

# Enhanced Future Air Traffic Timetable Estimator

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**FAA MOIE**

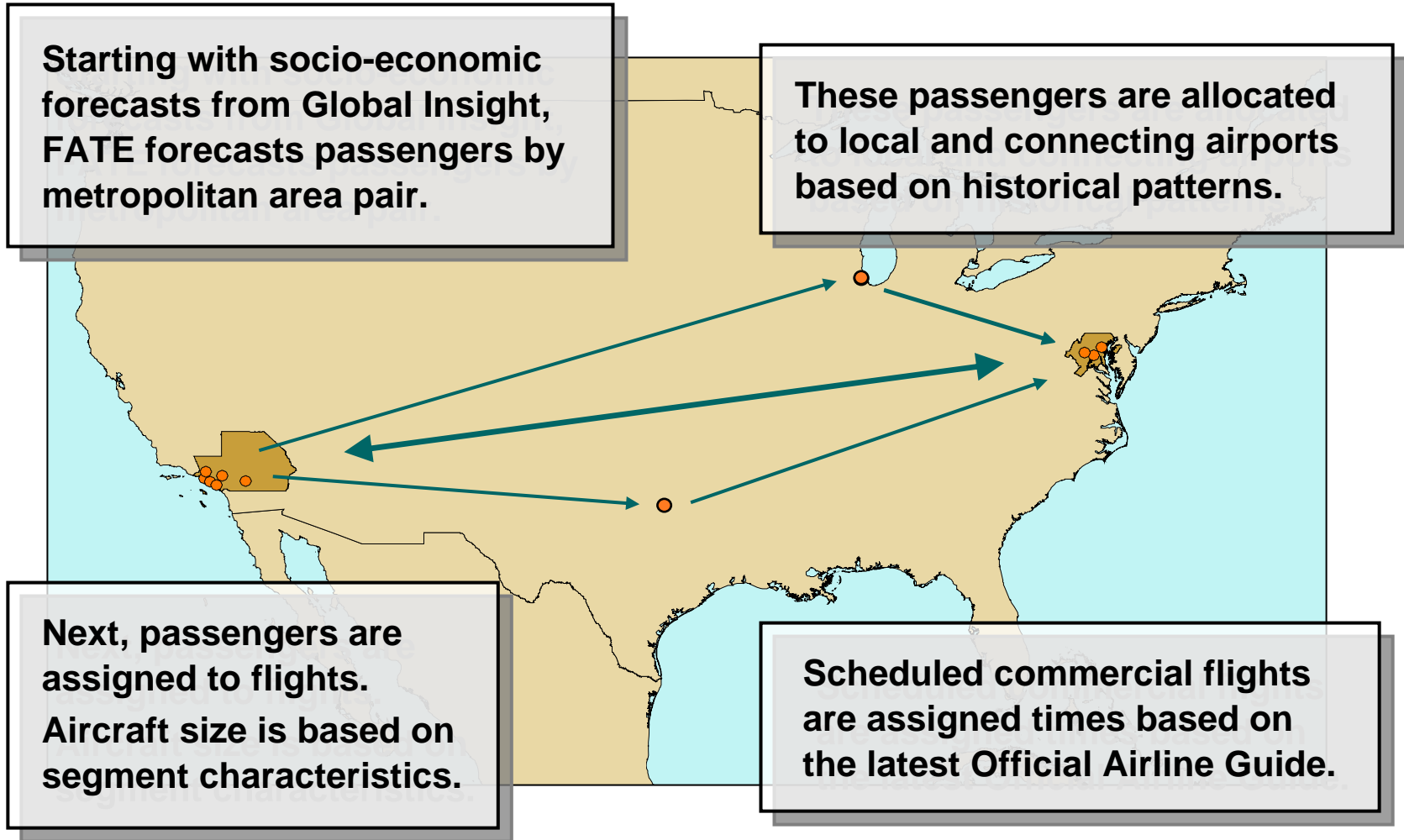


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# Problem

**Can MITRE's origin–destination forecasting model be enhanced to predict evolutionary changes in the air traffic network?**

