AEDT2b – What to Expect and How It Will Be Used in NEPA and Master Plans

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Advancing transportation innovation for the public good

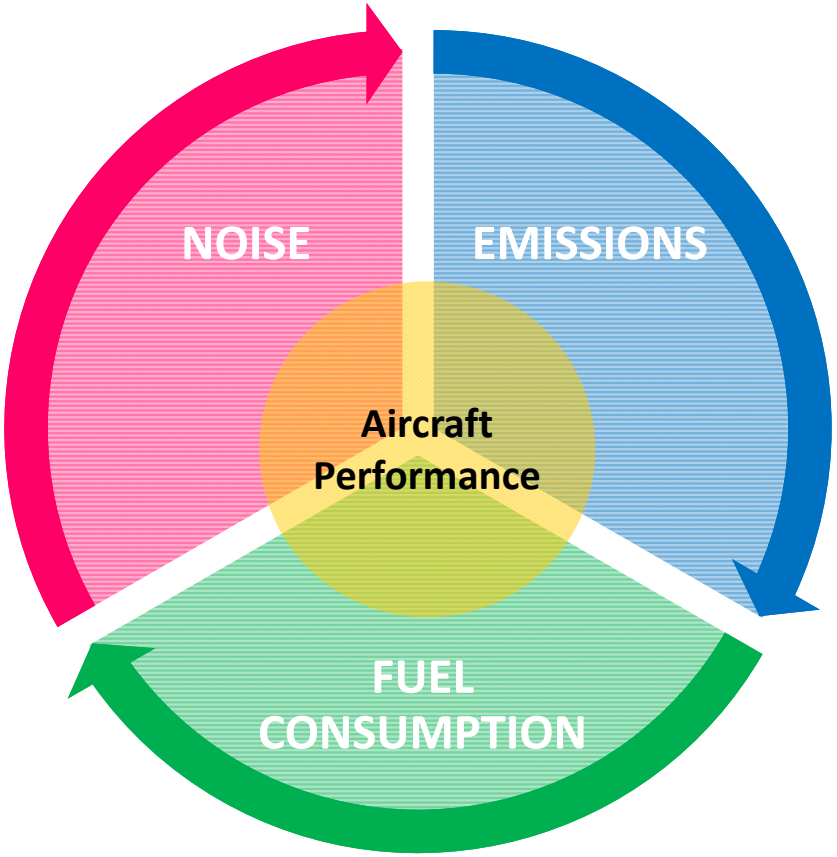
U.S. Department of Transportation
Research and Innovative Technology Administration
John A. Volpe National Transportation Systems Center

Outline

1. AEDT overview & recent history
2. Supporting policy
3. Current use
4. Moving forward
5. Questions?

AEDT Overview & History

- Unifies Noise and Emissions
  - Brings together the ability to model emissions, air quality, fuel consumption, and noise
- Exposes Interdependencies
  - Concurrent assessment of all environmental consequences will enable trade-off analysis



AEDT Overview & History

- AEDT Version 2b released to public May 29, 2015
- AEDT 2b, Feature Pack 1 (7/29/2015)
  - Updated AERMOD/AERMET versions
- AEDT 2b, Service Pack 2 (12/22/2015)
  - Several bug fixes and updates
- Training material releases
  - Videos
  - Exercises
  - FAQ updates

Supporting Policy

Federal Register | Noise, F

https://www.federalregister.gov/articles/2015/05/15/2015-11803/noise-fuel-burn-and-emissions-modeling-

Apps | FAA - Home | E2 Solutions - CW G... | AEDT O&M | Home - External To... | AEDT TFS Docs | AEDT TFS Work | Other bookmarks

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The Daily Journal of the United States Government

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Rule

Noise, Fuel Burn, and Emissions Modeling Using the Aviation Environmental Design Tool Version 2b

A Rule by the Federal Aviation Administration on 05/15/2015

ACTION Policy Statement.

