

Key West International Airport
Ad-Hoc Committee on Airport Noise
Agenda for Tuesday, February 2nd, 2016

Call to Order 3:00 pm Harvey Government Center

Roll Call

- A. Review and Approval of Meeting Minutes
 - 1. For December 1st, 2015
- B. Discussion of NCP Operational Measures
 - 1. Draft Pilot Information Brochure
- C. Discussion of NIP Implementation
 - 1. Correspondence with Potentially-Eligible Homeowners
 - 2. Property Survey Completed January 12-14
 - 3. Schedule of Remaining Tasks
- D. Other Reports:
 - 1. Noise Hotline and Contact Log
 - 2. Airport Noise Report
- E. Other Discussion
- F. Next meeting: April 5th, 2015

Meeting Schedule for 2016

February 2nd April 5th
July 5th November 1st

ADA ASSISTANCE: If you are a person with a disability who needs special accommodations in order to participate in this proceeding, please contact the County Administrator's Office, by phoning (305) 292-4441, between the hours of 8:30 a.m. - 5:00 p.m., no later than five (5) calendar days prior to the scheduled meeting; if you are hearing or voice impaired, call "711".

KWIA Ad-Hoc Committee on Noise December 1, 2015 Meeting Minutes

Meeting called to order by Don DeGraw at 2:00 PM.

ROLL CALL:

Committee Members in Attendance:

Sonny Knowles
Dr. Julie Ann Floyd
Harvey Wolney
Amy Kehoe
Tina Mazzorana, via telephone
Nick Pontecorvo

Staff and Guests in Attendance:

Don DeGraw, Monroe County Director of Airports
Deborah Lagos, DML & Associates
Jim Gasche, EYW ATCT Manager
Dottie Harden
Page Haverty
Danny Doom, KWBTS
Ray Blazevic
John McMahon
Tom Nelson, KWBTS
Brian Corbett, KWBTS
Tom & Robbie Lewis, Golf Course
Gigi Varnum
Robert S. Gold, Old Town Homeowners, joined via telephone at 2:37 pm

A quorum was present. Don DeGraw chaired the meeting.

Review and Approval of Meeting Minutes for the October 6th, 2015 Ad Hoc Committee Meetings

Don DeGraw asked if there were any comments or corrections to the October 6th, 2015 minutes. Sonny Knowles made a motion to approve the minutes Amy Kehoe seconded the motion. The minutes were approved as presented.

KWIA Ad-Hoc Committee on Noise December 1, 2015 Meeting Minutes

Discussion of NCP Operational Measures

The status of the following NCP Operational Measures was discussed:

- Voluntary use of Ground Power Units when time and safety permit
- Continue use of designated aircraft run-up locations
- Voluntary use of intersection departures on Runway 09
- Continue use of a wide variety of flight paths on approach to Runway 09
- Voluntary southerly helicopter arrival and departure tracks
- Adherence to voluntary practices for air tour and aerial advertising flights
- Continue voluntary avoidance of direct flight over Key West by the Sea Condominiums by pilots of air tours and aerial advertising flights
- Continue voluntary use of noise abatement arrival and departure procedures
- Continue voluntary curfew of aircraft activity between 11:00 p.m. and 7:00 a.m.
- Prepare, print, and distribute full color informational inserts in a format that is compatible with the Jeppesen Sanderson manual, which describe all voluntary noise abatement procedures
- Post framed, weatherproof, large scale versions of pilot handout on the airside at the FBO and airline terminal
- Purchase and install lighted airfield information signs to promote use of voluntary noise abatement procedures

Examples of pilot information hand-outs from several airports in Florida were included in the agenda package. Plans for the development of the EYW pilot information materials were discussed. It was agreed that the pilot information materials should be available on the airport's website in a high-resolution PDF format, as well as in a hand-out format compatible with Jeppesen Sanderson manual. Copies will be made available for all airport stakeholders. Deborah hopes to have a first draft completed in time for the next Ad-Hoc meeting. Don mentioned that we will coordinate with the local pilots to review the materials prior to finalization. The materials will have to be reviewed and approved by the FAA and the Navy.

The new NBAA Noise Abatement Procedure was included in the agenda package. It was recently updated, and no longer includes "close-in" and "distant" departure procedures.

KWIA Ad-Hoc Committee on Noise December 1, 2015 Meeting Minutes

Discussion of NCP Implementation Plan

Deborah reported that a kick-off meeting was held with the FAA in Orlando on November 13th. A copy of the agenda package for the meeting was included in the Ad-Hoc Committee's agenda package. Highlights of the discussion are as follows:

- KWBTS Building B will be the first priority for the NIP, along with the four (4) single-family houses located within the DNL 70 dB contour.
- The following schedule was reviewed and confirmed:
 - Year 1 - Design & Bid KWBTS Bldg B & 4 SF houses in DNL 70 dB
 - Year 2 - Construction of KWBTS Bldg B & 4 SF houses
 - Year 3 - Design & Bid KWBTS Bldg C
 - Year 4 - Construction of KWBTS Bldg C
 - Year 5 - Design & Bid KWBTS Bldg A
 - Year 6 - Construction of KWBTS Bldg A
- Because of constraints on local matching funds (from PFCs) the average cost per year was targeted at around \$3 million. However, this average is weighted because the Design & Bid cost is less than the Construction Cost, so, for example, the average of Year 1 and Year 2 is \$3 million per year, even though Year 1 is \$1.5 million and Year 2 is \$4.6 million.
- Costs for implementation of NCP Operational Measures are include in the budget presented to the FAA, as shown on page 26 of the agenda package.
- Noise Testing will be conducted on a sample of each floor plan type, including approximately ten (10) percent of each type. This includes original floor plans, as well as units that have been remodeled with new doors and windows, new HVAC, or both. The units to be tested will be selected from Building B and the portion of Building C that is within the DNL 65 dB noise contour. Testing will likely occur in March 2016.
- Some floor plans may be eligible while others are not. That is not the desire, but it is a possibility. The units least likely to be eligible are those that have already replaced their windows, doors, and HVAC.
- There is no mechanism to reimburse people who have already replaced their window, doors, and/or HVAC. The FAA will not allow it.

There was discussion of the new homes being constructed at the corner of 11th Street and Flagler Avenue. They will not be eligible for the NIP, because they are being constructed after the noise contours were published. This is an FAA policy,

KWIA Ad-Hoc Committee on Noise December 1, 2015 Meeting Minutes

not a local decision. We will try to purchase an avigation easement from the developer, before any homes are sold to individual owners.

Other Reports

Noise Hotline and Contact Log

There were two calls to the hotline in October, as shown on page 34 of the agenda package. Since residents of KWBTs have learned that they are in the NIP, calls have been less frequent.

Don received an email from residents of a home located on Trinidad that are disturbed by the two early morning departures, one American, one Delta.

Airport Noise Report

Deborah asked if anyone read any articles of particular interest. The following articles were mentioned: Amy Kehoe mentioned an article on page 38, regarding Boeing getting a patent for a device that converts aircraft noise to electricity.

Page Haverty mentioned the use of active noise control for aircraft noise.

Deborah mentioned that there are a number of articles regarding communities that are upset by aircraft noise resulting from NextGen flight paths. This is FAA's new system for guiding aircraft, which tends to focus aircraft into a narrower corridor, which results in more noise for people living under that narrow path.

Discussion of Meeting Dates for 2016

There was discussion regarding frequency and timing of Ad-Hoc Committee meetings for 2016. Amy Kehoe made a motion, which was seconded by Tina Mazzorana, to hold meetings in February, April, July, and November, on the first Tuesday of those months. The motion passed unanimously, with discussion that emergency meetings could be called if necessary.

Next meeting February 2nd, 2016.

KWIA Ad-Hoc Committee on Noise December 1, 2015 Meeting Minutes

Any Other Discussion

Page Haverty mentioned that aircraft departing to the west (i.e., on Runway 27) are making a sharp right turn quickly after takeoff, which brings them over Garrison Bight at low altitudes. There was additional discussion of this situation, and if there was a way to discourage this. If they could turn a little later, when they are at a higher altitude, which would be better.

There was discussion of helicopter routes, to take them to the south, rather than flying over homes.

Don DeGraw indicated that a PFC Use Application has been submitted to the FAA which includes a project to make some additional pavement at the west end of the runway (that was made available as a result of the EMAS project) available for takeoff for aircraft departing on Runway 09 (i.e., to the east). It will provide an additional 271 feet of runway for takeoff on Runway 09. The term is "Takeoff Run Available" or TORA). Aircraft would turn off the taxiway onto the runway, then back-taxi approximately 271 feet, then turn around, so they will have additional runway length for takeoff. People can go to EYW.com and leave comments regarding the PFC application.

Harvey Wolney moved to adjourn the meeting. The meeting adjourned at 3:17 p.m.

KEY WEST INTERNATIONAL AIRPORT—EYW AIRCRAFT ENGINE RUN-UPS

Between the hours of 11:00 pm and 7:00 am local time, aircraft engine run-ups must be conducted at the designated location as shown below. Run-up is defined as “advancing the r.p.m. of a prop aircraft’s engine or engines to the appropriate medium setting for the aircraft type as a final engine and systems test before full power takeoff.”

Between the hours of 7:00 am and 11:00 pm local time, aircraft engine run-ups shall be made only at the ends of the parallel taxiway or near the runway ends behind the holding line markings so long as the same shall not interfere with operation of other aircraft.



KEY WEST INTERNATIONAL AIRPORT—EYW VOLUNTARY NOISE ABATEMENT PROCEDURES

Curfew

- Please observe the voluntary curfew on aircraft activity between 11:00 pm and 7:00am local time.

Ground Power Units (GPUs)

- When time and safety permit, please use available GPUs in place of on-board Auxiliary Power Units (APUs).

Intersection Departures

- When weather, safety, and aircraft performance permit, please use an intersection departure at Taxiway C when departing from Runway 09.

Arrival and Departure Procedures

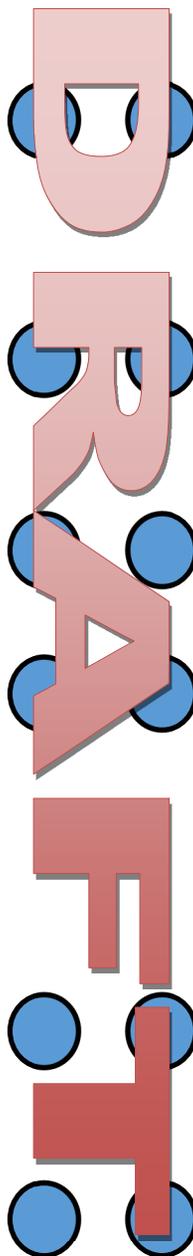
- Departing VFR aircraft please maintain runway heading until reaching the airport boundary.
- Arriving VFR aircraft please use a variety of flight paths during daylight hours when on approach to Runway 09.
- Departing jet aircraft please use NBAA noise abatement departure procedure or airline-approved noise abatement departure procedure.
- Propeller aircraft please use propeller and power adjustments, as safety allows.

Air Tour and Aerial Advertising Flights

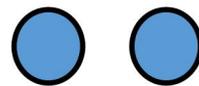
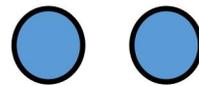
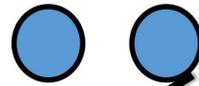
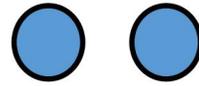
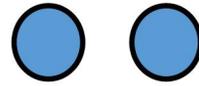
Please avoid direct overflight of Key West by the Sea and Las Brisas Condominiums.

Helicopters

- When time and safety allow, please depart to and arrive from the south to avoid low overflights of noise-sensitive residential areas directly north of the airport.



KEY WEST INTERNATIONAL AIRPORT—EYW
VOLUNTARY NOISE ABATEMENT PROCEDURES



INSERT GRAPHIC OF PREFERRED FLIGHT PATHS



Deborah Lagos <deborah.murphy.lagos@gmail.com>

KW NIP - KWBTB Mailing Package (Letter & Fact Sheet)

1 message

Steve Vecchi <svecchi@thcinc.net>

Tue, Jan 5, 2016 at 12:19 PM

To: "Deborah Lagos <deborah.murphy.lagos@gmail.com> (deborah.murphy.lagos@gmail.com)" <deborah.murphy.lagos@gmail.com>

Hi Deborah,

Here is the "final draft" of the first mailing package to KWBTB condo owners.

Please review and let me know if you have any additional questions.

As we discussed yesterday, we will hold-off on sending the "Property Owner Interest Form" until we know the KWBTB complex is eligible.

Thanks,

Steve

2 attachments**KWBTB Introductory Letter.doc**

35K

**KWBTB Fact Sheet.docx**

104K

Date

**RE: Key West International Airport's Noise Insulation Program
Key West by the Sea (Unit #) - Property Survey
Sent via First Class Mail**

Dear,

The Key West International Airport and Monroe County have been implementing the Noise Insulation Program (NIP) in neighborhoods around the airport for approximately 10 years. The most current Noise Exposure Map approved by the Federal Aviation Administration (FAA) includes your property as potentially eligible for participation in the next phase of the Key West International Airport Noise Insulation Program (NIP). The NIP is based on FAA Part 150 Noise Compatibility Guidelines, which are designed to make neighborhoods more compatible with exterior aircraft noise by providing eligible properties with extensive acoustical modifications.

The program includes the replacement of windows, exterior doors and air conditioning modifications (*removal of "through-wall" air conditioners units and new ductless slit system replacement*) in habitable rooms within an eligible condominium unit. This voluntary program is offered **at no cost** to eligible property owners. New FAA regulations require a two-step process to determine eligibility. The Key West by the Sea (KWBTS) Condominium complex has already passed the first step by virtue of being within the noise contours. The second step is based on the results of acoustical testing of various KWBTS condominium unit floor plan styles, which will be conducted during the March 15-17, 2016 time period.

In order to gather data which would assist in the noise testing process, the Airport's acoustical consultant team, THC, Inc. (THC), will be conducting a Property Survey of the KWBTS condominium complex during the January 12-14, 2016 time period. They will be visiting representatives of various condominium floor plan styles, as well as several condominiums that contain existing remodeling modifications (*window, door and/or air conditioning replacements*).

Kindly take a few moments to review the **NIP Fact Sheet** which provides a more detailed overview of the program background, acoustical testing process and acoustical modifications.

After completion of the KWBTS Property Survey, THC will be scheduling follow-up NIP Orientation Sessions during the week of February 15th, 2016 before the initiation of the eligibility noise testing process in March, 2016.

Thank you, in advance, for your attention and cooperation. If you have any additional questions about this process, please contact Heather Faubert, THC's Property Owner Agent, at (678) 735-5193 / hfaubert@thcinc.net. We look forward to hearing from you!

Sincerely,

Steven J. Vecchi
Director of Sound Insulation
THC, Inc.
Enclosure(s)

NOISE INSULATION PROGRAM (NIP) KWBTS FACT SHEET

NOISE INSULATION PROGRAM BACKGROUND

In 2013, the Federal Aviation Administration (FAA) approved a Noise Compatibility Study Update for the Key West International Airport that recommended adoption of an expanded Noise Insulation Program (NIP) designed to reduce interior aircraft noise in eligible properties located in close proximity to the airport. Recently, this study was updated to reflect current conditions at the airport, because the FAA requires the use of Noise Exposure Maps (NEMs) that are no more than five (5) years old.

By providing acoustical treatments to eligible properties (homes, condos and apartment complexes), the NIP can effectively reduce interior aircraft noise levels by a minimum of five (5) decibels. This interior noise level reduction is equivalent to doubling the distance of the aircraft from the roof of the structure.

Properties within the approved noise contour boundary must have been built prior to October 1, 1998, in order to qualify for eligibility, which is based on a two-step process:

- (1) The property must be located within an approved 65 decibel Day-Night Level (DNL) noise contour boundary;
- (2) The property must possess an interior DNL of 45 decibels or greater, based on acoustical testing.

Noise contours are a part of the approved Noise Compatibility Program (NCP) and are generated by FAA computer noise modeling software that utilizes actual Key West International Airport aircraft fleet mix, aircraft flight track and runway usage data.

Property owners interested in participating in the NIP are required to grant Monroe County an aviation easement (right of over-flight) in exchange for the acoustical treatments.

ELIGIBILITY NOISE TESTING PROCESS

The FAA's two-step process requires noise testing of each representative condominium floor plan style (*within the KWBTS condominium complex*) to demonstrate that their average interior noise level exceeds a DNL of 45 decibels. Several tasks must be completed prior to conducting the eligibility noise testing, as described below:

1. A Property Survey of each representative condominium floor plan style will be conducted to document window and door sizes and existing air conditioning system. This process includes taking multiple photographs and documentation of recent remodeling modifications (window, door and/or air conditioning replacements), if present.
2. Prior to eligibility noise testing, an Orientation Session/Open House Workshop will be held for KWBTS condominium owners to explain the eligibility noise testing process and answer questions.
3. Noise testing will be required in a 10% representative sample of each defined KWBTS condominium floor plan styles. In addition, a representative sample of KWBTS condominium floor plan styles that contain existing remodeling modifications (*window,*

door and/or air conditioning replacements) will also be required to be tested separately, given the potential for differences in performance due to remodeling improvements. Noise testing will be performed in all habitable rooms and will take approximately 60 minutes per condominium unit.

4. The results of the noise testing will be documented in an Eligibility Report, which will be submitted to the FAA for approval. Depending on noise testing results, it is possible that some condominium floor plan styles may be eligible while others may not, due to either floor plan differences and/or existing remodeling modifications.
5. Once a condominium floor plan style has been deemed eligible by noise testing results, the property owners will be invited to a NIP Program Orientation Session to review design and construction processes, schedules, documents and owner responsibilities.

ACOUSTICAL TREATMENTS

In the event a condominium floor plan style is deemed eligible to participate in the NIP based on eligibility noise testing results, acoustical treatments may include the following:

- installation of new acoustical windows
- installation of new exterior doors (prime entry and sliding patio)
- air conditioning modifications (*removal of "through-wall" air conditioner units and new ductless split system replacement*)

If eligible, all acoustical treatments will provided at no cost to the owner.

Date

**RE: Key West International Airport's Noise Insulation Program
Property Survey: Address, Key West, FL 33040
Sent via First Class Mail**

Dear,

The Key West International Airport and Monroe County have been implementing the Noise Insulation Program (NIP) in neighborhoods around the airport for approximately 10 years. The most current Noise Exposure Map approved by the Federal Aviation Administration (FAA) includes your property as potentially eligible for participation in the next phase of the Key West International Airport Noise Insulation Program (NIP). The NIP is based on FAA Part 150 Noise Compatibility Guidelines, which are designed to make neighborhoods more compatible with exterior aircraft noise by providing eligible properties with extensive acoustical modifications.

The program includes the replacement of windows and exterior doors in habitable rooms within an eligible dwelling. This voluntary program is offered **at no cost** to eligible property owners. Current FAA regulations require a two-step process to determine eligibility. Currently, there are four (4) single family homes that are eligible for Phase 1 of the NIP. As one of the 4 single family homes, you have already passed the first step by virtue of being located within the 2013 DNL 70 dB noise contour boundary. The second step is based on the results of acoustical testing, which will be conducted during the March 15-17, 2016 time period.

In order to gather data which would assist in the noise testing process, the Airport's acoustical consultant team, THC, Inc. (THC), will be conducting a windshield survey of your home on January 14th, 2016. They will be driving and/or walking by your home, taking photographs and making notes with regard to your home's construction characteristics.

Kindly take a few moments to review the **NIP Fact Sheet** which provides a more detailed overview of the program background, acoustical testing process and acoustical modifications.

If you are interested in participating in the NIP, we would greatly appreciate if you would complete the **Homeowner Interest Sheet** and **Property Information Survey** and return it in the self-addressed letter **no later than February 1, 2016**. Please know that if this information is received after this date, it may jeopardize your eligibility to participate in the NIP. In the event, you are **not** interested in participating in the NIP, we still would greatly appreciate if you would complete and return the **Homeowner Interest Sheet** **no later than February 1, 2016**.

Please know that If you are interested in participating in this program, you will be invited to attend a Homeowner Orientation Session during the week of February 15th, 2016 before the initiation of the eligibility noise testing process during the March 15-17, 2016 time period.

Thank you, in advance, for your attention and cooperation. If you have any additional questions about this process, please contact Heather Faubert, THC's Property Owner Agent, at (678) 735-5193 / hfaubert@thcinc.net. We look forward to hearing from you!

