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Tweed New Haven Regional Airport
FAR Part 150 Study

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Laurel Stegina (FHI)

December 8th, 2010

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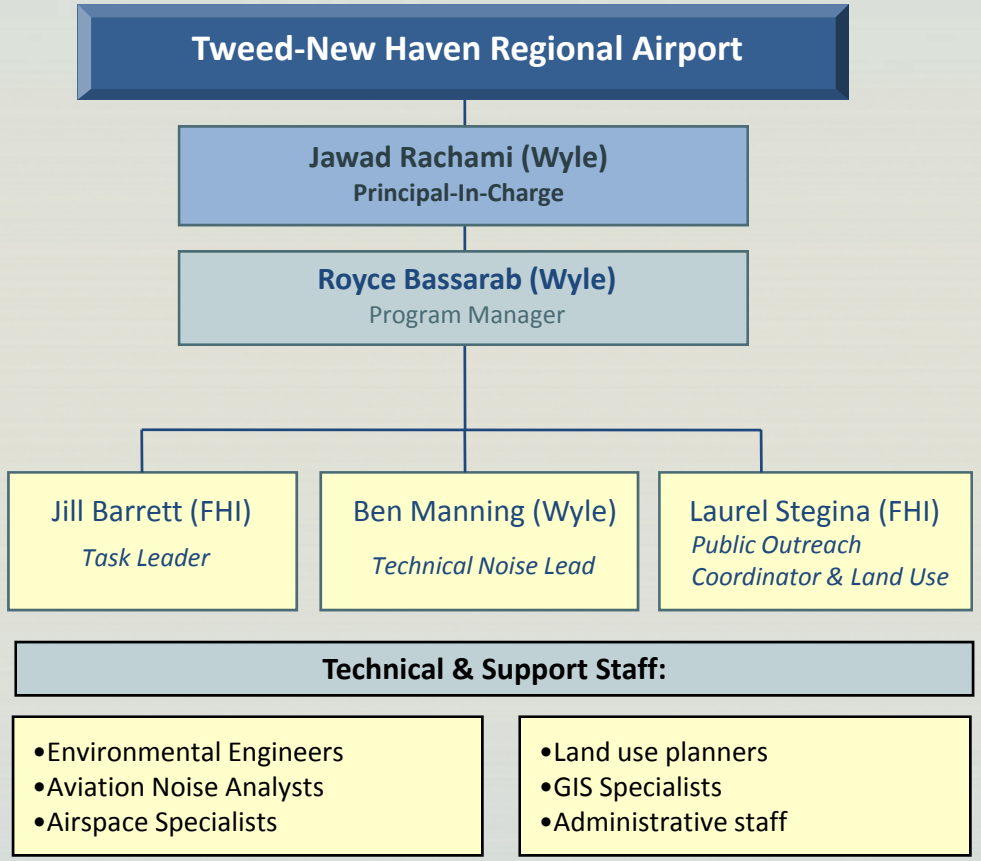
Agenda

- **Introduction to the Project Team**
- **Fundamentals of Aircraft Noise**
- **Overview of the FAR Part 150 Process**
  - Noise Exposure Maps
  - Noise Compatibility Program
  - Public Participation
- **Project Schedule**

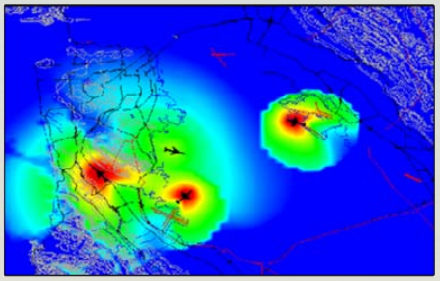
The Wyle and FHI Team

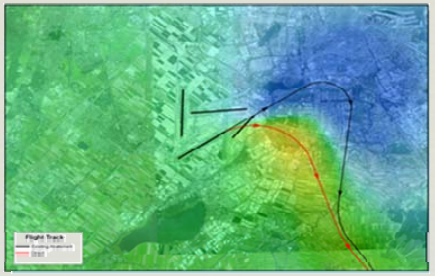
- Jawad Rachami, Wyle
  - Principal in Charge
- Royce Bassarab, Wyle
  - Part 150 Noise Study Project Manager
- Jill Barrett, Fitzgerald & Halliday
  - FHI Task Manager
- Laurel Stegina
  - Land Use and Public Outreach Participation
- Ben Manning, Wyle
  - Noise Analysis; Noise Monitoring Coordination

