The Business Case for Biometric Air Exit

Apex AEER Business Case Analysis Team

Homeland Security
Science and Technology

Kevin McCarthy

Economic Analysis Task Lead
Apex AEER Program
Science and Technology Directorate

Agenda

- Business Case Analysis Overview
- Background
- Apex AEER Economic Impact Assessment
- Apex AEER Business Case Analysis
- Questions

Homeland Security
Science and Technology

What is a Business Case Analysis?

- "A Business Case Analysis (BCA) is a structured methodology and document that aids decision making by identifying and comparing alternatives by examining the mission and business impacts (both financial and non-financial), risks, and sensitivities. BCAs may be somewhat different from other decision support analyses through their emphasis of the enterprise wide perspective of stakeholders and decision makers and assessment of the holistic effects impacted by the decision."[1]

1 - *DoD Product Support Business Case Analysis Guidebook*, April 2011

Homeland Security
Science and Technology

Why Do It?

Besides being a sound investment management practice that ensures sufficient critical thinking is done before committing significant resources, it's the law.

Legislation and Guidance requiring disciplined approach to selection and management of capital investments include:

- **The Clinger Cohen Act of 1996**
- **The Federal Acquisition Streamlining Act of 1994**
- **OMB Circular A-130**
- **OMB Circular A-94**

Why do I need to do this paperwork? I have funding. I already know the best solution, and I want to buy it!!

Homeland Security
Science and Technology

Choosing the Appropriate Analysis

Key Factors

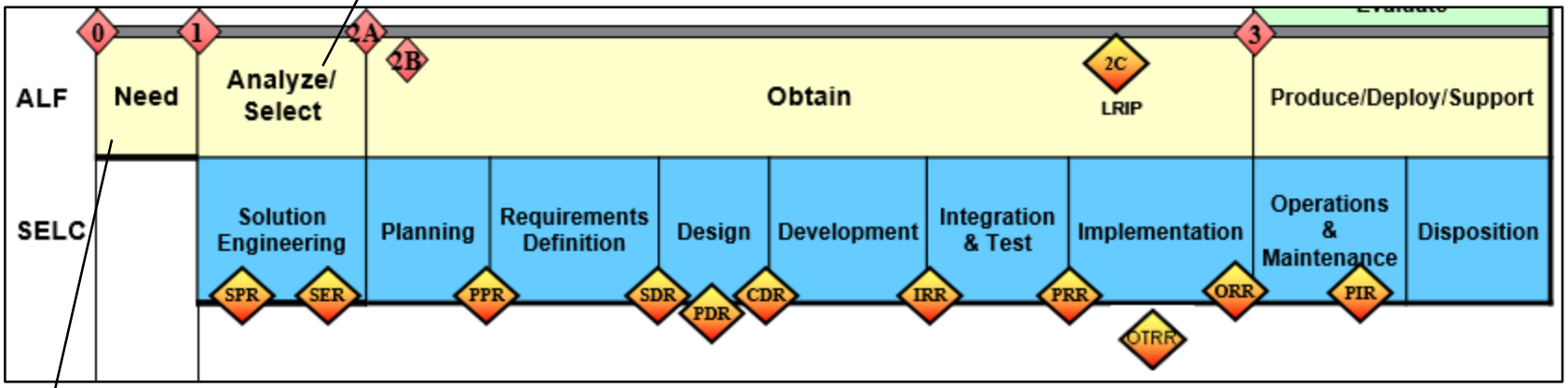
- Agency guidance
- Lifecycle position
- Decision event

Economic Analyses

- Analysis of Alternatives (AoA)
- Alternatives Analysis (AA)
- Cost Benefit Analysis (CBA)