Sincerely,

Steven J. Vecchi
Director of Sound Insulation
THC, Inc.
Enclosure(s)

NOISE INSULATION PROGRAM (NIP) FACT SHEET

NOISE INSULATION PROGRAM BACKGROUND

In 2015, the Federal Aviation Administration (FAA) approved a Noise Compatibility Program (NCP) Update for the Key West International Airport that recommended adoption of an expanded Noise Insulation Program (NIP) designed to reduce interior aircraft noise in eligible properties located in close proximity to the airport. This updated study reflects current conditions at the airport, because the FAA requires the use of Noise Exposure Maps (NEMs) that are no more than five (5) years old.

By providing acoustical treatments to eligible properties (single-family homes and condominiums), the NIP can effectively reduce interior aircraft noise levels by a minimum of five (5) decibels. This interior noise level reduction is equivalent to doubling the distance of the aircraft from the roof of the structure.

Properties within the approved noise contour boundary must have been built prior to October 1, 1998, in order to qualify for eligibility, which is based on a two-step process:

- (1) The property must be located within an approved 65 decibel Day-Night Level (DNL) noise contour boundary;
- (2) The property must possess an interior DNL of 45 decibels or greater, based on acoustical testing.

Noise contours are a part of the approved Noise Compatibility Program (NCP) and are generated by FAA computer noise modeling software that utilizes actual Key West International Airport aircraft fleet mix, aircraft flight track and runway usage data.

Property owners interested in participating in the NIP are required to grant Monroe County an aviation easement (right of over-flight) in exchange for the acoustical treatments.

ELIGIBILITY NOISE TESTING PROCESS

The FAA's two-step process requires that each potentially eligible single family home be tested to demonstrate that their average interior noise level exceeds a DNL of 45 decibels. Several tasks must be completed prior to conducting the testing, as described below:

1. A windshield survey of each eligible single family home, which includes taking multiple photographs (from the street) and collection of observed information with regard to construction characteristics.
2. Prior to eligibility noise testing, an Orientation Session will be held for interested single family property owners to explain the eligibility noise testing process and answer questions.
3. Noise testing will required at each home, including the testing of all habitable rooms. It is anticipated that the testing process will take approximately 60 – 90 minutes per home, depending on the number of habitable rooms that require testing.

4. For each home, the results of the noise testing will be documented in an Eligibility Report, which will be submitted to the FAA for approval.
5. Once a single family home has been deemed eligible by noise testing results, the property owners will be invited to a NIP Program Orientation Session to review design and construction processes, schedules, documents and owner responsibilities.

ACOUSTICAL TREATMENTS

In the event a single family home is deemed eligible to participate in the NIP based on eligibility noise testing results, acoustical treatments may include the following:

- installation of new acoustical windows
- installation of new exterior prime doors (*prime entry, sliding patio, French doors*)

Other design elements may be included, if required to meet a minimum reduction of 5 decibels. All acoustical treatments will be provided at no cost to the owner.



NOISE INSULATION PROGRAM (NIP) HOMEOWNER INTEREST SHEET

Property Address: «Number» «Street_Name», Key West, FL 33040
Parcel Number «PID»

Name(s): _____

Parcel Address: _____

Daytime Phone Number: _____ (Between 8:00 AM – 5:00 PM)

E-Mail Address: _____

Will be used for notification purposes only

Please select one:

I am interested in participating in the Noise Insulation Program (NIP) and attending a NIP Homeowner Orientation Session (*during the February 16-18, 2016 time period*) to learn more about the NIP Eligibility Noise Testing process and requirements.

I am unable to attend a NIP Homeowner Orientation Session (*during the February 16-18, 2016 time period*), but am interested in participating in the Noise Insulation Program (NIP).

I am not interested in attending a NIP Homeowner Orientation Session or participating in the Noise Insulation Program (NIP).

Mailing Address: (if Different than Parcel Address):

Signature: _____

Signature: _____

Date: _____

Date: _____



NOISE INSULATION PROGRAM (NIP) PROPERTY INFORMATION SURVEY

Property Address:

Parcel Number:

As a potentially-eligible single family property owner, the Key West International Airport and Monroe County is offering you the opportunity to participate in the Noise Insulation Program (NIP). The NIP is designed to reduce the impacts of exterior aircraft noise on the interior conditions of a single family home. If you are interested in participating in the NIP, please complete the following survey regarding your property and return it in the self-addressed envelope **by no later than February 1, 2016.**

Please answer the following questions to the best of your ability. The information you provide will assist the Consultant Team in better understanding your property for the eligibility noise testing process.

- Which of the following materials are used on the exterior (i.e., outside) of your home? (Please check all that apply)

Brick

Aluminum Siding

Stucco

Cedar or Vinyl Shake Siding

Wood Siding

Concrete (or other masonry) Block

Vinyl Siding

Don't Know

- What type of roof is on your home? (Please check all that apply)

Gable or Triangular
Roof (most traditional roof in
America)

Mansard Roof is practically
flat on top, but slopes almost
vertically down on all four
sides

Flat

Other _____
(please describe)

Hipped (or Hip) Roof that
slopes down to the eaves on
all four sides

Don't Know

- What material is used on the roof? (Please check all that apply)

Asphalt Shingles

Metal

Wood Shingles or Shakes

Clay or Concrete Tile

Other _____
(please describe)

Slate

Don't Know _____

- Does your house have an attic or attic cavity?

Yes	Don't Know
No	

- How many square feet does your home have inside (i.e., that are air-conditioned)?

Less than 1,000 square feet	2,500 to 3,000 square feet
1,000 to 1,500 square feet	3,000 to 3,500 square feet
1,500 to 2,000 square feet	more than 3,500 square feet
2,000 to 2,500 square feet	Don't Know

- On the interior (i.e., inside) of your home, are there any vaulted ceilings or cathedral ceilings?

Yes	Don't Know
No	

- On the interior (i.e., inside) of your home, are there ceilings that have exposed beams?

Yes	Don't Know
No	

- Does your home have any skylights?

Yes	Don't Know
No	

- How many bedrooms does your home have?

One (1)	Four (4)
Two (2)	Five (5) or More
Three (3)	Don't Know

- How many full or partial bathrooms does your home have? (Full bathroom includes toilet, sink, tub or shower); Partial bathroom includes toilet and sink but no tub or shower)

One (1)

Four (4)

Two (2)

Five (5) or More

Three (3)

Don't Know

- Does your home have a living room?

Yes

Don't Know

No

- Does your home have a family room?

Yes

Don't Know

No

- Does your home have a dining room?

Yes

Don't Know

No

- Does your home have a den?

Yes

Don't Know

No

- Does your home have an office?

Yes

Don't Know

No

- Does your home have any other rooms not mentioned above?

Yes, if so please list.

No

- What materials are used on the floor inside your home? (Please check all that apply)

Carpet	Tile
Wood or Laminate (Synthetic Wood)	Other _____ (please describe)
Vinyl	Don't Know _____

- Does your home have an enclosed porch or sunroom? (i.e., that is air conditioned)

Yes	Don't Know
No	

- Does your home have sliding glass doors (such as patio doors) between the inside and outside of the home? If so, how many?

No	Yes, three (3)
Yes, one (1)	Yes, more than three (3)
Yes, two (2)	Don't Know

- Does your home have French doors? (i.e., doors with glass panes, either in the whole door, or in the top portion only) between the inside and outside of the home? If so, how many?

No	Yes, three (3)
Yes, one (1)	Yes, more than three (3)
Yes, two (2)	Don't Know

- Does your home have solid wood, metal, or fiberglass doors between the inside and outside of the home? If so, how many? Please do not count doors that lead outside from inside the garage.

No	Yes, three (3)
Yes, one (1)	Yes, more than three (3)
Yes, two (2)	Don't Know

- Does your home have the original windows, or have new windows been installed?

Yes	Don't Know
No	

- How many stories (i.e., levels) does your home have?

One (1)

More than two (2)

Two (2)

Don't Know

- To the best of your ability, please describe the type of windows you have (double-hung, sliders, fixed, awning, casement, etc).

- Have you made any renovations or additions to the original house?

Yes

No

If yes, please describe:

- Please describe any additional information about your house that you think might be helpful:



Deborah Lagos <deborah.murphy.lagos@gmail.com>

KWBTs Condominium Complex - Final Eight (8) Floor Plan Styles

1 message

Steve Vecchi <svecchi@thcinc.net>

Tue, Jan 5, 2016 at 2:44 PM

To: "Deborah Lagos <deborah.murphy.lagos@gmail.com> (deborah.murphy.lagos@gmail.com)"

<deborah.murphy.lagos@gmail.com>

Hi Deborah,

For your reference, here are the final eight (8) KWBTs condominium floor plan styles that will require noise testing.

You will see that, for each floor plan style file consists of the following information :

1. Cover sheet showing style number and a listing of both "Modified" and "Non-Modified" condo units within the style. Please note that the condo units highlighted in yellow represent the condo units (*within each floor plan style*) that are contained within the 2013 DNL65 contour boundary. These will be our targeted condo units for both the property survey and the eligibility noise testing process.

2. CAD floor plan of each style. In some cases, you will notice that there is a few CAD design layouts (labeled "Style A" & "Style B") which represent only minor differences which will NOT impact the noise testing process.

3. Summary of habitable rooms windows & doors

As we spoke yesterday, reducing these down to eight (8) styles will greatly simplify the eligibility noise testing process.

Steve

8 attachments **Floor Plan 1.docx**
29K **Floor Plan 2.docx**
31K **Floor Plan 3.docx**
64K **Floor Plan 4.docx**
43K**Floor Plan 5.docx**

 60K

 **Floor Plan 6.docx**
31K

 **Floor Plan 7.docx**
43K

 **Floor Plan 8.docx**
145K



Deborah Lagos <deborah.murphy.lagos@gmail.com>

Draft KWBTs Noise Testing Plan (Based on 8 Floor Plans and 3 Types of Modified Unit Categories)

1 message

Steve Vecchi <svecchi@thcinc.net>

Tue, Jan 5, 2016 at 4:37 PM

To: "Deborah Lagos <deborah.murphy.lagos@gmail.com> (deborah.murphy.lagos@gmail.com)" <deborah.murphy.lagos@gmail.com>

Hi Deborah,

FYI.

Here is what Alan and I are thinking we will need to test, which represents a total of twenty four (24) units.

Of course, based on what we see during our Property Survey, this may have the potential to change.

DRAFT NOISE TESTING PLAN – NON-MODIFIED UNITS

- | | | |
|---|----------------------|--|
| 1. Floor Plan #1 (Studio) - 2 units total | Test 1 unit (50.0%) | unit C217S is preferred |
| 2. Floor Plan #2 (Studio) - 2 units total | Test 1 unit (50.0%) | unit C317S is preferred |
| 3. Floor Plan #3 (1BR) - 31 units total | Test 3 units (9.7%) | unit B207, B307 & B308 are preferred |
| 4. Floor Plan #4 (2BR) - 29 units total | Test 3 units (10.3%) | unit B102, B202 & B302 are preferred |
| 5. Floor Plan #5 (2BR) - 10 units total | Test 1 unit (10.0%) | unit B205 is preferred |
| 6. Floor Plan #6 (2BR) - 2 units total | Test 1 unit (50.0%) | unit C113 is preferred |
| 7. Floor Plan #7 (2BR) - 3 units total | Test 1 unit (33.3%) | unit C118 is preferred |
| 8. Floor Plan #8 (3BR) - 41 units total | Test 4 units (9.8%) | unit C114, C117, C122 & C123 are preferred |

This works out to a total of 120 units of non-modified units. We will test a total of 15 units (12.5%). All 15 units to be located in Building "B" & "C" that is within the 65 DNL noise contour.

DRAFT NOISE TESTING PLAN – MODIFIED UNITS

-

Modified Category 1: PTAC Replacement

- | | | | |
|--|---------------------|------------------------|--|
| 1. Floor Plan #3 (1BR) - 7 units total | Test 1 unit (14.2%) | unit B403 is preferred | backup options are either A408, A604, A607, B408, B503, B504 |
|--|---------------------|------------------------|--|

- | | | | |
|---|---------------------|------------------------|----------------|
| 2. Floor Plan #4 (2BR) - 5 units total
are either A601, A609, B502, B609 | Test 1 unit (20.0%) | unit B106 is preferred | backup options |
| 3. Floor Plan #8 (3BR) - 6 units total
are either A210, A610, B410, B610, C221 | Test 1 unit (16.6%) | unit B210 is preferred | backup options |

Modified Category 2: Replacement of all Windows and Doors

- | | | | |
|---|---------------------|------------------------|----------------|
| 4. Floor Plan #3 (1BR) - 3 units total
are either A107 or A208 | Test 1 unit (33.3%) | unit B208 is preferred | backup options |
| 5. Floor Plan #5 (2BR) - 1 unit total | Test 1 unit (100%) | unit B109 is required | |

Modified Category 3: Replacement of PTACs and all Windows and Doors

- | | | |
|---------------------------------------|--------------------|-----------------------|
| 6. Floor Plan #4 (2BR) - 1 unit total | Test 1 unit (100%) | unit B402 is required |
| 7. Floor Plan #5 (2BR) - 1 unit total | Test 1 unit (100%) | unit B405 is required |
| 8. Floor Plan #6 (2BR) - 1 unit total | Test 1 unit (100%) | unit C112 is required |
| 9. Floor Plan #8 (3BR) - 1 unit total | Test 1 unit (100%) | unit C204 is required |

We will test a total of nine (9) "modified units

Key West NIP Phase 1 Master Schedule

January 12-14, 2016	Property Survey (KWBTs / 4 SF)
January 18 – February 5, 2016	Development of Property Survey Report and ATP
February 5, 2016	Final completion deadline for Property Survey Report and ATP
February 8 – 12, 2016	Conference call with FAA ADO
February 15-19, 2016	Orientation Sessions (KWBTs / 4 SF)
March 15-17, 2016	Eligibility Testing (KWBTs / 4 SF)
March 21 – April 8, 2016	Development of Final Report of Eligibility Findings (KWBTs / 4 SF)
April 8, 2016	Completion of Final Report of Eligibility Findings (KWBTs / 4 SF)
April 18 – April 22, 2016	Meeting with FAA ADO to Review Eligibility Findings (KWBTs / 4 SF)
May 6, 2016	Deadline for Design Scope and Budget (Bldg. B / 4 SF)
May 9 – June 1, 2016	Grant Application development/submission (Design - Bldg. B / 4 SF)
October 1, 2016 – January 13, 2017	Design Development (KWBTs Bldg. B / 4 SF)
January 16 – May 5, 2017	Bid process tasks (KWBTs Bldg. B / 4 SF)
May 8 – 12, 2017	Bid Opening (Construction - KWBTs Bldg. B / 4 SF)
May 15 – June 1, 2017	Grant Application development/submission (Construction - Bldg. B / 4 SF)
October 1 – December 31, 2017	GC Contract Award & Product Procurement (Construction - Bldg. B / 4 SF)
January 8 – May 31, 2018	Construction (Bldg. B / 4 SF)

Key West International Airport Noise Hotline Log

Date of call	Time of call	Caller	Contact information	Date rec'd	Message
12/18/2015	12:10 PM	Page Haverty	305-307-4001	12/21/2015	Big bird (blue bottom) over Garrison Bight; hard bank to right
12/18/2015	12:28 PM	Page Haverty	305-307-4001	12/21/2015	30-degree turn out; same blue bottomjet with twin engines. Private plane went straight out as he should, between Garrison Bight and the Yacht Club.
1/1/2016	4:30 PM	Page Haverty	305-307-4001	1/4/2016	Big jet over Garrison Bight/Yacht Club; white bottom; 30-degree turn; low. This was a bad one.
1/1/2016	4:38 PM	Page Haverty	305-307-4001	1/4/2016	Ten minutes later there was another one; but it flew over "Fly Navy" with hardly any noise. This was a good one.
1/1/2016	4:45 PM	Page Haverty	305-307-4001	1/4/2016	Another one over the Yacht Club; white, two engines under the wings; it's not the sound, it's the safety. This was a bad one.
1/1/2016	5:51 PM	Page Haverty	305-307-4001	1/4/2016	Nice departure to the north, over "Fly Navy"; red tail. This was a good one.
1/3/2016	4:32 PM	Page Haverty	305-307-4001	1/4/2016	Blue bottom; over Garrison Bight; a little better; a little higher. The previous one was a good one; over "Fly Navy".
1/3/2016	4:33 PM	Marlene Durazo - KWBTS Unit 210C	305-296-2094	1/4/2016	Reporting excessive noise; Delta jet just took off at 4:35 pm very close to KWBTS.
1/3/2016	4:37 PM	Page Haverty	305-307-4001	1/4/2016	Blue bottom; high; flat; over Garrison Bight; Good One.
1/3/2016	4:43 PM	Page Haverty	305-307-4001	1/4/2016	Twin engines on tail, blue bottom; flat; high enough; a good one.
1/3/2016	4:41 PM	Marlene Durazo - KWBTS Unit 210C	305-296-2094	1/4/2016	two more jets taking off east to west; second one was louder than the first one; very close to KWBTS.
1/3/2016	5:08 PM	Page Haverty	305-307-4001	1/4/2016	Red nose, blue back; over "Fly Navy" - Perfect Good One.
1/3/2016	5:52 PM	Page Haverty	305-307-4001	1/4/2016	Low; noisy; banking; white bottom, twin engines on the back.
1/3/2016	6:13 PM	Page Haverty	305-307-4001	1/4/2016	Low over the Yacht Club.
1/4/2016	7:40 PM	Page Haverty	305-307-4001	1/11/2016	Takeoff at 7:14 pm over "Fly Navy"; Good One!
1/8/2016	12:35 PM	Page Haverty	305-307-4001	1/11/2016	White; twin engines; Great Job!
1/8/2016	1:43 PM	Page Haverty	305-307-4001	1/11/2016	Blue plane over "Fly Navy"; Good One.
1/8/2016	2:50 PM	Page Haverty	305-307-4001	1/11/2016	Small, twin engine, blue tail and big with red tail; both good over "Fly Navy".
1/8/2016	4:56 PM	Page Haverty	305-307-4001	1/11/2016	White bird right over Garrison Bight; jets under wings; Bad One.
1/9/2016	5:19 PM	Page Haverty	305-307-4001	1/11/2016	All white heavy; engines under wings; 30-degree bank; low over Yacht Club; ;Bad One.
1/10/2016	1:42 PM	Page Haverty	305-307-4001	1/11/2016	Four birds over "Fly Navy"



Deborah Lagos <deborah.murphy.lagos@gmail.com>

Noise Complaint - Jamaica Drive

5 messages

DeGraw-Donald <DeGraw-Donald@monroecounty-fl.gov> Thu, Dec 31, 2015 at 11:06 AM
To: Richard Payne <rpayne@cityofkeywest-fl.gov>
Cc: DeSantis-Isabel <DeSantis-Isabel@monroecounty-fl.gov>, Ballard-Lindsey <Ballard-Lindsey@monroecounty-fl.gov>, Deborah Lagos <deborah.murphy.lagos@gmail.com>, "bbuck@landmarkaviation.com" <bbuck@landmarkaviation.com>, "ATC Tower Chief (eyw@rvainc.com)" <eyw@rvainc.com>, DeGraw-Donald <DeGraw-Donald@monroecounty-fl.gov>

Hi Commissioner Payne,

After our conversation yesterday, I immediately had a meeting with the owner of Air Adventures Helicopter Rides (Peter) and local Air Traffic Control. The result was that Air Adventures agreed to immediately start altering their flight path back to the airport by flying east of Jamaica Drive. Mrs. Robinson and her neighbors should see an immediate reduction or elimination of helicopter noise resulting from this helicopter tour operator.

If she has any further issues, she may call me directly on my cell phone / or email me, and I will do my best to resolve it.

Best regards and happy new year!

Don

Don DeGraw

Director of Airports

Key West International Airport & The Florida Keys Marathon International Airport

Key West Office (305) 809-5210

Marathon Office (305) 289-6060

Cell Phone (305) 393-7742

Please note that Florida has a broad public records law and that any communication with the County could be considered a public record. If you do not wish for your email address to become a public record, use the

telephone or some other method of conveying your message.

From: Richard Payne [mailto:rpayne@cityofkeywest-fl.gov]

Sent: Wednesday, December 30, 2015 6:15 PM

To: DeGraw-Donald

Subject: Re: test

Mr. DeGraw: the following is the E-Mail I received yesterday from Mrs. Loriellen Robertson,

1605 Jamaica Drive, Key West, Fl

Good afternoon Commissioner Payne

I am a resident of your district and have concerns regarding Air Adventures operating the helicopter tours in Key West. My home was one that received the benefit of the "sound proof" windows and doors for the airport expansion and is effective for silencing the sounds of planes and jets, however, it is not sound proof for these

frequent helicopter tours. They are taking off and landing several times in an hour. Can you tell me the background on how this tour was allowed to operate and what their parameters are, and if you supported their operation? Is there anything that can be done about these tours? They fly directly over our homes and not in the plane flight paths. Thank you for your help concerning this. Loriellen Robertson.

