



## Project 008 Noise Outreach

### The Pennsylvania State University

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#### University Participants

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- Researcher: Bernd Haupt, Senior Research Associate
- FAA Award No.:13-C-AJFE-PSU Amendment 27
- Period of Performance: July 31, 2016 to July 31, 2017
- Task(s):
  1. Stakeholders Interactions
  2. Content Development
  3. Site Navigation and Infrastructure Enhancement

#### Project Funding Level

This project supports the Outreach efforts at Penn State with \$75K of FAA funds. Matching funds are anticipated to satisfy cost share on all tasks.

#### Investigation Team

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Researcher: Bernd Haupt Senior Research Associate



## Project Overview

Aircraft noise is a predominant aviation environmental concern of the public. Aviation noise issues can be complex and technical, and the NoiseQuest website is designed to mitigate noise concerns through information. Outreach has been implemented through content on the NoiseQuest website and by direct interactions with stakeholders. NoiseQuest, located at [www.noisequest.psu.edu](http://www.noisequest.psu.edu), is an international resource that is designed to implement global education on aviation noise topics. The site presents outreach content and aviation noise information on a diverse set of topics. The PSU Outreach team has continued to expand and enhance the NoiseQuest website. The development of the NoiseQuest site provides centralized web based educational outreach for all communities. This supports Outreach efforts for airports too small to have their own outreach programs, and provides additional outreach for airports with an existing outreach program.

## Task #8.1: Stakeholders Interactions

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### Objectives

The Outreach project seeks to improve airport and community interactions by providing information and education on aviation noise topics. The objectives of this task include: (1) interactive outreach to identify aviation noise programs; (2) obtain airport noise contour data from airport noise managers; and (3) gather publications and concepts for content to be shared on the NoiseQuest site.

### Research Approach

Interactive outreach with airport noise managers and community groups was conducted to identify concerns that could be addressed by expanded content topics and to identify successful programs and initiatives. Efforts to obtain additional GIS noise contour data for the NQ Explorer were not conducted during the site redesign period. The site user statistics are monitored to better inform the site development.

### Milestones

We communicated with airport noise managers, stakeholders, and community organizations to identify updates for existing content and opportunities for new content development.

### Major Accomplishments

We continue to interact with airport noise managers and community groups to identify topics of interest, successful implementations of outreach, or other approaches taken to resolve aviation noise issues. Jason Schwartz (ASCENT Advisory Committee Member), from the Port of Portland is an active team member. He has provided ideas and content topics as well as offering to interact with other airport noise managers on our behalf.

We interact with the National Organization to Insure a Sound-controlled Environment (N.O.I.S.E.) and they have provided ideas for content and the Spotlight section. Emily Tranter (N.O.I.S.E. National Coordinator) is working with us on identify content topics as well as programs to feature in the Spotlight section. The NoiseQuest site was presented at the National Organization to Ensure a Sound-controlled Environment 2016 Policy Summit and Community Involvement Workshop held in conjunction with the National League of Cities, 2016 City Summit, in Pittsburgh, PA on November 16, 2016.

We continue to encourage stakeholders to link their site to NoiseQuest. We continue to monitor our site statistics to gain insights on site usage (see Appendix A for Site Statistics).

### Publications

Contents are published at [www.noisequest.psu.edu](http://www.noisequest.psu.edu).

### Outreach Efforts

We interact with airport noise managers and community groups from across the country.



## **Awards**

None

## **Student Involvement**

None

## **Plans for Next Period**

We will continue to monitor site statistics to determine site usage patterns. To promote greater site usage, we will work to get additional stakeholders to link to NoiseQuest and to provide recommendations for content.

## **Task #8.2: Content Development**

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### **Objectives**

This task is focused on identifying and developing content that addresses aviation noise impact and outreach education.

### **Research Approach**

The Outreach team seeks to identify content that presents updates on aviation noise research, addresses noise issues, or meets the educational outreach needs of aviation stakeholders on specific topics.

### **Milestones**

The NoiseQuest team worked with representatives from both the National Organization to Ensure a Sound Controlled Environment (N.O.I.S.E.), and Delta to review the newly organized and reformatted NoiseQuest site. The team maintained existing site areas and added new content.

### **Major Accomplishments**

The content organization was reviewed as part of the restructuring of the site to be accessible across all platforms. Consideration was given to the ease of navigation, ease of adding additional content, the ability to search existing content readily, providing a menu that can respond to changes in viewing size and including video that is easily resizable. The primary content areas for the site include Community Tools, National Airspace, Noise Basics, Sources of Noise, and Noise Effects and Mitigation.

