4.0

Land Use Management Measures
4. Land Use Management Measures

4.1 Introduction

Land use management measures attempt to mitigate the impacts of noise on incompatible land uses left within the higher noise levels after implementation of the air traffic actions of the Noise Compatibility Program. Land use measures are by nature either preventive, attempting to prevent future incompatible uses by using land use controls, or corrective, which attempt to mitigate incompatible land uses.

4.2 Land Use Management Alternatives

A range of land use management alternatives was examined based on the requirements of the Federal Aviation Regulation (FAR) Part 150, as well as input from the Study Advisory Committee and the general public. These alternatives are summarized in Table 4-1.

| LU-A | Continue the Residential Sound Insulation Program |
| LU-B | Implement Recommended Sound Attenuation Measures at Fort Mifflin |
| LU-C | Develop and Implement a Purchase and Resale Program |
| LU-D | Amend comprehensive plans and zoning maps to promote compatible land uses |
| LU-E | Support land use and land use development controls |
| LU-F | Encourage Airport noise overlay zoning |
| LU-G | Amend building codes to require soundproofing |
| LU-H | Disclose noise levels prior to contract for sale or lease |
| LU-I | Purchase Aigation Easements |
| LU-J | Sound Insulate Educational Facilities and Places of Worship |
| LU-K | Develop and Implement a Voluntary Acquisition Program |

Alternatives were evaluated, to the extent practicable on: safety; noise benefit; cost of implementation; and, feasibility of implementation. The results of the alternatives analysis yielded six alternatives which were recommended for inclusion in the Program Update as Measures. This section presents details on those six recommended land use management measures.
Recommended Land Use Management Measure LU-1 (Alternative LU-A)
Continue the Residential Sound Insulation Program

Description

A sound insulation program is an airport-sponsored program designed to reduce the interior audibility of aircraft overflights through modifications and replacement of building materials. In its most common form, a sound insulation program reduces the ability of sound energy to enter a structure through replacement of windows and sealants, the addition of efficient climate control systems, the reduction of structural air passages (modifications to venting), attic or wall insulation, and the installation of solid core doors. Windows and doors, as well as the seals that surround them, are the most common elements of an effective program.

The goal of a sound insulation program is to reduce the interior intrusion of aircraft overflights to a point that minimal interference with daily activities, such as telephone conversations, watching television, and sleep, occur. FAA guidelines specify that the goal of a sound insulation program is an interior noise level of DNL 45dB, which generally requires a Noise Level Reduction (NLR) of approximately 20 dB from the outside to the inside of a structure, depending on the noise level in which the structure resides. The type of mitigation offered in a sound insulation program is related to the NLR of the existing structure, with a minimum goal of achieving at least a 5 dB noise reduction.

A standard mitigation package would include new windows (prime/storm), new doors (prime/storm) and mechanical systems, (usually central air/heating or wall mounted ductless systems, based on pre-existing heating and cooling systems in the home). In some locations of the home (e.g. a finished porch) additional sheetrock may be required to achieve the desired acoustical effects.

Guidance for the implementation of a sound insulation program is found in the AIP Handbook, published by the FAA for use in implementing various AIP programs. Sound insulation, as well as other types of remedial mitigation, is generally only applicable to structures which have been found to be adversely affected by aircraft noise through the completion and approval of an NCP. Generally, only those structures within the DNL 65 dB noise exposure contour are eligible; however, the FAA allows for a ‘humanizing’ of the sound insulation boundaries to avoid the disruption of contiguous neighborhoods.

A residence is considered impacted and therefore potentially eligible for inclusion in the sound insulation program if the parcel boundary of the property falls within 2013 DNL 65dB noise exposure contour. Within the 2013 DNL 65dB contour (the blue line shown on Figure 4-1), a total of 34 residences have been identified as being potentially eligible for participation in a Sound Insulation Program. These areas are highlighted in gold on the figure.