Decision Output

Preferred Alternative to Acquire



Economic Analyses

- Conceptual BCA
- Economic Impact Assessment

Decision Output

Feasible Solutions to Analyze/ Test

Homeland Security
Science and Technology

Apex AEER Economic Impact Assessment

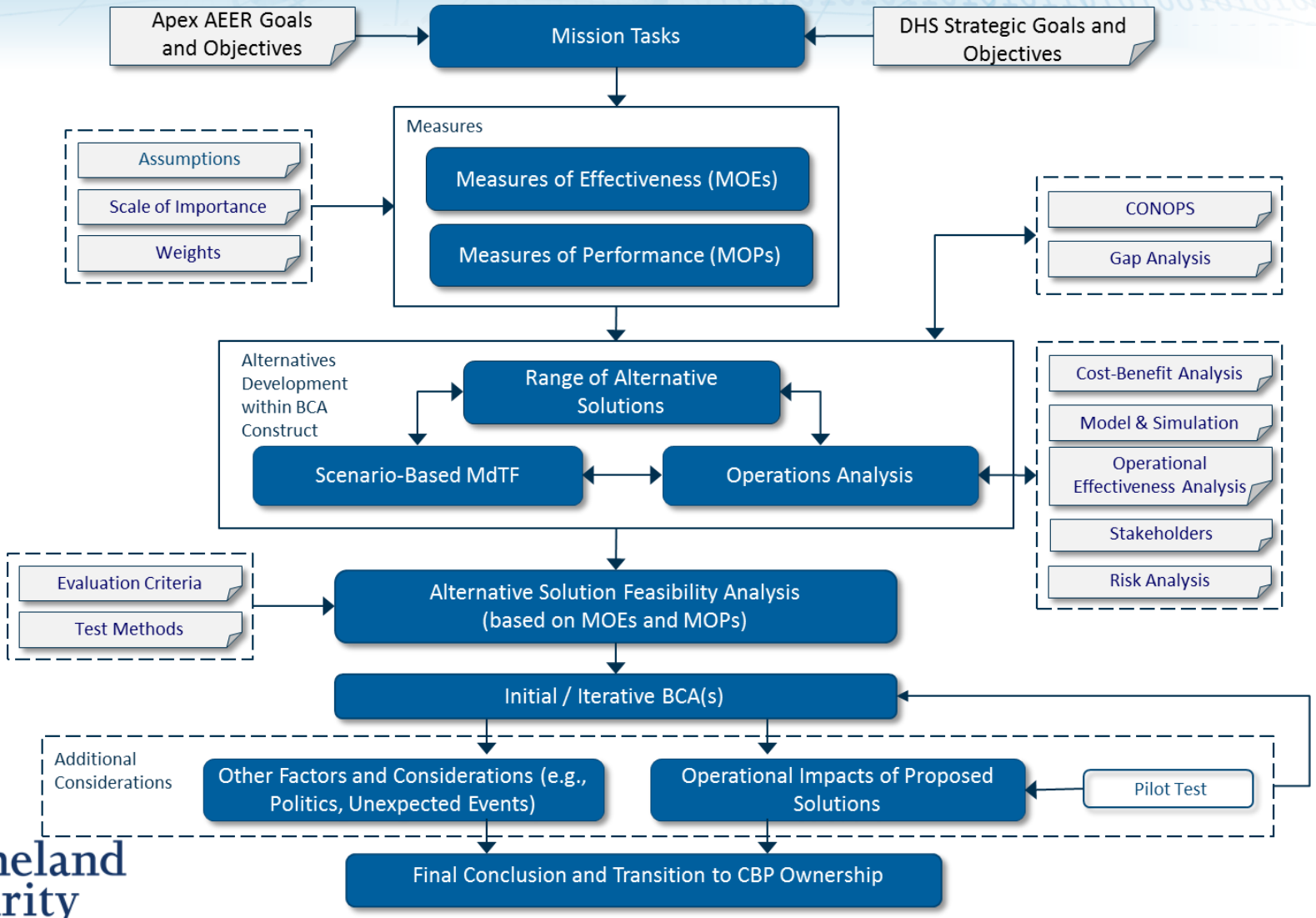
Economic Impacts of Biographic Exit (the As-Is)

DHS Strategic Goal/ Objective	Biometric Exit Goal/ Mission Task	Performance Impact	Economic Impact
Prevent Unlawful Immigration/ Eliminate systemic vulnerabilities	Accurately match arrival and departure records	Ability to accurately determine overstays	• Resources required to analyze unconfirmed overstay backlog • Resources required to investigate "false alarm" in-country overstays • Economic cost of crimes committed by dangerous in-country overstays
Preventing Terrorist Attacks/ Protect against terrorist capabilities	Strengthen CBP's law enforcement capabilities	Ability to accurately identify dangerous individuals in a timely manner	• Qualitative value of inaccurate watchlist detection, (i.e., lost opportunity to disrupt terrorist plots)

