Systems Project on Basic Redesign of Airport Security

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Summary Description

The airport security system that has been in place for 4.5 years imposes considerable burden on passengers, is very costly, and has important weaknesses. This project will examine that system from a fundamental level of assessing potential threats, considering various approaches to passenger risk assessment, and then use various forms of screening appropriate to the passenger's risk, all with the objective of maintaining at least the current level of security, reducing passenger inconvenience, and reducing cost.

The project will be done with the cooperation of TSA at the Pittsburgh International Airport and with the national TSA headquarters.
Current Airport Security

- Controlled by TSA of Dept of Homeland Security
- Designed to stop hijackers
  - “Fighting the last war”
  - Not likely to see many hijacking attempts
- A major current threat is explosives
- Long queues and many passenger hassles
  - Little passenger differentiation except “selectees”
Have studied airport security in previous Systems projects

- SWIFT design of what is now called “registered traveler”
  - Apply for security clearance and get card with biometric info for minimum screening
  - Estimated 40% of travelers would buy
- Studied cargo screening with random screen
- Current year: redesign of queuing system and greater use of Alternate Checkpoint
  - Also improved scheduling of screeners
TSA would like a basic rethinking of the entire security process

- Threats have changed and screening system has largely remained stagnant
  - Recent change re small screwdrivers and scissors
- Encouraged by FSD at TSA/PIT
  - He has agreed to meet with us frequently
  - He is working closely on these issues with the Director of TSA in DC
  - Encouraged by TSA Director based on experience with past Systems projects
Probably Need Three Teams

1) Passenger Risk Assessment
   - Low risk – Use SWIFT-type card and low screen, etc.
   - High risk – Use “watch lists”, etc., for tighter screen

2) Screening technologies
   - Special concern for explosives

3) Threat Assessment Team
   - Identify potential terrorist threats
   - Challenge other teams’ designs (“Red Team”)

Aggregate: Cost-benefit analysis of designs
   - Especially assess burden on passengers
   - Can enhance security and may not reduce it
Appropriate Skills Needed

- Creative System Design
- Management Science (e.g., queuing)
- Technology
  - Information technology to assess alternatives
  - Screening technology
- Cost-Benefit Analysis
Potential Impact

- Could reshape screening process in a major way
  - More likely, will stimulate major rethinking
  - More likely, will introduce new concepts into the screening process
- Probable briefing in DC with TSA Director
  - He has indicated a clear interest in the project