# Background



# Objective

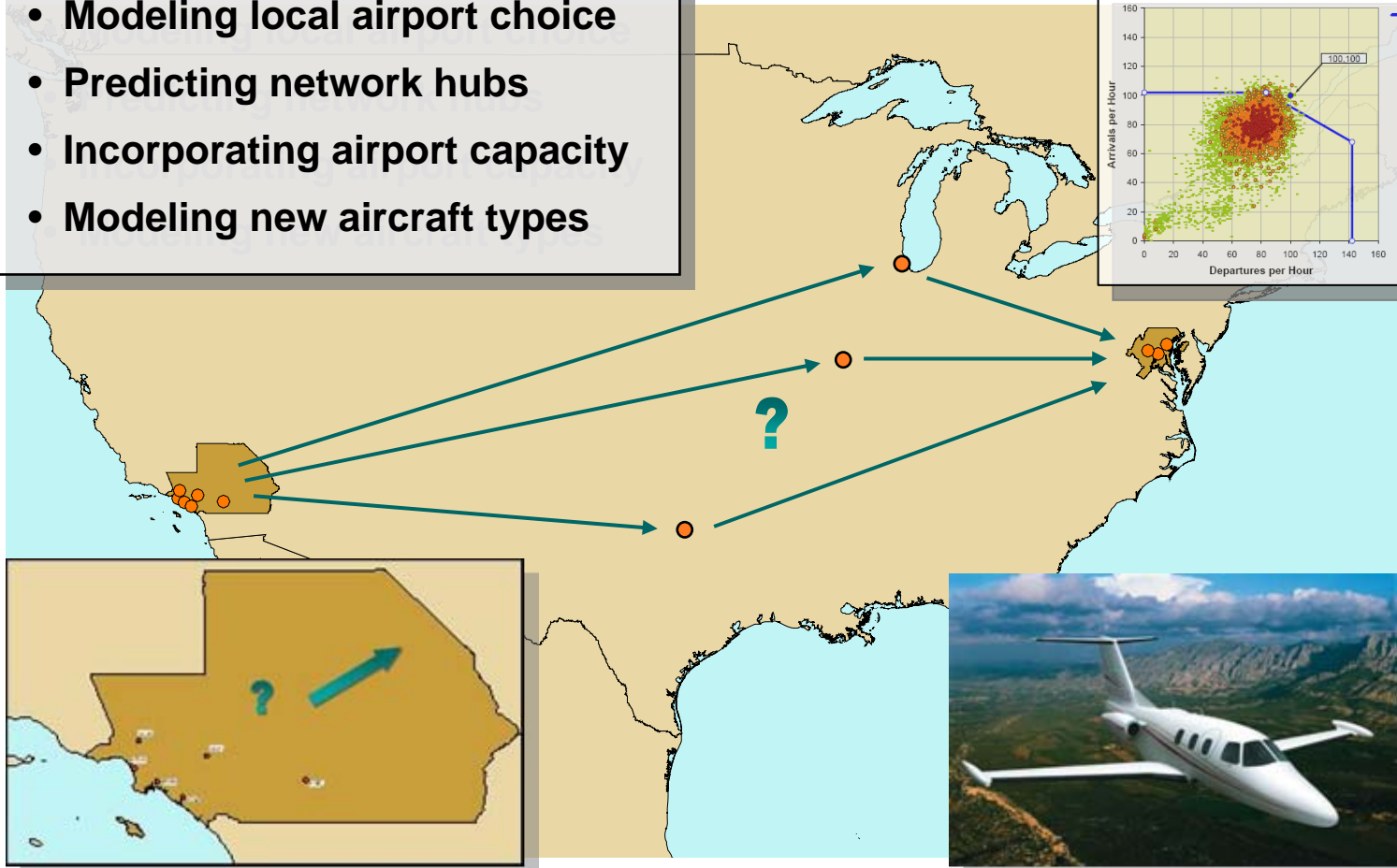
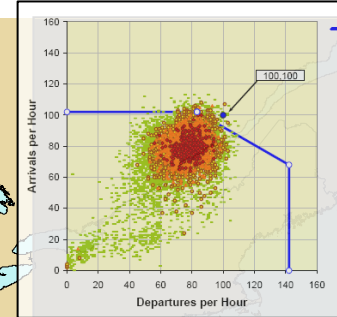
- **Examine how future growth in air traffic might be distributed across the system**
  - **Use of secondary airports in busy metro areas**
  - **Use of different airports as hubs**
  - **Use of emerging aircraft types, such as the Airbus A380 or the Eclipse 500**
  - **Changes in arrival and departure peaks at busy airports**