Properties that comprise a contiguous residential area are also included as potentially eligible. Though this area is not a densely developed residential neighborhood, there are six additional residences located just beyond the 2013 DNL 65dB contour, shown in light blue on Figure 4-1. Given that the FAA allows for maintaining block continuity, an argument could be made to include these parcels in the program; however, their inclusion is not guaranteed.
Figure 4-1: Residential Parcels within or adjacent to the DNL 2013 65dB Noise Contour

Relationship to PHL Noise Environment

Measure LU-1 in the 2003 Part 150 Study called for the development and implementation of a sound insulation program. This measure is on-going, with over 200 homes having been completed.

Noise Benefits

Though there would be no direct reduction to the number of persons within the DNL 65dB noise exposure contour under this measure, property owners would benefit through a reduction of aircraft noise levels inside the structure.

Other Benefits

Participating properties would be required to attach avigation easements to the property deed, which would guarantee the right of flight over them.

Acoustic treatments have the potential to increase the value of the structure, as compared to similar structures which have not been treated.

Drawbacks

Following completion of the program, aircraft may still be audible inside the structure, even after meeting FAA guidelines. Sound insulation modifications are not very effective when a resident opens their
windows during periods of pleasant weather, nor does sound insulation mitigate outdoor noise levels.

In cases where air conditioning units are installed, the recipients are responsible for any increased utility costs, as well as potentially increased costs associated with an increase in assessed value and taxes associated with the improvements.

**Implementation Details**

**Responsible Implementing Party:** The implementation of this measure would be the responsibility of the City of Philadelphia, Division of Aviation, and their program management consultants.

**Schedule of Implementation:** Continuation of the sound insulation program would be subject to funding availability following approval of the NCP by the FAA, and would be anticipated to be instituted in phases over the course of five or more years.

Usually, the first step in a sound insulation program is to begin Phase 1 of the program, which involves surveying the types of structures that will be mitigated, deciding on the types of mitigation to be offered, and beginning the program on a limited number of structures. Sound insulation programs often operate in multiple phases, with the acoustic testing, architectural and engineering phases occurring first, followed by the construction phase, and ending with acoustic verification that the design goals have been met. An airport may be at various stages of completion of many phases at the same time.

**Costs Associated with Implementation/Funding:** Under the assumption that the Airport solicits a consultant to manage the project, support costs, such as setting up a program office could cost as much as $300,000.

Given the on-going sound insulation program undertaken by the City of Philadelphia and researching sound insulation programs across the country, it is estimated that the cost per residence in this program will range from $62,000 to $67,000. These costs should be considered preliminary in nature, and should be further evaluated prior to the implementation of this measure.

Assuming 50% homeowner participation of the homes within the 2013 DNL 65db contour, the preliminary costs of the program would be $1.1 million. The Airport would be responsible for the 20% funding share, or $220,000.

Assuming 100% homeowner participation of those homes within the 2013 DNL 65dB contour, the preliminary costs of the program would be $2.5 million. The Airport would be responsible for the 20% funding share or $500,000.

Assuming that the six additional residences are included in the program, these cost estimates increase by approximately $400,000.

**Relationship to Other Recommended Measures**

This measure would be an alternative to the Voluntary Acquisition Program (LU-5) and Purchase Assurance Program (LU-2).

**Preliminary Recommendations**

*Measure LU-1: Continue the Residential Sound Insulation Program*
Recommended Land Use Management Measure LU-2 (Alternative LU-C)
Develop and Implement a Purchase Assurance Program

Description

A Purchase Assurance Program would be offered as an alternate to the Residential Sound Insulation Program for those eligible homes that do not qualify for the sound insulation program, or for those residents who do not wish to participate in the voluntary acquisition program.

Under a Purchase Assurance Program, the Airport purchases a participating owner-occupied home at the appraised fair market value, typically sound insulates it, and resells the home for residential use subject to the Airport's noise/aviation easement retained on the sale to a new owner.

