




HAI - AHS Flying Quiet Webinar



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Volpe The National Transportation Systems Center
Advancing transportation innovation for the public good

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

Outline

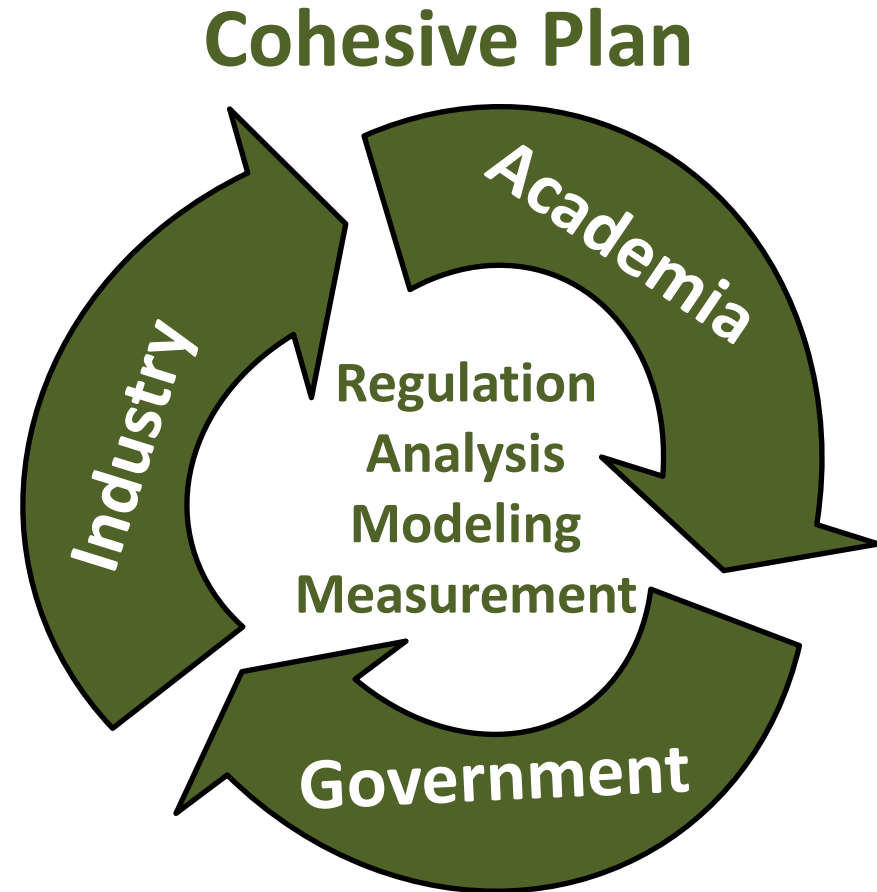
- ❑ Fly Neighborly Projects
- ❑ Joint FAA-NASA Helicopter Acoustic Measurements
- ❑ iFlyQuiet Community Engagement
- ❑ Helicopter Web Track and Community Complaint System

Volpe tasking for these projects has been funded by the FAA. Thank you!



Fly Neighborly Overview

1. Strategy Development for Pilot Awareness of Noise Abatement Techniques
2. Illustrate via Modeling and Measurement
3. Training Video (HeliExpo Courses)
4. Self-Training / Certification (WINGS)



Helo Noise Modeling / Measurement

This is an active area of research with many folks working together!

- ❑ Partner and Leverage findings / models / acoustic tests
 - NASA Langley Subsonic Rotary Wing
 - FAA ASCENT program – Penn State / Continuum Dynamics Inc.
- ❑ Synergistic Modeling Capabilities
 - Advanced Acoustic Model (AAM), formerly Rotorcraft Noise Model (RNM)
 - Community Noise Modeling for NEPA (DoD tool, part of NOISEMAP suite) and Noise Abatement Procedures (Multi-ops, terrain, weather etc...)
 - Semi-empirical Model, uses noise spheres (Empirical, Hybrid, First Principles)
 - NASA/DOD tool undergoing continuing development at Volpe (Page)
 - Fundamental Rotorcraft Acoustic Modeling for Experiments (FRAME)
 - Hybrid first principles / empirical model at NASA (Greenwood)
 - CHARM / PSU WOPWOP
 - First Principles Modeling, Development at PSU (Brentner) / CDI (Wachspress)
 - FAA Aviation Environmental Design Tool (AEDT)
 - Community Noise Modeling for NEPA
 - Undergoing continuous improvement at Volpe (Zubrow)
 - Helo recommendations developed under ACRP 02-44

Ref: Page, "Helicopter Community Noise Prediction Methodology for AEDT", AHS Forum 72 2016.