Hopefully, you can persuade the tour to vary their flights and to avoid residential neighborhoods.

I also ask that you move their operations as far away from residential areas as you can because the taking off and landing seem to be where they make the most noise. It was nice talking with you today.

Thank you for your assistance. Respectfully submitted, Richard Payne, Commissioner Dist.IV

From: DeGraw-Donald <DeGraw-Donald@MonroeCounty-FL.Gov>

Sent: Wednesday, December 30, 2015 2:59 PM

To: Richard Payne

Subject: test

Don DeGraw

Director of Airports

Key West International Airport & The Florida Keys Marathon International Airport

Key West Office (305) 809-5210

Marathon Office (305) 289-6060

Cell Phone (305) 393-7742

Please note that Florida has a broad public records law and that any communication with the County could be considered a public record. If you do not wish for your email address to become a public record, use the telephone or some other method of conveying your message.

Richard Payne <rpayne@cityofkeywest-fl.gov>

Wed, Jan 13, 2016 at 12:56 PM

To: DeGraw-Donald <DeGraw-Donald@monroecounty-fl.gov>

Cc: DeSantis-Isabel <DeSantis-Isabel@monroecounty-fl.gov>, Ballard-Lindsey <Ballard-Lindsey@monroecounty-fl.gov>, Deborah Lagos <deborah.murphy.lagos@gmail.com>, "bbuck@landmarkaviation.com" <bbuck@landmarkaviation.com>, "ATC Tower Chief (eyw@rvainc.com)" <eyw@rvainc.com>

Dear Mr. DeGraw: Just a note to thank you for your kind assistance and prompt work, helping to curtail

somewhat the problem noise heard over on Jamaica Drive. In my opinion the helicopter pilots have altered

their flight patterns after you talked to them, as I haven't heard any new noise complaints since then and

I haven't heard any helicopters going over my own home at the 2900 Block of Fogarty, behind the Senior

Citizen plaza. So we all have your to thank for kind assistance. In behalf of my constituents and myself

I thank you so much. I plan on attending the Ad Hoc Noise Committee meeting January 20 and advise them

how much better things are after your help to us.

From: DeGraw-Donald <DeGraw-Donald@MonroeCounty-FL.Gov>

Sent: Thursday, December 31, 2015 11:06 AM

To: Richard Payne

Cc: DeSantis-Isabel; Ballard-Lindsey; Deborah Lagos; bbuck@landmarkaviation.com; ATC Tower Chief (eyw@rvainc.com); DeGraw-Donald

AIRPORT NOISE REPORT

ANNUAL

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Airport Noise Report



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Research

OPINIONS DIFFER ON WHAT STUDY SAYS ABOUT HEALTH RISKS OF AIRCRAFT NOISE

Opinions differ about the meaning of the recently released findings of the German NORAH (Noise-Related Annoyance, Cognition, and Health) study, which is being described as the most comprehensive investigation ever conducted on the effects of aviation, rail, and road traffic noise on people's health and quality of life.

The scientists who conducted the study and their peers who monitored its quality describe the NORAH findings as being in line with other recent European and U.S. studies showing a link between exposure to aircraft noise and cardiovascular disease and other health effects, even though not as many NORAH findings were statistically significant.

But the Frankfurt Airport and Region Forum (ARF) – which helped fund the study and is composed of representatives of Fraport, Lufthansa, the German Aerospace Center (DLR), elected officials, and others – asserted in a press release that the NORAH study findings showed that, overall, the health risks for aviation noise are lower than assumed up to now.

(Continued on p. 161)

Research

HEART ATTACK RISK FROM AIRCRAFT NOISE NOT SIGNIFICANT BUT HEART FAILURE RISK IS

In contrast to road traffic and railway noise, aircraft noise levels above 60 dB were not associated with statistically significant increases in the risk for myocardial infarction (heart attacks), according to the recently released findings of the German NORAH (Noise-Related Annoyance, Cognition, and Health) study.

However, the study did find a statistically significant increased risk of dying of heart failure if exposed to aircraft noise levels above 60 dB. That 1.6 percent increased risk per 10 dB increase in continuous noise level was revealed by examining the medical records of heart attack patients who had died from heart failure.

The study also found a statistically significant association between breast cancer diagnosis and exposure to aircraft noise at night between 11 p.m. and 5 a.m. for those in the highly noise-exposed category. However, the 2.98 increased odds of being diagnosed with breast cancer was only observed in very few cases. No significant association between road and railway traffic noise and the risk of developing breast cancer was found.

Depression was the largest health risk associated with all three transportation noise sources.

(Continued on p. 162)

In This Issue...

Health Effects ... Opinions differ on what the recently released 2,500+ pages of findings on the German NORAH (Noise-Related Annoyance, Cognition, and Health) study say about the impact of aircraft noise on the health and quality of life of residents around airports.

The head of the European Space Agency says the findings show that the serious health impacts from aircraft noise feared by many could not be verified. But the scientists who conducted the study disagree and assert that the findings are in line with other recent studies showing a link between aircraft noise and heart disease and other health effects.

Depression was the strongest health risk associated with aircraft, rail, and road noise. The risk of having a heart attack due to aircraft noise was not significant but the risk of dying from heart failure if exposed to aircraft noise above 60 dB was significant - p. 160

NORAH, from p. 160

“NORAH is a milestone in noise impact research. Many of the connections have never before been investigated in the depth and breadth realized here,” said Johann-Dietrich Wörner, who is described in the ARF press release as a member of the ARF Board. Wörner is also the Executive General of the European Space Agency and prior to that was chairman of the Executive Board of the German Aerospace Center.

He said all of the NORAH results are backed up by the unanimous approval of a Scientific Advisory Board for Quality Assurance, which constantly accompanied and monitored the study.

Said Wörner, “First of all, I find it reassuring that the serious impacts on health feared by many due to air traffic in the Rhine-Main Region could not be verified.

“The decisive factor is not only the direct health effect but also the impairment of the quality of life and the high degree of annoyance that was detected in the study. This – the study clearly shows that - involves not only aviation noise. Traffic noise as a whole represents a relevant issue, so that appropriate attention must be paid to noise protection as for the street and rail.”

Overall, the ARF said in its press release, “the study creates clarity in many areas but also highlights the need for further research. This applies, for example, to the still largely fragmentary acoustic database in the area of road and rail noise.”

The Board of the ARF appealed “to all interested politicians and citizens, aviation critics and defenders, to treat the highly complex [NORAH study] results with care, and to avoid extreme interpretations and knee-jerk conclusions.”

Wörner said the research consortium “has presented more than 2,500 pages of results reports. Now we have to fundamentally analyze which conclusions we can and must draw from this trove of data.”

It remains to be seen whether the researchers’ interpretation of their study findings or the ARF’s is more accurate and will be used to guide airport noise mitigation efforts at German airports.

The voluminous study has not yet been translated into English or been vetted by the scientific community in a peer-reviewed journal.

New Swiss Study Underway

In 2014, a consortium of 10 Swiss medical and health institutes and universities and federal labs launched a study similar to NORAH called SIRENE (Short and Long Term Effects of Traffic Noise Exposure).

It will investigate acute, short-term and long-term effects of road, railway, and aircraft noise exposure on annoyance, sleep disturbances, and cardio-metabolic risk.

That study is due to end in 2017 and its results may shed additional light on the relationship between aircraft noise exposure and health effects.

In an earlier 2010 study, Swiss and Dutch researchers ex-

amined Swiss census and mortality data and found that the risk of dying from myocardial infarction increases with increasing level and duration of aircraft noise (22 ANR 137).

An unpublished 2010 German study done by Dr. Eberhard Greiser, a professor of Epidemiology at Bremen University who also is involved in the NORAH research, concluded that living under the flight path of Cologne Bonn Airport greatly increases one’s risk for strokes, high blood pressure, and heart disease (22 ANR 58).

The Association of German Airports sharply criticized Greiser for widely discussing the findings of his research on the impact of aircraft noise on health without publishing the studies and subjecting them to a formal peer review (22 ANR 5).

In 2013, two new large-scale studies done in the United States and the UK found a link between exposure to aircraft noise and cardiovascular disease (25 ANR 134).

The UK study found an increased risk of hospitalization and death from stroke, coronary heart disease, and cardiovascular disease among 3.6 million people exposed to daytime and night-time noise around London Heathrow Airport.

A separate U.S. study of approximately 6 million older people on Medicare living around 89 U.S. airports (out to 45 dB DNL) found an increased risk of being hospitalized for cardiovascular disease, especially at high noise levels.

The NORAH study found increased risks of having a heart attack or stroke from exposure to aircraft noise above 60 dB but those increases were not statistically significant.

ICANA Conference

At the ICANA 2015 conference in Frankfurt on Nov. 12-13, NORAH authors and members of its Scientific Advisory Board presented the methods and findings of the study to an audience of specialists and elected officials.

Afterwards, external consultants from both Germany and abroad gave their opinions on the NORAH findings.

“What is so special about NORAH is the fact that an investigation was carried out on the impact of three different types of traffic noise: rail, road and aviation traffic,” explained Prof. Martin Rössli from the Swiss Tropical and Public Health Institute, an associated institute of the University of Basel.

“NORAH attests that all three types of traffic noise increase cardiovascular risks. As the first major study of its kind, it shows a clear correlation between chronic noise pollution and depression, which urgently requires further investigation.”

Dr Elise van Kempen of the Dutch National Institute for Public Health and the Environment (RIVM) commented on the NORAH study on blood pressure. This was unable to prove the widespread notion that there is a link between chronic noise and blood pressure.

“These findings are similar to those from research carried out to date,” van Kempen said, based on the findings of comparable studies.

But several elected officials in the audience asked what

action should be taken in light of the study findings. A member of the German Parliament asked whether other airports in Germany should have a night curfew in light of the study finding that the night curfew imposed at Frankfurt Airport in 2011 has been successful in allowing residents around the airport to sleep better.

Dr. Uwe Muller of the DLR, one of the study leaders, told him that imposing a nighttime curfew at the airport is a social decision based on how much risk a society wants to tolerate. Scientists can only determine risk; they cannot make policy, he said.

Another elected official said “the message from the NORAH study is that all is fine. Fraport and Lufthansa are happy that not many significant negative impacts were found,” he told the researchers.

But a study author countered that the NORAH research found a statistically significant increased risk of dying from myocardial infarction (heart attack) between 5-6 a.m. with noise levels of 52-60 dB.

“You can’t ignore that finding,” he said. The Frankfurt Airport ARF press release did not specifically mention the finding. The relevant finding of the NORAH study was that more noise annoyance leads to more health problems, the researchers said.

One noted that two-thirds to three-quarters of all of the German press coverage reported that the study found that transportation noise does not have much impact on health.

“The study says something else,” he stressed.

[ANR covered the ICANA conference on the internet and it was not possible to identify all the speakers by name.]

NORAH Study Focus, Methods

The NORAH study focused on residents around Frankfurt International Airport, where a new runway opened and nighttime curfew was imposed in 2011, but also included residents around three other German airports: Cologne/Bonn, Berlin-Schönefeld, and Stuttgart.

The goal of the multidisciplinary research project was to provide a broad and scientifically reliable description of the effects of aircraft, road, and rail transportation noise on three areas: (1) annoyance and quality of life; (2) health (blood pressure regulation, cardiovascular diseases, breast cancer, depression, and sleep disturbance), and (3) cognitive development of school children.

The study employed various methods to obtain data, depending on the research question at issue.

In the case of noise annoyance and quality of life, systematic surveys were conducted: a panel study containing three waves between 2011-2013 in the Rhein/Main (Frankfurt) area and cross-sectional studies in the vicinity of the Cologne/Bonn, Berlin-Schönefeld, and Stuttgart airports.

In addition, cross sectional surveys on the effects of road, rail, and aircraft transportation noise were conducted, as well as on the effects of combined noise from aircraft and road, or aircraft and rail transportation.

Regarding cardiovascular health risks, breast cancer, and

episodes of depression, a case-control study based on health claims data from 1.02 million people 40 years and older (23 percent of the Frankfurt area population) with an additional questionnaire to 8,540 people with cardiovascular disease to obtain information on confounding factors (education, job, smoking, weight, alcohol consumption, night work, etc) was performed in areas of Frankfurt as well as in the cities of Mainz and Worms.

With respect to the long-term effects of transportation noise on blood pressure regulation, daily self-administered blood pressure measurements were registered for three weeks during two waves (2012 and 2013) with residents in the vicinity of the Frankfurt International Airport (blood pressure monitoring).

In order to study the short-term effects of nighttime aircraft noise on the sleep of residents, sleep quality studies were done 2011-2013 in the homes of residents in the vicinity of Frankfurt International Airport.

The effects of chronic exposition to aircraft noise on the cognitive performance and quality of life of school children near Frankfurt Airport were studied by means of performance tests (especially reading tests) with children, as well as surveys with children, parents, and teachers.

All study participants (except for participants in the sleep study) were assigned address-specifically calculated long-term exposure parameters (energy equivalent sound levels) for different reference times of aircraft, road, and rail transportation noise – to some extent, maximum levels as well as the numbers of loud events could be assigned too, and were used in exposure-response calculations.

Findings, from p. 160

Following is a summary of the NORAH study findings provided by the study administrators:

Annoyance

At all four airports studied (Frankfurt, Cologne/Bonn, Berlin-Schönefeld, and Stuttgart), the percentage of persons highly annoyed by aircraft noise at comparable noise levels was larger than would be expected from the EU standard dose-response curves.

In the vicinity of Frankfurt International Airport, as early as in the summer of 2011 (before the implementation of a new north-west runway) higher annoyance responses were observed than during a comparable survey performed in 2005. The annoyance response increased in 2012 (after the implementation of the new runway), and decreased marginally in 2013.

In cross-sectional studies, it turned out that aircraft noise was associated with higher noise annoyance than with road or rail transportation noise at comparable long-term levels. The height of road and rail noise annoyance was very similar at comparable noise levels.

In the cross-sectional studies on noise combinations (aircraft plus road traffic noise, or aircraft plus rail traffic noise), it was observed that the total annoyance followed mainly the aircraft noise related annoyance.

Health Risks

Regarding noise-related health risks, the largest risks connected to the 10-dB level increase were observed for unipolar depressive episodes, which were statistically significant with all three transportation noise sources.

With respect to cardiovascular health risks, the effects of rail and road traffic noise on chronic heart failure, myocardial infarction, and stroke were more clearly seen as compared to the effects of aircraft noise.

Road traffic noise showed the highest (statistically significant) risk increase per 10-dB level increase with depressive episodes (4.1%), myocardial infarction (2.8%), chronic heart failure (2.4%), and stroke (1.7%).

Rail traffic noise showed the highest (statistically significant) risk increases with 10-dB level increase on depressive episodes (3.9%), chronic heart failure (3.1%), and stroke (1.8%).

Aircraft noise showed the highest (statistically significant) risk increases with 10-dB level increase on depressive episodes (8.9%), and chronic heart failure (1.6%).

The use of indoor noise levels partially showed a statistically significant increase of health risks, as compared to outdoor noise levels, but it should be kept in mind that indoor noise levels were estimated rather roughly.

Breast cancer showed a statistically significant association with aircraft noise levels during the night (23-05 h).

Nighttime Noise Exposure

Residents who were exposed to long-term aircraft noise levels <40 dB but had nighttime maximum levels >50 dB, showed higher health risk estimates – statistically significant with respect to stroke and cardiac insufficiency.

Results of this type indicate that the consideration of nighttime maximum levels may be relevant for estimating the health risks of aircraft noise. On the other hand, such results need further tests from independent studies.

Blood Pressure

The mean systolic and diastolic blood pressure values of residents increased slightly (statistically not significant) with increased aircraft noise levels. Railway noise levels showed a slight (statistically not significant) increase of the systolic blood pressure.

There was no statistically significant relation between transportation noise levels and pulse frequency, blood pressure amplitude, hypertension, and 10-year infarction risk.

Sleep

The sleep study showed a diminished aircraft noise related probability of physiological nighttime awakening associated with the introduction of the night curfew at Frankfurt

Airport for a group in bed from 10-10:30 p.m.- 6-6:30 a.m.

On average, the number of awakenings decreased from 2.0 to 0.8 (2011 vs. 2012).

This shows that the nighttime curfew on operations at Frankfurt Airport had a positive overall effect on sleep.

In general, the number of aircraft noise events had a significant impact on the number of aircraft noise related awakenings which lead to a fragmentation of sleep (diminished continuity), without a shortening the total sleep time.

In a second group, who were in bed from 11-1:30 p.m. until 7-7:30 a.m., an average aircraft noise associated awakening frequency of 1.9 was observed in 2012.

The difference in noise awakenings for the latter group is due to the longer time (one hour) of aircraft noise exposure in the morning hours.

At background noise levels of 28.8 dB(A), the odds of awakening increased about 23 % with an increase per 10 dB increase of the maximum level of an aircraft overflight

Total sleep time, sleep latency, sleep efficiency, waking time after falling asleep, and the percentage of waking after 4:30 a.m. did not differ significantly between 2011 and 2012.

Feelings About Transportation

Persons with a positive evaluation of aircraft transportation did show less (objectively) measured sleep disturbance. The direction of causality is unclear, i.e., the question whether a disturbed sleep is due to negative attitudes to aircraft transportation, or the other way round, could not be determined.

The (subjective) evaluations of the residents with respect to sleepiness and tiredness in the morning are in a medium range in all of the three groups observed between 2011 and 2013. The self-assessed habituation to aircraft noise, the loudness of the residential area, the age as well as the chronotype of the participants all show a statistically significant influence on the individual assessment of sleepiness and tiredness.

The subjective assessment of a good sleep diminished in 2011 by 5% and in 2013 by 11% despite the introduction of the night curfew.

This effect is probably due to factors not assessed in the study.

Children's Learning

In the children's study, a statistically significant decrease of reading performance was observed with increasing aircraft noise levels: a 10 dB increase of long-term noise levels was followed by one month retardation of reading performance.

The teachers in highly noise exposed schools concurrently reported considerable reading impairment of their classes due to aircraft noise.

In addition, statistically significant associations – of moderate effect size – between higher aircraft noise levels and less positive assessments of the physical and mental well-being and children's attitudes towards school also were reported.

Airport Noise Report



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PFCs

\$3.38 BILLION OF TOTAL PFC REVENUE DEVOTED TO NOISE MITIGATION PROJECTS

At the end of November, some \$3.38 billion (4 percent) of the \$91.2 billion in Passenger Facility Charges (PFCs) that the Federal Aviation Administration has approved for collection and use since 1992 has been designated for airport noise mitigation projects, according to data provided by the agency.

The total PFC revenue being earmarked for airport noise mitigation projects as of Nov. 30, 2015, was \$3.38 billion – an increase of \$32.7 million over the end of fiscal 2014 noise project total (26 ANR 167).

The FAA subdivides noise mitigation projects into six categories. Following is the total amount airports plan to collect for each category, as of Nov. 30, 2015, as well as the percentage that category represents of the total PFCs for noise mitigation being collected:

- \$1.41 billion (41.8 percent) for soundproofing projects;
- \$1.38 billion (41.9 percent) for multi-phase projects;
- \$502.6 million (14.8 percent) to purchase land/easements;
- \$18.6 million (0.6 percent) for noise monitoring systems;
- \$17.1 million (0.5 percent) for planning; and
- \$15.5 million (0.5 percent) for miscellaneous projects.

108 Airports Using PFCs for Noise Mitigation

A total of 108 airports – the same number as a year ago – were using PFCs for noise mitigation projects at the end of November 2015. Phoenix Sky Harbor International, Los Angeles International, and Boston Logan International were the only airports listed as having imposed new PFC's for noise mitigation projects in fiscal year 2015.

Phoenix Sky Harbor International was approved to collect \$2 million in PFCs to fund an airport compatible land redevelopment plan update.

Los Angeles International was approved to collect \$44.3 million in PFCs to fund the Inglewood Unified School District Soundproofing Program.

Boston Logan International was approved to collect \$1.09 million in PFCs to fund its sound insulation program.

The top five airports targeting PFC revenue for noise mitigation projects as of Nov. 30, 2015, are Los Angeles International (\$866.9 million), Chicago O'Hare International (\$547.6 million), Chicago Midway Airport (\$260.9 million), Phoenix Sky Harbor International (\$232.5 million), and Minneapolis-St. Paul International (\$188.7 million).

