for automobiles. Access to the hotel would also be considered extremely easy for airline passengers as it is situated within the loop provided by the terminal buildings. Overall the site's access is considered excellent for hotel use.

The site is proximate to all sources of lodging demand in this market. The majority of demand is generated by the BWI Airport. The proposed hotel's location at the airport makes it the closest lodging property to this major demand generator in southern Baltimore. The site is also proximate to numerous corporate demand generators and Fort Meade. Overall, the site is considered excellent in terms of its suitability for a hotel

development.

Physical Suitability

The subject site is approximately 11.5 acres and has a flat topography. The parcel's size, configuration, and topography, do not appear to physically limit its use.

Easements, Restrictions, and Encroachments

The site is located on airport land at a ground level of 154 feet AMSL (above mean sea level). The maximum buildable elevation for this site is 290 feet AMSL. Zoning for the subject is set by the Maryland Aviation Administration.

No title report was provided for the subject property. No private deeds or covenants, conditions and restrictions (CC&Rs) were provided to Ernst and Associates for this analysis. It does not appear, and it is assumed, that there are no adverse impacts on marketability of the project from existing easements, restrictions, and encroachments.

Soils and Geology

No soils or geological studies or reports were made available for this analysis. A personal inspection of the site did not reveal any evidence of soil instability. However, no representation as to the adequacy of the soils is made. For the purposes of this analysis it is assumed that the soil and geological conditions are adequate for the proposed development.

Environmental Issues

The consultants have inspected the subject property with the due diligence expected of a professional real estate consultant. The consultants are not qualified to detect hazardous waste and/or toxic materials. Such determination would require investigation by a qualified expert in the field of environmental assessment.

No responsibility is assumed for any environmental conditions or for any expertise or engineering knowledge required to discover them. The consultants' descriptions and resulting comments are the result of the routine observations made during the market analysis process.

Site Conclusion

The site under consideration is a parcel of land surrounded on two sides by Elm Street and directly northwest of the hourly parking garage at BWI Airport. The site's location characteristics are considered excellent in terms of its suitability for the development of a first-class hotel. The hotel site is proximate to all sources of demand for lodging in this market.

We believe the subject site has the following strengths and/or constraints:

- The site's visibility from Elm Street is excellent from a southbound direction for motorists travelling onto the airport and to the main terminal buildings.
- The site's exposure at the airport will enhance its recognition in the market place.
- The site is located eight miles from Ft. Meade and is proximate to numerous corporate demand generators that surround the airport.
- The terminal buildings have a good selection of fast-food, limited service and a few full-service restaurants, as well as several retail establishments that are situated before entering the TSA security checkpoints. It is assumed that a proposed hotel

MARKET ANALYSIS, BWI AIRPORT, BALTIMORE, MD

at this location will also feature a variety of full-service food and beverage venues.

- The subject site is only 30 miles north of Washington, D.C.
- The subject site is slightly challenged by a lack of freeway visibility; however, none of the competitive hotels in the vicinity of the subject have prime freeway visibility, so it is not considered a significant issue in evaluating the site.
- The site is somewhat challenged by its close proximity to the airport's runway system with its inherent noise issues. While noise issues are manageable with current construction and technology, this issue could necessitate higher construction costs.

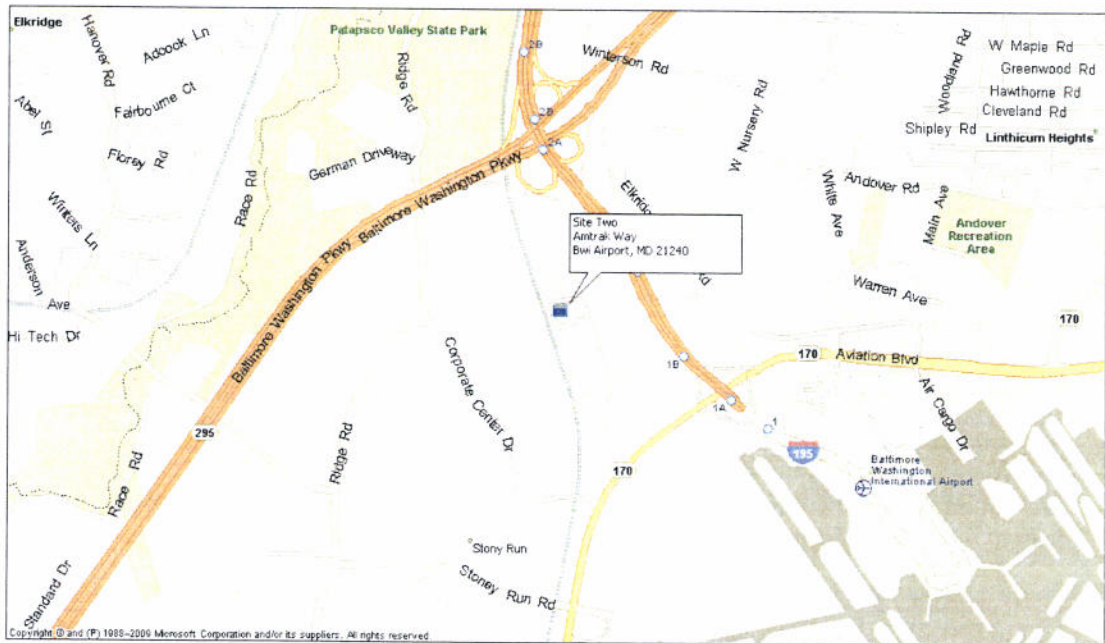
Overall, the site under consideration appears to be excellent for its proposed use.

The Amtrak Site

Site Description

This analysis is based on a personal inspection of the site and a review of a site plan provided by airport management. The Amtrak Site is located on Amtrak Way in Baltimore. This site is located to the north of Aviation Boulevard at the BWI Amtrak Train Station. The site is located directly south of the Amtrak Train Station and west of the parking garage. The site's location characteristics are considered below average in terms of its suitability for the development of a first-class hotel. The site has good accessibility, but this is offset by very limited visibility. The site is proximate to the BWI Airport, as well as a number of major corporate demand generators and has good accessibility from Aviation Boulevard and Amtrak Way.

Site Map



Access, Visibility, and Proximity to Demand for Lodging



As mentioned, the site does not have visibility for automobile traffic either along Aviation Boulevard or from the freeways in the area. The site is situated directly in front of the daily parking garage and its design and quality would enhance the Amtrak Station's amenities for rail passengers. Access to the site is considered easy due to Amtrak Way and the adjacent parking garage. Access to the hotel would also be considered good for rail passengers as it is situated directly outside of the rail station.

The site is proximate to all sources of lodging demand in this market. The majority of demand is generated by the BWI Airport. The site is also proximate to numerous corporate demand generators and Fort Meade.

The immediate area surrounding the Amtrak Train Station consists of wetlands and forested land which is environmentally protected. Much of the land cannot be developed due to this fact. There have been discussions regarding mixed-use developments that may be considered within the "neighborhood" of the train station; however, it appears unlikely that any developments would materialize within the next five to ten years. Therefore, the current site lacks some of the aesthetic appeal that would maximize its use as a hotel site.

Overall, in the short term, the subject site is a below average location for a first-class hotel with respect to its location proximate to local demand generators. Long term, the site's characteristics may improve if additional mixed-use developments come to fruition.

Physical Suitability

The subject site is approximately 65,000 square feet (or 1.5 acres) and has flat topography. The site's size is considered small for a traditional limited-service lodging property and not adequate for a full-service hotel. The adjacent parking garage mitigates the requirement for a traditional allocation of land; however, the site is still considered quite small and would constrain development opportunities at the site. The site also has inherent issues with limited area for construction due to surrounding uses including the parking garage, rail line, and depot.

Easements, Restrictions, and Encroachments

The site is located on airport land at a ground level of 60 feet AMSL (above mean sea level). The maximum buildable elevation for this site is 180 feet AMSL. Zoning for the subject site is set by the Maryland Aviation Administration.

No title report was provided for the site. No private deeds or covenants, conditions and restrictions (CC&Rs) were provided to Ernst and Associates for this analysis. It does not appear, and it is assumed, that there are no adverse impacts on marketability of the project from existing easements, restrictions, and encroachments.

Soils and Geology

No soils or geological studies or reports were made available for this analysis. A personal inspection of the site did not reveal any evidence of soil instability. However, no representation as to the adequacy of the soils is made. For the purposes of this analysis it is assumed that the soil and geological conditions are adequate for the proposed development.

Environmental Issues

The consultants have inspected the site with the due diligence expected of a professional real estate consultant. The consultants are not qualified to detect hazardous waste and/or toxic materials. Such determination would require investigation by a qualified expert in the field of environmental assessment.

No responsibility is assumed for any environmental conditions or for any expertise or engineering knowledge required to discover them. The consultants' descriptions and resulting comments are the result of the routine observations made during the market analysis process.

Site Conclusion

The site is located on a parcel of land adjacent to the Amtrak Train Station and its parking garage. The site's location characteristics are considered below average in terms of its suitability for the development of a first-class hotel. Future development of the surrounding area is in question, as much of the land is environmentally protected. Although discussions regarding mixed-use developments in the greater area have occurred, the likelihood of development is at least five to ten years out, if not longer. The site's accessibility is good; however, this one redeeming characteristic is offset by very limited visibility. The site enjoys proximity to all sources of lodging demand, including the BWI Airport. Our research indicates that the railway, at least at this location, is not a major generator of lodging demand.

We believe the subject site has the following strengths and/or constraints:

- The Amtrak rail, as well as the MARC lines, are not considered to be major generators of lodging demand, which lessens the overall appeal of this site.
- The site's visibility from Amtrak Way is good as motorists loop around in front of the train station; however, the site does not have visibility from Aviation Boulevard or any of the freeways in the area.
- The site has only 1.5 acres of buildable area, which places a constraint on the site's development potential.
- The site has certain constraints including surrounding uses that make construction difficult on a relatively small footprint.
- Adjacent to a parking garage and rail station, as well as tracks, the site's aesthetics are considered inferior and convenience to the train does not mitigate these issues, as it is not considered to be a major generator of lodging demand.
- The site will be impacted by noise from the trains as they arrive and depart from the Amtrak Train Station. Service is provided nearly 24 hours every day, with arrivals and departures approximately every half hour during peak hours of operation. While noise issues are manageable with current construction and technology, this issue could necessitate higher construction costs.
- The site is located eight miles from Ft. Meade; 30 miles north of Washington, D.C., and is proximate to numerous corporate demand generators that surround the airport.
- The immediate area surrounding the site suffers from a lack of restaurants and retail establishments.

Overall, the Amtrak Site's suitability in connection with a hotel development appears to be below average for the foreseeable future. Future development of the greater area surrounding the site, with commercial and/or retail uses, would strengthen its overall appeal, as well as its competitive position when considered for a hotel development.

Conclusion

In this chapter we provided an analysis of both sites under consideration for the proposed hotel project(s). We discussed the factors that impact these sites including access, visibility, applicable regulations, physical suitability, and proximity to lodging demand.

The Airport Site is considered excellent for the development of a hotel. It has easy accessibility, excellent visibility, and is located at the prime generator of lodging demand in this area, the BWI Airport. In addition, the development of a hotel at this location will enhance the overall aesthetic appeal of the BWI Airport with its location in front of the daily parking garage, thereby providing a view for arriving passengers of a new hotel rather than a parking garage. Noise-reducing construction will be necessary as it is located proximate to the airport's runway system. This site is located on a prime location at the airport next to the terminals, and has a superior location when compared to the competitive supply. Overall this site is considered excellent for hotel use.

The Amtrak Site is considered a below average site for the development of a hotel at this time. It has easy accessibility, below average visibility, and is located adjacent to a busy train station. The site is considered abnormally small for a hotel and construction will be difficult due to the close proximity of the surrounding uses. These factors would necessitate building more stories on a small footprint. It is located proximate to the BWI Airport and all other demand generators for lodging in this area. Noise-reducing construction will be necessary as it is located adjacent to a busy railway and depot. There have been numerous additions to the lodging supply in the past several years and most of the existing supply have superior locations when compared to this site, with better visibility, larger sites, and superior neighborhood amenities. Overall, this site is considered below average for hotel use. As mentioned, future development of the greater area surrounding the site, with commercial and/or retail uses, would strengthen its overall appeal, as well as its competitive position when considered for a hotel development.

It is our recommendation that the Airport Site be considered for development with a full-service hotel. The Amtrak Site is considered much less suitable for the development of a hotel project at this time. In the next chapter, we provide a summary of the supply of, and demand for, first-class lodging facilities in the defined market area, as well as our estimate of the market support for additional lodging accommodations.

HOTEL MARKET OVERVIEW

Introduction - a National Overview

The national recovery in the lodging industry continues to gain speed, as occupancy and ADR (average daily room rate) will continue to increase. Investors perceive that current positive RevPAR (Revenue Per Available Room) growth will sustain the industry's cyclical rebound. Despite a robust interest in major urban assets by national and overseas investors, there are still many broader economic reasons for concern. The nation's debt will be a burden for years to come, according to economists, and this has slowed the overall recovery. Volatile gas prices could weigh heavily on travel, as families are less likely to spend disposable income on high air fares. Issues overseas, such as Greece's debt crisis, could also have far-reaching consequences on the domestic front. According to CBRE, "A thaw in all types of hospitality lending is spreading, including a glimmer of construction financing for financially feasible deals that include real substantial equity invested behind debt."

The transaction volume through the first five months of 2011 is triple the amount compared to the same period in 2010. Jones Lang LaSalle Hotels (JLL) predicts that at the current pace, overall deal volume should meet or exceed \$13 billion for the year. A number of notable factors have enabled the increased activity. The following highlights are based on publications and articles from JLL, Hotel Interactive, and Larking Hospitality Finance.

- Overall occupancy, ADR, and RevPAR will continue to increase through the remainder of 2011 and beyond;
- REITS continue to be the dominant players in 2011. Pebblebrook has been one of the most active hotel REIT's, acquiring several major assets including the W Boston for \$89.5 million, the Mondrian, Los Angeles for \$137 million, the Viceroy Miami for \$36.5 million and the Hotel Monaco Seattle for \$51.2 million. Chesapeake Lodging Trust has also been active, recently acquiring the 210-room Hotel Indigo in San Diego for \$55.5 million and the W Chicago for \$128.8 million;
- A tremendous amount of capital that was sitting on the sidelines has been placed into deals, especially from private equity groups and institutional investors;
- Lending is becoming increasingly available, especially for top tier assets in major markets;
- Foreign investors, especially from the Middle East and Asia will continue to target trophy assets in major coastal markets.

Both US Realty Consultants and PWC (formerly Korpacz) indicate the averages for discount rates, overall capitalization rates and terminal capitalization rates continue to decrease. The largest decrease in discount rates of the four hospitality types (Luxury, Full-Service, Limited-Service, Select Service) was the limited service segment, which experienced a drop of 56 basis points compared to the first quarter of 2011. US Realty Consultants notes that discount rates for full service properties decreased by 20 basis points relative to their Winter 2011 survey. For the limited service sector, discount rates have decreased by 50 basis points.

Smith Travel Research (STR), widely regarded as the standard source for reliable

information in the hospitality industry, is predicting healthy growth in occupancy and ADR for 2011, although it will not reach recent historic levels for several more years. A commentary by Randall Smith, Chairman, Smith Travel Research follows:

The lodging industry is in the midst of a solid rebound in virtually all performance measures. While there continue to be enough potholes ahead to proceed with considerable caution, there are plenty of reasons to enjoy the current state of the industry while it lasts.

One of the most optimistic aspects of where we are today is the gradual slowdown in room supply growth. When the industry entered the recession in 2008, room supply was growing very rapidly and industry management was not prepared for a sharp downturn in demand. By late 2008 and early 2009, room supply was growing around 3% over the prior period, greatly compounding the typical difficulties associated with a slump in demand. Following that surge in supply growth, construction activity began to slow down and by mid-2010 room supply was growing by less than 2%. It has continued to decline steadily and for most of 2011 room supply growth has averaged less than 1% from year-earlier levels. As of September 2011, room supply growth had sunk to only 0.6% over September 2010.

While reviewing the pipeline of new rooms coming into the market, it appears that room supply growth will remain low for the foreseeable future. With only 54,000 rooms currently under construction, the industry is in a much better position to withstand potential declines in room demand. While the number of rooms in final planning is just short of 100,000 and the number of rooms in the planning stages totals around 165,000—which could be causes for concern—the number of rooms in these two stages combined are nearly 40,000 less than at this time last year.

The bright spot of what is under construction is that, other than New York City, it appears to be fairly dispersed and should not be a big drag on occupancies going forward. New York is in the midst of a construction boom with more than 7,000 rooms currently under construction in the city. That represents about 7% to the existing supply base. Fortunately, it appears at this time that the city could use additional rooms so we do not expect any major distortions in that market over the short term.

Across the rest of the country, most of the properties under construction are in the upscale and upper-midscale segments, which tend to be smaller and have a less-immediate impact on overall supply growth issues. As a result, we do not expect room supply growth to be a significant problem for the industry as we wrap up 2011 and enter 2012. We will continue to pay close attention to construction activity with a focus on the end of 2012.

Growth in Lodging Demand

Another bright spot for the industry is the nearly stunning rebound in room demand over the past several months. On a seasonally adjusted basis, room demand has been setting records. Prior to the current downturn, the highest number of room nights sold on a seasonally adjusted basis was 87.2 million in November 2005. Following that peak, room demand stabilized around 85 million room nights a month for the next several years. As the recession set in, monthly room demand began to fall fairly dramatically, finally reaching the bottom at around 75 million a month in early 2009. Since then, the number of room nights sold has been climbing steadily. It reached the 85 million room night level in late 2010 and stabilized again at that level. But after nearly nine months stuck at that level, in early 2011 room demand began to grow again. And in March of this year, the industry finally set a new record of room nights sold reaching 87.5 million room nights.

Since then demand has continued to set new records. While there was a brief drop in August, September rebounded to fall just short of 90 million room nights sold.

Clearly, this is the one variable where the industry is most vulnerable. The relationship between overall industry demand and economic activity continues to evolve. As shown in the accompanying chart, historically, changes in room demand have been highly correlated to changes in GDP. Over the past several years however, the changes in lodging demand have become more dramatic. When the recession hit, demand for rooms declined much greater than the overall economy and as the economy began to stabilize, lodging demand has improved much more rapidly than the overall economy.

For the third quarter of 2011, room demand was 4.7% greater than the same period last year while GDP growth is expected to be less than 1.6% for the quarter. While STR does not believe that the relationship between demand and the economy has been changed forever, we do believe that demand could remain strong for the remainder of the year and begin to stabilize at current levels as we enter 2012.

Increases in Occupancy and Average Room Rate

The combination of lower supply growth and a solid rebound in demand has led to steadily rising room occupancy rates. In general, occupancy has been drifting downward for the past 20 years. In the late 1980s when STR first began tracking the industry, occupancy regularly exceeded 65%. The industry has not been back to those levels since the mid-1990s. Even during the good years between 2004 and 2008, occupancy only climbed back to a high of 63.5% in June 2006. When the recession hit, occupancy began to decline sharply finally reaching a bottom in January 2010 of 54.5%. While it has rebounded nicely since then, it is still around 60%. Interestingly, while occupancy is generally lower than historical norms, the industry has been able to lower the break-even occupancy to such a point that overall profitability continues to remain solid with considerable upside potential.

The one area that continues to be underperforming given the other industry metrics is room rates. With higher occupancy, room rates should begin to strengthen. However we are less optimistic about this variable than we have been in the past. With this recent downturn, the decline in room rates was unprecedented. After reaching a peak in late 2008 of nearly US\$108, room rates declined sharply and bottomed out in early 2009 at around US\$95. It has taken nearly two years to get rates back above the US\$100 level and it will probably take at least another two years to get back to pre-recession levels. (And that's not even factoring in inflation.) There has clearly been a hesitancy to push room rate increases at a time when the overall economy continues to struggle and unemployment remains very high. However, if room demand does begin to stabilize or even drifts downward, there is the real possibility that the industry missed an opportunity to be more aggressive on pricing as room demand soared to record levels.

In STR's opinion, transparency in pricing has completely altered existing revenue management models. The complexity of pricing today with all of the various channel distribution possibilities has forever changed the role of the revenue manager in today's lodging industry. To help meet these challenges, STR has undertaken a massive study of channel distribution data to provide revenue managers with solid benchmarks of actual performance results. Within a very short time frame, STR has been able to collect and process booking data for nearly 26,000 properties in the US. STR will be introducing a variety of new reports over the coming months primarily geared to helping revenue managers sort through the vast quantity of data available and hopefully provide them with

the tools necessary to make intelligent and profitable decisions about pricing. I will discuss some of the findings of this study and how it can be applied in my future articles.