# Activities

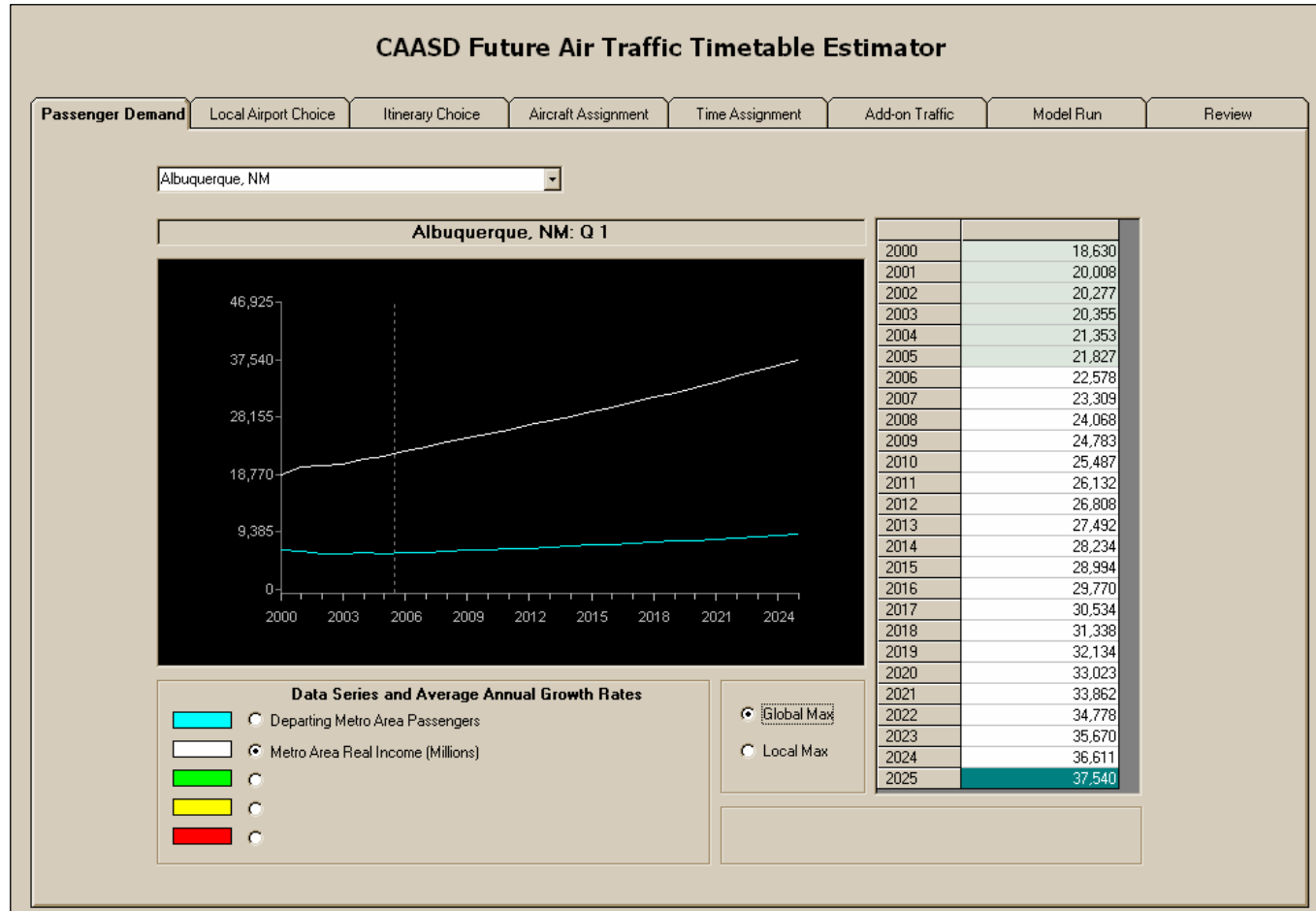
- **Develop and calibrate a model of local airport choice**
- **Develop and calibrate a model to identify likely hub airports**
- **Develop and calibrate a model to estimate the preferred number of seats per departure**
- **Incorporate capacity estimates for 287 airports**
- **Use traffic-to-capacity ratio as an input into airport choice, aircraft choice, and scheduling**