PFCs are only one source of revenue that airports use to fund noise mitigation projects. The other funding stream is the FAA's Airport Improvement Program. Data on AIP grants for noise mitigation projects will be reported in next week's issue of ANR.

In This Issue...

PFCs ... This special issue of ANR provides data obtained from the FAA on airports that are collecting Passenger Facility Charges (PFCs) to support various noise mitigation projects.

The data show that, since 1992, some 108 airports have imposed PFCs to address airport noise mitigation.

Approximately \$3.38 billion in PFCs has been imposed by airports for noise mitigation projects as of Nov. 30, 2015, up \$32.7 million compared to the end of fiscal 2014.

Los Angeles International remains far ahead of other airports in using PFCs for noise mitigation projects (\$866.9 million), followed by Chicago O'Hare International (\$547.6 million).

Table 1 shows a breakdown of all airport projects supported by PFCs - p. 165.

Table 2 shows PFCs by project type being collected for noise mitigation - p. 166.

Table 3 shows PFCs for noise mitigation projects being collected by individual airports - p. 174.

APPROVED PASSENGER FACILITY CHARGES BY CATEGORIES
(as of Nov. 30, 2015)

<u>CATEGORY</u>	<u>PROJECT TYPE</u>	<u>AMOUNT</u>	<u>PERCENT</u>
<u>AIRSIDE</u> (19% w/o DIA)(18% w DIA)			
	RUNWAYS	\$ 7,427,312,271	45.6
	TAXIWAYS	\$ 2,605,941,042	16.0
	APRONS	\$ 1,698,523,433	10.4
	LAND	\$ 544,925,304	3.3
	EQUIPMENT	\$ 1,863,514,834	11.3
	PLANNING	\$ 683,854,210	4.2
	LIGHTING	\$ 306,572,388	1.9
	OTHER	\$ 1,187,307,806	7.3
	TOTAL	\$16,290,951,288	100
<u>LANDSIDE</u> (36% w/o DIA)(34% w DIA)			
	TERMINAL	\$28,532,714,112	87.8
	LAND	\$ 1,332,637,117	4.1
	SECURITY	\$ 2,614,364,648	8.0
	TOTAL	\$32,479,715,877	100
<u>NOISE</u> (4% w/o DIA)(4% w DIA)			
	LAND	\$ 502,637,615	14.8
	MULTI-PHASE	\$ 1,418,044,596	41.9
	SOUNDPROOFING	\$ 1,416,127,619	41.8
	MONITORING	\$ 18,665,203	0.6
	PLANNING	\$ 17,183,574	0.5
	OTHER	\$ 15,514,387	0.5
	TOTAL	\$ 3,388,172,994	100
<u>ACCESS</u> (6% w/o DIA)(6% w DIA)			
	ROADS	\$ 2,260,607,206	38.0
	RAIL	\$ 3,603,095,752	60.6
	LAND	\$ 16,701,216	0.3
	PLANNING	\$ 63,006,441	1.1
	TOTAL	\$ 5,943,410,615	100
<u>INTEREST</u> (35%)(34% w/DIA)		\$29,975,338,521	100
SUBTOTAL		\$88,077,589,295	
DENVER (4%)		\$ 3,137,632,383	
PFC TOTAL		\$91,215,221,678	

SOURCE: FAA (PFC BRANCH)

PFC FUNDED NOISE PROJECTS (BY WORK CODE)
(as of Nov. 30, 2015)

CITY	STATE	PROJECT	AMOUNT	PFC LEVEL	IMPOSE	USE	PROJ. TOTAL
Birmingham	AL	Land	\$3,173,639	\$4.50	7/2/08	7/2/08	\$502,637,615
Birmingham	AL	Land	\$1,958,877	\$4.50	3-31-10	3-31-10	
Huntsville	AL	Land	\$4,211,697	\$3.00	3/6/92	6/28/94	
Huntsville	AL	Land	\$791,507	\$3.00	3/6/92	11/22/95	
Huntsville	AL	Land	\$265,804	\$3.00	3/6/92	5/28/97	
Huntsville	AL	Land	\$68,954	\$3.00	10/19/98	10/19/98	
Huntsville	AL	Land	\$154,239	\$4.50	10/30/02	10/30/02	
Mobile	AL	Land	\$421,383	\$3.00	2/22/02	2/22/02	
Mobile	AL	Land	\$126,333	\$3.00	3/1/06	3/1/06	
Mobile	AL	Land	\$140,993	\$3.00	3/1/06	3/1/06	
Mobile	AL	Land	\$230,906	\$3.00	3/1/06	3/1/06	
Mobile	AL	Land	\$103,394	\$3.00	3/1/06	3/1/06	
Mobile	AL	Land	\$232,192	\$3.00	3/1/06	3/1/06	
Juneau	AK	Land	\$21,931	\$4.50	5/30/01	5/30/01	
Phoenix	AZ	Land	\$27,327,877	\$3.00	6/5/02	6/5/02	
Tucson	AZ	Land	\$3,288,473	\$4.50	11/19/97	11/19/97	
Tucson	AZ	Land	\$396,888	\$4.50	11/19/97	11/19/97	
Fort Smith	AR	Land	\$90,756	\$3.00	5/8/94	7/24/97	
Little Rock	AR	Land	\$3,314,737	\$4.50	1/31/06	1/31/06	
Little Rock	AR	Land	\$1,421,452	\$4.50	1/15/10	1/15/10	
Burbank	CA	Land	\$27,829,178	\$3.00	6/17/94	2/5/97	
Fort Lauderdale	FL	Land	\$3,500,000	\$3.00	4/30/98	4/23/01	
Gainesville	FL	Land	\$144,869	\$4.50	8/29/02	8/29/02	
Jacksonville	FL	Land	\$6,000,000	\$3.00	9/6/06	9/6/06	
Pensacola	FL	Land	\$597,708	\$3.00	11/23/92	11/23/92	
Pensacola	FL	Land	\$69,480	\$3.00	11/23/92	8/10/95	
Sanford	FL	Land	\$199,189	\$4.00	7/12/12	7/12/12	
Sanford	FL	Land	\$73,775	\$4.00	7/12/12	7/12/12	
Sanford	FL	Land	\$65,789	\$4.00	7/12/12	7/12/12	
Sarasota	FL	Land	\$1,474,904	\$3.00	6/29/92	1/31/95	
Sarasota	FL	Land	\$3,063,506	\$3.00	6/29/92	12/15/95	
Tallahassee	FL	Land	\$3,128,225	\$3.00	3/3/98	3/3/98	
West Palm Beach	FL	Land	\$1,000,000	\$3.00	1/26/94	8/29/96	
West Palm Beach	FL	Land	\$2,302,300	\$3.00	1/26/94	8/29/96	
West Palm Beach	FL	Land	\$374,616	\$3.00	1/26/94	6/11/97	
West Palm Beach	FL	Land	\$1,387,548	\$3.00	1/26/94	6/11/97	
West Palm Beach	FL	Land	\$5,000,000	\$3.00	1/26/94	6/11/97	
West Palm Beach	FL	Land	\$2,000,000	\$3.00	8/22/00	12/13/02	
Atlanta	GA	Land	\$7,280,374	\$4.50	11/29/07	11/29/07	
Bloomington	IL	Land	\$35,000	\$3.00	12/5/97	12/5/97	
Moline	IL	Land	\$335,915	\$4.50	9/29/94	9/29/94	
Moline	IL	Land	\$365,084	\$4.50	3/12/98	3/12/98	
Peoria	IL	Land	\$382,426	\$3.00	9/8/94	9/8/94	
Peoria	IL	Land	\$145,441	\$4.50	2/3/00	2/3/00	
Springfield	IL	Land	\$24,740	\$3.00	3/27/92	4/28/93	

CITY	STATE	PROJECT	AMOUNT	PFC LEVEL	IMPOSE	USE	PROJ. TOTAL
Springfield	IL	Land	\$12,275	\$3.00	3/27/92	4/28/93	
Springfield	IL	Land	\$24,897	\$3.00	3/27/92	4/28/93	
Springfield	IL	Land	\$14,721	\$3.00	3/27/92	4/28/93	
Springfield	IL	Land	\$551	\$3.00	3/27/92	4/28/93	
Springfield	IL	Land	\$88,167	\$3.00	11/24/93	3/11/97	
Indianapolis	IN	Land	\$42,532,859	\$3.00	6/28/93	6/28/93	
Louisville	KY	Land	\$58,770,761	\$3.00	1/29/97	1/29/97	
Minneapolis	MN	Land	\$21,500,000	\$3.00	5/13/94	5/13/94	
Minneapolis	MN	Land	\$33,136,470	\$4.50	5/5/05	5/5/05	
Kansas City	MO	Land	\$10,766,850	\$3.00	12/21/95	12/21/95	
St. Louis	MO	Land	\$22,177,178	\$3.00	9/30/92	9/30/92	
St. Louis	MO	Land	\$31,962,604	\$3.00	1/31/96	1/8/98	
Las Vegas	NV	Land	\$10,654,182	\$4.50	2/24/92	3/15/95	
Las Vegas	NV	Land	\$7,991,645	\$4.50	2/24/92	2/24/92	
Las Vegas	NV	Land	\$5,250,000	\$3.00	2/24/92	6/7/93	
Las Vegas	NV	Land	\$26,250,000	\$4.50	2/24/92	6/7/93	
Las Vegas	NV	Land	\$1,440,492	\$4.50	2/24/92	6/7/93	
Charlotte	NC	Land	\$52,270,000	\$3.00	8/23/04	8/23/04	
New Bern	NC	Land	\$30,293	\$4.50	5/11/06	5/11/06	
Fargo	ND	Land	\$361,548	\$4.50	10/11/06	10/11/06	
Akron	OH	Land	\$19,210	\$3.00	10/21/96	10/21/96	
Akron	OH	Land	\$14,635	\$3.00	10/21/96	10/21/96	
Akron	OH	Land	\$5,293	\$3.00	10/21/96	10/21/96	
Akron	OH	Land	\$21,334	\$3.00	10/21/96	10/21/96	
Akron	OH	Land	\$12,911	\$4.50	4/4/02	4/4/02	
Cleveland	OH	Land	\$7,137,600	\$3.00	9/1/92	2/2/94	
Cleveland	OH	Land	\$25,282,298	\$3.00	4/25/97	4/25/97	
Columbus	OH	Land	\$119,600	\$3.00	7/14/92	3/27/96	
Columbus	OH	Land	\$379,070	\$3.00	7/14/92	3/27/96	
Columbus	OH	Land	\$519,723	\$3.00	7/14/92	3/27/96	
Dayton	OH	Land	\$309,206	\$4.50	7/25/94	7/25/94	
Allentown	PA	Land	\$244,387	\$4.50	3/26/01	3/26/01	
Allentown	PA	Land	\$220,475	\$4.50	3/26/01	3/26/01	
Allentown	PA	Land	\$91,944	\$4.50	6/6/03	6/6/03	
Erie	PA	Land	\$242,373	\$4.50	5/13/03	5/13/03	
Providence	RI	Land	\$10,382,213	\$4.50	11/27/00	11/27/00	
Providence	RI	Land	\$12,658,400	\$4.50	11/13/09	11/13/09	
Chattanooga	TN	Land	\$100,000	\$3.00	4/25/97	4/25/97	
Chattanooga	TN	Land	\$15,000	\$4.50	11/22/00	11/22/00	
Brownsville	TX	Land	\$181,860	\$4.50	5/7/07	5/7/07	
Harlingen	TX	Land	\$96,630	\$3.00	7/9/98	7/9/98	
Salt Lake City	UT	Land	\$465,488	\$3.00	10/1/94	10/1/94	
Salt Lake City	UT	Land	\$331,072	\$4.50	4/30/01	4/30/01	
Salt Lake City	UT	Land	\$524,408	\$4.50	2/28/02	2/28/02	
Burlington	VT	Land	\$836,481	\$4.50	1/31/12	1/31/12	
Lynchburg	VA	Land	\$17,762	\$3.00	4/14/95	4/14/95	
Roanoke	VA	Land	\$145,000	\$4.50	11/24/04	11/24/04	
Bellingham	WA	Land	\$166,000	\$3.00	4/29/93	4/29/93	

CITY	STATE	PROJECT	AMOUNT	PFC LEVEL	IMPOSE	USE	PROJ. TOTAL
Bellingham	WA	Land	\$732,000	\$3.00	10/5/94	10/5/94	
Bellingham	WA	Land	\$454,350	\$3.00	12/11/96	12/11/96	
Appleton	WI	Land	\$14,502	\$3.00	4/25/94	4/25/94	
Milwaukee	WI	Land	\$3,099,197	\$3.00	2/24/95	2/24/95	
Milwaukee	WI	Land	\$1,425,187	\$3.00	2/24/95	2/24/95	
Milwaukee	WI	Land	\$156,000	\$3.00	12/31/09	12/31/09	
Cheyenne	WY	Land	\$81,192	\$4.50	3/28/01	3/28/01	
Carlsbad	CA	Misc	\$18,226	\$4.50	11/24/08	11/24/08	\$15,514,387
Pensacola	FL	Misc	\$65,076	\$3.00	11/23/92	8/10/95	
Tampa	FL	Misc	\$1,692,110	\$4.50	5/16/03	5/16/03	
Chicago Midway	IL	Misc	\$11,493	\$3.00	6/28/93	6/28/93	
Chicago Midway	IL	Misc	\$297,707	\$3.00	6/28/93	6/28/93	
Chicago Midway	IL	Misc	\$2,057,107	\$3.00	2/22/00	2/22/00	
Chicago Midway	IL	Misc	\$2,500,000	\$3.00	4/18/02	4/18/02	
Chicago O'Hare	IL	Misc	\$42,389	\$3.00	6/28/93	6/28/93	
Chicago O'Hare	IL	Misc	\$2,993,028	\$4.50	6/28/96	6/28/96	
Indianapolis	IN	Misc	\$498,684	\$4.50	12/20/96	12/20/96	
Detroit	MI	Misc	\$225,000	\$3.00	9/21/92	9/21/92	
Columbus	OH	Misc	\$61,752	\$3.00	7/19/93	3/27/96	
Columbus	OH	Misc.	\$489,894	\$4.50	1/28/11	1/28/11	
Milwaukee	WI	Misc	\$50,000	\$3.00	3/8/01	3/8/01	
Milwaukee	WI	Misc	\$4,382,162	\$3.00	7/9/02	7/9/02	
Cheyenne	WY	Misc	\$129,759	\$4.50	3/28/01	3/28/01	
Fort Smith	AR	Monitoring	\$20,555	\$3.00	5/8/94	7/24/97	\$18,665,203
Burbank	CA	Monitoring	\$64,836	\$3.00	4/2/01	4/2/01	
Burbank	C	Monitoring	\$1,000,000	\$3.00	9/28/09	9/28/09	
Los Angeles	CA	Monitoring	\$3,450,000	\$3.00	9/23/05	9/23/05	
Oakland	CA	Monitoring	\$436,267	\$3.00	6/26/92	6/26/92	
Oakland	CA	Monitoring	\$200,000	\$3.00	10/23/09	10/23/09	
Sacramento	CA	Monitoring	\$662,000	\$3.00	4/26/96	4/26/96	
San Diego	CA	Monitoring	\$1,224,000	\$3.00	5/20/03	5/20/03	
San Jose	CA	Monitoring	\$183,775	\$3.00	6/11/92	6/11/92	
San Jose	CA	Monitoring	\$76,684	\$3.00	11/24/99	11/24/99	
San Jose	CA	Monitoring	\$221,000	\$3.00	12/15/00	12/15/00	
Fort Lauderdale	FL	Monitoring	\$658,000	\$3.00	11/1/94	4/30/98	
Chicago Midway	IL	Monitoring	\$325,000	\$3.00	6/28/93	6/28/93	
Chicago O'Hare	IL	Monitoring	\$3,900,000	\$3.00	6/28/93	9/16/94	
Chicago O'Hare	IL	Monitoring	\$1,000,000	\$3.00	8/17/06	8/17/06	
Covington	KY	Monitoring	\$140,000	\$3.00	3/30/94	3/30/94	
Covington	KY	Monitoring	\$125,000	\$3.00	7/26/02	7/26/02	
Louisville	KY	Monitoring	\$125,000	\$3.00	3/27/01	3/27/01	
Baltimore	MD	Monitoring	\$1,578,000	\$3.00	8/26/10	8/26/10	
Minneapolis	MN	Monitoring	\$230,273	\$3.00	5/13/94	5/13/94	
St. Louis	MO	Monitoring	\$100,000	\$3.00	11/24/08	11/24/08	
Charlotte	NC	Monitoring	\$225,403	\$3.00	9/15/11	9/15/11	
Columbus	OH	Monitoring	\$16,509	\$3.00	7/14/92	10/27/93	
Columbus	OH	Monitoring	\$33,000	\$3.00	1/28/11	1/28/11	
Portland	OR	Monitoring	\$715,750	\$3.00	12/7/05	12/7/05	

CITY	STATE	PROJECT	AMOUNT	PFC LEVEL	IMPOSE	USE	PROJ. TOTAL
Allentown	PA	Monitoring	\$30,556	\$4.50	3/26/01	3/26/01	
Nashville	TN	Monitoring	\$120,375	\$3.00	5/10/07	5/10/07	
Dallas/Ft. Worth	TX	Monitoring	\$1,266,151	\$3.00	11/7/96	11/7/96	
San Antonio	TX	Monitoring	\$245,153	\$3.00	2/22/05	2/22/05	
Milwaukee	WI	Monitoring	\$40,956	\$3.00	2/24/95	2/24/95	
Milwaukee	WI	Monitoring	\$160,000	\$3.00	12/31/09	12/31/09	
Jackson	WY	Monitoring	\$47,272	\$4.50	2/9/04	2/9/04	
Jackson	WY	Monitoring	\$26,316	\$4.50	4/8/08	4/8/08	
Phoenix	AZ	Multi-phase	\$75,000,000	\$4.50	12/6/04	12/6/04	\$1,418,044,596
Phoenix	AZ	Multi-phase	\$25,900,000	\$4.50	9/27/07	9/27/07	
Phoenix	AZ	Multi-phase	\$63,322,279	\$4.50	4/30/09	4/30/09	
Los Angeles	CA	Multi-phase	\$700,000,000	\$4.50	11/28/97	11/28/97	
Los Angeles	CA	Multi-phase	\$50,000,000	\$4.50	10/23/07	10/23/07	
Ontario	CA	Multi-phase	\$84,774,000	\$3.00	4/28/98	4/28/98	
Orlando	FL	Multi-phase	\$688,000	\$3.00	7/12/05	7/12/05	
Chicago O'Hare	IL	Multi-phase	\$586,857	\$4.50	6/28/93	6/28/93	
Des Moines	IA	Multi-phase	\$945,178	\$4.50	8/16/05	8/16/05	
Covington	KY	Multi-phase	\$21,317,000	\$3.00	3/30/94	3/30/94	
Covington	KY	Multi-phase	\$6,444,000	\$3.00	11/29/95	11/29/95	
Covington	KY	Multi-phase	\$3,303,000	\$3.00	3/28/01	3/28/01	
Lexington	KY	Multi-phase	\$45,544	\$4.50	8/31/93	4/21/95	
Lexington	KY	Multi-phase	\$111,360	\$4.50	8/31/93	9/27/96	
Baton Rouge	LA	Multi-phase	\$1,315,124	\$3.00	9/28/92	4/23/93	
New Orleans	LA	Multi-phase	\$3,750,000	\$4.50	8/26/04	8/26/04	
Detroit	MI	Multi-phase	\$48,871,000	\$3.00	9/21/92	9/21/92	
Minneapolis	MN	Multi-phase	\$103,237,546	\$3.00	5/13/94	5/13/94	
Manchester	NH	Multi-phase	\$1,400,000	\$3.00	10/13/92	3/4/96	
Buffalo	NY	Multi-phase	\$1,997,550	\$4.50	5/25/07	5/25/07	
Islip	NY	Multi-phase	\$671,891	\$3.00	9/23/94	9/23/94	
Charlotte	NC	Multi-phase	\$1,264,209	\$3.00	8/23/04	8/23/04	
Charlotte	NC	Multi-phase	\$3,941,093	\$3.00	8/23/04	8/23/04	
Toledo	OH	Multi-phase	\$1,676,083	\$4.50	1/16/98	1/16/98	
Tulsa	OK	Multi-phase	\$8,400,000	\$3.00	4/27/00	4/27/00	
Erie	PA	Multi-phase	\$118,518	\$3.00	7/21/92	7/21/92	
Providence	RI	Multi-phase	\$8,942,198	\$4.50	6/19/14	6/19/14	
Knoxville	TN	Multi-phase	\$528,431	\$3.00	10/6/93	10/6/93	
Nashville	TN	Multi-phase	\$24,065,949	\$3.00	2/26/04	2/26/04	
Dallas Love	TX	Multi-phase	\$1,913,478	\$3.00	12/20/07	12/20/07	
Roanoke	VA	Multi-phase	\$240,850	\$4.50	5/16/11	5/16/11	
Seattle	WA	Multi-phase	\$14,939,111	\$3.00	8/13/92	8/13/92	
Seattle	WA	Multi-phase	\$43,000,000	\$3.00	12/29/95	12/29/95	
Seattle	WA	Multi-phase	\$50,000,000	\$3.00	6/24/98	10/16/01	
Milwaukee	WI	Multi-phase	\$34,994,828	\$3.00	12/21/95	12/21/95	
Mobile	AL	Planning	\$116,804	\$3.00	2/22/02	2/22/02	\$17,183,574
Bullhead City	AZ	Planning	\$8,250	\$2.00	11/1/13	11/1/13	
Mesa	AZ	Planning	\$11,175	\$4.50	9/25/08	9/25/08	
Phoenix	AZ	Planning	\$2,000,000	\$3.00	2/1/34	12/1/35	
Burbank	CA	Planning	\$282,440	\$3.00	4/2/01	4/2/01	