SUMMARY This document provides a statement of FAA policy concerning the required use of the Aviation Environmental Design Tool version 2b (AEDT 2b) to analyze noise, fuel burn, and emissions for FAA actions. The policy statement is intended to ensure consistency and quality of analysis performed to assess noise, fuel burn, and emissions impacts of such actions under the National Environmental Policy Act of 1969 (NEPA), as amended, 42 U.S.C. 4321 *et seq.*

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Supporting Policy

- Appendix to FAA Order 1050.1F Desk Reference

  https://aedt.faa.gov/Documents/AEDT_2b_NEPA_Guidance.pdf

- Use cases
  - Emissions Inventory Only
  - Emissions Inventory and Emissions Dispersion
  - Noise and Emissions Inventory
  - Noise, Emissions Inventory, and Emissions Dispersion

Emphasis on inputs to compute noise and emissions simultaneously while meeting NEPA and Clean Air Act requirements

Supporting Policy

- Purpose
- Applicability
- Topics Organized by Use Case
  - Representation of results
  - Aircraft operations schedules
  - Use of weather information
  - Atmospheric absorption (noise)
  - Flight Paths
  - Use of terrain information
  - Use of lateral attenuation (noise)
- Non-Default Methods and Data

Supporting Policy - Representation of results

	Air Traffic, Airspace, Procedure Actions	Airport Actions
Noise	May extend vertically from the ground to 10,000 feet AGL, or up to 18,000 feet AGL if the proposed action or alternative(s) are over a national park or wildlife refuge	Must be large enough to include the area within the DNL 65 dB contour, and may be larger
Criteria Pollutant Emissions	Local mixing height (based on SIP/TIP or 3,000 ft. per 40 CFR 93.153)	Local mixing height (based on SIP/TIP or 3,000 ft. per 40 CFR 93.153)
Fuel Consumption and Greenhouse Gases	Full extent of aircraft movements as part of the project changes with no altitude restriction (not constrained by the mixing height). Same emission sources that are included in the air quality analysis.	Full extent of aircraft movements as part of the project changes with no altitude restriction (not constrained by the mixing height). Same emission sources that are included in the air quality analysis.

Current Use of AEDT – Data Input

- Manual entry into the interface

  Aircraft flight paths, Fleet mix, Number of operations, Weather, and Elevation/terrain information

- Importing external data from legacy tools

  INM, EDMS, NIRS, and AEDT 2a

- Importing data using AEDT's Standard Input File (ASIF)

  Bulk import or Partial import of data using XML formatting

- Direct Injection into an existing AEDT Study database

  Manual or automated access to all tables for importing very large scale sets of data

Current Use of AEDT – Utilizing MOVES data

- Guidance document re using AEDT with MOVES

  "Using MOVES with AEDT 2b"

  https://aedt.faa.gov/Documents/Using_Moves_with_AEDT_2b.pdf

- Running MOVES & NONROAD
  - Settings: Scale, time spans, geographic bounds, vehicles/equipment, road type, pollutants/processes, output
  - Importers
  - Handling output
  - Construction emissions (NONROAD)

Moving Forward – Web Portal

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Federal Aviation Administration

Aviation Environmental Design Tool

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WELCOME TO THE FAA'S OFFICE OF ENVIRONMENT AND ENERGY - AEDT SUPPORT WEBSITE

This website is provided by the FAA's Office of Environment and Energy as part of its Models - Aviation Environmental Tools Suite. This site is dedicated to helping you resolve issues that you may have when using the Aviation Environmental Design Tool or simply AEDT. The site is organized as follows:

- Product Information: describes the current release version and lists AEDT 2b system requirements and documentation.
- Purchase: describes AEDT 2b pricing schedule and purchase information.
- Outreach: lists the latest AEDT news and videos.
- FAQs: contains a list of frequently asked questions including known issues.
- Downloads: lists the installer for the current AEDT release, including pre-requisites and optional tools.
- All Feedback: lists the support feedback submitted by AEDT users, including the current status.
- My AEDT: lists the support feedback submitted by you, and links for managing your account.
- Submit Feedback: contains a form for submitting incidents, questions and suggestions for improvement.