<https://vtol.org/store/product/helicopter-community-noise-prediction-methodology-for-aedt-11353.cfm>

Joint NASA-FAA Helicopter Tests

- ❑ Conducted at Eglin AFB and Amedee Army Airfield
 - Six weeks of testing at two sites
 - R-44, R-66, B206, B407, AS350, EC-130
- ❑ Static (Volpe) and Dynamic (NASA) Test Arrays
- ❑ Acquired empirical data for noise models:
 - Database Development (AAM, AEDT)
 - Tool Validation
 - Noise Abatement Procedures
- ❑ Volpe Role:
 - Static Testing (Idle, HIGE, HOGE)
 - Noise Abatement Procedures
 - Data Analysis in support of HeliExpo 2018 Adv. FN Class



Community Engagement

- ❑ Develop outreach methods and materials to foster trust with the community
- ❑ Engage various stakeholders in iterative process
- ❑ Trial program for community outreach & engagement in 2018
- ❑ Provide a resource library for all

Communication → Knowledge → Acceptance

Key to iFlyQuiet Strategy



COMMUNITY ENGAGEMENT PROGRAM

Community Engagement

Partners Needed for Trial Program!

- Spring 2018 community outreach events
- Provide suggestions for materials
- Test run of materials
- Use Fly Neighborly procedures

Help us spread the word - we are looking for several partners!

- See our ads in Rotor Daily: search iFlyQuiet



Fly Neighborly Training

Basic Training

- Course given at HeliExpo 2017
- Web-based training available early January 2018

Advanced Training

- In development; will be given in person at HeliExpo 2018
- Pre-requisite: Fly Neighborly Basic Training (web-based or in-person)
- Will be adapted into a web-based training

Expert Training

- Will be given at HeliExpo 2019
- Basic and Advanced trainings will be pre-requisites

2018 – Advanced Fly Neighborly Training

Develop instructional and promotional materials and help with the development and teaching of the HeliExpo 2018 course

- ❑ Partner with NASA and HAI for Advanced FN training
 - Instructors: David Bjellos (HAI / Operator / Pilot) & Scott Burgess (Embry Riddle)

❑ HeliExpo 2018



- On-Line On-Demand WINGS Advance HeliExpo training course after HeliExpo 2018
- ❑ Matt Zuccaro, President HAI has agreed:
 - To promote Fly Neighborly training more aggressively at HeliExpo 2018
 - Fly Neighborly course as HeliExpo main conference feature presentation
 - To provide a larger room / better time slot to increase attendance, and not compete with the Rotor Safety Challenge training classes
- ❑ Course material development
 - Leverage Flight Test Data
 - New Training Videos / Animations to be developed

Los Angeles WebTrak System

- ❑ Hardware and Software developed by B&K
- ❑ Flight Tracks and Complaint Data from Last Three Months
- ❑ View and Replay Helicopter Ops around LA Basin
- ❑ Review and Identify Ops you Filed a Complaint about
- ❑ Can File Complaints via WebTrak, Automated Phone System (424-348-HELI), or by Form
- ❑ Currently Correlating Complaints to SPL at Monitoring Stations
- ❑ Working on Correlating Complaints with Track Flights

Automated Complaint System

Start Here Investigate Help

Quick Start Guide

Using WebTrak you can track helicopter flight activity in the LA Basin, along with information about each helicopter.

Helicopters Map Controls Tags Panels

Helicopters

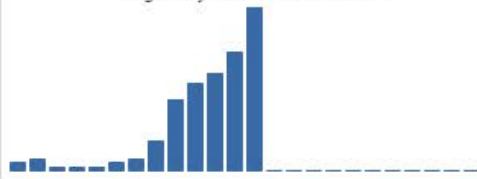
The line trailing behind each helicopter shows where it flew in the last 30 seconds.