In summary, with growth in room supply slowing and growth in room demand steadily improving, our forecasts for 2011 and 2012 are fairly conservative given the continued problems with the overall economy. As of now, we expect room supply for 2011 to increase about 0.7% and for 2012 to grow another 0.9%. We expect room demand growth to be about 4.7% for 2011 and about 1.1% in 2012. As a result, we expect occupancy to improve by about 4% this year and only about 0.2% next year. With slightly higher occupancy we expect room rates to increase about 3.6% during 2011 and add another 3.7% in 2012. Showing strong percentage increases next year will be extremely difficult since we will be comparing the 2012 results with a fairly strong 2011.

Obviously these forecasts are based on economic conditions as they exist today. There are a wide variety of concerns that could cause these forecasts to be wide of the actual mark. Perhaps the two biggest problems confronting the global economy today is the credit crisis that is looming in Europe and the overall vulnerability to global shocks that can come from terrorism or upheaval in the Middle East. Add to that the usual cautionary note about natural disasters (Japan) and man-made disasters (reckless government spending) and there are plenty of areas that could affect lodging negatively. The most nagging problem in the U.S. is the prolonged level of high unemployment. While this should not cause any dramatic slowdown in lodging demand, it has removed a significant number of guests from our customer base that will be a drag on future growth in demand. The crisis in the housing market will also be with us for several more years and that will continue to hold down consumer sentiment and suppress overall spending. But for now, the lodging industry is doing much better than a year ago and the outlook is, as usual, cautiously optimistic. END EXCERPT -----

Smith Travel Research's annual forecast for the nation's lodging industry is summarized in the following chart.

Year	2005	2006	2007	2008	2009	2010	2011	2012P
Occupancy	63.0%	63.1%	62.8%	59.8%	54.6%	57.6%	59.9%	60.0%
Average Room Rate	\$91.03	\$97.81	\$104.31	\$107.38	\$98.09	\$98.07	\$101.58	\$105.29
RevPAR	\$57.35	\$61.72	\$65.51	\$64.21	\$53.56	\$56.49	\$60.85	\$63.17

Source: Smith Travel Research, Ernst & Associates, Inc.

MARKET ANALYSIS, BWI AIRPORT, BALTIMORE, MD

The 2012 Year End Outlook for the Nation's lodging industry, by chain scale, is summarized in the following chart.

Chain Scale	Occupancy (% Chg)	ADR (% Change)	RevPAR (% Chg)
Luxury	1.3%	5.5%	6.9%
Upper Upscale	-0.6%	4.0%	3.4%
Upscale	1.4%	4.2%	5.7%
Upper Midscale	-0.2%	3.8%	3.6%
Midscale	1.0%	0.8%	1.8%
Economy	0.6%	2.3%	3.0%
Independent	-0.6%	3.0%	2.4%
Total United States	0.2%	3.7%	3.9%

Source: Smith Travel Research

Baltimore Lodging Market - An Overview

The population of the Baltimore area stands at 2.74 million. The average per capita income (according to recent data from Moody's Economy.com is estimated to be \$49,998, approximately 20% above the national average. Total employment stands at 1.28 million workers. Over the last five years, total employment in the Baltimore area has declined at an average annual rate of 0.5% while across the U.S., employment has declined at an average annual rate of 0.8%. CBRE forecasts growth of 1.1% in the Baltimore area in the next five years. Baltimore's construction employment sector will post the best job performance over the next five years.

Based on a report prepared by CBRE - Econometric Advisors, the forecast calls for overall positive growth in real personal income and total employment through year-end 2012. The forecast for Baltimore's full-service segment projects an annualized RevPAR figure of \$75.56 for 2012 compared to \$74.98 in 2010 (0.4% annual change). CBRE expects an annualized RevPAR figure of \$66.93 in 2012 for Baltimore's limited-service segment, compared to 2010's figure of \$57.83 (7.6% annual change).

The Baltimore lodging market, by sub-market, is summarized in the chart that follows.

Sub Market	Full-Service Hotels				Limited-Service Hotels			
	Avail Rooms	Occ Rate	ADR	RevPAR	Avail Rooms	Occ Rate	ADR	RevPAR
Baltimore, MD Area	1,807	51.7	\$101.70	\$52.62	4,581	67.2	\$83.07	\$55.82
BWI Airport/Annapolis	4,289	67.5	\$117.27	\$79.16	5,761	71.9	\$87.27	\$62.77
City	7,483	61.7	\$145.69	\$89.85	2,134	64.5	\$126.29	\$81.51
Suburbs	2,868	58.1	\$99.00	\$57.55	3,483	60.2	\$85.02	\$51.19
Total Baltimore	16,448	61.4	\$126.34	\$77.56	15,959	67.3	\$90.22	\$60.70

Source: CBRE, Q3 2011

BWI Airport Lodging Market - Primary Competitive Supply

The BWI Airport lodging market has traditionally catered to commercial travelers, group meeting guests, and leisure travelers. There is a fairly significant component of government-related lodging demand which is tied to a government per diem. On the other hand, there is an ample supply of discerning corporate and leisure travelers who are willing to pay a premium for good-quality lodging facilities with modern facilities and amenities. There has been an emergence of first-class, full-service, as well as focused-service hotels during the last few years that cater to non-price sensitive corporate and leisure travelers.

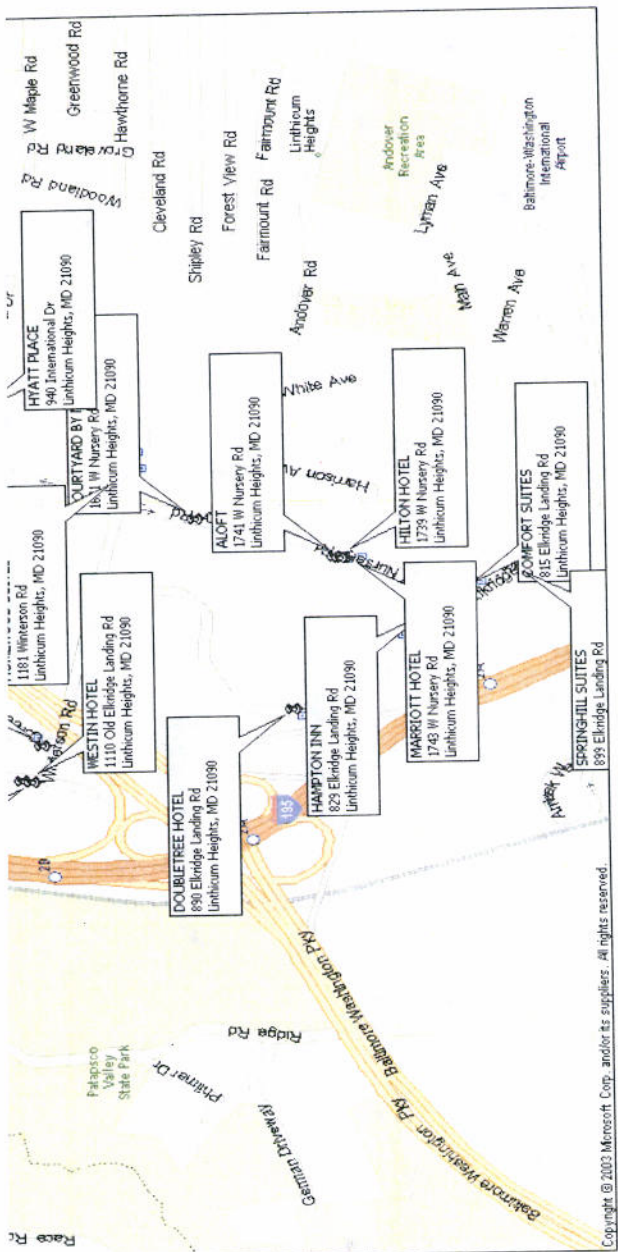
Based on our research, we identified a primary competitive lodging supply of hotels that are located proximate to the BWI Airport. Generally speaking, they are located in the Linthicum area. A secondary competitive supply is comprised of a number of hotels located in what is referred to as the Arundel Mills sub-market. Interestingly, the majority of new additions to the supply of lodging facilities have been within the Arundel Mills sub-market. Their impact on the primary competitive supply is discussed later in this chapter.

In this section, we first present a discussion regarding the subject's primary competitive supply and then our estimates of supportable guest rooms in the BWI Airport market. Next, we present our recommendations regarding a new hotel product in the marketplace, and the facilities and amenities that will best serve the market. Finally, we present our

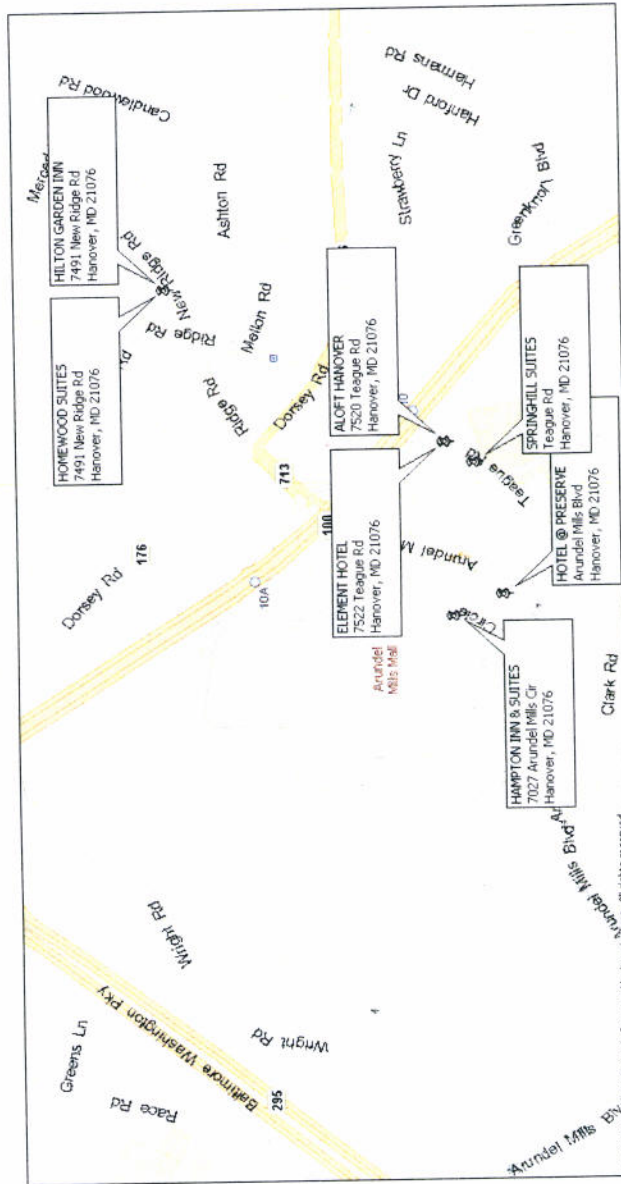
estimates of utilization for the proposed hotel's first ten full years of operation.

Primary Competitive Supply

A list of the primary competitive hotels surveyed for this analysis is provided in the following chart. Data sheets and photographs of the competitors follow. We have surveyed each of the hotels and have compiled occupancy and average daily room rate statistics for each hotel, for the last several years. This data is proprietary; therefore, we have presented it in terms of RevPAR (Revenue per Available Room) due to its proprietary nature.



SECONDARY COMPETITIVE SUPPLY LOCATION MAP



MARKET ANALYSIS, BWI AIRPORT, BALTIMORE, MD

BWI AIRPORT LODGING MARKET - PRIMARY COMPETITIVE SUPPLY				
HOTEL	CITY	STREET ADDRESS	ROOMS YEAR OPEN	
Aloft	Linthicum	1741 W. Nursery Road	155	2009
Comfort Suites	Linthicum	815 Elkridge Landing Rd.	137	1997
Courtyard by Marriott	Linthicum	1671 W. Nursery Rd.	149	1989
Doubletree Hotel	Linthicum	890 Elkridge Landing Rd.	260	1973
Embassy Suites	Linthicum	1300 Concourse Dr.	251	1987
Four Points Sheraton	BWI Airport	7032 Elm Rd.	201	1966
Hampton Inn	Linthicum	829 Elkridge Landing Rd.	182	1986
Hilton Garden Inn	Linthicum	1516 Aero Drive	158	2001
Hilton Hotel	Linthicum	1739 W. Nursery Rd.	280	2006
Homewood Suites	Linthicum	1181 Winterson	147	1998
Hyatt Place	Linthicum	940 International Drive	127	2007
Marriott Hotel	Linthicum	1743 W. Nursery Rd.	309	1988
Sheraton	Linthicum	1100 Old Elkridge Landing Rd.	203	2007
Springhill Suites	Linthicum	899 Elkridge Landing Rd.	133	2001
Westin	Linthicum	1110 Old Elkridge Landing Rd.	260	2007
Total Rooms			2,952	

Prepared by: Ernst & Associates, Inc. 11/2011

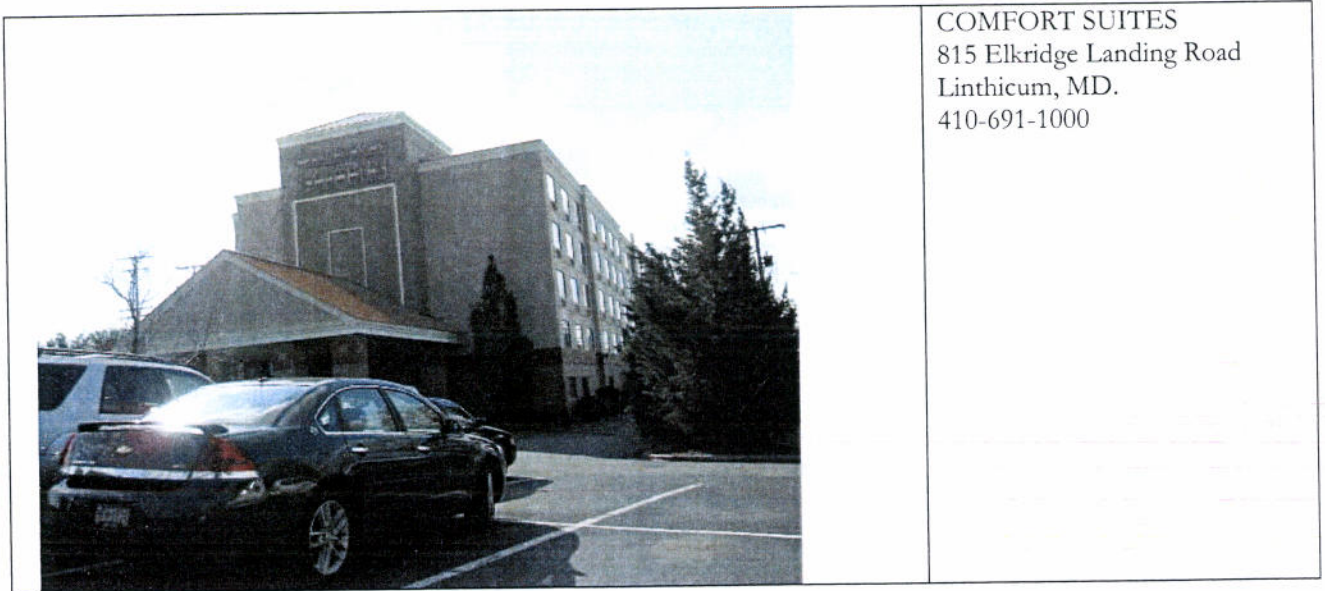
MARKET ANALYSIS, BWI AIRPORT, BALTIMORE, MD



ALOFT HOTEL
1741 W. Nursery Road
Linthicum, MD
410-691-6969

Site Description	Access: Visibility: Proximity to Demand: Distance to BWI Airport: Distance to Amtrak Station: Overall Ranking of Site:	Excellent Excellent Excellent 1.85 miles 2.00 miles Excellent
Physical Characteristics	Year Open: Number of Guest Rooms: <u>Food & Beverage Outlets</u> Limited Service Dining: Cocktail Lounge: Room Service: <u>Total Meeting Space:</u> Largest Meeting Room: Fitness Center: Swimming Pool: Complimentary Shuttle to Airport: Complimentary Shuttle to Amtrak:	2009 - August 155 Re:Fuel by Aloft - Self Serve (24 hrs) W XYZ Bar No 540 sf 540 sf Yes Heated Indoor Pool and whirlpool Yes Yes
Operating Trends	Published Single/Double Room Rates Estimated Year-End 2009 RevPar (Stub Year) Estimated Year-End 2010 RevPar Projected Year-End 2011 RevPar <u>Market Segmentation:</u> Commercial Travelers Groups & Conventions Leisure & Other	\$89 - \$186 \$38.00 \$52.00 \$66.00 75% 5% 20%
Comments	This hotel is part of the Starwood brand and opened in August 2009. It is one of the most recent additions to the lodging supply. Nine-foot ceilings and extra-large windows create a bright, airy environment full of natural light. Guest rooms feature platform beds and other eclectic furnishings. The BWI Airport is a prime source of demand for this hotel. Government contracts are also an important source of business for this property.	

MARKET ANALYSIS, BWI AIRPORT, BALTIMORE, MD



COMFORT SUITES
815 Elkrige Landing Road
Linthicum, MD.
410-691-1000


Site Description	Access: Visibility: Proximity to Demand: Distance to BWI Airport: Distance to Amtrak Station: Overall Ranking of Site:	Good Very Good Excellent 1.50 miles 2.00 miles Very Good
Physical Characteristics	Year Open: Number of Guest Rooms: <u>Food & Beverage Outlets</u> Limited Service Dining: Cocktail Lounge: Room Service: <u>Total Meeting Space</u> : Largest Meeting Room: Fitness Center: Swimming Pool: Complimentary Shuttle to Airport: Complimentary Shuttle to Amtrak:	1997 137 Complimentary Breakfast No No 576 sf 576 sf Yes No Yes Yes
Operating Trends	Published Single/Double Room Rates Estimated Year-End 2009 RevPar Estimated Year-End 2010 RevPar Projected Year-End 2011 RevPar <u>Market Segmentation</u> : Commercial Travelers Groups & Conventions Leisure & Other	\$84 - \$99 NA \$52.00 \$56.00 70% 5% 25%
Comments	This hotel is part of the Choice Hotels brand. It is relatively small, with only 137 rooms, and caters to the more price-sensitive traveler. Guest rooms feature refrigerators and microwave ovens.	