Homeland Security
Science and Technology

Apex AEER BCA

Approach



Homeland Security
Science and Technology

Apex AEER BCA

Potential Benefits of To-Be Biometric Exit Solutions = Cost Avoidance of the Economic Impacts

DHS Strategic Goal/ Objective	Biometric Exit Goal/ Mission Task	Performance Impact	Economic Impact
Prevent Unlawful Immigration/ Eliminate systemic vulnerabilities	Accurately match arrival and departure records	Ability to accurately determine overstays	• Cost avoidance of resources required to analyze unconfirmed overstay backlog • Cost avoidance of resources required to investigate "false alarm" in-country overstays • Cost avoidance of economic cost of crimes committed by dangerous in-country overstays
Preventing Terrorist Attacks/ Protect against terrorist capabilities	Strengthen CBP's law enforcement capabilities	Ability to accurately identify dangerous individuals in a timely manner	• Qualitative value of improved watchlist detection, (i.e., improved opportunity to disrupt terrorist plots)

Homeland Security
Science and Technology

Apex AEER BCA (Continued)

Potential Costs of To-Be Biometric Exit Solutions

Cost Category	Cost Elements	Impact on Lifecycle Cost*
Biometric Capture Technology	• Biometric capture hardware • Apparatus/infrastructure housing • Software/algorithm • Labor for installation, test, integration and training	Low (1% to 12% of total cost)
Back-End Matching System	• Matching hardware • Matching software, including multi-modal • Transaction management middleware • Data storage architecture • Biometric examiners and tools	Medium (15% to 46% of total cost)
IT Infrastructure	• Expanded data center footprint • Local Area Network uplift	Low (1% to 6% of total cost)
CBP Officers/ Staffing	• Program Management • Biometric exit solution oversight workforce • Law enforcement response	High (36% to 85% of total cost)

* - Percent ranges reflect the low and high values for 20 different cost scenarios

Homeland Security
Science and Technology

Apex AEER BCA (Continued)

Potential Disbenefits of To-Be Biometric Exit Solutions – Standard Process Delays

Disbenefit	Performance Impact	How Measured
Increased traveler wait time due to standard process	• Opportunity cost of traveler time spent waiting in queue and executing process	• DOT hourly value of time savings × additional time required for each traveler × total number of impacted travelers
Increased flight delays due to standard process	• Direct operating cost to airlines of impacted aircraft (adjusted) • Induced economic impact • Cost to travelers for missed connections	• Direct operating cost per minute (per Airlines for America) × average delay in minutes × total number of delayed flights • Total cost of delays to airlines × induced economic impact factor (per Senate Joint Economic Committee) • Number of delayed travelers with connecting flights × average cost per missed connection (hotel, meals, etc.)
Lost airport retail revenue due to standard process	• Decrease in traveler dwell time in airport retail leads to decrease in airport retail sales	• One minute of dwell time is worth 1% in airport retail sales per passenger • Total in-scope airport retail revenue × 1% × percentage of international traveler volume × percentage of departing traveler volume

Apex AEER BCA (Continued)

Potential Disbenefits of To-Be Biometric Exit Solutions – Law Enforcement Process Delays

Disbenefit	Performance Impact	How Measured
Increased flight delays due to law enforcement action	• Additional time required to retrieve baggage when a dangerous individual is detected may delay flights	• Direct operating cost per minute (per Airlines for America) × average delay in minutes × total number of delayed flights • Total cost of delays to airlines × induced economic impact factor (per Senate Joint Economic Committee)
Increased traveler wait time due to law enforcement action	• Opportunity cost of traveler time during flight delay • Cost to travelers for missed connections	• DOT hourly value of time savings × additional time required for each traveler × total number of impacted travelers • Number of delayed travelers with connecting flights × average cost per missed connection (hotel, meals, etc.)

Homeland Security
Science and Technology

Questions

Homeland Security
Science and Technology

Homeland Security

Science and Technology