AEDT 2b Information Page

AEDT version 2b product information including functionality, system requirements, and pricing is now available on the new 2b information page.

Quick Links

- How to Obtain AEDT 2b - Pricing Schedule
- 2b Purchase and Licensing FAQs

This site is maintained by the AEDT Development Team at the U.S. Department of Transportation's John A. Volpe National Transportation Systems Center.

U.S. Department of Transportation
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591

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AEDT Support Team

Moving Forward – Tech Support

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ALL FEEDBACK

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	ID	Version	Status	Title	Created	Feedback Type
>	2072	AEDT 2b Release	New	cannot access database when starting up	02/19/2016	Error Message
>	2071	AEDT 2b Release	Active	Simulation with terrain data	02/18/2016	Feature Request
>	2068	AEDT 2b Release	Queued, Fix Pending	Maximum Number of receptors for Detailed Noise Results	02/17/2016	Bug Report
>	2067	AEDT 2b Release	Closed, Completed	Terrain data	02/17/2016	Feature Request
>	2066	AEDT 2b Release	Closed, Completed	Installation questions	02/16/2016	Question
>	2065	AEDT 2b Release	Closed, Completed	aedt questions	02/16/2016	Question
>	2064	AEDT 2b Release	Closed, Completed	Operation count number	02/16/2016	Question
>	2063	AEDT 2b Release	Closed, Completed	Problems with Tracks in airports of Colombia AEDT 2b	02/16/2016	Question
>	2058	AEDT 2b Release	Closed, Completed	Restore old files	02/10/2016	Question
>	2057	AEDT 2b Release	Closed, Completed	AEDT 2b - Import trajectory data	02/10/2016	Question
>	2056	AEDT 2b Release	Closed, Completed	AEDT 2b data input	02/10/2016	Question

Moving Forward – Tech Support

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SUBMIT FEEDBACK

Before submitting new feedback, please take a moment to review the FAQ and the feedback submitted by other AEDT users here. Your account information is automatically linked to your submission.

NOTE: Any feedback you submit will be visible to other AEDT users. Please use attachments to submit information that you prefer not to be visible to general users. Attachments can only be viewed by the AEDT Support Team.

Please do not embed images in the text box as some images may not be successfully transferred; instead, include images as attachments.

Required fields are shown in bold.

User Name: ChrisRoof

Available Support Hours: 0

Product Version:

- AEDT 2b Release
- AEDT 2b Service Pack 2
- AEDT 2b Feature Pack 1
- AEDT 2a

Title:

Feedback Type:

- Feature Request
- Question
- Sales/Licensing
- Error Message
- Unexpected Result
- Website Issue
- Bug Report
- Other
- Account Issue

Moving Forward – Tech Support

2058	AEDT 2b Release	Closed, Completed	Restore old files	02/10/2016	Question

Submitted on 2/10/2016 9:21:44 AM

Description:

Hello – Long story short the machine we had AEDT2b on went corrupt after an update, and left me with reinstalling AEDT2b and SQL. What is the process for getting AEDT2b and SQL to load the BAK files and\or primary DB file?

Comments:

Submitted on 2/10/2016 11:22:06 AM

Yes, you can restore the BAK files in SQL server. Please refer to the installation guide Section 5.4.2 and Section 5.4.3.

Submitted on 2/12/2016 11:27:46 AM

Perfect! Got that restored successfully.

Submitted on 2/12/2016 11:28:11 AM

Please check Control panel->Administrative Tools->Computer Management->Device Manager

Moving Forward

- Ongoing development
  - Focus on aircraft performance improvements
  - Bug fixes
- Future versions
  - Interface improvements
  - Functionality improvements
  - Functionality extensions
- Targeting regular releases

Thank you – questions?

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