

# Development of Aviation Air Quality Tools for Airport-Specific Impact Assessment

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Cost Share Partner: LAWA, EDF, EU-AVIATOR

## Objective:

- Develop new Aviation-specific dispersion model (ADM) for assessing local air quality due to aircraft sources during LTO cycles

## Project Benefits:

- Improved characterization of air quality due to aircraft sources in the vicinity of the airport
- Directly feeds into AEDT development
- Support for NEPA Analyses, and Health Impact studies
- Enhances EPA's AERMOD Regulatory model
- Inputs for ICAO-CAEP Impacts Science Group (ISG)

## Research Approach:

Focus on 3 aspects of Local Air Quality Modeling

- Source characterization
- Physical Processes
- Chemical Processes

Develop a series of options for testing, validating and implementing in a 2-year timeline

- Prototype and preliminary evaluation at LAX for Winter 2012 followed by Summer 2012
- Apply to other case studies in the US and EU

## Major Accomplishments (to date):

- Plume rise treatment for aircraft sources finalized
- White paper for implementing plume rise in AERMOD developed for EPA review
- Preliminary approach for NO<sub>x</sub> to NO<sub>2</sub> in ADM developed

## Future Work / Schedule:

- Continue evaluation for Summer 2012 (Fall 2021)
- Update AERMOD with plume rise treatment and evaluation (Summer 2022)
- Implement chemical conversion (Summer 2022)
- Evaluate at other airports (Fall 2022)