CITY	STATE	PROJECT	AMOUNT	PFC LEVEL	IMPOSE	USE	PROJ. TOTAL
Burbank	CA	Planning	\$116,460	\$3.00	6/16/06	6/16/06	
Modesto	CA	Planning	\$15,750	\$4.50	6/6/08	6/6/08	
Monterey	CA	Planning	\$50,130	\$3.00	7/14/98	7/14/98	
Monterey	CA	Planning	\$15,000	\$4.50	2/7/08	2/7/08	
San Diego	CA	Planning	\$241,555	\$3.00	6/27/08	6/27/08	
Pueblo	CO	Planning	\$21,500	\$3.00	4/11/96	4/11/96	
New Haven	CT	Planning	\$5,431	\$4.50	8/18/11	8/18/11	
Fort Myers	FL	Planning	\$132,000	\$3.00	8/31/92	8/31/92	
Gainesville	FL	Planning	\$8,978	\$4.50	11/8/13	11/8/13	
Key West	FL	Planning	\$1,980	\$4.50	1/10/03	1/10/03	
Key West	FL	Planning	\$1,980	\$4.50	4/14/04	4/14/04	
Key West	FL	Planning	\$1,159	\$4.50	11/5/04	11/5/04	
Orlando	FL	Planning	\$21,919	\$3.00	8/28/95	8/28/95	
Sanford	FL	Planning	\$23,048	\$1.00	12/27/00	12/27/00	
Tallahassee	FL	Planning	\$129,330	\$3.00	3/3/98	3/3/98	
Chicago Midway	IL	Planning	\$1,425,000	\$3.00	7/5/95	7/5/95	
Chicago O'Hare	IL	Planning	\$5,700,000	\$3.00	6/28/96	6/28/96	
Rockford	IL	Planning	\$16,088	\$3.00	7/24/92	9/2/93	
Indianapolis	IN	Planning	\$75,000	\$3.00	12/20/96	12/20/96	
Manhattan	KS	Planning	\$16,036	\$3.00	3/8/12	3/8/12	
Covington	KY	Planning	\$337,000	\$3.00	3/30/94	3/30/94	
Covington	KY	Planning	\$344,215	\$3.00	3/31/98	3/31/98	
Covington	KY	Planning	\$1,088,000	\$3.00	11/8/01	11/8/01	
Detroit	MI	Planning	\$386,156	\$3.00	9/28/04	9/28/04	
Traverse City	MI	Planning	\$7,238	\$4.50	3/2/06	3/2/06	
Duluth	MN	Planning	\$17,255	\$3.00	7/1/94	7/1/94	
St. Louis	MO	Planning	\$600,000	\$3.00	11/24/08	11/24/08	
Missoula	MT	Planning	\$20,670	\$4.50	7/22/05	7/22/05	
Las Vegas	NV	Planning	\$167,495	\$3.00	2/24/92	2/24/92	
Reno	NV	Planning	\$339,994	\$3.00	5/31/01	5/31/01	
Albany	NY	Planning	\$45,000	\$3.00	9/27/96	9/27/96	
Charlotte	NC	Planning	\$1,250,000	\$3.00	8/23/04	8/23/04	
Charlotte	NC	Planning	\$294,500	\$3.00	9/15/11	9/15/11	
Akron	OH	Planning	\$4,146	\$3.00	10/21/96	10/21/96	
Akron	OH	Planning	\$27,001	\$3.00	10/21/96	10/21/96	
Akron	OH	Planning	\$2,722	\$3.00	10/18/99	10/18/99	
Cleveland	OH	Planning	\$584,570	\$3.00	4/25/97	4/25/97	
Columbus	OH	Planning	\$13,822	\$3.00	5/29/98	5/29/98	
Dayton	OH	Planning	\$700,000	\$4.50	5/9/02	5/9/02	
Allentown	PA	Planning	\$33,334	\$4.50	3/26/01	3/26/01	
Latrobe	PA	Planning	\$16,173	\$4.50	4/17/13	4/17/13	
State College	PA	Planning	\$10,000	\$3.00	5/26/99	5/26/99	
Nashville	TN	Planning	\$106,272	\$3.00	2/23/01	2/23/01	
Brownsville	TX	Planning	\$108,702	\$4.50	2/7/03	2/7/03	
Laredo	TX	Planning	\$15,786	\$3.00	7/23/93	12/31/96	
Burlington	VT	Planning	\$5,463	\$4.50	1/31/12	1/31/12	
Richmond	VA	Planning	\$15,931	\$3.00	7/3/97	7/3/97	
Roanoke	VA	Planning	\$2,458	\$4.50	11/24/04	11/24/04	

CITY	STATE	PROJECT	AMOUNT	PFC LEVEL	IMPOSE	USE	PROJ. TOTAL
Milwaukee	WI	Planning	\$230,000	\$3.00	7/9/02	7/9/02	
Milwaukee	WI	Planning	\$35,600	\$3.00	9/8/11	9/8/11	
Mobile	AL	Soundproofing	\$77,557	\$3.00	4/18/13	4/18/13	\$1,416,127,619
Phoenix	AZ	Soundproofing	\$4,996,000	\$3.00	1/26/96	1/26/96	
Phoenix	AZ	Soundproofing	\$34,048,279	\$4.50	6/5/02	6/5/02	
Burbank	CA	Soundproofing	\$43,525,109	\$4.50	4/2/01	4/2/01	
Burbank	CA	Soundproofing	\$730,774	\$4.50	4/2/01	4/2/01	
Burbank	CA	Soundproofing	\$437,200	\$4.50	4/2/01	4/2/01	
Burbank	CA	Soundproofing	\$770,931	\$4.50	4/2/01	4/2/01	
Burbank	CA	Soundproofing	\$429,490	\$4.50	4/2/01	4/2/01	
Burbank	CA	Soundproofing	\$16,000,000	\$4.50	4/2/01	4/2/01	
Burbank	CA	Soundproofing	\$4,570,000	\$4.50	4/2/01	4/2/01	
Burbank	CA	Soundproofing	\$113,000	\$4.50	5/27/04	5/27/04	
Fresno	CA	Soundproofing	\$444,400	\$3.00	9/18/96	9/18/96	
Long Beach	CA	Soundproofing	\$4,600,000	\$4.50	9/2/10	9/2/10	
Los Angeles	CA	Soundproofing	\$35,000,000	\$4.50	10/23/07	10/23/07	
Los Angeles	CA	Soundproofing	\$27,800,572	\$3.00	5/2/11	5/2/11	
Los Angeles	CA	Soundproofing	\$6,288,486	\$3.00	5/2/11		
Los Angeles	CA	Soundproofing	\$44,378,659	\$3.00	10/24/14	10/24/14	
Monterey	CA	Soundproofing	\$824,321	\$3.00	10/8/93	10/31/94	
Monterey	CA	Soundproofing	\$322,715	\$3.00	7/27/01	7/27/01	
Monterey	CA	Soundproofing	\$211,022	\$3.00	5/30/02	5/30/02	
Monterey	CA	Soundproofing	\$80,026	\$4.50	3/16/06	3/16/06	
Monterey	CA	Soundproofing	\$97,679	\$4.50	3/16/06	3/16/06	
Monterey	CA	Soundproofing	\$196,008	\$4.50	2/7/08	2/7/08	
Monterey	CA	Soundproofing	\$67,829	\$4.50	4/23/09	4/23/09	
Oakland	CA	Soundproofing	\$240,000	\$3.00	4/30/97	4/30/97	
Oakland	CA	Soundproofing	\$6,199,070	\$3.00	6/18/99	6/18/99	
San Diego	CA	Soundproofing	\$2,418,000	\$3.00	7/26/95	7/26/95	
San Diego	CA	Soundproofing	\$1,122,000	\$3.00	7/24/98	7/24/98	
San Diego	CA	Soundproofing	\$4,626,000	\$4.50	5/20/03	5/20/03	
San Diego	CA	Soundproofing	\$5,132,960	\$4.50	11/22/05	11/22/05	
San Diego	CA	Soundproofing	\$4,512,915	\$4.50	6/27/08	6/27/08	
San Diego	CA	Soundproofing	\$9,612,376	\$4.50	9/30/09	9/30/09	
San Diego	CA	Soundproofing	\$17,469,000	\$4.50	7/3/12	7/3/12	
San Jose	CA	Soundproofing	\$47,984,474	\$3.00	6/11/92	6/11/92	
San Jose	CA	Soundproofing	\$3,284,264	\$4.50	11/24/99	11/24/99	
San Jose	CA	Soundproofing	\$4,500,000	\$4.50	4/20/01	4/20/01	
San Jose	CA	Soundproofing	\$61,589,000	\$4.50	3/1/02	3/1/02	
Windsor Locks	CT	Soundproofing	\$1,450,000	\$4.50	11/3/08	11/3/08	
Windsor Locks	CT	Soundproofing	\$625,000	\$4.50	7/26/10	7/26/10	
Ft. Lauderdale	FL	Soundproofing	\$35,000,000	\$4.50	12/22/08	12/22/08	
Key West	FL	Soundproofing	\$350,000	\$3.00	8/31/99	8/31/99	
Key West	FL	Soundproofing	\$81,138	\$4.50	1/10/03	1/10/03	
Key West	FL	Soundproofing	\$70,715	\$4.50	1/10/03	1/10/03	
Key West	FL	Soundproofing	\$63,316	\$4.50	4/14/04	4/14/04	
Key West	FL	Soundproofing	\$200,239	\$4.50	11/5/04	11/5/04	
Key West	FL	Soundproofing	\$191,661	\$4.50	4/5/05	4/5/05	

CITY	STATE	PROJECT	AMOUNT	PFC LEVEL	IMPOSE	USE	PROJ. TOTAL
Key West	FL	Soundproofing	\$56,536	\$4.50	2/10/10	2/10/10	
Key West	FL	Soundproofing	\$219,603	\$4.50	2/10/10	2/10/10	
Key West	FL	Soundproofing	\$33,038	\$4.50	2/20/20	2/10/10	
Key West	FL	Soundproofing	\$131,407	\$4.50	2/10/10	2/10/10	
Atlanta	GA	Soundproofing	\$23,800,000	\$4.50	3/12/10	3/12/10	
Chicago Midway	IL	Soundproofing	\$4,900,000	\$3.00	6/28/93	6/28/93	
Chicago Midway	IL	Soundproofing	\$1,140,000	\$3.00	7/5/95	7/5/95	
Chicago Midway	IL	Soundproofing	\$8,000,000	\$4.50	11/15/96	11/15/96	
Chicago Midway	IL	Soundproofing	\$28,400,000	\$4.50	11/15/96	11/15/96	
Chicago Midway	IL	Soundproofing	\$10,000,000	\$4.50	2/22/00	2/22/00	
Chicago Midway	IL	Soundproofing	\$20,000,000	\$4.50	7/7/00	7/7/00	
Chicago Midway	IL	Soundproofing	\$50,000,000	\$4.50	4/18/02	4/18/02	
Chicago Midway	IL	Soundproofing	\$127,542,000	\$4.50	1/21/09	1/21/09	
Chicago Midway	IL	Soundproofing	\$4,303,049	\$4.50	1/21/09	1/21/09	
Chicago O'Hare	IL	Soundproofing	\$35,300,000	\$4.50	6/28/93	6/28/93	
Chicago O'Hare	IL	Soundproofing	\$113,271,731	\$4.50	6/28/96	6/28/96	
Chicago O'Hare	IL	Soundproofing	\$52,000,000	\$4.50	6/28/96	6/28/96	
Chicago O'Hare	IL	Soundproofing	\$20,000,000	\$4.50	3/16/98	3/16/98	
Chicago O'Hare	IL	Soundproofing	\$61,000,000	\$4.50	4/16/01	4/16/01	
Chicago O'Hare	IL	Soundproofing	\$30,000,000	\$4.50	4/16/01	4/16/01	
Chicago O'Hare	IL	Soundproofing	\$27,200,000	\$4.50	4/16/01	4/16/01	
Chicago O'Hare	IL	Soundproofing	\$4,000,000	\$4.50	12/28/05	12/28/05	
Chicago O'Hare	IL	Soundproofing	\$16,060,000	\$4.50	6/17/04	6/17/04	
Chicago O'Hare	IL	Soundproofing	\$2,440,000	\$4.50	6/17/04	6/17/04	
Chicago O'Hare	IL	Soundproofing	\$24,327,000	\$4.50	8/17/06	8/17/06	
Chicago O'Hare	IL	Soundproofing	\$13,875,325	\$4.50	8/17/06	8/17/06	
Chicago O'Hare	IL	Soundproofing	\$130,412,160	\$4.50	12/23/09	12/23/09	
Chicago O'Hare	IL	Soundproofing	\$2,317,696	\$4.50	12/7/10	12/7/10	
Chicago O'Hare	IL	Soundproofing	\$1,242,000	\$4.50	11/2/12	11/2/12	
Peoria	IL	Soundproofing	\$289,013	\$3.00	9/8/94	9/8/94	
Covington	KY	Soundproofing	\$3,560,000	\$3.00	8/3/05	8/3/05	
Louisville	KY	Soundproofing	\$250,000	\$4.50	2/2/11	2/2/11	
Louisville	KY	Soundproofing	\$2,650,000	\$4.50	3/14/14	3/14/14	
Boston	MA	Soundproofing	\$15,323,217	\$4.50	8/24/93	1/27/97	
Boston	MA	Soundproofing	\$8,590,000	\$4.50	4/20/06	4/20/06	
Boston	MA	Soundproofing	\$5,200,000	\$4.50	4/20/06	4/20/06	
Boston	MA	Soundproofing	\$1,098,215	\$4.50	5/1/23	10/1/24	
Saipan	MP	Soundproofing	\$80,648	\$4.50	10/15/04	10/15/04	
Rota	MP	Soundproofing	\$4,480	\$4.50	10/15/04	10/15/04	
Tinian	MP	Soundproofing	\$4,480	\$4.50	10/15/04	10/15/04	
Minneapolis	MN	Soundproofing	\$2,617,279	\$3.00	5/13/94	5/13/94	
Minneapolis	MN	Soundproofing	\$450,537	\$3.00	5/13/94	5/13/94	
Minneapolis	MN	Soundproofing	\$19,768,494	\$4.50	12/11/98	12/11/98	
Minneapolis	MN	Soundproofing	\$7,799,500	\$4.50	1/24/03	1/24/03	
Great Falls	MT	Soundproofing	\$431,271	\$4.50	4/12/12	4/12/12	
Reno	NV	Soundproofing	\$155,744	\$3.00	10/29/93	10/29/93	
Manchester	NH	Soundproofing	\$3,250,000	\$3.00	4/1/03	4/1/03	
Buffalo	NY	Soundproofing	\$3,058,930	\$4.50	12/17/09	12/17/09	

CITY	STATE	PROJECT	AMOUNT	PFC LEVEL	IMPOSE	USE	PROJ. TOTAL
Syracuse	NY	Soundproofing	\$1,354,899	\$4.50	8/22/05	8/22/05	
Cleveland	OH	Soundproofing	\$22,362,400	\$3.00	9/1/92	9/1/92	
Cleveland	OH	Soundproofing	\$8,595,641	\$3.00	4/25/97	4/25/97	
Cleveland	OH	Soundproofing	\$10,000,000	\$3.00	5/28/99	5/28/99	
Columbus	OH	Soundproofing	\$20,323	\$3.00	7/14/92	10/27/93	
Columbus	OH	Soundproofing	\$71,974	\$3.00	7/14/92	10/27/93	
Columbus	OH	Soundproofing	\$60,547	\$3.00	7/14/92	10/27/93	
Columbus	OH	Soundproofing	\$269,810	\$3.00	7/19/93	3/27/96	
Columbus	OH	Soundproofing	\$906,369	\$4.50	5/29/98	5/29/98	
Columbus	OH	Soundproofing	\$963,915	\$4.50	1/28/11	1/28/11	
Allentown	PA	Soundproofing	\$100,000	\$4.50	6/6/03	6/6/03	
Allentown	PA	Soundproofing	\$500,000	\$4.50	6/6/03	6/6/03	
Pittsburgh	PA	Soundproofing	\$700,541	\$4.50	7/27/01	7/27/01	
Pittsburgh	PA	Soundproofing	\$1,050,207	\$4.50	1/7/05	1/7/05	
San Antonio	TX	Soundproofing	\$21,302,247	\$4.50	8/29/01	12/1/04	
Seattle	WA	Soundproofing	\$16,134,627	\$3.00	10/25/93	10/25/93	
Seattle	WA	Soundproofing	\$153,212	\$3.00	10/25/93	10/25/93	
Milwaukee	WI	Soundproofing	\$2,290,230	\$3.00	12/21/95	12/21/95	
Milwaukee	WI	Soundproofing	\$6,953,470	\$3.00	12/31/09	12/31/09	
						Total:	\$3,388,172,994

PFC FUNDED NOISE PROJECTS (BY LOCATION)
(as of Nov. 30, 2015)

