



Analyzing Current and Future National Airspace System Performance

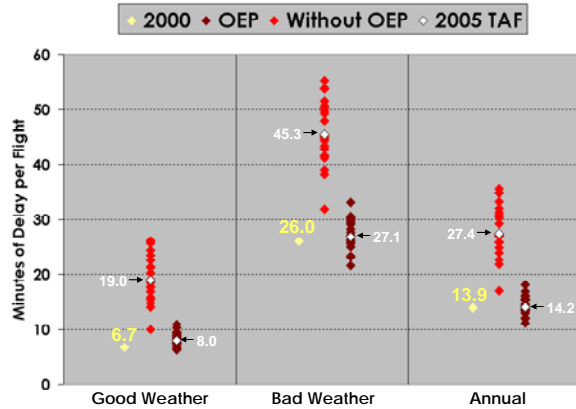
The MITRE Corporation's Center for Advanced Aviation System Development (MITRE/CAASD), the Federal Aviation Administration's (FAA) Federally Funded Research and Development Center, analyzes current and future demand and capacity needs for airports and airspace. In performing these analyses, MITRE/CAASD works with the FAA and aviation stakeholders and applies a wide range of simulation tools.

CAASD researchers have enhanced the state of the art in traffic-schedule demand forecasting through the inclusion of metropolitan area socio-economic modeling techniques. Using these techniques and national forecasts, CAASD produces seasonal forecasts of flights by time of day that reflects future aircraft schedules and routings. These traffic predictions are used to determine the effect of demand and capacity imbalances on key national airspace system resources, such as busy airports and congested airspace.

CAASD researchers analyze the effect of new technology and then use *runwaySimulator*, CAASD's airport model to simulate and analyze the capacity at complex airports.

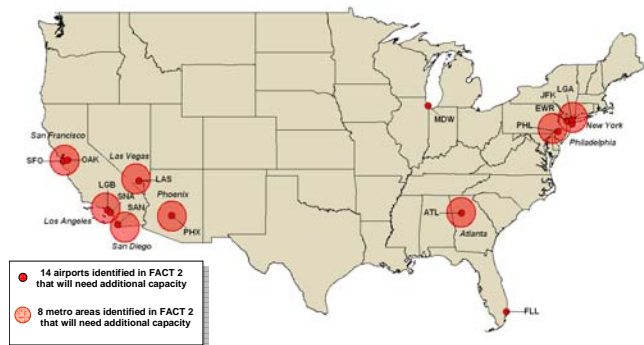
enhancements to en route and terminal systems and procedures. Using these simulation models CAASD determines the effect on system performance and workload.

**2015 Average Delay at OEP Airports
Incorporating the Variation in Demand Forecasts**



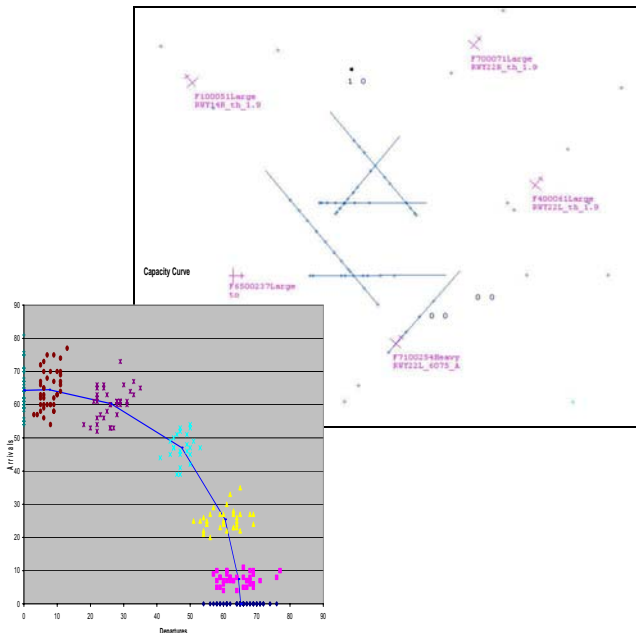
The results of these simulation models are then used in FAA decision making. These simulation models were used to project the expected benefits of the FAA Operational Evolution Plan and to identify future capacity shortfalls at major airports and metropolitan areas across the US.

Airports and Metropolitan Areas Needing Capacity in 2025 after Planned Improvements



For more information, contact:

Fran Hoover
Information Management Specialist
+1.703.983.5912



Similarly analysts develop inputs for CAASD's *systemwideModeler*, which is a simulation model of the National Airspace System, to reflect planned