

Policy Analysis and Modeling Briefing



October 21, 2008

Outline

- Rationale
- Basis of Estimate
- Current Results
- Next Steps

Rationale

- NextGen
 - Unprecedented scope and complexity
 - Requires unprecedented coordination
 - Multiple congresses/administrations
 - Multiple market dynamics
- History
 - Technology R&D plans properly formulated
 - Policy/organizational issues underestimated

“Pacing” Challenges

- Culture/Roles Transition
- Research and Development Bandwidth
- Infrastructure Upgrades
- Facility Consolidation and Realignment
- Interoperability/Equipage
- Safety and Security
- Rules of the Road
- Environment Management
- Airport Capacity
- Budget Alignment/Stability

Current Basis of Estimate Database

- US Federal Highway System
- Cockpit crews of 3 to 2
- ADS-B Implementation
- New York TRACON facility
- Terminal Doppler Weather Radar
- Defense Base Realignment and Closure (BRAC)
- TCAS Implementation
- Air Traffic Controller's Strike in 1981
- Pilot Required Retirement Age
- Collaborative Decision Making Program
- Recent New York Lawsuits

Policy Initiative Tracking Method

Assess → Assist → Monitor → Report

Overall Process:

- **Assess** Policy Issue (PI) maturity and quality
- **Assist** where needed at each phase to help mature an issue or create leverage for progress
- **Monitor** progress, including timeliness and quality
- **Report** status to increase visibility and create leverage for action/intervention as needed

Assessment Methodology

- Development of IWP Policy Issues and “Pacing 10” to be evaluated against **three criteria**:
 - 1)Maturity:** At what stage is the decision?
 - 2)Quality:** How well do solutions serve involved stakeholders, decision makers, and dependent NextGen activities
 - 3)Timing:** On schedule in relation to dependencies?
- **Overall Assessment:** “Stoplight”

Maturity Measures

1.	Responsible program office
2.	Supporting budget confirmed
3.	Work plan
4.	Range of policy alternatives and evaluation criteria
5.	Supporting analysis
6.	Down-select policy options
7.	Stakeholder input/acceptance
8.	Refined policy recommendations down-selected
9.	Decision-making path and acceleration strategy
10.	Implementation

Quality Measures

- **Sufficient budget** support available?
- **Schedule** on track?
- **Associated OIs/ENs** enabled?
- **Stakeholder feedback** incorporated;
acceptance **risk mitigated**?
- **Decision maker engagement** strategies?

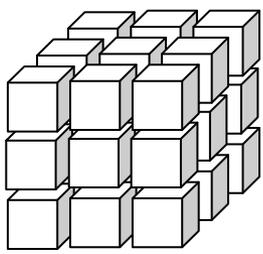
Timing Measures

- Time to **Initial Decision Date**?
- Are **dependent OIs/ENs** in jeopardy?
- Is an effective decision **viable** given the time available?