Within the 2013 DNL 65dB contour, a total of 34 residences have been identified as being potentially eligible for participation in the Purchase Assurance Program.

Relationship to PHL Noise Environment

Measure LU-2 in the 2003 Part 150 Study called for the development and implementation of a purchase assurance program, but there were no participants.

Noise Benefits

This measure would not result in a direct reduction in noise levels, nor does it reduce the number of persons within the DNL 65dB noise exposure contour.

Other Benefits

This measure provides an option to those who would not consider voluntary acquisition, or whose homes would not be eligible for the residential sound insulation program.

Reselling properties could build funds for the purchase of more impacted properties within the DNL 65dB contour.

Drawbacks

There would not be a change in land use from compatible to non-compatible.

The program would require a program manager or consultant to implement and maintain.

Exterior noise levels would not decrease.

Implementation Details

Responsive Implementing Party: The City of Philadelphia, Division of Aviation, and their program management consultants would be responsible for implementing this program.

Schedule of Implementation: A purchase assurance program could begin, subject to funding availability, following approval of the NCP by the FAA.

Costs Associated with Implementation/Funding:

The costs associated with this measure would be variable depending on the purchase price, the degree of sound insulation required and the costs associated with the re-sale of the property.

Relationship to Other Recommended Measures
This measure would be an alternative to the Voluntary Acquisition Program (LU-5) and Residential Sound Insulation Program (LU-1).

**Preliminary Recommendations**

*Measure LU-2: Develop and Implement a Purchase Assurance Program*
Recommended Land Use Management Measure LU-3 (Alternative LU-D/E/F)
Support local municipalities in comprehensive planning strategies to reduce non-compatible land use

Description

Comprehensive planning is essential to develop and maintain compatible land uses near airports. Traditionally, the responsibility of regulating land use is delegated to state and local governments. With Pennsylvania having such independent city and township land use and planning governance, it is critical for PHL to educate and work with the surrounding jurisdictions to encourage compatible land use activities near the airport. Land use planning for the area in which the airport is physically located is primarily the responsibility of the City of Philadelphia, and Tinicum Township with support from Delaware County. PHL has also coordinated with New Jersey’s Gloucester County Planning Division which is responsible for the county’s comprehensive planning and which serves as a coordinator and advisor for municipal planning.

Two previously approved Land Use Measures accounted for land use controls and land use development controls; LU-3 and LU-4, respectively. Similar to these measures, this proposed measure entails coordination with, and support of, the local agencies responsible for land use controls and land development controls within their jurisdictions.

The Philadelphia City Planning Commission (PCPC) is responsible for guiding the orderly growth and development within the City of Philadelphia. The PCPC consists of five divisions designed to address the increasingly wide range of planning issues facing the City. The Development Planning Division would directly pertain to the Airport and compatible land use planning. The Development Planning Division is responsible for reviewing plans for new development, and examining the implications of such plans with respect to the Zoning Code, Land Subdivision Ordinance, Federal and state environmental regulations, and other City and state land use controls. The PCPC recently embarked on updating the City’s Comprehensive Plan which was developed 50 years ago. As part of this effort, the Zoning Code, originally authored in 1933 and last updated in the 1960’s, is being rewritten. The City will be rezoned and mapped according to the new code. Airport officials have been working with the City on this significant undertaking to ensure that Airport specific zoning provisions are included in the revised Zoning Codes to address airport related safety, height, and noise concerns.

Tinicum Township officials in coordination with the Delaware County Planning Department (DCPD) are responsible for zoning and land use development within the Township. The Delaware County Planning Department delegated this authority to the township. The mission of the DCPD is to promote sound development and redevelopment of the County through the application of contemporary planning principles and growth management concepts. Like the City Planning Commission, the Delaware County Planning Department is divided into sections to address a myriad of planning issues. The Community Assistance Division provides local planning services and technical assistance to the County’s 49 municipalities to help them address development and redevelopment issues. This Division assists in preparation of updated municipal comprehensive plans and implementation strategies, zoning ordinances, and specialized studies; grant writing assistance; and finding funding sources to carry out any of these projects. Tinicum Township, with assistance from the Delaware County Planning Department is in the process of revising their zoning ordinance, which does include airport-related and airport-dependent uses.