# Highlight

- Modeling local airport choice
- Predicting network hubs
- Incorporating airport capacity
- Modeling new aircraft types



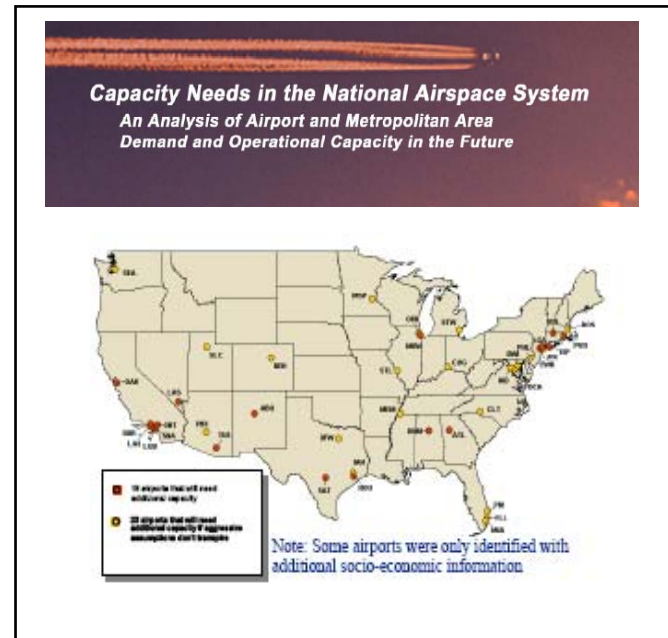
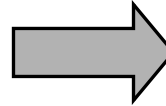
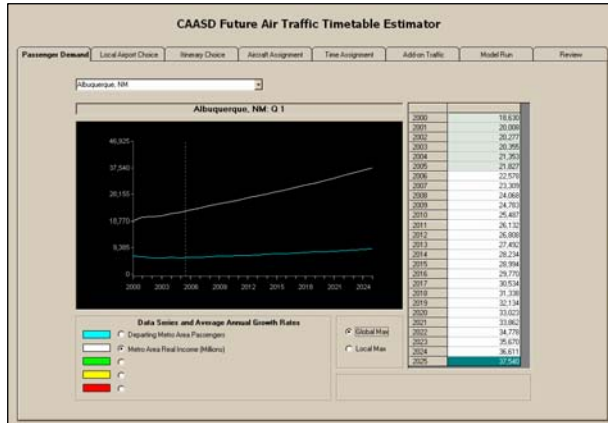
# Highlight



# Impacts

- **Predict potential shifts in traffic patterns**
- **Translate these changes into numbers of operations:**
  - **by type**
  - **by airport**
  - **by segment**
  - **by en route control center**
- **Allow for better planning in air traffic control staffing and investment**

# Future Plans



ATO Planning

**Future Airport Capacity (FACT)**