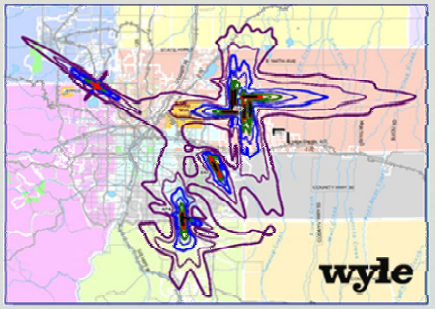


Introduction to the Wyle Team

- Wyle has been in the aviation environmental business since 1963.
- Wyle has supported or lead over 250 studies, including FAR Part 150s, noise analysis for Environmental Impact Statements, Environmental Assessments, Master Plans.
- Wyle is a key developer of tools and models including the FAA's future Environmental model: AEDT
- FHI is a full-discipline transportation and environmental planning and analysis firm, founded in 1987.
- FHI supports a wide variety of public and private sector clients, including state departments of transportation, regional agencies, municipalities, corporations, institutions and developers.



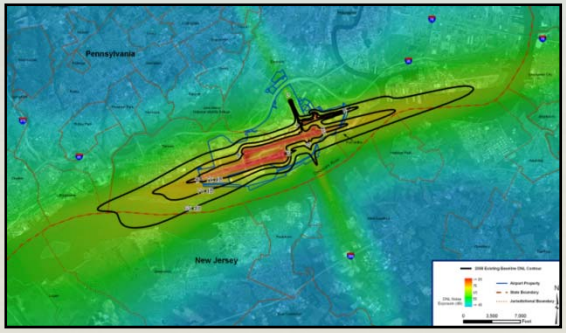


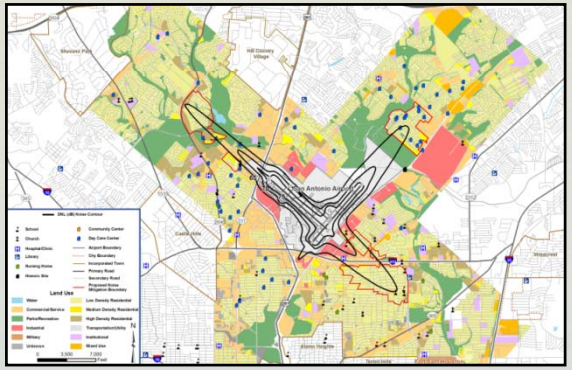


Recent FAR Part 150 Experience

Examples of recent studies include:

- **Westfield Barnes Airport**
  - Included impacts from Massachusetts Air National Guard
  - Development of noise abatement procedures and program measures
- **Nashua Municipal Airport / Boire Field**
  - Noise Exposure Map Update with challenging data availability
- **Philadelphia International Airport**
  - Extensive public participation and noise monitoring programs
  - NCP/NEM included supplemental metrics
- **San Antonio International Airport**
  - Completed in record time to meet airport/FAA goals
  - Worked with a large and contentious community





