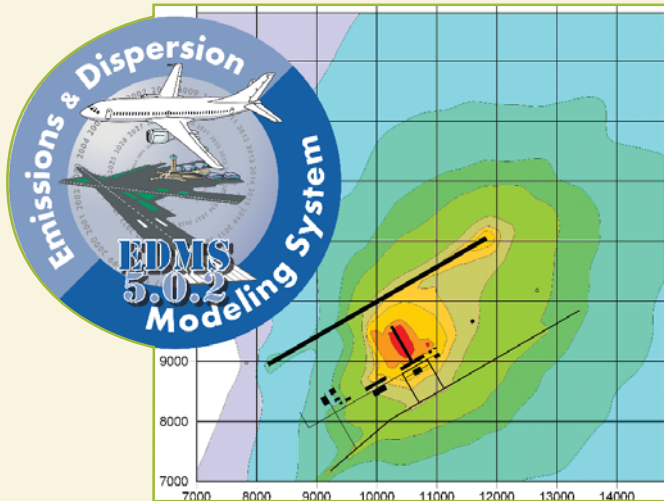


Modeling and Simulation



CSSI develops simulations and models to analyze specific issues and provide solutions to important challenges. We apply the full range of modeling and simulation techniques to answer “what if” questions, solve complex problems, and enable the efficient operation of large-scale systems.

CSSI is the developer of the Emissions and Dispersion Modeling System (EDMS), the FAA-required local air quality tool for assessing the contribution to local air quality from airports. EDMS computes emissions inventories and estimates concentrations from all emission sources found at airports including: aircraft, ground support equipment, motor vehicles, fire fighting training operations, and stationary sources such as power plants, fuel storage, and maintenance operations.

EDMS 5 is a state-of-the-art model that incorporates:

- ✦ An advanced approximation of aircraft particulate matter emissions that considers smoke number, unburned hydrocarbon, and sulfur emissions.
- ✦ A sophisticated airport configuration selection utility with associated capacities
- ✦ A queuing model that accurately accounts for airports ground delays

EDMS 5 is the basis for the FAA’s next-generation emissions and noise interdependency analysis tool suite, the Aviation Environmental Design Tool (AEDT) that will be available in 2012.

CSSI satisfies our customer’s needs by providing comprehensive services in the following areas:

Environmental Models

- ✦ Airport Air Quality Model: Emissions and Dispersion Modeling System
- ✦ Local, Regional, and Global Aviation Air Quality and Noise Model: Aviation Environmental Design Tool (AEDT)
- ✦ Alternative Fuels Model

System-Level Simulations

- ✦ National Airspace System Performance Analysis Capability (NASPAC)
- ✦ Combined Airspace and Human Performance Simulation
- ✦ Beacon Code Assignment Simulation and Optimization
- ✦ Airport Runway Capacity Simulation
- ✦ Weather Impact Traffic Index (WITI)

Fundamental Models

- ✦ Six Degree of Freedom Aircraft Model
- ✦ Flight Management System (FMS) Model
- ✦ Aircraft Fuel Burn Model
- ✦ Optimal Trajectory Generator (OPGEN©)