CITY	STATE	WORK CODE	AMOUNT	PFC LEVEL	IMPOSE	USE	TOTAL
Birmingham	AL	Land	\$3,173,639	\$4.50	7/2/08	7/2/08	\$5,132,516
Birmingham	AL	Land	\$1,958,877	\$4.50	3/31/10	3/31/10	
Huntsville	AL	Land	\$4,211,697	\$3.00	3/6/92	6/28/94	\$5,492,201
Huntsville	AL	Land	\$791,507	\$3.00	3/6/92	11/22/95	
Huntsville	AL	Land	\$265,804	\$3.00	3/6/92	5/28/97	
Huntsville	AL	Land	\$68,954	\$3.00	10/19/98	10/19/98	
Huntsville	AL	Land	\$154,239	\$4.50	10/30/02	10/30/02	
Mobile	AL	Land	\$421,383	\$3.00	2/22/02	2/22/02	\$1,449,562
Mobile	AL	Land	\$126,333	\$3.00	3/1/06	3/1/06	
Mobile	AL	Land	\$140,993	\$3.00	3/1/06	3/1/06	
Mobile	AL	Land	\$230,906	\$3.00	3/1/06	3/1/06	
Mobile	AL	Land	\$103,394	\$3.00	3/1/06	3/1/06	
Mobile	AL	Land	\$232,192	\$3.00	3/1/06	3/1/06	
Mobile	AL	Planning	\$116,804	\$3.00	2/22/02	2/22/02	
Mobile	AL	Soundproofing	\$77,557	\$3.00	4/18/13	4/18/13	
Juneau	AK	Land	\$21,931	\$4.50	5/30/01	5/30/01	\$21,931
Bullhead City	AZ	Planning	\$8,250	\$2.00	11/1/13	11/1/13	\$8,250
Mesa	AZ	Planning	\$11,175	\$4.50	9/25/08	9/25/08	\$11,175
Phoenix	AZ	Land	\$27,327,877	\$3.00	6/5/02	6/5/02	\$232,594,435
Phoenix	AZ	Multi-phase	\$75,000,000	\$4.50	12/6/04	12/6/04	
Phoenix	AZ	Multi-phase	\$25,900,000	\$4.50	9/27/07	9/27/07	
Phoenix	AZ	Multi-phase	\$63,322,279	\$4.50	4/30/09	4/30/09	
Phoenix	AZ	Soundproofing	\$4,996,000	\$3.00	1/26/96	1/26/96	
Phoenix	AZ	Soundproofing	\$34,048,279	\$4.50	6/5/02	6/5/02	
Phoenix	AZ	Planning	\$2,000,000	\$3.00	2/1/34	12/1/35	
Tucson	AZ	Land	\$3,288,473	\$4.50	11/19/97	11/19/97	\$3,685,361
Tucson	AZ	Land	\$396,888	\$4.50	11/19/97	11/19/97	
Fort Smith	AR	Land	\$90,756	\$3.00	5/8/94	7/24/97	\$111,311
Fort Smith	AR	Monitoring	\$20,555	\$3.00	5/8/94	7/24/97	
Little Rock	AR	Land	\$3,314,737	\$4.50	1/31/06	1/31/06	\$4,736,189
Little Rock	AR	Land	\$1,421,452	\$4.50	1/15/10	1/15/10	
Burbank	CA	Land	\$27,829,178	\$3.00	6/17/94	2/5/97	\$95,869,418
Burbank	CA	Monitoring	\$64,836	\$3.00	4/2/01	4/2/01	
Burbank	CA	Monitoring	\$1,000,000	\$3.00	9/28/09	9/28/09	
Burbank	CA	Planning	\$282,440	\$3.00	4/2/01	4/2/01	
Burbank	CA	Planning	\$116,460	\$3.00	6/16/06	6/16/06	
Burbank	CA	Soundproofing	\$43,525,109	\$4.50	4/2/01	4/2/01	
Burbank	CA	Soundproofing	\$730,774	\$4.50	4/2/01	4/2/01	
Burbank	CA	Soundproofing	\$437,200	\$4.50	4/2/01	4/2/01	
Burbank	CA	Soundproofing	\$770,931	\$4.50	4/2/01	4/2/01	
Burbank	CA	Soundproofing	\$429,490	\$4.50	4/2/01	4/2/01	
Burbank	CA	Soundproofing	\$16,000,000	\$4.50	4/2/01	4/2/01	
Burbank	CA	Soundproofing	\$4,570,000	\$4.50	4/2/01	4/2/01	
Burbank	CA	Soundproofing	\$113,000	\$4.50	5/27/04	5/27/04	
Carlsbad	CA	Misc	\$18,226	\$4.50	11/24/08	11/24/08	\$18,226
Fresno	CA	Soundproofing	\$444,400	\$3.00	9/18/96	9/18/96	\$444,400

CITY	STATE	WORK CODE	AMOUNT	PFC LEVEL	IMPOSE	USE	TOTAL
Long Beach	CA	Soundproofing	\$4,600,000	\$4.50	9/2/19	9/2/10	\$4,600,000
Los Angeles	CA	Monitoring	\$3,450,000	\$3.00	9/23/05	9/23/05	\$866,917,717
Los Angeles	CA	Multi-phase	\$700,000,000	\$4.50	11/28/97	11/28/97	
Los Angeles	CA	Multi-phase	\$50,000,000	\$4.50	10/23/07	10/23/07	
Los Angeles	CA	Soundproofing	\$35,000,000	\$4.50	10/23/07	10/23/07	
Los Angeles	CA	Soundproofing	\$27,800,572	\$3.00	5/2/11	5/2/11	
Los Angeles	CA	Soundproofing	\$6,288,486	\$3.00	5/2/11		
Los Angeles	CA	Soundproofing	\$44,378,659	\$3.00	10/24/14	10/24/14	
Modesto	CA	Planning	\$15,750	\$4.50	6/6/08	6/6/08	\$15,750
Monterey	CA	Planning	\$50,130	\$3.00	7/14/98	7/14/98	\$1,864,730
Monterey	CA	Planning	\$15,000	\$4.50	2/7/08	2/7/08	
Monterey	CA	Soundproofing	\$824,321	\$3.00	10/8/93	10/31/94	
Monterey	CA	Soundproofing	\$322,715	\$3.00	7/27/01	7/27/01	
Monterey	CA	Soundproofing	\$211,022	\$3.00	5/30/02	5/30/02	
Monterey	CA	Soundproofing	\$80,026	\$4.50	3/16/06	3/16/06	
Monterey	CA	Soundproofing	\$97,679	\$4.50	3/16/06	3/16/06	
Monterey	CA	Soundproofing	\$196,008	\$4.50	2/7/08	2/7/08	
Monterey	CA	Soundproofing	\$67,829	\$4.50	4/23/09	4/23/09	
Oakland	CA	Monitoring	\$436,267	\$3.00	6/26/92	6/26/92	\$7,075,337
Oakland	CA	Soundproofing	\$319,282	\$3.00	10/23/09	10/23/09	
Oakland	CA	Soundproofing	\$240,000	\$3.00	4/30/97	4/30/97	
Oakland	CA	Soundproofing	\$6,199,070	\$3.00	6/18/99	6/18/99	
Ontario	CA	Multi-phase	\$84,774,000	\$3.00	4/28/98	4/28/98	\$84,774,000
Sacramento	CA	Monitoring	\$662,000	\$3.00	4/26/96	4/26/96	\$662,000
San Diego	CA	Monitoring	\$1,224,000	\$3.00	5/20/03	5/20/03	\$46,358,806
San Diego	CA	Planning	\$241,555	\$3.00	6/27/08	6/27/08	
San Diego	CA	Soundproofing	\$2,418,000	\$3.00	7/26/95	7/26/95	
San Diego	CA	Soundproofing	\$1,122,000	\$3.00	7/24/98	7/24/98	
San Diego	CA	Soundproofing	\$4,626,000	\$4.50	5/20/03	5/20/03	
San Diego	CA	Soundproofing	\$5,132,960	\$4.50	11/22/05	11/22/05	
San Diego	CA	Soundproofing	\$4,512,915	\$4.50	6/27/08	6/27/08	
San Diego	CA	Soundproofing	\$9,612,376	\$4.50	9/30/09	9/30/09	
San Diego	CA	Soundproofing	\$17,469,000	\$4.50	7/3/12	7/3/12	
San Jose	CA	Monitoring	\$183,775	\$3.00	6/11/92	6/11/92	\$117,839,197
San Jose	CA	Monitoring	\$76,684	\$3.00	11/24/99	11/24/99	
San Jose	CA	Monitoring	\$221,000	\$3.00	12/15/00	12/15/00	
San Jose	CA	Soundproofing	\$47,984,474	\$3.00	6/11/92	6/11/92	
San Jose	CA	Soundproofing	\$3,284,264	\$4.50	11/24/99	11/24/99	
San Jose	CA	Soundproofing	\$4,500,000	\$4.50	4/20/01	4/20/01	
San Jose	CA	Soundproofing	\$61,589,000	\$4.50	3/1/02	3/1/02	
Pueblo	CO	Planning	\$21,500	\$3.00	4/11/96	4/11/96	\$21,500
New Haven	CT	Planning	\$5,431	\$4.50	8/18/11	8/18/11	\$5,431
Windsor Locks	CT	Soundproofing	\$1,450,000	\$4.50	11/3/08	11/3/08	\$2,075,000
Windsor Locks	CT	Soundproofing	\$625,000	\$4.50	7/26/10	7/26/10	
Fort Lauderdale	FL	Land	\$3,500,000	\$3.00	4/30/98	4/23/01	\$39,158,000
Fort Lauderdale	FL	Monitoring	\$658,000	\$3.00	11/1/94	4/30/98	
Fort Lauderdale	FL	Soundproofing	\$35,000,000	\$4.50	12/22/08	12/22/08	
Fort Myers	FL	Planning	\$132,000	\$3.00	8/31/92	8/31/92	\$132,000
Gainesville	FL	Land	\$144,869	\$4.50	8/29/02	8/29/02	\$153,847

CITY	STATE	WORK CODE	AMOUNT	PFC LEVEL	IMPOSE	USE	TOTAL
Gainesville	FL	Planning	\$8,978	\$4.50	11/8/13	11/8/13	
Jacksonville	FL	Land	\$6,000,000	\$3.00	9/6/06	9/6/06	\$6,000,000
Key West	FL	Planning	\$1,980	\$4.50	1/10/03	1/10/03	\$1,402,772
Key West	FL	Planning	\$1,980	\$4.50	4/14/04	4/14/04	
Key West	FL	Planning	\$1,159	\$4.50	11/5/04	11/5/04	
Key West	FL	Soundproofing	\$350,000	\$3.00	8/31/99	8/31/99	
Key West	FL	Soundproofing	\$81,138	\$4.50	1/10/03	1/10/03	
Key West	FL	Soundproofing	\$70,715	\$4.50	1/10/03	1/10/03	
Key West	FL	Soundproofing	\$63,316	\$4.50	4/14/04	4/14/04	
Key West	FL	Soundproofing	\$200,239	\$4.50	11/5/04	11/5/04	
Key West	FL	Soundproofing	\$191,661	\$4.50	4/5/05	4/5/05	
Key West	FL	Soundproofing	\$56,536	\$4.50	2/10/10	2/10/10	
Key West	FL	Soundproofing	\$219,603	\$4.50	2/10/10	2/10/10	
Key West	FL	Soundproofing	\$33,038	\$4.50	2/10/10	2/10/10	
Key West	FL	Soundproofing	\$131,407	\$4.50	2/10/10	2/10/10	
Orlando	FL	Planning	\$21,919	\$3.00	8/28/95	8/28/95	\$709,919
Orlando	FL	Multi-phase	\$688,000	\$3.00	7/12/05	7/12/05	
Pensacola	FL	Land	\$597,708	\$3.00	11/23/92	11/23/92	\$732,264
Pensacola	FL	Land	\$69,480	\$3.00	11/23/92	8/10/95	
Pensacola	FL	Misc	\$65,076	\$3.00	11/23/92	8/10/95	
Sanford	FL	Land	\$199,189	\$4.00	7/12/12	7/12/12	\$361,801
Sanford	FL	Land	\$73,775	\$4.00	7/12/12	7/12/12	
Sanford	FL	Land	\$65,789	\$4.00	7/12/12	7/12/12	
Sanford	FL	Planning	\$23,048	\$1.00	12/27/00	12/27/00	
Sarasota	FL	Multi-phase	\$1,474,904	\$3.00	6/29/92	1/31/95	\$4,538,410
Sarasota	FL	Land	\$3,063,506	\$3.00	6/29/92	12/15/95	
Tallahassee	FL	Land	\$3,128,225	\$3.00	3/3/98	3/3/98	\$3,257,555
Tallahassee	FL	Planning	\$129,330	\$3.00	3/3/98	3/3/98	
Tampa	FL	Misc	\$1,692,110	\$4.50	5/16/03	5/16/03	\$1,692,110
West Palm Beach	FL	Land	\$1,000,000	\$3.00	1/26/94	8/29/96	\$12,064,464
West Palm Beach	FL	Land	\$2,302,300	\$3.00	1/26/94	8/29/96	
West Palm Beach	FL	Land	\$374,616	\$3.00	1/26/94	6/11/97	
West Palm Beach	FL	Land	\$1,387,548	\$3.00	1/26/94	6/11/97	
West Palm Beach	FL	Land	\$5,000,000	\$3.00	1/26/94	6/11/97	
West Palm Beach	FL	Land	\$2,000,000	\$3.00	8/22/00	12/31/02	
Atlanta	GA	Land	\$7,280,374	\$4.50	11/29/07	11/29/07	\$31,080,374
Atlanta	GA	Soundproofing	\$23,800,000	\$4.50	3/12/10	3/12/10	
Des Moines	IA	Multi-phase	\$945,178	\$4.50	8/16/05	8/16/05	\$945,178
Bloomington	IL	Land	\$35,000	\$3.00	12/5/97	12/5/97	\$35,000
Chicago Midway	IL	Misc	\$11,493	\$3.00	6/28/93	6/28/93	\$260,901,356
Chicago Midway	IL	Misc	\$297,707	\$3.00	6/28/93	6/28/93	
Chicago Midway	IL	Misc	\$2,057,107	\$3.00	2/22/00	2/22/00	
Chicago Midway	IL	Misc	\$2,500,000	\$3.00	4/18/02	4/18/02	
Chicago Midway	IL	Monitoring	\$325,000	\$3.00	6/28/93	6/28/93	
Chicago Midway	IL	Planning	\$1,425,000	\$3.00	7/5/95	7/5/95	
Chicago Midway	IL	Soundproofing	\$4,900,000	\$3.00	6/28/93	6/28/93	
Chicago Midway	IL	Soundproofing	\$1,140,000	\$3.00	7/5/95	7/5/95	
Chicago Midway	IL	Soundproofing	\$8,000,000	\$4.50	11/15/96	11/15/96	
Chicago Midway	IL	Soundproofing	\$28,400,000	\$4.50	11/15/96	11/15/96	

CITY	STATE	WORK CODE	AMOUNT	PFC LEVEL	IMPOSE	USE	TOTAL
Chicago Midway	IL	Soundproofing	\$10,000,000	\$4.50	2/22/00	2/22/00	
Chicago Midway	IL	Soundproofing	\$20,000,000	\$4.50	7/7/00	7/7/00	
Chicago Midway	IL	Soundproofing	\$50,000,000	\$4.50	4/18/02	4/18/02	
Chicago Midway	IL	Soundproofing	\$127,542,000	\$4.50	1/21/09	1/21/09	
Chicago Midway	IL	Soundproofing	\$4,303,049	\$4.50	1/21/09	1/21/09	
Chicago O'Hare	IL	Misc	\$42,389	\$3.00	6/28/93	6/28/93	\$547,668,186
Chicago O'Hare	IL	Misc	\$2,993,028	\$4.50	6/28/96	6/28/96	
Chicago O'Hare	IL	Monitoring	\$3,900,000	\$3.00	6/28/93	9/16/94	
Chicago O'Hare	IL	Monitoring	\$1,000,000	\$3.00	8/17/06	8/17/06	
Chicago O'Hare	IL	Multi-phase	\$586,857	\$4.50	6/28/93	6/28/93	
Chicago O'Hare	IL	Planning	\$5,700,000	\$3.00	6/28/96	6/28/96	
Chicago O'Hare	IL	Soundproofing	\$35,300,000	\$4.50	6/28/93	6/28/93	
Chicago O'Hare	IL	Soundproofing	\$113,271,731	\$450	6/28/96	6/28/96	
Chicago O'Hare	IL	Soundproofing	\$52,000,000	\$450	6/28/96	6/28/96	
Chicago O'Hare	IL	Soundproofing	\$20,000,000	\$450	3/16/98	3/16/98	
Chicago O'Hare	IL	Soundproofing	\$61,000,000	\$4.50	4/16/01	4/16/01	
Chicago O'Hare	IL	Soundproofing	\$30,000,000	\$4.50	4/16/01	4/16/01	
Chicago O'Hare	IL	Soundproofing	\$27,200,000	\$4.50	4/16/01	4/16/01	
Chicago O'Hare	IL	Soundproofing	\$4,000,000	\$4.50	12/28/05	12/28/05	
Chicago O'Hare	IL	Soundproofing	\$16,060,000	\$4.50	6/17/04	6/17/04	
Chicago O'Hare	IL	Soundproofing	\$2,440,000	\$4.50	6/17/04	6/17/04	
Chicago O'Hare	IL	Soundproofing	\$24,327,000	\$4.50	8/17/06	8/17/06	
Chicago O'Hare	IL	Soundproofing	\$13,875,325	\$4.50	8/17/06	8/17/06	
Chicago O'Hare	IL	Soundproofing	\$130,412,160	\$4.50	12/23/09	12/23/09	
Chicago O'Hare	IL	Soundproofing	\$2,317,696	\$4.50	12/7/10	12/7/10	
Chicago O'Hare	IL	Soundproofing	\$1,242,000	\$4.50	11/2/12	11/2/12	
Moline	IL	Land	\$335,915	\$4.50	9/29/94	9/29/94	\$700,999
Moline	IL	Land	\$365,084	\$4.50	3/12/98	3/12/98	
Peoria	IL	Land	\$382,426	\$3.00	9/8/94	9/8/94	\$816,880
Peoria	IL	Land	\$145,411	\$4.50	2/3/00	2/3/00	
Peoria	IL	Soundproofing	\$289,013	\$3.00	9/8/94	9/8/94	
Rockford	IL	Planning	\$16,088	\$3.00	7/24/92	9/2/93	\$16,088
Springfield	IL	Land	\$24,740	\$3.00	3/27/92	4/28/93	\$165,351
Springfield	IL	Land	\$12,275	\$3.00	3/27/92	4/28/93	
Springfield	IL	Land	\$24,897	\$3.00	3/27/92	4/28/93	
Springfield	IL	Land	\$14,721	\$3.00	3/27/92	4/28/93	
Springfield	IL	Land	\$551	\$3.00	3/27/92	4/28/93	
Springfield	IL	Land	\$88,167	\$3.00	11/24/93	3/11/97	
Indianapolis	IN	Land	\$42,532,859	\$3.00	6/28/93	6/28/93	\$43,106,543
Indianapolis	IN	Misc	\$498,684	\$4.50	12/20/96	12/20/96	
Indianapolis	IN	Planning	\$75,000	\$3.00	12/20/96	12/20/96	
Manhattan	KS	Planning	\$16,036	\$4.50	3/8/12	3/8/12	\$16,036
Covington	KY	Monitoring	\$140,000	\$3.00	3/30/94	3/30/94	\$36,658,215
Covington	KY	Monitoring	\$125,000	\$3.00	7/26/02	7/26/02	
Covington	KY	Multi-phase	\$21,317,000	\$3.00	3/30/94	3/30/94	
Covington	KY	Multi-phase	\$6,444,000	\$3.00	11/29/95	11/29/95	
Covington	KY	Multi-phase	\$3,303,000	\$3.00	3/28/01	3/28/01	
Covington	KY	Planning	\$337,000	\$3.00	11/8/01	11/8/01	
Covington	KY	Planning	\$344,215	\$3.00	3/31/98	3/31/98	