Relationship to PHL Noise Environment

In the 2003 FAR Part 150 Study, the FAA approved Measure LU-3: Develop and implement a land use controls program and Measure LU-4: Develop and implement a land use development controls program. The basic intent of these measures was to encourage local municipalities to consider PHL operations in their comprehensive plans and zoning ordinances so as to reduce the amount of non compatible land
uses.

**Noise Benefits**

This measure would not result in a direct reduction in noise levels, or persons within the 2013 DNL 65dB, but it does increase the potential awareness of noise exposure by those accountable for responsible land use planning and development around PHL. Also, this measure reduces the potential for future non-compatible land use development around PHL.

**Other Benefits**

Improved public awareness of noise exposure and noise issues that affect land use planning decisions.

**Drawbacks**

There are no major drawbacks to supporting local municipalities in their land use planning efforts.

**Implementation Details**

**Responsible Implementing Party:** Local municipalities would be responsible for implementing this measure.

**Schedule of Implementation:** As this measure is part of the existing practices, implementation is ongoing.

**Costs associated with Implementation/Funding:** There are no direct additional costs associated with the continued implementation of this measure, however, it is expected that airport staff time associated with attending City and/or Township planning meetings would occur.

**Relationship to Other Recommended Measures**

This Measure, in concert with PM-1: Establish a Noise Abatement Advisory Committee and PM-4: Continue to Develop the Responsibilities of the PHL Noise Office would ensure open communication between the airport and local municipalities.

**Preliminary Recommendations**

*Measure LU-3: Support local municipalities in comprehensive planning strategies to reduce non-compatible land use*
Recommended Land Use Management Measure LU-4 (Alternative LU-B)
Develop and Implement a Fort Mifflin Sound Insulation Program

Description
Following the 2003 FAA approval of Measure LU-5, a Fort Mifflin Sound Insulation Feasibility Study was initiated. This comprehensive feasibility study identified facilities within historic Fort Mifflin that were likely to benefit from noise attenuation measures. The facilities identified were: 1) the Restoration Hospital/Mess Hall; 2) the Soldiers’ Barracks; and 3) the Officers’ Quarters. These facilities serve specific purposes and roles at Fort Mifflin, such as a caretaker residence, business offices and educational facilities, and are considered sensitive uses.

Various options and combinations of door, window, and HVAC treatments developed to attenuate noise were contained in the Feasibility Study and shared with the appropriate regulators for review and comment. A site visit was conducted on August 2, 2006 so that the agencies could witness, first-hand, the existing conditions and understand the proposed noise attenuation treatments. Based on the comprehensive study and a September 24, 2008 FAA Determination, it is feasible to consider providing sound attenuation treatments only for specific rooms within the 3 structures noted. Specifically only the Video Conference Lab in the Restoration Hospital/Mess Hall, only the two classrooms in the Soldiers Barracks, and only the caretaker’s quarters in the Officers’ Quarters are considered eligible for Federal funding under the Part 150 program.

In designing the proposed acoustical treatment options and sound attenuation measure alternatives, focus was placed on those elements of each building that would have the greatest influence on their acoustical performance, i.e., walls, doors, windows, vent openings, chimneys, and roof/ceiling noise paths. Additionally, since the effectiveness of the acoustical treatments requires keeping doors and windows closed, recommendations were also developed to ensure the effectiveness of the buildings' mechanical and electrical systems in order to heat, cool and ventilate all habitable spaces.