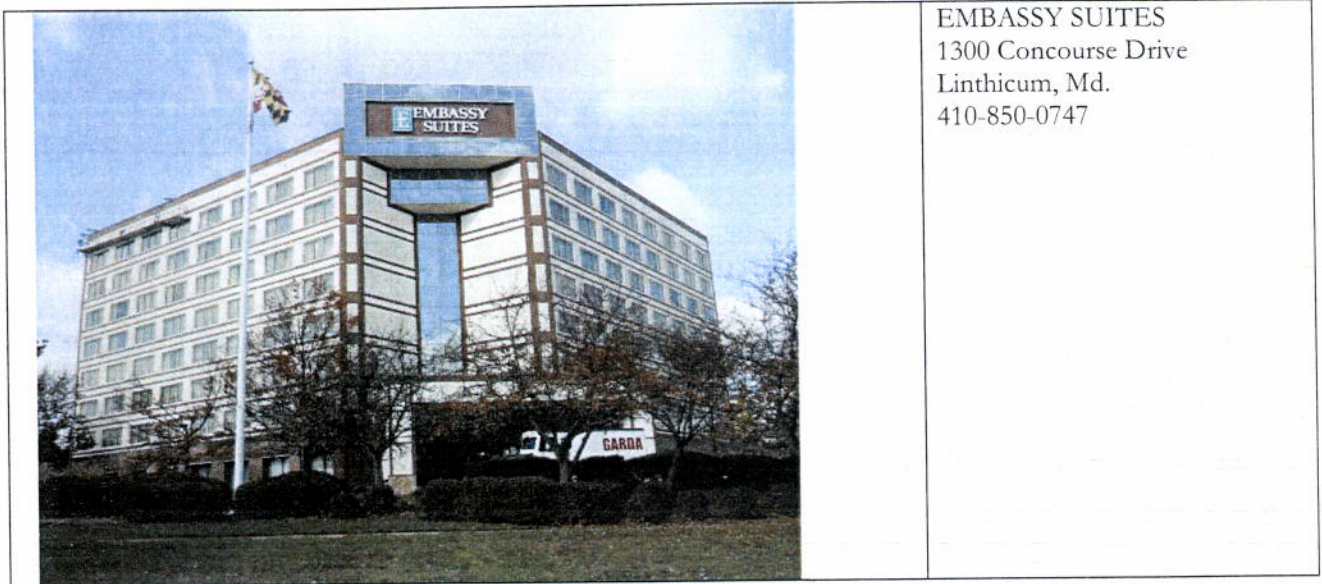
MARKET ANALYSIS, BWI AIRPORT, BALTIMORE, MD



COURTYARD BY
MARRIOTT
1671 W. Nursery Rd.
Linthicum, MD
410-859-8855

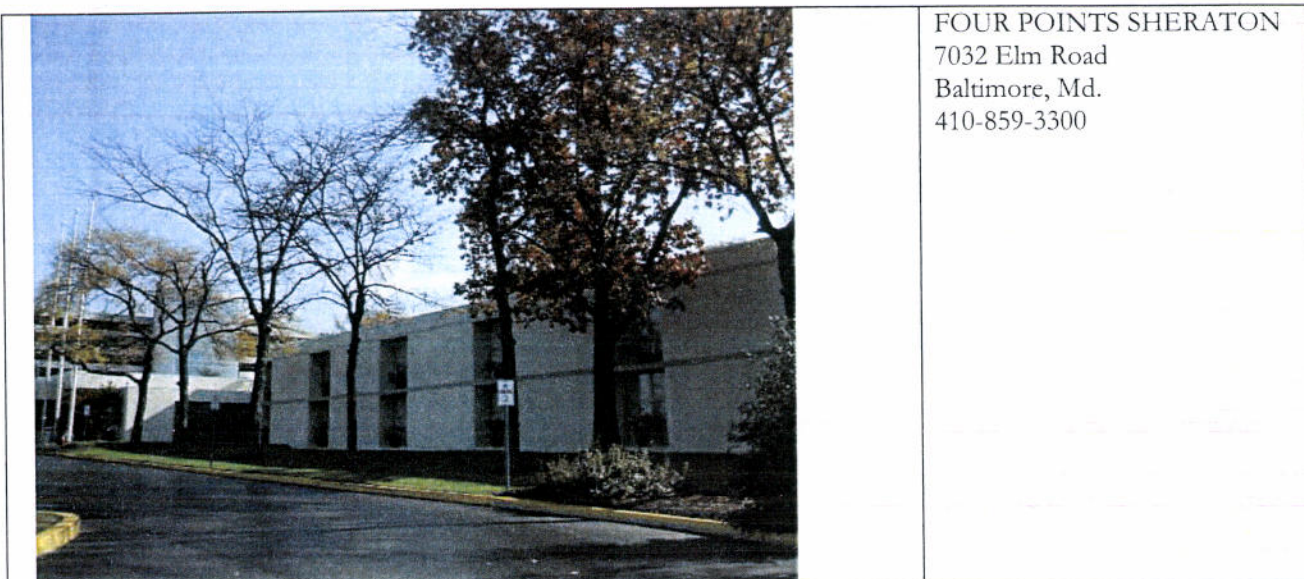
Site Description	Access: Visibility: Proximity to Demand: Distance to BWI Airport: Distance to Amtrak Station: Overall Ranking of Site:	Very Good Very Good Excellent 1.50 miles 2.00 miles Very Good
Physical Characteristics	Year Open: Number of Guest Rooms: <u>Food & Beverage Outlets</u> Limited Service Dining: Cocktail Lounge: Room Service: <u>Total Meeting Space</u> : Largest Meeting Room: Fitness Center: Swimming Pool: Complimentary Shuttle to Airport: Complimentary Shuttle to Amtrak:	1989 137 The Bistro, and Connect No - Ltd. Cocktail Service No 1,250 sf 625 sf Yes Yes Yes Yes
Operating Trends	Published Single/Double Room Rates Estimated Year-End 2009 RevPar Estimated Year-End 2010 RevPar Projected Year-End 2011 RevPar <u>Market Segmentation</u> : Commercial Travelers Groups & Conventions Leisure & Other	\$109 - \$349 \$86.00 \$88.00 \$87.00 70% 10% 20%
Comments	This hotel is part of the Marriott brand. It is a focused-service hotel with a very popular brand affiliation, and caters to the corporate traveler. The hotel features relatively new, refurbished public spaces.	

	<p>DOUBLETREE HOTEL 890 Elkridge Landing Rd. Linthicum, MD 410-859-8400</p>	
<p>Site Description</p>	<p>Access: Visibility: Proximity to Demand: Distance to BWI Airport: Distance to Amtrak Station: Overall Ranking of Site:</p>	<p>Good Good Excellent 2.00 miles 2.00 miles Good</p>
<p>Physical Characteristics</p>	<p>Year Open: Number of Guest Rooms: <u>Food & Beverage Outlets</u> Full Service Dining: Cocktail Lounge: Room Service: <u>Total Meeting Space:</u> Largest Meeting Room: Fitness Center: Swimming Pool: Complimentary Shuttle to Airport: Complimentary Shuttle to Amtrak:</p>	<p>1973 - <u>Conversion from Holiday Inn</u> 260 Eden's Landing Restaurant Eden's Landing Lounge No 10,000 sf 5,025 sf ballroom Yes Yes Yes Yes</p>
<p>Operating Trends</p>	<p>Published Single/Double Room Rates Estimated Year-End 2009 RevPar Estimated Year-End 2010 RevPar Projected Year-End 2011 RevPar <u>Market Segmentation:</u> Commercial Travelers Groups & Conventions Leisure & Other</p>	<p>\$179 - \$279 NA NA \$70.00 60% 30% 10%</p>
<p>Comments</p>	<p>This hotel is part of the Hilton family. It was recently converted from a Holiday Inn. The public space (lobby) does not compare to some of the competition and is showing signs of age. Guestrooms are reported to be newly refurbished. The Doubletree caters to groups and conventions with a full-service conference facility and wide array of meeting rooms. This hotel's average rate is at the low end of the range, while it is reintroduced into this market place. The BWI airport is the prime source of demand for this hotel. Amtrak is not a prime generator of lodging demand for this property.</p>	



EMBASSY SUITES
 1300 Concourse Drive
 Linthicum, Md.
 410-850-0747

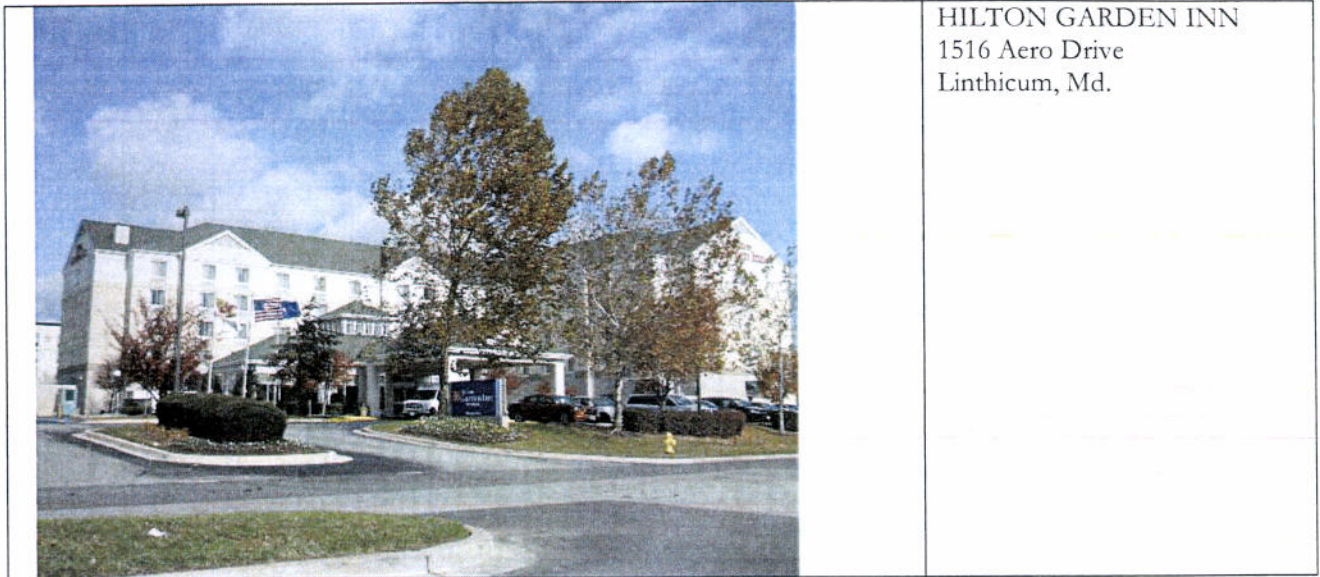
Site Description	Access: Visibility: Proximity to Demand: Distance to BWI Airport: Distance to Amtrak Station: Overall Ranking of Site:	Excellent Excellent Excellent 2.00 miles 2.00 miles Excellent
Physical Characteristics	Year Open: Number of Guest Rooms: <u>Food & Beverage Outlets</u> Full Service Dining: Cocktail Lounge: Room Service: <u>Total Meeting Space:</u> Largest Meeting Room: Fitness Center: Swimming Pool: Complimentary Shuttle to Airport: Complimentary Shuttle to Amtrak:	1987 251 Chophouse 13 International Pier Lounge Yes 5,500 sf 1,900 sf ballroom Yes Yes Yes Yes
Operating Trends	Published Single/Double Room Rates Estimated Year-End 2009 RevPar Estimated Year-End 2010 RevPar Projected Year-End 2011 RevPar <u>Market Segmentation:</u> Commercial Travelers Groups & Conventions Leisure & Other	\$159 - \$209 \$96.00 \$95.00 \$85.00 60% 15% 25%
Comments	This hotel is part of the Hilton family. The Embassy Suites is an extremely popular brand affiliation; however, it is noted that utilization levels appear to be off, compared to last year. The Embassy Suites features the interior atrium design with a central cocktail lounge and restaurant on the ground floor. This hotel lacks the modern design elements found at some of the newer competition. The Embassy Suites caters to group meetings and corporate travelers and features full-service business and meeting facilities.	



FOUR POINTS SHERATON
7032 Elm Road
Baltimore, Md.
410-859-3300

Site Description	Access: Visibility: Proximity to Demand: Distance to BWI Airport: Distance to Amtrak Station: Overall Ranking of Site:	Excellent Very Good Excellent On Airport 1.00 miles Very Good
Physical Characteristics	Year Open: Number of Guest Rooms: <u>Food & Beverage Outlets</u> Full Service Dining: Cocktail Lounge: Room Service: <u>Total Meeting Space:</u> Largest Meeting Room: Fitness Center: Swimming Pool: Complimentary Shuttle to Airport: Complimentary Shuttle to Amtrak:	1966 201 Michener's Restaurant Michener's Pub Yes 8,832 sf 3,888 sf ballroom Yes Yes Yes Yes
Operating Trends	Published Single/Double Room Rates Estimated Year-End 2009 RevPar Estimated Year-End 2010 RevPar Projected Year-End 2011 RevPar <u>Market Segmentation:</u> Commercial Travelers Groups & Conventions Leisure & Other	\$130 - \$185 \$76.00 \$81.00 \$84.00 75% 15% 10%
Comments	This hotel is part of the Starwood Hotels & Resorts. It has been a fixture at the BWI Airport since 1966. The public spaces have been refurbished, as have the guest rooms. The hotel is somewhat hidden by a very prominent hi-rise parking structure. The hotel's physical layout, which is primarily low-rise, garden style, is considered outdated and not as functional as some of the competition. The hotel's rather dated physical plant is offset by its unsurpassed location at the airport and excellent customer service levels.	

MARKET ANALYSIS, BWI AIRPORT, BALTIMORE, MD



HILTON GARDEN INN
1516 Aero Drive
Linthicum, Md.

Site Description	Access: Visibility: Proximity to Demand: Distance to BWI Airport: Distance to Amtrak Station: Overall Ranking of Site:	Good Good Excellent 2.00 miles 2.00 miles Good
Physical Characteristics	Year Open: Number of Guest Rooms: <u>Food & Beverage Outlets</u> Limited Service Dining: Cocktail Lounge: Room Service: <u>Total Meeting Space:</u> Largest Meeting Room: Fitness Center: Swimming Pool: Complimentary Shuttle to Airport: Complimentary Shuttle to Amtrak:	2001 158 Cooked to Order, Comp Breakfast Full Service, limited menu Yes Yes 1,873 sf 1,248 sf Yes Yes Yes Yes
Operating Trends	Published Single/Double Room Rates Estimated Year-End 2009 RevPar Estimated Year-End 2010 RevPar Projected Year-End 2011 RevPar <u>Market Segmentation:</u> Commercial Travelers Groups & Conventions Leisure & Other	\$144 -\$203 \$87.00 \$83.00 \$85.00 75% 5% 20%
Comments	This hotel is part of the Hilton family. The Hilton Garden Inn is a strong performer that caters to individual business travelers and small group meetings.	



HILTON HOTEL
 1739 West Nursery Road
 Linthicum Heights, MD
 Tel 410-694-0808

Site Description	Access: Visibility: Proximity to Demand: Distance to BWI Airport: Distance to Amtrak Station: Overall Ranking of Site:	Excellent Excellent Excellent 1.85 miles 2.30 miles Excellent
Physical Characteristics	Year Open: Number of Guest Rooms: <u>Food & Beverage Outlets</u> Full-Service Dining: Cocktail Lounge: Room Service: <u>Total Meeting Space:</u> Largest Meeting Room: Fitness Center: Swimming Pool: Complimentary Shuttle to Airport: Complimentary Shuttle to Amtrak:	2006 280 Signature Acqua Restaurant Yes Yes Yes 12,000 sf 8,260 sf ballroom Yes Heated Indoor Pool and whirlpool Yes Yes
Operating Trends	Published Single/Double Room Rates Estimated Year-End 2009 RevPar Estimated Year-End 2010 RevPar Projected Year-End 2011 RevPar <u>Market Segmentation:</u> Commercial Travelers Groups & Conventions Leisure & Other	\$159 - \$219 \$88.80 \$88.00 \$96.00 70% 10% 20%
Comments	This hotel drives one of the highest ADRs in the competitive supply. It enjoys a strong brand name recognition which is popular among corporate travelers. High-rise construction maximizes its visibility. The Hilton enjoys good proximity to the airport and the Amtrak station. The airport and the Amtrak station provide needed transportation to hotel guests. It is very difficult for hotels in this area to maximize average daily rates with the low government per diem.	

MARKET ANALYSIS, BWI AIRPORT, BALTIMORE, MD



HOMEWOOD SUITES
1181 Winterson
Linthicum, Md.
410-684-6810

Site Description	Access: Visibility: Proximity to Demand: Distance to BWI Airport: Distance to Amtrak Station: Overall Ranking of Site:	Good Fair Excellent 2.00 miles 2.30 miles Excellent
Physical Characteristics	Year Open: Number of Guest Rooms: <u>Food & Beverage Outlets</u> Limited-Service Dining: Cocktail Lounge: Room Service: <u>Total Meeting Space</u> : Largest Meeting Room: Fitness Center: Swimming Pool: Complimentary Shuttle to Airport: Complimentary Shuttle to Amtrak:	1998 147 Comp Breakfast / Lite Evening Dinner Limited service No Limited Meeting Space Yes Indoor Swimming Pool Yes Yes
Operating Trends	Published Single/Double Room Rates Estimated Year-End 2009 RevPar Estimated Year-End 2010 RevPar Projected Year-End 2011 RevPar <u>Market Segmentation</u> : Commercial Travelers Groups & Conventions Leisure & Other	\$149 - \$295 \$88.00 \$81.00 \$94.00 75% 5% 20%
Comments	The Homewood Suites is part of the Hilton family. This hotel caters to the extended-stay traveler. Each guest room features a fully-equipped kitchen. The Homewood Suites features a "home away from home" marketing program.	

MARKET ANALYSIS, BWI AIRPORT, BALTIMORE, MD



HYATT PLACE
 940 International Drive
 Linthicum, Md.
 410-859-3366

Site Description	Access: Visibility: Proximity to Demand: Distance to BWI Airport: Distance to Amtrak Station: Overall Ranking of Site:	Good Fair Excellent 2.00 miles 2.30 miles Good
Physical Characteristics	Year Open: Number of Guest Rooms: <u>Food & Beverage Outlets</u> Limited-Service Dining: Cocktail Lounge: Room Service: <u>Total Meeting Space:</u> Largest Meeting Room: Fitness Center: Swimming Pool: Complimentary Shuttle to Airport: Complimentary Shuttle to Amtrak:	2007 127 Comp Breakfast / 24/7 Guest Kitchen No No 1,170 sf 1,170 sf Yes Indoor Swimming Pool Yes Yes
Operating Trends	Published Single/Double Room Rates Estimated Year-End 2009 RevPar Estimated Year-End 2010 RevPar Projected Year-End 2011 RevPar <u>Market Segmentation:</u> Commercial Travelers Groups & Conventions Leisure & Other	\$151 - \$179 \$75.00 \$74.00 \$77.00 70% 5% 25%
Comments	The Hyatt Place is Hyatt's focused-service product. This hotel is one of the newer properties within the primary competitive lodging supply and caters to the corporate traveler. It features very limited food and beverage options. The Hyatt Place generates one of the highest occupancy levels in the supply, at the sacrifice of average rate. The low government per diem in the Baltimore area continues to suppress average daily rates in this area.	



MARRIOTT HOTEL
1743 W. Nursery Road
Linthicum, Md.
410-859-8300

Site Description	Access: Visibility: Proximity to Demand: Distance to BWI Airport: Distance to Amtrak Station: Overall Ranking of Site:	Excellent Excellent Excellent 1.00 mile 1.50 miles Excellent
Physical Characteristics	Year Open: Number of Guest Rooms: <u>Food & Beverage Outlets</u> Full-Service Dining: Cocktail Lounge: Room Service: <u>Total Meeting Space:</u> Largest Meeting Room: Fitness Center: Swimming Pool: Complimentary Shuttle to Airport: Complimentary Shuttle to Amtrak:	1988 309 Chesapeake Restaurant Champions Sports Bar & Restaurant Yes 18,000 sf Yes Yes Yes Yes
Operating Trends	Published Single/Double Room Rates Estimated Year-End 2009 RevPar Estimated Year-End 2010 RevPar Projected Year-End 2011 RevPar <u>Market Segmentation:</u> Commercial Travelers Groups & Conventions Leisure & Other	\$209 - \$299 \$87.00 \$91.00 \$100.00 70% 10% 20%
Comments	The full-service Marriott Hotel is one of the oldest in the supply, but boasts an upscale refurbishment of all of its public spaces and some of the guest rooms. The Concierge Level is fully renovated. The social areas are modern and conducive to meeting and greeting guests. This hotel's utilization levels reflect strong improvement in terms of occupancy and rate during the last year. The Marriott brand is one of the strongest brand affiliations represented in the competitive supply.	



SHERATON HOTEL
 1100 Old Elkridge Landing Rd.
 Linthicum, Md.
 443-577-2100

Site Description	Access: Visibility: Proximity to Demand: Distance to BWI Airport: Distance to Amtrak Station: Overall Ranking of Site:	Good Good Excellent 2.00 miles 2.00 miles Good
Physical Characteristics	Year Open: Number of Guest Rooms: <u>Food & Beverage Outlets</u> Full-Service Dining: Cocktail Lounge: Room Service: <u>Total Meeting Space:</u> Largest Meeting Room: Fitness Center: Swimming Pool: Complimentary Shuttle to Airport: Complimentary Shuttle to Amtrak:	2007 203 Old Line Grille and Lounge Yes Yes 4,600 sf 4,320 sf ballroom Yes Indoor Swimming Pool Yes Yes
Operating Trends	Published Single/Double Room Rates Estimated Year-End 2009 RevPar Estimated Year-End 2010 RevPar Projected Year-End 2011 RevPar <u>Market Segmentation:</u> Commercial Travelers Groups & Conventions Leisure & Other	\$109 - \$164 \$56.00 \$63.00 \$70.00 70% 10% 20%
Comments	The full-service Sheraton Hotel is one of the newer hotels in the supply and is a member of the Starwood Hotels and Resorts. This hotel caters to group meetings and features full-service meeting facilities and services. We note that this hotel's utilization levels are estimated to be far below the majority of the competition.	

MARKET ANALYSIS, BWI AIRPORT, BALTIMORE, MD



SPRINGHILL SUITES
899 Elkridge Landing Rd.
Linthicum, Md.
410-694-0555

Site Description	Access: Visibility: Proximity to Demand: Distance to BWI Airport: Distance to Amtrak Station: Overall Ranking of Site:	Good Good Excellent 2.00 miles 2.00 miles Good
Physical Characteristics	Year Open: Number of Guest Rooms: <u>Food & Beverage Outlets</u> Full-Service Dining: Cocktail Lounge: Room Service: <u>Total Meeting Space:</u> Largest Meeting Room: Fitness Center: Swimming Pool: Complimentary Shuttle to Airport: Complimentary Shuttle to Amtrak:	2001 133 No No No 1,200 sf 600 sf Yes Indoor Swimming Pool No No
Operating Trends	Published Single/Double Room Rates Estimated Year-End 2009 RevPar Estimated Year-End 2010 RevPar Projected Year-End 2011 RevPar <u>Market Segmentation:</u> Commercial Travelers Groups & Conventions Leisure & Other	\$109 - \$164 \$86.00 \$85.00 \$95.00 75% 5% 20%
Comments	This all-suite, limited-service hotel is part of the Marriott hotel group. This hotel has very limited food and beverage service. It achieves very high occupancy levels at a rate above most of the competitive supply.	

MARKET ANALYSIS, BWI AIRPORT, BALTIMORE, MD



WESTIN HOTEL
1110 Old Elkridge Landing Rd.
Linthicum, Md.

