
The Multi-User Optimized Traffic Flow Problem

Jennifer Goodhart and Candace Yano

Industrial Engineering and Operations Research

University of California-Berkeley

NEXTOR Research Symposium

December 10, 1998

Situation: En Route Congestion

- Congestion mitigation measures:
 - Miles-in-trail restrictions
 - Rerouting
- Problem:
 - ATC decisions do not incorporate airline operating priorities
- What do the airlines really want?
 - Decreased delay
 - Increased predictability

Research Question:

Given en route congestion,

- How can the FAA alleviate congestion
AND
- Incorporate user preferences in doing so?

Solution Characteristics

- Must provide more operational control to airlines than they currently have
- Must remove congestion not just move it
 - FAA must be able to exert some level of coordination
- Must not require large amounts of information or proprietary data
- Must not require large number of iterations

One Approach