The proposed acoustical treatment alternatives summarized below achieve FAA’s noise level reduction (NLR) goals that require sound insulation of habitable spaces to result in:

- An interior noise level of not greater than DNL 45 dB
- Minimum noise level reduction (NLR) of 5 dB

In addition, the sound attenuation measures were developed to maintain the historic and architectural integrity of Fort Mifflin, and in consideration of the fact that the proposed treatments and products must be durable over time.

Each of the buildings was acoustically tested and modeled to take into account its unique combination of elements that contribute to its acoustical performance and create its current noise environment. The existing buildings were modeled and the various elements that represent noise paths into habitable spaces were manipulated to test various ways to reduce noise. This process produced a list of acoustical treatment recommendations that represent the most efficient way to improve the acoustical performance of the buildings while meeting FAA’s DNL and NLR requirements.

Relationship to PHL Noise Environment
Measure LU-5 in the 2003 Part 150 Study was to prepare a study to determine feasibility of implementing noise mitigation measures at historic Fort Mifflin. This study was completed and it was determined that it would be feasible to provide sound insulation to certain eligible areas of the Fort to provide an acceptable

---

### Noise Benefits

The proposed acoustical treatments achieve FAA’s noise level reduction (NLR) goals of: An interior noise level of not greater than DNL 45dB, Minimum noise level reduction (NLR) of 5 dB

The sound attenuation measures will be designed to maintain the historic and architectural integrity of the Fort.

### Other Benefits

Acoustic treatments will enable the Fort more opportunity to conduct meaningful educational programs and special events for its visitors.

### Drawbacks

Only certain rooms are eligible to be considered for funding under the Part 150 Program as noted in the Description section.

Sound insulation does not mitigate outdoor noise levels.

### Implementation Details

**Responsible Implementing Party:** The implementation of this measure would be the responsibility of the City of Philadelphia Division of Aviation and Department of Recreation, the Pennsylvania State Historic Preservation Office, the Advisory Council for Historic Preservation, as well as a program manager, if the City chooses to hire one.

**Schedule of Implementation:** A sound insulation program at the Fort could begin, subject to funding availability, following approval of the NCP by the FAA.

**Costs Associated with Implementation/Funding:** Preliminary cost estimates were prepared in the Feasibility Report which included architectural, mechanical, electrical, and plumbing elements, as well as labor and material costs for acoustic doors and windows. Depending on which features were to be implemented, the overall cost estimates ranged from $550,000 to $600,000. However, the actual costs to implement the sound attenuation treatments will be based upon further detailed architectural and engineering studies and are subject to current economic conditions.

### Relationship to Other Recommended Measures

None expected.

### Preliminary Recommendations

*Measure LU-4: Develop and Implement the Fort Mifflin Sound Insulation Program*
Recommended Land Use Management Measure LU-5 (Alternative LU-K)
Establish a Voluntary Acquisition Program

**Description**

Voluntary Acquisition Programs are generally instituted in noise impacted areas around an airport, usually defined as those within the DNL 70 dB noise exposure contour. The programs are voluntary, and are subject to the provisions set forth in the *Uniform Relocation Assistance and Real Property Acquisition Policies Act* (49 CFR Part 24) (Uniform Act).

At PHL, this measure entails establishing a Voluntary Acquisition Program, offering to purchase residential property located within the 2013 DNL 65 dB noise exposure contour. Acquired land would then be assembled for reuse as an airport compatible land use. Should a homeowner decide not to participate in the Voluntary Acquisition Program, there is still the option to participate in the Residential Sound Insulation Program (LU-1). Or, should a home be in a condition such that it is incapable of accepting the improvements necessary to achieve the required noise level reductions in the RSIP without significant improvements, the option of a Purchase Assurance Program is still available (Measure LU-2).

Approximately 34 parcels would be included in this measure, all located in the residential area north of Runway 17/35. The area is bounded by Bartram Avenue to the south, Brunswick Avenue to the north, 84th Street to the west, and Mario Lanza Boulevard to the east. The area is affected by both aircraft takeoff and landing operations on Runway 17/35.