Site Description	Access: Visibility: Proximity to Demand: Distance to BWI Airport: Distance to Amtrak Station: Overall Ranking of Site:	Good Good Excellent 2.00 miles 2.00 miles Good
Physical Characteristics	Year Open: Number of Guest Rooms: <u>Food & Beverage Outlets</u> Full-Service Dining: Cocktail Lounge: Room Service: <u>Total Meeting Space:</u> Largest Meeting Room: Fitness Center: Swimming Pool: Complimentary Shuttle to Airport: Complimentary Shuttle to Amtrak:	2007 260 Luminous Restaurant and Lounge Yes Yes 7,300 sf 4,600 sf ballroom Yes Indoor Swimming Pool Yes Yes
Operating Trends	Published Single/Double Room Rates Estimated Year-End 2009 RevPar Estimated Year-End 2010 RevPar Projected Year-End 2011 RevPar <u>Market Segmentation:</u> Commercial Travelers Groups & Conventions Leisure & Other	\$149 - \$409 \$66.00 \$78.00 \$73.00 70% 10% 20%
Comments	The full-service Westin Hotel is one of the newer hotels in the supply and a member of the Starwood Hotels and Resorts. This hotel caters to group meetings and features full-service meeting facilities and services. The Executive Level (Concierge level) features complimentary breakfast and evening hors d'oeuvres. We note that this hotel's utilization levels are estimated to be far below the majority of the competition. The Westin came on line the same year as its sister property, the full-service Sheraton, and is located adjacent to it.	

Area-Wide Utilization Levels

All of the competitors are considered to be first-class, focused-service and/or full-service hotels. They all cater to commercial travelers, group meeting guests and leisure and other travelers. The direct competitive supply achieved the following composite, historical occupancy and average daily room rates.

In order to more precisely identify hotel market trends as they relate to the subject's competitive supply, Ernst & Associates has relied on a customized report prepared by Smith Travel Research, Inc., a national firm specializing in tracking hotel data. Smith Travel Research is generally considered the standard source of reliable data for most markets. While it is widely utilized, it is important to note some of its limitations. Specifically, hotels are occasionally dropped in and out of the sample, and not all hotels report data in a consistent and timely manner. As a result, the data set is sometimes skewed upwards or downwards depending on the particular market and the overall quality of the data is negatively impacted. For most markets, however, it is considered to provide an accurate overall picture of market performance, and therefore, has been used in this analysis. The hotels included in the STR report were selected based on interviews with representatives of the direct competitive supply and our field research.

Direct Competitive Supply				
Year	Occupancy	ADR	RevPAR	RevPAR % Inc/Dec
2005	75.2%	\$121.94	\$91.69	-
2006	73.5%	\$129.00	\$94.84	3.4%
2007	69.2%	\$130.98	\$90.63	-4.4%
2008	69.0%	\$122.26	\$84.38	-6.9%
2009	69.0%	\$111.04	\$76.65	-9.2%
2010	73.3%	\$106.61	\$78.09	1.9%
2011 YTD	76.4%	\$107.27	\$81.92	0.7%
2010 YTD	75.5%	\$107.82	\$81.35	1.5%

YTD - October

Source: Smith Travel Research and Ernst & Associates

During 2005, the BWI market achieved a composite occupancy of 75.2% and an average daily room rate (ADR) of \$121.94. This year can certainly be considered a peak year, after a lengthy recovery from the events of 2001. In 2006, occupancy dropped slightly, as the ADR increased to \$129.00. This resulted in an overall 3.4% increase in RevPAR (Revenue per Available Room, or the function of ADR multiplied by occupancy). During 2007, the supply of guestrooms in this market increased by 17.1%, resulting in a drop in occupancy, but surprisingly, the ADR increased during this period. This resulted in an overall decline in RevPAR of 4.4%. However, it is noteworthy that occupied rooms actually grew by 10.2%, reflecting the immediate absorption of a significant portion of all the new rooms that entered the market that year. This reflects what appears to be fairly substantial latent demand; that is, demand for rooms that was being turned out of the market due to a lack of sufficient first-class guest rooms.

MARKET ANALYSIS, BWI AIRPORT, BALTIMORE, MD

In 2008 and 2009, the economic recession exacerbated the substantial increase in guestrooms, resulting in fairly flat occupancy levels during both of those years and substantial decreases in the ADR. This resulted in a 6.9% and 9.2% decline in RevPar during 2008 and 2009, respectively. The market began a recovery pattern in 2010 with a 6.1% increase in occupancy; however, the ADR continued to slide another 4.4%. During the first ten months of 2011 occupancy grew by 1.2% and average rate remained almost flat, with a nominal .5% dip, a strong indication that the recovery in this market was gaining momentum. We note that by October 2011 the BWI Airport lodging market had rebounded to that of year-end 2006 in terms of occupancy but the market's area-wide average daily room rate has been dramatically impacted by the increase in supply, coupled by recessionary trends, resulting in an ADR of \$107.27, compared to \$129.00 realized in 2006.

As mentioned, there was a significant increase in rooms available within the defined market area. The following chart summarizes the increases in the available rooms, as well as trends in occupied rooms during the charted period.

Direct Competitive Lodging Supply				
Year	Available Rooms	% Inc/Dec	Occupied Rooms	% Inc/Dec
2005	749,345	-	563,403	-
2006	783,505	4.6%	576,048	2.2%
2007	917,140	17.1%	634,597	10.2%
2008	1,020,540	11.3%	704,319	11.0%
2009	1,044,255	2.3%	720,784	2.3%
2010	1,077,115	3.1%	789,010	9.5%

Source: Smith Travel Research

During 2006, there was a 4.6% increase in the supply and about one half of those additions were immediately absorbed. During 2007, a significant increase in supply of 17.1% was followed by another 11.3% the following year. At a time when many markets across the country were feeling the negative impact of the recession, the BWI Airport market was able to realize a 10.2% and 11.0% increase in demand during 2007 and 2008, respectively. These trends are considered indicative of an extremely strong and resilient lodging market and have been given significant weight in our analysis of the market support for additional lodging in the BWI Airport market.

MARKET ANALYSIS, BWI AIRPORT, BALTIMORE, MD

The primary competitors' historical utilization levels (presented as RevPAR) are summarized in the following chart. This data is based on personal interviews with hotel management at each of the properties as well as information provided by confidential contacts in the industry.

BWI AIRPORT LODGING MARKET UTILIZATION LEVELS - PRIMARY COMPETITIVE SUPPLY							
HOTEL	ROOMS	YEAR OPEN	2009	2010	2010 YTD OCT	2011 YTD OCT	
			REVPAR	REVPAR	REVPAR	REVPAR	
Aloft	155	2009	\$ 38.00	\$ 52.48	\$ 53.12	\$ 66.40	
Comfort Suites	137	1997	NA	52.00	52.00	56.00	
Courtyard by Marriott	149	1989	86.10	87.60	91.96	87.32	
Doubletree Hotel	260	1973	NA	NA	NA	69.60	
Embassy Suites	251	1987	96.36	94.71	100.44	84.70	
Four Points Sheraton	201	1966	76.30	80.58	81.37	83.83	
Hampton Inn	182	1986	83.60	86.67	89.88	92.13	
Hilton Garden Inn	158	2001	87.01	83.46	86.67	85.02	
Hilton Hotel	280	2006	88.80	88.04	91.25	95.76	
Homewood Suites	147	1998	88.16	81.40	85.47	93.79	
Hyatt Place	127	2007	74.52	73.95	75.68	77.44	
Marriott Hotel	309	1988	87.12	91.20	94.38	99.63	
Sheraton	203	2007	56.05	63.24	65.10	70.08	
Springhill Suites	133	2001	86.14	84.70	88.48	95.45	
Westin	260	2007	65.52	78.08	77.49	72.96	
Total Rooms	2,952						

Prepared by: Ernst & Associates, Inc. 11/2011

Market Segmentation

In most markets, overall demand varies based on the nature of travel. In most markets, the lodging demand is generated from three different segments: Corporate, Group Meeting Guests and Leisure / Transient travelers. In some markets, a fourth classification may be present, such as airline contract or government.

The competitors' market segmentation is summarized in the following chart. This data is based on personal interviews with hotel management for each of the properties, as available.

BWI AIRPORT LODGING MARKET PRIMARY COMPETITIVE SUPPLY					
ESTIMATED MARKET SEGMENTATION			PERCENTAGE OF TOTAL DEMAND		
HOTEL	ROOMS	OPEN	COMM'L	GROUP	LEISURE
Aloft	155	2009	75.0%	5.0%	20.0%
Comfort Suites	137	1997	70.0%	5.0%	25.0%
Courtyard by Marriott	149	1989	70.0%	10.0%	20.0%
Doubletree Hotel	260	1973	60.0%	30.0%	10.0%
Embassy Suites	251	1987	60.0%	15.0%	25.0%
Four Points Sheraton	201	1966	75.0%	15.0%	10.0%
Hampton Inn	182	1986	75.0%	5.0%	20.0%
Hilton Garden Inn	158	2001	75.0%	5.0%	20.0%
Hilton Hotel	280	2006	70.0%	10.0%	20.0%
Homewood Suites	147	1998	75.0%	5.0%	20.0%
Hyatt Place	127	2007	70.0%	5.0%	25.0%
Marriott Hotel	309	1988	70.0%	10.0%	20.0%
Sheraton	203	2007	70.0%	10.0%	20.0%
Springhill Suites	133	2001	75.0%	5.0%	20.0%
Westin	260	2007	70.0%	10.0%	20.0%
Total Rooms	2952		70.0%	11.0%	19.0%

Prepared by: Ernst & Associates, Inc. 11/2011

As can be seen in the preceding chart, demand for lodging in this market area can be divided among three primary segments: Commercial Travelers, Group & Convention Demand, and Leisure and Other Travelers. Market segmentation for the direct competitive supply has been consolidated and is summarized in the chart that follows.

Market Segmentation - Direct Competitive Supply	
	Percent of Total Demand
Commercial Travelers	70%
Group Demand	11%
Leisure and Other Travelers	19%
Total Demand	100%

Source: Ernst & Associates, Inc.

Commercial Demand - This demand segment is tied directly to business being conducted in the area, generated by the diversified employment base that includes government-related companies, biotech firms, university business, insurance companies, law firms, and others. The average length of stay for this market segment is approximately one to three days and typically occurs Sunday through Thursday, declining on Friday and Saturday nights. Convenient location, quality of service, and an excellent price-to-value ratio are important factors in this segment. Commercial demand is relatively constant throughout the year with some drop-off in late December and during other holiday periods. Individual business travelers are not overly price-sensitive, influenced by brand loyalty, and generally use a hotel's food and beverage, recreational, and business facilities if they are available. Commercial travelers usually represent a highly desirable and lucrative market segment for hotels because they provide a consistent demand at room rates approaching the upper limit for the area. In the case of the BWI Airport market, government-related demand is priced at a per diem which is generally discounted. Corporate volume demand is a sub-segment of Commercial Demand. It is generated by local firms and includes employees of the company or others doing business with the firm. Rates are often pre-negotiated with the hotel and are sometimes discounted in return for a high number of occupied rooms. Commercial demand represents approximately 70% of total demand for the representative competitive supply of hotels.

Group Demand - The group segment is comprised of travelers desiring a property with meeting space in the area for incentive group functions, social functions, sales meetings, management seminars, new product orientations, and training programs. The remainder of this segment includes regional, local, and some state associations as well as social, military, educational, religious, and fraternal organizations. This segment is defined as any group occupying ten or more. This segment comprises approximately 11% of total demand for the direct competitive supply.

The average length of stay for typical meetings and convention travelers ranges from three to five days. This type of demand typically requires lodging during the commercial week, Monday through Thursday, but associations and social groups sometimes meet over weekend periods. Peak convention demand (for the larger hotels) typically occurs in the spring and fall.

Leisure Travelers and Others - In general, this market is largely comprised of travelers who are visiting area attractions or are en route to other leisure destinations. In addition to travelers requiring lodging, this segment also includes what is commonly referred to as "second bedroom" demand: demand for accommodations for friends and relatives visiting area residents. This segment is seasonal, generating greater lodging demand

during the summer season. Leisure Travelers and Others demand comprises approximately 19% of the overall hotel demand.

Monthly Seasonality Trends

Monthly occupancy levels for the direct competitive supply are summarized in the following chart. These trends are based on 2010 data.

Direct Competitive Supply Monthly Occupancy Trends	
Month	2010
January	59.5%
February	65.7%
March	75.6%
April	78.7%
May	80.5%
June	84.5%
July	77.0%
August	74.5%
September	78.5%
October	79.6%
November	66.0%
December	58.6%
Monthly Average	73.3%

Source: Smith Travel Research

It is noted that the peak period for the BWI Airport market appears to be from April through July, and September and October. The spring and summer are popular seasons for leisure travelers. September and October have traditionally been very strong periods for Groups and Conventions. The slowest part of the year is November through January due primarily to winter weather.

Planned or Proposed Additions to Lodging Supply

We contacted the planning department for the Arundel County market area. According to their construction report, a copy of which is included in the exhibits, there are three properties proposed for the market. One of the projects is a 100-room Candlewood which is currently under construction. It is located in the Arundel Mills area and would be considered a secondary competitor to the subject project. The other two projects appear stalled and we have not considered them as viable additions at this time. Even though the one property under construction is not considered a primary competitor, we have included an addition of 100 rooms in 2013 for purposes of our analysis that follows.

Should the actual number of additions to supply differ from the assumptions outlined in our report, it could have a material impact on our estimates of area-wide occupancy and room rate as well as our estimates for the subject hotel; the impact could be material.

Projected Market Performance

We reviewed the direct competitive supply's historical utilization levels previously in this section. The competitive supply finished 2010 with an occupancy level of 73.3% and an average daily room rate of \$106.61. By year-to-date October 2011, the same competitive supply had an area-wide occupancy of 76.4% and an average daily room rate of \$107.27.

Area-wide occupancy has ranged from no growth in 2009 to 6.1% growth in 2010. When looking at the past five years, growth patterns (or decreases in demand) reflect an extraordinary increase in the supply of rooms, as well as a recession. Therefore, historical trends are not necessarily indicative of future trends.

Weekday demand is compared to weekend demand in the following chart. The chart summarizes a period for the months of November 2010 through October 2011.

Occupancy (%)								
	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total Month
Nov - 10	47.3	68.7	78.7	75.1	67.3	58.7	62.5	66.0
Dec - 10	52.6	65.7	67.8	70.1	59.7	46.5	47.9	58.6
Jan - 11	45.1	69.9	80.0	82.1	72.2	53.6	46.1	63.1
Feb - 11	46.8	74.6	85.6	86.4	74.5	59.7	55.0	68.9
Mar - 11	55.3	80.5	89.9	89.1	73.8	66.9	64.7	75.3
Apr - 11	61.6	77.6	89.5	91.2	81.6	75.1	76.6	78.8
May - 11	64.5	75.4	85.6	92.8	82.0	82.1	84.4	80.4
Jun - 11	66.9	88.1	97.3	93.0	79.3	79.3	82.2	83.9
Jul - 11	62.0	78.0	88.0	89.3	84.8	78.3	82.3	79.8
Aug - 11	66.4	78.0	87.2	85.3	76.6	68.9	65.9	76.3
Sep - 11	65.2	77.3	88.5	90.6	82.2	74.2	76.9	79.2
Oct - 11	57.0	76.3	93.2	92.6	80.6	71.6	78.0	77.7
Total Year	57.5	75.6	85.9	86.3	76.0	68.0	68.7	74.0

Source: Smith Travel Research

These trends demonstrate a very healthy corporate and group market as is evidenced by strong utilization levels Tuesday through Thursday nights. However, a healthy leisure component is also indicated by the relatively strong occupancy levels achieved on Friday and Saturday nights, particularly during the April - July period.

Estimated Growth in Lodging Demand - Direct Competitive Supply

In order to estimate growth in demand for lodging, we have analyzed the competitive supply currently operating in the BWI Airport lodging market. We have researched economic and demographic indices that have varying degrees of impact on the demand for lodging, and they were discussed in detail in the Area Analysis section of this report. Some of the economic and demographic indices that impact the demand for lodging, are summarized in the chart that follows.

Summary of Economic and Demographic Indicators - Anne Arundel County And BWI Airport		
Economic Indicator	Time Period	CAAG
Enplanements at BWI	2005 - 2010	2.2%
Enplanements at BWI	2016- 2031	1.8% - 2.6%
Population	2005 - 2025	.9%
Employment	2005 - 2025	1.1%
Mean Household Income	2005 - 2025	1.0%
Hotel Tax Collections	2005 - 2010/11	1.3%
Taxable Retail Sales	2005 - 2011	0.1%
Available Rooms - BWI	2005 - 2010	7.5%
Occupied Roomnights BWI	2005 - 2010	7.0%

A review of historical enplanements at BWI Airport compared to occupied roomnights for the direct competitive supply is summarized in the chart that follows.

Comparison of Enplanements at BWI to Occupied Roomnights Direct Primary Competitive Supply						
Year	Enplanements at BWI	% Inc/Dec	Supply of Rooms	% Inc/Dec	Occupied Rooms	% Inc/Dec
2005	9,865,928	-	749,345	-	563,403	-
2006	10,342,883	4.8%	783,505	4.6%	476,048	2.2%
2007	10,527,954	1.8%	917,140	17.1%	634,597	10.2%
2008	10,251,860	-2.6%	1,020,540	11.3%	704,319	11.0%
2009	10,496,842	2.4%	1,044,255	2.3%	720,784	2.3%
2010	10,996,713	4.8%	1,077,115	3.1%	789,010	9.5%
CAAG 05-10	2.2%	1.9%		7.5%		7.0%
CAAG 08-10	3.6%	2.7%		2.7%		5.8%

Due to the recession which began in 2008, and a significant increase in the number of new rooms added to the market during the last few years, no correlation was found between historical roomnights and historical enplanements at BWI Airport.

We note, as presented in the previous "Area Analysis" section of this report, that a range of scenarios were analyzed that would increase future enplanements at BWI Airport by between 1.8% to 2.6% per year. Based on our research, and these scenarios, we have estimated a growth rate in occupied roomnights of 2% per year throughout the projection period. For purposes of this analysis, we have grown all three primary segments of demand at the same rate as there is no evidence to support significant variances. The market, currently at 77% occupancy, is considered very healthy. With very few additions to supply proposed for the foreseeable future, even at a moderate 2% per year, occupancy levels are estimated to increase to 80% and above, which reflects an extremely strong market. Given the perceived strength of the market, it is likely that an addition to the lodging supply could enter the market during our projection period (the next ten years) that we are not aware of at this time. Considering all factors, we believe our estimates of growth in demand are reasonable.

Our estimates of area-wide occupancy levels are summarized in the supply and demand

chart that follows. Overall, the market is considered healthy and the outlook for the foreseeable future is very good.

Supportable Rooms Analysis

We estimated area-wide occupancy levels in the preceding section. This analysis took into consideration historical trends in growth in demand, as well as any planned or proposed additions to the supply of guest rooms that may enter the market during the projection period. In order to estimate future supportable rooms, we have assumed a stabilized area-wide occupancy level which is based on historical occupancy trends for this market area. The chart that follows summarizes our estimates. In this analysis, we have assumed two scenarios: Area-wide occupancy levels stabilize at 75%, and at 80%. Actual area-wide annual occupancy levels are ranging between 75% and 80%, historically.

The supportable rooms analysis indicates that 200 to 250 rooms are supportable in the target year: 2015. Considering all factors, we have concluded that a 250-room hotel is market supportable by the year 2015. Demand is estimated to continue to grow for the foreseeable future. As the area-wide annual occupancy level exceeds 75%-85%, it is likely that an addition to the supply, unknown at this time, will enter the market. Therefore, even though additional rooms appear market supportable in 2016 and beyond, once the subject hotel enters the market, area-wide occupancy will drop in order to absorb the new guest rooms that were added to the market in 2015.

Estimated Supportable Guest Rooms BWI Airport Primary Competitive Supply										
Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Supportable Rooms at 80% A/W	-123	-67	-109	-50	10	71	134	198	263	329
Supportable Rooms at 75% A/W	66	126	87	150	214	280	346	414	483	554

Source: Ernst & Associates, Inc.

It is estimated that if the supply of direct competitors were to maintain an area-wide occupancy level of 75%, and based on the one addition to the supply in 2013 (100-room Candlewood), there would be approximately 214 rooms supportable in 2015, increasing to 280 by 2016. The chart above illustrates the point that if the market were to maintain an area-wide occupancy of 80% or above, there is insufficient support for additional rooms until late in the projection period. On the other hand, even at a healthy occupancy level of 80%, this very resilient lodging market would support up to 263 rooms by 2019.

Recommended Design and Sizing of the Hotel

The final design of the proposed hotel will depend on a number of factors. The following recommendations should be considered conceptual in nature and subject to change as the project evolves. Over the last few years major hotel companies have been willing to purpose-design their hotel products to meet the needs of the defined market. For example, a representative from Hilton Hotels said “The Embassy Suites product is a “Kit of Parts”. That is, we adapt each part to conform to the demands of a specific market.”