CITY	STATE	WORK CODE	AMOUNT	PFC LEVEL	IMPOSE	USE	TOTAL
Covington	KY	Planning	\$1,088,000	\$3.00	11/8/01	11/8/01	
Covington	KY	Soundproofing	\$3,560,000	\$3.00	8/3/05	8/3/05	
Lexington	KY	Multi-phase	\$45,544	\$4.50	8/31/93	4/21/95	\$156,904
Lexington	KY	Multi-phase	\$111,360	\$4.50	8/31/93	9/27/96	
Louisville	KY	Land	\$58,770,761	\$3.00	1/29/97	1/29/97	\$61,795,761
Louisville	KY	Monitoring	\$125,000	\$3.00	3/27/01	3/27/01	
Louisville	KY	Soundproofing	\$250,000	\$4.50	2/2/11	2/2/11	
Louisville	KY	Soundproofing	\$2,650,000	\$4.50	3/14/14	3/14/14	
Baton Rouge	LA	Multi-phase	\$1,315,124	\$3.00	9/28/92	4/23/93	\$1,315,124
New Orleans	LA	Multi-phase	\$3,750,000	\$4.50	8/26/04	8/26/04	\$3,750,000
Baltimore	MD	Monitoring	\$1,578,000	\$3.00	8/26/10	8/26/10	\$1,578,000
Boston	MA	Soundproofing	\$8,590,000	\$4.50	4/20/06	4/20/06	\$30,211,432
Boston	MA	Soundproofing	\$5,200,000	\$4.50	4/20/06	4/20/06	
Boston	MA	Soundproofing	\$15,323,217	\$4.50	8/24/93	1/27/97	
Boston	MA	Soundproofing	\$1,098,215	\$4.50	5/1/23	10/1/24	
Detroit	MI	Misc	\$225,000	\$3.00	9/21/92	9/21/92	\$49,482,156
Detroit	MI	Multi-phase	\$48,871,000	\$3.00	9/21/92	9/21/92	
Detroit	MI	Planning	\$386,156	\$3.00	9/28/04	9/28/04	
Traverse City	MI	Planning	\$7,238	\$4.50	3/2/06	3/2/06	\$7,238
Duluth	MN	Planning	\$17,255	\$3.00	7/1/94	7/1/94	\$17,255
Minneapolis	MN	Land	\$21,500,000	\$3.00	5/13/94	5/13/94	\$188,740,099
Minneapolis	MN	Land	\$33,136,470	\$3.00	5/5/05	5/5/05	
Minneapolis	MN	Monitoring	\$230,273	\$3.00	5/13/94	5/13/94	
Minneapolis	MN	Multi-phase	\$103,237,546	\$3.00	5/13/94	5/13/94	
Minneapolis	MN	Soundproofing	\$2,617,279	\$3.00	5/13/94	5/13/94	
Minneapolis	MN	Soundproofing	\$450,537	\$4.50	5/13/94	5/13/94	
Minneapolis	MN	Soundproofing	\$19,768,494	\$4.50	12/11/98	12/11/98	
Minneapolis	MN	Soundproofing	\$7,799,500	\$4.50	1/24/03	1/24/03	
Rota	MP	Soundproofing	\$4,480	\$4.50	10/15/04	10/15/04	\$4,480
Saipan	MP	Soundproofing	\$80,648	\$4.50	10/15/04	10/15/04	\$80,648
Tinian	MP	Soundproofing	\$4,480	\$4.50	10/15/04	10/15/04	\$4,480
Kansas City	MO	Land	\$10,766,850	\$3.00	12/21/95	12/21/95	\$10,766,850
St. Louis	MO	Land	\$22,177,178	\$3.00	9/30/92	9/30/92	\$54,839,782
St. Louis	MO	Land	\$31,962,604	\$3.00	1/31/96	1/8/98	
St. Louis	MO	Monitoring	\$100,000	\$3.00	11/24/08	11/24/08	
St. Louis	MO	Planning	\$600,000	\$3.00	11/24/08	11/24/08	
Great Falls	MT	Soundproofing	\$431,271	\$4.50	4/12/12/	4/12/12	\$431,271
Missoula	MT	Planning	\$20,670	\$4.50	7/22/05	7/22/05	\$20,670
Las Vegas	NV	Land	\$10,654,182	\$4.50	2/24/92	3/15/95	\$51,753,814
Las Vegas	NV	Land	\$7,991,645	\$4.50	2/24/92	2/24/92	
Las Vegas	NV	Land	\$5,250,000	\$3.00	2/24/92	6/7/93	
Las Vegas	NV	Land	\$26,250,000	\$4.50	2/24/92	6/7/93	
Las Vegas	NV	Land	\$1,440,492	\$4.50	2/24/92	6/7/93	
Las Vegas	NV	Planning	\$167,495	\$3.00	2/24/92	2/24/92	
Reno	NV	Planning	\$339,994	\$3.00	5/3/01	5/3/01	\$495,738
Reno	NV	Soundproofing	\$155,744	\$3.00	10/29/93	10/29/93	
Manchester	NH	Multi-phase	\$1,400,000	\$3.00	10/13/92	3/4/96	\$4,650,000
Manchester	NH	Soundproofing	\$3,250,000	\$3.00	4/1/03	4/1/03	
Albany	NY	Planning	\$45,000	\$3.00	9/27/96	9/27/96	\$45,000

CITY	STATE	WORK CODE	AMOUNT	PFC LEVEL	IMPOSE	USE	TOTAL
Buffalo	NY	Multi-phase	\$1,997,550	\$4.50	5/25/07	5/25/07	\$5,056,480
Buffalo	NY	Soundproofing	\$3,058,930	\$4.50	12/17/09	12/17/09	
Islip	NY	Multi-phase	\$671,891	\$3.00	9/23/94	9/23/94	\$671,891
Syracuse	NY	Soundproofing	\$1,354,899	\$4.50	8/22/05	8/22/05	\$1,354,899
Charlotte	NC	Land	\$52,270,000	\$3.00	8/23/04	8/23/04	\$59,245,205
Charlotte	NC	Monitoring	\$225,403	\$3.00	9/15/11	9/15/11	
Charlotte	NC	Multi-phase	\$1,264,209	\$3.00	8/23/04	8/23/04	
Charlotte	NC	Multi-phase	\$3,941,093	\$3.00	8/23/04	8/23/04	
Charlotte	NC	Planning	\$1,250,000	\$3.00	8/23/04	8/23/04	
Charlotte	NC	Planning	\$294,500	\$3.00	9/15/11	9/15/11	
Fargo	ND	Land	\$361,548	\$4.50	10/11/06	10/11/06	\$361,548
Akron	OH	Land	\$19,210	\$3.00	10/21/96	10/21/96	\$107,252
Akron	OH	Land	\$14,635	\$3.00	10/21/96	10/21/96	
Akron	OH	Land	\$5,293	\$3.00	10/21/96	10/21/96	
Akron	OH	Land	\$21,334	\$3.00	10/21/96	10/21/96	
Akron	OH	Land	\$12,911	\$4.50	4/4/02	4/4/02	
Akron	OH	Planning	\$4,146	\$3.00	10/21/96	10/21/96	
Akron	OH	Planning	\$27,001	\$3.00	10/21/96	10/21/96	
Akron	OH	Planning	\$2,722	\$3.00	10/18/99	10/18/99	
Cleveland	OH	Land	\$7,137,600	\$3.00	9/1/92	2/2/94	\$73,962,509
Cleveland	OH	Land	\$25,282,298	\$3.00	4/25/97	4/25/97	
Cleveland	OH	Planning	\$584,570	\$3.00	4/25/97	4/25/97	
Cleveland	OH	Soundproofing	\$22,362,400	\$3.00	9/1/92	9/1/92	
Cleveland	OH	Soundproofing	\$8,595,641	\$3.00	4/25/97	4/25/97	
Cleveland	OH	Soundproofing	\$10,000,000	\$3.00	5/28/99	5/28/99	
Columbus	OH	Land	\$119,600	\$3.00	7/14/92	3/27/96	\$3,926,308
Columbus	OH	Land	\$379,070	\$3.00	7/14/92	3/27/96	
Columbus	OH	Land	\$519,723	\$3.00	7/14/92	3/27/96	
Columbus	OH	Misc	\$61,752	\$3.00	7/19/93	3/27/96	
Columbus	OH	Misc.	\$489,894	\$4.50	1/28/11	1/28/11	
Columbus	OH	Monitoring	\$16,509	\$3.00	7/14/92	10/27/93	
Columbus	OH	Monitoring	\$33,000	\$3.00	1/28/11	1/28/11	
Columbus	OH	Planning	\$13,822	\$3.00	5/29/98	5/29/98	
Columbus	OH	Soundproofing	\$20,323	\$3.00	7/14/92	10/27/93	
Columbus	OH	Soundproofing	\$71,974	\$3.00	7/14/92	10/27/93	
Columbus	OH	Soundproofing	\$60,547	\$3.00	7/14/92	10/27/93	
Columbus	OH	Soundproofing	\$269,810	\$3.00	7/19/93	3/27/96	
Columbus	OH	Soundproofing	\$906,369	\$4.50	5/29/98	5/29/98	
Columbus	OH	Soundproofing	\$963,915	\$4.50	1/28/11	1/28/11	
Dayton	OH	Land	\$309,206	\$4.50	7/25/94	7/25/94	\$1,009,206
Dayton	OH	Planning	\$700,000	\$4.50	5/9/02	5/9/02	
Toledo	OH	Multi-phase	\$1,676,083	\$4.50	1/16/98	1/16/98	\$1,676,083
Tulsa	OK	Multi-phase	\$8,400,000	\$3.00	4/27/00	4/27/00	\$8,400,000
Portland	OR	Monitoring	\$715,750	\$3.00	12/7/05	12/7/05	\$715,750
Allentown	PA	Land	\$244,387	\$4.50	3/26/01	3/26/01	\$1,220,696
Allentown	PA	Land	\$220,475	\$4.50	3/26/01	3/26/01	
Allentown	PA	Land	\$91,944	\$4.50	6/6/03	6/6/03	
Allentown	PA	Monitoring	\$30,556	\$4.50	3/26/01	3/26/01	
Allentown	PA	Planning	\$33,334	\$4.50	3/26/01	3/26/01	

CITY	STATE	WORK CODE	AMOUNT	PFC LEVEL	IMPOSE	USE	TOTAL
Allentown	PA	Soundproofing	\$100,000	\$4.50	6/6/03	6/6/03	
Allentown	PA	Soundproofing	\$500,000	\$4.50	6/6/03	6/6/03	
Erie	PA	Land	\$242,373	\$4.50	5/13/03	5/13/03	\$360,891
Erie	PA	Multi-phase	\$118,518	\$3.00	7/21/92	7/21/92	
Latrobe	PA	Planning	\$16,173	\$4.50	4/17/13	4/17/13	\$16,173
Pittsburgh	PA	Soundproofing	\$700,541	\$4.50	7/27/01	7/27/01	\$1,750,748
Pittsburgh	PA	Soundproofing	\$1,050,207	\$4.50	1/7/05	1/7/05	
State College	PA	Planning	\$10,000	\$3.00	5/26/99	5/26/99	\$10,000
Providence	RI	Land	\$10,382,213	\$4.50	11/30/09	11/30/09	\$31,982,811
Providence	RI	Land	\$12,658,400	\$4.50	11/13/09	11/13/09	
Providence	RI	Multi-phase	\$8,942,198	\$4.50	6/19/14	6/19/14	
Chattanooga	TN	Land	\$100,000	\$3.00	4/25/97	4/25/97	\$115,000
Chattanooga	TN	Land	\$15,000	\$4.50	11/22/00	11/22/00	
Knoxville	TN	Multi-phase	\$528,431	\$3.00	10/6/93	10/6/93	\$528,431
Nashville	TN	Monitoring	\$120,375	\$3.00	5/10/07	5/10/07	\$24,292,596
Nashville	TN	Multi-phase	\$24,065,949	\$3.00	2/26/04	2/26/04	
Nashville	TN	Planning	\$106,272	\$3.00	2/23/01	2/23/01	
Brownsville	TX	Land	\$81,860	\$4.50	5/7/07	5/7/07	\$290,562
Brownsville	TX	Planning	\$108,702	\$4.50	2/7/03	2/7/03	
Dallas/Ft. Worth	TX	Monitoring	\$1,266,151	\$3.00	11/7/96	11/7/96	\$1,266,151
Dallas Love	TX	Multi-phase	\$1,913,478	\$3.00	12/24/09	12/24/09	\$1,913,478
Harlingen	TX	Land	\$96,630	\$3.00	7/9/98	7/9/98	\$96,630
Laredo	TX	Planning	\$15,786	\$3.00	7/23/93	12/31/96	\$15,786
San Antonio	TX	Monitoirng	\$245,153	\$3.00	2/22/05	2/22/05	\$21,547,400
San Antonio	TX	Soundproofing	\$21,302,247	\$4.50	8/29/01	12/1/04	
Salt Lake City	UT	Land	\$465,488	\$3.00	10/1/94	10/1/94	\$1,320,968
Salt Lake City	UT	Land	\$331,072	\$4.50	4/30/01	4/30/01	
Salt Lake City	UT	Land	\$524,408	\$4.50	2/28/02	2/28/02	
Lynchburg	VA	Land	\$17,762	\$3.00	4/14/95	4/14/95	\$17,762
Richmond	VA	Planning	\$15,931	\$3.00	7/3/97	7/3/97	\$15,931
Roanoke	VA	Land	\$145,000	\$4.50	11/24/04	11/24/04	\$388,308
Roanoke	VA	Multi-phase	\$240,850	\$4.50	5/16/11	5/16/11	
Roanoke	VA	Planning	\$2,458	\$4.50	11/24/04	11/24/04	
Burlington	VT	Land	\$836,481	\$4.50	1/31/12	1/31/12	\$841,944
Burlington	VT	Planning	\$5,463	\$4.50	1/31/12	1/31/12	
Bellingham	WA	Land	\$166,000	\$3.00	4/29/93	4/29/93	\$1,352,350
Bellingham	WA	Land	\$732,000	\$3.00	10/5/94	10/5/94	
Bellingham	WA	Land	\$454,350	\$3.00	12/11/96	12/11/96	
Seattle	WA	Multi-phase	\$14,939,111	\$3.00	8/13/92	8/13/92	\$124,226,950
Seattle	WA	Multi-phase	\$43,000,000	\$3.00	12/29/95	12/25/95	
Seattle	WA	Multi-phase	\$50,000,000	\$3.00	6/24/98	10/16/01	
Seattle	WA	Soundproofing	\$16,134,627	\$3.00	10/25/93	10/25/93	
Seattle	WA	Soundproofing	\$153,212	\$3.00	10/25/93	10/25/93	
Appleton	WI	Land	\$14,502	\$3.00	4/25/94	4/25/94	\$14,502
Milwaukee	WI	Land	\$3,099,197	\$3.00	2/24/95	2/24/95	\$53,817,630
Milwaukee	WI	Land	\$1,425,187	\$3.00	2/24/95	2/24/95	
Milwaukee	WI	Land	\$156,000	\$3.00	12/31/09	12/31/09	
Milwaukee	WI	Misc	\$50,000	\$3.00	3/8/01	3/8/01	
Milwaukee	WI	Misc	\$4,382,162	\$3.00	7/9/02	7/9/02	

CITY	STATE	WORK CODE	AMOUNT	PFC LEVEL	IMPOSE	USE	TOTAL
Milwaukee	WI	Monitoring	\$40,956	\$3.00	2/24/95	2/24/95	
Milwaukee	WI	Monitoring	\$160,000	\$3.00	12/31/09	12/31/09	
Milwaukee	WI	Multi-phase	\$34,994,828	\$3.00	12/21/95	12/21/95	
Milwaukee	WI	Planning	\$230,000	\$3.00	7/9/02	7/9/02	
Milwaukee	WI	Planning	\$35,600	\$3.00	9/8/11	9/8/11	
Milwaukee	WI	Soundproofing	\$2,290,230	\$3.00	12/21/95	12/21/95	
Milwaukee	WI	Soundproofing	\$6,953,470	\$3.00	12/31/09	12/31/09	
Cheyenne	WY	Land	\$81,192	\$4.50	3/28/01	3/28/01	\$210,951
Cheyenne	WY	Misc	\$129,759	\$4.50	3/28/01	3/28/01	
Jackson	WY	Monitoring	\$47,272	\$4.50	2/9/04	2/9/04	\$73,588
Jackson	WY	Monitoring	\$26,316	\$4.50	4/8/08	4/8/08	
						Total:	\$3,388,172,994

Airport Noise Report



A weekly update on litigation, regulations, and technological developments

Volume 28, Number 1

January 8, 2016

Legislation

CONGRESS REQUIRES FAA TO PROACTIVELY ADDRESS COMMUNITY CONCERNS ABOUT PBN

The Consolidated Appropriations Act of 2016 – passed by Congress and signed into law by President Obama on Dec. 18 – includes language requiring the Administrator of the Federal Aviation Administration to improve the agency’s methods for involving communities and airports in its implementation of NextGen Performance-based Navigation (PBN) procedures.

The Act requires the FAA Administrator to review and update the agency’s Community Involvement Manual as it relates to new air traffic procedures, public outreach, and community involvement no later than 60 days after enactment of the legislation.

It also requires the FAA Administrator to “complete and implement a plan which enhances community involvement techniques and proactively addresses concerns associated with performance based navigation projects.”

FAA must transmit the community involvement manual and plan to the House and Senate Committees on Appropriations, the House Committee on Transportation

(Continued on p. 2)

Bob Hope Airport

BURBANK, AIRPORT AUTHORITY ASK FAA TO APPROVE MANDATORY NIGHT CURFEW

The Cities of Burbank and Glendale, CA, and the Burbank-Glendale-Pasadena Airport Authority are dangling the possibility of a shiny new 14-gate replacement terminal at Bob Hope Airport before the Federal Aviation Administration as an enticement for agency approval of a long-sought mandatory nighttime curfew.

The current 85-year-old terminal has been described as “cramped, outdated, and obsolete” and is so close to the runway that it now violates FAA design standards.

In 2009, the FAA rejected the City’s Part 161 application to make mandatory the current voluntary nighttime curfew on commercial operations at the airport on the grounds that it was unreasonable and would create an undue burden on commerce, among other things.

Since then, efforts by Rep. Adam Schiff (D-CA) to enact a curfew legislatively at the federal level also failed.

On Dec. 16, representatives from the cities of Burbank, Glendale and the Airport Authority met in the office of congressman Schiff in Washington, DC, to brief senior FAA officials on a “conceptual term sheet” on the replacement terminal endorsed by the Burbank City Council and Airport Commission in November.

(Continued on p. 3)

In This Issue...

Legislation ... Omnibus funding bill requires FAA to improve methods for involving communities, airports in implementation of PBN procedures; Senate report requires FAA review of PBN procedures approved under CatEx 1 and 2 if airports can demonstrate they had “significant effect on human environment” - p. 1

Bob Hope Airport ... Cities of Burbank, Glendale, airport authority dangle possibility of replacement terminal as enticement for FAA approval of long-sought mandatory nighttime curfew - p. 1

Helicopters ... ACRP issues Digest summarizing research that will be used to help guide development of draft SAE helicopter, tiltrotor noise modeling standards to improve FAA’s AEDT - p. 3

News Briefs ... FAA seeks to fill openings on National Parks Overflights Advisory Group’s Aviation Rulemaking Committee - 4

Legislation, from p. 1

and Infrastructure, and the Senate Committee on Commerce, Science and Transportation not later than 180 days after enactment of the Act (around mid-June).

McCain Letter to Huerta

In a Dec. 22 letter, Sen. John McCain (R-AZ) told FAA Administrator Michael Huerta that the Senate record on the Consolidated Appropriations Act explains that the intent of the language on PBN “is to improve outreach to the community and airport, providing an opportunity for notification and consultation with the operator of an affected airport and the community before making future flight path decisions.”

McCain told Huerta that the Senate record on the legislation also provides that: “For [PBN airspace] changes that have already been implemented, as in the case in Phoenix, the Administrator shall review those decisions to grant a categorical exclusion under Section 213(c) of the FAA Modernization and Reform Act of 2012 to implement procedures in which the changed procedure has had a significant effect on the human environment in the community in which the airport is located, if the airport can demonstrate that the implementation has had such an effects.

“If this review indicates that the flight path changes have had such an impact, the FAA shall consult with the operator of the airport to identify measures to mitigate the effect of the procedure on the human environment; including considering the use of alternative flight paths.”

Sen. McCain told the FAA Administrator that he expects the agency “to promptly meet the requirements of this law, proactively working to address concerns and providing a long-awaited, much-needed opportunity for residents around Phoenix Sky Harbor International Airport negatively impacted by flight noise to have their voices heard.”

However, a key issue that does not appear to have been defined in the Consolidated Appropriations Act of 2016 is how airports can determine when a PBN procedure implemented under CatEx 1 or 2 has had “a significant effect on the human environment in the community in which the airport is located.”

It is not yet clear whether FAA or airports – or ultimately the courts – are responsible for defining that term.

CatEx 1 and 2 Provision Not Amended

Language added by Sens. McCain and Jeff Flake (R-AZ) to the Department of Transportation, Housing and Urban Development (THUD) appropriations bill but omitted from the Consolidated Appropriations Act of 2016 – which the THUD bill was rolled into – would have actually amended Section 213(c) of the FAA Modernization and Reform Act of 2012, which established the controversial CatEx 1 and CatEx 2 categorical exclusions for PBN procedures that communities staunchly oppose because they allow FAA to implement PBN procedures without first preparing an environmental assessment or environment impact statement.

The McCain/Flake amendment (27 ANR 157) would have amended Section 213(c) to require that “Not less than 90 days before applying a categorical exclusion under this subsection to a new procedure at an Operational Evolution Partnership (OEP) airport [the busiest 35 airports in the U.S.], the Administrator shall:

- Notify and consult with the operator of the airport at which the procedure would be implemented, and
- Consider consultations or other engagement with the community in which the airport is located to inform the public of the procedure.”

The amendment also would have required the FAA Administrator to review prior decisions to grant categorical exclusions to PBN procedures at OEP airports “to determine if the implementation of the procedure had a significant effect on the human environment in the community in which the airport is located, if the operator of that airport requests such a review and demonstrates that there is good cause to believe that the implementation of the procedure had such an effect.”

The FAA’s first use of CatEx 1 was at Phoenix Sky Harbor International Airport in September 2014 when the agency implemented RNAV departure procedures that caused widespread noise complaints and resulted in lawsuits being filed by the City of Phoenix and several historic neighborhood associations challenging the FAA’s approval of the procedures.

In addition to taking the FAA to court over its implementation of the RNAV departures, the City of Phoenix also hired the Holland & Knight lobbying firm in Washington, DC, to find a legislative fix to their problem.

The firm has been working closely with Sens. McCain and Flake and others on Capitol Hill and in aviation trade groups to move the senators’ amendment.

The outcome of that effort – at least to this point – appears to be that many of the requirements of the McCain/Flake amendment were included in the Senate’s legislative record on the omnibus funding bill but were not included in the legislative language itself.