Fundamentals of Aircraft Noise

Fundamentals of Noise

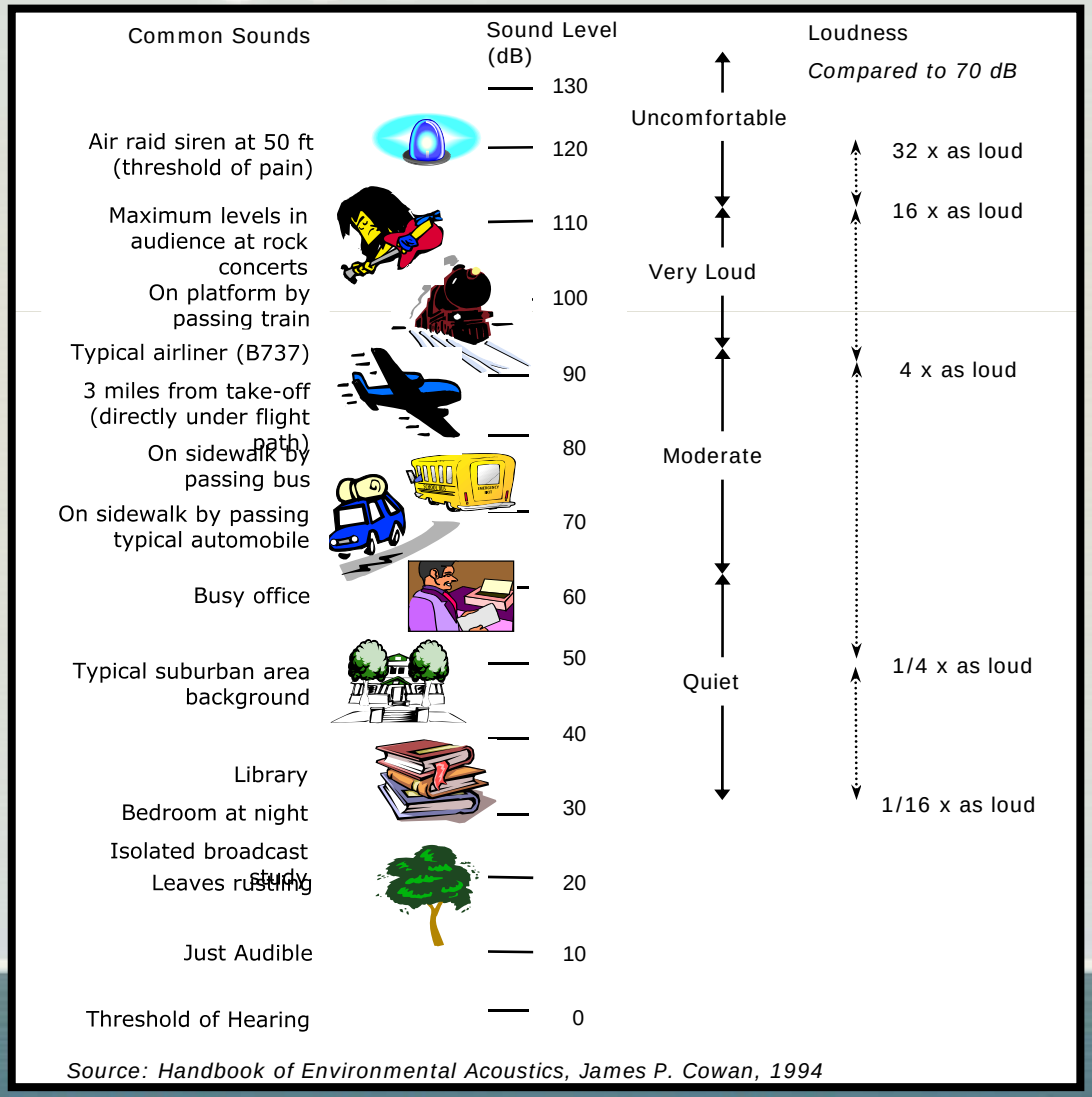
Sound - Minute vibrations that can be sensed by the human ear by traveling through air or water.

Noise - Unwanted sound that disturbs our activities and our enjoyment of “peace and quiet.”

Decibel (dB) - The logarithmic unit of measure for sound.

Attenuation - The reduction in the intensity of noise.

Fundamentals of Noise



Noise is a subjective event with each source generating varying responses – often at comparable sound levels.

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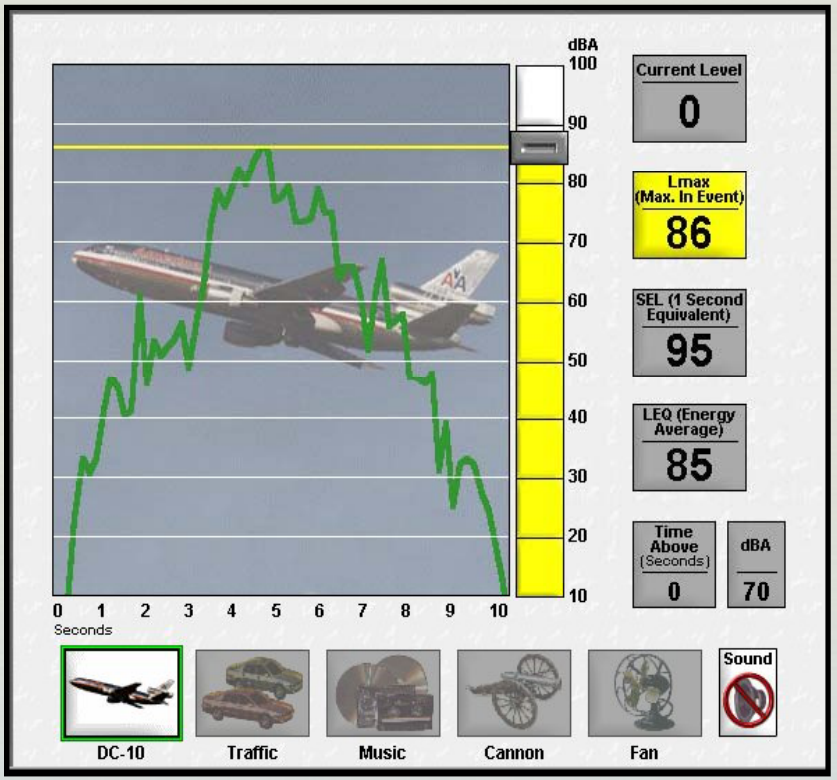
Single-Event Sound Level Metrics