Web Based Policy Dashboard

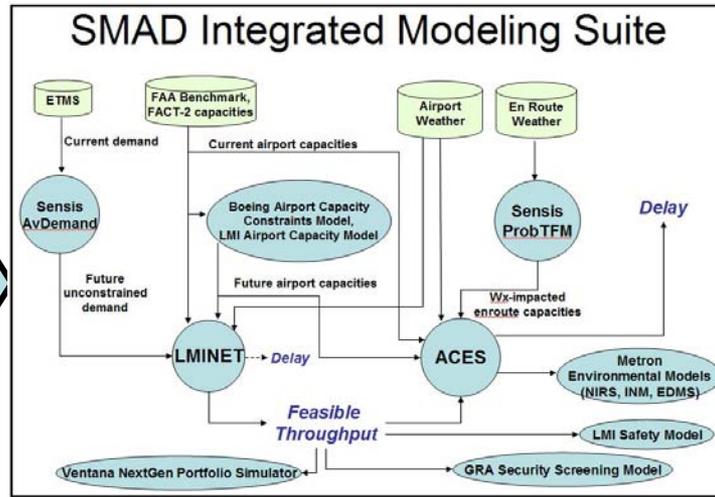
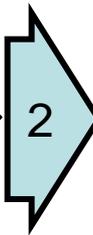
Policy Title	Culture/Roles Transition	Infrastructure Upgrades	NextGen Facilities	Inter-operability - Equipage	Test & Deployment Bandwidth	Safety Assurance Capabilities	Budget Alignment Stability	Rules of the Road	Environ. Mgmt
Policy Description	Applies where personnel within the ATM must significantly change their role, responsibility, or method or operations.	Assumed to apply only to ground infrastructure/automation, not flight deck (avionics)	Assume that INABILITY to flexibly reallocate resources might limit future capacity increases.	Applies where new system capabilities are required in order to implement the Operational Improvement	Applies for OI's where there are 3 or more in the same year	Applies for OI's where there is any significant change in the current operation paradigm or significant increase in the use of automation.	Based on estimated past allocations. Not modeled in the HD Case Study	OI clearly "determine[s] priority among NextGen operations and for managing traffic" (from Rules of the Road defn) OR has PI-0007 (Rules of the Road) as a Prereq OR has another OI requiring RotR as a prereq.	Green - any OI that is defined to increase capacity for airports or airspace. White - any OI that is expected to reduce the environmental impact.
Percentage Complete Estimate	5%	10%	10%	3%	5%	1%		1%	20%
Estimated Completion Date									
Policy Rank (Historical based)	210	170	40	207	390	340		111	370
Number of OIs Affected									
Est. Optimistic Effort Timeframe	5 years	2	3	4	3	7	95%	2	3
Est. Historical Effort Timeframe	15	5	12	7	10	10	50%	8	10
Est. Conservative Effort Timeframe	25 years	15	20	15	20	20	25%	12	15
Decision Maker/s Identified	No	Partially	Yes		Partially				Partially
Decision Criteria Identified	No	Partially	Yes		Partially				Yes
Policy Closure Responsibility Assigned	No	No	No		No				Partially
Completion Strategy & Scheduled Identified	No	No	Initial		No				No
Sufficient Resources Allocated	No	Low	No		No				Significant
Needed Agreements in Place	No	In Progress	No		N/A				Some
Needed Information Available	No	Some	Initial		Partially				In Progress
Appropriate Visibility Level Established	Low	Medium	Low		Partially				High
Progress Status	ATCA Conference Panel Discussion	Initial Cost Analysis Completed 4/2008	JPDO Costing In progress		Gap Identified at OEP Review Board 2/2008				RoI in progress
State Change since Last Check	No Change	Item 1	Item 17		Item 8				Item 9
Next Target Milestone	Identification of Decision Makers	Responsibility Assignment	Cost Estimate		Responsibility Assignment				Target Level Decisions
Current Gap/Challenge	Identification of Decision Makers	Consensus on Benefits	Responsibility Assignment		Completion Strategy & Schedule				Completed Closure Plan
Look Ahead: Next Gap or Challenge	Decision Criteria Identified	Full Decision Criteria Definition	Contract Issues		Funding/Training Resources Procured				Portfolio Assessment
Comments									



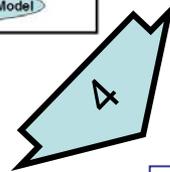
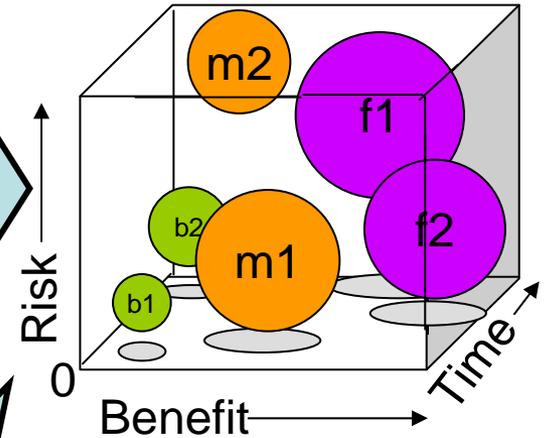


