

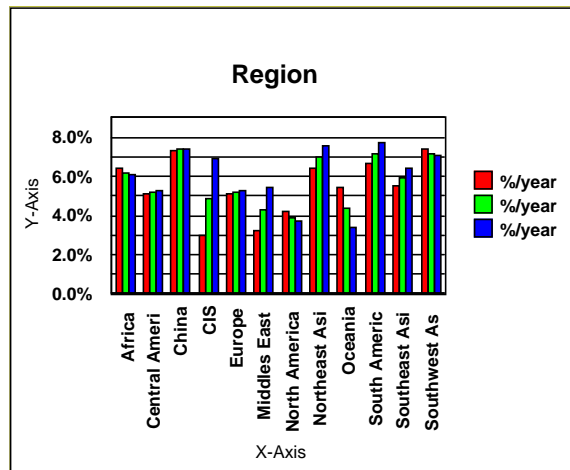
Aviation Analysis Models

The Aviation Analysis Models provide the foundation for quantifying the underlying business case economics for air navigation and airport operation systems.

An airspace system design is incomplete without an understanding of its economic impact. JTA has developed the Aviation Statistical Analysis Models as a sophisticated suite of analytical tools specifically tailored to aviation. Using these models, JTA's economists are able to provide customers with a sophisticated analysis to support air navigation business management. The Aviation Statistical Analysis Models are used for investment analysis, air traffic analysis, trade-off studies, what-if scenarios, cost-benefit determination, and forecasting.

Demand/Capacity Model

The Demand/Capacity Model determines the current scheduled traffic through a selected airspace, as well as other traffic that would benefit by gaining access to that airspace. When this tool is used with the JTA Master Mapper, detailed airspace analysis based on demand and capacity can be conducted.



JTA has developed a set of analytical tools to form the basis for comprehensive economic analysis of aviation systems, such as this projection of annual growth rate for regional air traffic.

Staffing Analysis Models

The Air Traffic Control (ATC) Staffing Model projects the air traffic staffing required to support the projected demand using the planned sectorization scheme. The Technical Staffing Model is used to plan the number of maintenance and operations personnel and their base locations based on an airspace system design concept.

Revenue and Cost Model The Revenue and Cost Model projects operating revenues and costs attributed to the levels of Air Navigation Services provided.

Integrated Noise Model The FAA's Integrated Noise Model is used for evaluating the impact of aircraft noise in and around airports. This tool assesses the effect that changes in runway configuration, air traffic volume, aircraft equipment, and air traffic control procedures have on perceived noise levels. JTA combines the output of the noise model with the Master Mapper to plot noise contours in the area surrounding airports.

ASET Aviation System Engineering Tools

Jerry Thompson & Associates, Inc.

AIRPORT and AVIATION SYSTEMS Planners, Designers, Engineers



At JTA, the Tools Make the Difference

ASET Aviation Systems Engineering Tools:

Master Mapper - The Master Map begins with an accurate map of the physical world. Hundreds of political and aviation information layers can be added: sovereign and delegated airspace assigned by the International Civil Aviation Organization (ICAO); the world's flight information regions (FIRs); great circle routes between selected city pairs; airport locations; air routes; communication, navigation and radar facility coverage. Operational and technical details for a country or region can be added as required and the map can be projected in any traditional view.

Communication, Navigation, Surveillance (CNS) Coverage Tool - CNS Coverage Tool calculates the theoretical coverage of ground-based CNS facilities. The CNS Coverage Tool compensates and adjusts for elevation of the site, height of the antenna, and screening angles.

NAS Design Tool - NAS Design Tool enables the traceability of procedural, communication, and machine-functional requirements from an Operations Concept. The tool describes how people, procedures, and machines provide the required air navigation services to aviation users.

Air Traffic Analysis Models

Demand/Capacity Model determines the current scheduled traffic through a selected airspace, as well as other traffic that would benefit by gaining access to that airspace. When this tool is used with the Master Map, detailed airspace analysis based on demand and capacity projections can be conducted.

Revenue and Cost Model projects operating revenues and costs attributed to the levels of Air Navigation Services provided.

Air Traffic Control (ATC) Staffing Model projects the air traffic staffing required to support the projected demand using the planned sectorization scheme.

Technical Staffing Model helps in planning for the number of maintenance and operations personnel and their base locations.

The Performance Analysis System (PAS) - The processes and capabilities developed in support of TMA Performance Analysis evolved into a system that helps analysts quickly retrieve and analyze data, and report results in customized formats. PAS provides the capability to analyze and report the performance of the National Airspace System (NAS) utilizing relational GIS and Oracle data bases and dynamic processes that can deliver results world-wide through the use of web based automation.

Flight Plan Management and Billing (FPM+B)[®] - Automatically "captures" flight data from sources and generates flight progress strips and invoices for airspace use and communications charges.

Excellence through Innovation and Hard Work

Jerry Thompson & Associates, Inc.

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