Traffic Flow Management Wrap-up

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Key Findings from 2010

- **San Francisco Stratus research**
  - Objective was to simultaneously consider weather modeling, traffic flow modeling, and operational practices
  - NASA developed vision, problem statement, and selected NRA

- Analysis complete: shows promise to save $4.8M/year ($9.6M with line of flight consideration) and 19% reduction in delayed flights (1092 hours/year)

- Stand alone, web-based decision aid was created and can be accessed through NWS website (provided to NWS and FAA)

- Operational shadow assessment being planned with the FAA for the 2011 stratus season
Key Findings from 2010

- Optimization-based scheduling models can reduce NAS delays by over 40% compared to current operations

- Weather information must be translated, not simply displayed, to achieve maximum benefits

- Failure to consider the integrated impact of traffic management initiatives can lead to over 50% of flights being “double delayed”, as commonly occurs in current day operations (DFW and ATL Case Studies)
What are the most important TFM integration opportunities to pursue?

- Weather Integration
  - Integration with existing FAA Decision Support Tools
  - Integration with NASA simulation systems (e.g., FACET)

- TFM + Arrival Scheduling
- TFM + DAC
- Others?
Future Research Activities

High Technical Readiness Level Activities:

• Are there HITLs that we should consider running?
• Are there opportunities for operational engineering or shadow assessments?

Low Technical Readiness Level Activities:

• Weather translation models
• Environmental impact modeling
• Scheduling and routing
• Flight prioritization techniques