Maximum Sound Level (L_{max})

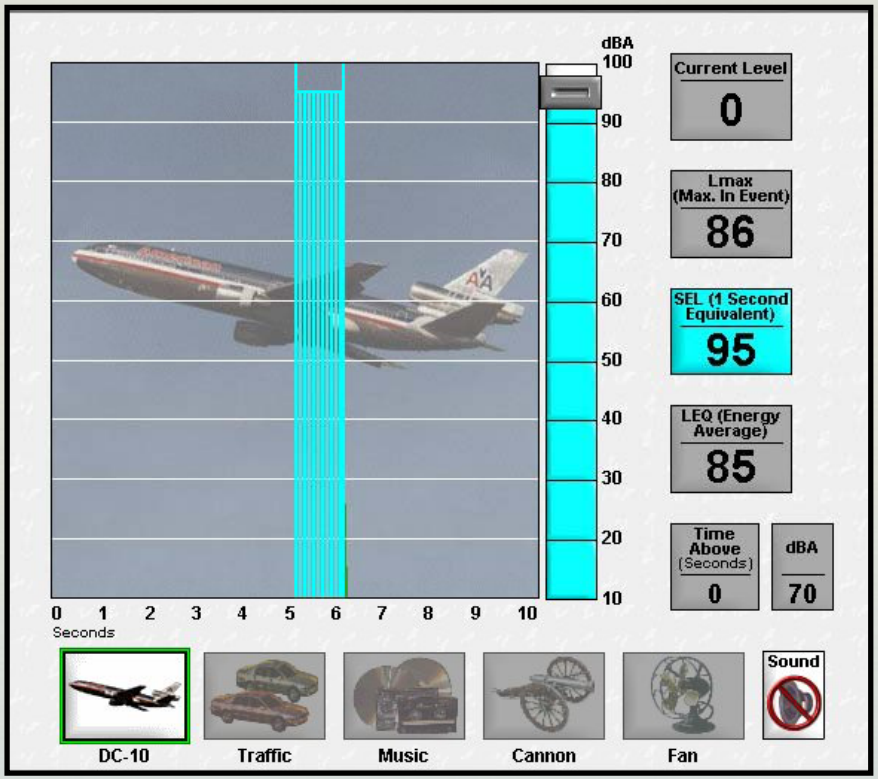
- Useful descriptor of an aircraft overflight.
- The highest sound level measured during a single event.
- Does not consider the duration of the flyover.



Single-Event Sound Level Metrics

Sound Exposure Level (SEL)

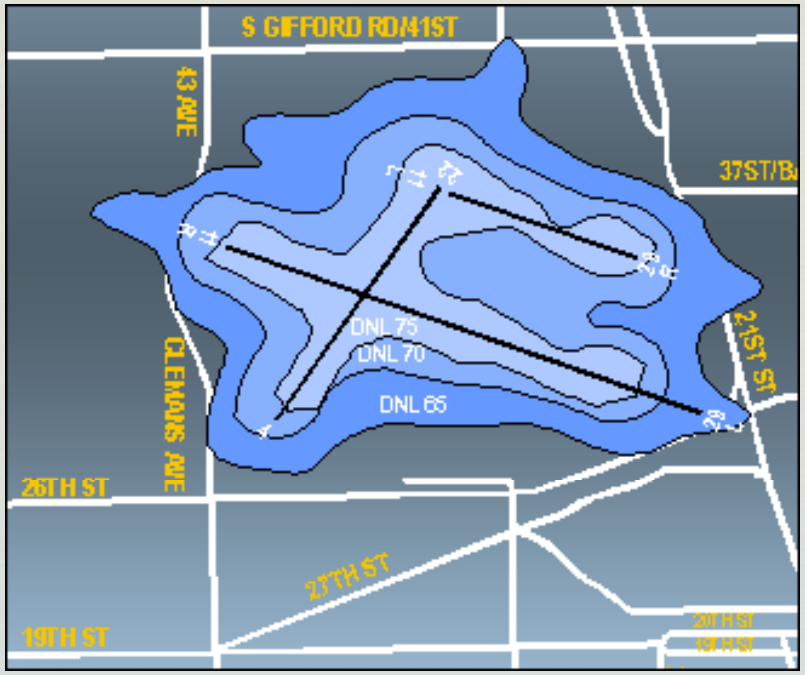
- A metric that normalizes the total energy of a noise event to a 1-second duration.
- Allows the addition of multiple events and calculation of average sound levels.