Located in the Eastwick neighborhood in the City of Philadelphia, the subject area is zoned R9A – Single Family Residential. The condition of the homes range in quality from below average to average condition. The majority of the dwellings are two story buildings with flat roofs. A majority of the homes are owner-occupied.

Based on available public information, the square footage of the homes range from 640 square feet to 1500 square feet. Within the affected blocks there are at least three vacant parcels and two dwellings that have been sealed and are presently vacated. Additionally, at least two properties are actively for sale.

Participation in the acquisition program as offered in this NCP would be voluntary, and participation in the program will qualify a homeowner for the benefits outlined in the Uniform Act and implementing regulations (49 CFR Part 24). The Uniform Act addresses both land acquisition and the relocation of displaced persons as a result. Two types of relocation costs may be offered: moving and relocation expenses and/or relocation assistance. The types of payments that may be offered are related to both the owner/occupancy or tenant classification as well as the period of occupancy, which ranges from one to 180 days. The length of time of occupancy time periods determine the level of payments involved. Both owners and tenants are eligible for relocation costs under the Uniform Act.

An important consideration in the Uniform Act is the requirement that comparable replacement housing exist. The acquisition and relocation program offered by the Airport will include assistance in finding sufficient replacement dwellings.

**Relationship to PHL Noise Environment**

Measure LU-5 is a new measure.

**Noise Benefits**

This measure would not reduce noise levels generated by aircraft operating at PHL, but would result in...
the land uses which would be considered compatible with aircraft operations in the 2013 DNL 65dB noise exposure contour, and a reduction of people residing in the DNL 65dB noise contour.

Other Benefits

The voluntary acquisition of land and interests therein, including but not limited to air rights, easements and development rights ensure that the property use is for purposes which are compatible with airport operations into the future.

Compatible development may create jobs and tax revenue which could offset losses in residential property taxes.

Drawbacks

- Participation in a voluntary acquisition program of homeowners within the DNL 65dB noise contour would result in the removal of those properties from the City tax roll. The real estate taxes in this section of the City average $500.00 per property, which is relatively low in comparison to other sections of the City. Approximate tax revenue loss would be $17,000.

- It is likely that not all homeowners would participate in the voluntary acquisition program, thus there is the potential for continued non-compatible land uses within the 2013 65dB noise contour.

- The City of Philadelphia would be responsible for the maintenance of any properties acquired under this program.

Implementation Details

**Responsible Implementing Party:** The City of Philadelphia, either through its own administrative means or by soliciting bids for professional services, would be responsible for establishing the voluntary acquisition program.

**Schedule of Implementation:** Federal funding for noise compatibility projects undertaken by airports is eligible only after an airport has completed and approved a Noise Compatibility Program. Following the approval by the FAA of this NCP, and assuming AIP grant funding is available; the City of Philadelphia may begin the voluntary acquisition process.

The City, or designated party will hire a qualified professional, independent appraiser in order to initially identify a property’s fair market value. The property owner is encouraged to attend the initial appraisal. Following the appraisal, the Uniform Act specifies that the appraisal must be reviewed by a qualified review appraiser, whose purpose is to comprehensively assess the validity and reasonableness of the final valuation conclusion. This appraisal will be used to identify the fair market value of a residence, which is the basis for the City's offer. The determined fair market value is considered ‘just compensation’ and does not include relocation costs, which are discussed later in the process. Following the appraisal of the property the airport will begin negotiations with the property owner, with an offer that it believes is just compensation for the property, but not less than the appraised fair market value. The initiation of negotiations officially begins with the City’s submission of a written offer to the property owner.

The sale of the property to the City would be similar to the sale of the property to a private seller, and includes the completion of a sales contract, transfer of title, and an executed deed. Following the closure of the sale, the airport owner or designee will provide written notice 90 days in advance of the moving date.