A site review conducted by representatives of the National Organization to Ensure a Sound Controlled Environment (N.O.I.S.E.), Delta, and the Outreach team. A primary recommendation from the site review was to add more graphics and presentations to the site content. General content was expanded and updated, the Noise Research section was expanded, the Spotlight on Noise was updated and content on AEDT, NextGen and Performance-Based Navigation were updated and enhanced.

We are gathering additional materials to expand content on PBN and low boom noise impact. We are working with NASA and the NASA sponsored Waveforms Sonicboom Perception and Response Risk Reduction (WSPRRR) team to develop content on supersonics and low boom noise impact. This NASA sponsored team has developed a test plan for future low boom community field tests. The NASA WSPRRR team includes both ASCENT and NASA researchers, who can team with the NoiseQuest team to identify and develop the low boom content for the NoiseQuest site.

We updated the site to acknowledge contributions from both PARTNER and ASCENT researchers.

### **Publications**

Site developed at [www.noisequest.psu.edu](http://www.noisequest.psu.edu)

### **Outreach Efforts**

We develop the Outreach content by reaching out to stakeholders for content ideas and development.

**Awards**

None

**Student Involvement**

None

**Plans for Next Period**

The plans for the future included generating enhanced content to further engage the public. The existing site content will be enhanced with content, graphics, videos and presentations. New content topics will be identified and relevant features added to the site. This would include features such as additional videos and images across site, expanded Supersonics low boom content, additional helicopter and rotorcraft noise abatement content, and additional GIS noise contours for NQ Explorer. We plan to add an NQ Explorer tab under Community Tools once we have more contours added to that section of the site. Other topics will be identified based on stakeholder engagement.

**Task #8.3: Site Navigation and Architecture Redesign and Development**

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**Objectives**

Efforts under this task maintain the site architecture and enhance site navigation.

**Research Approach**

This effort includes website management including backups, updates, and infrastructure enhancement. A review of features on other sites was conducted and the NASA site was identified as a site that utilizes optimized navigation features. The redesign of NoiseQuest used the navigation on the NASA site as a model. To ensure that the site is accessible to the general public, the team works to assure that the information on NoiseQuest is presented in an easily navigated user-friendly format.

**Milestones**

The entire site was reviewed and updates and new content were posted to the site. During the review, broken links were identified and addressed. Modifications to the NQ Explorer were investigated.

**Major Accomplishments**

The entire site was reworked, with changes to the navigation features and content areas. To monitor usage of the entire site, website statistics can be viewed using Google Analytics.

NoiseQuest was redesigned to increase the mobile user base. Changes were made to navigational aspects of the site to facilitate the ease of use across multiple platforms. The changes include the following site features. The navigation menu is now persistent at the top of the page and the article links are active from the title, picture and "Read more" links. Images can be dynamically scaled by size and orientation. The redesign afforded a less complex layout to the website, and a larger active zone for the hit box, so that the icon is easier to hit. Both of these are website features that show consideration for the American's with Disabilities Act. The Search tool uses Google and is displayed within the site, rather than in an exterior page. We resolved the issues related to Google Map's API within the NQ Mapper in the NQ Explorer.

**Publications**

None

**Outreach Efforts**

The team works to ensure that the changes resulted in clarity and ease of navigation across multiple platforms. These actions were taken to facility ease of use on mobile devices so as to increase the mobile user base.

**Awards**

None



**Student Involvement**

None

**Plans for Next Period**

The site is now device agnostic and user-friendly on all platforms simultaneously. The redesign of the site architecture has streamlined the site’s usability on a range of hardware (e.g., phones, tablets, touch-enabled laptops, etc.). The team will continue website management which includes backups, updates, and infrastructure enhancement as warranted.

**Appendix A NoiseQuest Statistics**

**September 2016 to September 2017**

33,607 Global Sessions  
17,866 Sessions across the US

	Country	Sessions	% Sessions
1.	 United States	17,866	 53.16%
2.	 United Kingdom	2,897	 8.62%
3.	 India	2,221	 6.61%
4.	 Canada	1,452	 4.32%
5.	 Australia	993	 2.95%
6.	 Philippines	752	 2.24%
7.	 Nigeria	423	 1.26%
8.	 Pakistan	416	 1.24%
9.	 Malaysia	415	 1.23%
10.	 Singapore	350	 1.04%