Time-Averaged Sound Level Metrics

Day-Night Average Sound Level (DNL)

- A 24-hour average metric
- Adds a weighting factor (10 dB) for each nighttime (10:00 p.m. to 7:00 a.m.) operation
- Uses SEL as the single event metric.
- The required metric for aircraft noise analysis.



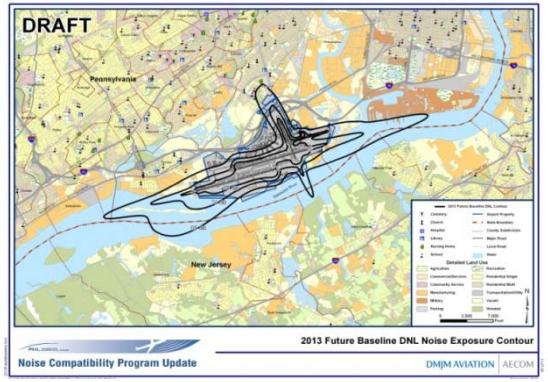
Introduction to FAR Part 150

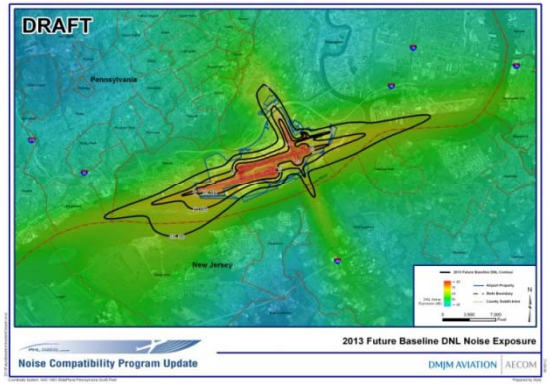
FAR Part 150

What is a Part 150 Study?

- Federal Aviation Regulation (FAR) Part 150, originated out of the Aviation Safety and Noise Abatement Act of 1979.
- Voluntary program initiated by an airport to evaluate noise and land use incompatibilities, balancing the needs of an airport with impacts on the surrounding communities.
- Evaluates existing and future noise levels, and strategies for abatement and mitigation.
- Establishes eligibility for Federal funding for implementation of approved recommended mitigation measures.
- Enhances the public's understanding and trust of the airport.

Example Contour Maps





The FAR Part 150 Study Process

Submittal to FAA
- NEMs are accepted
- 180 day NCP review

Data Collection
- Airport Operations
- Aircraft Fleet Mix
- Runway Utilization
- Flight Tracks
- Local Land Use
- Base Mapping

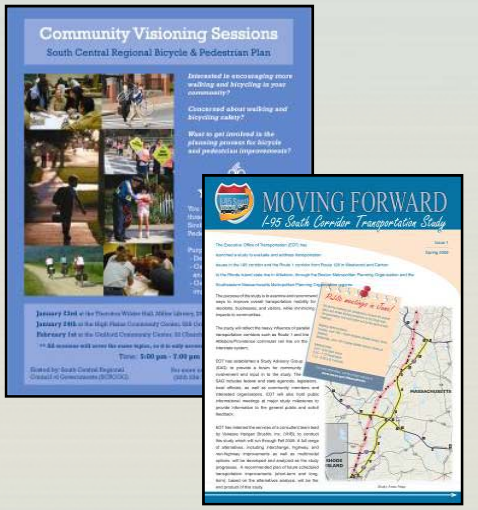
Noise Compatibility Program
- Noise Abatement/Operational Measures
- Land Use Mitigation Measures
- Program Management Measures