It is imperative that the Project be designed to meet and exceed clearly defined customer expectations, particularly as it relates to individual business travelers and group meeting guests. This, coupled with a superior location at the airport, is what will set it apart from the rest of the supply and ensure its ability to capture more than its fair share of lodging demand. On the other hand, the Project will also capture demand from leisure travelers, so the right mix of facilities and amenities must be determined in order to appeal to all of these major segments of lodging demand. Based on our research, we recommend the following facilities and amenities.

Guest Rooms

- 250 first-class guestrooms with several specialty suites capable of providing adjunct boardroom space. We believe that a full-service product will provide a competitive advantage and will enhance the project's ability to maximize occupancy and average daily room rates.
- Double-loaded corridors to allow for optimum land use efficiencies
- High definition television and complimentary wireless Internet access
- Work desk with ergonomic chair, good lighting, and telephone/internet
- Comfortable seating for at least two people
- Spacious bathrooms with two-sink vanity

Food and Beverage Facilities

- one full-service restaurant serving breakfast, lunch, and dinner
- one fine-dining restaurant serving dinner only
- one cocktail lounge with ample seating for small gatherings
- complimentary coffee service in comfortable socializing area

Meeting and Banquet Facilities

The following chart summarizes meeting space facilities as a ratio to the number of guestrooms for several of the competitors:

Representative Competitors – Meeting Space			
Hotel	No. of Rooms	Meeting Space SF	Ratio to Rooms
Doubletree	260	10,000	38
Embassy Suites	251	5,500	22
Hilton Hotel	280	12,000	43
Marriott Hotel	309	18,000	58
Westin Hotel	260	7,300	28
Sheraton Four Points	201	8,832	44
Sheraton Hotel	203	4,600	23
Averages	252	9,462	38

Meeting space ratios range from 22 to 58 square feet of meeting space per guest room. We believe that the proposed hotel, given its airport location should be very effective in capturing group meeting guests. Overall, we believe an estimate of approximately 50 square feet of meeting space per guest room is reasonable.

- approximately 12,500 gross square feet of state-of-the-art conference and banquet facilities
- several meeting venues

- state-of-the-art furniture, fixtures and equipment including ergonomic chairs, white boards and sophisticated audio/visual equipment
- on-site conference staff
- full-service business center

Recreational Facilities

- an indoor swimming pool or lap pool and whirlpool bath
- steam and sauna facilities
- fitness center

Recommended Operator / Brand

The Project, as envisioned, will be a first-class, full-service, purpose-designed hotel. It is assumed that it will be affiliated with a national hotel company and have access to its reservation system and national marketing network. It is further assumed that the Project will be managed by a competent management company. Hotel brands that fit the profile would include, but not necessarily be limited to, Hyatt, Hilton, Marriott, or Sheraton brands. Hilton, Marriott and Sheraton all have full-service and limited-service products represented in the market place. Currently, there is no full-service Hyatt Hotel in this direct competitive supply, but there is a new Hyatt Place.

Overall Project Design Highlights

Based on our research we identified the following factors that are important to consider in the final design of the hotel:

- The hotel's overall design should be very modern and sophisticated, at the same time, comfortable, with warm tones and high end finishes, which will serve to attract upscale corporate and leisure guests.
- Meeting space should have audio/visual technology that would be expected by firms in the market area, with the latest in networking, wireless wide bandwidth Internet access with the ability to transfer large amounts of data quickly, and superior meeting room furnishings.
- The food and beverage venues must be carefully planned. An upscale, full service restaurant serving breakfast, lunch and dinner would be considered a necessity. In addition, quick-service themed outlet (coffee bar, for example) might be an appropriate venue for travelers arriving or departing the hotel. A fine dining establishment could be a very successful venue for in-house, as well as from the local area, if available parking is accessible without too much trouble maneuvering through the airport.
- Connectivity between the parking facilities, the terminal, and the hotel will be imperative not only for overnight guests, but also for group meeting attendees and others who will visit the property during the day.

Based on the foregoing facilities and amenities as proposed, the hotel and conference center should meet the needs of the discerning corporate and leisure traveler and should be able to capture more than its fair share of lodging demand.

Comparison to On-Airport Hotels

We have compared our facilities and amenities recommendations with several other on-airport hotels, summarized in the following chart.

MARKET ANALYSIS, BWI AIRPORT, BALTIMORE, MD

Hotel and Airport Location	Rooms	Year Opened	Meeting Space SF	Meeting Space Per Guest Room	Restaurant & Cocktail Lounge	Swim Pool	Fitness Center/Business Center	Room Rates
Hilton Hotel, Boston Logan	599	1999	30,000	50 SF	Yes	Indoor	Yes/Yes	\$149-\$279
Hyatt Hotel, Boston Logan	270	1991	21,000	78 SF	Yes	Indoor Lap	Yes/Yes	\$189-\$229
Marriott, Detroit Metro Airport	156	1967	6,600	42SF	Yes	Indoor	Yes/Yes	\$169-\$195
Westin, Detroit Metro Airport	404	2002	26,000	64SF	Yes	Indoor	Yes/Yes	\$214-\$379
Marriott, Tampa International	296	2000	18,000	60 SF	Yes	Outdoor	Yes/Yes	\$159-\$199
Hyatt Hotel, Orlando Int'l	446	1992	42,000	94SF	Yes	Outdoor	Yes/Yes	\$188-\$344

Source: Hotel websites

Market Penetration and Estimated Performance of the Proposed Hotel

When developed, we assume that the proposed hotel will be one of the best quality lodging facilities in the competitive supply. In addition, it will enjoy a "catbird seat" within the Baltimore International Airport. We assume that the hotel will be affiliated with a well-recognized hotel company with national presence, and with access to its reservation system and marketing network. We have also assumed that the property will be competently managed and aggressively marketed prior to and throughout the period of analysis.

The position of the proposed hotel within the competitive lodging market is largely a function of its occupancy and average daily room rates. Guest room occupancy is estimated by evaluating the ability of the hotel to attract a share of demand in each market segment. Average daily room rates are estimated on the basis of the average daily room rates currently being achieved in the competitive market and on the anticipated effects of inflation and changing market occupancy.

The unit of measure in evaluating market share is the penetration ratio. This is defined as a hotel's percentage of demand in a given segment divided by its proportionate or fair share of total room supply. If all properties within a market were equal in quality, location, and rate structure, each could be expected to attract demand in proportion to its size, thereby achieving a penetration ratio of 100 percent. A property which has a competitive advantage in attracting demand from a given segment of the market can be expected to penetrate that segment at greater than 100 percent; the same property may achieve relatively low penetration in a segment in which it is at a competitive disadvantage.

Based on our research in the competitive market, the analysis of market factors, and the proposed location, we believe that there is existing and potential future demand to support the proposed hotel.

The estimated ranges in occupancy and average daily room rate that could be achieved by the proposed hotel in a stabilized year of operation were based on several competitive advantages, as follows.

- The subject will have state-of-the art amenities and appeal to the high-end corporate traveler conducting business in the Baltimore market, as well as group meeting guests and leisure travelers.
- The proposed hotel will be the only property in the competitive supply with direct connectivity to the BWI Airport.
- The proposed hotel will be affiliated with a nationally-recognized hotel company and have access to its marketing and reservation network. It will be the newest property in the market, offering state-of-the-art facilities and amenities.
- The proposed hotel's room rates will be at the high end of the range of rates that can be captured in this market, supported by its superior product level and amenity package.

Direct Competitive Supply - Penetration Levels

The following chart summarizes actual discounts and premiums over their fair share for the competitive supply.

Penetration Levels Estimated Year End 2011 – Direct Competitive Supply					
Hotel	Fair Share of Demand	Commercial	Group	Leisure	Overall
Aloft	5.3%	111.7%	48.4%	108.9%	104.4%
Comfort Suites	4.6%	78.2%	36.3%	102.1%	78.3%
Courtyard by Marriott	5.0%	96.4%	89.6%	100.8%	96.5%
Doubletree	8.8%	89.4%	290.6%	54.5%	104.4%
Embassy Suites	8.5%	78.2%	127.1%	119.1%	91.3%
Four Points by Sheraton	6.8%	115.9%	150.7%	56.5%	108.3%
Hampton Inn & Suites	6.2%	115.9%	50.2%	113.0%	108.3%
Hilton Garden Inn	5.4%	108.9%	47.2%	106.2%	101.7%
Hilton Hotel	9.5%	99.0%	92.0%	103.5%	99.1%
Homewood Suites	5.0%	115.9%	50.2%	113.0%	108.3%
Hyatt Place	4.3%	114.7%	53.3%	149.8%	114.8%
Marriott Hotel	10.5%	105.6%	98.1%	110.3%	105.7%
Sheraton	6.9%	95.1%	88.4%	99.4%	95.2%
Springhill Suites	4.5%	115.9%	50.2%	113.0%	108.3%
Westin Hotel	8.8%	83.4%	77.5%	87.1%	83.5%

Source: Ernst & Associates, Inc.

Commercial Segment - Penetration Analysis

The leaders in this segment are The Sheraton Four Points, the Hampton Inn & Suites, the Homewood Suites and the Springhill Suites. This is a function of their size, location, and specific orientation or appeal to the commercial traveler.

The subject is located in a strong corporate market and will be positioned to capture this segment of demand. We estimate that the subject's penetration of the commercial segment will be 115% in a stabilized year because of its superior location at the airport and proximity to major corporate demand generators.

Group Segment - Penetration Analysis

It is easy to see that the Doubletree, Embassy Suites and the Four Points Sheraton capture the lion's share of demand in this segment. This is due in part to their size, their available meeting space, and most particularly, their marketing efforts to this segment of demand. The Four Points appears to rely on its superior location on airport land with ample parking, and attractive meeting facilities.

Therefore, we have estimated the subject's penetration of the group segment in a stabilized year will be approximately 150% of its fair share of demand.

Leisure Segment - Penetration Analysis

The leaders in this segment are the Embassy Suites and the Hyatt Place. The Embassy Suites product has always been a popular choice for leisure travelers who enjoy its atrium design with fun food and beverage venues.

The subject's location at the airport will constrain the capture of this segment of demand for the subject hotel. We have estimated that the subject's penetration level in this segment will be approximately 55% of its fair share in a stabilized year of operation.

Overall, the subject's market mix is projected to be 75% corporate business, 15% group business, and 10% leisure business. This market mix is reasonable given the subject's proposed location at the Baltimore International Airport.

Estimated Future Occupancy and Average Room Rates - Proposed Hotel

Our estimates of the subject's future occupancy and average room rates are summarized in the following chart.

Proposed Hotel, Baltimore International Airport				
Estimated Occupancy and Average Daily Room Rates				
Year	Estimated Occupancy	Penetration of Fair Share	Average Daily Room Rate*	
			2011\$	Inflated \$
2015	71%	96%	\$120.00	\$135.00
2016	77%	101%	\$120.00	\$139.00
2017	82%	107%	\$120.00	\$143.00
2018	85%	107%	\$120.00	\$148.00
2019	86%	107%	\$120.00	\$152.00

Source: Ernst & Associates, Inc.

*Room rates are rounded to the nearest \$1.00 and reflect inflation assumptions as discussed in this report.

We estimate the proposed hotel's occupancy will stabilize at approximately 85% by year four. This assumes that the subject will capture approximately 107% of its fair share of total demand. The reader will note that based on continued growth in area-wide demand, the subject's estimated occupancy levels have the potential of increasing through 2019 and beyond. However, we have no empirical evidence to support growth beyond a stabilized occupancy of 85% based on historical growth patterns in the market and the likelihood that an addition to supply will enter the market that is unknown at this time. Therefore, for planning purposes, we suggest that a stabilized occupancy level of 85% is reasonable and achievable.

The subject's average daily room rate is estimated to be \$120 stated in 2011 dollars, or \$135 in its first year of operation. At \$120, this rate is above that of the Doubletree but slightly below the Embassy Suites. It is reasonable to assume that the subject would position rates below that of the Embassy but clearly above the Four Points Sheraton.

The proposed hotel's estimated market segmentation in its fourth year is summarized in the following chart.

MARKET ANALYSIS, BWI AIRPORT, BALTIMORE, MD

Proposed Hotel Estimated Market Segmentation – Year Four			
	Estimated Roomnights	Percent	Premium/Discount Over Fair Share
Commercial Travelers	57,900	75%	115%
Group Meetings	11,600	15%	150%
Leisure Travelers	<u>7,600</u>	<u>10%</u>	<u>55%</u>
Total Demand	77,100	100%	107%
Occupancy	85%		

Source: Ernst & Associates, Inc.

MARKET ANALYSIS, BWI AIRPORT, BALTIMORE, MD

Proposed First-Class Hotel
BWI Airport, Baltimore, MD

AREA WIDE MARKET SUPPLY AND DEMAND

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Roomnights Available										
Base	1,077,480	1,077,480	1,077,480	1,113,980	1,113,980	1,205,230	1,205,230	1,205,230	1,205,230	1,205,230
Candlewood Hotel - 100 Rooms	0	0	36,500	0	0	0	0	0	0	0
Other Proposed Hotel	0	0	0	0	0	0	0	0	0	0
Subject Hotel	0	0	0	0	91,250	0	0	0	0	0
Total	1,077,480	1,077,480	1,113,980	1,113,980	1,205,230	1,205,230	1,205,230	1,205,230	1,205,230	1,205,230
Percent Change			3.4%	0.0%	8.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Occupied Roomnights										
Market Mix										
Percent Increase										
Commercial Roomnights	70%	579,055	590,637	602,449	614,498	626,788	639,324	652,110	665,153	678,456
Percent Increase										
Group Roomnights	11%	89,213	90,997	92,817	94,673	96,567	98,498	100,468	102,477	104,527
Percent Increase										
Tourists Roomnights	19%	158,600	161,772	165,008	168,308	171,674	175,107	178,609	182,182	185,825
Total Occupied Roomnights		826,042	843,405	860,274	877,479	895,029	912,929	931,188	949,811	968,808
Cumulative Percent Increase			2.1%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Area-Wide Occupancy		77%	78%	77%	79%	74%	76%	77%	79%	80%

SUBJECT HOTEL PROJECTIONS

Number of Rooms					250	250	250	250	250	250
Roomnights Available					91,250	91,250	91,250	91,250	91,250	91,250
Fair Share					7.6%	7.6%	7.6%	7.6%	7.6%	7.6%
Commercial Penetration of Fair Share					108%	110%	115%	115%	115%	115%
Captured Roomnights	75%				51,252	53,245	56,778	57,914	59,072	60,254
Group Penetration of Fair Share					100%	125%	145%	150%	150%	150%
Captured Roomnights	15%				7,311	9,322	11,030	11,638	11,871	12,108
Tourist Penetration of Fair Share					50%	55%	55%	55%	55%	55%
Captured Roomnights	10%				6,489	7,292	7,436	7,586	7,736	7,893
Total Captured Roomnights					65,062	69,858	75,245	77,138	78,681	80,255
Percent Increase							7.7%	2.5%	2.0%	2.0%
Overall Penetration					96%	101%	107%	107%	107%	107%
Projected Occupancy - Subject					71%	77%	82%	85%	86%	88%
Projected Average Room Rate - Subject					\$135	\$139	\$143	\$148	\$152	\$157

Note: Please see accompanying notes and assumptions in written report.
Prepared by: Ernst & Associates, Inc.

ASSUMPTIONS AND LIMITING CONDITIONS

Standards Rule (S.R.) 2-1 of the *Standards of Professional Appraisal Practice of the Appraisal Institute* requires the consultant to "clearly and accurately disclose any extraordinary assumption or limiting condition that directly affects the appraisal (or consulting assignment) and indicate its impact on value." In compliance with S.R. 2-1, and to assist the reader in interpreting this report, such Assumptions and Limiting Conditions are set forth as follows:

1. The conclusions and opinions expressed in this report apply to the date of value set forth in the letter of transmittal accompanying this report. The dollar amount of any value opinion or conclusion rendered or expressed in this report is based upon the purchasing power of the American dollar existing on the date of value.
2. The consultant assumes no responsibility for economic, physical, or demographic factors which may affect or alter the opinions in this report if said economic, physical, or demographic factors were not present as of the date of the letter of transmittal accompanying this report. The consultant is not obligated to predict future political, economic, or social trends.
3. In preparing this report, the consultant was required to rely on information furnished by other individuals or found in previously existing records and/or documents. Unless otherwise indicated, such information is presumed to be reliable. However, no warranty, either expressed or implied, is given by the consultant for the accuracy of such information and the consultant assumes no responsibility for information relied upon later found to have been inaccurate. The consultant reserves the right to make such adjustments to the analyses, opinions, and conclusions set forth in this report as may be required by consideration of additional data or more reliable data that may become available.
4. Unless otherwise stated, the subject property is evaluated assuming it to be in full compliance with all applicable zoning and land use regulations and restrictions.
5. Possession of this report, or a copy of it, does not carry with it the right of publication. Without the written consent of the consultant, the report may not be used for any purpose by any person other than the party to whom it is addressed. In any event, this report may be used only with proper written qualification and only in its entirety for its stated purpose.
6. The conclusions contained in this report may be based, in part, upon projections of future income and expenses. While these projections have been based upon the best available data, judgment, and experience, there is no guarantee or warranty that these projections will occur. For purposes of this analysis, we have assumed an opening of January 1, 2008. Any change in the actual opening date, as well as additions to supply as stated in this report, could alter our estimates of occupancy and average daily room rate for the subject hotel, and the differences could be material.

EXHIBITS

EXHIBIT A
SITE PLANS AND PHOTOGRAPHS

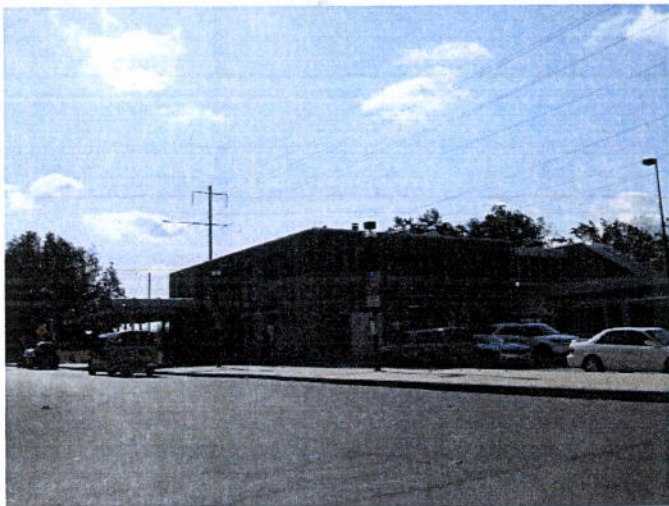
AMTRAK TRAIN STATION SITE



Exit to Train Station



Approach to Amtrak Train - Parking on Left



Amtrak Train Station



Amtrak Train Station with Parking to the Right

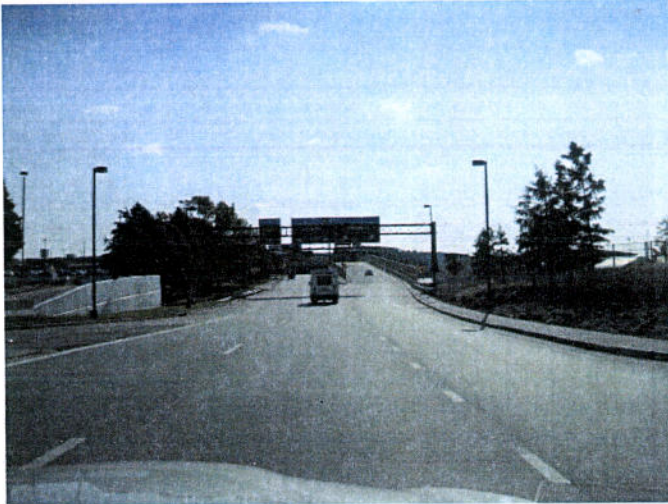


View of Train Tracks



Parking Structure

BWI AIRPORT SITE



Entrance to BWI Airport



View of Hourly Parking Garage from Lot



View from Hourly Parking Structure



View of Parking Lot and Airport Structures



Entrance to Hourly Parking at BWI



Sheraton Four Points and Parking

EXHIBIT B
SMITH TRAVEL RESEARCH LODGING TRENDS
REPORTS

Tab 2 - Data by Measure

Linthicum, MD Area Selected Properties
 Job Number: 394730_SADIM Staff: KD Created: December 14, 2011

