

# Voluntary Residential Sound Insulation Pilot Program

## The Acoustical Measurement Program

### Information & Policies

#### **What is the acoustical measurement program?**

The acoustical measurement program is one component of the Voluntary Residential Sound Insulation Pilot Program. The Federal Aviation Administration guidelines state after sound insulation treatments, the average interior noise level of a home should be 45 decibels (dB) or lower and the resulting treatments will decrease the existing interior noise level by 5 dB.

The testing program is comprised of two parts; (1) pre-construction measurements taken prior to the installation of the acoustical treatments (new windows and doors) and (2) post-construction measurements of the same rooms after construction completion. This data is utilized by the consultant team to develop the acoustic design guidelines, measure success of the treatments and overall program success.



#### **Testing Process**

The acoustical team will select two or three rooms in your home to measure existing noise levels. A large speaker attached to an amplifier located outside of a home. The speaker will either be placed on a tripod or elevated by a bucket truck. This speaker will emit 90dBs of "pink noise" or "simulated aircraft noise" which is aimed at the selected room. The acoustical team will take noise level readings, using a sound level meter, of the both the interior and exterior of the rooms with the speaker active and off. The amplifier is turned on for approximately 5 minutes for each room test. The acoustical team will document the speaker's location for each room by taking digital photographs. These will be used in the post-construction testing.

#### **Why do you use "simulated" aircraft noise instead of real aircraft?**

There are two primary reasons why we use simulated aircraft noise. First, it ensures the same noise source for the pre- and post-construction measurements. This allows for accurately calculating the level of noise reduction. Secondly, it causes the least disruption to occupants. The use of actual aircraft overflights necessitates the need to be in your home for several hours in order to achieve the number of noise readings needed to measure all the rooms.

#### **Observation Requirements**

1. Observers will remain on the public right of way. Due to insurance requirements and respect for our homeowners, observers are asked to not enter the property.
2. Observers will remain quiet during the testing process. The acoustical consultant will be taking noise readings of the existing environment outside the home with and without the loudspeaker. In order to obtain an accurate reading of the current noise environment, please refrain from talking or making other noises. This includes silencing cell phones and other devices.
3. Please wear the hearing protection provided by BCAD while the speaker is active.
4. Please do not interrupt or interact with the acoustical consultants while they are working. The consultant team schedule has been designed to minimize the interruption to homeowner's day.