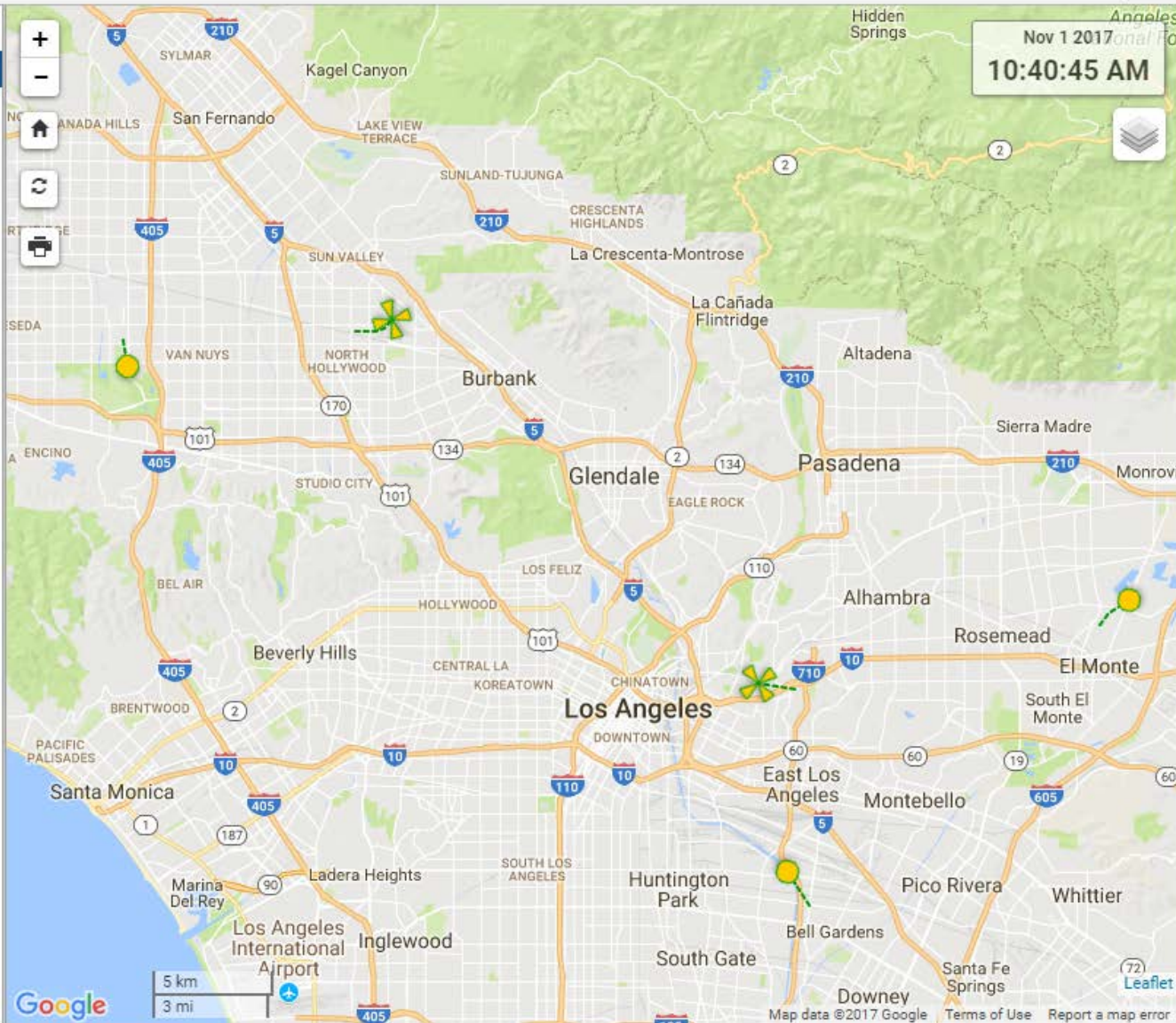
Flights Display Prefs

Date to load 11/01/2017

Flights by hour for Nov 1 2017



Time to start replay 10 40 AM Set



Nov 1 2017 10:40:45 AM

Thank you!

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