Occupancy (%)	January	February	March	April	May	June	July	August	September	October	November	December	Total Year	Oct YTD
2005	62.0	67.1	75.4	82.9	81.0	85.7	84.2	80.3	79.3	78.1	69.7	56.2	75.2	77.7
2006	66.2	73.1	78.4	80.7	83.9	86.8	74.3	79.3	81.3	72.6	63.3	46.8	73.5	77.7
2007	55.7	64.6	77.1	74.3	77.8	79.4	71.7	76.5	77.4	74.6	63.6	46.6	69.2	73.1
2008	53.2	58.4	67.5	75.5	77.5	80.6	71.0	76.9	72.2	77.3	63.9	55.6	69.0	71.1
2009	59.6	62.1	68.1	75.7	74.2	81.6	76.5	69.4	71.6	72.1	62.3	55.6	69.0	71.1
2010	59.5	65.7	75.6	78.7	80.5	84.5	77.0	74.5	79.6	77.7	66.0	58.6	73.3	75.5
2011	63.1	68.9	75.3	78.8	80.4	83.9	79.8	76.3	79.2	77.7	63.5	53.1	71.3	76.4
Avg	59.7	65.4	73.6	77.9	79.6	82.6	76.2	75.8	76.9	76.0	63.5	53.1	71.3	74.4

ADR (\$)	January	February	March	April	May	June	July	August	September	October	November	December	Total Year	Oct YTD
2005	119.69	118.56	120.24	119.75	124.71	126.12	122.27	120.45	124.09	125.41	123.52	115.34	121.94	122.29
2006	122.28	124.33	127.02	125.78	130.54	137.08	126.63	127.66	134.86	136.75	127.93	117.32	129.00	129.89
2007	129.02	130.23	132.35	131.93	136.02	132.39	126.74	129.41	135.76	133.73	126.69	123.30	130.98	131.93
2008	126.13	125.65	126.11	125.18	125.14	123.48	117.10	118.51	123.54	124.29	116.22	114.89	122.26	123.37
2009	128.25	119.36	115.30	114.62	110.03	112.49	107.10	108.37	109.23	106.83	103.00	99.63	111.04	112.71
2010	104.62	104.71	109.61	106.53	108.37	110.53	105.42	108.43	110.65	107.73	102.70	95.67	106.61	107.82
2011	101.59	101.90	104.95	103.94	109.37	112.63	105.34	109.26	111.03	110.21	115.62	109.65	119.45	118.33
Avg	117.76	116.72	118.48	117.19	119.70	120.98	114.70	116.74	120.53	119.74	115.62	109.65	119.45	118.33

RevPAR (\$)	January	February	March	April	May	June	July	August	September	October	November	December	Total Year	Oct YTD
2005	74.25	79.59	90.66	99.22	101.02	108.13	102.98	96.74	98.40	97.98	86.11	64.77	91.69	94.98
2006	80.97	90.91	99.64	101.53	109.57	119.03	94.06	101.25	109.69	100.77	81.01	54.85	94.84	100.86
2007	71.90	84.09	102.04	97.99	105.78	105.07	90.87	99.05	105.05	99.80	73.06	57.47	90.63	96.45
2008	67.15	73.39	85.10	94.47	100.83	95.74	83.19	91.08	89.19	96.02	73.92	64.38	87.70	80.17
2009	76.45	74.08	78.47	86.71	81.66	91.84	82.50	75.19	78.25	77.05	64.19	55.41	76.65	80.17
2010	62.26	68.77	82.88	83.80	87.23	93.39	81.21	80.83	86.85	85.73	67.82	56.11	78.09	81.35
2011	64.14	70.26	79.01	81.91	87.94	94.48	84.06	83.32	87.95	85.63	73.44	58.18	85.20	81.92
Avg	70.31	76.33	87.20	91.25	95.27	99.90	87.45	88.49	92.64	91.05	73.44	58.18	85.20	88.09

Supply	January	February	March	April	May	June	July	August	September	October	November	December	Total Year	Oct YTD
2005	63,643	57,484	63,643	61,590	63,643	61,590	63,643	63,643	61,590	63,643	61,590	63,643	749,345	624,112
2006	63,643	57,484	63,643	61,590	63,643	61,590	63,643	63,643	61,590	63,643	61,590	63,643	783,505	641,192
2007	63,643	57,484	63,643	61,590	63,643	61,590	63,643	63,643	61,590	63,643	61,590	63,643	917,140	746,584
2008	86,676	78,288	86,676	83,880	86,676	83,880	86,676	86,676	83,880	86,676	83,880	86,676	1,020,540	849,984
2009	86,676	78,288	86,676	83,880	86,676	83,880	86,676	86,676	83,880	86,676	83,880	86,676	1,044,255	864,244
2010	91,481	82,628	91,481	88,530	91,481	88,530	91,481	91,481	88,530	91,481	88,530	91,481	1,077,115	897,104
2011	91,481	82,628	91,481	88,560	91,512	88,560	91,512	91,512	88,560	91,512	88,530	91,481	931,983	897,318
Avg	79,418	71,732	79,418	76,860	80,321	77,730	80,321	81,007	79,594	82,247	79,400	82,047	931,983	788,648

Demand	January	February	March	April	May	June	July	August	September	October	November	December	Total Year	Oct YTD
2005	39,478	38,592	47,984	51,031	51,556	52,805	53,602	51,117	48,840	49,723	42,935	35,740	563,403	484,728
2006	42,143	42,030	49,924	49,715	53,419	53,481	47,276	50,477	56,926	52,524	44,318	40,401	576,048	497,915
2007	40,302	42,180	55,761	51,982	61,135	60,385	56,356	60,172	58,879	58,676	48,371	40,401	634,597	545,825
2008	46,147	45,725	58,490	63,303	69,838	65,034	61,575	66,620	60,559	66,962	53,348	46,718	704,319	604,253
2009	51,665	48,593	58,986	63,457	64,329	68,483	66,350	63,469	63,420	65,977	55,173	50,882	720,784	614,729
2010	54,439	54,262	69,167	73,634	74,803	74,295	70,471	68,198	69,487	72,800	58,457	53,651	676,902	614,729
2011	57,752	56,968	68,869	69,790	73,587	74,295	73,022	70,149	70,149	71,101	50,434	43,535	664,694	685,320
Avg	47,418	46,907	58,454	59,846	63,928	64,184	61,236	61,406	61,180	62,537	50,434	43,535	664,694	587,096

Revenue (\$)	January	February	March	April	May	June	July	August	September	October	November	December	Total Year	Oct YTD
2005	4,725,233	4,575,379	5,769,832	6,111,179	6,429,294	6,660,012	6,553,964	6,157,074	6,060,482	6,235,842	5,303,445	4,122,241	68,703,977	59,278,291
2006	5,153,076	5,225,707	6,341,477	6,253,208	6,973,283	7,330,985	5,986,543	6,443,997	7,677,120	7,846,255	5,669,716	3,967,218	74,309,959	64,673,025
2007	5,199,917	5,493,174	7,379,725	6,858,143	8,315,630	7,994,075	7,143,875	7,786,784	7,992,517	8,322,535	6,128,352	4,981,470	83,119,917	72,010,095
2008	5,820,671	5,745,327	7,375,971	7,924,514	8,739,728	8,030,582	7,210,173	7,894,895	7,481,245	8,322,535	6,200,160	5,367,378	86,113,139	74,545,601
2009	6,626,188	5,799,838	6,801,287	7,273,284	7,078,187	7,703,827	7,150,671	6,828,044	6,927,451	7,048,163	5,682,682	5,069,303	60,038,925	69,286,940
2010	5,685,455	5,681,965	7,581,510	7,419,159	7,979,480	8,268,043	7,428,923	7,394,801	7,688,611	7,842,401	6,003,721	5,132,994	84,117,063	72,980,348
Avg	5,685,455	5,681,965	7,581,510	7,419,159	7,979,480	8,268,043	7,428,923	7,394,801	7,688,611	7,842,401	6,003,721	5,132,994	84,117,063	72,980,348

Tab 3 - Percent Change from Previous Year - Detail by Measure

Linthicum, MD Area Selected Properties
 Job Number: 394730_SADIM Staff: KD Created: December 14, 2011

Occupancy	January	February	March	April	May	June	July	August	September	October	November	December	Total Year	Oct YTD
2006	6.8	8.9	4.0	-2.6	3.6	1.3	-11.8	-1.3	2.6	-7.0	-9.2	-16.7	-2.2	-0.0
2007	-15.8	-11.7	-1.7	-8.0	-7.4	-8.6	-3.5	-3.5	-4.8	2.8	-8.9	-0.3	-5.9	-5.9
2008	-4.5	-9.5	-12.5	1.6	3.6	-2.3	-0.9	0.4	-6.7	3.5	10.3	15.6	-0.3	-2.8
2009	12.0	6.3	0.8	0.2	-7.9	5.3	7.8	-9.7	-0.8	-6.6	-2.0	3.2	0.0	0.1
2010	-0.2	5.8	11.1	4.0	8.5	3.5	0.6	7.5	9.6	10.3	6.0	5.4	6.1	6.1
2011	6.1	5.0	-0.4	0.2	-0.1	-0.7	3.6	2.3	0.9	-2.4	-0.8	1.4	6.1	1.2
Avg	0.7	0.8	0.2	-0.8	0.1	-0.3	-0.7	-0.7	0.1	0.1	-0.8	1.4	-0.4	-0.2

ADR	January	February	March	April	May	June	July	August	September	October	November	December	Total Year	Oct YTD
2006	2.2	4.9	5.6	5.0	4.7	8.7	3.6	6.0	8.7	10.6	3.6	1.7	5.8	6.2
2007	5.5	4.7	4.2	4.9	4.2	0.1	4.2	1.4	0.7	-3.6	-1.0	5.1	1.5	1.6
2008	-2.2	-3.5	-4.7	-5.1	-8.0	-6.7	-7.6	-8.4	-9.0	-7.1	-8.3	-6.8	-6.5	-6.5
2009	1.7	-5.0	-8.6	-8.4	-12.1	-8.9	-8.0	-8.6	-11.6	-14.0	-11.4	-13.3	-9.2	-8.6
2010	-18.4	-12.3	-4.9	-7.1	-1.5	-1.5	-0.1	0.1	1.3	0.8	-0.3	-4.0	-4.0	-4.3
2011	-2.9	-2.7	-4.3	-2.4	0.9	1.9	-0.1	0.8	0.3	2.3	-3.5	-3.5	-2.5	-0.5
Avg	-2.4	-2.3	-2.1	-2.2	-2.0	-1.7	-2.4	-1.5	-1.6	-1.8	-3.5	-3.5	-2.5	-2.0

RevPAR	January	February	March	April	May	June	July	August	September	October	November	December	Total Year	Oct YTD
2006	9.1	14.2	9.9	2.3	8.5	10.1	-8.7	4.7	11.5	2.8	-5.9	-15.3	3.4	6.2
2007	-11.2	-7.5	2.4	-3.5	-11.7	-11.7	-3.4	-2.2	-4.2	-1.0	-9.8	4.8	-4.4	-4.4
2008	-6.6	-12.7	-16.6	-3.6	-4.7	-8.9	-8.5	-8.0	-15.1	-3.8	1.2	7.7	-6.9	-9.1
2009	13.8	0.9	-7.8	-8.2	-19.0	-4.1	-0.8	-17.5	-12.3	-19.8	-13.2	-10.5	-9.2	-8.6
2010	-18.6	-7.2	5.6	-3.4	6.8	1.7	-1.6	7.5	11.0	11.3	5.6	1.3	1.9	1.5
2011	3.0	2.2	0.8	-2.3	0.8	1.2	3.5	3.1	1.3	-0.1	-4.4	-2.4	1.9	0.7
Avg	-1.7	-1.7	-1.9	-3.1	-1.8	-2.0	-3.2	-2.1	-1.3	-1.8	-4.4	-2.4	-3.0	-2.3

Supply	January	February	March	April	May	June	July	August	September	October	November	December	Total Year	Oct YTD
2006	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.6	13.6	13.6	13.6	4.6	2.7
2007	13.6	13.6	13.6	13.6	23.5	23.5	23.5	23.5	8.7	10.3	19.8	19.8	17.1	16.4
2008	19.8	19.8	19.8	19.8	10.3	10.3	10.3	10.3	10.3	10.3	0.0	0.0	11.3	13.8
2009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	5.5	5.5	5.5	5.5	2.3	1.7
2010	5.5	5.5	5.5	5.5	5.5	5.5	5.5	0.0	0.0	0.0	0.0	0.0	3.1	3.8
2011	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8	7.8	3.1	0.0
Avg	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.4	6.4	7.8	7.8	7.7	6.4

Demand	January	February	March	April	May	June	July	August	September	October	November	December	Total Year	Oct YTD
2006	6.8	8.9	4.0	-2.6	3.6	1.3	-11.8	-1.3	16.6	5.6	3.2	-5.4	2.2	2.7
2007	-4.4	0.4	11.7	4.6	14.4	12.9	19.2	19.2	3.4	11.7	9.1	19.5	10.2	9.6
2008	14.5	8.4	4.9	21.8	14.2	7.7	9.3	10.7	2.9	14.1	10.3	15.6	11.0	10.7
2009	12.0	6.3	0.8	0.2	-7.9	5.3	7.8	-4.7	4.7	-1.5	3.4	8.9	2.3	1.7
2010	5.4	11.7	17.3	9.7	14.5	9.2	6.2	7.5	9.6	10.3	6.0	5.4	9.5	10.1
2011	6.1	5.0	-0.4	0.2	-0.1	-0.7	3.6	2.3	1.0	-2.3	1.2	1.2	1.2	1.2
Avg	6.7	6.8	6.4	5.7	6.5	6.0	5.7	5.6	6.3	6.3	6.4	8.8	7.0	6.0

Revenue	January	February	March	April	May	June	July	August	September	October	November	December	Total Year	Oct YTD
2006	9.1	14.2	9.9	2.3	8.5	10.1	-8.7	4.7	26.7	16.9	6.9	-3.8	8.2	9.1
2007	0.9	5.1	16.4	9.7	19.2	9.0	19.3	20.8	4.1	7.7	8.1	25.6	11.9	11.3
2008	11.9	4.6	-0.1	15.5	5.1	0.5	0.9	1.4	-6.4	6.1	1.2	7.7	3.6	3.5
2009	13.8	0.9	-7.8	-8.2	-19.0	-4.1	-0.8	-12.9	-7.4	-15.3	-8.3	-5.6	-7.1	-7.1
2010	-14.0	-2.0	11.5	12.7	12.7	7.3	3.9	7.5	11.0	11.3	5.6	1.3	5.1	5.3
2011	3.0	2.2	-4.7	-2.2	0.9	1.2	3.5	3.1	1.3	-0.1	2.7	5.1	4.3	0.7
Avg	4.1	4.2	4.2	3.2	4.6	4.0	3.0	4.1	4.9	4.4	4.4	5.1	4.3	3.8

Tab 5 - Twelve Month Moving Average

Linthicum, MD Area Selected Properties
 Job Number: 394730_SADIM Staff: KD Created: December 14, 2011

	January	February	March	April	May	June	July	August	September	October	November	December
Occupancy (%)	75.5	76.0	76.3	76.1	76.3	76.4	75.6	75.5	75.7	75.2	74.6	73.5
2006	75.5	76.0	76.3	76.1	76.3	76.4	75.6	75.5	75.7	75.2	74.6	73.5
2007	72.5	71.3	71.3	71.3	70.9	70.5	70.4	70.3	70.0	70.2	69.6	69.2
2008	68.8	68.2	67.4	67.7	68.0	67.9	67.9	68.0	67.6	67.9	68.4	69.0
2009	69.6	69.9	69.9	69.9	69.4	69.7	70.2	69.5	69.1	69.1	69.0	69.0
2010	69.0	70.1	73.8	73.8	70.7	71.0	71.1	71.5	72.1	72.7	73.0	73.3
2011	73.6	73.8	73.8	73.8	73.8	73.7	74.0	74.1	74.2	74.0		

	January	February	March	April	May	June	July	August	September	October	November	December
ADR (\$)	122.13	122.53	123.12	123.65	124.20	125.22	125.62	126.27	127.31	128.51	128.84	129.00
2006	122.13	122.53	123.12	123.65	124.20	125.22	125.62	126.27	127.31	128.51	128.84	129.00
2007	129.49	129.93	130.41	130.94	131.50	131.09	131.04	131.16	131.25	130.85	130.74	130.98
2008	130.75	130.43	129.87	129.26	128.21	127.37	126.49	125.45	124.40	123.60	122.82	122.26
2009	122.45	122.03	121.14	120.20	118.79	117.76	116.89	115.98	114.74	113.12	112.11	111.04
2010	109.33	108.32	107.88	107.19	107.06	106.91	106.70	106.71	106.86	106.94	106.91	106.61
2011	106.38	106.17	105.77	105.54	105.63	105.83	105.82	105.90	105.93	106.15		

	January	February	March	April	May	June	July	August	September	October	November	December
RevPAR (\$)	92.26	93.12	93.89	94.08	94.80	95.70	94.94	95.32	96.40	96.68	96.11	94.84
2006	92.26	93.12	93.89	94.08	94.80	95.70	94.94	95.32	96.40	96.68	96.11	94.84
2007	93.86	93.28	93.56	93.34	93.27	92.46	92.20	92.15	91.87	91.85	90.95	90.63
2008	89.90	88.93	87.60	87.44	87.16	86.51	85.87	85.29	84.13	83.93	84.00	84.38
2009	85.17	85.22	84.66	84.02	82.39	82.07	82.01	80.64	79.74	78.14	76.65	76.65
2010	75.41	74.99	75.38	75.19	75.70	75.89	75.81	76.29	77.00	77.74	78.04	78.09
2011	78.25	78.37	78.04	77.88	77.95	78.04	78.28	78.49	78.58	78.57		

	January	February	March	April	May	June	July	August	September	October	November	December
Supply	749,345	749,345	749,345	749,345	749,345	749,345	749,345	749,345	757,745	766,425	774,825	783,505
2006	749,345	749,345	749,345	749,345	749,345	749,345	749,345	749,345	757,745	766,425	774,825	783,505
2007	792,185	800,025	808,705	817,105	832,078	846,568	861,541	876,514	882,604	888,897	902,787	917,140
2008	931,493	944,457	958,810	972,700	980,760	988,560	996,620	1,012,480	1,029,995	1,034,800	1,039,450	1,044,255
2009	640,442	1,020,540	1,058,205	1,062,855	1,067,660	1,072,310	1,077,115	1,077,115	1,077,115	1,077,115	1,077,115	1,077,115
2010	1,049,060	1,053,400	1,058,205	1,062,855	1,067,660	1,072,310	1,077,115	1,077,115	1,077,115	1,077,115	1,077,115	1,077,115
2011	1,077,115	1,077,115	1,077,115	1,077,145	1,077,176	1,077,206	1,077,237	1,077,268	1,077,298	1,077,329		

	January	February	March	April	May	June	July	August	September	October	November	December
Demand	566,068	569,506	571,446	570,130	571,993	572,669	566,343	565,703	573,789	576,590	577,973	576,048
2006	566,068	569,506	571,446	570,130	571,993	572,669	566,343	565,703	573,789	576,590	577,973	576,048
2007	574,207	574,357	580,194	582,461	590,177	597,081	606,161	615,856	617,809	623,958	628,011	634,597
2008	640,442	643,987	646,716	658,037	666,740	671,389	676,608	683,056	684,736	693,025	698,002	704,319
2009	709,837	712,705	713,201	713,355	707,846	711,295	716,070	712,919	715,780	714,795	716,620	720,784
2010	723,568	729,227	739,408	745,592	754,897	761,217	765,338	770,067	776,134	782,957	786,241	789,010
2011	792,323	795,029	794,731	794,880	794,833	794,325	796,876	798,465	799,127	797,428		

	January	February	March	April	May	June	July	August	September	October	November	December
Revenue (\$)	69,131,820	69,782,148	70,353,793	70,495,822	71,039,811	71,710,784	71,143,363	71,430,286	73,046,924	74,098,711	74,464,982	74,309,959
2006	69,131,820	69,782,148	70,353,793	70,495,822	71,039,811	71,710,784	71,143,363	71,430,286	73,046,924	74,098,711	74,464,982	74,309,959
2007	74,356,800	74,624,267	75,662,515	76,267,450	77,609,797	78,272,887	79,430,219	80,773,006	81,088,403	81,647,029	82,105,665	83,119,917
2008	83,740,671	83,989,070	86,398,483	85,055,441	85,479,539	85,516,046	85,582,344	85,690,415	85,179,143	85,655,423	85,727,231	86,113,139
2009	86,918,656	86,973,167	86,398,483	84,085,712	84,085,712	83,758,957	83,699,455	82,682,644	82,128,850	80,854,478	80,337,000	80,038,925
2010	79,108,192	78,990,319	79,770,542	79,916,417	80,817,710	81,381,926	81,660,178	82,176,935	82,938,095	83,732,333	84,053,372	84,117,063
2011	84,288,816	84,411,900	84,058,381	83,893,100	83,961,580	84,061,052	84,324,303	84,554,614	84,654,760	84,648,364		

High value is boxed. Low value is boxed and italicized.