**Costs Associated with Implementation/Funding:**

There are a number of costs associated with this measure, including the costs of appraisals, relocation and moving expenses, demolition costs, and administrative expenses. While some of these costs are
fixed, others, such as the costs of acquisition of individual properties, could cause the overall cost of this measure to fluctuate. Appraisals may cost approximately $300 per residence. An initial analysis of assessed value according to the City of Philadelphia Bureau of Revision of Taxes indicated that the homes in this area have a certified market values ranging from $13,000 to $30,000. However, the average list price for properties in the Eastwick area is $75,000. Assuming this as the acquisition price per home, and assuming 50% participation by property owners, the full cost of the program could be in the vicinity of $1.3 million. The Airport would be responsible for 20% of the funding share or $260,000. Assuming 100% homeowner participation in the voluntary program, the cost would be approximately $3 million and the City’s 20% share would be $600,000. These costs should be considered preliminary in nature, and should be further evaluated prior to the implementation of this measure.

**Relationship to Other Recommended Measures**

This measure would be an alternative to the Residential Sound Insulation program (LU-1) and the Purchase Assurance Program (LU-2).

**Preliminary Recommendations**

*Measure LU-5: Establish a Voluntary Acquisition Program*
Recommended Land Use Management Measure LU-6 (Alternative LU-J)
Sound Insulate Educational Facilities and Places of Worship

Description

There are two schools and one church within the 2013 DNL 65db contour (see Figure 4-2). The schools are the George W. Pepper Middle School and the Communications Technology High School, both under the auspices of the City of Philadelphia School District.

The church is the Kingdom Hall of the Jehovah’s Witness, located at 3301 South 84th Street. The George Pepper Middle School is located at 2901 South 84th Street. School is open Monday through Friday from 8:00 AM - 3:04 PM. The Communications Technology High School is located at 8110 Lyons Avenue. School is open Monday through Friday from 8:00 AM - 3:04 PM.

According to FAA regulations, for schools, the usual design objective for a classroom environment is a time-average A-weighted sound level of 45 dB resulting from aircraft operations during normal school hours. As with residential noise insulation, a school sound insulation project should reduce existing noise levels by at least 5 dB for the same time-average school hour’s time frame.

In order to achieve effective sound insulation, it is recommended that both of the schools and the Kingdom Hall be acoustically tested and modeled to obtain the existing interior and exterior noise levels. Each of the buildings should be acoustically tested and modeled to take into account its unique combination of elements that contribute to its acoustical performance and that create its current noise environment.
FAA noise level reduction (NLR) goals to be met through this effort are:
- An interior noise level of not greater than DNL 45dB
- Minimum noise level reduction (NLR) of 5dB

**Relationship to PHL Noise Environment**

Sound insulation is not new to PHL. An on-going residential sound insulation program was derived from the 2003 FAR Part 150 program (LU-1). However, this proposed program is geared towards eligible noise-sensitive public-use facilities in the DNL 65dB contour.

**Noise Benefits**

There would be no direct reduction to the number of persons within the DNL 65dB noise exposure contour. However, these facilities would benefit through a reduction of interior noise levels from aircraft overhead.

**Other Benefits**

None expected.

**Drawbacks**

Sound insulation does not mitigate outdoor noise levels.

**Implementation Details**

**Responsible Implementing Party:** The implementation of this measure would be the responsibility of the City of Philadelphia, Division of Aviation, likely through a program management consultant.

**Schedule of Implementation:** This program could begin, subject to funding availability and needs assessment, following approval of the NCP by the FAA, and would be anticipated to be instituted in phases.

**Costs associated with Implementation/Funding:** Costs would depend on the extent of mitigation required to meet the NLR.

**Relationship to Other Recommended Measures**

This measure, in conjunction with the Residential Sound Insulation Program (LU-1) would contribute to improving the quality of life for residents, students and worshipers affected by noise exposure in the DNL 65dB contour.

**Preliminary Recommendations**

*Measure LU-6: Sound Insulate Educational Facilities and Places of Worship*