JPDO
Enterprise
Architecture

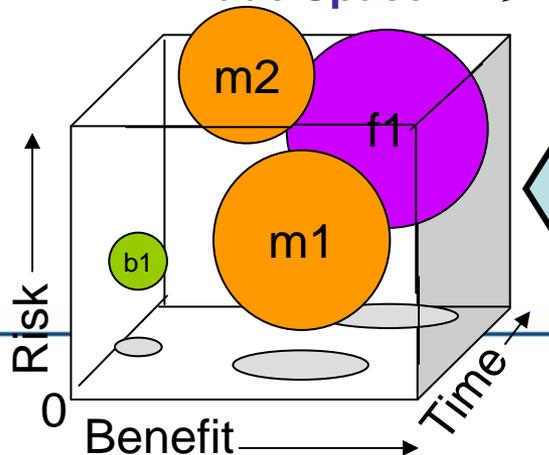
High Density Case Study Simulation Approach



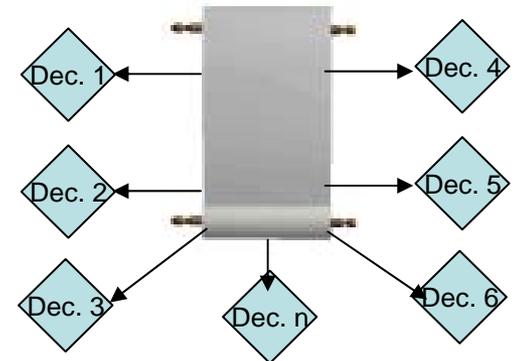
Technology Trade Space



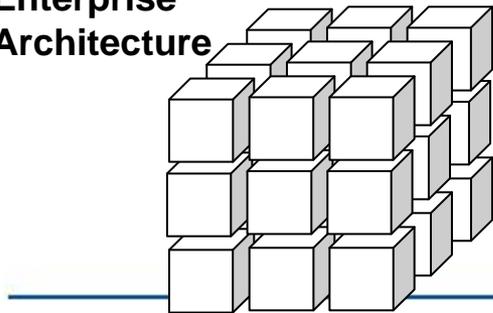
Full Portfolio
Trade Space



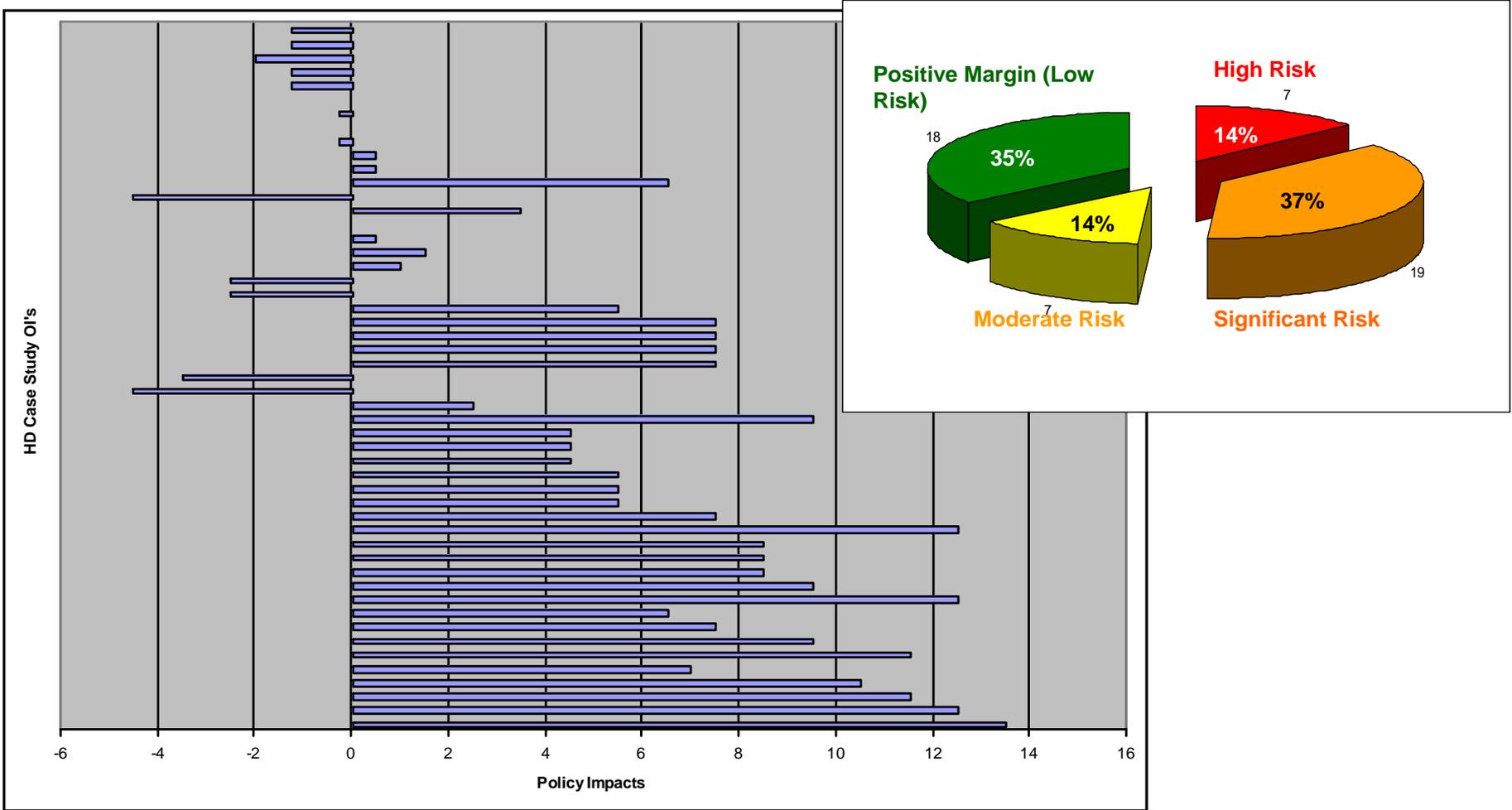
Policy/Key Decision Models



Updated JPDO
Enterprise
Architecture

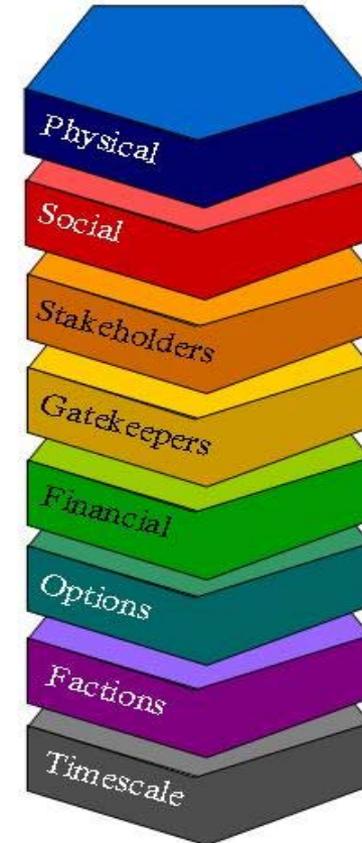


Current Results



Policy Model Structure

1. Degree of Physical change from current state
 - A. Degree of Theory Change
 - B. Degree of Location/Structure/Configuration Changes
2. Degree of Social changes from current state
 - A. Degree of Historical Vector Deviation
 - B. Degree of Cultural Norm Changes
 - C. Degree of Stature or Hierarchical Change
3. Number of Stakeholders
4. Number of Gatekeepers
5. Financial/Economic Magnitude
6. Number of Options
7. Number of Factions
8. Timeline Scale



Current Status and Plans

1. Policy Initiatives have been updated in the Enterprise Architecture
2. Simulation will be re-run to update results
3. Tracking and dashboard systems to help manage policy and strategic decision risks
4. Dedicated policy model to increase fidelity of strategic policy and decision risks

Thank You