Gallego Amendment Omitted Also

Also omitted from the final omnibus funding bill was language added to the THUD bill passed by the House by Rep. Ruben Gallego (D-AZ) that would have barred FAA from receiving funding to redesign the Phoenix Metroplex airspace while serious noise issues resulting from last September’s changes to departure paths at Phoenix Sky Harbor International Airport remain unresolved (27 ANR 86).

However, last November Rep. Gallego introduced the FAA Community Accountability Act of 2015 (H.R. 3965), which now has 20 co-sponsors and would give local communities a say in the FAA’s decision making process regarding NextGen flight paths (27 ANR 152).

It also would establish a new process to compel FAA to reconsider existing PBN flight routes that are exposing residents to unacceptably high levels of aviation noise and would allow FAA to give preference to overlays of existing flight paths or procedures to ensure compatibility with land use in

the vicinity of an affected airports.

H.R. 3965 was referred to the House Aviation Subcommittee and is not likely to move forward unless somehow attached to FAA's new reauthorization bill which is still under development and expected to propose privatizing the FAA's air traffic organization.

Phoenix Officials' Letter

The mayor and City Council of Phoenix and mayors of nine cities and towns surrounding Phoenix urged the Chairs and Ranking Members of the Senate Appropriations Committee and its THUD Subcommittee in an Nov. 23 letter to retain the McCain/Flake amendment in the final 2016 Omnibus funding bill.

"This amendment will help ensure that affected communities, nationwide, including the Phoenix-Mesa region, have the opportunity to be heard – to have a voice – on proposed flight-path changes being considered by the FAA within the framework of its existing categorical exclusion authority. It is imperative that this language be included as part of the final THUD appropriations, whether it be a freestanding bill or as part of an omnibus," the mayors wrote.

Some members of the House Quiet Skies Caucus praised the requirement that FAA update its Community Involvement Manual. Rep. Steve Israel (D-NY) said he helped secure the language requiring FAA to update its Community Involvement Manual.

Rep. Stephen F. Lynch (D-MA) said, "The families who live in the neighborhoods and towns surrounding Logan Airport have struggled to have their concerns about airplane noise heard by the FAA for a long time.

"Thanks to the efforts of our Congressional Quiet Skies Caucus, Congress is trying to hold the FAA accountable by mandating that the FAA update their community involvement strategy and report back to Congress on these important changes.

"The lack of public outreach from the FAA has been a significant issue for residents of the 8th Congressional District and communities across the country. This new provision will ensure that the FAA is more responsive. It gives us more leverage in dealing with the FAA."

FAA Funding

The Consolidated Appropriations Act of 2016 funds the FAA at a level of \$16.03 billion. This funding level is \$270 million more than the Senate Committee markup, \$426 million more than the House bill, and \$563 million more than appropriated in fiscal year 2015, said Sen. Barbara Mikulski (D-MD), Ranking Member of the Senate Appropriations Committee.

The Act funds FAA NextGen and operations planning activities at a level of \$60.08 billion; funds grant-in-aid for airports at \$3.6 billion; and funds the Airport Cooperative Research Program managed by the Transportation Research Board at a level of \$31 million.

ACRP

DIGEST SUMMARIZES RESEARCH TO IMPROVE HELICOPTER NOISE MODELING IN FAA'S AEDT

On Jan. 5, the Transportation Research Board issued Research Results Digest 24: Recommended Community Noise Model Enhancements to Improve Prediction of Helicopter Activity Impacts.

While fixed-wing aircraft noise prediction techniques used in the Federal Aviation Administration's Aviation Environmental Design Tool (AEDT) rely on widely accepted methodologies described in documents developed by SAE International and the European Civil Aviation Conference (ECAC), "there has been no peer-reviewed guidance document describing an integrated modeling technique for the prediction of noise from rotary-wing aircraft," the Digest explains.

The goal of the research described in Research Digest 24 was to review, evaluate, and document current helicopter noise models and to identify potential improvements to the FAA's AEDT to better capture the unique complexity of helicopter operations.

The Digest summarizes the findings of ACRP Project 02-44, "Guidance for Helicopter Community Noise Prediction," which was led by Wyle Laboratories and included the Volpe National Transportation Systems Center, Netherlands Aerospace Centre (NLR), and KB environmental Sciences.

The researchers concluded that the primary focus for improving AEDT capabilities to predict helicopter noise impacts "should be on source modeling, including spectral content, lateral directivity, and operational sensitivity."

The results of their research will be used to help guide development of draft helicopter and tiltrotor noise modeling standards documents under the auspices of the SAE A-21 Aviation Noise and Emissions Committee in the United States and possibly also the International Civil Aviation Organization (ICAO) and the European Civil Aviation Conference AIRMOD Group.

The Digest describes the next steps that need to be taken to further that effort.

Research Results Digest 24 can be downloaded at <http://www.trb.org/ACRP/Blurbs/173719.aspx>

Bob Hope, from p. 1

The term sheet calls for the construction of a 14-gate replacement terminal at Bob Hope Airport in exchange for changes in how the Airport Commission takes action in seven important categories, including amending the airport's noise rules, its voluntary curfew, or the Airport Authority's support for federal legislation to allow a mandatory curfew. A supermajority vote would be required to approve changes in these areas.

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The Airport Authority is preparing an Environmental Impact Report on the proposed 14-gate replacement terminal, which is expected to be released for public comment in the spring. All formal agreements and entitlements for the replacement terminal must be approved by the voters in Burbank before becoming effective.

Of course, Burbank voters are likely to approve the airport replacement terminal if FAA agrees to a mandatory curfew on all aircraft landing and taking off from Bob Hope Airport between 10 p.m. and 6:59 a.m. as city and Airport Authority officials are seeking.

But implementing a mandatory curfew is not a prerequisite for the replacement terminal, the term sheet notes.

At their D.C. meeting, Burbank officials specifically asked the FAA if the agency would consider approving a mandatory curfew, even though the Airport Authority's formal Part 161 application for a curfew was rejected by the FAA in 2009.

"It was an extremely positive meeting and an opportunity for the cities and Airport Authority to explain the importance of FAA support," Burbank Mayor Bob Frutos said in a statement.

"While FAA officials said that they cannot prejudge any deal, Associate Administrator Eduardo Angeles said that the FAA saw no red flags in the conceptual outline," the mayor's statement said.

Burbank City Attorney Amy Albano and the city's outside attorney on the airport issue, Peter Kirsch, also attended the meeting.

In Brief...

Members Sought for Park Overflights Advisory Group

On Jan. 5, the FAA invited interested persons to apply to fill two upcoming openings on the National Parks Overflights Advisory Group (NPOAG) Aviation Rulemaking Committee (ARC).

The upcoming openings will represent commercial air tour operator and environmental interests. The selected members will serve three-year terms. The current terms expire on May 19.

Persons interested in filling these openings must apply by Feb. 12.

For further information, contact Keith Lusk, Special Programs Staff, FAA Western-Pacific Region Headquarters, P.O. Box 92007, Los Angeles CA 90009-2007; tel: (310) 725-3808; email: Keith.Lusk@faa.gov.

The Committee is made up of one member representing general aviation, three members representing the commercial air tour industry, four members representing environmental concerns, and two members representing Native American interests.

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Airport Noise Report



A weekly update on litigation, regulations, and technological developments

Volume 28, Number 2

January 15, 2016

Standards

FAA PROPOSES STAGE 5 AIRCRAFT NOISE STANDARDS FOR NEW AIRCRAFT DESIGNS

On Jan. 14, the Federal Aviation Administration proposed establishing more stringent Stage 5 U.S. aircraft noise standards that would apply only to persons submitting applications for new airplane type designs and would not require the phase out of noisier Stage 3 or Stage 4 aircraft.

The FAA action is intended to bring U.S. aircraft noise standards into harmony with International Civil Aviation Organization's Annex 16, Chapter 14 standards that became effective in July 2014.

Because ICAO standards are not technology forcing, the FAA's proposed Stage 5 aircraft noise standards – which are a cumulative 17 dB lower than Stage 3 standards at the three noise measuring points (flyover, lateral, and approach) and a cumulative 7 dB lower than Stage 4 standards – will be able to be met by aircraft manufacturers with no additional cost by the time the standards take effect:

- On Dec. 31, 2017, for large subsonic jet airplanes with a maximum certified takeoff weight of 121,254 lbs. or greater and;

(Continued on p. 6)

Heathrow

UK AIRCRAFT NOISE POLICY RISKS HEALTH OF OVER ONE MILLION PEOPLE, AEF SAYS

In a report submitted to the British Parliament on Jan. 12, the UK Aviation Environmental Federation (AEF) asserted that the UK Government's aircraft noise policies are risking the health of over one million people in the UK.

AEF argued that "an urgent policy rethink" is needed ahead of upcoming decisions this year on runway expansion in the London area, principles governing NextGen flight path changes, and new regulations on night flights at Heathrow Airport.

The report, *Aircraft Noise and Public Health: the evidence is loud and clear*, contends that aircraft noise "can no longer be considered simply as an inconvenience to people's lives. Major studies have concluded that aircraft noise is negatively affecting people's health and quality of life."

Exposure to aircraft noise can lead to short-term responses such as sleep disturbance, annoyance, and impairment of learning in children, and long-term exposure is associated with increased risk of high blood pressure, heart disease, heart attack, stroke, dementia, and may contribute to long-term mental health issues, AEF said in a press releasing announcing its report. It continues:

(Continued on p. 6)

In This Issue...

Standards ... FAA seeks public comment on its Notice of Proposed Rulemaking to adopt more stringent U.S. Stage 5 aircraft noise standards that could be easily met, would apply only to new aircraft type designs, would not require the phase out of noisier Stage 3 or Stage 4 aircraft, and would harmonize U.S. aircraft noise standards with those of the International Civil Aviation Organization - p. 5

UK ... The UK Government's aircraft noise policies are risking the health of over one million people and must be updated, NGO asserts in report to Parliament - p. 5

NASA ... Green technologies developed under its ERA project could save the airlines over \$250 billion in operational savings, NASA says - p. 7

News Briefs ... FAA accepts noise exposure maps for Burlington Int'l Airport and Westfield-Barnes Regional Airport - 8

Standards, from p. 5

- On Dec. 31, 2020, for smaller regional jets and propeller-driven aircraft with a maximum certificated takeoff weight less than 121,254 lbs.

April 13 is the deadline for submitting public comments on FAA's proposed Stage 5 rulemaking. Information on how to submit comments is included in the agency's *Federal Register* notice available at <https://www.gpo.gov/fdsys/pkg/FR-2016-01-14/pdf/2015-32500.pdf>

For technical questions concerning this action, contact Mehmet Marsan, Office of Environment and Energy (AEE-100), Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591; telephone (202) 267-7703; facsimile (202) 267-5594; email mehmet.marsan@faa.gov.

The FAA said it anticipates that by the time its proposed Stage 5 rule would become effective, "existing noise reduction technologies will allow subject airplanes to comply with these proposed requirements. Accordingly, the proposed rule would have minimal, if any, cost."

"Recently, there have been technological advances in the lower weight classes such as the geared turbofan engine and the development of quieter control surfaces. Given these recent technological advances in lighter airplanes, the FAA expects all manufacturers to be able meet the new standards by the December 31, 2020, date," FAA's notice states.

No Stage 3 or 4 Phase Out

The agency also stressed that the adoption of the Stage 5 noise standard for new airplane type designs "should not be interpreted as signaling the start of an action aimed at phasing out the existing noise standards that apply to the production or operation of current airplane models.

"There are no operational restrictions nor production cut-offs on the use of Stage 3 or Stage 4 airplanes in the United States. The adoption of the Stage 5 noise standard for new airplane type designs does not impact either of these existing noise standards that apply to the production or operation of current airplane models in the United States," FAA said.

However, legislation that would require the gradual phase out of Stage 3 aircraft by 2037 – the Silent Skies Act (H.R. 4171) – was reintroduced in the House in December (27 ANR 188) after failing to pass in the last session of Congress.

The FAA said that its understanding of the ICAO Chapter 14 noise standards that it is proposing to adopt as Stage 5 U.S. aircraft noise standards, require the following:

- An airplane's maximum flyover, lateral, and approach noise levels are each subtracted from the maximum permitted noise levels for Chapter 3 airplanes defined in Annex 16. The differences obtained are the noise limit margins which must be 17 EPNdB or greater when added together; and

- An airplane's maximum noise levels (flyover, lateral, and approach) have to be at least 1 EPNdB less than the maximum permitted noise levels for Chapter 3 airplanes.

UK, from p. 5

"In the UK, over one million people are exposed to aircraft noise above levels recommended for the protection of health, estimated in the report to cost £540 million (\$779 million) each year.

"Around 460 schools are exposed to aircraft noise at levels around Heathrow that can impede memory and learning in children while around 600,000 people in the UK are exposed to average aircraft noise levels that risk regular sleep disturbance.

"Aircraft noise policy has not, however, been updated in line with this mounting evidence base, with some noise policies based on studies dating back to the early 1980s.

"The health burden is not just experienced close to airports. The current policy on flight path changes, for example, does not consider the evidence that sudden changes to aircraft noise exposure are likely to lead to much greater disruption for communities, which has implications for health."

The AEF report calls on the UK Government to act now and commit to developing targets to protect the public from the health impacts of aircraft noise and to review all policies in light of these targets. The report also calls for any future aviation policy decisions to assess the impact from aircraft noise on health.

Key aviation policy decisions upcoming in 2016 include:

- A decision on a new runway in the London area, which has already been pushed back due to environmental concerns, and aircraft noise related health costs have already been assessed at costing up to £3.7 billion (\$5.3 billion);
- Principles and process of flightpath change decisions; and
- New night flights regulation (limiting the numbers of night flights) at Heathrow, Gatwick and Stansted.

The AEF said that new World Health Organization (WHO) guidelines are also likely to be published, which will provide further incentive for the UK Government to update its policy.

Gov't Delays Decision on Runway Expansion

In December, the UK Government announced that it has decided to delay its decision on where to expand runway capacity in the London area – by either adding a new runway or extended a runway at Heathrow or adding a new runway at Gatwick airport – until next summer so that it can conduct additional analysis of the environmental impacts of the three options.

"The case for aviation expansion is clear – but it's vitally important we get the decision right so that it will benefit generations to come," said UK Secretary of State for Transport Patrick McLoughlin.

"We will undertake more work on environmental impacts, including air quality, noise, and carbon.

We must develop the best possible package of measures to mitigate the impacts on local people."

The UK Government said that the next step "is to con-

tinue to develop the best possible package of measures to mitigate the impacts on local people and the environment. This will include a package for local communities to include compensation, maximizing local economic opportunities through new jobs and apprenticeships, and measures to tackle noise.”

“More work will be done on environmental impacts. The government expects the airports to put forward ambitious solutions.”

Decision Called Premature

The AEF, a national NGO campaigning on the environmental impacts of flying, said that the UK Government’s decision in support of expansion runway capacity in southeast England is premature without knowing whether important environmental questions can be answered.

“Heathrow is one of the biggest sources of CO2 emissions in the UK and people living around the airport are already subject to aircraft noise and pollution levels that impair their health. Yet the Airports Commission failed to show, in two years of work, how a new runway could be compatible with key Government commitments on air pollution and climate change,” AEF said.

With key environmental challenges remaining, the Government should not commit to a new runway until and unless environmental questions relating to noise, air quality, and climate can be answered, AEF asserted.

The UK Government’s decision to conduct further analysis of the environmental impacts of adding runway capacity near London was likely influenced by a report issued last November by a Parliament Committee that held hearings on the environmental implications of the Airports Commission’s recommendation to add a new runway at Heathrow.

Following its hearings, the House of Commons Environmental Audit Committee (EAC) called on the UK Government not to give Heathrow expansion the go-ahead unless it was ready to make a ‘step change’ in its approach to environmental mitigation.

The Committee’s report said that the UK Government would need to demonstrate “a high degree of certainty that their own policies are robust enough to deliver the mitigations required” before giving approval for the airport expansion in southeast England.

AEF believes that the challenges of addressing the environmental impacts of a new runway at either Heathrow or Gatwick “cannot, in reality, be overcome.” But Heathrow and Gatwick officials disagree.

Launched in 1975, AEF is the principal UK NGO campaigning exclusively on the environmental impacts of aviation and promoting a sustainable future for the sector.

Its new report can be downloaded at <http://www.aef.org.uk/>

NASA

NASA RESEARCH COULD SAVE U.S. AIRLINES OVER \$250 BILLION

The nation’s airlines could realize more than \$250 billion dollars in savings in the near future thanks to green-related technologies developed and refined by NASA’s aeronautics researchers during the past six years.

These new technologies, developed under the purview of NASA’s Environmentally Responsible Aviation (ERA) project, could cut airline fuel use in half, pollution by 75 percent and noise to nearly one-eighth of today’s levels, the agency said Jan. 6.

“If these technologies start finding their way into the airline fleet, our computer models show the economic impact could amount to \$255 billion in operational savings between 2025 and 2050,” said Jaiwon Shin, NASA’s associate administrator for aeronautics research.

Created in 2009 and completed in 2015, ERA’s mission was to explore and document the feasibility, benefits and technical risk of inventive vehicle concepts and enabling technologies that would reduce aviation’s impact on the environment. Project researchers focused on eight major integrated technology demonstrations falling into three categories – airframe technology, propulsion technology and vehicle systems integration.

By the time ERA officially concluded its six-year run, NASA had invested more than \$400 million, with another \$250 million in-kind resources invested by industry partners who were involved in ERA from the start.

“It was challenging because we had a fixed window, a fixed budget, and all eight demonstrations needed to finish at the same time,” said Fayette Collier, ERA project manager. “We then had to synthesize all the results and complete our analysis so we could tell the world what the impact would be. We really did quite well.”

Following is a brief summary of each of the eight integrated technology demonstrations completed by the ERA researchers:

- Tiny embedded nozzles blowing air over the surface of an airplane’s vertical tail fin showed that future aircraft could safely be designed with smaller tails, reducing weight and drag. This technology was tested using Boeing’s ecoDemonstrator 757 flying laboratory. Also flown was a test of surface coatings designed to minimize drag caused by bug residue building up on the wing’s leading edge.

- NASA developed a new process for stitching together large sections of lightweight composite materials to create damage-tolerant structures that could be used in building uniquely shaped future aircraft that weighed as much as 20 percent less than a similar all-metal aircraft.

- Teaming with the Air Force Research Laboratory and FlexSys Inc. of Ann Arbor, Michigan, NASA successfully tested a radical new morphing wing technology that allows an aircraft to seamlessly extend its flaps, leaving no drag-induc-

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ing, noise-enhancing gaps for air to flow through. FlexSys and Aviation Partners of Seattle already have announced plans to commercialize this technology.

- NASA worked with General Electric to refine the design of the compressor stage of a turbine engine to improve its aerodynamic efficiency and, after testing, realized that future engines employing this technology could save 2.5 percent in fuel burn.

- The agency worked with Pratt & Whitney on the company's geared turbofan jet engine to mature an advanced fan design to improve propulsion efficiency and reduce noise. If introduced on the next-generation engine, the technology could reduce fuel burn by 15 percent and significantly reduce noise.

- NASA also worked with Pratt & Whitney on an improved design for a jet engine combustor, the chamber in which fuel is burned, in an attempt to reduce the amount of nitrogen oxides produced. While the goal was to reduce generated pollution by 75 percent, tests of the new design showed reductions closer to 80 percent.

- New design tools were developed to aid engineers in reducing noise from deployed wing flaps and landing gear during takeoffs and landings. Information from a successful wind-tunnel campaign, combined with baseline flight tests, were joined together for the first time to create computer-based simulations that could help mature future designs.

- Significant studies were performed on a hybrid wing body concept in which the wings join the fuselage in a continuous, seamless line and the jet engines are mounted on top of the airplane in the rear. Research included wind-tunnel runs to test how well the aircraft would operate at low speeds and to find the optimal engine placement, while also minimizing fuel burn and reducing noise.

As part of the closeout work for the ERA project, information and results regarding each of these technology demonstrations were categorized and stored for future access and use by the aerospace industry, and were discussed at the American Institute of Aeronautics and Astronautics Sci-Tech Conference in San Diego the week of Jan. 4.

In Brief...

Noise Maps Approved

FAA announced Jan. 11 that noise exposure maps submitted for Westfield-Barnes Regional Airport and Burlington International Airport meet applicable federal requirements.

For further information, contact Richard Doucette, FAA, New England Region, Airports Division, 12 New England Executive Park, Burlington MA 01803.

No telephone number or email address was provided for Mr. Doucette.

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