AIRSPACE MANAGEMENT SYSTEM METRICS & POLICY

- Rapporteur: George Donohue
- Attendance: 30 - 35
- 16 Papers in 4 Sessions
  - US : 11
  - Europe: 4
  - Joint : 1

Airspace Management
System Metrics & Policy

SESSION CHAIR	PAPERS	TOPIC
Ved Sud	4	Capacity & Metrics
Bernard Miallier	5	Economics & Policy
Steve Bradford	4	Airspace Modeling
Dominique Colin de Vediere	3	Air Traffic Flow Management

Summary Observations

- **Capacity & Metrics**
  - **A Maximum Operational Capacity Exists & is a Function of Infrastructure & Controller workload**
  - **Easy to Measure, Meaningful Metrics are Difficult to Identify**
  - **Controller Workload needs a more Transparent Metric**
  - **Passenger Service Metrics are Lacking**
  - **Direct Benefits of Enroute Conflict Detection are Difficult to measure**

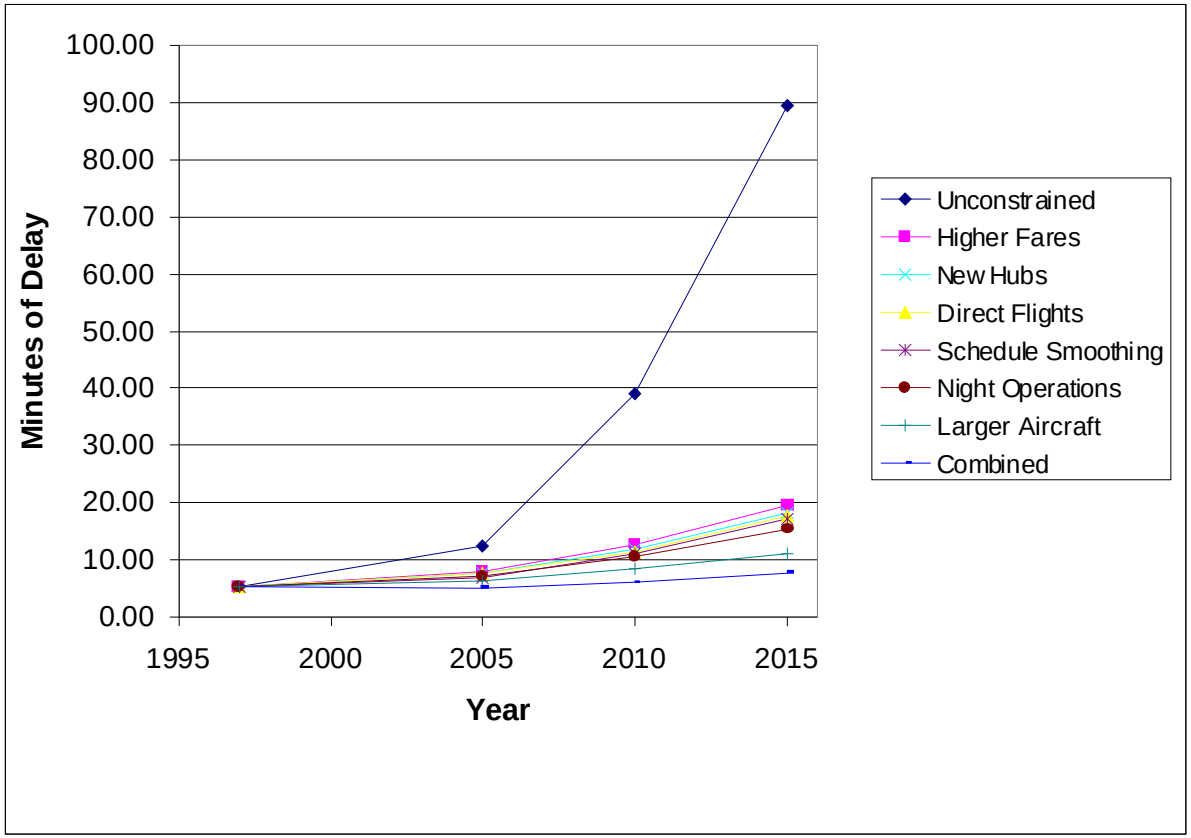
Summary Observations (cont.)

- **Capacity & Metrics (cont.)**
  - **US & European Systems are very Similar, BUT**
    - **US is VMC separation Capacity Limited by Terminal Airspace and Airports**
    - **Europe is IMC separation Capacity Limited by Enroute Sector Workload**
    - **Average Flight Distance and Flight time are the same but European sector transit times tend to be shorter**

Summary Observations (cont.)

- **Economics & Policy**
  - **Most High Cost Delays in US Occur Less than 20% of the time (weather initiated, night recovery required)**
  - **Approx.. $3M/Day of Delay Should be Expected even under Good weather conditions**
  - **Delays and Cancellations are Preferred over Diversions**
  - **Officially Projected Operational Growth Rates are Probably NOT Achievable (even w/ Adv.. Tech.)**
    - **Best Option: Mix of Tech., Scheduling, Add. Hubs & Larger A/C**
    - **Congestion Pricing could help**
    - **Ticket Price increases less likely response to Capacity Shortfall**

LMI Delay Predictions for Alternative Future Options



Summary Observations (cont.)

- **Airspace Modeling**
  - **Various Optimization Techniques are being Investigated**
    - **to Decrease Controller Workload**
    - **to Improve System Strategic and Tactical Planning, Timing**
  - **Random System Perturbations can have a Significant Negative Effect on Optimization Performance**

Summary Observations (cont.)

- **Air Traffic Flow Management**
  - **Both Centralized Computer Optimization Techniques and Decentralized CDM are under evaluation**
  - **CDM schedule compression under GDP is seen as successful**
  - **CDM is demonstrating improved On-Time-Perf. Under GDP**
  - **Large Number Flt. Cancellations under GDP**
  - **Flt. Canc. Notifications 90 min. sooner w/ CDM**

Personal Observations

- **Growing Understanding of the Limits to Operational Capacity**
- **More Sophisticated Meterics Emerging**
  - **Much work Still to be done**
- **Stop Proliferation of new Models**
  - **Validate good existing models**
- **CDM very Encouraging**
  - **May have some perverse effects in unregulated markets**