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Tab 6 - Day of Week Analysis

Linthicum, MD Area Selected Properties
 Job Number: 394730_SADIM Staff: KD Created: December 14, 2011

Occupancy (%)									
	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total Month	
Nov - 10	47.3	68.7	78.7	75.1	67.3	58.7	62.5	66.0	
Dec - 10	52.6	65.7	67.6	70.1	59.7	46.5	47.9	58.6	
Jan - 11	45.1	69.9	80.0	82.1	72.2	53.6	46.1	63.1	
Feb - 11	46.8	74.6	85.6	86.4	74.5	59.7	55.0	68.9	
Mar - 11	55.3	80.5	89.9	89.1	73.8	66.9	64.7	75.3	
Apr - 11	61.6	77.6	89.5	91.2	81.6	75.1	76.6	78.8	
May - 11	64.5	75.4	85.6	92.8	82.0	84.4	80.4	84.4	
Jun - 11	66.9	88.1	97.3	93.0	79.3	79.3	82.2	83.9	
Jul - 11	62.0	78.0	86.0	89.3	84.8	78.3	82.3	79.8	
Aug - 11	66.4	78.0	87.2	85.3	76.6	68.9	65.9	76.3	
Sep - 11	65.2	77.3	88.5	90.6	82.2	74.2	76.9	79.2	
Oct - 11	57.0	76.3	93.2	92.6	80.6	71.6	78.0	77.7	
Total Year	57.5	75.6	85.9	86.3	76.0	68.0	68.7	74.0	

ADR									
	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total Month	
Nov - 10	93.02	108.55	113.64	112.77	102.89	86.79	87.44	102.70	
Dec - 10	89.46	101.70	102.60	104.79	97.33	81.63	82.25	95.67	
Jan - 11	91.25	105.59	112.20	112.45	106.94	85.86	83.38	101.59	
Feb - 11	90.04	107.67	112.91	113.01	105.43	84.66	83.53	101.90	
Mar - 11	95.73	110.64	116.33	114.78	104.58	87.37	87.80	104.95	
Apr - 11	93.09	109.78	118.00	117.50	107.59	89.83	90.93	103.94	
May - 11	99.05	115.27	121.91	121.79	109.75	94.47	97.19	109.37	
Jun - 11	100.53	118.49	127.70	124.01	112.61	96.06	98.24	112.63	
Jul - 11	96.14	113.33	120.47	119.88	108.50	90.82	91.86	105.34	
Aug - 11	101.62	113.53	119.10	117.37	110.72	93.25	96.30	109.26	
Sep - 11	100.95	116.22	123.91	124.73	113.32	96.43	97.56	111.03	
Oct - 11	100.85	115.96	125.46	126.21	112.49	92.81	92.55	110.21	
Total Year	96.50	111.70	118.32	117.71	108.00	90.61	91.60	106.15	

Three Year Occupancy (%)									
	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total Year	
Nov 08 - Oct 09	51.6	69.9	79.7	80.2	71.3	66.7	64.4	69.1	
Nov 09 - Oct 10	56.8	74.8	84.8	85.0	75.2	65.7	66.8	72.7	
Nov 10 - Oct 11	57.5	75.6	85.9	86.3	76.0	66.0	68.7	74.0	
Total 3 Yr	55.4	73.5	83.5	83.9	74.2	66.8	66.7	72.0	

Three Year ADR									
	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total Year	
Nov 08 - Oct 09	103.71	121.59	127.68	126.19	115.88	94.31	93.94	113.12	
Nov 09 - Oct 10	97.21	112.78	119.25	118.68	109.73	90.87	90.97	106.94	
Nov 10 - Oct 11	96.50	111.70	118.32	117.71	108.00	90.61	91.60	106.15	
Total 3 Yr	98.91	115.10	121.54	120.67	111.05	91.89	92.13	108.59	

RevPAR									
	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total Month	
Nov - 10	44.03	74.54	89.47	84.72	69.27	50.96	54.62	67.82	
Dec - 10	47.06	66.80	69.56	73.48	58.13	37.99	39.43	56.11	
Jan - 11	41.15	73.81	89.75	92.30	77.24	46.04	38.42	64.14	
Feb - 11	42.16	80.28	96.66	97.63	78.53	50.56	45.97	70.26	
Mar - 11	52.94	89.10	104.60	102.24	77.20	58.44	56.80	79.01	
Apr - 11	57.35	85.16	105.56	107.18	87.84	67.42	69.67	81.91	
May - 11	63.87	86.97	104.37	112.97	89.98	77.59	82.02	87.94	
Jun - 11	67.26	104.36	124.24	115.36	89.35	76.18	80.71	94.48	
Jul - 11	59.61	88.44	106.02	106.99	92.06	71.11	75.61	84.06	
Aug - 11	67.51	88.56	103.91	100.11	84.82	64.24	63.47	83.32	
Sep - 11	65.77	89.88	109.64	113.04	93.19	71.58	75.31	87.95	
Oct - 11	57.46	88.49	116.87	116.91	90.68	66.48	72.19	85.63	
Total Year	55.52	84.49	101.64	101.60	82.13	61.59	62.94	78.57	

Three Year RevPAR									
	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total Year	
Nov 08 - Oct 09	53.52	84.95	101.75	101.17	82.59	62.86	60.46	78.14	
Nov 09 - Oct 10	55.18	84.32	101.17	100.90	82.51	59.72	60.80	77.74	
Nov 10 - Oct 11	55.52	84.49	101.64	101.60	82.13	61.59	62.94	78.57	
Total 3 Yr	54.76	84.58	101.51	101.22	82.41	61.37	61.41	78.15	

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EXHIBIT C
ANNE ARUNDEL COUNTY CONSTRUCTION LIST

NEW & PROPOSED HOTELS

Hotels	Emp#	Location	SF	Description	#Rooms	Status	Contact Info	Contact Phone
Proposed & Under Construction 2010-2011								
Candlewood Suites	not known	7482 New Ridge Rd, Hanover	not known	4 story. SDP approval update 1/11; No activity on pending grading permit since 6/10, no building permit application	140	In Permitting	Not known	Not known
Candlewood Suites	not known	1525 Dorsey Rd, Hanover	56,749	Grading permits issued	100	Under Construction	Not known	Not known
Hampton Inn & Suites	not known	Haie Rd, Odenton/Town Center Commons project	70,000	106 room hotel. Site Development Plan has been submitted	106	In Permitting	Stewart Title, AJ Properties, 8373 Piney Orchard Pkwy, #102, Odenton MD 2113	(410) 551-9116
					Total	346		
Completed in 2006 - 2011								
Hotel	Emp#	Location	SF	Description	#Rooms	Status	Contact Info	Contact Phone
The Hotel	not known	Arundel Preserve, Hanover/Arundel Mills Mall	not known	150 rooms with 8,200 SF of meeting space, projected open July 2011 (former Hyatt Place/Boutique Hotel project)	150	Complete	Southern Management Hospitality Div, Erin Visco-Chapman, 101 Doe Mountain Lane, Macungie PA 18062	(610) 462-4000
Fairfield Inn & Suites	not known	1020 Andover Rd, Linthicum	not known	Open June 2011	107	Complete	Baywood Hotels, Chet Patel, 7871 Belle Point Dr, Greenbelt MD 20770	(301) 345-8700
aloft hotel	not known	7522 Teague Rd, Hanover	77,685	7 story limited service/shared building; open May 7, 2009	142	Complete	Neel Desai, LTD Management Company, 1564 Crossways Blvd, Chesapeake VA 23320	(757) 420-0900
Element Hotel	not known	7522 Teague Rd, Hanover	not known	7 story limited service/shared building; open May 7, 2009	145	Complete	Neel Desai, LTD Management Company, 1564 Crossways Blvd, Chesapeake VA 23320	(757) 420-0900
Hilton Garden Inn/Homewood Suites	84	7458 Ridge Rd @ Dorsey Rd, Hanover	189,768	150 rooms for Hilton Garden, 100 rooms for Homewood Suites, project will have both brands in one building with separate entrances; \$50 million project (opened March 2, 2009)	250	Complete	Buccini Pollin Inc, David Pollin, 2020 K St NW, #800, Washington DC 20006	(202) 835-1400
TownePlace Suites by Marriott	not known	7021 Arundel Mills Blvd, Hanover	not known	109 units/5 story, adjacent parcel to the Hampton Inn & Suites (opened 2008)	109	Complete	RevPar International, Alexandria VA, Peter Lane	(703) 838-9707
Westin Baltimore Washington Airport Hotel	125	1110 Old Elkridge Landing Rd, Linthicum	250,000	260 rooms, behind Embassy Suites, 5,000 SF of flexible function space, open November 2007	260	Complete	Neel Desai, LTD Management Company, 1564 Crossways Blvd, Chesapeake VA 23320	(757) 420-0900
Hilton Garden	not known	Annapolis Tech Park, Annapolis	not known	126 rooms, opened July 2007	126	Complete	Al Patel, Baywood Hotels, 7871 Belle Pointe Dr, Greenbelt MD 20770	(301) 345-8700
Westin	175	Taylor Ave & West St, Annapolis/Park Place	245,000	225 rooms, four-star full service hotel, opened June 2007	225	Complete	Jerome J. Parks Cos, Jeome Parks, PO Box 831, Annapolis MD 21404	(410) 268-4390
Sheraton Baltimore Washington Airport Hotel	105	1100 Old Elkridge Landing Rd, Linthicum	121,903	203 rooms, behind Embassy Suites/Linthicum, 5,000 SF of flexible meeting space, opened May 18, 2007	203	Complete	Neel Desai, LTD Management Company, 1564 Crossways Blvd, Chesapeake VA 23320	(757) 420-0900
Staybridge Suites	not known	1303 Winterson Dr, Linthicum	74,215	105 one & two bedroom studios & suites with fully equipped kitchens, opened April 2007	105	Complete	Al Patel, Baywood Hotels, 7871 Belle Pointe Dr, Greenbelt MD 20770	(301) 345-8700
TownePlace Suites at BWI	not known	1171 Winterson Rd, Linthicum	95,000	136 rooms, opened April 2007	136	Complete	Summit Hospitality Group Ltd, 2200 Summit Park Lane, Raleigh NC 27612	(919) 279-3030
BWI Hilton	250	1737 Nursery Rd, Linthicum	250,000	280 rooms with conference center facilities, opened September 2006	280	Complete	Buccini Pollin Inc, David Pollin, 2020 K St NW, #800, Waddington DC 20006	(202) 835-1400
SpringHill Suites	45	Mills Corp Park, Hanover	65,000	120 rooms, opened summer 2006	125	Complete	Skye Hotels, Jim Drescher, 4940 Campbell Blvd, #110, Baltimore, MD 21236	(410) 931-9050
					Total 2006-2011	2,363		

Completed in 2002-2005								
Hotel	Emp#	Location	SF	Description	#Rooms	Status	Contact Info	Contact Phone
Hampton Inn & Suites	40	7027 Arundel Mills Circle, Hanover/Arundel Mills Mall	74,000	131 rooms, opened fall 2002	131	Complete	Skye Hotels, Jim Drescher, 4940 Campbell Blvd, #110, Baltimore, MD 21236	(410) 931-9050
Residence Inn	50	7035 Arundel Mills Blvd, Hanover/Arundel Mills Mall	92,264	128 suites, opened summer 2003	128	Complete	Skye Hotels, Jim Drescher, 4940 Campbell Blvd, #110, Baltimore, MD 21236	(410) 931-9050
Wingate Inn Hotel	30	1510 Aero Dr, Linthicum/Hock Business Park	67,785	129 rooms, opened spring 2002	129	Complete	Not available	Not available
Courtyard By Marriott	50	2700 Hercules Rd, Annapolis Junction/Nat'l Business Park	84,644	140 rooms, opened winter 2004	140	Complete	Hospitality Partners, Bethesda, MD	(301) 718-6161
Extended Stay America	10	1 S Womack Dr, Annapolis	42,534	101 rooms, opened fall 2004	101	Complete	Extended Stay America, Spartanburg, NC	(864) 573-1600
Extended Stay America	10	104 Chesapeake Center Dr, Glen Burnie	42,000	101 rooms, opened winter 2005	101	Complete	Extended Stay America, Spartanburg, NC	(864) 573-1600
Country Inn & Suites	50	1717 West Nursery Rd, Linthicum	60,000	107 rooms, opened fall 2005	107	Complete	Valcour Inc, Dennis Goodman, 140 Roosevelt Ave, York, PA 17404	(717) 852-7702
SpringHill Suites	45	Admiral Cochrane Dr, Annapolis	66,003	129 rooms, opened fall 2005	129	Complete	Gosnell Development, John Gosnell, 8130 Boone Blvd, Vienna, VA 22182	(703) 893-1211
					TOTAL 2002-2005	966		
					TOTAL NEW HOTEL ROOMS 2002-2011	3,675		

EXHIBIT D
QUALIFICATIONS OF THE CONSULTANTS

Professional Qualifications

DIANE L. BLALOCK

CERTIFIED GENERAL REAL ESTATE APPRAISER

Introduction Diane Blalock specializes in appraisals, market research and competitive analysis for commercial real estate and the hospitality industry. Diane has researched and analyzed the feasibility for a variety of land uses including hotels, motels, destination resorts, conference centers, family entertainment centers and healthcare facilities. Diane specializes in valuation services with a specialty in the hospitality industry and competitive environment analysis.

Education B.A. Degree – University of Northern Iowa, Cedar Rapids, Iowa
Major in Broadcasting, Minor in Business Management
Golden Gate University, San Francisco, California
Masters studies with an emphasis in marketing

Experience Ernst & Associates, Novato, CA
○ Associate, 2001 – To Present
American Broadcasting Company, KSFX FM Radio, San Francisco, CA
○ Entertainment Marketing Coordinator, 1977-1982
American Broadcasting Company, KGO AM Radio, San Francisco, CA
○ Traffic Director, 1982-1985
Good Shepherd Lutheran School, Novato, CA
○ Financial Assistant, 1990 – 2005

Representative Assignments Ms. Blalock has provided significant assistance in connection with the following appraisal and consulting assignments:

Grand Hotel	Sunnyvale, CA
Proposed Hotel	Long Beach, CA
Holiday Inn Select	Fairfield, CA
Proposed Conference Center	Billings, MT
Proposed Convention Center Hotel	Fort Lauderdale, FL
Costanoa Resort	Pescadero, CA
Appraisal of Resort	Calistoga, CA
Proposed Hotel	Napa, CA
Proposed Hotel	Baltimore, MD
Horizons Restaurant	Sausalito, CA
Twin Farms Collection	Barnard, VT
Proposed Hotel	Nashville, TN
Proposed Hotel	Shelton, CT
Proposed Hotel	Short Pump, VA
Proposed Hotel	Tampa, FL
Impact Studies, Best Western	Western United States

Certification: Certified General Real Estate Appraiser, State of California
License #AG039164

Professional Qualifications

SUSAN L. ERNST, ISHC

Introduction

Susan Ernst specializes in real estate consulting and appraisal services. She has over twenty years of experience in the real estate industry, with the majority of her involvement being in the hospitality industry. Clients benefit from her appraisal and consulting experience which includes hotels, resorts, motels, restaurants, clubs, conference centers, as well as other commercial real estate. She is a Certified General Real Estate Appraiser in the State of California and a Member of the International Society of Hospitality Consultants.

Experience

1990- Present Ernst & Associates, Inc., President

Specialize in valuation, market, and feasibility study consulting services in the acquisition, sale, leasing, portfolio management, land use and development planning of investment real estate. Special expertise in hotel and restaurant appraisals and consulting. Assignments have included economy, limited-service, full-service, and luxury hotels, all-suite hotels, resorts, conference centers, and a variety of foodservice projects, including fine dining, casual dining, and fast food restaurants. Also provide appraisal and consulting services with respect to office and retail uses.

1990 Horwath International, Hong Kong, Manager

Provided technical review and training in connection with market, valuation and feasibility studies for hotels.

1982-1989 Laventhol & Horwath, San Francisco, Manager

Prepared market, valuation, and feasibility studies, as well as litigation support services for hotels, restaurants and other hospitality industry-related uses.

1980-1982 Magic Pan Restaurants, San Francisco, Assistant to Controller

Para-professional, financial and marketing analysis in connection with a national restaurant chain comprised of over 100 restaurants.

Associations

- ◆ Member, International Society of Hospitality Consultants
- ◆ Associate, Appraisal Institute
- ◆ Associate Member, Golden Gate Restaurant Association

Certification

Certified General Real Estate Appraiser, State of California
License #AG013254

ATTACHMENT C
LEASING AND FINANCING OPTIONS

AGREEMENTS FOR HOTEL DEVELOPMENT AND OPERATION

Contractual Arrangements at U.S. Airports

Two primary contractual arrangements are used by U.S. airport operators to develop and operate hotels:

1. Lease and concession agreements are the most common arrangement, in which an independent hotel operator holds the equity interest in and management control of the hotel, through a ground lease with the airport sponsor and
2. Management agreements, in which the airport sponsor itself develops the hotel in consultation with a hotel company and contracts for the daily operation and management of the hotel once it is open.

The following sections provide more detail regarding each type of agreement and the factors influencing the selection of the type of agreement, including balancing risk and return, financing options, and procurement restrictions.

Lease and concession agreements

The key features of an airport hotel lease and concession agreement are:

- Independent second-party development, financing, ownership, and control;
- Negotiated financial returns for the airport sponsor; and
- Residual profit retention by the independent owner/operator.

Under a lease and concession agreement, financing and construction of the hotel itself would be undertaken by the private developer; however, the MAA may still be required to provide utilities, road access, and other basic infrastructure to service the hotel. To the advantage of both the airport and the hotel operator, any required infrastructure projects would be able to be financed using the airport's traditional tax-exempt methods, including TTF funds, as described later.

Lease and concession agreements offer the airport sponsor a lower risk/return profile than management agreement structures. Lease and concession agreements allow an airport sponsor to economically benefit from the development of a hotel on airport property while maintaining a minimal role in the financing, development, and operation of the hotel asset. Typical financial terms of such agreements include a base level of ground rent charged to the hotel operator, a "concession fee" charged as a percent of gross revenues at the facility, and a term of between 30 and 50 years. Ground rents vary substantially from market to market, while concession fees typically range between 5 and 10 percent of gross revenues.

Because a private hotel developer independently finances and constructs the hotel facility, financing is typically obtained through conventional private capital markets including, primarily, bank loans. While these financing sources typically carry higher interest rates than municipal bonds available to airport borrowers, the debt does not contribute to the overall debt burden at the airport. However, the higher interest rate carried on the private debt reduces the net profit generated by the operation and, consequently, reduces the concession fee a hotel operator is typically willing to pay to the airport sponsor and the potential return to the airport.

Management agreements

The key features of a hotel management agreement structure are:

- Airport sponsor ownership and control;
- Negotiated management fees paid to a third-party hotel operator, including a possible incentive program; and
- Residual profit retention by the airport sponsor.

Management agreements allow airport sponsors to use airport funds to construct a “shell” hotel building on airport property, often in consultation with a hotel company, and then to hire a hotel operator to furnish and operate the facility for a negotiated fee. As opposed to lease and concession agreements, the airport sponsor retains the equity position in the facility and the rights to residual profits from its operation under a management agreement structure. The combination of low-interest-rate public debt and retention of residual profits have the potential to provide higher financial returns to the airport sponsor; however, this upside opportunity is accompanied by an equivalent risk of poor financial performance.

Since the hotel operator contracted under a management agreement is not incentivized by an equity stake in the operation, such agreements typically include negotiated performance-based incentives in addition to a flat annual management fee. Incentives may be offered for meeting either key financial or operational goals such as defined targets for net revenue, occupancy, or average daily room rate (ADR).

Table 1 below summarizes responsibilities, ownership, and compensation under both structures.

	Lease and concession	Management agreement
Financing responsibility	Hotel developer	Airport
Primary development responsibility	Hotel developer	Airport
Hotel ownership	Hotel developer	Airport
Fixed compensation	Airport	Hotel operator
Rights to residual profits	Hotel developer	Airport

Factors influencing selection of contractual structure

Several advantages and disadvantages of each contractual structure as they relate to MAA are summarized in Table 2 and are discussed in more detail in the sections below.

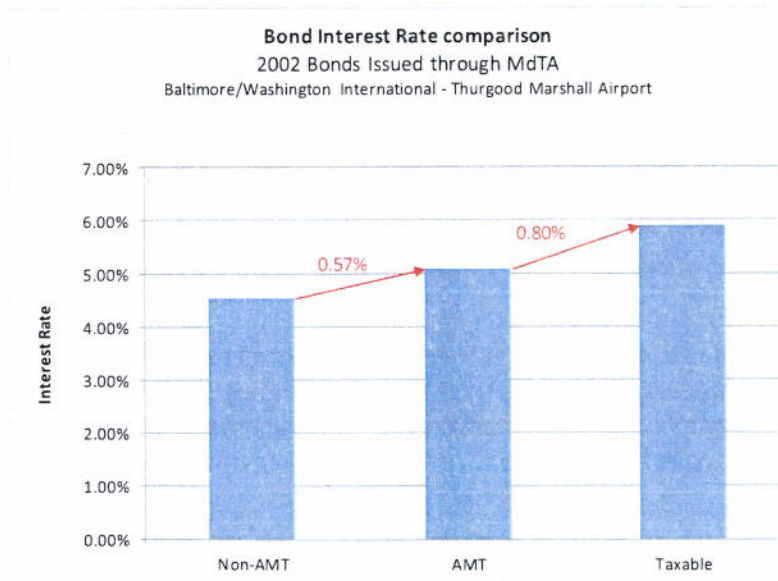
	Lease and concession	Management agreement
Interest rate	↑ Private bank loan or taxable financing	↓ Tax-exempt or AMT debt
Cost to build	↓ No public procurement restrictions	↑ Possible public procurement restrictions
Financial return potential	↓ Negotiated fixed compensation	↑ Residual profit rights

Risk vs. return

The key factor in choosing a hotel contract structure is the level of financial risk an airport sponsor is willing to take on to pursue higher potentials for financial gains. Management agreements, which allow the airport to retain excess net revenues after paying management fees and other expenses, impose no limit on the financial upside that can be achieved by the airport sponsor. On the other hand, management agreements also leave the airport sponsor responsible to make up any shortfalls caused by hotel operating losses.