Noise Exposure Maps
- FAA's Integrated Noise Model
- Existing and Forecasted
- Determine level of impacts


Public Participation

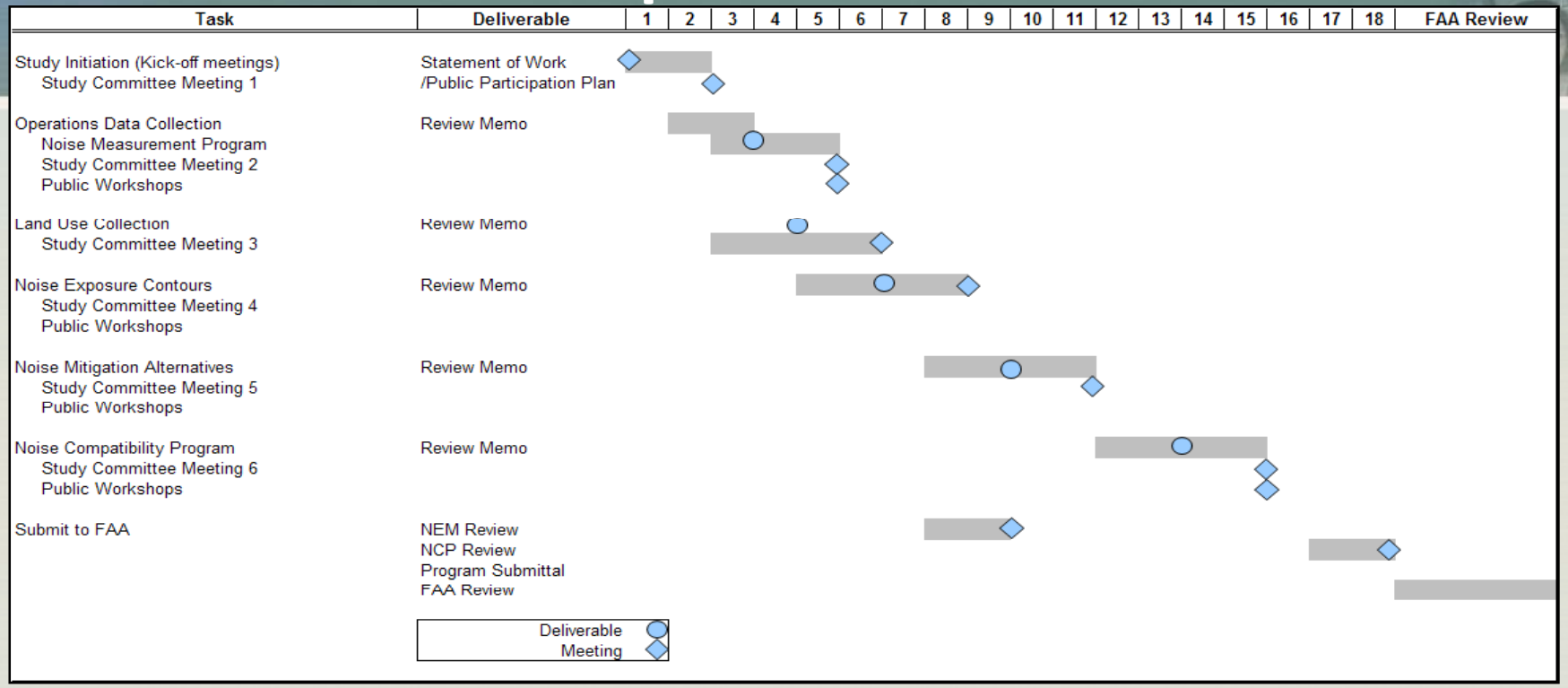
Public Participation

- **Community Involvement is critical to this Noise Compatibility Study and will be maintained throughout the different stages of the study.**
- **Program designed to meet both the airport and community needs:**
  - Public Participation Program Plan
  - Community Advisory Committee
  - Technical Committee
  - Project Newsletter, Direct Mailings, Website
  - Public Workshops/Public Hearings at multiple locations
  - New technology (e.g., Facebook, Twitter)



Project Schedule

Proposed Schedule



Phase I			Phase II		Phase III			
Project Kick-off	Data Collection & Analysis	Forecasting	Existing NEM	Forecast NEMs	Alternatives Analysis	NCP Development	Achieve Stakeholder Support	Public Meeting & Documentation

Questions and Discussion