However, because of the strength of the BWI-area hotel market and the opportunity to develop a new hotel on airport property as discussed in Attachment B, the risk/return profile associated with a management agreement for a new hotel at BWI Airport could be highly favorable.

Airport-issued financing vs. conventional financing



In recent years, airport sponsors have used a broad spectrum of techniques to finance on-airport hotels. Hotels on government-owned land (including airports) can often qualify for tax-exempt or Alternative Minimum Tax (AMT) financing, which has a lower interest cost than taxable bank financing and can be a powerful financial advantage to the project. Furthermore, bond buyers have historically seen airport hotels as an attractive investment, resulting in a healthy supply of capital. The chart to the left illustrates the different interest rates paid by MAA on the issuance of tax-exempt, AMT, and

taxable debt in 2002. As shown, the tax-exempt debt can offer substantially lower interest rates than taxable debt. Since 2002, other airports have seen this differential increase.

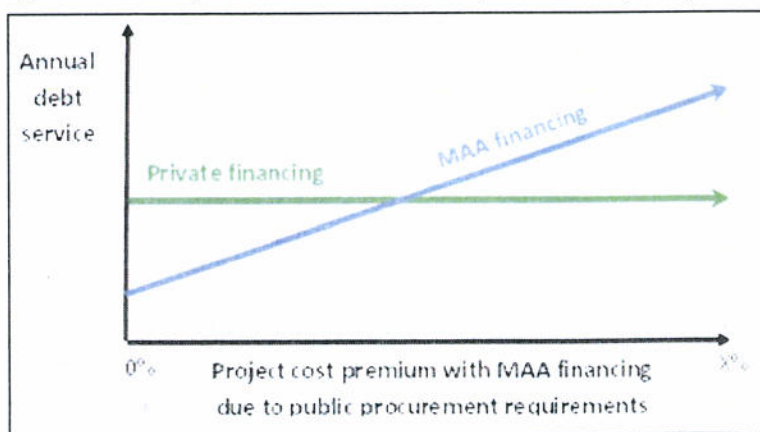
In addition to the interest savings of tax-advantaged debt, interest costs can be lowered further when an airport makes some or all of the required hotel debt part of the airport's consolidated credit, enhancing the creditworthiness of the project. This option is generally unique to airports and is not usually available in other development settings, including most other projects on government-owned land, in which the lender can look only to the revenues of the project and the assurances of the developer/owner, which often is a single purpose entity with a limited balance sheet, as a fallback for payments under the mortgage.

However, the advantages of low-interest airport debt can typically only be accessed when the development is structured as a management agreement in which the airport retains ownership of the hotel. This structure is required in order to satisfy IRS rules preventing the use of public funds to generate private profit. In other words, an airport sponsor is not allowed to use government-purpose debt to finance a hotel development that is owned and managed by a private hotel development company, as would be the case under a lease and concession agreement.

When airport-issued debt is not used to fund the project, hotels are usually financed like most other commercial real estate development. These projects generally use developer/owner equity and bank debt to provide capital for project development. This conventional commercial real estate method of financing, which was used for the existing BWI Four Points by Sheraton, is not the most commonly used method of financing airport hotels in today's environment.

Procurement restrictions

Another major factor influencing the form of the agreement used by an airport sponsor for hotel development is the local public procurement process. Frequently, airport sponsors seek the financial gains inherent in using a combination of tax-exempt financing, design-build contracts, and management agreements only to realize that use of "public money" requires a public procurement process that could



result in higher project development costs and eliminate any financial gain associated with using tax-exempt financing. Common procurement requirements that can increase the cost of a development project include union obligations, Disadvantaged Business Enterprise (DBE) subcontractor requirements, and state minimum wage restrictions. As illustrated on the figure to the left, interest rate benefits can be quickly offset by the greater incremental cost between MAA and private financing.

Using conduit transaction structures that engage local economic development entities can provide greater flexibility in the construction procurement process. The MAA's track record of funding past airport projects through conduit agencies such as the Maryland Economic Corporation (MEDCO) and its familiarity with this process is a significant advantage for the proposed hotel project, which is discussed more fully in the Funding Sources section below.

Considerations regarding existing Creative Inns lease

If a lease and concession agreement structure is the only practical alternative to develop new facilities, the existing Lease Agreement with Creative Inns is not a recommended vehicle for fostering development. As stated above, the provisions of the existing Lease Agreement are obsolete by today's standards for such agreements and the provisions do not adequately protect the MAA's interests over the long term.

If a decision were made to negotiate an extension to the existing Lease Agreement to allow Creative Inns to develop additional hotel facilities at BWI, we would recommend that the entire lease be re-written to comply with a "best practices" approach to the deal. During such a negotiation process, numerous policy decisions would have to be made about core business provisions of the current business structure. As one example, the continuation of the current exclusivity provision should be reviewed and re-considered. However, as is typical in negotiations over essential terms, a seemingly straightforward deal can quickly increase in scope as both sides of the negotiation (the MAA and Creative Inns) expand the set of terms they wish to discuss.

Given the details of the current Lease Agreement, we believe that any negotiation with Creative Inns to facilitate their development of additional hotel facilities that will reasonably protect the MAA's interests (1) will result in extensive effort, and (2) will produce a document that does not resemble the existing agreement.

Leasing and Financing Structures at Other Airports

Table 3 on the following page presents a summary of leasing and financing structures used at other on-airport hotels across the U.S. Airport operators have used a myriad of financing and leasing options to develop hotels. More recent deals have typically used management agreement structures.

Following Table 3, more detailed summaries of the hotel developments at Dallas Fort Worth International, Detroit Metropolitan Wayne County, and Miami International airports are provided. The hotel at Miami International Airport is currently being planned.

Table 3
SURVEY OF ON-AIRPORT HOTELS AT SELECTED AIRPORTS

Airport	Name of Airport Hotel	Year Opened	Rooms	Initial Funding	Hotel Owner/Operator
Baltimore/Washington International Airport	BWI Four Points by Sheraton	1968	201	Private equity and bank debt	Creative Inns
O'Hare International Airport	O'Hare Hilton	1992	858		Leased and operated by Hilton
Orlando International Airport	Hyatt Regency	1992	446	Airport funded	Owned by Airport Authority operated by Hyatt Regency
Detroit Metropolitan Wayne County Airport	Detroit Metro Airport Marriott	1967	156		
Newark International Airport	Westin Detroit Metropolitan Airport	2002	404	Airport Hotel Revenue Bonds	Starwood Hotels and Resorts
Boston-Logan International Airport	Westin Hotel Newark Liberty International Airport	1987	591		
Tampa International Airport	Marriott Hyatt Harborside	1990	270	Airport Special Facility Bonds	Private developer
Philadelphia International Airport	Hilton Boston Logan Airport	1999	599	Hilton	Hilton
Dallas/Fort Worth International Airport	Tampa Airport Marriott	1999	296		
George Bush Intercontinental Airport (Houston)	Philadelphia Airport Marriott	1972	419	Marriott	Marriott
Washington Dulles International Airport	Hyatt Regency	1972	811	Airport Hotel Revenue Bonds	Hyatt Regency
Louis Armstrong New Orleans International Airport	Houston Airport Marriott	1972	566		
Pittsburgh International Airport	Marriott Dulles Airport	1972	368		
Bradley International Airport (Hartford)	Wingate Inn New Orleans Airport	2002	100		Owned by Airport Authority operated with management agreement by Hyatt Regency Wingate
	Hyatt Regency		331		
	Sheraton Bradley Airport Hotel	1987	237		

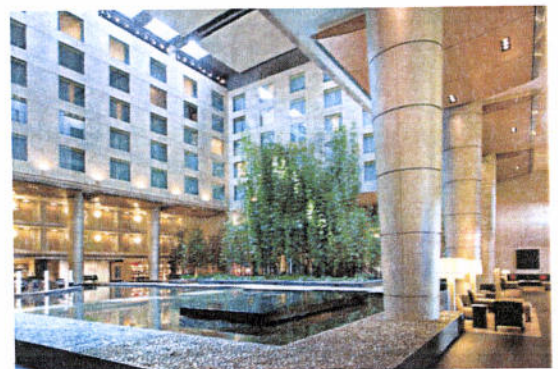
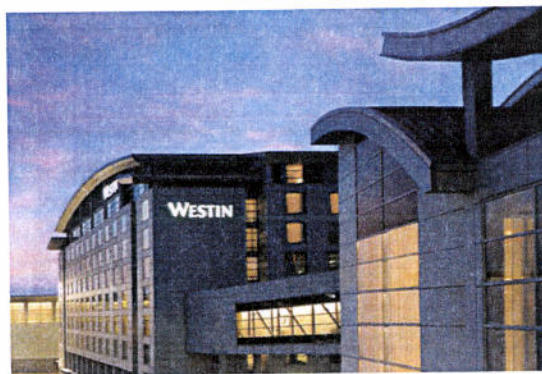
DFW: Hyatt Regency

Airport	Dallas/Fort Worth International Airport (DFW)
Hotel name	Hyatt Regency DFW
Operator	Hyatt Corporation
Asset manager	Woodbine Development Corporation
Rooms	811
Type	First-class, full-service, upscale
Funding	Airport Hotel Revenue Bonds <ul style="list-style-type: none"> Series 2001 – Tax-exempt (\$75.1 million)
Contract structure	Development agreement, management agreement, asset management agreement
Key terms	<p>Development agreement:</p> <ul style="list-style-type: none"> Not detailed in bond document <p>Management agreement:</p> <ul style="list-style-type: none"> Five-year term with two five-year renewals at the option of the Manager Fixed management fee increasing each year in five-year term, then 4% of projected Gross Revenues thereafter during the renewal terms Manager subject to RevPAR Performance Test and Financial Performance Test <p>Asset management agreement:</p> <ul style="list-style-type: none"> Annual Business Plan required for review with DFW staff, including operating and capital budgets Fixed management fee increasing each year in five-year term, then 1/8 of management fee thereafter during renewal terms



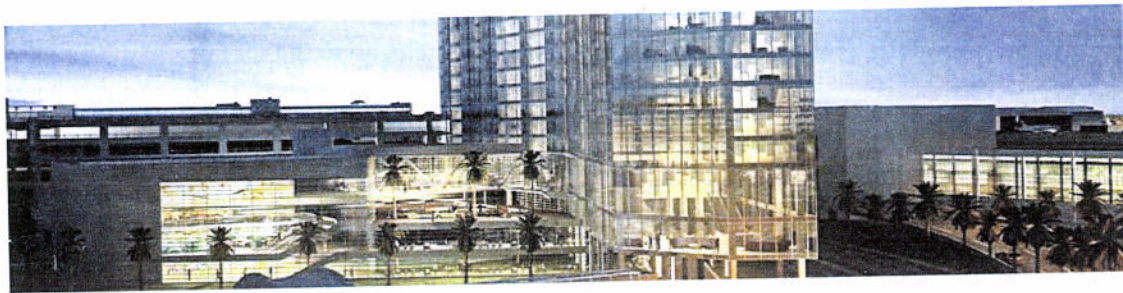
DTW: Westin Detroit Metropolitan Airport

Airport	Detroit Metropolitan Wayne County Airport (DTW)
Hotel name	The Westin Detroit Metropolitan Airport
Developer	Darryl Berger Companies
Operator	Starwood Hotels and Resorts Worldwide
Year opened	2002
Rooms	404
Type	First-class, full-service, upscale
Funding	Airport Hotel Revenue Bonds <ul style="list-style-type: none"> • Series 2001A – Tax-exempt (\$99.6 million) • Series 2001B – Taxable (\$11.3 million)
Agreed development cost	Not to exceed \$85 million
Contract structure	Development agreement and management agreement
Key terms	<p>Development agreement:</p> <ul style="list-style-type: none"> • Subject to DBE/MBE/WBE requirements • Subject to labor agreements <p>Management and operating agreement:</p> <ul style="list-style-type: none"> • Fixed management fee increasing annually through 15th year of operation • Annual operating plan and capital budget required for review by DTW staff • Operator subject to 30% DBE/MBE/WBE subcontractor requirement



MIA: Planned New Hotel Development

Airport	Miami International Airport (MIA)
Hotel name	MIA Airport City <ul style="list-style-type: none"> • Two new hotels in final stages of lease negotiation
Developer	Odebrecht Development
Operator	To be determined
Year opened	Planned est. 2017
Rooms	<ul style="list-style-type: none"> • Hotel 1: Approx. 433 • Hotel 2: Approx. 150
Type	<ul style="list-style-type: none"> • Hotel 1: First-class, full-service, upscale • Hotel 2: Select service
Funding	Private funding to be arranged by developer
Agreed development cost	<ul style="list-style-type: none"> • Hotel 1: Est. \$133 million • Hotel 2: n/a
Contract structure	Lease and concession agreements
Key terms	Lease agreements in final stages of negotiation. Terms unlikely to be made public.



FUNDING SOURCES

MAA has traditionally issued airport debt through various Maryland conduit funding agencies. Recent bond issues at BWI Airport are summarized in the following table:

Maryland Department of Transportation Trust Fund (MDOT TTF)				<u>10-yr. yield*</u>
2004	Certificates of Participation	15,500,000	Non-AMT	3.53%
2010	Certificates of Participation (Re-funding)	19,610,000	AMT	3.99%
Maryland Economic Development Corporation (MEDCO)				
2003	Lease Revenue Bonds	223,700,000	AMT	4.39%
Maryland Transportation Authority (MdTA)				
1994A	Special Obligation Revenue Bonds	112,545,000	AMT	6.20%
1994B		50,035,000	Non-AMT	6.10%
2002	Taxable Limited Obligation Revenue Bonds	117,300,000	Taxable	5.89%
2002A	Airport Parking Revenue Bonds	88,500,000	Non-AMT	4.52%
2002B		175,575,000	AMT	5.09%
2003A	PFC Revenue Bonds	64,100,000	Non-AMT	not available
2003B		5,600,000	AMT	not available

* or nearest year between 8 and 12 year term

The financing rounds summarized above included taxable, AMT, and Non-AMT projects. However, the three funding agencies have varying levels of suitability to finance a hotel development project for BWI.

Maryland Economic Development Corporation (MEDCO)

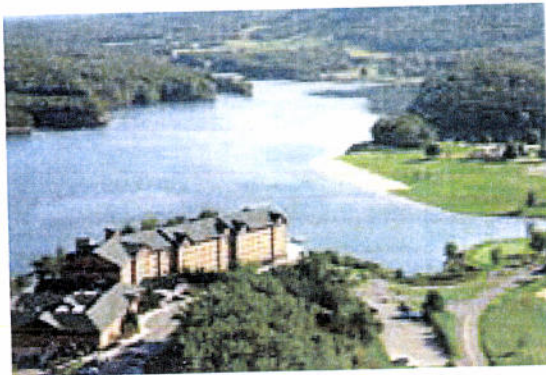
The Maryland Economic Development Corporation appears to be an excellent potential financing partner for a new BWI hotel development since its primary purpose is to partner with state organizations and agencies to stimulate economic activity and promote business development. The stated legislative purposes of MEDCO include encouraging the increase of business activity and commerce and a balanced economy in the State, helping to retain and attract business activity and commerce in the State, and promoting the health, safety, right of gainful employment and welfare of residents of the State. Furthermore, the General Assembly intends that MEDCO operate and exercise its corporate powers to, among other things, lend the proceeds of bonds to other persons to finance the cost of acquiring or improving projects.

Additionally, MEDCO has previously financed hotel development projects, including the Hyatt Regency Chesapeake Bay and the Rocky Gap Lodge & Golf Resort, as profiled below.



Hyatt Regency Chesapeake Bay

The Hyatt Regency Chesapeake Bay is a luxury golf resort, spa and marina located in Cambridge on the Eastern Shore of the Chesapeake Bay. The resort offers 400 rooms, 35,000 square feet of meeting and banquet space, six food and beverage outlets, an 18-hole championship-level golf course, a 150-slip marina, an 18,000 square foot spa, an extensive swimming pool, and a children's recreation center. MEDCO has retained Hyatt Corporation as manager.



Rocky Gap Lodge & Golf Resort

Rocky Gap Lodge & Golf Resort is located in Maryland's Alleghany Mountains and offers an 18-hole signature golf course, a 243-acre lake, and a AAA 4-diamond resort lodge. Guests regularly visit the mountain resort on a short drive from Baltimore, Washington, or Pittsburgh. MEDCO has assisted the project since initial financing phases began in 1996 and currently retains Crestline Hotels & Resorts as manager.

Maryland Department of Transportation Trust Fund (MDOT TTF)

Transportation needs in Maryland are funded from an integrated account called the Transportation Trust Fund. The Transportation Trust Fund was created in 1971 to establish a dedicated fund to support the Maryland Department of Transportation (MDOT). All activities of the Department are supported by the Trust Fund, including debt service, maintenance, operations, administration, and capital projects. Sources of funds include motor fuel taxes, vehicle excise (titling) taxes, motor vehicle fees (registrations, licenses and other fees), and federal aid. Bonds are issued to support the cash flow of projects in the capital program while maintaining debt coverage requirements.

However, activities funded by the Trust Fund are typically pure transportation projects such as roadways, bridges, and toll facilities. For this reason, it is unlikely that seeking hotel financing directly from the Transportation Trust Fund will be the preferred course.

Maryland Transportation Authority (MdTA)

The third funding agency with which MAA has partnered in the past is the Maryland Transportation Authority (MdTA), which has statutory responsibility to supervise, finance, construct, operate, maintain and repair transportation-facility projects. The agency has the legal authority to enter into partnership agreements on its own behalf or on behalf of other agencies within MDOT, allowing the MdTA to supplement MDOT's Transportation Trust Fund. The MdTA's projects and services are funded through tolls paid by customers who use the agency's facilities, other user revenues and the proceeds from toll revenue bonds issued by the MdTA. The MdTA may issue either taxable or tax-exempt municipal bonds to finance the cost of large-scale projects that would otherwise exceed current available operating revenues.

Though MdTA maintains the Transportation Public-Private Partnership (TP3) program to supplement traditional transportation resources and project management structures, the program's focus on pure transportation facilities suggests that hotel development would be considered out of scope. In order to be eligible for TP3 funding, a project must:

1. Be considered Airport facilities, Port facilities, Railroad facilities, or Transit facilities
2. Be compatible with and eventually become part of the MDOT Consolidated Transportation Program and Maryland Transportation Plan
3. Be considered part of the State transportation system

These qualifications present significant hurdles for a hotel development project at BWI and make it likely that a funding source with a better matched organizational objective, such as MEDCO, should be pursued.

Next Steps to Maximize Returns to MAA

Lease and concession agreements are much more straight forward to implement. However, two key conditions at BWI Airport warrant continued review of the management agreement structure:

- First, BWI Airport is positioned as a key driver of demand for hotel rooms in an exceptionally strong hotel market, which makes the higher return potential of a management agreement structure more appealing.
- Second, MAA has more experience with conduit financing structures than other airports and an established relationship with MEDCO financing. MEDCO has supported these types of financings in the past.

In the long run, we believe the best approach for MAA to maximize the revenue and financial returns generated from hotel rooms at BWI is to adopt policies that will ensure the following:

- Determine whether or not the MAA has the flexibility to take advantage, either directly or indirectly, of tax-exempt financing and hybrid development transactions that involve management contracts.
- Confirm the framework for financing a new hotel within the framework of management/operating agreements and where the MAA would like to be on a spectrum of "lease and concession" versus "management" agreements. The compensation to be paid under any given model is best maximized through a competitive process or an independent appraisal process.
- Balance remaining economic life of BWI Four Points with facility concerns. BWI Four Points is a valuable asset that does have economic life beyond the current expiration date of the Lease Agreement. Developing a strategy for realizing the value of that asset before and after the scheduled expiration date of the Lease Agreement while ensuring the maintenance of a quality facility is essential to maximizing the return from hotel operations. Renegotiate Creative Inns lease to comply with a "best practices" approach to the deal. During such a negotiation process, numerous policy decisions would have to be made about core business provisions of the current business structure. More information is needed regarding the benefits of converting that property to another land use.

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